7/3/00

Remington Box Bottom

	DSM-Parts		RTP-Parts	
Weights				
	Cav. #1. = 7.9 grs.		#1. = 9.5	
	Cav. #2. = 8.3 grs.		#2 = 9.9	
Dimention #	Cav. #1,	#2	Cav. #1,	#2
1.	1.234 (-.005)	1.237 (-.002)	1.239 O.K.	1.235 (-.004)
2.	3.816 (-.003)	3.817 (-.002)	3.823 O.K.	3.824 O.K.
3.	.047 O.K.	.047 O.K.	.055 O.K.	.051 O.K.
4.	3.758 (+.020)	3.760 (+.022)	3.763 (+.023)	3.766 (+.026)

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FORM 20A

Start with value and add proven technology

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CINCIN. OH.

LARRY DISS Book
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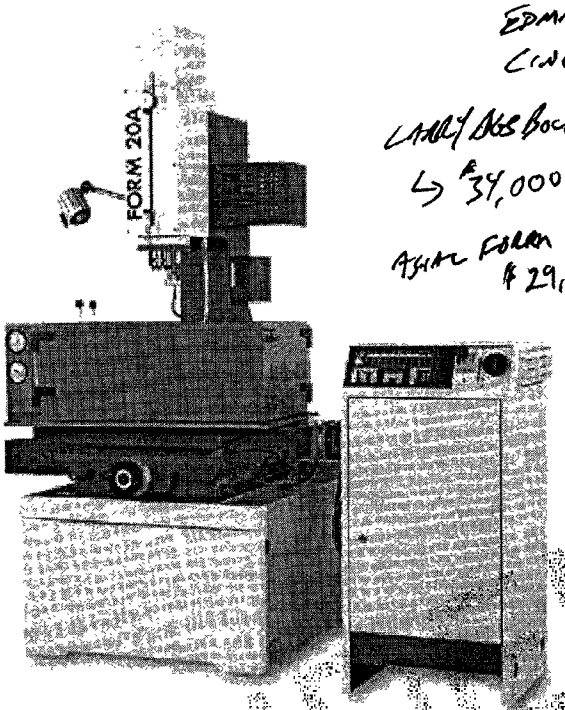
AGIE FORM 2LL
$29,000

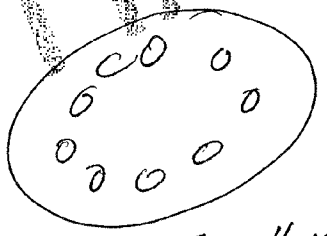


EDM ASSOCIATION
BOOTH # 4010

BILL SELF
ELECTRODE HOME
(800) 367 1109

FIXTURE 3000
~1 MINUTE

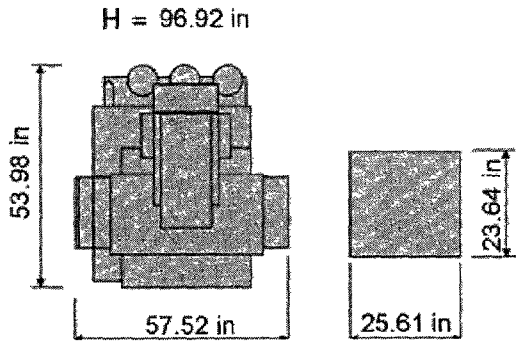
8" DIA BORE ~ $40K
~ 3 hrs ~ $80K
$40K



250. FLOW HOUR
SILICON CARBIDE

- The tradition of EDM know-how
- High efficiency from roughing to finishing
- Improved performances with the CT patented ISOCUT

Machine		
X, Y, Z travel	in	11.82 x 7.88 x 11.82
Max. workpiece weight	lbs	1102.3
Max. electrode weight	lbs	132.27
Min./max. chuck to table distance	in	9.85/21.67
Weight of installation without dielectric	lbs	2425.06
Worktank		
Type of tank		Fixe tank
Work tank dimensions L x W x H		32.308x 19.7 x 11.82
Work table dimension L x W	in	19.7 x 13.79
Dielectric System		
Filtering system		2
Total reservoir capacity	g	61.6
Generator		
Standard machining current	A	32
Options		
Additional power module	A	32
DRO		Digital Read out



The technical data are not binding. They are not warranted characteristics and are sbject to change.

Please consult the General Sales Conditions of Charmilles Technologies SA.

last updated 26.06.00.

BACK TO TOP

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KLINGELHOFER CORPORATION

FINE MACHINE TOOLS SINCE 1929

165 MILL LANE, P.O. BOX 1098, MOUNTAINSIDE, NEW JERSEY 07092

908 232-7200 • FAX 908 232-1841

August 23, 2000

Mr. Jim Gooch
Remington Arms Co., Inc.
22 Rifle Trail
Hickory, KY 42051

Subject: Wagner Model WAS-70

Dear Mr. Gooch:

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In reference to our phone conversation of today concerning your larger diameter and longer lengths, we offer the following explanation.

The machine that you purchased in 1996 was supplied with a 24" length gauge. This length gauge was designed only for smaller diameter material. When you get into larger diameters or longer lengths, you will need to support the entire cutoff piece so that it will not sag. With you present machine, when the part sags, it pinches the saw blade and if it is too heavy, it will damage the discharge chute. For larger diameter, longer parts, we offer a discharge conveying system as shown in the attached catalog. This system completely supports the cutoff piece and then tilts it to the front of the machine parallel to the floor. This system is shown on the front page of our catalog and also on page 5.

For reference, the following is a description and a price:

<u>Discharge Conveyor</u>:
(Manually set length gauge)

Tilt type roller support track connected to the sawing machine for cutoffs from 1½" up to 40". Cut pieces are tilted to the front. A trap door sorting device is provided to separate crop and remnant pieces from the good cutoffs. A container is included to collect the scrap pieces.

Manually positioned length gauge for cutoffs from 1½" to 40". The length gauge is easily traversed due to its roller guidance. It is locked into position by means of clamping levers. The arm is raised and lowered by an hydraulic cylinder. The cut length is set according to a scale with micrometer settings of .002" provided.

PRICE of tilt table with manually positioned length gauge for cutoffs 1½" up to 40" ..... $ 14,750.00

MF0720

Terms are F.O.B. Mountainside, NJ, net 30 days.

Delivery: approximately 16 - 18 weeks.

Our quotation does not include installation of the tilt table. There are electrical, hydraulic and mechanical changes that must be made on your machine. Based on past experience, we strongly recommend that you hire one of our servicemen to assist you in the installation. The charge for this assistance would be $600.00 per day plus travel and living expenses. With the proper help from your maintenance department, the complete installation should not take more than 2 - 2½ days.

If further information is needed or we can help in any way, please feel free to call.

83

Very truly yours,

KLINGELHOFER CORPORATION

Fred E. Schaefer
Vice President

FES/af

Enc.: Klingelhofer Sawing & Deburring Machines
Klingelhofer Circular Saw Blades

Material / Requisn. / S C R Oty. / Release strategy	Item / I A	Short text / Requested qty. / Req. val. / Release indicator	Un / Cur	Deliv. date / Release date / Release option	PGp / Requester / Trackg.no.	Mat. gp. / Plnt / SPl.	SLoc / MC
X		SAMPLES BOLT			M09	RAW	
1000528453	00010	44.000	EA	D 08/31/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	86.25	USD	08/29/2000	HELMERGA		
S1		**B APPROVED FOR PURCHAS Release effected**					
X		PRE-EMPLOYMENT DRUG SCREEN AND PHYSICAL			M09	MISC	
1000528455	00010	2.000	EA	D 08/31/2000	GOLEMBOSKIMR	MAY	
N R A NB	K	242.00	USD	08/29/2000	HALEYMA		
S1		B APPROVED FOR PURCHAS Release effected					
X		CU-STRIP L CUSTRIL			M09	07	
1000528457	00010	1,575	LB	D 09/08/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	834.75	USD	08/29/2000	SACHARNOSK		
S1		**B APPROVED FOR PURCHAS Release effected**					
X		#22867 ABSORB UNIVERSAL PAD			M09	06	
1000528458	00010	3.000	EA	D 09/08/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	126.00	USD	08/29/2000	HOBBSJM		
S1		B APPROVED FOR PURCHAS Release effected					
X		#36675 THREADED ROD 1/4", 20 UNC. 36" ME			M09	06	
1000528458	00020	3.000	EA	D 09/08/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	15.54	USD	08/29/2000	HOBBSJM		
S1		**B APPROVED FOR PURCHAS Release effected**					
X		#23928 TIE, CABLE, 1/16" TO 4"			M09	06	
1000528458	00030	25.000	EA	D 09/08/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	9.80	USD	08/29/2000	HOBBSJM		
S1		B APPROVED FOR PURCHAS Release effected					
X		#23925 TIE, CABLE, SELF-LOCKING			M09	06	
1000528458	00040	50.000	EA	D 09/08/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	12.77	USD	08/29/2000	HOBBSJM		
S1		**B APPROVED FOR PURCHAS Release effected**					
X		#23923 TIE, CABLE, SELF-LOCKING			M09	06	
1000528458	00050	100.000	EA	D 09/08/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	10.53	USD	08/29/2000	HOBBSJM		
S1		B APPROVED FOR PURCHAS Release effected					
X		#23924 TIE, CABLE 7.81", TY-RAP			M09	06	
1000528458	00060	100.000	EA	D 09/08/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	18.93	USD	08/29/2000	HOBBSJM		
S1		**B APPROVED FOR PURCHAS Release effected**					
X		#16031 FITTING, HEX HEAD PLUG 3/4" PIPE			M09	06	
1000528458	00070	2.000	EA	D 09/08/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	3.25	USD	08/29/2000	HOBBSJM		
S1		B APPROVED FOR PURCHAS Release effected					
X		#16028 FITTING, HEX HEAD PLUG 1/4"			M09	06	
1000528458	00080	4.000	EA	D 09/08/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	1.78	USD	08/29/2000	HOBBSJM		
S1		**B APPROVED FOR PURCHAS Release effected**					
X		#32570 WASHER FENDER 3/16"			M09	06	
1000528458	00090	100.000	EA	D 09/08/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	10.19	USD	08/29/2000	HOBBSJM		
S1		B APPROVED FOR PURCHAS Release effected					
X		#32572 WASHER, FENDER 1/4", 1"			M09	06	
1000528458	00100	100.000	EA	D 09/08/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	10.19	USD	08/29/2000	HOBBSJM		
S1		**B APPROVED FOR PURCHAS Release effected**					
X		#42751 SCREW, CAP MB, 25MM, SOCKET			M09	06	
1000528458	00110	50.000	EA	D 09/08/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	18.12	USD	08/29/2000	HOBBSJM		
S1		B APPROVED FOR PURCHAS Release effected					
X		#33592 SCREW, CAP, #10, 24 UNC, 3/4"			M09	06	
1000528458	00120	50.000	EA	D 09/08/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	3.75	USD	08/29/2000	HOBBSJM		

Material Requisn. S C R Oty. Release strategy	Item I A	Short text Requested qty. Req. val. Release indicator	Un Cur	Deliv. date Release date Release option	PGp Requester Trackg.no.	Mat. gp. Plnt SPl.	SLoc MC
S1		**B APPROVED FOR PURCHAS Release effected**					
X		#-33589-1 SCREW, CAP, #10, 24 UNC 3/8"			M09		06
1000528458	00130	50.000	EA	D 09/08/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	3.35	USD	08/29/2000	HOBBSJM		
S1		B APPROVED FOR PURCHAS Release effected					
X		#33840 SCREW, SELF-TAPPING, #12, 1" HEX			M09		06
1000528458	00140	100.000	EA	D 09/08/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	13.97	USD	08/29/2000	HOBBSJM		
S1		**B APPROVED FOR PURCHAS Release effected**					
X		#33833 SCREW, SELF TAPPING, #10, 1" HEX			M09		06
1000528458	00150	100:000	EA	D 09/08/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	10.69	USD	08/29/2000	HOBBSJM		
S1		B APPROVED FOR PURCHAS Release effected					
X		#32106 SCRW, SELF TAPPING #12, 1" PAN			M09		06
1000528458	00160	25.000	EA	D 09/08/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	2.28	USD	08/29/2000	HOBBSJM		
S1		**B APPROVED FOR PURCHAS Release effected**					
X		#32108 SCREW, SELF-TAPPING #12, 1-1/2"			M09		06
1000528458	00170	25.000	EA	D 09/08/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	3.49	USD	08/29/2000	HOBBSJM		
S1		B APPROVED FOR PURCHAS Release effected					
X		#32112 SCREW, SELF-TAPPING 1/4"			M09		06
1000528458	00180	50.000	EA	D 09/08/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	4.55	USD	08/29/2000	HOBBSJM		
S1		**B APPROVED FOR PURCHAS Release effected**					
X		#32114 SCREW, SELF-TAPPING, 1/4", 3/4" P			M09		06
1000528458	00190	25.000	EA	D 09/08/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	2.87	USD	08/29/2000	HOBBSJM		
S1		B APPROVED FOR PURCHAS Release effected					
X		#32116 SCREW, SELF-TAPPING, 1/4", 1"			M09		06
1000528458	00200	25.000	EA	D 09/08/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	3.47	USD	08/29/2000	HOBBSJM		
S1		**B APPROVED FOR PURCHAS Release effected**					
X		#24114 CLAMP, HOSE/TUBING, WORM, 1-1/2"			M09		06
1000528458	00210	10.000	EA	D 09/08/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	4.62	USD	08/29/2000	HOBBSJM		
S1		B APPROVED FOR PURCHAS Release effected					
X		#67318253 BIT SET			M09		03
1000528459	00010	2.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	23.96	USD	08/29/2000	GOOCHJC		
S1		**B APPROVED FOR PURCHAS Release effected**					
X		#89773600 CABINET			M09		03
1000528459	00020	1.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	674.18	USD	08/29/2000	GOOCHJC		
S1		B APPROVED FOR PURCHAS Release effected					
X		#01763853 CUSH-GRIP SCREWDRIVER			M09		03
1000528459	00030	2.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	12.86	USD	08/29/2000	GOOCHJC		
S1		**B APPROVED FOR PURCHAS Release effected**					
X		#89767420 DELUXE GROUND/ BONDWIRE			M09		03
1000528459	00040	10.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	202.50	USD	08/29/2000	GOOCHJC		
S1		B APPROVED FOR PURCHAS Release effected					
X		#06695027 1/4" HEX DRIVE BIT HOLDERS			M09		03
1000528459	00050	4.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	36.80	USD	08/29/2000	GOOCHJC		
S1		**B APPROVED FOR PURCHAS Release effected**					
X		#88349824 EKLIND BALL HEX KEY			M09		03
1000528459	00060	5.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY

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  Material              Short text                                PGp     Mat. gp.
  Requisn.    Item       Requested qty.  Un  Deliv. date  Requester     Plnt SLoc
  S C R Oty. I A               Req. val. Cur Release date Trackg.no.     SPl. MC
  Release strategy              Release indicator      Release option
  N R A NB      Z                 44.95 USD   08/29/2000 GOOCHJC
  S1                          B APPROVED FOR PURCHAS Release effected
X                        #88349857 EKLIND BALL HEX KEY SET          M09     03
  1000528459 00070          5.000 EA  D 08/31/2000 GOLEMBOSKIMR  MAY
  N R A NB      Z            39.95 USD   08/29/2000 GOOCHJC
  S1                          B APPROVED FOR PURCHAS Release effected
X                        #01763911 KELIN CUSH-GRIP SCREWDRIVER      M09     03
  1000528459 00080          2.000 EA  D 08/31/2000 GOLEMBOSKIMR  MAY
  N R A NB      Z            11.06 USD   08/29/2000 GOOCHJC
  S1                          B APPROVED FOR PURCHAS Release effected
X                        #01831783 KELIN STRIPPER/CUTTE             M09     03
  1000528459 00090          1.000 EA  D 08/31/2000 GOLEMBOSKIMR  MAY
  N R A NB      Z             9.70 USD   08/29/2000 GOOCHJC
  S1                          B APPROVED FOR PURCHAS Release effected
X                        #55091307 CHANNELLOCK PLIERS               M09     03
  1000528459 00100          2.000 EA  D 08/31/2000 GOLEMBOSKIMR  MAY
  N R A NB      Z            19.24 USD   08/29/2000 GOOCHJC
  S1                          B APPROVED FOR PURCHAS Release effected
X                        #76562214 CRESCENT WRENCH                  M09     03
  1000528459 00110          2.000 EA  D 08/31/2000 GOLEMBOSKIMR  MAY
  N R A NB      Z            19.24 USD   08/29/2000 GOOCHJC
  S1                          B APPROVED FOR PURCHAS Release effected
X                        #68501 JERGENS BALL LOCK                   M09     03
  1000528460 00010         10.000 EA  D 08/31/2000 GOLEMBOSKIMR  MAY
  N R A NB      Z            60.30 USD   08/29/2000 GOOCHJC
  S1                          B APPROVED FOR PURCHAS Release effected
X                        #68503 JERGENS BALL LOCK                   M09     03
  1000528460 00020         10.000 EA  D 08/31/2000 GOLEMBOSKIMR  MAY
  N R A NB      Z            63.50 USD   08/29/2000 GOOCHJC
  S1                          B APPROVED FOR PURCHAS Release effected
X                        3/4 EMT CONDUIT 10                         M09     16
  1000528461 00010        200.000 FT  D 08/31/2000 GOLEMBOSKIMR  MAY
  N R A NB      Z            68.00 USD   08/29/2000 CHOATECH
  S1                          B APPROVED FOR PURCHAS Release effected
X                        #940-0008 ROTO FINISH PORTABLE COMPOUND    M09     17
  1000528462 00010          1.000 EA  D 09/08/2000 GOLEMBOSKIMR  MAY
  N R A NB      Z         1,361.00 USD   08/29/2000 GOOCHJC
  S1                          B APPROVED FOR PURCHAS Release effected
X                        HP 82298A TONER CARTRIDGE                  M09     02
  1000528763 00010          1.000 EA  D 08/31/2000 GOLEMBOSKIMR  MAY
  N R A NB      Z            99.99 USD   08/29/2000 HUTSONLR
  S1                          B APPROVED FOR PURCHAS Release effected
X                        SOF 1505 IVORY TWISSTOP                    M09     02
  1000528763 00020          1.000 EA  D 08/31/2000 GOLEMBOSKIMR  MAY
  N R A NB      Z             5.20 USD   08/29/2000 HUTSONLR
  S1                          B APPROVED FOR PURCHAS Release effected
X                        AVE CV1105WE                               M09     02
  1000528763 00030          1.000 EA  D 08/31/2000 GOLEMBOSKIMR  MAY
  N R A NB      Z             2.29 USD   08/29/2000 HUTSONLR
  S1                          B APPROVED FOR PURCHAS Release effected
X                        AVE CV1110WE                               M09     02
  1000528763 00040          1.000 EA  D 08/31/2000 GOLEMBOSKIMR  MAY
  N R A NB      Z             2.29 USD   08/29/2000 HUTSONLR
  S1                          B APPROVED FOR PURCHAS Release effected
X                        3 GAL THREADED CUTTING OIL                 M09     MISC
  1000528765 00010          3.000 EA  D 08/31/2000 GOLEMBOSKIRM  MAY
  N R A NB      Z            32.85 USD   08/29/2000 GOOCHJC
  S1                          B APPROVED FOR PURCHAS Release effected
X                        CAN OF CEMENT                              M09     MISC
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Material Requisn. S C R Oty. I A Release strategy	Item	Short text Requested qty. Req. val. Release indicator	Un Cur	Deliv. date Release date Release option	PGp Requester Trackg.no.	Mat. gp. Plnt SLoc SPl. MC
1000528765	00020	4.000	EA	D 08/31/2000	GOLEMBOSKIRM	MAY
N R A NB	Z	15.56	USD	08/29/2000	GOOCHJC	
S1		**B APPROVED FOR PURCHAS Release effected**				
X		CLEANER			M09	MISC
1000528765	00030	3.000	EA	D 08/31/2000	GOLEMBOSKIRM	MAY
N R A NB	Z	8.97	USD	08/29/2000	GOOCHJC	
S1		B APPROVED FOR PURCHAS Release effected				
X		CEMENT			M09	MISC
1000528765	00040	4.000	EA	D 08/31/2000	GOLEMBOSKIRM	MAY
N R A NB	Z	11.96	USD	08/29/2000	GOOCHJC	
S1		**B APPROVED FOR PURCHAS Release effected**				
X		INSULATING SEALANT			M09	MISC
1000528765	00050	3.000	EA	D 08/31/2000	GOLEMBOSKIRM	MAY
N R A NB	Z	14.07	USD	08/29/2000	GOOCHJC	
S1		B APPROVED FOR PURCHAS Release effected				
X		ESTIMATED KY SALES TAX 6%			M09	MISC
1000528765	00060	1.000	EA	D 08/31/2000	GOLEMBOSKIRM	MAY
N R A NB	Z	5.00	USD	08/29/2000	GOOCHJC	
S1		**B APPROVED FOR PURCHAS Release effected**				
X		1 X 4- 8 #2 SPRUCE			M09	45
1000528766	00010	24.000	EA	D 08/31/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	11.52	USD	08/29/2000	GOOCHJC	
S1		B APPROVED FOR PURCHAS Release effected				
X		2 X 4- 92 5/8			M09	45
1000528766	00020	30.000	EA	D 08/31/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	77.70	USD	08/29/2000	GOOCHJC	
S1		**B APPROVED FOR PURCHAS Release effected**				
X		2 X 6- 10			M09	45
1000528766	00030	9.000	EA	D 08/31/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	30.04	USD	08/29/2000	GOOCHJC	
S1		B APPROVED FOR PURCHAS Release effected				
X		4 X 8- 1/2 AC			M09	45
1000528766	00040	3.000	EA	D 08/31/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	51.84	USD	08/29/2000	GOOCHJC	
S1		**B APPROVED FOR PURCHAS Release effected**				
X		2 X 4- 10			M09	45
1000528766	00050	9.000	EA	D 08/31/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	27.99	USD	08/29/2000	GOOCHJC	
S1		B APPROVED FOR PURCHAS Release effected				
X		4 X 8- 7/16			M09	45
1000528766	00060	8.000	EA	D 08/31/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	127.92	USD	08/29/2000	GOOCHJC	
S1		**B APPROVED FOR PURCHAS Release effected**				
X		#16 NAILS			M09	45
1000528766	00070	10	LB	D 08/31/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	9.80	USD	08/29/2000	GOOCHJC	
S1		B APPROVED FOR PURCHAS Release effected				
X		#6 GALV. NAILS			M09	45
1000528766	00080	5	LB	D 08/31/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	4.90	USD	08/29/2000	GOOCHJC	
S1		**B APPROVED FOR PURCHAS Release effected**				
X		ESTIMATED KY SALES TAX 6%			M09	45
1000528766	00090	1.000	EA	D 08/31/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	21.70	USD	08/29/2000	GOOCHJC	
S1		B APPROVED FOR PURCHAS Release effected				
X		WAGNER BRAKE PARTS			M09	MISC
1000528767	00010	96.000	EA	D 08/31/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	45.12	USD	08/29/2000	GOOCHJC	
S1		**B APPROVED FOR PURCHAS Release effected**				

Material / Requisn. / S C R Qty. / Release strategy	Item / I A	Short text / Requested qty. / Req. val. / Release indicator	Un / Cur	Deliv. date / Release date	Requester / Trackg.no. / Release option	PGp / SPl.	Mat. gp. / Plnt SLoc / MC
X		GATES HYDRAULIC FITTING G25170-0808				M09	MISC
1000528767	00020	2.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	12.26	USD	08/29/2000	GOOCHJC		
S1		B APPROVED FOR PURCHAS Release effected					
X		GATES HYDRAULIC FITTINGS G25180-0808				M09	MISC
1000528767	00030	2.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	27.78	USD	08/29/2000	GOOCHJC		
S1		B APPROVED FOR PURCHAS Release effected					
X		GATES HYDRAULIC FITTING GAT 70607				M09	MISC
1000528767	00040	20.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	5.80	USD	08/29/2000	GOOCHJC		
S1		B APPROVED FOR PURCHAS Release effected					
X		ESTIMATED KY SALE TAX 6%				M09	MISC
1000528767	00050	1.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	5.46	USD	08/29/2000	GOOCHJC		
S1		B APPROVED FOR PURCHAS Release effected					
X		#8505 SUGAR				M09	MISC
1000528769	00010	2.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	4.00	USD	08/29/2000	HUTSONLR		
S1		B APPROVED FOR PURCHAS Release effected					
X		#8401 FRENCH VANILLA CREAMER				M09	MISC
1000528769	00020	1.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	3.00	USD	08/29/2000	HUTSONLR		
S1		B APPROVED FOR PURCHAS Release effected					
X		HEX KEY SET 2-8MM FOLDUP				M09	MISC
1000528770	00010	1.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	5.69	USD	08/29/2000	GOOCHJC		
S1		B APPROVED FOR PURCHAS Release effected					
X		HEX KEY SET 5/64-1/4 FOLDUP				M09	MISC
1000528770	00020	1.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	4.59	USD	08/29/2000	GOOCHJC		
S1		B APPROVED FOR PURCHAS Release effected					
X		CARBIDE BLADE 3 PAK 7-1/4"				M09	MISC
1000528770	00030	1.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	29.77	USD	08/29/2000	GOOCHJC		
S1		B APPROVED FOR PURCHAS Release effected					
X		BLUE MAX BLADE 7-1/4"				M09	MISC
1000528770	00040	2.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	19.76	USD	08/29/2000	GOOCHJC		
S1		B APPROVED FOR PURCHAS Release effected					
X		PROOF TEST BOX FABRICATED				M09	TOOLING
1000528771	00010	1.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	F	5,050.00	USD	08/29/2000	GOOCHJC		
S1		B APPROVED FOR PURCHAS Release effected					
X		BIOHAZARD BAG, 10 GALLON				M09	02
1000528772	00010	1.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	20.12	USD	08/29/2000	HALEYMA		
S1		B APPROVED FOR PURCHAS Release effected					
X		ESTIMATED KY SALES TAX 6%				M09	02
1000528772	00020	1.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	1.21	USD	08/29/2000	HALEYMA		
S1		B APPROVED FOR PURCHAS Release effected					
X		#03680949 0.1230 CLASS XX NOGO RING GAGE				M09	03
1000528873	00010	1.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	91.25	USD	08/29/2000	ZAJKJJ		
S1		B APPROVED FOR PURCHAS Release effected					
X		#82284266 14-7/8 X 3 LONG DIVIDERS				M09	MISC
1000528874	00010	288.000	EA	D 08/11/2000	GOLEMBOSKIMR		MAY
N R A NB	Z	708.48	USD	08/29/2000	HOBBSJM		

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Material Requisn. Item S C R Oty. I A Release strategy	Short text Requested qty. Un Deliv. date Req. val. Cur Release date Release indicator Release option	PGp Requester Trackg.no.	Mat. gp. Plnt SLoc Spl. MC
S1	B APPROVED FOR PURCHAS Release effected		
X	MAGAZINE SPRING RECEIVING GA C-K-10514	M09	TOOLING
1000528875 00010	1.000 EA D 09/22/2000	GOLEMBOSKIMR	MAY
N R A NB K	180.00 USD 08/29/2000	HELMERGA	
S1	**B APPROVED FOR PURCHAS Release effected**		
X	WHEEL ARBOR #WA001449	M09	MISC
1000528876 00010	1.000 EA D 09/08/2000	GOLEMBOSKIMR	MAY
N R A NB Z	610.60 USD 08/29/2000	CHOATECH	
S1	B APPROVED FOR PURCHAS Release effected		
X	ENDCAP # SP001426	M09	MISC
1000528876 00020	1.000 EA D 09/08/2000	GOLEMBOSKIMR	MAY
N R A NB Z	102.84 USD 08/29/2000	CHOATECH	
S1	**B APPROVED FOR PURCHAS Release effected**		
X	1/4-20 NYLON SCREW #67345447	M09	MISC
1000528877 00010	100.000 EA D 08/31/2000	GOLEMBOSKIMR	MAY
N R A NB Z	5.30 USD 08/29/2000	CHOATECH	
S1	B APPROVED FOR PURCHAS Release effected		
X	10-24 NYLON SCREW #67345082	M09	MISC
1000528877 00020	100.000 EA D 08/31/2000	GOLEMBOSKIMR	MAY
N R A NB Z	4.75 USD 08/29/2000	CHOATECH	
S1	**B APPROVED FOR PURCHAS Release effected**		
X	STRIPPER #01831825	M09	MISC
1000528877 00030	1.000 EA D 08/31/2000	GOLEMBOSKIMR	MAY
N R A NB Z	8.82 USD 08/29/2000	CHOATECH	
S1	B APPROVED FOR PURCHAS Release effected		
X	#70285T61 URINAL TABS	M09	MISC
1000528878 00010	8.000 EA D 08/31/2000	GOLEMBOSKIMR	MAY
N R A NB Z	112.00 USD 08/29/2000	CHOATECH	
S1	**B APPROVED FOR PURCHAS Release effected**		
X	#5501K39 10" HOSE	M09	MISC
1000528878 00020	5.000 FT D 08/31/2000	GOLEMBOSKIMR	MAY
N R A NB Z	32.75 USD 08/29/2000	CHOATECH	
S1	B APPROVED FOR PURCHAS Release effected		
X	#4594[illegible]K43 10" HOSE CLAMP	M09	MISC
1000528878 00030	2.000 EA D 08/31/2000	GOLEMBOSKIMR	MAY
N R A NB Z	11.88 USD 08/29/2000	CHOATECH	
S1	**B APPROVED FOR PURCHAS Release effected**		
X	#5648K25 CLEAR 1/4" TUBING	M09	MISC
1000528878 00040	100.000 FT D 08/31/2000	GOLEMBOSKIMR	MAY
N R A NB Z	26.00 USD 08/29/2000	CHOATECH	
S1	B APPROVED FOR PURCHAS Release effected		

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Cost center 0000028200

710 Start Up

Material Requisn. S C R OTy.	Item I A	Short text Requested qty. Ordered qty.	Un Un	Deliv. date Release date	Requester Trackg.no.	PGp	Mat. gp. Plnt SPl.	SLoc MC
		SAMPLES BOLT				M09	RAW	
1000528453	00010	44.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/29/2000	HELMERGA			
		CU-STRIP L CUSTRIL				M09	07	
1000528457	00010	1,575	LB	D 09/08/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/29/2000	SACHARNOSK			
		#67318253 BIT SET				M09	03	
1000528459	00010	2.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/29/2000	GOOCHJC			
		#89773600 CABINET				M09	03	
1000528459	00020	1.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/29/2000	GOOCHJC			
		#01763853 CUSH-GRIP SCREWDRIVER				M09	03	
1000528459	00030	2.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/29/2000	GOOCHJC			
		#68501 JERGENS BALL LOCK				M09	03	
1000528460	00010	10.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/29/2000	GOOCHJC			
		#68503 JERGEMS BALL LOCK				M09	03	
1000528460	00020	10.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/29/2000	GOOCHJC			
		3/4 EMT CONDUIT 10'				M09	16	
1000528461	00010	200.000	FT	D 08/31/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/29/2000	CHOATECH			
		#940-0008 ROTO FINISH PORTABLE COMPOUND				M09	17	
1000528462	00010	1.000	EA	D 09/08/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/29/2000	GOOCHJC			
		1 X 4- 8 #2 SPRUCE				M09	45	
1000528766	00010	24.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/29/2000	GOOCHJC			
		2 X 4- 92 5/8				M09	45	
1000528766	00020	30.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/29/2000	GOOCHJC			
		2 X 6- 10				M09	45	
1000528766	00030	9.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/29/2000	GOOCHJC			
		4 X 8- 1/2 AC				M09	45	

Cost center 0000028200

Material Requisn. S C R	Item I A	Short text Requested qty. Ordered qty.	Un Un	Deliv. date Release date	Requester Trackg.no.	PGp	Mat. gp. Plnt SLoc SPl. MC
1000528766	00040	3.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			08/29/2000	GOOCHJC		
		2 X 4- 10				M09	45
1000528766	00050	9.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			08/29/2000	GOOCHJC		
		4 X 8- 7/16				M09	45
1000528766	00060	8.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			08/29/2000	GOOCHJC		
		#16 NAILS				M09	45
1000528766	00070	10	LB	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			08/29/2000	GOOCHJC		
		#6 GALV. NAILS				M09	45
1000528766	00080	5	LB	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			08/29/2000	GOOCHJC		
		ESTIMATED KY SALES TAX 6%				M09	45
1000528766	00090	1.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			08/29/2000	GOOCHJC		
		WAGNER BRAKE PARTS				M09	MISC
1000528767	00010	96.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			08/29/2000	GOOCHJC		
		GATES HYDRAULIC FITTING G25170-0808				M09	MISC
1000528767	00020	2.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			08/29/2000	GOOCHJC		
		GATES HYDRAULIC FITTINGS G25180-0808				M09	MISC
1000528767	00030	2.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			08/29/2000	GOOCHJC		
		GATES HYDRAULIC FITTING GAT 70607				M09	MISC
1000528767	00040	20.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			08/29/2000	GOOCHJC		
		ESTIMATED KY SALE TAX 6%				M09	MISC
1000528767	00050	1.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			08/29/2000	GOOCHJC		
		HEX KEY SET 2-8MM FOLDUP				M09	MISC
1000528770	00010	1.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			08/29/2000	GOOCHJC		
		HEX KEY SET 5/64-1/4 FOLDUP				M09	MISC
1000528770	00020	1.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY

Cost center 0000028200

Material Requisn. S C R	Item Qty. I A	Short text Requested qty. Ordered qty.	Un Un	Deliv. date Release date	Requester Trackg.no.	PGp	Mat. gp. Plnt SPl.	SLoc MC
N R A NB	Z			08/29/2000	GOOCHJC			
		CARBIDE BLADE 3 PAK 7-1/4"				M09	MISC	
1000528770	00030	1.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/29/2000	GOOCHJC			
		BLUE MAX BLADE 7-1/4"				M09	MISC	
1000528770	00040	2.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/29/2000	GOOCHJC			
		#03680949 0.1230 CLASS XX NOGO RING GAGE				M09	03	
1000528873	00010	1.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/29/2000	ZAJKJJ			
		#82284266 14-7/8 X 3 LONG DIVIDERS				M09	MISC	
1000528874	00010	288.000	EA	D 08/11/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/29/2000	HOBBSJM			
		MAGAZINE SPRING RECEIVING GA C-K-10514				M09	TOOLING	
1000528875	00010	1.000	EA	D 09/22/2000	GOLEMBOSKIMR		MAY	
N R A NB	K			08/29/2000	HELMERGA			

Order 000000292068

Material Requisn. S C R OTy.	Item I A	Short text Requested qty. Ordered qty.	Un Un	Deliv. date Release date	Requester Trackg.no.	PGp	Mat. gp. Plnt SLoc SPl. MC
		PROOF TEST BOX FABRICATED				M09	TOOLING
1000528771	00010	1.000	EA	D 08/31/2000	GOLEMBOSKIMR		MAY
N R A NB	F			08/29/2000	GOOCHJC		

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Remington Arms Co., Inc.
R&D Technical Center
315 W. Ring Road
Elizabethtown, KY 42701

Phone: 270-769-7600
Fax: 270-737-9576

Date: 8-28-00

No. of pages including cover sheet: 3

TO:

Matt Gollenberg

Phone

Fax Phone

CC:

From:

Mike K.

83

Phone

Fax Phone

REMARKS:

☐ Urgent ☐ For your review ☐ Reply ASAP ☐ Please comment

Receive Insert Support Quotes - Call me to Discuss.

Thanks
Mike

P.S. I have placed an order for (35) pcs for DAT, Due 9/5/00.

Triangle Precision Industries, Inc.
Since 1982
ISO9002

TRIANGLE PRECISION IND. INC.
1650 WOODMAN CENTER DRIVE
KETTERING, OH 45420

Ph: (937) 299-6776 Fax: (937)299-7340

Quotation

Number: 7911 Date: 25-Aug-00

To
REMINGTON ARMS CO., INC.
315 W. RING ROAD
ELIZABETHTOWN, KY 42701 USA

Ph: (270)769-7600 Fax: (270)737-9576

Mail To
MIKE KEENY
REMINGTON ARMS CO., INC.
315 W. RING ROAD
ELIZABETHTOWN, KY 42701 USA

Ph: 270-769-7610 Fax: (270)737-9576

Terms	Ship Via	Salesperson
Net 30 days		

Quantity	Description	Unit Price	Amount
	QUOTE DURATION: 90 DAYS WE ARE PLEASED TO PRESENT OUR QUOTE ON THE FOLLOWING: Quote: 7911 Part: C-300-479 Rev: RECEIVER INSERT SUPPORT		
30,000		$1.14 / each	$34,200.00
	Quote: 7912 Part: C-300-479 Rev: TOOLING		
1		$8,670.00 / each	$8,670.00
	FOB: TRIANGLE IF YOU HAVE ANY QUESTIONS ABOUT THIS QUOTE PLEASE CONTACT DAVE BAKAN		
	WE APPRECIATE THE OPPORTUNITY TO QUOTE TO YOU ON THE ABOVE, AND AWAIT YOUR REPLY. David G Bakan AUTHORIZED SIGNATURE		

Triangle Precision Industries, Inc.
Since 1982
ISO9002

TRIANGLE PRECISION IND. INC.
1650 WOODMAN CENTER DRIVE
KETTERING, OH 45420

Ph: (937) 299-6776 Fax: (937)299-7340

Quotation

Number: 7909 Date: 25-Aug-00

To
REMINGTON ARMS CO., INC.
315 W. RING ROAD
ELIZABETHTOWN, KY 42701 USA

Ph: (270)769-7600 Fax: (270)737--9576

Mail To
MIKE KEENY
REMINGTON ARMS CO., INC.
315 W. RING ROAD
ELIZABETHTOWN, KY 42701 USA

Ph: 270-769-7610 Fax: (270)737--9576

Terms	Ship Via	Salesperson
Net 30 days		

Quantity	Description	Unit Price	Amount
	QUOTE DURATION: 90 DAYS WE ARE PLEASED TO PRESENT OUR QUOTE ON THE FOLLOWING: **Quote:** 7909 **Part:** C-300-479 **Rev:** RECEIVER INSERT SUPPORT		
1,500		$7.00 / each	$10,500.00
	Quote: 7910 **Part:** C-300-479 **Rev:** TOOLING		
1		$1,361.00 / each	$1,361.00
	FOB: TRIANGLE IF YOU HAVE ANY QUESTIONS ABOUT THIS QUOTE PLEASE CONTACT DAVE BAKAN		
	WE APPRECIATE THE OPPORTUNITY TO QUOTE TO YOU ON THE ABOVE, AND AWAIT YOUR REPLY. David J Bakan AUTHORIZED SIGNATURE		

Magnetic Particle Inspection Accessories

MAGNAFLUX offers a complete line of magnetic particle equipment as well as processing materials designed specifically for the NDT industry.
The selection guide below lists the variety of MAGNAFLUX tools and accessories designed to enhance the accuracy and sensitivity of your penetrant nondestructive testing. All MAGNAFLUX accessories are designed to meet major military and industrial specifications.
Local sales representatives and distributors are also available to help you find the right equipment for your NDT needs.

- Contacts and Coils for Wet Horizontal Units
- Central Conductors, Flat Magnetizing Coil and Adaptors
- Prod Sets and Assemblies
- Control Cables and Connectors
- Wet Particle Bath Sprayers
- Portable Powder Blower and Spray Bulb
- Test Pieces
- Field Indicators
- Centerifuge Tubes
- Monitoring Devices
- Black Light Systems
- Yoke and Yoke Kits
- Magnetic Particle Kits

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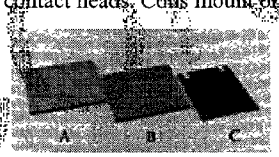
CONTACTS AND COILS FOR WET HORIZONTAL UNITS

Copper braid pads and lead contact plates prevent burning by ensuring good electrical contact between test part and contact heads. Coils mount on rails of wet horizontal units for detection of transverse cracks on parts.



A) Lead Contact Plate (#605647)

- Duplicates original headstock/tailstock contact plates
- Soft lead plate provides excellent contact
- 1/4" x 6 3/4" x 6 5/8"
- Fits all units except A-915 and MAG Series units

B) Heavy-Duty Lead Contact Plate (#605657)

- Braided copper impregnated with lead
- Lasts up to 10 times longer than solid lead contact plates
- 1/4" x 6 3/4" x 6 5/8"
- Fits all units except A-915 and MAG Series units

C) Lead Contact Plate (#169542)

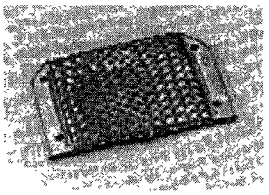
- Similar to #605647, fits A-915 and MAG Series units
- 1/4" x 5 1/4" x 6 3/4"

A) Double-Braided Pad with V-Block (#18948)

- Heavy copper braid over neoprene base
- Molded-in V-block centers and supports test parts
- Flexible, provides contact over greater surface area
- Reversible — two wear faces
- Fits all units except A-915 and MAG Series units

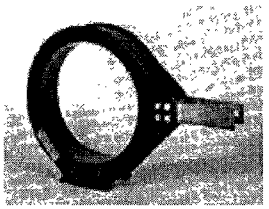
B) Double-Braided Pad with Clip (#18949)

- Similar to #18948, but clips over headstock of A-915 and MAG Series units



Replacement Pad (#1848)

- Replacement copper pad for #18948 or #18949



12" Coil (#28501), 16" Coil (#28511), 20" Coil (#28531), 25" Coil (#28541)

- 5-turn coils in various diameters for all units, except A-915 and MAG III Series units

Coil Base (#26193)

- For use with coils on all units, except for A-915 and MAG Series units

12" Coil (#169584)

- 5-turn coil, similar to #28501
- Fits A-915 and MAG III Series units

Coil Base (#169579)

- For use with #169584 on A-915 and MAG III Series units

Coil Base (#196715)

- For use on MAG IV, MAG V and MAG VI units only

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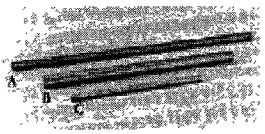
CENTRAL CONDUCTORS, FLAT MAGNETIZING COIL AND ADAPTORS

Copper braid pads and lead contact plates prevent burning by ensuring good electrical contact between test part and contact heads. Coils mount on rails of wet horizontal units for detection of transverse cracks on parts.

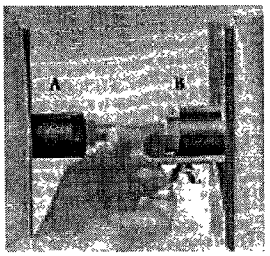
Flat Magnetizing Coil (#611700)

- Accessory for use with any magnetic particle unit or power pack
- Non-contact method of applying field
- Allows for quick, easy processing of small parts, such as fasteners, ring-like parts…several parts at a time
- Product Data Sheet



Centeral Conductors

These solid copper rods provide circular magnetization of hollow parts. Three sizes are available.
A) 3/4" x 24" (#111203)
B) 1" x 18" (#111204)
C) 1/2" x 12" (#111202)



A) Small Parts Adaptor, Headstock (#28470)

- Enables inspection of small parts such as bolts, screws and pins on wet horizontal units
- Solid copper, mounts to headstock

B) Small Parts Adaptor, Tailstock (#28471)

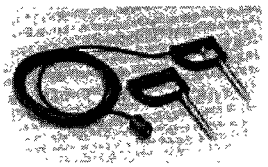
- Used with #28470 above, mounts to tailstock
- Includes an adjustable miniature steadyrest

RETURN TO TOP

PROD SETS AND ASSEMBLIES

Hand-held electrodes enable magnetizing current to pass through sections of welds, castings, forgings and large fabrications.
All prod sets:

- Require additional power cables, purchased separately (see Cables and Connectors)
- Include either solid tips (for maximum wear) or braid tips (for better contact)and 20' control cable with trigger in handle
- Available with either 3 PTL plug for P-Series or 4 PTL plug for M-Series, CRV, CSQ and CSV Series power packs



Standard Prod Set (#157662)

- Individual contact prods offer maximum flexibility in prod-spacing and magnetizing of complex-shaped parts
- With 3 PTL plug for P-Series portable power packs

Prod Set (#157660)

- Same as #157662, but with 4 PTL plug
- Replacement Tip (#152652) also available

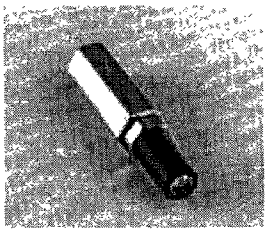
Braided Tip Prod Set (#186195)

- Similar to #157662, but with braid tips for better contact

- With 3 PTL plug for P-Series portable power packs

Braided Tip Prod Set (#186194)

- Same as #186195, but with 4 PTL plug
- Braided Replacement Tip (#78103) also available



Braided Conversion Assembly (#186202)

- Converts solid tips to braid tips — two required

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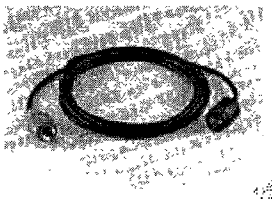
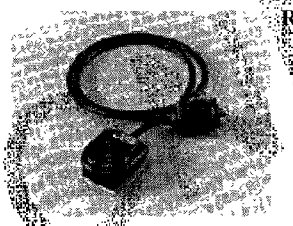
CONTROL CABLES AND CONNECTORS

Rubber-covered flexible cables are available in standard lengths of 10', 15', and 20' with your choice of eitherend or lug connectors. Individual connectors to replace those worn or damaged in use are also available.



Remote Control Cable, 15' (#157657)

- Allows remote energization of portable power packs
- Standard with 3 PTL plug



Remote Palm Button (#169621)

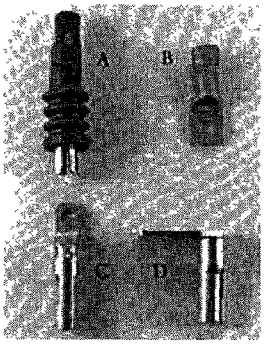
- Mounts on side of MAG Kit for energizing current from power pack
- Standard with 3 PTL plug

Standard 4/0 Cable Assemblies

Part #	Length (Feet)	Fittings
11300	10	Lugs at both ends
11301	10	Lug and eitherend
11302	10	Eitherends at both ends
11306	15	Lugs at both ends
11307	15	Lug and eitherend
11308	15	Eitherends at both ends
11312	20	Lugs at both ends
11313	20	Lug and eitherend

11314	20	Eitherends at both ends

Custom 4/0 and 1 million circular mill cable assemblies are also available



A) 4/0 Eitherend Connector (#1238)

- Allows quick cable disconnect for maximum flexibility

B) 4/0 Lug (#2590)

- For permanent attachment to magnetizing equipment

C) Eitherend Lug Adaptor (#1574)

- Changes lug terminals to eitherend terminals

D) Eitherend Lug Adaptor, 90° (#1576)

- Similar to #1574, but at a 90° angle

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CONTROL CABLES AND CONNECTORS

MAG Kit Pump (#69390)

- To be used with the MAG Kit bench unit
- Provides continuous spray and re-capture of MAGNAGLO bath
- Includes hose, nozzle, fittings, 5-gallon pail
- Operates on standard 115V, 50-60 Hz, single phase line current

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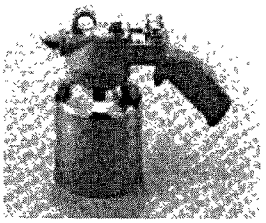
PORTABLE POWDER BLOWER AND POWDER SPRAY BULB



Portable Powder Blower (#58600)

- Lightweight gun for applying Magnaflux dry powders in production conditions
- Regulated air-only blowoff removes excess powder
- Requires only 20 psi air supply

Powder Spray Bulb (#501232)

- Lightweight, easy-to-use spray bulb for applying Magnaflux dry powders
- Cap removes for easy filling

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TEST PIECES WITH ARTIFICIAL DEFECTS

Quantitative Quality Indicators (QQI) Artificial flaw shim standards for MPI increase productivity by minimizing magnetizing "shots" Are placed on part surface to verify field direction and relative strength Particularly useful for balancing multi-directional fields Approved by major specifications including ASTM E 1444 (replaced MIL-STD-1949A)

A B C

A) Standard QQI Model KSC 230 (#519630)

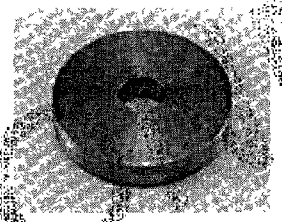
- Basic circular and crossed bar flaw configuration suitable for longitudinal and circular fields
- .0006" flaw depth amounts to 30% of shim thickness

B) Miniature QQI Model KSC 4-230 (#519631)

- Similar to KSC 230, except miniature design for small areas on test part
- Four circles per sheet may be cut apart for individual use

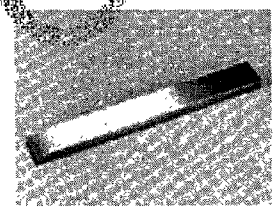
C) Variable Depth QQI Model KSCT 234 (#519632)

- For more quantitative work, three concentric circular flaws of differing depth, .0004", .0006", and .0008" (20%, 30%, 40%)



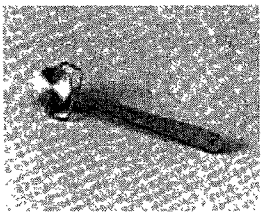
Ketos Test Ring (#159999)

- Drilled holes simulate subsurface discontinuities
- Form surface indications at various magnetizing current levels
- Meets ASTM E 1444 (replaced MIL-STD-1949A) requirements



Magnetic Particle Test Bar (#189838)

- Contains coarse and fine artificial surface and subsurface defects in both directions
- Meets or exceeds most industrial and military specifications for artificial test specimens, including MIL-STD-271



Pie Field Indicator (#169799)

- Used to establish adequacy of field per requirements of MIL-STD-271, ASTM E709 and ASTM E 1444 (replaced MIL-STD-1949A)

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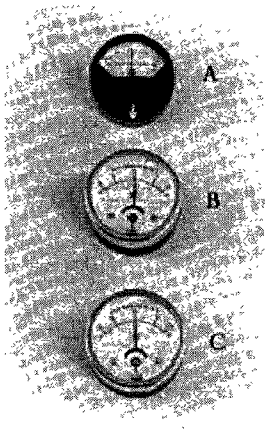
FIELD INDICATORS



A) Field Indicator (#2480)

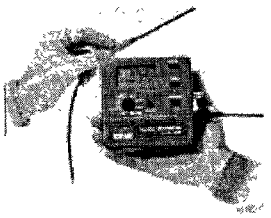
- Rugged, pocket-size meter used to indicate residual magnetism remaining in part after demagnetization
- Inexpensive unit cannot be recalibrated

B) 10 Gauss Calibrated Indicator (#505056)

- Offers highly accurate measurement of residual leakage field in parts after demagnetization
- Accurate to ± 0.3 gauss. Scale range of 10-0-10
- Meets requirements of McDonnell-Douglas specifications

C) 20 Gauss Calibrated Indicator (#105645)

- Accurate to ± 0.5 gauss. Scale range of 20-0-20



Digital Hall Effect Probe Gaussmeter (#521043)

- Hand-held meter measures AC and DC magnetic field strength in Gauss
- Includes meter, transverse probe, probe extension cable, zero gauss chamber, four "AA" batteries, operation manual and carrying case
- Axial probe (#A-4048-002) available as an option

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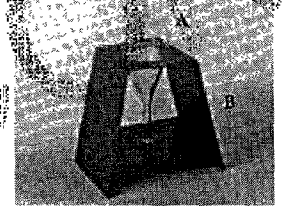
CENTRIFUGE TUBES

With MAGNAFLUX centrifuge tubes, you can monitor the concentration and level of contamination of magnetic particles in MAGNAFLUX or MAGNAGLO baths.



A) 14A Centrifuge Tube (#8493)

- 100 ml, 0-1.0 ml in 0.05 increments
- For use with #14A, #14AM and #20B MAGNAGLO fluorescent materials

7C/9C Centrifuge Tube (#2461)

- 100 ml, 0-1.5 ml in 0.10 increments
- For Magnaflux color-contrast materials including #7C, #9C and #9CM

MG-410 Centrifuge Tube (#507923)

- 100 ml, 0-0.2 ml in 0.01 increments
- For use with MG-410

B) Centrifuge Tube Stand (#1837A)

- Safely holds centrifuge tubes when mixing bath concentrations

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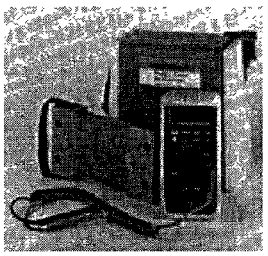
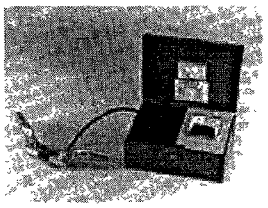
MONITORING DEVICES

Easy-to-use test meters verify the accuracy of the built-in ammeter of standard wet horizontal magnetic particle units and power packs.



Digital AC/FW/HWDC Test Meter Kit (#600355)

- For all AC, Full Wave and Half Wave DC (FWDC & HWDC) wet horizontal units
- For all portable, mobile, stationary and multi-directional power packs up to 20,000 amps
- Includes calibrated meter, shunt, leads, operating instructions and carrying case with shoulder strap



Analog HW Meter (#10095)

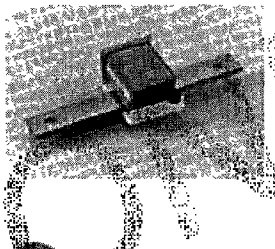
- For HWDC portable and mobile power packs up to 4,000 amps

Analog HW Meter (#10098)

- For HWDC portable and mobile power packs up to 6,000 amps

Analog FW Test Meter (#10090)

- For FWDC wet horizontal units and stationary power packs up to 6,000 amps



Quick Break Tester (#148335)

- Quickly and accurately confirms function status of "quick break" circuitry in three phase FWDC magnetic particle units
- Manufactured for compliance to ASTM E 1444 specification requirements (replaced MIL-STD-1949A)

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Material Requisn. S C R Oty. Release strategy	Item I A	Short text / Requested qty. / Req. val. / Release indicator	Un / Cur	Deliv. date / Release date / Release option	PGp / Requester / Trackg.no.	Mat. gp. / Plnt SLoc / SPl. MC
X		WASTE REMOVAL			M09	SERVICE
1000525405	00010	1.000	EA	D 08/21/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	618.00	USD	08/18/2000	GOOCHJC	
S1		**B APPROVED FOR PURCHAS Release effected**				
X		FUEL SURCHARGE			M09	SERVICE
1000525405	00020	1.000	EA	D 08/21/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	2.90	USD	08/18/2000	GOOCHJC	
S1		B APPROVED FOR PURCHAS Release effected				
X		710 MAG BOX SPRING GAGE			M09	MISC
1000525406	00010	2.000	EA	D 08/21/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	305.00	USD	08/18/2000	CHOATECH	
S1		**B APPROVED FOR PURCHAS Release effected**				
X		TESTING FOR PROSPECTIVE EMPLOYEES			M09	MISC
1000525407	00010	2.000	EA	D 08/21/2000	GOLEMBOSKIMR	MAY
N R A NB	K	130.00	USD	08/18/2000	HALEYMA	
S1		B APPROVED FOR PURCHAS Release effected				
X		TESTING FOR PROSPECTIVE EMPLOYEES			M09	MISC
1000525407	00020	3.000	EA	D 08/21/2000	GOLEMBOSKIMR	MAY
N R A NB	K	225.00	USD	08/18/2000	HALEYMA	
S1		**B APPROVED FOR PURCHAS Release effected**				
X		WEILER MINATURE END BRUSH 3/16 #26136			M09	MISC
1000525410	00010	5.000	EA	D 08/21/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	15.30	USD	08/18/2000	ZAJKJJ	
S1		A AWAITING APPROVAL Release possible				
X		WEILER MINATURE END BRUSH 1/4 #26138			M09	MISC
1000525410	00020	5.000	EA	D 08/21/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	17.10	USD	08/18/2000	ZAJKJJ	
S1		A AWAITING APPROVAL Release possible				
X		WEILER MINATURE END BRUSH 5/16 #26146			M09	MISC
1000525410	00030	5.000	EA	D 08/21/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	16.90	USD	08/18/2000	ZAJKJJ	
S1		A AWAITING APPROVAL Release possible				
X		WEILER MINATURE END BRUSH 135 #26906			M09	MISC
1000525410	00040	5.000	EA	D 08/21/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	31.00	USD	08/18/2000	ZAJKJJ	
S1		A AWAITING APPROVAL Release possible				
X		FREIGHT CHARGES			M09	MISC
1000525410	00050	1.000	EA	D 08/21/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	3.25	USD	08/18/2000	ZAJKJJ	
S1		A AWAITING APPROVAL Release possible				
X		WIREBURN HOLE IN BLOCK			M09	MISC
1000525411	00010	1.000	EA	D 08/22/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	87.50	USD	08/18/2000	CHOATECH	
S1		**B APPROVED FOR PURCHAS Release effected**				
X		CD MAILERS (MELISSA)			M09	02
1000525412	00010	4.000	EA	D 08/22/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	2.88	USD	08/18/2000	HUTSONLR	
S1		B APPROVED FOR PURCHAS Release effected				
X		#00434 MYLAR TABS (MELISSA)			M09	02
1000525412	00030	1.000	EA	D 08/22/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	5.45	USD	08/18/2000	HUTSONLR	
S1		**B APPROVED FOR PURCHAS Release effected**				
X		"RECEIVED" STAMP (MELISSA)			M09	02
1000525412	00040	1.000	EA	D 08/22/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	7.16	USD	08/18/2000	HUTSONLR	
S1		B APPROVED FOR PURCHAS Release effected				
X		TAPE FLAGS (MELISSA)			M09	02
1000525412	00050	2.000	EA	D 08/22/2000	GOLEMBOSKIMR	MAY
N R A NB	Z	3.18	USD	08/18/2000	HUTSONLR	

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Material              Short text                                PGp     Mat. gp.
Requisn.    Item       Requested qty.  Un  Deliv. date  Requester     Plnt SLoc
S C R Oty. I A              Req. val. Cur Release date Trackg.no.     SPl. MC
Release strategy             Release indicator      Release option
S1                          B APPROVED FOR PURCHAS Release effected
X                     ELD 20241 FILE (MELISSA)                  M09     02
1000525412 00060            1.000 EA  D 08/22/2000 GOLEMBOSKIMR  MAY
N R A NB      Z             29.95 USD   08/18/2000 HUTSONLR
S1                          B APPROVED FOR PURCHAS Release effected
X                     27410 BLACK PENS (SUPPLY CLOSET)          M09     02
1000525412 00070           48.000 EA  D 08/22/2000 GOLEMBOSKIMR  MAY
N R A NB      Z             3.96 USD   08/18/2000 HUTSONLR
S1                          B APPROVED FOR PURCHAS Release effected
X                     AMETECH TACHOMETER                        M09     MISC
1000525553 00010            1.000 EA  D 08/25/2000 GOLEMBOSKIMR  MAY
N R A NB      Z           307.00 USD   08/18/2000 GOOCHJC
S1                          B APPROVED FOR PURCHAS Release effected
X                     UNIFORM RENTAL WEEK ENDING 07/28/2000     M09     MISC
1000525554 00010            1.000 EA  D 08/21/2000 GOLEMBOSKIMR  MAY
N R A NB      K           273.94 USD   08/18/2000 HUTSONLR
S1                          B APPROVED FOR PURCHAS Release effected
X                     UNIFORM RENTAL WEEK ENDING 08/04/2000     M09     MISC
1000525554 00020            1.000 EA  D 08/21/2000 GOLEMBOSKIMR  MAY
N R A NB      K           292.54 USD   08/18/2000 HUTSONLR
S1                          B APPROVED FOR PURCHAS Release effected
X                     UNIFORM RENTAL WEEK ENDING 08/11/2000     M09     MISC
1000525554 00030            1.000 EA  D 08/21/2000 GOLEMBOSKIMR  MAY
N R A NB      K           264.27 USD   08/18/2000 HUTSONLR
S1                          B APPROVED FOR PURCHAS Release effected
X                     UNIFORM RENTAL WEEK ENDING 08/18/2000     M09     MISC
1000525554 00040            1.000 EA  D 08/21/2000 GOLEMBOSKIMR  MAY
N R A NB      K           336.41 USD   08/18/2000 HUTSONLR
S1                          B APPROVED FOR PURCHAS Release effected
X                     REPAIR CLECO NUTRUNNER                    M09     03
1000525794 00010            2.000 EA  D 09/08/2000 GOLEMBOSKIMR  MAY
N R A NB      Z           150.32 USD   08/21/2000 TRUAXSF
S1                          B APPROVED FOR PURCHAS Release effected
X                     GLOVES-SIZE L 9-9-1/2                     M09     01
1000525795 00010            6.000 EA  D 08/25/2000 GOLEMBOSKIMR  MAY
N R A NB      Z            23.70 USD   08/21/2000 CHAVISWT
S1                          B APPROVED FOR PURCHAS Release effected
X                     #0714 BANDAGE, FINGERTIP                  M09     02
1000525796 00010            1.000 EA  D 08/22/2000 GOLEMBOSKIMR  MAY
N R A NB      Z             7.46 USD   08/21/2000 HALEYMA
S1                          B APPROVED FOR PURCHAS Release effected
X                     #0743 BANDAGE, LARGE PATCH                M09     02
1000525796 00020            1.000 EA  D 08/22/2000 GOLEMBOSKIMR  MAY
N R A NB      Z             7.30 USD   08/21/2000 HALEYMA
S1                          B APPROVED FOR PURCHAS Release effected
X                     #1431 DILOTAB                             M09     02
1000525796 00030            1.000 EA  D 08/22/2000 GOLEMBOSKIMR  MAY
N R A NB      Z            10.45 USD   08/21/2000 HALEYMA
S1                          B APPROVED FOR PURCHAS Release effected
X                     #1446 TRIAL ANTACID                       M09     02
1000525796 00040            1.000 EA  D 08/22/2000 GOLEMBOSKIMR  MAY
N R A NB      Z            10.45 USD   08/21/2000 HALEYMA
S1                          B APPROVED FOR PURCHAS Release effected
X                     #1801 3-IN-1 ANTIBIOTIC OINT.             M09     02
1000525796 00050            1.000 EA  D 08/22/2000 GOLEMBOSKIMR  MAY
N R A NB      Z             8.35 USD   08/21/2000 HALEYMA
S1                          B APPROVED FOR PURCHAS Release effected
X                     #X6065 TOMAHAWK BLACK/CLEAR LENS          M09     02
1000525796 00060           12.000 EA  D 08/22/2000 GOLEMBOSKIMR  MAY
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Cost center 0000028200

Material Requisn. S C R OTy.	Item I A	Short text Requested qty. Ordered qty.	Un Un	Deliv. date Release date	Requester Trackg.no.	PGp	Mat. gp. Plnt SPl.	SLoc MC
		710 MAG BOX SPRING GAGE				M09	MISC	
1000525406	00010	2.000	EA	D 08/21/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/18/2000	CHOATECH			
		WEILER MINATURE END BRUSH 3/16 #26136				M09	MISC	
1000525410	00010	5.000	EA	D 08/21/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/18/2000	ZAJKJJ			
		WEILER MINATURE END BRUSH 1/4 #26138				M09	MISC	
1000525410	00020	5.000	EA	D 08/21/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/18/2000	ZAJKJJ			
		WEILER MINATURE END BRUSH 5/16 #26146				M09	MISC	
1000525410	00030	5.000	EA	D 08/21/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/18/2000	ZAJKJJ			
		WEILER MINATURE END BRUSH 135 #26900				M09	MISC	
1000525410	00040	5.000	EA	D 08/21/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/18/2000	ZAJKJJ			
		WIREBURN HOLE IN BLOCK				M09	MISC	
1000525411	00010	1.000	EA	D 08/22/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/18/2000	CHOATECH			
		# C-K-10510-A				M09	03	
1000525797	00010	2.000	EA	D 09/08/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/21/2000	ZAJKJJ			
		#C-K-10510-B				M09	03	
1000525797	00020	4.000	EA	D 09/08/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/21/2000	ZAJKJJ			
		#C-K-10510-C				M09	03	
1000525797	00030	4.000	EA	D 09/08/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			08/21/2000	ZAJKJJ			

FACSIMILE

Date: 7/10/00

TO: Kristen

ATTN: Remington Industries

FROM: **Raymond P. McKinney**
National Sales/Marketing Manager

OMNI TECHNOLOGIES CORPORATION

3742 Long Grove Avenue
Port Orange, FL 32119

Phone: (904) 756-7547

FAX: (904) 756-8443

Phone:

FAX: 270 852 3233

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ENCLOSED ARE THE SPECS FOR THE BAG ZY ALLOY. MAKE SURE THE HEAT TIME WAS SLIGHTLY INCREASED OVER THE 56% SILVER. ORIGINALLY SPECD OUT. LET ME KNOW WHAT YOUR CYCLE TIME IS AS WE MAY NEED TO MODIFY THE FLUX IF OVER 45 SECONDS WITH INDUCTION

THANKS
E

E-mail: RAYMONDRPM@aol.com
Corporate Headquarters: 334 Calef Highway, Epping, NH 03042 Phone: (603) 679-2211; Fax: (603) 679-1131

SILVER BRAZING ALLOYS

LTB NO.	AMS	AWS	Ag	Cu	Zn	Cd	OTHERS	LIQUIDUS F	LIQUIDUS C	SOLIDUS F	SOLIDUS C
LTB 1	4769B	Spec.BAg-1	45	15	16	24	–	1145	620	1125	605
LTB 1a	4770F	BAg-1a	50	15.5	16.5	18	–	1175	635	1160	625
LTB 2	4768D	BAg-2	35	26	21	18	–	1295	700	1125	605
LTB 2a		BAg-2a	30	27	23	20	–	1310	710	1125	605
LTB 3	4771D	BAg-3	50	15.5	15.5	16	3 Ni	1270	690	1170	630
LTB 4		BAg-4	40	30	28	–	2Ni	1435	780	1220	660
LTB 5		BAg-5	45	30	25	–	–	1370	745	1225	665
LTB 6		BAg-6	50	34	16	–	–	1425	775	1250	675
LTB 7		BAg-7	56	28	17	–	5 Sn	1205	650	1145	620
LTB 8		BAg-8	72	28	–	–	–	1435	780	1435	780
LTB 8a		BAg-8a	72	27.5	–	–	0.5 Li	1410	765	1410	765
LTB 9		BAg-9	65	20	15	–	–	1325	720	1240	670
LTB 10		BAg-10	70	20	10	–	–	1360	740	1275	690
LTB 13	4772E	BAg-13	54	40	5	–	1 Ni	1575	857	1325	718
LTB 13a	4765A	BAg-13a	56	42	–	–	2 Ni	1640	895	1420	770
LTB 18	4773B	BAg-18	60	30	–	–	10 Sn	1325	720	1115	600
LTB 19	4767B	BAg-19	92.5	7.25	–	–	0.25 Li	1635	891	1435	780
LTB 20		BAg-20	30	38	32	–	–	1410	765	1250	675
LTB 21	4774B	BAg-21	63	28.5	–	–	2.5 Ni 6 Sn	1475	800	1275	690
LTB 22		BAg-22	49	16	23	–	4.5 Ni 7.5 Mn	1290	700	1260	680
LTB 23	4766C	BAg-23	85	–	–	–	15 Mn	1780	970	1760	960
LTB 24		BAg-24	50	20	28	–	2 Ni	1305	705	1220	660
LTB 25		BAg-25	20	40	35	–	5 Mn	1455	790	1360	740
LTB 26		BAg-26	25	38	33	–	2 Ni 2 Mn	1475	800	1305	705
LTB 27		BAg-27	25	35	26.5	13.5	–	1375	745	1125	605
LTB 28		BAg-28	40	30	28	–	2 Sn	1310	710	1200	65

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OMNI TECHNOLOGIES manufactures a complete line of silver brazing alloys. OMNI LTB pastes are manufactured using the highest purity, oxide-free, spherical brazing powders. Our constituent blending with carefully formulated fluxes and suspending agents provides precision brazing performance with unparalleled rheological homogenity.

MF0747

REMINGTON ARMS COMPANY, INC.
FIREARMS - MAYFIELD

06/29/00

C:\WINDOWS\Desktop\[710 Capital & Start up Costs.xls]710 capital by operation

In House Capital

Part Name	Operation	Equipment	Capital Required	Capital Actual	(Under)/ Over	Date Ordered	Expected Delivery Date	PO #
Barrel	Cut off		$0		0			
	Drill	cones	$9,960	0	(9,960)	canceled		
	Ream		$0		0			
	Rifle	gages	$9,800	15,747	5,947			
	Wash & Stress Relieve	baskets	$6,900		(6,900)			
	Turn	gages	$10,100		(10,100)			
OP 70	Face & Chamber	gages	**$33,300**	32,949	(351)		See BBL Capital O	
	Face & Chamber	machine	**$222,880**	226,500	3,620	12/21	4/7	M017457
	Cut off and Crown	chuck	$15,000	8505	(6,495)	2/15	2/29	M016749
	wash and eddy current test	machine	$75,000	84000	9,000			
	Induction Harden	machine	**$166,000**	153,500	(12,500)	1/17	4/20	M017471
	Inspect Hardness	machine	**$12,000**	13,800	1,800	1/28	2/29	M016619
	Drill and tap sight	fix & gages	$7,600	3000	(4,600)	3/14	4/11	M016946
	Roll mark	fix & gages	$6,300		(6,300)			
	Angularity Straighten	fix & gages	$3,500		(3,500)			
	Centerless Polish		$0	0	0			
	Glass Bead Blast	fixtures	$2,500	0	(2,500)			
	Color	racks	$6,000	0	(6,000)			
	Inspect Purchased Part							
Bolt Head	Blank	gage	$2,500	3,635	1,135			
	Superabrasive Grind Lugs	fix & gage	$43,800		(43,800)			
	Carpenter Extrusion Die			2600				m017611
	CNC Machine Bolt Face Complete	fix & gage	$174,784	115,000	(59,784)	4/6	5/9/00	M017574
	CNC Machine Cam Cuts, Ejector Retaining Pin Hole	fix & gage	$15,000	10,000	(5,000)			
	CNC Machine Bolt Head Retaining Pin Hole	fix & gage	$15,000		(15,000)			
	Vendor fixturing			2,090				m017607
	Punch Forth Extractor Rotation Notch	fix & gage	$10,000		(10,000)			
	Vendor Heat Treat		$0		0			
	Inspect for Hardness		$0		0			
	Black Oxide		$0	2,440	2,440			M018307
	Inspect Purchased Part							
Bolt Body	Blank	gage	$2,000	2,837	837	2/4/00	3/1/00	M016649
	Machine Cam Cuts	machine	$0		0			
	Assemble Braze Bolt	machine	$90,000	59,635	(30,365)	31-Jan	8-May	M17490
	Door interlock			1,530		7-Jun	16-Jun	M018521
	Exhaust Fan and Duct			2,986		27-Jun	31-Jul	M018676
	Deplate	tanks	$9,500		(9,500)			
	Eddy Current Test		$0		0			
	Glass Bead Blast	fix	$2,500		(2,500)			
	Black Oxide		$0		0			
	Inspect Purchased Part							
Receiver	Blank	gage	$2,500	2838	338			see M018649
	Machine A-load	Machine	$461,831		(461,831)			
	CMM		**$52,000**	52400	400	4-Feb	15-Feb	M17492
	Machine B-load		$0		0			
	Vibratory tumble deburr		$0		0			

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REMINGTON ARMS COMPANY, INC.
FIREARMS - MAYFIELD

06/29/00

C:\WINDOWS\Desktop\[710 Capital & Start up Costs xls]710 capital by operation

Barrel Assembly	Press Receiver to Barrel	fixture	$0	5811	5,811			
	Inspect for straightness	gage	$3,500	0	(3,500)			
Final Assembly	Gallery	100yd range	$100,000	0	(100,000)			
		snails	$30,000	11000	(19,000)	2/22/00	3/31/00	M016804
		snails		18600		4/4/00	5/15/00	M018084
		HVAC	$25,000	0	(25,000)			
		other	**$10,000**	15202	5,202			
					0			
			$100,000	0	(100,000)			
			$65,000	460,000	395,000		7/1/00	
	TOTAL IN HOUSE CAPITAL		**$1,801,755**	1,306,605	($495,150)			

Purchased Parts

Part #	Part Name	Capital	Tool	Capital Actual		Date Ordered	Expected Delivery Date	PO #
300327	Receiver Insert	**48,000**	Mold	46227	(2,773)			
300333	Side Plate	*10,000*	Stamping Die	7500	(2,500)	1/20	3/29	M017478
300334	Safety Arm	**23,880**	Stamping Die	19,900	(3,980)	3/6	4/11	M017491
300345	Bolt Stop	**6,820**	PM	5500	(1,320)	1/25	2/28	M017486
300361	Recoil Bracket	**2,225**	Stamping Die	550	(1,675)	1/19	3/15	M017477
300360	Bolt Handle Blank	**12,800**	Invest Cast Die	6895	(5,905)	1/24	3/27	M017484
300366	Bolt H. Braze Shim	0	Use Paste		0	canceled		
300368	Bolt Plug	**38,088**	Mold	38,000	(88)	12/14	3/21	M017443
300336	Firing pin head	**23,000**	MIM Mold	16,000	(7,000)	1/14	3/16	M017470
300362	Mag Latch	**33,480**	Mold	31,806	(1,674)	1/11	4/24	M017465
300363	Magazine Box	***28,000***	Mold	83,000	55,000	3/6	6/9	M017530
300364	Magazine Follower	**33,300**	Mold)	0	(33,300)	see Mag Bottom		M017466
300365	Magazine bottom	**47,880**	Mold)	73,786	25,906	1/12	4/17	M017466
	Stock	**150,300**	Mold	145,300	(5,000)	12/13	3/29	M017435
	Styrofoam Bed	0	Die		0			
	PPI	**38000**	See PPI Detail	16850	(21,150)			
	) follower and box bottom family mold							
	TOTAL VENDOR CAPITAL	$495,773		$ 490,314	(5,459)			

Addition Items Unbudgeted

Trigger	0	PM Die	16,000	16,000	14-Jan	16-Mar	M017487
Bolt Plug Insert	0	Extrusion die	2250	2,250	20-Jan	29-Mar	M017479
Tumbler	0	MIM Mold	20,000	20,000	20-Jan	29-Mar	M017480
Micro Centric Chuck	0	Chuck head	3645	3,645	21-Jan	10-Feb	M016555
bolt handle mold #2	0	mold	8595	8,595		18-Jun	
Magazine Spring	0	Stamping Die	16044	16,044	4-Feb	27-Apr	M017497
Comparator for trigger adj.	0	Comparator	2899	2,899	16-Jun	30-Jun	M018591
Comp fixture (trigger adj)	0	E-10462	5530	5,530	10-Mar	10-Apr	M016929
Stock Drilling Fixture	0	Fixture	7500	7,500	27-Mar	20-Apr	M017559
2nd stock Cooling Fixture	0	Fixture	6000	6,000			
F&S Marker	0	Stamp Mach	4250	4,250	13-Apr	19-May	M018158
Orbitform	0	nveter	11,100	11,100	4-Apr	19-May	M018075
Proof Device	0	Device	5,052	5,052	4-Apr	28-Apr	M018069
Trigger Pull Gage	0	Gage	5,995	5,995	18-May	26-Jun	M018374
Load Cell	0	Gage	2,000	2,000	22-May	26-Jun	M018417
Install Buss for Maint.	0	Electric Buss	10,600	10,600	15-Jun	30-Jun	M018561
Bbl assembly fixture	0	E-10491	4,600	4,600	19-Jun	27-Jun	M018615
TOTAL UNBUDGETTED			132,060	132,060			

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REMINGTON ARMS COMPANY, INC.
FIREARMS - MAYFIELD

06/29/00

C:\WINDOWS\Desktop\[710 Capital & Start up Costs.xls]710 capital by operation

Total Budget	**$2,297,528**
Total Committed	$ 1,928,979
Remainding	$368,549
Free Markets Avoidance	$461,831
Remainder to Budget w/ FM savings	-$93,282

Outstanding Purchases	$112,400
Remainder to Budget	-$93,282
Projected Capital Spending Over/(under)	**205,682**

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REMINGTON ARMS COMPANY, INC.
FIREARMS - MAYFIELD

06/29/00

C:\WINDOWS\Desktop\[710 Capital & Start up Costs xls]710 capital by operation

Total Budget	$2,297,526
Remainding based on $2.3MM budget	**$368,549**

Total Committed	$ 1,928,979
Free Markets Avoidance	$461,831
Future Purchases	($93,282)
Outstanding Purchases	$492,200

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06/23/00

Part #	Part Name	Vendor	Qnty on order	Qnty Received	Qnty on Hand	Approved	PPO	Vendor Contact	Comments
15161	front screw bushing	ilion	6000	6000	5629	yes	y		rev. 11
15400	trigger spring	ilion	6000	6000	6131	yes	y		rev. 11
15481	trigger stop screw	ilion	6000	6000	6000	?	y		part # 300426
15666	sear safety cam	ilion	4000	4000	3958	?	y		rev. 24
17043	safety pivot pin	ilion	5000	5000	5016	yes	y		rev. 33
17044	safety snap washer	balax incorporated	6000	6000	6009	yes	y		rev 26
17047	sear spring	ilion	6000	6000	6085	yes	y		rev. 26
17053	front trigger screw	pacific precision grinding	7500	7500	7718	yes	y		rev. 32
19461	trigger connector	ilion	6000	3000	3000	yes	y		rev. 21
91128	trigger engagement screw	ilion	2000	2000	2000	yes	y		?
93712	extractor	ilion	6000	3000	5921	yes	y		rev. 2
94084	front sights (.270/30-06)	ilion	3000	3000	2011	yes	y		rev.26 mixed with magnum sights
94095	front sights (magnum)	ilion			988	yes	y		rev. 17
94555	ejector pin	ilion	6000	4000	4029	yes	y		rev. 1
94657	front sight ramp	ilion	3100	3100	3105	yes	y		rev. 33
94996	sling swivel studs	michael's oregon	10000				y		
97971	grip cap	oneida	7000	7000	7000	yes	y		rev. 0
97973	recoil pad	oneida	6000	6000	6000	yes	y		rev. 26
98008	recoil pad screw	ilion	10000	10000	9913	yes	y		rev. 7
104131	front takedown screw	komar screw corporation	20000				y		
104133	middle takedown screw	ilion	5000	2000	2000		y		rev. ?
109835	trigger	ilion	1500	200	199	?	y		
201217	bolt plug tumbler spring	ilion	5000	5000	5000	yes	y		rev. 0
201224	lock plunger	ilion	1000	1000	984	no	y		part # 300466
300327	receiver insert	hanson	1000				N		
300328	side plate pin	iseli	60000	20000	19890	yes	y		rev. 3
300329	bolt handle pin	automatic swiss	20000	10500	6379	yes	y		rev. 3
300330	bolt assembly pin	automatic swiss	20000	3181	9953	yes	y	APPROVED	rev. A
300334	firing pin	quicktek	20000		421	yes	y	faxed vendor	rev. D length too long
300335	firing pin tip	quicktek	20000	10	492	yes	y		rev. 5
300336	firing pin head	megamet	100	900	900	no	N		rev. I waiting for new parts
300339	bolt body	ippilito & hauser	1000				N		
300340	receiver	ippilito & hauser	1000 each vendor		142		N		
300342	ejector	iseli	20000	10075	10046	yes	y		rev.3
300345	bolt stop	sterling	400	521	521	yes	y	APPROVED	rev. 17
300346	bolt plug insert	anderson screw	21399	1399	877	yes	y		rev. F 105 parts???anderson
300347	threaded insert	precision fasteners	5000	5000	4937	yes	y		rev. B
300351	pivot pin	swiss precision	60000		11,800	yes	y	APPROVED	rev. B
300360	bolt handle blank	north american	100				N		

300362	magazine latch	par 4	20000		740	yes	y		rev. 8
300363	magazine box	deer park die & stamping	20000		458	yes	y	samples 7/19	rev. 15
300364	follower	par 4	100000		115	no	y		rev. 24 missed revisions
300365	magazine box bottom	par 4	100000		203	yes	y		rev. 23
300367	ejector spring	midstate spring	20000	20000	20117	yes	y		rev. D
300368	bolt plug	kellems & coe tool co	50		38	yes	N		rev. 9
300371	latch pivot pin	automatic swiss	20000	11000	11005	yes	y		rev. B
300398	latch spring	midstate spring	20000	20000	5100	yes	y	APPROVED	rev. B
300399	firing pin spring	midstate spring	20000	19860	19978	yes	y		rev. E
300405	magazine spring	valley tool and die	1000	1000	996	?	N	new tool samp. 6/29	rev A profile off
300407	safety spring	midstate spring	21000	21000	21115	yes	y		rev. 4
300408	safety arm	square stamping	20000		1613	yes	y	1000 pc ASAP	rev. 16
300420	tumbler blank	megamet	100		1100		N		300418?
300425	takedown screw	komar screw corporation	20000		10797	yes	y		rev. 0
300426	trigger stop screw	alliance fastener	21000	2303	11033		y		rev C
300427	spring retainer	iseli	22000		0	no	y	due 6/19	rev. C waiting for new parts
300434	bolt head blank	quicktek	22000		10	yes	y		rev. 1
300437	stock	par 4	150				N		
300441	scope rail	minalex	10000				y		
300448	trigger engagement screw	alliance fastener	21000	2500	10769		y		rev. C mat. Change to 12L14
300454	recoil bracket blank	square stamping	20000	5110	110	yes	y		
300456	side plate blank	square stamping	20000	1425	1487	yes	y		rev. ? 1375 black oxided
300463	trigger pivot pin	swiss precision	500	550	488		N	due 6/26	
300464	sear retaining pin	swiss precision	500	550	561		N	due 6/26	
300465	pin retaining clip	motion industries	1500	200	500	yes	y		rev. A
300466	lock plunger	iseli	2000				N	due 7/17	
300333	side plate	square stamping			1487	yes			Black oxided

FYI
MM

FAXED
7-28-00
MM

7/28/00

TO: MR. CHUCK ULINSKI / QUICK-TEK

FROM: MS. METTY MORGAN / REMINGTON

Chuck,

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Would you please fax to me at your earliest convenience, an updated quote on the cost to manufacture the 710 bolt head in the following stages. **Quote** the bolt head each way out of **both material types, round and extruded.**

1.) Blank without any face machining
2.) Blank with face machining
3.) Blank complete with face machining and EDM

I need these quotes to update my files. There has been so much going on, I am not sure where my cost for what, is right now.

Thanks Chuck,
Sincerely,
MM
Metty

Megamet, LLC
custom manufacturing solutions
injection molds • plastic & metal components

4073 Wedgeway Court
Earth City, Missouri 63045
(314) 739-4499 • Fax (314) 739-5281
www.megamet.com

July 12, 2000
Jerry Helmer
270-856-3233

Jerry,

83

To meet the dimension requirements on the J-Lock tumbler we would have to remake the slide that forms the J. Megamet built the current slide to the nominal dimension with allowances for shrink. Since the part appears undersized we would make the new slide to the maximum allowed dimension after shrink.

We would require one week, 40 man hours, to remake this part. We will not proceed to make this change unless instructed by Remington.

Please advise on any questions.

Sincerely,

Jim Mullineaux
President & COO

7/17/00
To: MATT & JOE
FROM: JERRY

FYI.

REMINGTON ARMS COMPANY, INC.
FIREARMS - MAYFIELD

01/12/00

C:\WINDOWS\Desktop\m710\[summary of capital.xls]710 capital by operation

In House Capital

Part Name	Operation	Equipment	Capital Required	Capital Actual	Date Ordered	Expected Delivery Date	
Barrel	Cut off		$0				
	Drill	cones	$9,960				
	Ream		$0				
	Rifle	gages	$9,800	[illegible]			
	Wash & Stress Relieve	baskets	$6,900	[illegible]			
	Turn	gages	$10,100	[illegible]			
	Face & Chamber	gages	$33,300	[illegible]			
	Face & Chamber	machine	**$222,880**	[illegible]			
	Cut off and Crown	chuck	$15,000	[illegible]			
	wash and eddy current test	machine	$75,000	[illegible]			
	Induction Harden	machine	**$166,000**	[illegible]			
	Inspect Hardness	machine	$12,000	[illegible]			
	Drill and tap sight	fix & gages	$7,600	[illegible]			
	Roll mark	fix & gages	$6,300	[illegible]			
	Angularity Straighten	fix & gages	$3,500	[illegible]			
	Centerless Polish		$0	[illegible]			
	Glass Bead Blast	fixtures	$2,500	[illegible]			
	Color	racks	$6,000	[illegible]			
Bolt Head	Inspect Purchased Part Blank	gage	$2,500	[illegible]			
	Superabrasive Grind Lugs	fix & gage	$43,600	[illegible]			
	CNC Machine Bolt Face Complete	fix & gage	**$174,784**	[illegible]			
	CNC Machine Cam Cuts, Ejector Retaining Pin Hole	fix & gage	$15,000	[illegible]			
	CNC Machine Bolt Head Retaining Pin Hole	fix & gage	$15,000	[illegible]			
	Punch Form Extractor Rotation Notch	fix & gage	$10,000	[illegible]			
	Vendor Heat Treat		$0	[illegible]			
	Inspect for Hardness		$0	[illegible]			
	Black Oxide		$0	[illegible]			
Bolt Body	Inspect Purchased Part Blank	gage	$2,000	[illegible]			
	Machine Cam Cuts	machine	$0	[illegible]			
	Assemble Braze Bolt	machine	$90,000	[illegible]			
	Deplate	tanks	$9,500	[illegible]			
	Eddy Current Test		$0	[illegible]			
	Glass Bead Blast	fix	$2,500	[illegible]			
	Black Oxide		$0	[illegible]			
Receiver	Inspect Purchased Part Blank	gage	$2,500	[illegible]			
	Machine A-load	machine & CMM	**$513,831**	[illegible]			
	Machine B-load		$0				

Morgan, Metty E.

From: Golemboski, Matt R.
Sent: Wednesday, July 26, 2000 6:46 AM
To: Morgan, Metty E.
Subject: firing pin tip and firing pins for m710

Please order these parts 3000 a month Starting Sept 5 through Dec 1.
12,000 pc total to be delivered by Dec. 1.

Matt Golemboski
Plant Manager, Mayfield

PPO - DONE
20,000 EA
ON PO
M017441

83

updated Delivery
schedule Today
for this E-Mail

* Chuck Wanted All
20,000 Delivered this Year
I scheduled 5,000 for Mo.

FYI
Metty
:)

MF0758

Estimated Time for Magnetic Particle Testing:

Operations:

1. Set Barrel into machine, step foot pedal to clamp machine.
2. Turn knob to DC
3. Set amperage to 1000 for head shot # 1(For viewing chamber area)
4. Spray magnetic particle solution bath over barrel
5. Magnetize barrel
6. Make visual inspection of barrel with "spot" beam black light.
7. Set amperage to 500 for head shot # 2 (For viewing muzzle end)
8. Follow steps 4 thru 6.
9. Demagnetize barrel
10. Turn amperage knob to 500 amps for coil shot # 1
11. Move coil to postion about 5 inches from the chamber end of the barrel
12. Follow steps 4-6
13. Set amperage to 300 for coil shot # 2
14. Follow step 4 thru 6
15. Demagnetize the barrel for both shots.
16. Wash barrel with water and dry

00:1:19:00 per barrel

# Barrels		Elasped Time @ 100%		HRS
100		119		2.0
200		238		4.0
300		357		6.0
400		476		7.9
500		595		9.9
1000		1190		19.8

Elasped time @ 65%		HRS
77.35		1.3
154.7		2.6
232.05		3.9
309.4		5.2
386.75		6.4
773.5		12.9

Per Barrel = 0.01667 HRS/Barrel

REMINGTON ARMS COMPANY, INC.
FIREARMS - MAYFIELD 01/12/00

C:\WINDOWS\Desktop\m710\[summary of capital.xls]710 capital by operation

	Vibratory tumble deburr		$0				
Barrel Assembly	Press Receiver to Barrel	fixture	$0	Grock			
	Inspect for straightness	gage	$3,500	Grock			
Final Assembly	Gallery	100yd range	**$100,000**	TRWAX			
		snails	$30,000				
		HVAC	$25,000				
		other	$10,000				
			$100,000				
			$65,000				

$1,801,755

Purchased Parts

Part #	Part Name	Capital	Tool	Capital Actual	Date Ordered	Expected Delivery Date	
300327	Receiver Insert	48,000	Mold				
300333	Side Plate	*40,000*	Stamping Die				
300334	Safety Arm	23,880	Stamping Die				
300345	Bolt Stop	6,820	PM				
300351	Recoil Bracket	2,225	Stamping Die				
300360	Bolt Handle Blank	12,800	Invest Cast Die				
300366	Bolt H. Braze Shim	*0*	Use Paste				
300368	Bolt Plug	38,088	Mold				
300936	Firing pin head	23,000	MIM Mold				
300362	Mag Latch	33,480	Mold				
300363	Magazine Box	*28,000*	Mold				
300364	Magazine Follower	33,300	Mold				
300365	Magazine Bottom	47,880	Mold				
	Stock	**150,300**	Mold				
	Styrofoam Bed	0	Die				
	PPI	38000					
		$495,773					

Total	**$2,297,528**
Installation	$0
	$2,297,528

Who Does What as of Mon. 1/17/00
Individual Task Summary

Phase I: Machine Area

1. Joe & Kristan: Meeting today at 1:00 P.M. to go over part processing in plant to produce a visual flow chart.

Take into account all products that presently are routed through the plant for the purpose of manufacturing. Develop a product routing chart using simple TQM process symbols.

ATTENTION: Kristan: After meeting with Joe a flow chart will be created. The first meeting with ADHOCC team members will begin 1/18/00 @ 5:00 a.m. for third shift. This meeting time will be at the same time until a final design is completed durning the week of Jan 30, 2000

Develop Routing Sheet in Visio to have a visual that team members can understand the operations they are working with to improve the plant layout.

2. Tommy & Shelley -----100% Complete 1/17/00

Choose the people from all shifts that are free to develop machine list. The machine list will then be place into an Excel spreadsheet in alphabetical order, number of machines, name of location, and type of product that flows through machine.

3. Tommy & Shelley-----100% Complete 1/17/00

Miscellaneous equipment includes testing equipment, tables, trash cans, and tools need for specific operations. A spreadsheet needs to be developed in the same manner as the machine list.

4. Scott (Tommy & Shelley) ----100% Complete 1/17/00 Matt G. forwarded me a copy of the last time study completed. This will be applied

A time study needs to be done on all processes within the plant. The time study is important for the team because it will show machining cells where bottlenecks are created. An inventory storage bin or table may have to be place in these specific areas because of the bottlenecks.

5. **All Team Members**

All members of the plant will be utilized during the duration of this task on a daily basis. Each meeting will go over specific part routings and the order in which machines will be grouped to complete the product routing.

6. **Maintenance**—Costing has already been established in the past. Incurring problems exist around how the machine moving equipment will enter and exit the plant. Currently the route taken is the 12" overhead door on the South West corner of the building. Future plans for construction of a gun range will close this area. ***Question: Where are the moving machines going to enter and exit the building? What are our options?***

The cost of moving machines and electrical hook-up will be up to maintenance. A cost sheet should be developed showing the min. and max. requirements of the Visio layouts.

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7. **Team Members**

Develop Proposal
Finalize Proposal

Phase II: Assembly Area

All task applied towards the assembly area will be already be established by the Assembly Team. The two teams will then meet to produce the assembly layout after Phase I is complete.

On Thursday John Stairs may need to be present in the core meeting to understand about ideas that need to be viewed in developing the assembly side of the layout.

All Other Word Processors

Avery™ Tab Inserts for Dividers - 5 Tab

Printing Instructions

Follow the general formatting instructions below or use Avery FAXFACTS to request Bulletin 1150 to get specific instructions for:

- *Microsoft® Word for Windows® 2.0*
- *Microsoft® Works 4.0 for Windows® 95*
- *WordPerfect® 5.1*
- *Lotus® Word Pro*
- *Lotus® Ami Pro®*

See under Avery Technical Support below.

1. Set **Page Margins** as follows:

Left	2.25"	Top	1.167"
Right	2.25"	Bottom	1.0"

2. Set two center-aligned tabs. Set the first tab at 1", and the second tab at 3".
3. Set **line spacing** (or **line height**) to 0.33". (If your program displays line spacing in points or another measurement unit, you can still enter a dimension in inches-if you include the inch mark.) If options are available, set spacing to "**exactly**" or "**fixed.**" (The terms vary from one program to another.) Do not set to "at least" or "auto."
4. Press the Tab key once to move to the first tab stop. Type your text for the first insert. Press the Tab key to move to the second tab stop, and type the same text again. (This becomes the other side of the insert.)

5. Press Enter to move to the next row. You can repeat step 4 to enter up to 26 rows of inserts.
6. In your word processor or on your printer's control panel, select the printer's manual feed tray.
7. When done entering text, follow **Printing Instructions.**

Avery Technical Support

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FAXFACTS (available 24 hours a day)
(818) 584-1681

If you don't have a fax machine, or your's is one of the few that doesn't work with FaxFacts, call or fax Avery Technical Support and we will send the bulletins to you.

Avery Technical Support	(214) 389-3699
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CompuServe	GO AVERY

Print a test sheet

1. Send the print command from your word processor.
2. Insert a sheet of plain paper in your printer's **Manual Feed Tray.** *Note: On some printers you must open the printer's front door to use the Manual Feed Tray.*
3. If your printer does not pick up the sheet, press **On Line** or **Continue.**
4. Hold printed test sheet against insert sheet to check alignment. Adjust as needed.

For more detailed printing instructions and specific instructions on how to adjust the alignment of your text, use Avery FaxFacts to request Bulletin 1150.

Print your inserts

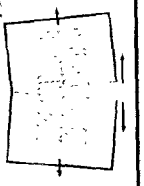
5. Load the insert sheet and print using your printer's manual feed tray.

Printing on Half-Sheets

ONLY for printers capable of feeding 8½" x 5½" paper sizes including...

- HP® LaserJet® 4P, 4MP, 5P, 5MP
- Many InkJet printers

1. Split the sheet of inserts in half (horizontally).
2. Always feed the non-perforated edge into the printer first.



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MF0763

AVERY

Avery™ Tab Inserts for Dividers - 5 Tab

Microsoft® Word for Windows® 6.0 or for Windows® 95 7.0

1. Click the **Tools** menu and choose **Envelopes and Labels.**
2. Click the **Labels** tab, then click the **Options** button.
3. In the **Product Number** list, click ***Worksaver 5 - Tabs***.
4. While still in the **Label Options** dialog box, set tray to **Manual Feed** (if available). Then click the **Details** button.
5. Make the following settings:

Top Margin	1.17"
Side Margin	2.25"
Horizontal Pitch	2"
Label Width	2"
Number Across	2
Number Down	26

Then click **OK**.

6. Click **OK** in the message box that appears.
7. Click **OK** in the **Label Options** box. Then click **New Document**.
8. Hold down the **Ctrl** key and press **A** to select the whole table. Then hold down the **Ctrl** key and press **E** to use center alignment. Position the cursor in the top left insert.
9. Type your text in the left insert, then use the **TAB** key to move to the right insert. Type the same text again for a double-sided insert.

10. Press the **TAB** key to position the cursor on the next row of tab inserts. Repeat step 9 to create up to 26 rows of inserts.
11. Turn page over and follow **Printing Instructions.**

WordPerfect® 6.0, 6.1 or 7.0 for Windows®

1. Click the **Format** menu (WordPerfect 6.1 and 7.0) or **Layout** menu (WordPerfect 6.0). Choose **Labels**.
   *Note: If you have followed the formatting instructions before, select **Avery Tab Inserts Dividers5** (the label size you created). Then click **Select** and go to step 6.*
2. In the **Labels** list, click:
   WI-213-5 WorkSaver (Front) for WordPerfect 6.0 & 6.1
   Avery WorkSaver 5-Tab for WordPerfect 7.0.
   Then click **Create**. 83
3. In the **Label Description** box, type ***Avery Tab Inserts-Dividers5***. In the **Label Type** box, select **Laser**.
4. Make the following settings:

Labels Per Page	
Rows	26
Top Left Label	
Top Edge	1.17"
Left Edge	2.25"
Distance Between Labels	
Columns	0

Then click **OK**.

5. Click the **Select** button in the Labels dialog box.
6. Click the **Edit** menu, choose **Select**, then choose **All**. Press **Ctrl+E** to use center alignment. Position cursor in the insert (entry field).
7. Type your text in the left insert, then use the **Ctrl+Enter** key to move to the right insert. Type the same text again for a double-sided insert.

8. Press **Ctrl+Enter** to position the cursor on the next row of inserts. You can repeat step 7 to create up to 26 rows of inserts.
9. Turn page over and follow **Printing Instructions.**

All Other Word Processors

Turn Page Over

RM 1278M

MF0764

PARTS LIST

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MATT, FYI. 4/25/00 JERRY

Elizabethtown Research Division — PARTS LIST #YYY

Date: 04/25/00 — **Model 710** **Bolt Action** **Centerfire Rifle R.H.** — Supersedes Previous Model XXX Parts List #AAA

Sheet 1 of 2 — Dotted line (- - -) indicates same part number

DWG. NO.	PART NAME	PART NUMBERS 30-06	270	7mm Rem Mag	300 Win Mag
	RAMAC #				
	DOCUMENT ENVELOPE ASSEMBLY	XXXX	----	----	----
	Document Envelope	1649	----	----	----
	Instruction Book	xxxx	----	----	----
	Product Owners Card	1426	----	----	----
	Remington Authorized Gunsmith	3413	----	----	----
	Safety Booklet	3499	----	----	----
	Remington Museum Flyer	3475	----	----	----
	Oval Label	3491	----	----	----
	CARTON ASSEMBLY		----	----	----
	Box & Envelope Label (Label To Read "Model 710")	993002	----	----	----
	NOTE: THE ABOVE PARTS ARE FOR PACKAGING ONLY				
C-305410-E	**BARREL ASSEMBLY COMPLETE**	305410	305411	305412	305413
C-300462-	BARREL ASSY COMPLETE MARKING				
C-305400-	**BARREL ASSEMBLY**	305400	305401	305402	305403
E-305315-25	BARREL	305315	305316	305317	305318
	BARREL MATERIAL #1246	300447	----	----	----
D-305465-	BARREL MARKING				
E-300340-20	RECEIVER	300340	----	----	----
D-300401-E	**RECEIVER INSERT ASSEMBLY COMPLETE**	300401	----	----	----
C-300400-	**RECEIVER INSERT ASSEMBLY**	300400	----	----	----
1E-300327-17	RECEIVER INSERT	300327	----	----	----
2E-300327-30					
A-300347-B	THREADED INSERT	300347	----	----	----
C-300333-7	SIDE PLATE (Blk. 300456)	300333	----	----	----
A-300328-3	SIDE PLATE PIN (2)	300328	----	----	----
C-15666	SEAR SAFETY CAM (Blk. C-91919)	15666	----	----	----
B-300351-A	PIVOT PIN	300351	----	----	----
B-300463-	TRIGGER PIVOT PIN	300463	----	----	----
B-300464-	SEAR RETAINING PIN	300464	----	----	----
A-300465-	PIN RETAINING CLIP (2)	300465	----	----	----
A-17047	SEAR SPRING	17047	----	----	----
D-109835	TRIGGER	109835	----	----	----
D-201342-2	TRIGGER BLANK	201342	----	----	----
C-19461	TRIGGER CONNECTOR (Blk. C-91921)	19461	----	----	----
B-17053	TRIGGER SCREW FRONT (Blk. B-91920)	17053	----	----	----
B-300448-A	TRIGGER ENGAGEMENT SCREW	300448	----	----	----
A-15400	TRIGGER SPRING	15400	----	----	----
A-300426-A	TRIGGER STOP SCREW	300426	----	----	----
D-300408-16	SAFETY (Blk. 300455)	300408	----	----	----
B-17043	SAFETY PIVOT PIN (Blk. B-91918)	17043	----	----	----
B-17044	SAFETY SNAP WASHER (Blk. 200042)	17044	----	----	----
B-300407-4	SAFETY SPRING	300407	----	----	----
C-300345-16	BOLT STOP (Blk. 300453)	300345	----	----	----
B-17034	RECEIVER PLUG SCREW (4)	17034	----	----	----
B-300361-D	RECOIL BRACKET (Blk. 300454)	300361	----	----	----
B-305475-	**BOLT ASSEMBLY COMPLETE**	305475	----	305476	----
B-300403-A	**BOLT BODY ASSEMBLY**	300403	----	----	----
D-300339-16	BOLT BODY	300339	----	----	----
C-300370-E	BOLT HANDLE	300370	----	----	----
D-300360-1	BOLT HANDLE BLANK	300360	----	----	----
A-300329-3	BOLT HANDLE PIN	300329	----	----	----
B-305390-2	**BOLT HEAD ASSEMBLY**	305390	----	305391	----
E-300338-24	BOLT HEAD (30-06, 270)	300338	----		
C-300416-F	BOLT HEAD (7mm Rem,300 Win)			300416	----
D-300434-	BOLT HEAD BLANK	300434	----	----	----
	EXTRACTOR				
C-93712	30-06, 270 (Blk. 93711)	93712	----		
C-97322	7mm Rem, 300 Win (Blk. 97321)			97322	----
C-27340	EXTRACTOR RIVET			27341	----
B-300342-3	EJECTOR	300342	----	----	----
A-300367-C	EJECTOR SPRING	300367	----	----	----

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MF0766

Elizabethtown Research Division — PARTS LIST #YYY

Date: 04/25/00 — **Model 710** — **Bolt Action** — **Centerfire Rifle R.H.** — Supersedes Previous Model XXX Parts List #AAA

Sheet 2 of 2 — Dotted line (- - -) indicates same part number

DWG. NO.	PART NAME	PART NUMBERS	30-06	270	7mm Rem Mag	300 Win Mag
A-94555	EJECTOR PIN	94555	----	----	----	----
B-300330-A	BOLT ASSEMBLY PIN	300330	----	----	----	----
	BOLT ASSEMBLY COMPLETE CONT'D					
B-300404-A	**FIRING PIN ASSEMBLY**	300404	----	----	----	----
D-300368-6	BOLT PLUG	300368	----	----	----	----
B-300346-F	BOLT PLUG INSERT	300346	----	----	----	----
B-300418-B	TUMBLER	300418	----	----	----	----
D-300420-D	TUMBLER BLANK	300420	----	----	----	----
C-201224	LOCK PLUNGER (Blk. 201223)	201224	----	----	----	----
A-201217	LOCK SPRING	201217	----	----	----	----
A-300427-A	SPRING RETAINER	300427	----	----	----	----
C-300334-D	FIRING PIN (Blk. 300452)	300334	----	----	----	----
C-300335-5	FIRING PIN TIP (Blk. 300451)	300335	----	----	----	----
C-300336-I	FIRING PIN HEAD (Blk. 300450)	300336	----	----	----	----
A-300399-E	FIRING PIN SPRING	300399	----	----	----	----
	FRONT SIGHT					
C-15373	30-06, 270 (Blk. 90393)	94084	----			
B-14659	7mm REM, 300 WIN				94095	----
B-28510	FRONT SIGHT RAMP (Blk. B-16724)	94657	----	----	----	----
B-28505	FRONT SIGHT RAMP SCREW (2) (Blk. 90347)	28505	----	----	----	----
B-103145	**REAR SIGHT ASSEMBLY**	103145	----	----	----	----
A-90906	ELEVATION SCREW	90906	----	----	----	----
C-93905	REAR SIGHT APERATURE (Blk. C-93906)	94333	----	----	----	----
C-103530	REAR SIGHT BASE (Blk. 94023)	103530	----	----	----	----
C-93904	REAR SIGHT SLIDE (Blk. C-93907)	94335	----	----	----	----
B-90904	WINDAGE SCREW (Blk. 91911)	90904	----	----	----	----
B-28505	REAR SIGHT BASE SCREW (2) (Blk. 90347)	28505	----	----	----	----
B-305455-A	**STOCK ASSEMBLY COMPLETE**	305455	----	----	----	----
E-300437	STOCK	300437	----	----	----	----
B-15161	FRONT SCREW BUSHING (Blk. 91915)	15161	----	----	----	----
C-97971	GRIP CAP	97971	----	----	----	----
D-97973	RECOIL PAD	97973	----	----	----	----
C-97972	RECOIL PAD SPACER	97972	----	----	----	----
A-98008	RECOIL PAD SCREW (2)	98008	----	----	----	----
C-300362-8	MAGAZINE LATCH	300362	----	----	----	----
B-300398-[illegible]	LATCH SPRING	300398	----	----	----	----
B-300371-B	LATCH PIVOT PIN	300371	----	----	----	----
B-15350	SLING SWIVEL STUD (2)	94996	----	----	----	----
C-104125	FRONT TAKE DOWN SCREW (Blk. 104141)	104131	----	----	----	----
C-104123	MIDDLE TAKE DOWN SCREW (Blk. 104143)	104133	----	----	----	----
B-300425	REAR TAKE DOWN SCREW	300425	----	----	----	----
B-305395-A	**MAGAZINE ASSEMBLY**	305395	----	----	----	----
E-300363-14	MAGAZINE BOX (Blk. 300449)	300363	----	----	----	----
D-300364-17	MAGAZINE FOLLOWER	300364	----	----	----	----
B-300365-21	MAGAZINE BOTTOM	300365	----	----	----	----
B-300446-	BOTTOM ARTWORK					
C-300405-A	MAGAZINE SPRING	300405	----	----	----	----

FOR ACCESSORY SALES

D-300441-A	SCOPE RAIL	300441
B-28505	SCREW (4 REQ'D)	28505

Elizabethtown Research Division — PARTS LIST #YYY

Date: 03/02/00

Model 710
Bolt Action
Centerfire Rifle R.H.

Supersedes Previous Model XXX
Parts List #AAA

Sheet 1 of 2

Dotted line (- - -) indicates same part number

DWG. NO.	PART NAME	30-06	270	7mm Rem Mag	300 Win Mag
	RAMAC #				
	DOCUMENT ENVELOPE ASSEMBLY	XXXX	----	----	----
	Document Envelope	1649	----	----	----
	Instruction Book	xxxx	----	----	----
	Product Owners Card	1426	----	----	----
	Remington Authorized Gunsmith	3413	----	----	----
	Safety Booklet	3499	----	----	----
	Remington Museum Flyer	3475	----	----	----
	Oval Label	3491	----	----	----
	CARTON ASSEMBLY		----	----	----
	Box & Envelope Label	993002	----	----	----
	(Label to Read "Model 710")				
	NOTE: THE ABOVE PARTS ARE FOR PACKAGING ONLY				
C-305410-	**BARREL ASSEMBLY COMPLETE**	305410	3054 1	305412	305413
C-305400-	**BARREL ASSEMBLY**	305400	305401	305402	305403
E-305315-21	BARREL (Blank 300447)	305315	305316	305317	305318
D-305465-	BARREL MARKING				
E-300340-19	RECEIVER	300340	----	----	----
D-300401-A	**RECEIVER INSERT ASSEMBLY COMPLETE**	300401	----	----	----
C-300400-	**RECEIVER INSERT ASSEMBLY**	300400	----	----	----
1E-300327-17	RECEIVER INSERT	300327		----	----
2E-300327-30					
A-300347-A	THREADED INSERT	300347	----	----	----
C-300333-5	SIDE PLATE	300333	----	----	----
A-300328-2	SIDE PLATE PIN (2)	300328	----	----	----
C-15666	SEAR SAFETY CAM (Blk. C-91919)	15666	----	----	----
B-300351-	PIVOT PIN	300351	----	----	----
A-17047	SEAR SPRING	17047	----	----	----
C-300435-C	TRIGGER (Blk. 300436)	300435	----	----	----
C-19461	TRIGGER CONNECTOR (Blk. C-91921)	19461	----	----	----
B-17053	TRIGGER SCREW FRONT (Blk. B-91920)	17053	----	----	----
B-300448-	TRIGGER ENGAGEMENT SCREW	300448	----	----	----
A-15400	TRIGGER SPRING	15400	----	----	----
A-300426-[illegible]	TRIGGER STOP SCREW	300426	----	----	----
D-300408-16	SAFETY	300408	----	----	----
B-17043	SAFETY PIVOT PIN (Blk. B-91918)	17043	----	----	----
B-17044	SAFETY SNAP WASHER (Blk. 200042)	17044	----	----	----
B-300407-3	SAFETY SPRING	300407	----	----	----
C-300345-10	BOLT STOP	300345	----	----	----
B-17034	RECEIVER PLUG SCREW (4)	17034	----	----	----
B-300361-B	RECOIL BRACKET	300361	----	----	----
B-300403-	**BOLT BODY ASSEMBLY**	300403	----	----	----
B-300339-16	BOLT BODY	300339	----	----	----
C-300370-C	BOLT HANDLE	300370	----	----	----
D-300360-C	BOLT HANDLE BLANK	300360	----	----	----
A-300329-2	BOLT HANDLE PIN	300329	----	----	----
B-305390-2	**BOLT HEAD ASSEMBLY**	305390	----	305391	----
E-300338-18	BOLT HEAD (30-06, 270)	300338	----		
C-300416-F	BOLT HEAD (7mm Rem,300 Win)			300416	----
D-300434-	BOLT HEAD BLANK	300434	----	----	----
	EXTRACTOR				
C-93712	30-06, 270 (Blk. 93711)	93712	----		
C-97322	7mm Rem, 300 Win (Blk. 97321)			97322	----
C-27340	EXTRACTOR RIVET			27341	----
B-300342-2	EJECTOR	300342	----	----	----
A-300367-	EJECTOR SPRING	300367	----	----	----
A-94555	EJECTOR PIN	94555	----	----	----
B-300330-	BOLT ASSEMBLY PIN	300330	----	----	----
B-300404-A	**FIRING PIN ASSEMBLY**	300404	----	----	----
D-300368-5	BOLT PLUG	300368	----	----	----
B-300346-D	BOLT PLUG INSERT	300346	----	----	----
B-300418-B	TUMBLER	300418	----	----	----
D-300420-D	TUMBLER BLANK	300420	----	----	----

Elizabethtown Research Division — PARTS LIST #YYY

Date: 03/02/00 — **Model 710** **Bolt Action** **Centerfire Rifle R.H.** — Supersedes Previous Model XXX Parts List #AAA

Sheet 2 of 2 — Dotted line (- - -) indicates same part number

DWG. NO.	PART NAME	PART NUMBERS	30-06	270	7mm Rem Mag	300 Win Mag
	FIRING PIN ASSY CONTINUED					
C-201224	LOCK PLUNGER (Blk. 201223)	201224	----		----	----
A-201217	LOCK SPRING	201217	----		----	----
A-300427	SPRING RETAINER	300427	----		----	----
C-300334-A	FIRING PIN	300334	----		----	----
C-300335-2	FIRING PIN TIP	300335	----		----	----
C-300336-G	FIRING PIN HEAD	300336	----		----	----
A-300399-D	FIRING PIN SPRING	300399	----		----	----
	FRONT SIGHT					
C-15373	30-06, 270 (Blk. 90393)	94084	----			
B-14659	7mm REM, 300 WIN				94095	----
B-28510	FRONT SIGHT RAMP (Blk. B-16724)	94657	----		----	----
B-28505	FRONT SIGHT RAMP SCREW (2) (Blk. 90347)	28505	----		----	----
B-103145	**REAR SIGHT ASSEMBLY**	103145	----		----	----
A-90906	ELEVATION SCREW	90906	----		----	----
C-93905	REAR SIGHT APERATURE (Blk. C-93906)	94333	----		----	----
C-103530	REAR SIGHT BASE (Blk. 94023)	103530	----		----	----
C-93904	REAR SIGHT SLIDE (Blk. C-93907)	94335	----		----	----
B-90904	WINDAGE SCREW (Blk. 91911)	90904	----		----	----
B-28505	REAR SIGHT BASE SCREW (2) (Blk. 90347)	28505	----		----	----
B-305455	**STOCK ASSEMBLY COMPLETE**	305455	----		----	----
E-300437	STOCK	300437	----		----	----
B-15161	FRONT SCREW BUSHING (Blk 91915)	15161	----		----	----
C-97971	GRIP CAP	97971	----		----	----
D-97973	RECOIL PAD	97973	----		----	----
C-97972	RECOIL PAD BACKER	97972	----		----	----
A-98008	RECOIL PAD SCREW (2)	98008	----		----	----
C-300362-8	MAGAZINE LATCH	300362	----		----	----
B-300398-B	LATCH SPRING	300398	----		----	----
B-300371-A	LATCH PIVOT PIN	300371	----		----	----
B-15358	SLING SWIVEL STUD (2)	94996	----		----	----
C-104125	FRONT TAKE DOWN SCREW (Blk. 104141)	104131	----		----	----
C-104125	MIDDLE TAKE DOWN SCREW (Blk. 104143)	104133	----		----	----
B-300425-	REAR TAKE DOWN SCREW	300425	----		----	----
B-305395-	**MAGAZINE ASSEMBLY**	305395	----		----	----
E-300363-14	MAGAZINE BOX	300363	----		----	----
D-300364-16	MAGAZINE FOLLOWER	300364	----		----	----
D-300365-20	MAGAZINE BOTTOM	300365	----		----	----
B-300406-	BOTTOM ARTWORK					
B-300405-	MAGAZINE SPRING	300405	----		----	----

FOR ACCESSORY SALES

D-300441-A	SCOPE RAIL	300441
B-28505	SCREW (4 REQ'D)	28505

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MF0769

Elizabethtown Research Division

PARTS LIST #YYY

Date: 02/28/00

Model 710
Bolt Action
Centerfire Rifle R.H.

Supersedes Previous Model XXX
Parts List #AAA

Sheet 1 of 2

Dotted line (- - -) indicates same part number

DWG. NO.	PART NAME	PART NUMBERS 30-06	270	7mm Rem Mag	300 Win Mag
	RAMAC #				
	DOCUMENT ENVELOPE ASSEMBLY	XXXX	----	----	----
	Document Envelope	1649	----	----	----
	Instruction Book	xxxx	----	----	----
	Product Owners Card	1426	----	----	----
	Remington Authorized Gunsmith	3413	----	----	----
	Safety Booklet	3499	----	----	----
	Remington Museum Flyer	3475	----	----	----
	Oval Label	3491	----	----	----
	CARTON ASSEMBLY		----	----	----
	Box & Envelope Label (Label To Read "Model 710")	993002	----	----	----
	NOTE: THE ABOVE PARTS ARE FOR PACKAGING ONLY				
C-305410-	**BARREL ASSEMBLY COMPLETE**	305410	305411	305412	305413
C-305400-	**BARREL ASSEMBLY**	305400	305401	305402	305403
E-305315-21	BARREL	305315	305316	305317	305318
D-305465-	BARREL MARKING				
E-300340-19	RECEIVER	300340	----	----	----
D-300401-A	**RECEIVER INSERT ASSEMBLY COMPLETE**	300401	----	----	----
C-300400-	**RECEIVER INSERT ASSEMBLY**	300400	----	----	----
1E-300327-17	RECEIVER INSERT	300327	----	----	----
2E-300327-30					
A-300347-A	THREADED INSERT	300347	----	----	----
C-300333-5	SIDE PLATE	300333	----	----	----
A-300328-2	SIDE PLATE PIN (2)	300328	----	----	----
C-15666	SEAR SAFETY CAM (Blk. C-91919)	15666	----	----	----
B-300351-	PIVOT PIN (3)	300351	----	----	----
A-17047	SEAR SPRING	17047	----	----	----
C-300435-C	TRIGGER (Blk. 300436)	300435	----	----	----
C-19461	TRIGGER CONNECTOR (Blk. C-91921)	19461	----	----	----
B-17053	TRIGGER SCREW FRONT (Blk. B-91920)	17053	----	----	----
B-300448-	TRIGGER ENGAGEMENT SCREW	300448	----	----	----
A-15400	TRIGGER SPRING	15400	----	----	----
A-300426-	TRIGGER STOP SCREW	300426	----	----	----
D-300408-16	SAFETY	300408	----	----	----
B-17043	SAFETY PIVOT PIN (Blk. B-91918)	17043	----	----	----
B-17044	SAFETY SNAP WASHER (Blk. 200042)	17044	----	----	----
B-300407-3	SAFETY SPRING	300407	----	----	----
C-300345-10	BOLT STOP	300345	----	----	----
B-17034	RECEIVER PLUG SCREW (4)	17034	----	----	----
B-300361-B	RECOIL BRACKET	300361	----	----	----
B-300403-	**BOLT BODY ASSEMBLY**	300403	----	----	----
D-300339-16	BOLT BODY	300339	----	----	----
C-300370-C	BOLT HANDLE	300370	----	----	----
D-300360-C	BOLT HANDLE BLANK	300360	----	----	----
A-300329-2	BOLT HANDLE PIN	300329	----	----	----
B-305390-2	**BOLT HEAD ASSEMBLY**	305390	----	305391	----
E-300338-18	BOLT HEAD (30-06, 270)	300338	----		
C-300416-F	BOLT HEAD (7mm Rem, 300 Win)			300416	----
D-300434-	BOLT HEAD BLANK	300434	----	----	----
	EXTRACTOR				
C-93712	30-06, 270 (Blk. 93711)	93712	----		
C-97322	7mm Rem, 300 Win (Blk. 97321)			97322	----
C-27340	EXTRACTOR RIVET			27341	----
B-300342-2	EJECTOR	300342	----	----	----
A-300367-	EJECTOR SPRING	300367	----	----	----
A-94555	EJECTOR PIN	94555	----	----	----
B-300330-	BOLT ASSEMBLY PIN	300330	----	----	----
B-300404-A	**FIRING PIN ASSEMBLY**	300404	----	----	----
D-300368-5	BOLT PLUG	300368	----	----	----
B-300346-D	BOLT PLUG INSERT	300346	----	----	----
B-300418-B	TUMBLER	300418	----	----	----
D-300420-D	TUMBLER BLANK	300420	----	----	----

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MF0770

Elizabethtown Research Division — PARTS LIST #YYY

Date: 02/28/00 — **Model 710** — Supersedes Previous Model XXX

Bolt Action — Parts List #AAA

Centerfire Rifle R.H.

Sheet 2 of 2 — Dotted line (- - -) indicates same part number

DWG. NO.	PART NAME	PART NUMBERS	30-06	270	7mm Rem Mag	300 Win Mag
	FIRING PIN ASSY CONTINUED					
C-201224	LOCK PLUNGER (Blk. 201223)	201224	----	----	----	----
A-201217	LOCK SPRING	201217	----	----	----	----
A-300427	SPRING RETAINER	300427	----	----	----	----
C-300334-A	FIRING PIN	300334	----	----	----	----
C-300335-2	FIRING PIN TIP	300335	----	----	----	----
C-300336-G	FIRING PIN HEAD	300336	----	----	----	----
A-300399-D	FIRING PIN SPRING	300399	----	----	----	----
	FRONT SIGHT					
C-15373	30-06, 270 (Blk. 90393)	94084	----			
B-14659	7mm REM, 300 WIN				94095	----
B-28510	FRONT SIGHT RAMP (Blk. B-16724)	94657	----	----	----	----
B-28505	FRONT SIGHT RAMP SCREW (2) (Blk. 90347)	28505	----	----	----	----
B-103145	**REAR SIGHT ASSEMBLY**	103145	----	----	----	----
A-90906	ELEVATION SCREW	90906	----	----	----	----
C-93905	REAR SIGHT APERATURE (Blk. C-93906)	94333	----	----	----	----
C-103530	REAR SIGHT BASE (Blk. 94023)	103530	----	----	----	----
C-93304	REAR SIGHT SLIDE (Blk. C-93907)	94335	----	----	----	----
B-90904	WINDAGE SCREW (Blk. 91911)	90904	----	----	----	----
B-28505	REAR SIGHT BASE SCREW (2) (Blk. 90347)	28505	----	----	----	----
B-305455	**STOCK ASSEMBLY COMPLETE**	305455	----	----	----	----
E-300437	STOCK	300437	----	----	----	----
B-15161	FRONT SCREW BUSHING (Blk 91915)	15161	----	----	----	----
C-97971	GRIP CAP	97971	----	----	----	----
D-97973	RECOIL PAD	97973	----	----	----	----
C-97972	RECOIL PAD BACKER	97972	----	----	----	----
A-98008	RECOIL PAD SCREW (2)	98008	----	----	----	----
C-300362-7	MAGAZINE LATCH	300362	----	----	----	----
B-300398-B	LATCH SPRING	300398	----	----	----	----
B-300371-A	LATCH PIVOT PIN	300371	----	----	----	----
B-15358	SLING SWIVEL STUD (2)	94936	----	----	----	----
C-104125	FRONT TAKE DOWN SCREW (Blk. 104141)	104131	----	----	----	----
C-104125	MIDDLE TAKE DOWN SCREW (Blk. 104143)	104133	----	----	----	----
B-300425-	REAR TAKE DOWN SCREW	300425	----	----	----	----
B-305395-	**MAGAZINE ASSEMBLY**	305395	----	----	----	----
E-300363-14	MAGAZINE BOX	300363	----	----	----	----
D-300364-16	MAGAZINE FOLLOWER	300364	----	----	----	----
D-300365-20	MAGAZINE BOTTOM	300365	----	----	----	----
B-300446	BOTTOM ARTWORK					
C-300405	MAGAZINE SPRING	300405	----	----	----	----

FOR ACCESSORY SALES

D-300441-A	SCOPE RAIL	300441
B-28505	SCREW (4 REQ'D)	28505

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MF0771

Elizabethtown Research Division — PARTS LIST #YYY

Date: 01/17/00

Model 710
Bolt Action
Centerfire Rifle R.H.

Supersedes Previous Model XXX Parts List #AAA

heet 1 of 2

Dotted line (- - -) indicates same part number

DWG. NO.	PART NAME	PART NUMBERS 30-06	270	7mm Rem Mag	300 Win Mag
	RAMAC #				
	DOCUMENT ENVELOPE ASSEMBLY	XXXX	----	----	----
	Document Envelope	1649	----	----	----
	Instruction Book	xxxx	----	----	----
	Product Owners Card	1426	----	----	----
	Remington Authorized Gunsmith	3413	----	----	----
	Safety Booklet	3499	----	----	----
	Remington Museum Flyer	3475	----	----	----
	Oval Label	3491	----	----	----
	CARTON ASSEMBLY		----	----	----
	Box & Envelope Label (Label To Read "Model 710")	993002	----	----	----
	NOTE: THE ABOVE PARTS ARE FOR PACKAGING ONLY				
C-305410-	**BARREL ASSEMBLY COMPLETE**	305410	305411	305412	305413
C-305400-	**BARREL ASSEMBLY**	305400	305401	305402	305403
E-305315-11	BARREL	305315	305316	305317	305318
E-300340-19	RECEIVER	300340	----	----	----
D-300401-A	**RECEIVER INSERT ASSEMBLY COMPLETE**	300401	----	----	----
C-300400-	**RECEIVER INSERT ASSEMBLY**	300400	----	----	----
1E-300327-17	RECEIVER INSERT	300327	----	----	----
2E-300327-29					
A-300347-A	THREADED INSERT	300347	----	----	----
C-300333-5	SIDE PLATE	300333	----	----	----
A-300328-1	SIDE PLATE PIN (2)	300328	----	----	----
-15666	SEAR SAFETY CAM (Blk. C-91919)	15666	----	----	----
B-300351-	PIVOT PIN (3)	300351	----	----	----
A-17047	SEAR SPRING	17047	----	----	----
C-300435-	TRIGGER (Blk. 300436)	300435	----	----	----
C-19461	TRIGGER CONNECTOR (Blk. C-91921)	19461	----	----	----
B-17053	TRIGGER SCREW FRONT (Blk. B-91920)	17053	----	----	----
B-91128	TRIGGER ENGAGEMENT SCREW (Blk. B-91922)	91128	----	----	----
A-15400	TRIGGER SPRING	15400	----	----	----
A-300426-	TRIGGER STOP SCREW	300426	----	----	----
D-300408-9	SAFETY	300408	----	----	----
B-17043	SAFETY PIVOT PIN (Blk. B-91918)	17043	----	----	----
B-17044	SAFETY SNAP WASHER (Blk. 200042)	17044	----	----	----
B-300407-A	SAFETY SPRING	300407	----	----	----
C-300345-5	BOLT STOP	300345	----	----	----
B-17034	RECEIVER PLUG SCREW (4)	17034	----	----	----
B-300361-	RECOIL BRACKET	300361	----	----	----
B-300403-	**BOLT BODY ASSEMBLY**	300403	----	----	----
D-300339-16	BOLT BODY	300339	----	----	----
C-300370-B	BOLT HANDLE	300370	----	----	----
C-300360-B	BOLT HANDLE BLANK	300360	----	----	----
A-300329-2	BOLT HANDLE PIN	300329	----	----	----
B-305390-2	**BOLT HEAD ASSEMBLY**	305390	----	305391	----
E-300338-17	BOLT HEAD (30-06, 270)	300338	----		
C-300416-	BOLT HEAD (7mm Rem,300 Win)			300416	----
D-300434-	BOLT HEAD BLANK	300434	----	----	----
	EXTRACTOR				
C-93712	30-06, 270 (Blk. 93711)	93712	----		
C-97322	7mm Rem, 300 Win (Blk. 97321)			97322	----
C-27340	EXTRACTOR RIVET			27341	----
B-300342-2	EJECTOR	300342	----	----	----
A-300367-	EJECTOR SPRING	300367	----	----	----
A-94555	EJECTOR PIN	94555	----	----	----
B-300330-	BOLT ASSEMBLY PIN	300330	----	----	----
B-300404-A	**FIRING PIN ASSEMBLY**	300404	----	----	----
-300368-5	BOLT PLUG	300368	----	----	----
-300346-	BOLT PLUG INSERT	300346	----	----	----
B-300418-B	TUMBLER	300418	----	----	----
D-300420-C	TUMBLER BLANK	300420	----	----	----

Elizabethtown Research Division — PARTS LIST #YYY

Date: 01/17/00 — **Model 710** **Bolt Action** **Centerfire Rifle R.H.** — Supersedes Previous Model XXX Parts List #AAA

Sheet 2 of 2 — Dotted line (- - -) indicates same part number

DWG. NO.	PART NAME	PART NUMBERS	30-06	270	7mm Rem Mag	300 Win Mag
C-201224	LOCK PLUNGER (Blk. 201223)	201224	----		----	----
	FIRING PIN ASSY CONTINUED					
A-201217	LOCK SPRING	201217	----		----	----
A-300427	SPRING RETAINER	300427	----		----	----
C-300334-A	FIRING PIN	300334	----		----	----
C-300335-2	FIRING PIN TIP	300335	----		----	----
C-300336-F	FIRING PIN HEAD	300336	----		----	----
A-300399-D	FIRING PIN SPRING	300399	----		----	----
	FRONT SIGHT					
C-15373	30-06, 270 (Blk. 90393)	94084	----			
B-14659	7mm REM, 300 WIN				94095	----
B-28510	FRONT SIGHT RAMP (Blk. B-16724)	94657	----		----	----
B-28505	FRONT SIGHT RAMP SCREW (2) (Blk. 90347)	28505	----		----	----
B-103145	**REAR SIGHT ASSEMBLY**	103145	----		----	----
A-90906	ELEVATION SCREW	90906	----		----	----
C-93905	REAR SIGHT APERATURE (Blk. C-93906)	94333	----		----	----
C-103530	REAR SIGHT BASE (Blk. 94023)	103530	----		----	----
C-93904	REAR SIGHT SLIDE (Blk. C-93907)	94335	----		----	----
B-90904	WINDAGE SCREW (Blk. 91911)	90904	----		----	----
B-28505	REAR SIGHT BASE SCREW (2) (Blk. 90347)	28505	----		----	----
B-305455	**STOCK ASSEMBLY COMPLETE**	305455	----		----	----
E-300437	STOCK	300437	----		----	----
B-15161	FRONT SCREW BUSHING (Blk 91915)	15161	----		----	----
C-97971	GRIP CAP	97971	----		----	----
D-97973	RECOIL PAD	97973	----		----	----
C-97972	RECOIL PAD BACKER	97972	----		----	----
A-98008	RECOIL PAD SCREW (2)	98008	----		----	----
-300362-7	MAGAZINE LATCH	300362	----		----	----
-300398-B	LATCH SPRING	300398	----		----	----
B-300371-A	LATCH PIVOT PIN	300371	----		----	----
B-~~300096~~ 94996	SLING SWIVEL STUD (2)	300096	----		----	----
C-104125	FRONT TAKE DOWN SCREW (Blk. 104141)	104131	----		----	----
C-104125	MIDDLE TAKE DOWN SCREW (Blk. 104143)	104133	----		----	----
B-300425-	REAR TAKE DOWN SCREW	300425	----		----	----
B-305395-	**MAGAZINE ASSEMBLY**	305395	----		----	----
E-300363-11	MAGAZINE BOX	300363	----		----	----
D-300364-6	MAGAZINE FOLLOWER	300364	----		----	----
D-300365-B	MAGAZINE BOTTOM	300365	----		----	----
C-300405	MAGAZINE SPRING	300405	----		----	----

FOR ACCESSORY SALES

B-300441-	SCOPE RAIL	300441
B-28505	SCREW (4 REQ'D)	28505

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Elizabethtown Research Division — PARTS LIST #YYY

Date: 12/02/99

Model 710
Bolt Action
Centerfire Rifle R.H.

Supersedes Previous Model XXX
Parts List #AAA

Sheet 1 of 2

Dotted line (- - -) indicates same part number

DWG. NO.	PART NAME	PART NUMBERS 30-06	270	7mm Rem Mag	300 Win Mag
	RAMAC #				
	DOCUMENT ENVELOPE ASSEMBLY	XXXX	----	----	----
	Document Envelope	1649	----	----	----
	Instruction Book	xxxx	----	----	----
	Product Owners Card	1426	----	----	----
	Remington Authorized Gunsmith	3413	----	----	----
	Safety Booklet	3499	----	----	----
	Remington Museum Flyer	3475	----	----	----
	Oval Label	3491	----	----	----
	CARTON ASSEMBLY		----	----	----
	Box & Envelope Label (Label To Read "Model 710")	993002	----	----	----
	NOTE: THE ABOVE PARTS ARE FOR PACKAGING ONLY				
C-305410-	**BARREL ASSEMBLY COMPLETE**	305410	305411	305412	305413
C-305400-	**BARREL ASSEMBLY**	305400	305401	305402	305403
E-305315-11	BARREL	305315	305316	305317	305318
E-300340-8	RECEIVER	300340	----	----	----
D-300401-A	**RECEIVER INSERT ASSEMBLY COMPLETE**	300401	----	----	----
C-300400-	**RECEIVER INSERT ASSEMBLY**	300400	----	----	----
1E-300327-17	RECEIVER INSERT	300327	----	----	----
2E-300327-29					
A-300347-A	THREADED INSERT	300347	----	----	----
C-300333-5	SIDE PLATE	300333	----	----	----
A-300328-1	SIDE PLATE PIN (2)	300328	----	----	----
C-15666	SEAR SAFETY CAM (Blk. C-91921)	15666	----	----	----
B-300351-	PIVOT PIN (3)	300351	----	----	----
A-17047	SEAR SPRING	17047	----	----	----
C-15280	TRIGGER (Blk. C-91922)	15280	----	----	----
C-19461	TRIGGER CONNECTOR (Blk. C-91921)	19461	----	----	----
B-17053	TRIGGER SCREW FRONT (Blk. B-91920)	17053	----	----	----
B-91128	TRIGGER ENGAGEMENT SCREW (Blk. B-91922)	91128	----	----	----
A-15400	TRIGGER SPRING	15400	----	----	----
A-300426-	TRIGGER STOP SCREW	300426	----	----	----
D-300408-7	SAFETY	300408	----	----	----
B-17043	SAFETY PIVOT PIN (Blk. B-91918)	17043	----	----	----
B-17044	SAFETY SNAP WASHER (Blk. 200042)	17044	----	----	----
B-300407	SAFETY SPRING	300407	----	----	----
C-300345-5	BOLT STOP	300345	----	----	----
B-17034	RECEIVER PLUG SCREW (4)	17034	----	----	----
B-300361-	RECOIL BRACKET	300361	----	----	----
B-300403-	**BOLT BODY ASSEMBLY**	300403	----	----	----
D-300339-5	BOLT BODY	300339	----	----	----
C-300370-	BOLT HANDLE	300370	----	----	----
D-300360-	BOLT HANDLE BLANK	300360	----	----	----
A-300329-2	BOLT HANDLE PIN	300329	----	----	----
B-305390-2	**BOLT HEAD ASSEMBLY**	305390	----	305391	----
E-300338-17	BOLT HEAD (30-06, 270)	300338	----		
C-300416-	BOLT HEAD (7mm Rem,300 Win)			300416	----
D-300424-	BOLT HEAD BLANK	300424	----	----	----
	EXTRACTOR				
C-93712	30-06, 270 (Blk. 93711)	93712	----		
C-97322	7mm Rem, 300 Win (Blk. 97321)			97322	----
C-27340	EXTRACTOR RIVET			27341	----
B-300342-1	EJECTOR	300342	----	----	----
A-300367-	EJECTOR SPRING	300367	----	----	----
A-94555	EJECTOR PIN	94555	----	----	----
B-300330-	BOLT ASSEMBLY PIN	300330	----	----	----
B-300404-A	**FIRING PIN ASSEMBLY**	300404	----	----	----
C-300368-4	BOLT PLUG	300368	----	----	----
B-300346-	BOLT PLUG INSERT	300346	----	----	----
B-300418-	TUMBLER	300418	----	----	----
D-300420-A	TUMBLER BLANK	300420	----	----	----

Elizabethtown Research Division — PARTS LIST #YYY

Date: 12/02/99 — **Model 710** **Bolt Action** **Centerfire Rifle R.H.** — Supersedes Previous Model XXX Parts List #AAA

Sheet 2 of 2 — Dotted line (- - -) indicates same part number

DWG. NO.	PART NAME	PART NUMBERS	30-06	270	7mm Rem Mag	300 Win Mag
C-201224	LOCK PLUNGER (Blk. 201223)	201224	----		----	----
	FIRING PIN ASSY CONTINUED					
A-201217	LOCK SPRING	201217	----		----	----
A-300427	SPRING RETAINER	300427	----		----	----
C-300334-A	FIRING PIN	300334	----		----	----
C-300335-2	FIRING PIN TIP	300335	----		----	----
C-300336-B	FIRING PIN HEAD	300336	----		----	----
A-300399-D	FIRING PIN SPRING	300399	----		----	----
	FRONT SIGHT					
C-15373	30-06, 270 (Blk. C-90393)	94084	----			
B-14659	7mm REM, 300 WIN				94095	----
B-28510	FRONT SIGHT RAMP (Blk. B-16724)	94657	----		----	----
B-28505	FRONT SIGHT RAMP SCREW (2) (Blk. 90347)	28505	----		----	----
B-103145	**REAR SIGHT ASSEMBLY**	103145	----		----	----
A-90906	ELEVATION SCREW	90906	----		----	----
C-93905	REAR SIGHT APERATURE (Blk. C-93906)	94333	----		----	----
C-103530	REAR SIGHT BASE (Blk. 94023)	103530	----		----	----
C-93904	REAR SIGHT SLIDE (Blk. C-93907)	94335	----		----	----
B-90904	WINDAGE SCREW (Blk. 91911)	90904	----		----	----
B-28505	REAR SIGHT BASE SCREW (2) (Blk. 90347)	28505	----		----	----
B-305455	**STOCK ASSEMBLY COMPLETE**	305455	----		----	----
	STOCK					
B-15161	FRONT SCREW BUSHING (Blk 91915)	15161	----		----	----
C-97971	GRIP CAP	97971	----		----	----
D-97973	RECOIL PAD	97973	----		----	----
C-97972	RECOIL PAD BACKER	97972	----		----	----
A-98008	RECOIL PAD SCREW (2)	98008	----		----	----
C-300362-4	MAGAZINE LATCH	300362	----		----	----
B-300398-B	LATCH SPRING	300398	----		----	----
B-300371-A	LATCH PIVOT PIN	300371	----		----	----
B-~~300096~~ 94596	SLING SWIVEL STUD (2)	300096	----		----	----
C-104125	FRONT TAKE DOWN SCREW (Blk. 104141)	104131	----		----	----
C-104125	MIDDLE TAKE DOWN SCREW (Blk. 104142)	104133	----		----	----
B-300425-	REAR TAKE DOWN SCREW	300425	----		----	----
B-305395-	**MAGAZINE ASSEMBLY**	305395	----		----	----
E-300363-9	MAGAZINE BOX	300363	----		----	----
D-300364-4	MAGAZINE FOLLOWER	300364	----		----	----
D-300365-8	MAGAZINE BOTTOM	300365	----		----	----
C-300405-	MAGAZINE SPRING	300405	----		----	----

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Elizabethtown Research Division — PARTS LIST #YYY

Date: 11/11/99

Model 710
Bolt Action
Centerfire Rifle R.H.

Supersedes Previous Model XXX
Parts List #AAA

Sheet 1 of 2

Dotted line (- - -) indicates same part number

DWG. NO.	PART NAME	PART NUMBERS 30-06	270	7mm Rem Mag	300 Win Mag
	RAMAC #				
	DOCUMENT ENVELOPE ASSEMBLY	XXXX	----	----	----
	Document Envelope	1649	----	----	----
	Instruction Book	xxxx	----	----	----
	Product Owners Card	1426	----	----	----
	Remington Authorized Gunsmith	3413	----	----	----
	Safety Booklet	3499	----	----	----
	Remington Museum Flyer	3475	----	----	----
	Oval Label	3491	----	----	----
	CARTON ASSEMBLY		----	----	----
	Box & Envelope Label (Label To Read "Model 710")	993002	----	----	----
	NOTE: THE ABOVE PARTS ARE FOR PACKAGING ONLY				
C-305410-	**BARREL ASSEMBLY COMPLETE**	305410	305411	305412	305413
C-305400-	**BARREL ASSEMBLY**	305400	305401	305402	305403
E-305315-11	BARREL	305315	305316	305317	305318
E-300340-8	RECEIVER	300340	----	----	----
D-300401-A	**RECEIVER INSERT ASSEMBLY COMPLETE**	300401	----	----	----
C-300400-	**RECEIVER INSERT ASSEMBLY**	300400	----	----	----
1E-300327-17	RECEIVER INSERT	300327	----	----	----
2E-300327-29					
A-300347-A	THREADED INSERT	300347	----	----	----
C-300333-5	SIDE PLATE	300333	----	----	----
A-300328-1	SIDE PLATE PIN (2)	300328	----	----	----
C-15666	SEAR SAFETY CAM (Blk. C-91921)	15666	----	----	----
B-300351-	PIVOT PIN (3)	300351	----	----	----
A-17047	SEAR SPRING	17047	----	----	----
C-15280	TRIGGER (Blk. C-91912)	15280	----	----	----
C-19461	TRIGGER CONNECTOR (Blk. C-91921)	19461	----	----	----
B-17053	TRIGGER SCREW FRONT (Blk. B-91920)	17053	----	----	----
B-91128	TRIGGER ENGAGEMENT SCREW (Blk. B-91922)	91128	----	----	----
A-15400	TRIGGER SPRING	15400	----	----	----
A-300426	TRIGGER STOP SCREW	300426	----	----	----
D-300408-7	SAFETY	300408	----	----	----
B-17043	SAFETY PIVOT PIN (Blk. B-91918)	17043	----	----	----
B-17044	SAFETY SNAP WASHER (Blk. 200042)	17044	----	----	----
B-300407-1	SAFETY SPRING	300407	----	----	----
C-300345-3	BOLT STOP	300345	----	----	----
B-17034	RECEIVER PLUG SCREW (4)	17034	----	----	----
B-300361-	RECOIL BRACKET	300361	----	----	----
B-300403-	**BOLT BODY ASSEMBLY**	300403	----	----	----
D-300339-5	BOLT BODY	300339	----	----	----
C-300370-	BOLT HANDLE	300370	----	----	----
C-300360-	BOLT HANDLE BLANK	300360	----	----	----
A-300329-2	BOLT HANDLE PIN	300329	----	----	----
B-305390-2	**BOLT HEAD ASSEMBLY**	305390	----	305391	----
E-300338-17	BOLT HEAD (30-06, 270)	300338	----		
C-300416-	BOLT HEAD (7mm Rem, 300 Win)			300416	----
	EXTRACTOR				
C-93712	30-06, 270 (Blk. 93711)	93712	----		
C-97322	7mm Rem, 300 Win (Blk. 97321)			97322	----
C-27340	EXTRACTOR RIVET			27341	----
B-300342-1	EJECTOR	300342	----	----	----
A-300367-	EJECTOR SPRING	300367	----	----	----
A-94555	EJECTOR PIN	94555	----	----	----
B-300330-	BOLT ASSEMBLY PIN	300330	----	----	----
B-300404-A	**FIRING PIN ASSEMBLY**	300404	----	----	----
C-300368-4	BOLT PLUG	300368	----	----	----
B-300346-	BOLT PLUG INSERT	300346	----	----	----
C-300418-	TUMBLER	300418	----	----	----
D-300420-A	TUMBLER BLANK	300420	----	----	----
C-201224	LOCK PLUNGER (Blk. 201223)	201224	----	----	----

Elizabethtown Research Division — PARTS LIST #YYY

Date: 11/11/99 — **Model 710** — Supersedes Previous Model XXX

Bolt Action — Parts List #AAA

Centerfire Rifle R.H.

Sheet 2 of 2 — Dotted line (- - -) indicates same part number

DWG. NO.	PART NAME	PART NUMBERS 30-06	270	7mm Rem Mag	300 Win Mag
	FIRING PIN ASSY CONTINUED				
A-201217	LOCK SPRING	201217	----	----	----
A-300427	SPRING RETAINER	300427	----	----	----
C-300334-A	FIRING PIN	300334	----	----	----
C-300335-2	FIRING PIN TIP	300335	----	----	----
C-300336-B	FIRING PIN HEAD	300336	----	----	----
A-300399-D	FIRING PIN SPRING	300399	----	----	----
	FRONT SIGHT				
C-15373	30-06, 270 (Blk. C-90393)	94084	----		
B-14659	7mm REM, 300 WIN			94095	----
B-28510	FRONT SIGHT RAMP (Blk. B-16724)	94657	----	----	----
B-28505	FRONT SIGHT RAMP SCREW (2) (Blk. 90347)	28505	----	----	----
B-103145	**REAR SIGHT ASSEMBLY**	103145	----	----	----
A-90906	ELEVATION SCREW	90906	----	----	----
C-93905	REAR SIGHT APERATURE (Blk. C-93906)	94333	----	----	----
C-103530	REAR SIGHT BASE (Blk. 94023)	103530	----	----	----
C-93904	REAR SIGHT SLIDE (Blk. C-93907)	94335	----	----	----
B-90904	WINDAGE SCREW (Blk. 91911)	90904	----	----	----
B-28505	REAR SIGHT BASE SCREW (2) (Blk. 90347)	28505	----	----	----
B-305455	**STOCK ASSEMBLY COMPLETE**	305455	----	----	----
	STOCK				
B-15161	FRONT SCREW BUSHING (Blk 91915)	15161	----	----	----
C-97971	GRIP CAP	97971	----	----	----
D-97973	RECOIL PAD	97973	----	----	----
C-97972	RECOIL PAD BACKER	97972	----	----	----
A-98008	RECOIL PAD SCREW (2)	98008	----	----	----
C-300362-4	MAGAZINE LATCH	300362	----	----	----
B-300398-B	LATCH SPRING	300398	----	----	----
B-300371-A	LATCH PIVOT PIN	300371	----	----	----
B-300096	SLING SWIVEL STUD (2)	300096	----	----	----
C-104125	FRONT TAKE DOWN SCREW	104141	----	----	----
C-104125	MIDDLE TAKE DOWN SCREW	104143	----	----	----
B-300425-	REAR TAKE DOWN SCREW	300425	----	----	----
B-305395-	**MAGAZINE ASSEMBLY**	305395	----	----	----
E-300363-9	MAGAZINE BOX	300363	----	----	----
D-300364-4	MAGAZINE FOLLOWER	300364	----	----	----
D-300365-8	MAGAZINE BOTTOM	300365	----	----	----
C-300405-	MAGAZINE SPRING	300405	----	----	----

Elizabethtown Research Division — PARTS LIST #YYY

Date: 11/11/99

Model 710
Bolt Action
Centerfire Rifle R.H.

Supersedes Previous Model XXX
Parts List #AAA

Sheet 1 of 2

Dotted line (- - -) indicates same part number

DWG. NO.	PART NAME	30-06	270	7mm Rem Mag	300 Win Mag
	RAMAC #				
	DOCUMENT ENVELOPE ASSEMBLY	XXXX	----	----	----
	Document Envelope	1649	----	----	----
	Instruction Book	xxxx	----	----	----
	Product Owners Card	1426	----	----	----
	Remington Authorized Gunsmith	3413	----	----	----
	Safety Booklet	3499	----	----	----
	Remington Museum Flyer	3475	----	----	----
	Oval Label	3491	----	----	----
	CARTON ASSEMBLY		----	----	----
	Box & Envelope Label (Label To Read "Model 710")	993002	----	----	----
	NOTE: THE ABOVE PARTS ARE FOR PACKAGING ONLY				
C-305410-	**BARREL ASSEMBLY COMPLETE**	305410	305411	305412	305413
C-305400-	**BARREL ASSEMBLY**	305400	305401	305402	305404
E-305315-11	BARREL	305315	305316	305317	305318
E-300340-8	RECEIVER	300340	----	----	----
D-300401-A	**RECEIVER INSERT ASSEMBLY COMPLETE**	300401	----	----	----
C-300400-	**RECEIVER INSERT ASSEMBLY**	300400	----	----	----
1E-300327-17	RECEIVER INSERT	300327	----	----	----
2E-300327-29					
A-300347-A	THREADED INSERT	300347	----	----	----
C-300333-5	SIDE PLATE	300333	----	----	----
A-300328-1	SIDE PLATE PIN (2)	300328	----	----	----
C-15666	SEAR SAFETY CAM (Blk. C-91921)	15666	----	----	----
B-300351-	PIVOT PIN (3)	300351	----	----	----
A-17047	SEAR SPRING	17047	----	----	----
C-15280	TRIGGER (Blk. C-91922)	15280	----	----	----
C-19461	TRIGGER CONNECTOR (Blk. C-91921)	19461	----	----	----
B-17053	TRIGGER SCREW, FRONT (Blk. B-91920)	17053	----	----	----
B-91128	TRIGGER ENGAGEMENT SCREW (Blk. B-91922)	91128	----	----	----
A-15400	TRIGGER SPRING	15400	----	----	----
A-300426	TRIGGER STOP SCREW	300426	----	----	----
D-300408-7	SAFETY	300408	----	----	----
B-17043	SAFETY PIVOT PIN (Blk. B-91918)	17043	----	----	----
B-17044	SAFETY SNAP WASHER (Blk. 200042)	17044	----	----	----
B-300407-1	SAFETY SPRING	300407	----	----	----
C-300345-1	BOLT STOP	300345	----	----	----
B-17034	RECEIVER PLUG SCREW (4)	17034	----	----	----
B-300361-	RECOIL BRACKET	300361	----	----	----
B-300403-	**BOLT BODY ASSEMBLY**	300403	----	----	----
A-300339-5	BOLT BODY	300339	----	----	----
C-300370-	BOLT HANDLE	300370	----	----	----
C-300360-	BOLT HANDLE BLANK	300360	----	----	----
A-300329-2	BOLT HANDLE PIN	300329	----	----	----
B-305390-2	**BOLT HEAD ASSEMBLY**	305390	----	305391	----
E-300338-17	BOLT HEAD (30-06, 270)	300338	----		
C-300416-	BOLT HEAD (7mm Rem, 300 Win)			300416	----
	EXTRACTOR				
C-93712	30-06, 270 (Blk. 93711)	93712	----		
C-97322	7mm Rem, 300 Win (Blk. 97321)			97322	----
C-27340	EXTRACTOR RIVET			27341	----
B-300342-1	EJECTOR	300342	----	----	----
A-300367-	EJECTOR SPRING	300367	----	----	----
A-94555	EJECTOR PIN	94555	----	----	----
B-300330-	BOLT ASSEMBLY PIN	300330	----	----	----
B-300404-A	**FIRING PIN ASSEMBLY**	300404	----	----	----
C-300368-4	BOLT PLUG	300368	----	----	----
B-300346-	BOLT PLUG INSERT	300346	----	----	----
C-300418-	TUMBLER	300418	----	----	----
D-300420-A	TUMBLER BLANK	300420	----	----	----
C-201224	LOCK PLUNGER (Blk. 201223)	201224	----	----	----

Elizabethtown Research Division — PARTS LIST #YYY

Date: 11/11/99 — **Model 710** **Bolt Action** **Centerfire Rifle R.H.** — Supersedes Previous Model XXX Parts List #AAA

Sheet 2 of 2 — Dotted line (- - -) indicates same part number

DWG. NO.	PART NAME	PART NUMBERS 30-06	270	7mm Rem Mag	300 Win Mag
	FIRING PIN ASSY CONTINUED				
A-201217	LOCK SPRING	201217	----	----	----
A-300427	SPRING RETAINER	300427	----	----	----
C-300334-A	FIRING PIN	300334	----	----	----
C-300335-2	FIRING PIN TIP	300335	----	----	----
C-300336-B	FIRING PIN HEAD	300336	----	----	----
A-300399-D	FIRING PIN SPRING	300399	----	----	----
	FRONT SIGHT				
C-15373	30-06, 270 (Blk. C-90393)	94084	----		
B-14659	7mm REM, 300 WIN			94095	----
B-28510	FRONT SIGHT RAMP (Blk. B-16724)	94657	----	----	----
B-28505	FRONT SIGHT RAMP SCREW (2) (Blk 90347)	28505	----	----	----
B-103145	**REAR SIGHT ASSEMBLY**	103145	----	----	----
A-90906	ELEVATION SCREW	90906	----	----	----
C-93905	REAR SIGHT APERATURE (Blk. C-93906)	94333	----	----	----
C-103530	REAR SIGHT BASE (Blk. 94023)	103530	----	----	----
C-93904	REAR SIGHT SLIDE (Blk. C-93907)	94335	----	----	----
B-90904	WINDAGE SCREW (Blk. 91911)	90904	----	----	----
B-28505	REAR SIGHT BASE SCREW (2) (Blk. 90347)	28505	----	----	----
B-305455	**STOCK ASSEMBLY COMPLETE**	305455	----	----	----
	STOCK				
B-15161	FRONT SCREW BUSHING (Blk 91915)	15161	----	----	----
C-97971	GRIP CAP	97971	----	----	----
D-97973	RECOIL PAD	97973	----	----	----
C-97972	RECOIL PAD BACKER	97972	----	----	----
A-98008	RECOIL PAD SCREW (2)	98008	----	----	----
C-300362-4	MAGAZINE LATCH	300362	----	----	----
B-300398-B	LATCH SPRING	300398	----	----	----
B-300371-A	LATCH PIVOT PIN	300371	----	----	----
B-300096	SLING SWIVEL STUD (2)	300096	----	----	----
C-104125	FRONT TAKE DOWN SCREW	104141	----	----	----
C-104125	MIDDLE TAKE DOWN SCREW	104143	----	----	----
B-300425-	REAR TAKE DOWN SCREW	300425	----	----	----
B-305395-	**MAGAZINE ASSEMBLY**	305395	----	----	----
E-300363-9	MAGAZINE BOX	300363	----	----	----
D-300364-4	MAGAZINE FOLLOWER	300364	----	----	----
D-300365-8	MAGAZINE BOTTOM	300365	----	----	----
C-300405-	MAGAZINE SPRING	300405	----	----	----

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MF0779

STORAGE LOC

~~300405 MAG SPRING~~
300398 MAG LATCH SPRING
300362 MAG LATCH
15161 FRONT SCREW BUSHING
~~300377 FIRING PIN SPRING~~
300404 FIRING PIN ASSY
300350 BOLT ASSY PIN
94556 EJECTOR PIN
~~300349 EJECTOR SPRING~~
~~BOLT ASSY COMPLETE~~
300403 BOLT BODY ASSY
300418 TRIGGER
300420 TRIGGER BOLT
~~300415 [illegible]~~
300412 SEAR SECRETOR

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ADD/USE FROM M700 FOR 710						
PART NBR	DESCRIPTION	QUANITY ORDERED	DELIVERY DATE	PO #	QUANTITY RECEIVED	BACK-ORDERED
1444	CARTON ASSEMBLY					
15161	FRONT SCREW BUSHING	2,000 4,000	03/08/00 05/15/00	2784 2785	1,700-3/8	300
15400	TRIGGER SPRING	2,000 4,000	03/08/00 05/15/00	2750 2750	2,000-3/8	
15666	SEAR SAFETY CAM	4,000	03/08/00	2728		
15481	TRIGGER STOP SCREW	2,000 4,000	03/15/00 05/15/00	2739 2740	2,000-3/8	
17034	RECEIVER PLUG SCREWS	50,000	02/24/00	2496	25,000-2/2 25,000-3/8	
17043	SAFETY PIVOT PIN	1,000 4,000	03/01/00 05/15/00	2868 2868	1,000-3/8	
17044	SNAP WASHER	2,000 4,000	03/08/00 05/08/00	2741 2742	2,000-3/8	
17047	SEAR SPRING	2,000 4,000	03/08/00 05/15/00	2731 2732	2,000-3/8	
17053	TRIGGER FRONT SCREW	3,500 4,000	03/08/00 05/15/00	2754 2755	3,500-3/8	
19461	TRIGGER CONNECTOR	2,000 4,000	03/08/00 05/08/00	27[illegible]5 2736	1,000-3/8	1,000
28505	FRONT & REAR SIGHT SCREWS	50,000	01/13/00	2580	25,000-2/9 5,000-3/8	
90904	WINDAGE SCREW	15,000	02/22/00	2645	15,000-2/9	
90906	ELEVATION SCREW	25,000 25,000	02/21/00 07/10/00	2581 2582		
93412	EXTRACTOR	2,000 4,000	03/08/00 05/15/00	2774 2775		
93906	REAR SIGHT APERATURE BLANK	2,000 3,000	MAY JUNE	PMPD PMPD		
93907	REAR SIGHT SLIDE BLANK	2,000 3,000	MAY JUNE	PMPD PMPD		
94023	REAR SIGHT BASE BLANK	2,000 3,000	MAY JUNE	PMPD PMPD		
94084	FRONT SIGHT	2,000 4,000	03/08/00 05/08/00	2743 2744		
94555	EJECTOR PIN	2,000 4,000	03/08/00 05/15/00	2776 2777		
94657	FRONT SIGHT RAMP	2,000 4,000	03/08/00 05/08/00	2745 2746		
97971	GRIP CAP	2,000 5,000	03/08/00 05/08/00	2747 2748		
97973	RECOIL PAD	2,000 4,000	03/08/00 05/08/00	2749 2750		
98008	RECOIL PAD SCREWS	2,000 4,000	03/08/00 05/08/00	2751 2752	2,000-3/8	
201217	LOCK SPRING	1,000 4,000	03/08/00 05/15/00	2753 2753		
201224	LOCK PLUNGER	1,000 4,000	03/15/00 05/08/00	2778 2779		

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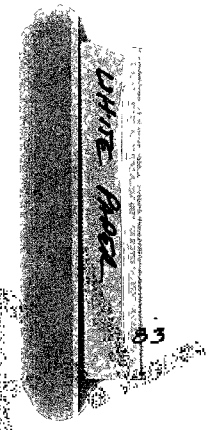

REMINGTON ARMS COMPANY, INC.
FIREARMS - MAYFIELD

12/09/99

C:\windows\TEMP\[Book2.xls]m710 58,300 597 30,000 710

		710 Costing Model 58,300 597s & 30,000 710s						
PART DESCRIPTION	Part #	Material $	Run Rate (hrs/pc)	Labor $	Fixed O.H. $	Var O.H. $	Total O.H. $	Total
Document Envelope Assembly	1721	$ 0.09		$ -	$ -	$ -	$ -	$ 0.09
Document Envelope	1649	0.08		-	-	-	-	0.08
Users manual	3391	0.15		-	-	-	-	0.15
Product Owners Card	1426	0.03		-	-	-	-	0.03
Remington Authorized Gunsmith	3413	0.07		-	-	-	-	0.07
Safety Booklet	3499	0.10		-	-	-	-	0.10
Oval Label	3491	0.01		-	-	-	-	0.01
Carton Assembly	1444	2.05		-	-	-	-	2.05
Box and Envelope Label (710)	993002	0.04		-	-	-	-	0.04
Shelf Talker		0.14		-	-	-	-	0.14
Barrel Assembly Complete	305410		*0.0790*	0.71	1.08	2.06	3.14	3.85
Barrel Assembly	3305400			-	-	-	-	-
Barrel	305315	4.80	0.3866	4.09	6.25	11.90	18.15	27.04
Receiver	300340	1.76	0.0055	0.06	0.09	0.17	0.26	2.08
Receiver Insert Assembly Complete	????		*0.0530*	0.47	0.73	1.38	2.11	2.58
Receiver Insert Assembly	????		*0.0050*	0.04	0.07	0.13	0.20	0.24
Receiver Insert	300327	0.62		-	-	-	-	0.62
Threaded Insert	300347	0.04		-	-	-	-	0.04
Side Plate	300333	0.09	0.0010	0.01	0.02	0.03	0.05	0.15
Side Plate Pin (2)	300328	0.16	0.0010	0.01	0.02	0.03	0.05	0.22
Sear Safety Cam	15666	0.94		-	-	-	-	0.94
Pivot Pin (3)	300351	0.27		-	-	-	-	0.27
Sear Spring	17047	0.05		-	-	-	-	0.05
Trigger	~~15280~~	1.53		-	-	-	-	1.53
Trigger Connector	19461	1.03		-	-	-	-	1.03
Trigger Screw Front	17053	0.07		-	-	-	-	0.07
Trigger Engagement Screw	91128	0.06		-	-	-	-	0.06
Trigger Spring	15400	0.05		-	-	-	-	0.05
Trigger Stop Screw	15481	0.04		-	-	-	-	0.04
Safety	300408	0.23		-	-	-	-	0.23
Safety Detent Spring	300407	0.06		-	-	-	-	0.06
Safety Pivot Pin	300352	0.14		-	-	-	-	0.14
Safety Spring	300343	0.05		-	-	-	-	0.05
Safety Button		0.41	0.0050	0.05	0.08	0.15	0.23	0.70
Safety Plunger		0.07		-	-	-	-	0.07
Safety Key/Cap/Bushing		0.69		-	-	-	-	0.69
Bolt Stop	300345	0.22	0.0010	0.01	0.02	0.03	0.05	0.28
Receiver Plug Screws (4)	17034	0.12		-	-	-	-	0.12
Recoil Bracket	300361	0.19	0.0010	0.01	0.02	0.03	0.05	0.25
Bolt Assembly Complete	????			-	-	-	-	-
Bolt Body Assembly	????		0.0275	0.29	0.45	0.85	1.29	1.59
Bolt Body	300339	0.74	0.0032	0.03	0.05	0.10	0.15	0.92
Bolt Handle	300370		0.0120	0.13	0.19	0.37	0.56	0.69
Bolt Handle Blank	300360	1.63		-	-	-	-	1.63
Bolt Handle Pin	300329	0.10		-	-	-	-	0.10
Bolt Head Assembly	305390		*0.0580*	0.52	0.79	1.51	2.30	2.82
Bolt Head	300338	1.75	0.0809	0.86	1.31	2.49	3.80	6.40

REMINGTON ARMS COMPANY, INC.
FIREARMS - MAYFIELD 12/09/99

C:\windows\TEMP\[Book2.xls]m710 58,300 597 30,000 710

		710 Costing Model 58,300 597s & 30,000 710s						
PART DESCRIPTION	Part #	Material $	Run Rate (hrs/pc)	Labor $	Fixed O.H. $	Var O.H. $	Total O.H. $	Total
Extractor	93712	0.77		-	-	-	-	0.77
Ejector	300342	0.11	0.0010	0.01	0.02	0.03	0.05	0.17
Ejector Spring	????	0.02		-	-	-	-	0.02
Ejector Pin	94555	0.04		-	-	-	-	0.04
Bolt Assembly Pin	300330	0.15	0.0010	0.01	0.02	0.03	0.05	0.21
Firing Pin Assembly	????		*0.0070*	0.06	0.10	0.18	0.28	0.34
Bolt Plug	300368	0.25		-	-	-	-	0.25
Bolt Plug Insert	300346	0.80		-	-	-	-	0.80
Firing Pin	300334	1.19	0.0010	0.01	0.02	0.03	0.05	1.25
Firing Pin Tip	300335	0.33	0.0015	0.02	0.02	0.05	0.07	0.42
Firing Pin Head	300336	1.50	0.0020	0.02	0.03	0.06	0.09	1.62
Firing Pin Spring	????	0.10		-	-	-	-	0.10
Front Sight	94084	0.82		-	-	-	-	0.82
Front Sight Ramp	94657	1.13	0.0020	0.02	0.03	0.06	0.09	1.25
Front Sight Ramp Screws (2)	28505	0.09		-	-	-	-	0.09
Rear Sight Assembly	103146			-	-	-	-	-
Elevation Screw	90906	0.04		-	-	-	-	0.04
Rear Sight Aperture	94333	0.14	0.0030	0.03	0.05	0.09	0.14	0.31
Rear Sight Base	103531	0.97	0.0030	0.03	0.05	0.09	0.14	1.14
Rear Sight Slide	94335	0.47	0.0050	0.05	0.08	0.15	0.23	0.76
Windage Screw	90904	0.02		-	-	-	-	0.02
Rear Sight Base Screw (2)	28505	0.09		-	-	-	-	0.09
Stock Assembly Complete	**????**		*0.0160*	0.14	0.22	0.42	0.64	0.78
Stock Assembly	????			-	-	-	-	-
Stock	????	5.38		-	-	-	-	5.38
Front Screw Bushing	15161	0.13		-	-	-	-	0.13
Middle Screw Bushing	????	0.05		-	-	-	-	0.05
Rear Screw Bushing	????	0.05		-	-	-	-	0.05
Grip Cap	97971	0.18		-	-	-	-	0.18
Recoil Pad	97973	1.63		-	-	-	-	1.63
Recoil Pad Screw (2)	98008	0.02		-	-	-	-	0.02
Magazine Latch	300362	0.19		-	-	-	-	0.19
Magazine Latch Spring	????	0.03		-	-	-	-	0.03
Magazine Latch Pin	300371	0.07	0.0010	0.01	0.02	0.03	0.05	0.13
Sling Swivel Stud (2)	300096	0.14		-	-	-	-	0.14
Takedown Screw (2)	**????**	0.16		-	-	-	-	0.16
Rear Takedown Screw	**????**	0.08		-	-	-	-	0.08
Magazine Assembly	**????**		*0.0083*	0.07	0.11	0.22	0.33	0.40
Magazine Box	300363	2.90	0.0010	0.01	0.01	0.03	0.04	2.95
Magazine Follower	300364	0.26		-	-	-	-	0.26
Magazine Bottom	300365	0.26		-	-	-	-	0.26
Magazine Spring	17028	0.42		-	-	-	-	0.42
Freight on Parts		0.25						0.25
Value Added Cost of:								
Proof/Gallery/Inspect/Pack		1.15	*0.1500*	1.34	2.05	3.91	5.96	8.45
Total Cost		**$ 43.05**	**0.9226**	**$ 9.15**	**$ 13.98**	**$ 26.61**	**$ 40.59**	**$ 92.79**

PART DESCRIPTION	Proposed Process	Part #	Print #	Rev #	Material $	External Processing $	Labor $	Fixed O.H. $	Var O.H. $	Total O.H. $	Estimated Price per Part	White Paper Price	Difference ( ) Favorable
Document Envelope Assembly	Purchase	1721	????		$ 0.090	$ -	$ -	$ -	$ -	$ -	$ 0.09	$ 0.09	$ -
Document Envelope	Purchase	1649	1649		$ 0.080	$ -	$ -	$ -	$ -	$ -	$ 0.08	$ 0.08	$ -
Instruction Book	Purchase	????	????		$ 0.150	$ -	$ -	$ -	$ -	$ -	$ 0.15	$ 0.15	$ -
Product Owners Card	Purchase	1426	1426		$ 0.030	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.03	$ -
Remington Authorized Gunsmith	Purchase	3413	3413		$ 0.070	$ -	$ -	$ -	$ -	$ -	$ 0.07	$ 0.07	$ -
Safety Booklet	Purchase	3499	3499		$ 0.100	$ -	$ -	$ -	$ -	$ -	$ 0.10	$ 0.10	$ -
Remington Museum Flyer	Purchase	3475	3475			$ -	$ -	$ -	$ -	$ -	$ -		$ -
Oval Label	Purchase	3491	3491		$ 0.010	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 0.01	$ -
Carton Assembly	Purchase	1444	1444			$ -	$ -	$ -	$ -	$ -	$ -	$ 2.05	$ (2.05)
Corregated Box	Purchase				$ 0.502	$ -	$ -	$ -	$ -	$ -	$ 0.50		$ 0.50
Bed	Purchase				$ 0.690	$ -	$ -	$ -	$ -	$ -	$ 0.69		$ 0.69
						$ -	$ -	$ -	$ -	$ -	$ -		$ -
Box and Envelope Label (710)	Purchase	993002	993002		$ 0.040	$ -	$ -	$ -	$ -	$ -	$ 0.04	$ 0.04	$ -
Shelf Talker	Purchase				$ 0.140	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 0.14	$ -
						$ -	$ -	$ -	$ -	$ -	$ -		$ -
Barrel Assembly Complete	Assemble	305410	C-305410	No Rev		$ -	$ 0.040	$ 0.063	$ 0.116	$ 0.179	$ 0.22	$ 3.85	$ (3.63)
Barrel Assembly	Assemble & Machine	305400	C-305400	No Rev		$ -	$ -	$ -	$ -	$ -	$ -		$ -
Barrel	Machine	305315	E-305315	11	$ 5.054	$ -	$ 3.765	$ 5.911	$ 10.956	$ 16.867	$ 25.69	$ 27.84	$ (2.15)
Receiver	Machine	300340	E-300340	19	$ 1.700	$ -	$ 0.886	$ 1.391	$ 2.578	$ 3.969	$ 6.55	$ 2.08	$ 4.47
Receiver Insert Assembly Complete	Assemble	300401	D-300401	A		$ -	$ 0.562	$ 0.883	$ 1.636	$ 2.519	$ 3.08	$ 2.54	$ 0.54
Receiver Insert Assembly	Ultrasonic Weld	300400	C-300400	No Rev		$ -	$ 0.009	$ 0.014	$ 0.026	$ 0.040	$ 0.05	$ 0.24	$ (0.19)
Receiver Insert	Purchase	300327	E-300327-1-2	(1E)-17 (2E)-29	$ 0.620	$ -	$ -	$ -	$ -	$ -	$ 0.62	$ 0.62	$ -
Threaded Insert	Purchase	300347	A-300347	A	$ 0.036	$ -	$ 0.011	$ 0.017	$ 0.031	$ 0.047	$ 0.08	$ 0.04	$ 0.05
Side Plate	Purchase & Color	300333	C-300333	5	$ 0.189	$ -	$ 0.011	$ 0.017	$ 0.031	$ 0.047	$ 0.25	$ 0.15	$ 0.10
Side Plate Pin (2)	Purchase & Color	300328	A-300328	1	$ 0.186	$ -	$ 0.011	$ 0.017	$ 0.031	$ 0.047	$ 0.24	$ 0.22	$ 0.02
Sear Safety Cam	AU M/700	15666	C-15666	24	$ 0.760	$ -	$ -	$ -	$ -	$ -	$ 0.76	$ 0.94	$ (0.18)
Pivot Pin (3)	Purchase & Heat Treat	300351	B-300351	No Rev	$ 0.058	$ -	$ -	$ -	$ -	$ -	$ 0.07	$ 0.27	$ (0.20)
Sear Spring	AU M/700	17047	A-17047	26	$ 0.033	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.05	$ (0.03)
Trigger	AU M/700	15280	C-15280	21	$ 0.373	$ -	$ 0.011	$ 0.017	$ 0.031	$ 0.047	$ 0.44	$ 1.53	$ (1.09)
Trigger Connector	AU M/700	19461	C-19461	21	$ 1.302	$ -	$ -	$ -	$ -	$ -	$ 1.51	$ 1.03	$ 0.48
Trigger Screw Front	AU M/700	17053	B-17053	32	$ 0.040	$ -	$ -	$ -	$ -	$ -	$ 0.04	$ 0.07	$ (0.03)
Trigger Engagement Screw	AU M/700	91428	B-91428	7	$ 0.027	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.06	$ (0.03)
Trigger Spring	AU M/700	15400	A-15400	11	$ 0.029	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.05	$ (0.02)
Trigger Stop Screw	Purchase	300426	A-300426	No Rev	$ 0.042	$ -	$ -	$ -	$ -	$ -	$ 0.04	$ 0.04	$ 0.00
Safety Arm	Assemble & Heat Treat	300408	D-300408	9	$ 0.230	$ -	$ 0.011	$ 0.017	$ 0.031	$ 0.047	$ 0.29	$ 0.23	$ 0.06
Safety Pivot Pin	Purchase & Heat Treat	17043	B-17043	1	$ 0.140	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 0.14	$ -
Safety Washer	Purchase	17044	B-17044	26	$ 0.025	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ 0.06	$ (0.04)
Safety Spring	Purchase	300407	B-300407	3	$ 0.058	$ -	$ 0.011	$ 0.017	$ 0.031	$ 0.047	$ 0.12	$ 0.05	$ 0.07
Bolt Stop	PM/Heat Treat/Color	300345	C-300345	3	$ 0.219	$ -	$ 0.011	$ 0.017	$ 0.031	$ 0.047	$ 0.28	$ 0.28	$ (0.00)
Receiver Plug Screws (4)	A/U M/700	17034	B-17034	34	$ 0.135	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 0.12	$ 0.02
Recoil Bracket	Purchase & Color	300361	B-300361	No Rev	$ 0.123	$ -	$ 0.011	$ 0.017	$ 0.031	$ 0.047	$ 0.18	$ 0.25	$ (0.07)
Bolt Assembly Complete		????	????	??		$ -	$ -	$ -	$ -	$ -	$ -		$ -
Bolt Body Assembly	Braze & Finish	300403	D-300403	No Rev		$ -	$ -	$ -	$ -	$ -	$ -		$ -
Bolt Body	Machine	300339	D-300339	16	$ 0.560	$ -	$ 0.590	$ 0.927	$ 1.718	$ 2.644	$ 3.79	$ 2.51	$ 1.28
Bolt Handle	Machine	300370	C-300370	B	$ 1.630	$ -	$ -	$ -	$ -	$ -	$ 1.63	$ 0.69	$ 0.94
Bolt Handle Blank	Purchase	300360	D-300360	B		$ -	$ -	$ -	$ -	$ -	$ -	$ 1.63	$ (1.63)
Bolt Handle Pin	Purchase	300329	A-300329	2	$ 0.140	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 0.10	$ 0.04
Bolt Head Assembly	Assemble	305390	B-305390	2		$ -	$ 0.136	$ 0.214	$ 0.396	$ 0.610	$ 0.75	$ 2.82	$ (2.07)
Bolt Head	Machined	300338	E-300338	17	$ -	$ 0.600	$ 0.765	$ 1.201	$ 2.225	$ 3.426	$ 4.19	$ 6.40	$ (2.21)
Bolt Head Blank	Purchase	300434	D-300434		$ 1.7500	$ -	$ -	$ -	$ -	$ -	$ 1.75		$ 1.75
Extractor	A/U M/700	93712	C-93712	2	$ 0.772	$ -	$ -	$ -	$ -	$ -	$ 0.77	$ 0.77	$ 0.00
Ejector	Purchase & Color	300342	B-300342	1	$ 0.110	$ -	$ 0.011	$ 0.017	$ 0.031	$ 0.047	$ 0.17	$ 0.17	$ (0.00)
Ejector Spring	Purchase	300367	A-300367	No Rev	$ 0.015	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ 0.02	$ (0.00)
Ejector Pin	A/U M/700	94555	A-94555	1	$ 0.014	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 0.04	$ (0.03)
Bolt Assembly Pin	Purchase & Color	300330	D-300330	No Rev	$ 0.150	$ -	$ -	$ -	$ -	$ -	$ 0.15	$ 0.21	$ (0.06)
Firing Pin Assembly	Assemble	300404	B-300404	A		$ -	$ 0.140	$ 0.220	$ 0.407	$ 0.626	$ 0.77	$ 0.34	$ 0.43
Bolt Plug	Purchase	300368	D-300368	5	$ 0.215	$ -	$ -	$ -	$ -	$ -	$ 0.22	$ 0.25	$ (0.04)
Bolt Plug Insert	Purchase	300346	B-300346	No Rev	$ 0.808	$ -	$ -	$ -	$ -	$ -	$ 0.81	$ 0.80	$ 0.01
Lock Tumbler	Purchase, H T , & Color	300418	C-300418	No Rev	$ 0.626	$ 0.020	$ 0.053	$ 0.083	$ 0.154	$ 0.237	$ 0.92	$ 0.41	$ 0.51
Tumbler Blank	PMPD	300420	D-300420	A		$ -	$ -	$ -	$ -	$ -	$ -		$ -

PART DESCRIPTION	Proposed Process	Part #	Print #	Rev #	Material $	External Processing $	Labor $	Fixed O.H. $	Var O.H. $	Total O.H. $	Estimated Price per Part	White Paper Price	Difference ( ) Favorable
Lock Plunger	A/U M/700	201224	C-201224	No Rev	$ 0.273	$ -	$ -	$ -	$ -	$ -	$ 0.27	$ 0.07	$ 0.20
Lock Spring	A/U M/700	201217	A-201217	No Rev	$ 0.011	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 0.05	$ (0.04)
Lock Key Assembly (2 req'd)	A/U M/700	201207	A-201217	No Rev	$ 0.898	$ -	$ -	$ -	$ -	$ -	$ 0.90	$ 0.69	$ 0.21
Spring Retainer	Purchase	300427	A-300427	No Rev	$ 0.250	$ -					$ 0.25		$ 0.25
Firing Pin	Purchase & Color	300334	C-300334	A	$ 0.790	$ -	$ 0.011	$ 0.017	$ 0.031	$ 0.047	$ 0.85	$ 1.25	$ (0.40)
Firing Pin Tip	Purchase & Heat Treat	300335	B-300335	2	$ 0.530	$ -	$ 0.011	$ 0.017	$ 0.031	$ 0.047	$ 0.59	$ 0.42	$ 0.17
Firing Pin Head	MIM	300336	C-300336	F	$ 1.500	$ -	$ -	$ -	$ -	$ -	$ 1.50	$ 1.62	$ (0.12)
Firing Pin Spring	Purchase	300399	A-300399	D	$ 0.101	$ -	$ 0.032	$ 0.050	$ 0.092	$ 0.142	$ 0.27	$ 0.10	$ 0.17
Front Sight Assembly	A/U M/700	201207				$ -	$ 0.037	$ 0.059	$ 0.109	$ 0.167	$ 0.20		$ 0.20
Front Sight	A/U M/700	94084	C-15373	26	$ 0.807	$ -	$ 0.053	$ 0.083	$ 0.154	$ 0.237	$ 1.10	$ 0.82	$ 0.28
Front Sight Ramp	A/U M/700	94657	B-28510	33	$ 1.188	$ -	$ 0.021	$ 0.033	$ 0.062	$ 0.095	$ 1.30	$ 1.25	$ 0.05
Front Sight Ramp Screws (2)	A/U M/700	28505	B-28505	21	$ 0.080	$ -	$ -	$ -	$ -	$ -	$ 0.08	$ 0.09	$ (0.01)
Rear Sight Assembly	A/U M/700	103145	B-103145	11	$ -	$ -	$ 0.075	$ 0.117	$ 0.217	$ 0.334	$ 0.41		$ 0.41
Elevation Screw	A/U M/700	90906	A-90906	19	$ 0.024	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ 0.04	$ (0.02)
Rear Sight Aperture	A/U M/700	97681	C-93905	9	$ 0.285	$ -	$ 0.032	$ 0.050	$ 0.092	$ 0.142	$ 0.46	$ 0.31	$ 0.15
Rear Sight Aperture Blank		93906	C-93906	6		$ -	$ -	$ -	$ -	$ -	$ -		$ -
Rear Sight Base	A/U M/700	103531	C-103530	3	$ 1.017	$ -	$ 0.032	$ 0.050	$ 0.092	$ 0.142	$ 1.19	$ 1.14	$ 0.05
Rear Sight Slide	A/U M/700	94335	C-93904	7	$ 1.200	$ -	$ 0.011	$ 0.017	$ 0.031	$ 0.047	$ 1.26	$ 0.76	$ 0.50
Windage Screw	A/U M/700	300026	B-300026	5	$ 0.191	$ -	$ -	$ -	$ -	$ -	$ 0.19	$ 0.02	$ 0.18
Rear Sight Base Screw (2)	A/U M/700	28505	B-28505	21	$ 0.047	$ -	$ -	$ -	$ -	$ -	$ 0.05	$ 0.09	$ (0.04)
Stock Assembly Complete	Purchase	305455	B-305455	No Rev		$ -	$ 0.143	$ 0.225	$ 0.417	$ 0.642	$ 0.78	$ 0.78	$ 0.00
Stock	Purchase	300437	E-300437	No Rev	$ 5.799	$ -	$ -	$ -	$ -	$ -	$ 5.80	$ 5.38	$ 0.42
Front Screw Bushing	A/U M/700	15161	B-15161	??	$ 0.145	$ -	$ -	$ -	$ -	$ -	$ 0.15	$ 0.13	$ 0.02
Front Screw Bushing Blank		91915	????	???	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ -
Grip Cap	A/U M/700	97971	C-97971	No Rev	$ 0.180	$ -	$ -	$ -	$ -	$ -	$ 0.18	$ 0.18	$ -
Recoil Pad	A/U M/700	97973	D-97973	26	$ 1.610	$ -	$ -	$ -	$ -	$ -	$ 1.61	$ 1.63	$ (0.02)
Backer Plate	A/U M/700	97972	C-97972	No Rev	$ 0.390	$ -	$ -	$ -	$ -	$ -	$ 0.39		$ 0.39
Recoil Pad Screw (2)	A/U M/700	98008	A-98008		$ 0.022	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ 0.02	$ 0.00
Magazine Latch	Purchase	300362	B-300362		$ 0.243	$ -	$ -	$ -	$ -	$ -	$ 0.25	$ 0.19	$ 0.06
Magazine Latch Spring	Purchase	300398	B-300398	B	$ 0.030	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.03	$ (0.00)
Magazine Latch Pin	Purchase & Color	300371	B-300371	A	$ 0.070	$ -	$ 0.011	$ 0.017	$ 0.031	$ 0.047	$ 0.13	$ 0.13	$ (0.00)
Sling Swivel Stud (2)	Purchase	300096	B-300096	4	$ 0.280	$ -	$ -	$ -	$ -	$ -	$ 0.28	$ 0.14	$ 0.14
Front Takedown Screw	Purchase	104125	C-104125	18	$ 0.090	$ -	$ -	$ -	$ -	$ -	$ 0.09	$ 0.08	$ 0.01
Front Takedown Screw Blank	Purchase	104141	C-104125	18	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ -
Middle Takedown Screw	Purchase	104133	C-104125	18	$ 0.090	$ -	$ -	$ -	$ -	$ -	$ 0.09	$ 0.08	$ 0.01
Middle Takedown Screw Blank	Purchase	104141	C-104125	18	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ -
Rear Takedown Screw	Purchase	300425	C-300425	No Rev	$ 0.090	$ -	$ -	$ -	$ -	$ -	$ 0.09		$ 0.09
Magazine Assembly	Assembly	305395	B-305395	No Rev	$ -	$ -	$ 0.074	$ 0.117	$ 0.216	$ 0.333	$ 0.41	$ 0.40	$ 0.01
Magazine Box	Purchase & Color	300363	B-300363	11	$ 0.600	$ -	$ 0.011	$ 0.017	$ 0.031	$ 0.047	$ 0.66	$ 2.95	$ (2.29)
Magazine Follower	Purchase	300364	B-300364	6	$ 0.134	$ -	$ -	$ -	$ -	$ -	$ 0.13	$ 0.26	$ (0.13)
Magazine Bottom	Purchase	300365	B-300365	9	$ 0.165	$ -	$ -	$ -	$ -	$ -	$ 0.17	$ 0.26	$ (0.10)
Magazine Spring	A/U M/700	300405	C-300405	No Rev	$ 0.259	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ 0.42	$ (0.16)
													$ -
Value Added Cost of: Proof/Gallery/Inspect/Pack					$ 1.350	$ -	$ 1.052	$ 1.652	$ 3.061	$ 4.713	$ 7.11	$ 8.45	$ (1.34)
			Total Cost		**$ 41.013**	**$ 0.620**	**$ 8.644**	**$ 13.572**	**$ 25.155**	**$ 38.727**	**$ 89.00**	**$ 92.14**	**$ (3.14)**

PART DESCRIPTION	Proposed Process	Part #	Print #	Rev #	Material $	External Processing $	Labor $	Fixed O.H. $	Var O.H. $	Total O.H. $	Estimated Price per Part	White Paper Price	Difference () Favorable
Document Envelope Assembly	**Purchase**	**1721**	**????**		$ 0.090	$ -	$ -	$ -	$ -	$ -	$ 0.09	$ 0.09	$ -
Document Envelope	Purchase	1649	1649		$ 0.080	$ -	$ -	$ -	$ -	$ -	$ 0.08	$ 0.08	$ -
Instruction Book	Purchase	9999	9999		$ 0.150	$ -	$ -	$ -	$ -	$ -	$ 0.15	$ 0.15	$ -
Product Owners Card	Purchase	1426	1426		$ 0.030	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.03	$ -
Remington Authorized Gunsmith	Purchase	3413	3413		$ 0.070	$ -	$ -	$ -	$ -	$ -	$ 0.07	$ 0.07	$ -
Safety Booklet	Purchase	3499	3499		$ 0.100	$ -	$ -	$ -	$ -	$ -	$ 0.10	$ 0.10	$ -
Remington Museum Flyer	Purchase	3475	3475			$ -	$ -	$ -	$ -	$ -	$ -		$ -
Oval Label	Purchase	3491	3491		$ 0.010	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 0.01	$ -
Carton Assembly	Purchase	1444	1444			$ -	$ -	$ -	$ -	$ -	$ -	$ 2.05	$ (2.05)
Corrugated Box	Purchase				$ 0.502	$ -	$ -	$ -	$ -	$ -	$ 0.50		$ 0.50
Bed	Purchase				$ 0.690	$ -	$ -	$ -	$ -	$ -	$ 0.69		$ 0.69
						$ -	$ -	$ -	$ -	$ -	$ -		$ -
Box and Envelope Label (710)	Purchase	993002	993002		$ 0.040	$ -	$ -	$ -	$ -	$ -	$ 0.04	$ 0.04	$ -
Shelf Talker	Purchase				$ 0.140	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 0.14	$ -
						$ -	$ -	$ -	$ -	$ -	$ -		$ -
Barrel Assembly Complete	Assemble	305410	C-305410	No Rev		$ -	$ 0.040	$ 0.074	$ 0.130	$ 0.203	$ 0.24	$ 3.85	$ (3.61)
Barrel Assembly	Assemble & Machine	305400	C-305400	No Rev		$ -	$ -	$ -	$ -	$ -	$ -		$
Barrel	Machine	305315	E-305315	11	$ 5.054	$ -	$ 3.765	$ 6.927	$ 12.198	$ 19.125	$ 27.94	$ 27.06	$ 0.88
Receiver	Machine	300340	E-300340	19	$ 1.700	$ -	$ 0.886	$ 1.630	$ 2.870	$ 4.500	$ 7.09	$ 2.08	$ 5.01
Receiver Insert Assembly Complete	Assemble	300401	D-300401	A		$ -	$ 0.562	$ 1.034	$ 1.822	$ 2.856	$ 3.42	$ 2.58	$ 0.84
Receiver Insert Assembly	Ultrasonic Weld	300400	C-300400	No Rev		$ -	$ 0.009	$ 0.016	$ 0.029	$ 0.045	$ 0.05	$ 0.24	$ (0.19)
Receiver Insert	Purchase	300327	E-300327-1-2	(1E)-17 (2E)-29	$ 0.620	$ -	$ -	$ -	$ -	$ -	$ 0.62	$ 0.62	$ -
Threaded Insert	Purchase	300347	A-300347	A	$ 0.036	$ -	$ 0.011	$ 0.019	$ 0.034	$ 0.054	$ 0.10	$ 0.04	$ 0.06
Side Plate	Purchase & Color	300333	C-300333	5	$ 0.189	$ -	$ 0.011	$ 0.019	$ 0.034	$ 0.054	$ 0.25	$ 0.15	$ 0.10
Side Plate Pin (2)	Purchase & Color	300328	A-300328	1	$ 0.186	$ -	$ 0.011	$ 0.019	$ 0.034	$ 0.054	$ 0.25	$ 0.22	$ 0.03
Sear Safety Cam	AU M/700	15666	C-15666	24	$ 0.760	$ -	$ -	$ -	$ -	$ -	$ 0.76	$ 0.94	$ (0.18)
Pivot Pin (3)	Purchase & Heat Treat	300351	B-300351	No Rev	$ 0.068	$ -	$ -	$ -	$ -	$ -	$ 0.07	$ 0.27	$ (0.20)
Sear Spring	AU M/700	17047	A-17047	[illegible]	$ 0.025	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ 0.05	$ (0.03)
Trigger	AU M/700	15280	A-15280	21	$ 0.537	$ -	$ -	$ 0.019	$ 0.034	$ 0.054	$ 0.44	$ 1.53	$ (1.09)
Trigger Connector	AU M/700	19461	C-19461	21	$ 1.586	$ -	$ -	$ -	$ -	$ -	$ 1.51	$ 1.03	$ 0.48
Trigger Screw Front	AU M/700	17053	B-17053	32	$ 0.019	$ -	$ -	$ -	$ -	$ -	$ 0.04	$ 0.07	$ (0.03)
Trigger Engagement Screw	AU M/700	11128	B-11128	7	$ 0.027	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.06	$ (0.03)
Trigger Spring	AU M/700	15400	A-15400	11	$ 0.029	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.05	$ (0.02)
Trigger Stop Screw	Purchase	300426	A-300426	No Rev	$ 0.042	$ -	$ -	$ -	$ -	$ -	$ 0.04	$ 0.04	$ 0.00
Safety Arm	Assemble & Heat Treat	300408	D-300408	9	$ 0.230	$ -	$ 0.011	$ 0.019	$ 0.034	$ 0.054	$ 0.29	$ 0.23	$ 0.06
Safety Pivot Pin	Purchase & Heat Treat	17043	B-17043	1	$ 0.140	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 0.14	$ -
Safety Washer	Purchase	17044	B-17044	26	$ 0.025	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ 0.06	$ (0.04)
Safety Spring	Purchase	300407	B-300407	3	$ 0.058	$ -	$ 0.011	$ 0.019	$ 0.034	$ 0.054	$ 0.12	$ 0.05	$ 0.07
Bolt Stop	PM/Heat Treat/Color	300345	C-300345	3	$ 0.219	$ -	$ 0.011	$ 0.019	$ 0.034	$ 0.054	$ 0.28	$ 0.28	$ 0.00
Receiver Plug Screws (4)	A/U M/700	17034	B-17034	34	$ 0.135	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 0.12	$ 0.02
Recoil Bracket	Purchase & Color	300361	B-300361	No Rev	$ 0.123	$ -	$ 0.011	$ 0.019	$ 0.034	$ 0.054	$ 0.19	$ 0.25	$ (0.06)
Bolt Assembly Complete		9999	9999	99		$ -	$ -	$ -	$ -	$ -	$ -		$ -
Bolt Body Assembly	Braze & Finish	300403	D-300403	No Rev		$ -	$ -	$ -	$ -	$ -	$ -		$ -
Bolt Body	Machine	300339	D-300339	16	$ 0.560	$ -	$ 0.590	$ 1.086	$ 1.912	$ 2.998	$ 4.15	$ 2.51	$ 1.64
Bolt Handle	Machine	300370	C-300370	B	$ 1.630	$ -	$ -	$ -	$ -	$ -	$ 1.63	$ 0.69	$ 0.94
Bolt Handle Blank	Purchase	300360	D-300360	B		$ -	$ -	$ -	$ -	$ -	$ -	$ 1.63	$ (1.63)
Bolt Handle Pin	Purchase	300329	A-300329	2	$ 0.140	$ -	$ -	$ -	$ -	$ -	$ 0.14	$ 0.10	$ 0.04
Bolt Head Assembly	Assemble	305390	B-305390	2		$ -	$ 0.136	$ 0.251	$ 0.441	$ 0.692	$ 0.83	$ 2.82	$ (1.99)
Bolt Head	Machined	300338	E-300338	17	$ -	$ 0.600	$ 0.765	$ 1.407	$ 2.478	$ 3.885	$ 4.65	$ 6.40	$ (1.75)
Bolt Head Blank	Purchase	300434	D-300434		$ 1.7500	$ -	$ -	$ -	$ -	$ -	$ 1.75		$ 1.75
Extractor	A/U M/700	93712	C-93712	2	$ 0.772	$ -	$ -	$ -	$ -	$ -	$ 0.77	$ 0.77	$ 0.00
Ejector	Purchase & Color	300342	B-300342	1	$ 0.110	$ -	$ 0.011	$ 0.019	$ 0.034	$ 0.054	$ 0.17	$ 0.17	$ 0.00
Ejector Spring	Purchase	300367	A-300367	No Rev	$ 0.015	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ 0.02	$ (0.00)
Ejector Pin	A/U M/700	94555	A-94555	1	$ 0.014	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 0.04	$ (0.03)
Bolt Assembly Pin	Purchase & Color	300330	B-300330	No Rev	$ 0.150	$ -	$ -	$ -	$ -	$ -	$ 0.15	$ 0.21	$ (0.06)
Firing Pin Assembly	Assemble	300404	B-300404	A		$ -	$ 0.140	$ 0.257	$ 0.453	$ 0.710	$ 0.85	$ 0.34	$ 0.51
Bolt Plug	Purchase	300368	D-300368	5	$ 0.215	$ -	$ -	$ -	$ -	$ -	$ 0.22	$ 0.25	$ (0.04)
Bolt Plug Insert	Purchase	300346	B-300346	No Rev	$ 0.808	$ -	$ -	$ -	$ -	$ -	$ 0.81	$ 0.80	$ 0.01
Lock Tumbler	Purchase H.T., & Color	300418	C-300418	No Rev	$ 0.626	$ 0.020	$ 0.053	$ 0.097	$ 0.171	$ 0.269	$ 0.95	$ 0.41	$ 0.54
Tumbler Blank	PMPD	300420	D-300420	A		$ -	$ -	$ -	$ -	$ -	$ -		$ -

PART DESCRIPTION	Proposed Process	Part #	Print #	Rev #	Material $	External Processing $	Labor $	Fixed O.H. $	Var O.H. $	Total O.H. $	Estimated Price per Part	White Paper Price	Difference ( ) Favorable
Lock Plunger	A/U M/700	201224	C-201224	No Rev	$ 0.273	$ -	$ -	$ -	$ -	$ -	$ 0.27	$ 0.07	$ 0.20
Lock Spring	A/U M/700	201217	A-201217	No Rev	$ 0.011	$ -	$ -	$ -	$ -	$ -	$ 0.01	$ 0.05	$ (0.04)
Lock Key Assembly (2 req'd)	A/U M/700	201207	A-201217	No Rev	$ 0.898	$ -	$ -	$ -	$ -	$ -	$ 0.90	$ 0.69	$ 0.21
Spring Retainer	Purchase	300427	A-300427	No Rev	$ 0.250	$ -					$ 0.25		$ 0.25
Firing Pin	Purchase & Color	300334	C-300334	A	$ 0.790	$ -	$ 0.011	$ 0.019	$ 0.034	$ 0.054	$ 0.85	$ 1.25	$ (0.40)
Firing Pin Tip	Purchase & Heat Treat	300335	B-300335	2	$ 0.530	$ -	$ 0.011	$ 0.019	$ 0.034	$ 0.054	$ 0.59	$ 0.42	$ 0.17
Firing Pin Head	MIM	300336	C-300336	F	$ 1.300	$ -	$ -	$ -	$ -	$ -	$ 1.50	$ 1.62	$ (0.12)
Firing Pin Spring	Purchase	300399	A-300399	D	$ 0.101	$ -	$ 0.032	$ 0.058	$ 0.103	$ 0.161	$ 0.29	$ 0.10	$ 0.19
Front Sight Assembly	A/U M/700	201207				$ -	$ 0.037	$ 0.069	$ 0.121	$ 0.190	$ 0.23		$ 0.23
Front Sight	A/U M/700	94084	C-15373	26	$ 0.807	$ -	$ 0.053	$ 0.097	$ 0.171	$ 0.269	$ 1.13	$ 0.82	$ 0.31
Front Sight Ramp	A/U M/700	94657	B-28510	33	$ 1.188	$ -	$ 0.021	$ 0.039	$ 0.069	$ 0.107	$ 1.32	$ 1.25	$ 0.07
Front Sight Ramp Screws (2)	A/U M/700	28505	D-28505	21	$ 0.080	$ -	$ -	$ -	$ -	$ -	$ 0.08	$ 0.09	$ (0.01)
Rear Sight Assembly	A/U M/700	103145	B-103145	11	$ -	$ -	$ 0.075	$ 0.137	$ 0.242	$ 0.379	$ 0.45		$ 0.45
Elevation Screw	A/U M/700	90906	A-90906	19	$ 0.024	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ 0.04	$ (0.02)
Rear Sight Aperture	A/U M/700	97681	C-93905	9	$ 0.285	$ -	$ 0.032	$ 0.058	$ 0.103	$ 0.161	$ 0.48	$ 0.31	$ 0.17
Rear Sight Aperture Blank		93906	C-93906	6		$ -	$ -	$ -	$ -	$ -	$ -		$ -
Rear Sight Base	A/U M/700	103531	C-103530	3	$ 1.017	$ -	$ 0.032	$ 0.058	$ 0.103	$ 0.161	$ 1.21	$ 1.14	$ 0.07
Rear Sight Slide	A/U M/700	94335	C-93904	7	$ 1.200	$ -	$ 0.011	$ 0.019	$ 0.034	$ 0.054	$ 1.26	$ 0.76	$ 0.50
Windage Screw	A/U M/700	300026	D-300026	5	$ 0.191	$ -	$ -	$ -	$ -	$ -	$ 0.19	$ 0.02	$ 0.17
Rear Sight Base Screw (2)	A/U M/700	28505	B-28505	21	$ 0.047	$ -	$ -	$ -	$ -	$ -	$ 0.05	$ 0.06	$ (0.01)
Stock Assembly Complete	Purchase	305455	B-305455	No Rev		$ -	$ 0.143	$ 0.263	$ 0.464	$ 0.727	$ 0.87	$ 0.78	$ 0.09
Stock	Purchase	300437	E-300437	No Rev	$ 5.380	$ -	$ -	$ -	$ -	$ -	$ 5.38	$ 5.38	$ -
Front Screw Bushing	A/U M/700	15161	B-15161	??	$ 0.145	$ -	$ -	$ -	$ -	$ -	$ 0.15	$ 0.13	$ 0.02
Front Screw Bushing Blank		91915	????	???	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ -
Grip Cap	A/U M/700	97971	C-97971	No Rev	$ 0.1803	$ -	$ -	$ -	$ -	$ -	$ 0.18	$ 0.18	$ -
Recoil Pad	A/U M/700	97973	D-97973	26	$ 1.610	$ -	$ -	$ -	$ -	$ -	$ 1.61	$ 1.63	$ (0.02)
Backer Plate	A/U M/700	97972	C-97972	No Rev	$ 0.390		$ -	$ -	$ -	$ -	$ 0.39		$ 0.39
Recoil Pad Screw (2)	A/U M/700	98008	A-98008	7	$ 0.022	$ -	$ -	$ -	$ -	$ -	$ 0.02	$ 0.02	$ 0.00
Magazine Latch	Purchase	300362	C-300362	7	$ 0.255	$ -	$ -	$ -	$ -	$ -	$ 0.25	$ 0.19	$ 0.06
Magazine Latch Spring	Purchase	300398	B-300398	B	$ 0.066	$ -	$ -	$ -	$ -	$ -	$ 0.03	$ 0.03	$ (0.00)
Magazine Latch Pin	Purchase & Color	300371	B-300371	A	$ 0.070	$ -	$ 0.011	$ 0.019	$ 0.034	$ 0.054	$ 0.13	$ 0.13	$ 0.00
Sling Swivel Stud (2)	Purchase	300096	B-300096	4	$ 0.280	$ -	$ -	$ -	$ -	$ -	$ 0.28	$ 0.14	$ 0.14
Front Takedown Screw	Purchase	104125	C-104125	18	$ 0.090	$ -	$ -	$ -	$ -	$ -	$ 0.09	$ 0.08	$ 0.01
Front Takedown Screw Blank	Purchase	104125	C-104125	18	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ -
Middle Takedown Screw	Purchase	104125	C-104125	18	$ 0.090	$ -	$ -	$ -	$ -	$ -	$ 0.09	$ 0.08	$ 0.01
Middle Takedown Screw Blank	Purchase	104125	C-104125	18	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$ -
Rear Takedown Screw	Purchase	300425	C-300425	No Rev	$ 0.090	$ -	$ -	$ -	$ -	$ -	$ 0.09		$ 0.09
Magazine Assembly	Assemble	305395	B-305395	No Rev	$ -	$ -	$ 0.074	$ 0.137	$ 0.241	$ 0.377	$ 0.45	$ 0.40	$ 0.05
Magazine Box	Purchase & Color	300363	B-300363	11	$ 0.600	$ -	$ 0.011	$ 0.019	$ 0.034	$ 0.054	$ 0.66	$ 2.95	$ (2.29)
Magazine Follower	Purchase	300364	B-300364	6	$ 0.134	$ -	$ -	$ -	$ -	$ -	$ 0.13	$ 0.26	$ (0.13)
Magazine Bottom	Purchase	300365	B-300365	9	$ 0.165	$ -	$ -	$ -	$ -	$ -	$ 0.17	$ 0.26	$ (0.10)
Magazine Spring	A/U M/700	300405	C-300405	No Rev	$ 0.259	$ -	$ -	$ -	$ -	$ -	$ 0.26	$ 0.42	$ (0.16)
													$ -
Value Added Cost of: Proof/Gallery/Inspect/Pack					$ 1.350	$ -	$ 1.052	$ 1.936	$ 3.408	$ 5.344	$ 7.75	$ 8.45	$ (0.70)
			Total Cost		**$ 40.594**	**$ 0.620**	**$ 8.644**	**$ 15.906**	**$ 28.008**	**$ 43.914**	**$ 93.77**	**$ 92.14**	**$ 1.63**

REMINGTON ARMS COMPANY, INC.
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In House Capital

Part Name	Operation	Equipment	Capital Required			Useful Lif	Depreciation
Barrel	Cut off		$0				
	Drill	cones	$9,960	Dec-99		10	996
	Ream		$0			10	-
	Rifle	gages	$9,800	Feb-00		10	980
	Wash & Stress Relieve	baskets	$6,900	Feb-00		10	690
	Turn	gages	$10,100	Feb-00		10	1,010
	Face & Chamber	gages	$33,300	Apr-00		10	3,330
	Face & Chamber	machine	**$222,880**	Mar-00		10	22,288
	Cut off and Crown	chuck	$15,000	Jan-00		10	1,500
	wash and eddy current test	machine	$75,000	Mar-00		10	7,500
	Induction Harden	machine	**$166,000**	Mar-00		10	16,600
	Inspect Hardness	machine	$12,000	Mar-00		10	1,200
	Drill and tap sight	fix & gages	$7,600	Feb-00		10	760
	Roll mark	fix & gages	$6,300	Apr-00		10	630
	Angularity Straighten	fix & gages	$3,500	Feb-00		10	350
	Centerless Polish		$0			10	-
	Glass Bead Blast	fixtures	$2,500	Jan-00		10	250
	Color	racks	$6,000	Jan-00		10	600
Bolt Head	Inspect Purchased Part Blank	gage	$2,500	Feb-00		10	250
	Superabrasive Grind Lugs	fix & gage	$43,800	Feb-00		10	4,380
	CNC Machine Bolt Face Complete	fix & gage	**$174,784**	Mar-00		10	17,478
	CNC Machine Cam Cuts Ejector Retaining Pin Hole	fix & gage	$15,000	Mar-00		10	1,500
	CNC Machine Bolt Head Retaining Pin Hole	fix & gage	$15,000	Mar-00		10	1,500
	Punch Form Extractor Rotation Notch	fix & gage	$10,000	Jan-00		10	1,000
	Vendor Heat Treat		$0			10	-
	Inspect for Hardness		$0			10	-
	Black Oxide		$0			10	-
Bolt Body	Inspect Purchased Part Blank	gage	$2,000	Jan-00		10	200
	Machine Cam Cuts	machine	$0	Feb-00		10	-
	Assemble Braze Bolt	machine	$90,000	Mar-00		10	9,000
	Deplate	tanks	$9,500	Jan-00		10	950
	Eddy Current Test		$0			10	-
	Glass Bead Blast	fix	$2,500	Jan-00		10	250
	Black Oxide		$0			10	-
Receiver	Inspect Purchased Part Blank	gage	$2,500	Jan-00		10	250
	Machine A-load	machine & CM	**$513,831**	Feb-00		10	51,383
	Machine B-load		$0	Feb-00		10	-
	Vibratory tumble deburr		$0			10	-
Barrel Assembly	Press Receiver to Barrel	fixture	$0	Dec-99	Ilion Equip	10	-

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	Inspect for straightness	gage	$3,500	Dec-99		10	350
Final Assembly	Gallery	100yd range	**$100,000**	Dec-99		25	4,000
		snails	$30,000	Jul-00		25	1,200
		HVAC	$25,000	Jun-00		10	2,500
		other	$10,000	Mar-00		25	400
						25	-
			$100,000	Mar-00		25	4,000
			$65,000	Jul-00		25	2,600
			$1,801,755				

Purchased Parts

Part #	Part Name	Capital	Tool	Vendor				Payments	
300327	Receiver Insert	48,000	Mold	Hanson	Jun-99	5	9,600		
300333	Side Plate	*10,000*	Stamping Die		Dec-99	5	2,000	Mar-00	Apr-00
300334	Safety Arm	23,880	Stamping Die	NH Stamping	Dec-99	5	4,776	Mar-00	Apr-00
300345	Bolt Stop	6,820	PM	Sterling	Dec-99	5	1,364	Mar-00	Apr-00
300361	Recoil Bracket	2,225	Stamping Die	NH Stamping	Dec-99	5	445	Mar-00	Apr-00
300360	Bolt Handle Blank	12,800	Invest Cast Die	Fansteel	Dec-99	5	2,560	Mar-00	Apr-00
300366	Bolt H Braze Shim	*0*	Use Paste	Lucas Milhaupt	Dec-99	5	-	Mar-00	Apr-00
300368	Bolt Plug	38,088	Mold	Par 4	Dec-99	5	7,618	Mar-00	Apr-00
300336	Firing pin head	23,000	MIM Mold	Megamet	Dec-99	5	4,600	Mar-00	Apr-00
300362	Mag Latch	33,480	Mold	Par 4	Dec-99	5	6,696	Mar-00	Apr-00
300363	Magazine Box	*28,000*	Mold	Morrisey	Dec-99	5	5,600	Mar-00	Apr-00
300364	Magazine Follower	33,300	Mold	Par 4	Dec-99	5	6,660	Mar-00	Apr-00
300365	Magazine Bottom	47,880	Mold	Par 4	Dec-99	5	9,576	Mar-00	Apr-00
	Stock	**150,300**	Mold	Par 4	Dec-99	5	30,060	Mar-00	Apr-00
	Styrofoam Bed	0	Die	Tuscorora		5	-	Mar-00	
	PPI	38000							
		$495,773							
	Total	**$2,297,528**					253,430		
	Installation	$61,000				10	6,100		
		$2,358,528					259,530		

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REMINGTON ARMS COMPANY, INC.
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	8/31/99	9/30/99	10/31/99	11/30/99	12/31/99	Total 1999	1/31/00	2/29/00	3/31/00	4/30/00	5/31/00	6/30/00	7/31/00	Total 2000	Project Total
Direct Labor			3,188 64	4,555.20	3,871.92	11,615.76			7,109.76	8,809.92	10,200.96	6,800.64		32,921.28	44,537.04
From Overhead						-									-
Setters			-	-	-	-	3,625.60	8,565.48	5,349.80	1,767.76		3,070.32	3,535.52	25,914.48	25,914.48
Maintenance			-	-	-	-	2,582 40	5,084.10	5,717.34	4,198.24	3,148.68	4,253.48	2,099.12	27,083.36	27,083.36
EBs			1,849.41	2,642 02	2,245.71	6,737.14	3,600.64	7,916.76	10,542.60	8,570.03	7,742.79	8,192.18	3,268.09	49,833.09	56,570.23
Other Costs						-								-	-
Travel	124.93		10,000 00			10,124.93								-	10,124.93
Material for Receiver		2,175 00				2,175.00								-	2,175.00
Material for Bolt Body			3,000.00			3,000.00								-	3,000.00
Material for 1,000 Learning						-								-	-
Guns ($43.86/ea)						-			21,930.00	21,930.00				43,860.00	43,860.00
Material for 60 T&P														-	-
Guns ($43.86/ea)						-				1,315 80	1,315.80			2,631.60	2,631.60
Material for 30 DAT						-								-	-
Guns ($43.86/ea)												1,315.80		1,315.80	1,315.80
15,000 rns of Ammo						-			600.00	1,200.00	600.00	600.00		3,000.00	3,000.00
Disassembly & Rearrange						-			6,000.00					6,000.00	6,000.00
Tooling & Inspection		15,265 47	16,250.00	16,250.00	16,250.00	64,015.47								-	64,015.47
Prototype Parts						-	8,000.00	8,000.00	8,000.00	8,000.00				32,000 00	32,000.00
Material Handling Purchases						-					19,333.33	19,333.33	19,333.33	58,000.00	58,000.00
Miscellaneous		5,496.16	9,803 56	9,803.57	9,803.56	34,906.85	286	286	286	286	286	286	286	2,000.00	36,906.85
1999 startup Costs	124.93	22,936.63	44,091.61	33,250.78	32,171.19	132,575 15	18,094.35	29,852.05	65,535.22	56,077.47	42,627.28	43,851.46	28,521.78	284,559.61	417,134 76

M/710 Capital Summary Rev 10

Description	Items	Part #	Vendor	Leadtime	Total Capital	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Aug
Carton Assembly		**1444**													
	Carton Dies	0						0		0	0				
	Insert Dies	0			$19,000			6,333		6,333	6,333				
Box and Envelope Label (710)		**993002**													
		0													
Barrel Assembly Complete		**305410**			$0										
Barrel Assembly		305400			$0										
Barrel	Machine & gages	305315													
Cut to length															
Gundrill Bore															
Ream Bore	hyd pump				$6,080	6,080									
Rifle Bore					$15,900	7,950		7,950							
Stress Relieve	baskets				$7,000		7,000								
Turn OD	gages				$5,000		5,000								
Face and Chamber	gages				$31,000		15,000	14,000	2,000						
Face and Chamber	machine				$189,448	63,149				63,149		63,149			
Cut off and crown Muzzle	chuck head				$15,000				15,000						
Drill and Tap Holes, Mill Slot	fixture&gage				$7,600			7,600							
Wash	0				$0										
Heat Treat					175,000		58,333		58,333	58,333					
Inspect Hardness					15,000				15,000						
Acid Wash	0				0										
Centerless Polish	0				0										
Eddy Current Test					104,500		34,833		34,833	34,833					
Press Barrel to Receiver					11,000	11,000									
Rollmark					6,300			6,300							
Angularity Straighten					3,500		3,500								
Centerless Polish					0										
Glass Bead Blast					2,500		2,500								
Black Oxide					6,000		6,000								
Receiver	LT15	300340			$436,756	145,585				145,585	145,585				
	CMM				$45,000			22,500		22,500					
	CMM Gage														
	Vibratory Deburr														
Receiver Insert Assembly Complete	Comparator and fixture	300401			$12,000		2,000	2,000	8,000						
Receiver Insert Assembly	ultrasonic weld fixture	300400			$4,000			4,000							
Receiver Insert	Hanson Mold	300327			$48,000			48,000							
	PPI Fixture				$2,500			2,500							
Side Plate	Stamping Die	300333			$13,000			4,333		4,333	4,333				
	PPI Fixture				$1,500					1,500					
Sear Safety Cam		15666			$0										
	PPI Fixture				$ 3,000.00			1,500			1,500				
Trigger	PM Mold	15280			$15,225			7,613			7,613				
	PPI Fixture				$ 3,000.00			1,500		1,500					
Trigger Connector		19461			$ 3,000.00			1,500		1,500					
Safety Arm	Stamping Die	300408			$25,552			12,776			12,776				
	PPI Fixture				$2,400			2,400							
Lock tumbler	MIM Mold	??			$35,000		17,500			17,500					
Safety Snap Washer	Stamping Die	17044			$0										
	PPI Fixture				$2,400			1,200		1,200					
Bolt Stop	PM Die	300345			$6,820			6,820							
	PPI Fixture	0			$1,500					1,500					

M/710 Capital Summary Rev 10

Description	Items	Part #	Vendor	Leadtime	Total Capital	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Aug
Recoil Bracket	Stamping Die	300361			$0										
Bolt Assembly Complete		????			$0										
Bolt Body Assembly	Brazing Machine	300403			$98,000		32,667		32,667	32,667					
	Deplate Tanks				$9,500				9,500						
	glass bead blast				$2,500				2,500						
Bolt Body	Gages at Machining	300339			$4,500			1,500		3,000					
Bolt Handle	Machining Fixtures& Gages	300370			$12,500		6,250	6,250							
Bolt Handle Blank	Investment Cast Mold	300360			$12,575	6,288			6,288						
	PPI Fixture	0			$2,500		1,200	1,300							
Bolt Head Assembly	Assy Fixture	305390			$4,100			4,100							
Bolt Head	Edgetek Grind	43800			$43,800		21,900		21,900						
	Machining Fixtures	174800			$174,800	69,920			104,880						
	Machine Ejector Retaining				$15,000		7,500		7,500						
	Machine Retaining Pin Hole				$15,000		7,500		7,500						
	Punch Form Ejector				$10,000		5,000		5,000						
Extractor	PPI Fixtue	93712			$3,300				3,300						
Firing Pin Assembly	Assy Fixture	300404			$4,500		4,500								
Bolt Plug	Plastic Mold	300368			$38,088	12,696		12,696	12,696						
Bolt Plug Insert	PPI Fixture	300346			$3,000			1,500		1,500					
Firing Pin Head	MIM Mold	300336			$37,500		12,500		12,500	12,500					
	PPI Fixture				$1,500			1,500							
Front Sight Assembly	Assembly Press				$4,200				4,200						
Front Sight	PM Mold	94084			$0										
Front Sight Ramp	PM Mold	94657			$0										
Rear Sight Assembly		103145			$0										
Rear Sight Aperture	Machining Fixture	97681			$9,000			4,000	5,000						
Rear Sight Aperture Blank	MIM Mold	93906			$0										
Rear Sight Base	MIM Mold	103531			$0										
Rear Sight Slide	MIM Mold	94335			$0										
Stock Assy															
Stock Assembly	Fixture	????			$2,800					2,800					
Stock	Plastic Mold	????			$150,300	50,100		50,100	50,100						
	PPI Fixture	0			$4,500		4,500								
Front Screw Bushing	Family plastic mold	15161			$12,000			4,000		4,000	4,000				
Middle Screw Bushing	see front screw bushing	????			$0										
Rear Screw Bushing	see front screw bushing	????			$0										
Magazine Latch	Plastic Mold	300362			$33,480	11,160		11,160	11,160						
	PPI Fixture				$0										
Magazine Assembly		305395			$0										
Magazine Box	Stamping Die	300363			$46,500	15,500		15,500	15,500						
	PPI fixture				$4,500		2,250		2,250						
Magazine Follower	tic Mold (family w/ bottom)	300364			$78,786	26,262		26,262	26,262						
	PPI fixture				$3,000			3,000							
Magazine Bottom	ic Mold (family w/ follower)	300365			$0										
	PPI fixture														
Magazine Spring	Stamping Die	300405			$0										
	PPI fixture														

M/710 Capital Summary Rev 10

Description	Items	Part #	Vendor	Leadtime	Total Capital	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Aug
Gallery	Design				$15,000	15,000									
	1st installment				$100,000		100,000								
	2nd installment				$140,000			140,000							
	3rd installment				$45,000				45,000						
	Snails				$25,000				25,000						
TOTAL					$2,447,210	440,690	357,433	443,693	543,869	416,235	182,141	63,149	0	0	0

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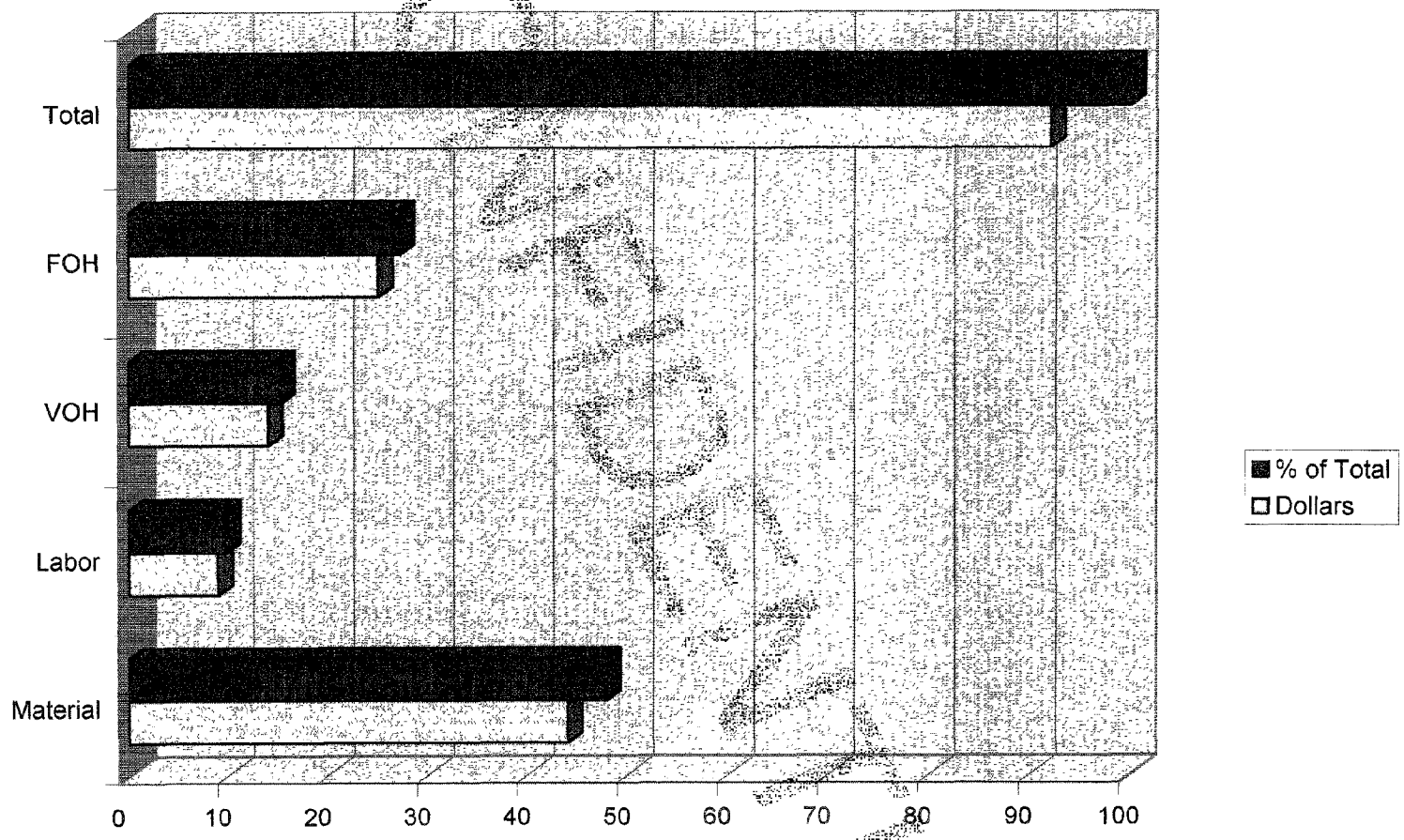
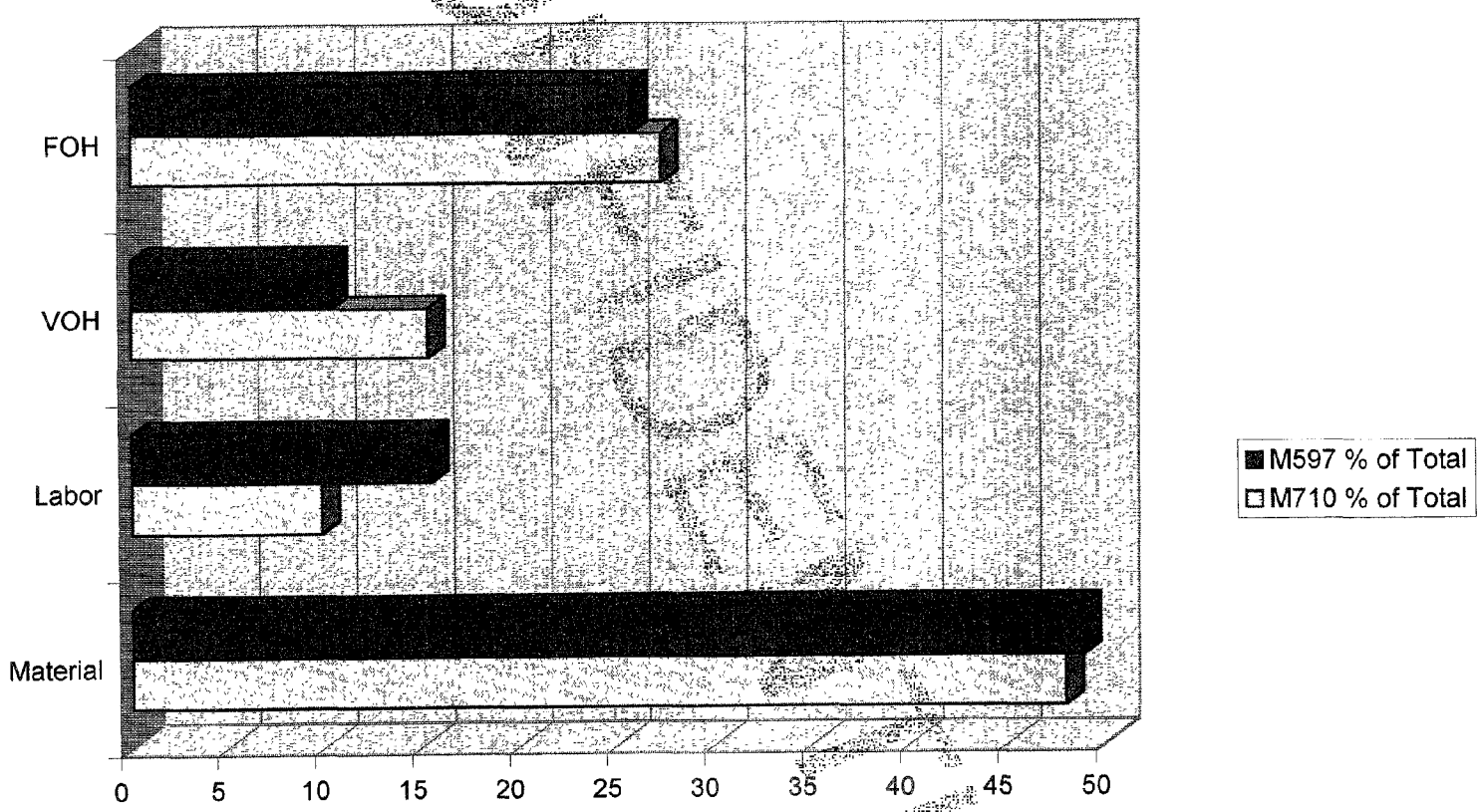
M710 Sept 1999



	Material	Labor	VOH	FOH	Total
% of Total	47.82608696	9.782608696	15.2173913	27.17391304	100
Dollars	44	9	14	25	92

M710 vs M597 Sept 1999

Comparison of M710 and M597 Costs



	Material	Labor	VOH	FOH
M597 % of Total	48.71794872	15.38461538	10.25641026	25.64102564
M710 % of Total	47.82608696	9.782608696	15.2173913	27.17391304

M/710 Estimate

PART DESCRIPTION	Proposed Process (changes in red)	Part #	Print #	Rev #	Material $	New Material $	Rev #	New Part yes only	Status	comments
Carton Assembly	Purchase	1444	1444							
Corregated Box	Purchase									
Bed	Purchase									
Document Envelope Assembly	**Purchase kevil**	**????**								
Document Envelope	Purchase	1649	1649							
Instruction Book	Purchase	????	????							
Product Owners Card	Purchase	1426	1426							
Remington Authorized Gunsmith	Purchase	3413	3413							
Safety Booklet	Purchase	3499	3499							
Remington Museum Flyer	Purchase	~~3475~~	3475							
Oval Label	Purchase	3491	3491							
Box and Envelope Label (710)	Purchase	993002	993002							
Barrel Assembly Complete	Assemble	305410	C-305410	No Rev.						
Barrel Assembly	Assemble & Machine	305400	C-305400	No Rev.						
Barrel	Machine	305315	E-305315	5						
Receiver	Purchase	300340	E-300340	6	$1 760			$ -		
Receiver Insert Assembly Complete	Assemble	300401	D-300401	No Rev						
Receiver Insert Assembly	Ultrasonic Weld	300400	C-300400	No Rev.						
Receiver Insert	Purchase	300327	E-300327-1-2	(1E)-(2E)-23						
Threaded Insert	Purchase	300347	A-300347	A	$0.036					
Side Plate	Purchase & Color	300333	C-300333	No Rev.	$0.190					
Side Plate Pin (2)	Purchase & Color	300328	A-300328	No Rev.	$0.160					
Sear Safety Cam	AU M/700	15666	C-15666	24	$0 760					
Pivot Pin (3)	Purchase & Heat Treat	300351	B-300351	No Rev.	$0.180					
Sear Spring	AU M/700	17047	A-17047	26	$0.021					
Trigger	AU M/700	~~15280~~	C-15280	31	$0.377					
Trigger Connector	AU M/700	19461	C-19461	21	$1.506					
Trigger Screw Front	AU M/700	17053	B-17053	32	$0.040					
Trigger Engagement Screw	AU M/700	91128	B-91128	7	$0.027					
Trigger Spring	AU M/700	15400	A-15400	11	$0.029					
Trigger Stop Screw	AU M/700	15481	B-17053	32	$0.042					
Safety Arm	Assemble & Heat Trea	300408	D-300408	1	$0 230					
Safety Detent Spring		300407	C-300407	1	$0.058					
Lock tumbler	Purchase	??	???	??						
Lock Detent	AU M/7	???	????	???						
Safety Pivot Pin	Purchase & Heat Treat	300352	B-300352	1	$0.140					
Snap Washer		17044	B-17044	26	$0 023					
Bolt Stop	PM/Heat Treat/Color	300345	C-300345	2	$0 219					
Receiver Plug Screws (4)	A/U M/700	17034	B-17034	34	$0 135					
Recoil Bracket	Purchase & Color	300361	B-300361	No Rev.	$0.123					

M/710 Estimate										
PART DESCRIPTION	Proposed Process (changes in red)	Part #	Print #	Rev #	Material $	New Material $	Rev #	New Part yes only	Status	comments
Bolt Assembly Complete		???	???	??						
Bolt Body Assembly	Braze & Finish	300403	B-300403	No Rev.						
Bolt Body	Purchase	300339	D-300339	1	$2 050			$ 0 17		
Bolt Handle	Bend to Form	300370	C-300370	No Rev	$1 630					
Bolt Handle Blank	Purchase	300360	C-300360	No Rev.						
Bolt Handle Pin	Purchase	300329	A-300329	1	$0 100					
Bolt Head Assembly	Assemble	305390	B-305390	No Rev						
Bolt Head	Machined	300338	E-300338	14	$1.750					
Extractor	A/U M/700	93712	C-93712	2	$0 772					
Ejector	Purchase & Color	300342	B-300342	1	$0.110					
Ejector Spring	Purchase	300367	A-300367	No Rev.	$0.015					
Ejector Pin	A/U M/700	94555	A-94555	1	$0.014					
Bolt Assembly Pin	Purchase & Color	300330	B-300330	No Rev.	$0 150					
Firing Pin Assembly	Assemble	300404	B-300404	No Rev.						
Bolt Plug	Purchase	300368	C-300368	1	$0 215					
Bolt Plug Insert	Purchase	300346	B-300346	No Rev.	$0 808					
Firing Pin	Purchase & Color	300334	C-300334	No Rev.	$1.190					
Firing Pin Tip	Purchase & Heat Treat	300335	B-300335	No Rev.	$0 230					
Firing Pin Head	MIM	300336	C-300336	No Rev.	$1.247					
Firing Pin Spring	Purchase	300399	A-300399	No Rev.	$0 101					
Front Sight Assembly										
Front Sight	A/U M/700	94084	C-15373	26	$0.786					
Front Sight Ramp	A/U M/700	94657	B-28510	33	$1.168					
Front Sight Ramp Screws (2)	A/U M/700	28505	B-28505	21	$0.075					
Rear Sight Assembly	A/U M/700	103145	B-103145	11	$ 3 719					
Elevation Screw	A/U M/700	90906	A-90906	19	$0.024					
Rear Sight Aperture	A/U M/700	97681	C-93905	9	$0.140					
Rear Sight Aperture Blank		93906	C-93906	6						
Rear Sight Base	A/U M/700	103531	C-103530	3	$0 968					
Rear Sight Slide	A/U M/700	94335	C-93904	7	$1 200					
Windage Screw	A/U M/700	300026	B-300026	5	$0.191					
Rear Sight Base Screw (2)	A/U M/700	28505	B-28505	21						

M/710 Estimate										
PART DESCRIPTION	Proposed Process (changes in red)	Part #	Print #	Rev #	Material $	New Material $	Rev #	New Part yes only	Status	comments
Stock Assembly Complete	Purchase	???	???	??						
Stock Assembly	Purchase	???	???	??						
Stock	Purchase	????	????		$5.380					
Front Screw Bushing	A/U M/700	15161	B-15161	??						
Front Screw Bushing Blank		91915	???	???						
Middle Screw Bushing	Purchase	????	????	???						
Rear Screw Bushing	Purchase	????	???	??						
Grip Cap	A/U M/700	97971	C-97971	No Rev	$0 180					
Recoil Pad	A/U M/700	97973	D-97973	26	$1 610					
Backer Plate		97972	C-97972	No Rev.	$ 0 390					
Recoil Pad Screw (2)	A/U M/700	98008	A-98008	7	$0 022					
Magazine Latch	Purchase	300362	C-300362	2	$0.191					
Magazine Latch Spring	Purchase	300398	B-300398	No Rev	$0 026					
Magazine Latch Pin	Purchase & Color	300371	B-300371	No Rev	$0.070					
Sling Swivel Stud (2)	Purchase	300096	B-300096	4						
Takedown Screw (2)	Purchase	????	????	???						
Rear Takedown Screw	Purchase	????	????	????						
Magazine Assembly	Assemble	305395	B-305395	No Rev.						
Magazine Box	Purchase & Color	300363	B-300363	5	$2 790					
Magazine Follower	Purchase	300364	B-300364	1	$0.093					
Magazine Bottom	Purchase	300365	B-300365	No Rev	$0 105					
Magazine Spring	A/U M/700	300405	C-300405	No Rev.						
Value Added Cost of: Proof/Gallery/Inspect/Pack					$0.000	$ -	$ -	$ -	$ -	$ -
			Total Cost		**$35.488**	$ -	$ -	$ **0.17**	$ -	$ -

Quoted Parts

PART DESCRIPTION	Part #	Print #	Rev#	Price/part $	Order Qty M	Eng. Charge $	Vendor Capital $	Vendor Gages $	PPI Gages $	Comments
Carton Assembly	**1444**	1444	?						$ -	
									$ -	
									$ -	
Document Envelope Assembly	**????**	**????**	?						$ -	
Document Envelope	1649	**1649**	?						$ -	
Instruction Book	????	**????**	?						$ -	
Product Owners Card	1426	**1426**	?						$ -	
Remington Authorized Gunsmith	3413	3413	?						$ -	
Safety Booklet	3499	3499	?						$ -	
Remington Museum Flyer	3475	3475	?						$ -	
Oval Label	3491	3491	?						$ -	
									$ -	
Box and Envelope Label (710)	**993002**	993002	?						$ -	
									$ -	
Barrel Assembly Complete	**305410**	C-305410	No Rev.						$ -	
Barrel Assembly	305400	C-305400	No Rev.						$ -	
Barrel	305315	E-305315	5						$ -	
Receiver	300340	E-300340	6	$ 1.760	0				$ -	Federal Steel--Quote.
Receiver Insert Assembly Complete	300401	D-300401	No Rev.						$ -	
Receiver Insert Assembly	300400	C-300400	No Rev.						$ -	
Receiver Insert	300327	E-300327-1-2	(1E)-5 (2E)-23						$ 5,650.00	
Threaded Insert	300347	A-300347	A	$ 0.036	20				$ 200 00	Precision Fasteners
Side Plate	300333	C-300333	No Rev.	$ 0.090	20				$ 1,500.00	Historical Data
Side Plate Pin (2)	300328	A-300328	No Rev.	$ 0.160	60	$ 225.00			$ -	Iseli--Quote:
Sear Safety Cam	15666	C-15666	24	$ 0 760	20		$ 11,300.00		$ 3,000.00	Sterling Sintered Tech. Inc --Quo
Pivot Pin (3)	300351	B-300351	No Rev.	$ 0 180	60	$ 450.00			$ -	Automatic Swiss Corporation--Qu
Sear Spring	17047	A-17047	26	$ 0.023	20				$ -	Illion Quote
Trigger	15280	C-15280	31	$ 0.377	20		$ 15,225.00		$ 3,000 00	Sterling Sintered Tech. Inc.--Quot
Trigger Connector	19461	C-19461	21	**$ 1.51**					$ 3,000 00	
Trigger Screw Front	17053	B-17053	32	$ 0.040	0 10				$ 300.00	Fastenal--Quote· 8/19/99
Trigger Engagement Screw	91128	B-91128	7	$ 0.027	0 10				$ 300.00	Ilion Quote SAP
Trigger Spring	15400	A-15400	11	$ 0.029	20				$ -	Ilion Quote SAP
Trigger Stop Screw	15481	B-17053	32	$ 0 042	20				$ 300.00	Fastenal--Quote.
Safety Arm	300408	D-300408	1	**$ 0.230**	20		$ 25,552.00		$ 2,400.00	New Hampshire Stamping--Quote
Safety Detent Spring	300407	C-300407	1	$ 0.058	20				$ -	Midstate Spring Inc.--Quote: 9/2
Lock tumbler	??	???	??						$ -	
Lock Detent	???	????	???						$ -	
Safety Pivot Pin	300352	B-300352	1	$ 0.140	20	$ 225.00			$ -	Iseli Company--Quote: 8/25/99
Safety Snap Washer	17044	B-17044	26	$ 0.025					$ 120 00	Ilion Quote SAP
Bolt Stop	300345	C-300345	2	$ 0.219	20		$ 6,820.00		$ 1,500.00	Sterlining Sentered Tech Inc.--Q
	0	0	0						0	
Receiver Plug Screws (4)	17034	B-17034	34	$ 0 135					$ -	Ilion Quote SAP
Recoil Bracket	300361	B-300361	No Rev.	$ 0.123	20	$ 550 00			$ -	Square Stamping Qoute Aug. 11,

Quoted Parts

PART DESCRIPTION	Part #	Print #	Rev#	Price/part $	Order Qty M	Eng. Charge $	Vendor Capital $	Vendor Gages $	PPI Gages $	Comments
Bolt Assembly Complete	????	????	??						$ -	
Bolt Body Assembly	300403	D-300403	No Rev.						$ -	
Bolt Body	300339	D-300339	1	$ 2.050	20				$ -	Ken-Mar Tools--Quote 8/26/99
	0	0	0							
	0	0	0						$ -	
Bolt Handle	300370	C-300370	No Rev.	$ 1.630	20		$12,575.00		$ -	Fansteel--Quote. 8/12/99
Bolt Handle Blank	300360	C-300360	No Rev						$ 2,500.00	
Bolt Handle Pin	300329	A-300329	1	$ 0.100	20	$ 450.00			$ -	Automic Swiss Corporation--Quo
									$ -	
Bolt Head Assembly	305390	B-305390	No Rev						$ -	
Bolt Head	300338	E-300338	14	$ 1.750					$ 120.00	Parker & Harper Mfg Company
Extractor	93712	C-93712	2	$ 0.272					$ 3,300.00	Ilion Quote SAP
Ejector	300342	B-300342	1	$ 0.110	20	$ 400.00			$ 3,000.00	Iselis--Quote 8/25/99
Ejector Spring	300367	A-300367	No Rev.	$ 0.015	20				$ -	Midstate Spring, Inc.--Quote: 8/2
Ejector Pin	94555	A-94555	1	$ 0.014	20				$ -	Ilion Quote SAP
Bolt Assembly Pin	300330	B-300330	No Rev	$ 0.150	20	$ 450.00			$ -	Automatic Swiss Corporation--Qu
Firing Pin Assembly	300404	B-300404	No Rev.						$ -	
Bolt Plug	300368	C-300368	1	$ 0.215	20		$ 36,000.00		$ 800.00	Kellems & Coe--Quote: 8/17/99
Bolt Plug Insert	300346	B-300346	No Rev.	$ 0.808	60		$0.00		$ 3,000.00	Swiss Precision Machining, Inc.--
Firing Pin	300334	C-300334	No Rev.	$ 1.180	20	$ 400.00			$ 200.00	Iseli--Quote 8/16/99
Firing Pin Tip	300335	B-300335	No Rev.	$ 0.230	20	$ 225.00			$ 3,300.00	Iseli--Quote. 8/16/99
Firing Pin Head	300336	C-300336	No Rev.	$ 1.247	20		$ 17,500.00		$ 1,500.00	Megamet Industries--Quote 9/13
									$ -	
Firing Pin Spring	300399	A-300399	No Rev	$ 0.101	20				$ -	Midstate Spring--Quote: 8/20/99
Front Sight Assembly	0	0	0						$ -	
Front Sight	94084	C-15373	26	$ 0.786					$ -	Ilion Quote SAP
Front Sight Ramp	94657	B-28510	33	$ 1.188					$ 400.00	Ilion Quote SAP
Front Sight Ramp Screws (2)	28505	B-28505	21	$ 0.075					$ -	Mayfield Quote SAP
Rear Sight Assembly	103145	B-103145	11	$ 3.719					$ -	Ilion Quote SAP
Elevation Screw	90906	A-90906	19	$ 0.024	20				$ -	Ilion Quote SAP
Rear Sight Aperture	97681	C-93905	9	$ 0.140	20				$ -	Ilion Quote
Rear Sight Aperture Blank	93906	C-93906	6						$ -	
Rear Sight Base	103531	C-103530	3	$ 0.968	80		$17,500.00		$ -	Ilion. Quote
Rear Sight Slide	94335	C-93904	7	$ 1.200	80		$17,500.00		$ -	Megamet Industries--Quote: 9/13
Windage Screw	300026	B-300026	5	$ 0.191	25	$ 400.00			$ -	Swiss Precision Maching Inc.--Qu
Rear Sight Base Screw (2)	28505	B-28505	21						$ -	

Quoted Parts

PART DESCRIPTION	Part #	Print #	Rev#	Price/part $	Order Qty M	Eng. Charge $	Vendor Capital $	Vendor Gages $	PPI Gages $	Comments
Stock Assembly Complete	???	????	??						$ -	
Stock Assembly	????	????	??						0	
Stock	????	????	0	$ 5.380	20		$150,300.00		$ 4,500.00	Par 4 Plastics, Inc.
	0	0	0						$ -	
Front Screw Bushing	15161	B-15161	??						$ -	
	91915	????	???						$ -	
Middle Screw Bushing	????	????	???						$ -	
Rear Screw Bushing	????	????	??						$ -	
Grip Cap	97971	C-97971	No Rev.	$ 0.186					$ -	Ilion Quote SAP
Recoil Pad	97973	D-97973	26	$ 1.610					$ 400.00	Ilion Quote SAP
Backer Plate	97972	C-97972	No Rev.	$ 0.390					$ -	Ilion Quote SAP
Recoil Pad Screw (2)	98008	A-98008	7	$ 0.022	20				$ -	Fastenal--Quote:
Magazine Latch	300362	C-300362	2	$ 0.191	20		$39,000.00		$ -	Kellems & Coe--Quote 8/17/99
Magazine Latch Spring	300398	B-300398	No Rev.	$ 0.026	20				$ -	Industrial Spring--Quote: 8/21/99
Magazine Latch Pin	300371	B-300371	No Rev.	$ 0.070	20	$ 225.00			$ -	Iseli--Quote 8/25/99
									$ -	
Sling Swivel Stud (2)	300096	B-300096	4						$ -	
Takedown Screw (2)	**????**	????	???						$ 200.00	
Rear Takedown Screw	**????**	????	????						$ 200.00	
Magazine Assembly	305395	B-305395	No Rev						$ -	
Magazine Box	300363	B-300363	5	$ 2.790	20				$ 4,500.00	Historical Data Used
Magazine Follower	300364	B-300364	1	$ 0.093	20		$ 78,786.00		$ 3,000.00	Par 4 Plastics, Inc.--Quote8/27/99
Magazine Bottom	300365	B-300365	No Rev	$ 0.105	20		$ -		$ -	Par 4 Plastics, Inc --Quote: 8/27/9
Magazine Spring	300405	C-300405	No Rev						$ 3,000.00	
			Total Cost	**$ 35.49**	**1045.20**	**$ 4,000.00**	**$ 428,058.00**	**$ -**	**$ 55,190.00**	

In House Processing										
PART DESCRIPTION	Part #	Print #	Rev#	Material $	Labor (hrs)	Variable Tools $	Pre-Op Startup $	Capital $		Comments
Carton Assembly	**1444**	**????**	**0**							
Document Envelope Assembly	**????**	**????**	**0**							
Document Envelope	1649	1426	0							
Instruction Book	????	3413	0							
Product Owners Card	1426	3499	0							
Remington Authorized Gunsmit	3413	3475	0							
Safety Booklet	3499	3491	0							
Remington Museum Flyer	3475	0	0							
Oval Label	3491	993002	0							
Box and Envelope Label (710)	**993002**	**C-305410**	**No Rev.**							
		C-305400	No Rev.							
Barrel Assembly Complete	**C-305410**	E-305315	5							
Barrel Assembly	C-305400	E-300340	6							
Barrel	E-305315	D-300401	No Rev.	$ 4.800		$ 2,585.59	$ 59,098.14	$ 286,430.00		
Receiver	E-300340	C-300400	No Rev.				$ -	$ 563,556.90		
Receiver Insert Assembly Compl	D-300401	E-300327-1-2	(1E)-5 (2E)-23							
Receiver Insert Assembly	C-300400	A-300347	A							
Receiver Insert	E-300327-1-2	C-300333	No Rev							
Threaded Insert	A-300347	A-300328	No Rev.							
Side Plate	C-300333	C-15666	24							
Side Plate Pin (2)	A-300328	B-300351	No Rev.							
Sear Safety Cam	C-15666	A-17047	26							
Pivot Pin (3)	B-300351	C-15280	31							
Sear Spring	A-17047	C-19461	21							
Trigger	C-15280	B-17053	32							
Trigger Connector	C-19461	B-91128	7							
Trigger Screw Front	B-17053	A-15400	11							
Trigger Engagement Screw	B-91128	B-17053	32							
Trigger Spring	A-15400	D-300408	1							
Trigger Stop Screw	B-17053	C-300407	1							
Safety Arm	D-300408	???	??							
Safety Detent Spring	C-300407	????	???							
Lock tumbler	???	B-300352	1							
Lock Detent	????	B-17044	26							
Safety Pivot Pin	B-300352	C-300345	2							
Snap Washer	B-17044	0	0							
Bolt Stop	C-300345	B-17034	34							
	0	B-300361	No Rev.							
Receiver Plug Screws (4)	B-17034	????	??							
Recoil Bracket	B-300361	D-300403	No Rev.							

In House Processing										
PART DESCRIPTION	Part #	Print #	Rev#	Material $	Labor (hrs)	Variable Tools $	Pre-Op Startup $	Capital $		Comments
Bolt Assembly Complete	????	D-300339								
Bolt Body Assembly	D-300403	0	0							
Bolt Body	D-300339	0	0			$ 79.95	$ 5,403.50	$ 4,500.00		
	0	C-300370	No Rev.							
	0	C-300360	No Rev.							
Bolt Handle	C-300370	A-300329	1							
Bolt Handle Blank	C-300360	0	0							
Bolt Handle Pin	A-300329	B-305390	No Rev.							
Bolt Head Assembly	B-305390	C-93712								
Bolt Head	E-300338	B-300342	1			$ 0.50	$ 5,761.38	$ 316,500.00		
Extractor	C-93712	A-300367	No Rev							
Ejector	B-300342	A-94555	1							
Ejector Spring	A-300367	B-300330	No Rev.							
Ejector Pin	A-94555	B-300404	No Rev.							
Bolt Assembly Pin	B-300330	C-300368	1							
Firing Pin Assembly	B-300404	B-300346	No Rev.							
Bolt Plug	C-300368	C-300334	No Rev.							
Bolt Plug Insert	B-300346	B-300335	No Rev.							
Firing Pin	C-300334	C-300336	No Rev							
Firing Pin Tip	300335	No Rev.	0							
Firing Pin Head	C-300336	A-300399	No Rev.							
		0	0							
Firing Pin Spring	A-300399	C-15373	26							
Front Sight Assembly	0	B-28510	33							
Front Sight	C-15373	B-28505	21							
Front Sight Ramp	B-28510	B-103145	11							
Front Sight Ramp Screws (2)	B-28505	A-90906	19							
Rear Sight Assembly	B-103145	C-93905	9							
Elevation Screw	A-90906	C-93906	6							
Rear Sight Aperture	C-93905	C-103530	3							
Rear Sight Aperture Blank	C-93906	C-93904	7							
Rear Sight Base	C-103530	B-300026	5							
Rear Sight Slide	C-93904	B-28505	21							
Windage Screw	B-300026	????	??							
Rear Sight Base Screw (2)	B-28505	????	??							

In House Processing										
PART DESCRIPTION	Part #	Print #	Rev#	Material $	Labor (hrs)	Variable Tools $	Pre-Op Startup $	Capital $		Comments
Stock Assembly Complete	????	????	0							
Stock Assembly	????	0	0							
Stock	????	B-15161	???							
	0	????	???							
Front Screw Bushing	B-15161	????	???							
	????	????	???							
Middle Screw Bushing	????	C-97971	No Rev.							
Rear Screw Bushing	????	D-97973	26							
Grip Cap	C-97971	C-97972	No Rev.							
Recoil Pad	D-97973	A-98008	7							
Backer Plate	C-97972	C-300362	2							
Recoil Pad Screw (2)	A-98008	B-300398	No Rev							
Magazine Latch	C-300362	B-300371	No Rev.							
Magazine Latch Spring	B-300398	0	0							
Magazine Latch Pin	B-300371	B-300096	4							
Sling Swivel Stud (2)	B-300096	????	????							
Takedown Screw (2)	**????**	B-305395	No Rev.							
Rear Takedown Screw	**????**	B-300363	5							
Magazine Assembly	B-305395	B-300364	1							
Magazine Box	B-300363	B-300365	No Rev.							
Magazine Follower	B-300364	C-300405	No Rev.							
Magazine Bottom	B-300365									
Magazine Spring	C-300405									
			Total	$ 4.80	$	$ 2,666.04	$ 70,263.02	$ 1,170,986.90	##	

#305410 - Barrel Assy Complete

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part #	Print #	REV	Material $	Std. Run Hours	Variable Overhead $	Preop	Capital	PPI Gages $	Material Handling	Comments
10	Assemble Sights	Fixture Modifications Press for front sight to front sight bse Tooling bench vise wood stand air wrench electric screw driver	305410	408021			0 059						
20	Press Receiver Insert Ass'y Complete into barrel Ass'y Complete	Fixture with lever arm for pressing					0 02						
	Totals					$ -	0.079	$ -	$ -	$ -		$ -	

Barrel Assembly Complete is defined as BBL.REC, and REC INERT ASSY COMPLETE

Time in this operatoin was defined as assembling sights and receiver scope screws and install receiver insert

Action Estimate the time to assemble the slide assembly to the rear sight base

#305315 - Barrel

OP #	Op #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part #	Print #	REV	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital	PPI Gages $	Material Handling	Comments
		Material (Blank 94523)		305315	E-305315	1								
10	10	Cut to Length					$ 4 800	0 000000	$0 12	$4,140 72	$0 00			
20	20	Gundrill Bore Dies & Rams						0 034670						
30	30	Ream Bore					n/a	0 029946	$0 39	$15,118 96	$6,080 00			
40	40	Rifle Bore						0 000000						
50	50	Wash & Stress Relieve					-	0 000413	$0 00	0	$7,000 00			Turn O D & Inspect
60	60	Turn O D & Inspect for Runout Gaging					$	0 027713	0 072	$4,993 90	$5,000 00			
70	70	Cut-off & Crown Muzzle End						0 000000						
			Clamping Chuck				$	0 011670	$0 08	$1,440 56	$15,000 00			M710 Cutoff and Crown Operation
80	80	Face, Chamber, Machine Hub End, Drill & Tap Takedown Screw Holes, Mill Recoil Lug Slot & 100% Inspect Chamber Finish Gaging						0 080145	$2,585 00	$33,434 00	$30,470 00			
			Okuma LB-300								$222,880 00			
			Chamber operation						$0 00	$0 00	$0 00			M710 Chamber Operation
90	90	Wash & Magnaflux Barrel						0 [illegible]00						
100	100	Drill & Tap Sight Screw Holes Gaging						0 000000						
110	110	Induction Heat Treat Hub						0 000000						
120	120	Press Receiver onto Barrel Gaging						0 023370						
130	130	Inspect for Runout & Straighten if Necessary		f305015	E-305315	11		0 000000						
140	140	Roll Mark						0 003000						
150	150	Angularity Straighten Muzzle & Inspect Bore						0 000667						
160	160	Centerless Polish						0 004167						
170	170	Glass Bead						0 005[illegible]						
180	180	Black Oxide						0 004167						
			TOTALS				$ 4 800	0 246983	$2,585 56	$62,098 14	$286,430 00	$0 00	0 00	

Go to the detail pages within this sheet which are all the separate fies used to build this page
The can be found in network neighbor hood/ mfntas5/engineering/710/barrel

#300340 - Receiver

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quanity Price/M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI $	Material Handling	Comments
		Blank Material-1018 DCM	300340	E-300340		1.760	20		0.005500						Federal Steel--Quote
10	Machine Complete											$ 4,725.90			
												$ 45,000.00			
20	Vibratory Deburr														
												$ 513,831.00			
	Total:					$ 1.760			0	$ -	$ -	$ 563,556.90	$ -		

CMM Fixture Based on 597 CMM Fixture for the bolt $4500 and a #6-48 thread gage @225.90
This estimate assumed an LT 15MY from OKUMA and an automatic operation in house
An approx 5 min machine cycle time
max output /year was about 30,000 when coupled with the bolt body
The receiver toonsumed about 80% of the machine cycle

Free markets quoted a 30,000 eau 3 year contract at $219-$245 combined package of recever and bolt body
In house completely burdened was approx $5.33 for the receiver and $2.63 for the bolt body

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quanity Price/M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI $	Material Handling	Comments
		Free Markets	300340	E-300340	19	$ 1.760	20		0.005500						Federal Steel--Quote
10	Machine Complete	Inspection Fixture										$ 4,500.00			
		Inspection Program										$ 5,000.00			
		Plug gage C'bore										$ 300.00			
		Thread gages										$ 226.00			
20	Vibratory Deburr yes/no														
	Total:					$ 1.760			0	$ -	$ -	10,026.00	$ -		

Action Get progams and fixtures for the CMM inspection
We could have parts as early as 2/15/00
Do we vibratory deburr??

710 Complete 1

#300401- Rec Insert Assy Comp

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part #	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
1			300401	[illegible]	A								
10	Demagnetize Metal Components					$ -	0 000404	$ -	$ -				
20	Assemble - Stage 1	Fixturing				$ -	0 011383	$ -	$ -	$ 1,500 00			
30	Assemble - Stage 2	Fixturing				$ -	0 025275	$ -	$ -	$ 1,500.00			
40	Adjust on Comparator	Fixturing				$ -	0 016929	$ -	$ -	$ 5,000.00			
60	Function Check Complete					$ -	0 006917	$ -	$ -				
70	Stamp Identification					$ -	0 001908	$ -	$ -				
		Totals				$ -	0.06	$ -	$ -	$ 8,000.00	$ -	$ -	

Set up demagnatizing process
Staking machine
Comparator
Comparator fixtures
Comparator Screen
Assembly fixture - and how many

710 Complete 1

#300327 - Receiver Insert

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Gaging	Programming Fixture Design									$ 5,650 00		Estimated Quote
	Totals										$ 5,650 00		

Hanson tool modifications
CMM inspection results-parts shipped 1/28/00 for complete inspection
Deleivery of CMM inspection program 2/2/00
Sample of 1000 parts form hanson due after reciept ot inspection results on 2/2/00 and completion of any tooling changes

Delivery of CMM??
Parts programmed to measuemax and PPI CMM

fixture degin at PHI and fixute build complete in house

#300347 - Threaded Insert

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity Piece/M	Engineering Charge	Std Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material - Stamping		#300347	A-300347	A	$ 0 036	20								Precision Fasteners
	Gaging (Vendor and Remington)								0 000001				$ 200 00		Estimated Quote
	Totals					$ 0 036	20		0 000001				$ 200 00		

500 received and 14,5000 returned to vendor 1/29/00

Inspection Completed 1/29/00

710 Complete 1

#300333 - Side Plate

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quanity Piece/M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material - Stamping		F300333	C-300333	5	$ 0 090	20								Historical Data
	Gaging (vendor and Remington)												$ 1,500 00		Estimated Quote
10	Black Oxide Color								0 000001						
		Totals				$ 0.090	20		0.000001				$ 1,500.00		

	order date	due date
Tooling ordered		
comp fixture design		
comp fix build		
comp screen		
plug gages		

710 Complete 1

#300328 - Side Plate Pin

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev.	Material $	Quanity Price/M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material - Screw Machine					$ 0 080	60 00								Iseli--Quote
	Gaging (vendor and Remington)							$ 225 00					$ -		
10	Black Oxide Color					$ -			0 000001	$ -	$ -	$ -		$ -	
		Totals				$ 0.080	60.00	$ 225.00	0.000001	$ -	$ -	$ -	$ -	$ -	

Note: **Quoted in C12L14 material**
Quoted with .010" max. cornerbreaks unless noted.

	order date	due date
Tooling ordered		
comp fixture design		
comp fix build		
comp screen		
plug gages		

#15866 - Sear Safety Cam

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print#	Rev	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Prep $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material - PM Parts					$ [illegible]	20								Sterling Sintered Tech Inc --Quote 8/24/99
	Gaging (vendor and Remington)												$ 3,000 00		Ihon Supplied
	Tooling											$ 11,300 00			
		Totals				$ 0 [illegible]	20		0 000001	$ -	$ -	$ 11,300	$ 3,000	$ -	

	order date	due date
Tooling ordered		
comp fixture design		
comp f x build		
comp screen		
p'ug gages		

710 Complete 1

#300351 - Pivot Pin

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print#	Rev	Material $	Quantity Piece/M	Engineering Charge	Std Run Hours	Variable Overhead $	Freop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material - Screw Machine Gaging (vendor and Remington)					$ 0.060	60.00	$ 450.00					$ -		Automatic Swiss Corporation--Quote 8/20/99 Estimated Quote
	Totals					$ 0.060	60.00	$ 450.00	0	$ -	$ -	$ -	$ -	$ -	

Note: Quoted in C12L14 material

	order date	due date
Tooling ordered		
comp fixture design		
comp fix build		
comp screen		
plug gages		

710 Complete 1

#17047 - Sear Spring

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Material--Springs					$ 0.023	20								Ilion Quote
		Totals				$ 0.0234	20		0.000000				$ -		

710 Complete 1

#15280 - Trigger

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Material--PM Parts					$ 0.377	20								Sterling Sintered Tech Inc --Quoted 9/03/99
	Tooling											$ 15,225 00			Based on no Serrations on Trigger
	Gages												$ 3,000 00		Estimated Quote
10	Black Oxide Color								0 000001						
		Totals				$ 0.377	20		0 000001			$ 15,225.00	$ 3,000 00		

	order date	due date
Tooling ordered		
comp fixture design		
comp fix build		
comp screen		
plug gages		

Sterling part price higher to $0.50 after requote. NOTE don not useSterling in the Futruc.

710 Complete 1

#19461 - Trigger Connector

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print#	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
						$ 1.51							Tion Supplied
	Gages										$ 3,000.00		Estimated Quote
	Totals					$ 1.51					$ 3,000.00		

	order date	due date
Tooling ordered		
comp fixture design		
comp fix build		
comp screen		
plug gages		

710 Complete 1

#17053 - Trigger Screw Front

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Material--Fasteners					$ 0 040	0 1								Fastenal--Quote 8/19/99
	Gages												$ 300 00		Estimated Quote
	Totals					$ 0 040	0 1		0 000000				$ 300 00		

710 Complete 1

#91128 - Trigger Engage Screw

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Material-Fasteners					$ 0.027	0.10								Ilion Quote SAP
	Gages												$ 300.00		Estimated Quote
		Totals				$ 0.027	0.10		0.000000				$ 300.00		

710 Complete 1

#15400 - Trigger Spring

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Est Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Gages					$ 0.029	20						0		Ilion Quote SAP
	Totals					$ 0.029	20		0.000000				$ -		

710 Complete 1

#15481 - Trigger Stop Screw

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity Mess	Engineering Charge	Std Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Material- Screw					$ 0.042	20								Fastenal--Quote
	Gages												$ 300 00		Estimated Quote
		Totals				$ 0.042	20		0.000000				$ 300.00		

#300406 - Safety Arm

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charge	Std Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material-					$ 0.230	20								New Hampshire Stamping--Quote 9/28/99
	Gaging(vendor and Remnton)												$ 2,400.00		Estimated Quote
	Tooling											$ 25,552.00			
10	Vendor Heat Treat														
20	Black Oxide Color								0.000001						
	Totals					$ 0.230	20		0.000001			$ 25,552.00	$ 2,400.00		

Note Production delivery will take two weeks 1 week for delivery of first quality acceptance sample.
1 week for delivery of sample approval 18 weeks total

	order date	due date
Tooling ordered		
comp fixture design		
comp fix build		
comp screen		
plug gages		

ACTUAL

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charge	Std Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material-					$ 0.230	20								New Hampshire Stamping--Quote 9/28/99
	Gaging(vendor and Remnton)												$ 2,400.00		Estimated Quote
	Tooling											$ 25,552.00			
10	Vendor Heat Treat														
20	Black Oxide Color								0.000001						
	Totals					$ 0.230	20		0.000001			$ 25,552.00	$ 2,400.00		

710 Complete 1

#300407 - Safety Detent Spring

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charge	Std Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
	Material-Spring					$ 0.058	20							Midstate Spring Inc -Quote 9/23/99
10	Black Oxide								0.000001					
	Totals					$ 0.058	20		0.000001					

710 Complete 1

#300418 - Lock Tumbler

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
				B-3004F	B							
10	Wash											
20	Black Oxide											
30	Paint											
		Totals										

	order date	due date
Tooling ordered		
dot paint not band		

#300420 - Lock Tumbler blank

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print#	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
			F300420	D-300420	C							
10	Wash											
20	Black Oxide											
30	Paint											
		Totals										

Part not available during estimate

	order date	due date
Tooling ordered		
comp fixture design		
comp fix build		
comp screen		
ring gages		

710 Complete 1

#201224 - Lock Detent

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part #	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
		Totals										

	order date	due date
Tooling ordered		
comp fixture design		
comp fix build		
comp screen		
plug gages		

#300352 - Safety Pivot Pin

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quanity Piece/M	Engineering Charge	Std Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material - Screw Machine					$ 28.140	20	$ 225.00							Iseh Company--Quote 8/25/99
	Gaging (vendor and Remington)												$ -		
	Totals					$ 28.140	20	$ 225.00	0.000000		$ -	$ -		$ -	

Note. Quoted in C12L14 material
Quoted with .10" max. cornerbreaks unless noted

	order date	due date
Tooling ordered		
comp fixture design		
comp fixbuild		
comp screen		
plug gages		

710 Complete 1

#17044 - Safety Snap Washer

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	GAGES					$ 0.02					$ 120.00		Ikon Quote SAP Estimated Quote
	Totals					$ 0.02					$ 120.00		

	order date	due date
Tooling ordered		
comp fixture design		
comp fix build		
comp screen		
plug gages		

710 Complete 1

#300345 - Bolt Stop

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Bar	Material $	Quantity /M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material - PMPD					$ 0.219	20								Sterling Sintered Tech Inc --Quote 8/12/99
	Tools											$ 6,820.00			
	Gages												$ 1,500.00		*Estimated Quote*
10	Vendor Heat Treat														
20	Black Oxide Color								0.000001						
		Totals				$ 0.219	20		0.000001	$ -	$ -	$ 6,820.00	$ 1,500.00	$ -	

	order date	due date	
Tooling ordered			
comp fixture design			
comp fix build			
comp screen			
plug gages			

710 Complete 1

#300361 - Recoil Bracket

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity Piece/M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
	Blank Material - Stamping					$ 0.123	20	$ 550.00						Square Stamping Qoute Aug 11, 99
10	Black Oxide Color					$ -			0.000001	$ -	$ -	$ -	$ -	
		Totals				$ 0.123	20	$ 550.00	0.000001	$ -	$ -	$ -	$ -	

Note: Above quote is to be made from *C1008 steel, .187" + or - .003* thickness

Tooling orderd

710 Complete 1

#305390 - Bolt Body Assembly

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
10	press handle on bolt body	mead press fixture gage				$ -	0.0051000	$ -	$ -	$ 15,000.00 $ 1,100.00 $ 800.00	$ -	
15	wash both parts	baskets										
20	braze handle on body	braze machine fixture gage				$ -	0.0065000	$ -	$ -	$ 15,000.00 $ 1,100.00	$ -	
30	deplate	material handling tanks				$ -	0.0000100	$ -	$ -		$ -	
40	magnaflux (obsolete) per Matt G					$ -	0.0066290	$ -	$ -		$ -	
50	inspect visual					$ -	0.0000100	$ -	$ -		$ -	
70	glass bead blast	fixture				$ -	0.0053000	$	$ -	$ 1,500.00	$ -	
80	color	material handling				$ -	0.0040000	$ -	$ -	$ 2,000.00	$ -	
		Totals				**$ -**	**0.027549**	**$ -**	**$ -**	**$ 3,500.00**	**$ -**	

ACTUAL COSTS

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
10	press handle on bolt body	mead press fixture gage				$ -	0.0051000	$ -	$ -	$ 15,000.00 $ 1,100.00 $ 800.00	$ -	
15	wash both parts	baskets										
20	braze handle on body	braze machine fixture gage				$ -	0.0065000	$		15,000.00 $ 1,100.00	$ -	
30	deplate	material handling tanks				$ -	0.0000100	$ -	$		$ -	
40	magnaflux (obsolete) per Matt G					$ -	0.0066290	$			$ -	
50	inspect visual					$ -	0.0000100	$ -	$		$ -	
70	glass bead blast	fixture				$ -	0.0053000	$ -	$ -	$ 1,500.00	$ -	
80	color	material handling				$ -	0.0040000	$ -	$	2,000.00	$ -	
		Totals				**$ -**	**0.027549**	**$ -**	**$ -**	**$ 3,500.00**	**$ -**	

#300339 - Bolt Body

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part #	Print #	REV	Material $	Quantity Piece/M	Engineering Charge	Std Run Hours	Variable Overhead $	Variable Tool	Preop $	Capital	Material Handling	Comments
	Blank Material--Machining Gaging (Vendor and Remington					$ 2 050	20			$ 0 17					Ken-Mar Tools--Quote 8/26/99
10	Machine Complete from Bar Stock								0 032649			$5,403 50			
15	Inspect	CMM Fixture Gage CMM Program									$79 95		$4,500 00		
	HOT														
		TOTALS				$ 2 050	20		0 032649	$0 17	$79 95	$5,403 50	$4,500.00	0 00	

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part #	Print #	REV	Material $	Quantity Piece/M	Engineering Charge	Std. Run Hours	Variable Overhead $	Variable Tool	Preop $	Capital	Material Handling	Comments
	Blank Material- Gaging (Vendor and Remington					$ 2 630	30								Free Markets
10	Receive complete														
15	Inspect	CMM Fixture Gage CMM Program										$5,403 50	$4,500 00		
	HOT														
		TOTALS				$ 2 630	30		0 000000	$0 00	$0 00	$5,403 50	$4,500 00	0.00	

All Parts FREE Markets

710 Complete 1

#300370 - Bolt Handle

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charges	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
10	Machine Radius in Drill	Tooling Fixture Okum Crown V				$ 1.630 $ -	20		0.004167	$ -	$ -	$ 12,575.00	$ -	Fansteel--Quote 8/12/99
		Totals				$ 1.630	20		0.004167	$0.00	$0.00	$12,575.00	$0.00	

Note: Bolt handle and blank design is not complete. The quote represents drawing number C-300370

	order date	due date
Tooling ordered		
comp fixture design		
comp fix build		
comp screen		
plug gages		

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charges	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
10	Machine Radius in Drill	Tooling Fixture Okum Crown V CMM Fixture CMM PrograM				$ 1.630 $ -	20		0.004167	$ -	$ -	$ 10,000.00	$ -	Fansteel--Quote 8/12/99
		Totals				$ 1.630	20		0.004167	$0.00	$0.00	$10,000.00	$0.00	

RADIUS WILL BE .347 ±.001

FYI

NORTH AMERICAN PRECISION CASTING

P O BOX 1407 * 356 LANGSTON CIRCLE * COLUMBUS, MS. 39701
PHONE: 662-245-1155 FAX: 662-245-4697

Fax

CONFIDENTIAL

83

TO METTY MORGAN **From:** WILLIAM H. SOMERVILLE

Fax: 270 856-4204 **Pages:** 1

Phone: **Date:** May 12, 2000

Re: TOOL STATUS **CC:** ALLOY ENG.

☐ Urgent X for Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

• **Comments:** METTY; PLEASE FIND ATTACHED THE REMINGTON TOOLING STATUS SHEET FOR YOUR FILES. THANKS FOR LETTING US QUOTE THE OTHER TWO PARTS. YOU WILL HAVE THEM MONDAY OR TUESDAY. I AM CERTAIN YOU WOULD RATHER DEAL WITH US ON THESE PARTS THAN WITH BRAND X.

HAVE A NICE WEEKEND.

Bill

BILL SOMERVILLE

MF0836

Remington Arms Company, Co., Inc.

Mayfield Plant

C-1044 Vendor Mold & Die Tooling Status Sheet

Customer Metty MORGAN

Part # D-300360

Part Name BOLT HANDLE

Enter Task Completion % Below

TASK NAME	START DATE	FINISH DATE	WK 1	WK 2	WK 3	WK 4	WK 5	WK 6	WK 7	WK 8	WK 9	WK 10	WK 11	WK 12	WK 13	WK 14	WK 15	WK 16	WK 17	WK 18	WK 19	WK 20	WK 21
Tool Design																							
Tool Design Review																							
Tool Build *	3/28	5/11	0	0	20	20	20	20	20														
Tool Tryout	5/11	5/15	100																				
First Article Approval Run	5/15	6/19																					
First Production Run after First Article Inspection is approved by Remington																							

Special Instructions / Notes:
- Remington to receive approval drawings for tool
-Vendor to supply information listed in sample submission checklist C-1018 at time of first article sample submission

* Tool Put on Hold

Originating Date 2/29/00
Revision # 0
Revision Date.

C-1044

#300300 - Bolt Handle Blank

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charges	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	omments
10	Machine Radius in Drill	Tooling Fixture Okum Crown V				$ 1 630	20		0 004167	$ -	$ -	$ 12,575 00	$ -	Fansteel--Quote 8/12/99
		Totals				$ 1.630	20		0.004167	$0.00	$0.00	$12,575	$0.00	

	order date	due date
Tooling ordered		
comp fixture design		
comp fix build		
comp screen		
plug gages		

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages	Material Handling	Comments
	Vendor toling									$ 6,800 00			
10	Inspection	Fixture Comparator w/ Screen									$ 2,500 00		
		Totals				$0.00	0	$0.00	$0.00	$0 00	$ 2,500.00	$0.00	

#305390 - Bolt Body Assembly

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
10	press handle on bolt bodt	mead press fixture gage				$ -	0.0051000	$ -	$ -	$ 15,000.00 $ 1,100.00 $ 800.00	$ -	
15	wash both parts	baskets										
20	braze handle on body	braze machine fixture gage				$ -	0.0065000	$ -	$ -	$ 15,000.00 $ 1,100.00	$ -	
30	deplate	material handling tanks					0.0000100	$ -	$ -		$ -	
40	magnaflux (obsolete) per Matt G					$ -	0.0066290	$ -	$ -		$ -	
50	*inspect visual*					$ -	0.0000100	$ -	$ -		$ -	
70	glass bead blast	fixture				$ -	0.0053000	$ -	$ -	$ 1,500.00	$ -	
80	color	material handling				$ -	0.0040000	$ -	$ -	$ 2,000.00	$ -	
		Totals				$ -	0.027549	$ -	$ -	$ 3,500.00	$ -	

ACTUAL COSTS

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
10	press handle on bolt bodt	mead press fixture gage				$ -	0.0051000	$ -	$ -	$ 15,000.00 $ 1,100.00 $ 800.00	$ -	
15	wash both parts	baskets										
20	braze handle on body	braze machine fixture gage				$ -	0.0065000	$ -	$ -	$ 15,000.00 $ 1,100.00	$ -	
30	deplate	material handling tanks				$ -	0.0000100	$ -	$ -		$ -	
40	magnaflux (obsolete) per Matt G					$ -	0.0066290	$ -	$ -		$ -	
50	inspect visual					$ -	0.0000100	$ -	$ -		$ -	
70	glass bead blast	fixture				$ -	0.0053000	$ -	$ -	$ 1,500.00	$ -	
80	color EE - COLOR	material handling				$ -	0.0040000	$ -	$ -	$ 2,000.00	$ -	
		Totals				$ -	0.027549	$ -	$ -	$ 3,500.00	$ -	

#300329 - Bolt Handle Pin

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
	Blank Material - Stamping Gaging (Vendor and Remington)					$ 0.160	20	$ 450.00						Automic Swiss Corporation--Quote 8/20/99
	Totals					$ 0.100	[illegible]	$ 450.00	0	$0.00	$0.00	$0.00	$0.00	

	order date	due date
Tooling ordered		
comp fixture design		
comp fix build		
comp screen		
plug gages		

710 Complete 1

#XXXX - Bolt Head Assy

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
10	Assemble Rivetless Extractor					$ -	0.00692	$ -	$ -	$ -	$ -	
20	Assemble Ejector L/W HOUSE					$ -	0.0083	$ -	$ -	$ -	$ -	
	Totals					$0.00	0.01522	$0.00	$0.00	$0.00	$0.00	

	order date	due date
Tooling ordered		
comp fixture design		
comp fix build		
comp screen		
plug gages		

EXTRACTOR @ G44 - $900

EXTRACTOR DROP - GAGE

83

710 Complete 1

#300338 - Bolt Head

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Prog#	Rev	Material	Std Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material					$ 1.75							Parker & Harper Mfg Company
	Gages										$ 120.00		Estimated Quote
15	Mill Lugs					$ -		$ -	$ -			$ -	
	Machine	MX-45 VAB				$0.00	0.019813835	0.279763	$2,142	$154,500			
	Fixtures												
	Tools												
	Gaging												
25	Mazak					$ -	0.041000	$ -	$ -			$ -	
	Fixtures	New Tombstones/Collets								$ 60,000.00			
	Gaging									$4,000			
56	Ream Extractor Rivet Hole					-	0.006860	$ -	$ -			$ -	
	Fixtures									$ 1,000.00			
57	Corn Anti-Rotation Dimple						0.006380	$ -	$ -			$ -	
	Fixtures									$ 1,000.00			
60	Ream Ejt/Ejt Retaining Hole					$0.00	0.007100	$ 0.14	$ 1,262.43	$15,000		$ -	M710 Head Ejector Retain Hole
	Fixtures					$0.00		$ 0.08	$ 1,557.00				M710 Bolt Head Retaining Hole and Cam Cuts
65	Ream & C' Sink Extractor Rivet Hole Ream Ejt Cross Pin Hole					$ -	0.015110	$ -	$ -			$ -	
	Fixtures									$ 1,000.00			
70	Deburr & Dimple					$ -	0.015110	$	$ -			$ -	
	Fixtures									$ 1,000.00			
80	Mill Cam Surface on Lugs					$ -	0.008333	$	$ -			$ -	
	Machine	CNC Vertical Mill								$ 60,000.00			
	Fixtures	Haas 4th w/ fixturing								$ 15,000.00			
	Gaging									$ 2,000.00			
90	Drill Assembly Hole	Drill Press											
	Fixture					$ -	0.004108	$	$ -	$ 1,000.00		$ -	
100	Ream Assembly Hole	Drill Press											
	Fixture					$ -	0.002777	$ -	$ -	$ 1,000.00		$ -	
110	Black Oxide					$0.00	0.001300	$ -	$ [illegible] 00.00	$0			
	Totals					$ 1.75	0.108156	$ 0.[illegible]	$ 5,761.38	$ 316,500.00	$ 120.00	$ -	

	order date	due date
Tooling ordered		
comp fixture design		
comp fix build		
comp screen		
plug gages		

EDGETEK - [illegible] HRISTAN

Blank OHI -

CMM [illegible] & Inspection -

Turn Gage - [illegible] 2/4' -

Plug Gages -

Ream Hole - Dimple -

[illegible] - Broach [illegible] at [illegible]

710 Complete 1

83

#93712 - Extractor

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Gages					$ 0.77					$ 3,300.00		Ilion Quote SAP Estimated Quote
	Totals					$ 0.77	0	$0.00	$0.00	$0.00	$3,300.00	$0.00	

	order date	due date
Tooling ordered	[illegible]	3/29
comp fixture design	[illegible]	
comp fix build		
comp screen	[illegible]	
plug gages		

710 Complete 1

#300342 - Ejector

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Part #	Rev.	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material - Screw Machine					$ 0.110	20	$ 400.00							Iselis--Quote. 8/25/99
	Gaging (vendor and Remington)												$ 3,000.00		Estimated Quote
10	Black Oxide Color								0.000001	$ -	$ -	$ -		$ -	
		Totals				$ 0.110	20	$ 400.00	0.000001	$ -	$ -	$ -	$ 3,000.00	$ -	

Note: Quoted in C12L14 material
Quoted with .10" max. cornerbreaks unless noted

	order date	due date
Tooling ordered		
comp fixture design		
comp fix build		
comp screen		
plug gages		

710 Complete 1

#300367- Ejector Spring

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
	Blank Material - Screw Machine Gaging (vendor and Remington)		F300367	A-300367	$ 0.015	20							Midstate Spring, Inc.--Quote: 8/20/99
	Totals				$ 0.015			0	$ -	$ -	$ -	$ -	

Note: Tool charge

Part unknown at time of estimate

Plus Sample

710 Complete 1

#94555 - Ejector Pin

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print#	Rev	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
	Blank Material - Screw Machine Gaging (vendor and Remington)					$ 0.01	20							Ilion Quote SAP
	Totals					$0.01	20		0	$ -	$ -	$ -	$ -	

DRI - ~~AH~~ Rick Gase

710 Complete 1

#300330 - Bolt Assy Pin

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print#	Rev	Material $	Quantity M	Engineering Charge	Std Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
	Blank Material - Screw Machine Gaging (vendor and Remington)					$ 0 150	20	$ 450 00						Automatic Swiss Corporation--Quote 8/20/99
10	Black Oxide Color					$			0 000001	$ -	$ -	$ -	$ -	
	Totals					$ 0 150	20	$ 450 00	0 000001	$0.00	$0 00	$0.00	$0.00	

Note. Quoted in C12L14 material
Quoted with 10" max cornerbreaks unless noted

	order date	due date
Tooling ordered		
comp fixture design		
comp fix build		
comp screen		
plug gages		

710 Complete 1

#300404 - Firing Pin Assembly

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
10	Assemble Firing Pin Tip to Firing Pin		F300404	B-300404	A	$ -	0.001109	#VALUE!	#VALUE!		#VALUE!	
20	Assemble Firing Pin Sub Assembly, Main Spring, Bolt Plug & Firing Pin Head					$ -	0 014515	$ -	$ -	$ 7,500 00	$ -	
	Totals					$0.00	0.0156238	#VALUE!	#VALUE!	$7,500.00	#VALUE!	

		order date	due date		
Assemble tip to pin					
Fixture for Assembly Design					
Fixture build					
Assemble the pin assy to spring and head					
Fixture for Assembly Design					
Fixture build					
Assmble the plunger and spring and sonic weld					
Fixture for Assembly Design					
Fixture build					
Welder set-up					

Iron Point

#300366 - Bolt Plug

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Prep $	Capital $	PPI Gages $	Material Handling	Comments
	Material (Plastic)					$ 0.215	20					$ 36,000 00			Kellems & Coe--Quote 8/17/99
	Gaging (vendor and Remington)												$ 800 00		Estimated Quote
	What insert Rev does K&C have???														
	Totals					$ 0.215	20		0	$0.00	$0.00	$ 36,000.00	$ 800.00	$0.00	

Note: Remington is to supply metal inserts.

	order date	due date			
Tooling ordered					
comp fixture design					
comp fix build					
comp screen					
plug gages					

710 Complete 1

#300345 - Bolt Plug Insert

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity Mat	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material - Screw Machine Gagng (Vendor and Remington)					$ 0.808	60						$ 3,000.00		Swiss Precision Machining, Inc --Quote 8/26/99 Estimated Quote
	What Rev is on order?														
		Totals				$ 0.808	60		0	$0.00	$0.00	$0.00	$3,000.00	$0.00	

	order date	due date	
Tooling ordered	[illegible]		
comp fixture design	[illegible]		
comp fix build			
comp screen	[illegible]		
plug gages			

710 Complete 1

#300334 - Firrg Pin

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print	Rev	Material $	Quantity M	Engineering Charges	Std Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material - Screw Machine					$ 1.190	20	$ 400 00							Isch--Quote 8/16/99
	Gaging (vendor and Remington)												$ 200 00		Estimated Quote
10	Black Oxide Color					$			0 000001	$ -	$ -	$ -		$ -	
	Totals					$ 1.190	20	$ 400 00	0 000001	$0.00	$0.00	$0 00	$ 200 00	$0.00	

Note: Quoted in altered drawing (faxed 8-10-99 by Matt Golemboski)
Quoted in C12L14 material
Quoted with 10-24 reading 8-32
Quoted with heat treat and black oxide to be done by Remington
Quoted with .015" max cornerbreaks unless noted

	order date	due date	
Tooling ordered			
comp fixture design			
comp fix build			
comp screen			
plug gages	2		
[illegible]			

STRAIGHTS

INT - 1215
Tap - 12.14 77

710 Complete 1

ORIGINAL

83

QuickTek859-987-2563

Remington Arms Co

Fax

To:	Chuck Ulinski	**From:**	Matt Golemboski
Fax:	270-856-3233	**Pages:**	2
Phone:	270-856-4203	**Date:**	05/19/00
Re:	Firing Pin and Firing Pin Tip	**CC:**	Joe Zajk, Jerry Helmer, Mett Morgan

☑ **Urgent** ☐ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

83

Chuck,

Firing Pin tip F300335 delivered to our plant on 5/18/00 has been approved for production.

Firing Pin F300334 delivered to our plant on 5/18/00 is approved for production under a conditional release. The condition that must be corrected during the production run is the overall length 4.890 +/- .005 is oversized by as much as .012. Please review this dimension during your production.

See attached inspection report.

#300335 - Firing Pin Tip

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print	Rev	Material $	Quantity M	Engineering Charge	Std Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material - Screw Machine					$ 0 230	20	$ 225 00							Iseh--Quote 8/16/99
	Gaging (vendor and Remington)												$ 3,300 00		Estimated Quote
10	Black Oxide Color								0 000001	$ -	$ -	$ -		$ -	
	Totals					$ 0.230	20	$ 225.00	0.000001	$0.00	$0.00	$0 00	$3,300.00	$0.00	

Note: Quoted in altered drawing (faxed 8-10-99 by Matt Golemboski
Quoted with 10-24 reading 8-32
Quoted with 143 +/- 002 diameter reading 141 +/- diameter
Quoted with heat treat and black oxide to be done by Remington
Quoted with 015" max cut-off nub on threaded end

	order date	due date		
Tooling ordered				
comp fixture design				
comp fix build				
comp screen	NONE			
plug gages				

12-2-99 ?
Quick TK - Samples.

710 Complete 1

#300336 - Firing Pin Head

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charge	Std Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material - MIM		F300336	C-300336	F										Megamet Industries--Quote 9/13/99
	Gages												$ 1,500 00		Estimated Quote
10	MIM process part					1 500	20				$ -			$ -	
		mold										$ 15,000 00			
		furnace setters										$ 2,500.00			
20	Electroless Nickel Plate					$ (0.253)									
	Has been dropped .														
		Totals				$ 1 247	20		0	$ -	$0 00	$17,500	$ 1,500 00	$0 00	

	order date	due date		
Tooling ordered				
comp fixture design		[illegible]		
comp fix build	[illegible]			
comp screen		[illegible]		
plug gages [illegible]				

3/29 [illegible] firing pin head
[illegible]

710 Complete 1

#300399- Firing Pin Spring

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
	Blank Material - Screw Machine Gaging (vendor and Remington)		F300399	A-300399-	D	$ [illegible]	20							Midstate Spring--Quote 8/20/99
10	Black Oxide Color					$			0.000001	$ -	$ -	$ -	$ -	
	Totals					$ [illegible]	[illegible].20		0.000001	$0.00	$0.00	$0.00	$0.00	

Sample received for dat on _____

Also - GALVANIZED?

Any need to BLACK OXIDE??

Black Oxide - SPECIAL -

710 Complete 1

#- Front Sight Assy

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
	Blank Material - Screw Machine		F94048	C 15373		$ 0 30						
	Gaging (vendor and Remington)											
10	Assem Front sight to front sight ramp											
		Totals				$0.30	0	$0.00	$0.00	$0.00	$0.00	

Press covered in the barrel assembly process.

Jigs & Fixtures — Misc.

#94084 - Front Sight

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
	Blank Material - Screw Machine		94084	C-15373		$ 0 79						Ilion Quote SAP
	Gaging (vendor and Remington)		94095									
10	Black Oxide Color					$ -	0 000001	$ -	$ -	$ -	$ -	
	Paint front dot	not in estimate										
	Totals					$0.79	0.000001	$0.00	$0.00	$0.00	$0.00	

NOTE two part numbers: regular and magnum

PPlinpsection???

GET SAP blank price and our cost to finish and paint

#94657 - Front Sight Ramp

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print#	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material - Screw Machine					$ 1 19							Ilion Quote SAP
	Gaging (vendor and Remington)										$ 400 00		Estimated Quote
10	Black Oxide Color					-	0 000001	$ -	$ -	$ -		$ -	
	Totals					$1.19	0.000001	$0.00	$0.00	$0.00	$400.00	$0.00	

Estimate the machining cycle based on the Ilion process and SAP values Big oppuruntiy with the Crown 4018 w/p pallet changer

PPI inspections????

710 Complete 1

#28505 - F Sight Ramp Screws

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Part #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
	Blank Material - Screw Machine					$ 0.04						Mayfield Quote SAP
	Gaging (vendor and Remington)											
	Totals					$0.04	0	$0.00	$0.00	$0.00	$0.00	

#103145 - Rear Sight Assembly

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
	Blank Material - Screw Machine Gaging (vendor and Remington)		F103145	B-103145		$ 3.72						Ilion Quote SAP
	Totals					$3.72	0	$0.00	$0.00	$0.00	$0.00	

NOTE estimated as a 103146 and parts list is a 103145

#305455 - Stock Assy Complete

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print#	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
	Blank Material - Screw Machine Gaging (vendor and Remington)					$ 0.30						
10	Assemble butt plate to stock											
	Totals					$0.30	0	$0.00	$0.00	$0.00	$0.00	

#300347 - Stock

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Material-Plastic		F300347	E-300347		$ 5.38	20								Par 4 Plastics, Inc.
	Gaging (vendor and Remington)												$ 4,500.00		
10	Cavity Mold	New Tooling										$ 150,300.00			
		Totals				$5.38	20		0	$0.00	$0.00	$150,300.00	$4,500.00	$0.00	

Note: Divider sleeves for the stock have been amortized over the first years production at a cost of $.006 per sleeve

date ordered date due

Files to Par 4
CMM Fixture
CMM Program
order by 2ND WEEK — $7000

Drilling fixture to be ordered by 2/20/00 after the gun price is evalusated to determine whether or not to amortize the drilling fixture

Press fit for inserts

CMM Program + Fix
Stock Prep. ??

710 Complete 1

#15161 - Front Screw Bushing

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print#	Rev	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	omments
	Material-screw machine						20							
	Gaging (vendor and Remington)													
10	Cavity Mold	New Tooling												
		Totals				$0.00	20		0	$0.00	$0.00	$0.00	$0.00	

lion part verify dimesnions on inspection

Estimated as a plastic part

710 Complete 1

#07971 - Grip Cap

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material	Quantity	Engineering Charge	Std Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
	Material-Plastic Gaging (vendor and Remington)					$ 0.18								Ilion Quote SAP
10	Cavity Mold Ilion provided													
		Totals				$0.18	20		0	$0.00	$0.00	$0.00	$0.00	

710 Complete 1

#97473 RecoilPad

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Prep $	Capital $	PPI Gages $	Material Handling	Comments
	Material-Plastic					$ 1.61	20								Hon Quote SAP
	Gaging (vendor and Remington)												$ 400.00		Estimated Quote
		Totals				$ 1.61	20		0	$0.00	$0.00	$0.00	$400.00	$0.00	

CMM Program and Fixture
PPI inspection gages
Does this fit to the new stock
need samples (50 Pcs) ship ASAP for dimensional layout Forward info to Keeney for match to model

710 Complete 1

#67972 - Backer Plate

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity #	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Material-Plastic					$ 0 39									Ilion Quote SAP
	Gaging (vendor and Remington)														Estimated Quote
		Totals				$0.39			0	$0.00	$0.00	$0.00	$0.00	$0.00	

710 Complete 1

#99003 - Recoil Pad Screw

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Mat. Tag	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Prep $	Capital $	Material Handling	Comments
	Material-Plastic						0.011	20							Fastenal--Quote
	Gagang (vendor and Remington)														
	Lion Part														
		Totals					$	0.011	20	0	$0.00	$0.00	$0.00	$0.00	

710 Complete 1

300362 - Magazine Latch

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
	Material-Plastic Gaging (vendor and Remington)					$ 0 191	20							Kellems & Coe--Quote 8/17/99
10	Cavity Mold	New Tooling										$ 39,000 00		
	Totals					$ 0.191	20		0	$0.00	$0 00	$39,000.00	$0.00	

	order date	due date	
Toling			
Comp Screen			
Comp Fixture			
Design of the screen and fixture			

710 Complete 1

#300398 - Megazine Latch Spring

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
	Material-Plastic Gaging (vendor and Remington)		F300398	B-300398	B	$ 0.026	20							Industrial Spring--Quote 8/21/99
		Totals				$ 0.026	20		0	$0.00	$0.00	$0.00	$0.00	

	order date	due date	
tooling			
comp screen			
prototypes??			
Critical path due to the function of the box relying on this par and latch.			

710 Complete 1

#300425 - Rear Takedown Screw

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material - Screw Machine		F300425	B-300425		$ 0 08							
	Gaging (vendor and Remington)										$ 200.00		Estimated Quote
	Parts Delivered on ???												
	Totals					$0.08	0	$0.00	$0.00	$0.00	$200.00	$0.00	

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710 Complete 1

#104125- Takedown Screws (2)

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material - Screw Machine Gaging (vendor and Remington) blank # is 104141 Iron A/U		F104125	C-104125		$ 0.30					$ 200.00		Estimated Quote
		Totals				$0.30	0	$0.00	$0.00	$0.00	$200.00	$0.00	

#300371 - Mag Latch Pivot Pin

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
	Blank Material - Screw Machine Gaging (vendor and Remington)					$ 0 070	20	$ 225 00						Isel--Quote 8/25/99
10	Black Oxide Color					-			0 000001	$ -	$ -	$ -	$ -	
	Totals					0.070	20	$ 225.00	0.000001	$0.00	$0.00	$0.00	$0.00	

Note: Quoted in C12L14 material
Quoted with .015" max. cornerbreaks unless noted

83

710 Complete 1

#94996 - Sling Swivel Stud

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
	Blank Material - Screw Machine Gaging (vendor and Remington) revised was 300096 now 94996 same as 597		F94996									
		Totals				$0.00	0	$0.00	$0.00	$0.00	$0.00	

710 Complete 1

#305395 -Magazine Assy

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
10	Assemble Magazine box Esimated in house		f305395	B-305395		$ -	0.0083	$ -	$ -	$ -	$ -	
		Totals				$ -	0.0083	$ -	$ -	$ -	$ -	

Options lie at Par 4 or Brainin also

Inpection proceedure??

710 Complete 1

#300363 - Megazine Box

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material - Stamping		F300363	E-300363	11	$ 2,790	20					$ -			Historical Data Used
	Gaging (vendor and Remington)												$ 4,500.00		Estimated Quote
10	Black Oxide Color								0.000001	$ -	$ -	$ -		$ -	
		Totals				$ 2,790	20		0.000001	$ -	$ -	$ -	$ 4,500.00	$ -	

order date due date

tooling prototype
tooling production
CMM fixture design
CMM fixture build
CMM program

$12,500 taken by E'town we take the $13.00 + [illegible] for all parts

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material - Stamping		F300363	E-300363	11	$ 1,000	20					$ 75,000.00			Historical Data Used
	Gaging (vendor and Remington)												$ 4,500.00		Estimated Quote
10	Black Oxide Color					$ -			0.000001	$ -	$ -	$ -		$ -	
		Totals				$ 1,000	20		0.000001	$ -	$ -	$ 75,000.00	$ 4,500.00	$ -	

710 Complete 1

#300363 - Magazine Follower

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charge	Std Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material - Poy prop Gaging (vendor and Remington) Tooling		F300364	D-300364	11	$ 0.093	20					$ 78,786 00	$ 3,000 00		Par 4 Plastics, Inc --Quote8/27/99 Estimated Quote
	Totals					$ 0.093	20		0 000000	$ -	$ -	$ 78,786.00	$ 3,000.00	$ -	

PAR $ Family fold with the box bottom

Original material was PA66 nylon with glass
changed to poly prop shrink rates vary similar to PA66

	cerce date	due date
Comp screen design		
Comp fixture design		
comp fixture build		

710 Complete 1

#300365 - Magazine Bottom

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Quantity M	Engineering Charge	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
	Blank Material -Poly prop Gaging (vendor and Remington) Tooling		P300365	D-300365	9	$ 0.105	20							Per 4 Plastics, Inc --Quote 8/27/99
	Totals					$ 0.105	20		0.000000		$ -	$ -	$ -	

Inspection Proceedure

Artwork define on 1/25/00 R&D to have drawing available

#17023 - Magazine Spring

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material - Stamping					$ 2.79				$ 39,710 00			
	Gaging (vendor and Remington)										$ 3,000.00		Estimated Quote
	Tooling												
	Totals					$ 2.79	0.000000	$ -	$ -	$ 39,710.00	$ 3,000.00	$ -	

tooling must get off center

como screen design

Prototypes???

Heat treat fixtures is on racks lying down Need samples to cost
Samles are SAKOs Can we buy their spring??

710 Complete 1

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	PPI Gages $	Material Handling	Comments
	Blank Material - Stamping Gaging (vendor and Remington) Tooling												
		Totals				$ -	0.000000	$ -	$ -	$ -	$ -	$ -	

New part use 597 estimate
Have part quoted and order 500 parts on March 1st any receiver changes will appear by then.

M710 - Assembly, Gallery, Pack

OP #	PROCESS DESCRIPTION	MACHINE DESCRIPTION	Part#	Print #	Rev	Material $	Std. Run Hours	Variable Overhead $	Preop $	Capital $	Material Handling	Comments
10	Proof Test					$ 1.25	0.016046	$ -	$ -	$ -	$ -	
20	Test & Target (10%)	(5x$ 15)*10%				$ 0 10	0.031759	$ -	$ -	$ -	$ -	
30	Inspect Heading & Sear Lift					$ -	0.019630	$ -	$ -	$ -	$ -	
40	Inspect for Live AMMO					$ -	0.004270	$ -	$ -	$ -	$ -	
50	Final Inspection					$ -	0 022370	$ -	$ -	$ -	$ -	
60	Assemble Rear Swivel Screw					$ -	0 004315	$ -	$ -	$ -	$ -	
65	Laser Engrave						0 000100					
70	Pack					$ -	0 019043	$ -	$ -	$ -	$ -	
		printer bench vise computer and lines										
		Totals				**$ 1.35**	**0.117533**	**$0.00**	**$0.00**	**$ -**	**$0.00**	

order date due date

Galery and build progress
Sanils

710 Complete 1

Hanson Receiver 100pc Run Analysis 6-21-00

Feature #	Feature Name	X Actual	X Std. Dev	X Nominal	X Tolerance	X Deviation	Y Actual	Y Std Dev.	Y Nominal	Y Tolerance	Deviation	Dia. Actual	Std. Dev	Nominal	Tolerance	Deviation
37	D-Datum Hole - from ABC	0 8512	0 0003	0 850	+/- 003	0.0012	-0.6225	0 0003	-0 621	+/- 003	-0.0015	0 1222	0 0001	0 122	+/- 0015	0 0002
38	Rear Sear Hole- from DC	-1 4263	0 0001	-1 428	+/- 003	0.0017	**0.0048**	0 0002	0 000	+/- 003	**0.0048**	0.1224	0 0000	0 122	+/- 0015	0 0004
39	Engagement View Hole - from DC	-0 8661	0 0001	-0 867	+/- 005	0 0009	-0 1809	0 0002	-0 183	+/- 005	0 0021	0.1292	0 0001	0 127	+/- 005	0 0022
40	Safety Pivot Pin Hole - from DC	-1 3077	0 0001	-1 306	+/- 002	0.0017	**-0 6457**	0 0002	-0 650	+/- 002	**0.0043**	**0.1244**	0 0000	0 122	+/- 0015	0 0024
41	Trigger Pivot Pin Hole - from DC	-0 8418	0 0002	-0 840	+/- 002	-0.0018	**-1.2369**	0 0002	-1 240	+/- 002	**0.0031**	**0.1236**	0 0001	0 122	+/- 0015	0 0016
56	Front Rivet Hole - from DC	-0 2988	0 0003	-0 297	+/- 002	0.0018	**-1.1240**	0 0003	-1 128	+/- 002	**0.0040**	0 0973	0 0001	0 097	+/- 0015	0 0003
58	Rear Rivet Hole - from DC	-1 2619	0 0004	-1 259	+/- 002	0.0029	**-1.1847**	0 0004	-1 191	+/- 002	**0 0063**	0 0973	0 0001	0 097	+/- 0015	0 0003

Feature #	Feature Name	Resulting True Position	Model Drawing True Position (RFS)
37	D-Datum Hole - from ABC	0 0038	0 006
38	Rear Sear Hole- from DC	**0.0102**	0 006
39	Engagement View Hole - from DC	0 0046	0 010
40	Safety Pivot Pin Hole - from DC	**0.0092**	0 004
41	Trigger Pivot Pin Hole - from DC	**0.0072**	0 004
56	Front Rivet Hole - from DC	**0.0088**	0 004
58	Rear Rivet Hole - from DC	**0.0139**	0 004

Feature #	Feature Name	X Actual	X Std Dev	X Nominal	X Tolerance	X Deviation	Y Actual	Y Std. Dev.	Y Nominal	Y Tolerance	Deviation	Dia. Actual	Std. Dev.	Nominal	Tolerance	Deviation
37	D-Datum Hole - from ABC	0 8498	0.0003	0 850	+/- 003	-0 0002	-0 6220	0 0004	-0 621	+/- 003	-0 0010	0.1257	0 0000	0 122	+/- 0015	0.0037
38	Rear Sear Hole- from DC	-1 4252	0 0001	-1 428	+/- 003	0 0028	0.0169	0 0004	0 000	+/- 003	0.0169	0.1258	0 0000	0 122	+/- 0015	0.0038
39	Engagement View Hole - from DC	-0 8660	0 0001	-0 867	+/- 005	-0 0010	-0 1804	0 0002	-0 183	+/- 005	0 0026	0 1292	0 0000	0 127	+/- 005	0 0022
40	Safety Pivot Pin Hole - from DC	-1 3069	0 0001	-1 306	+/- 002	0 0009	-0.6453	0 0002	-0 650	+/- 002	0.0047	0.1261	0 0000	0 122	+/- 0015	0.0041
41	Trigger Pivot Pin Hole - from DC	-0.8370	0 0004	-0 840	+/- 002	0.0030	-1 2344	0 0004	-1 240	+/- 002	0.0056	0 1257	0 0001	0 122	+/- 0015	0.0037
56	Front Rivet Hole - from DC	-0 2988	0 0002	-0 297	+/- 002	0 0018	-1 1224	0 0003	-1 128	+/- 002	0 0056	0.1002	0 0000	0 097	+/- 0015	0.0032
58	Rear Rivet Hole - from DC	-1.2612	0 0004	-1 259	+/- 002	0 0022	-1 1839	0 0004	-1 191	+/- 002	0.0071	0.1001	0 0001	0 097	+/- 0015	0.0031

Feature #	Feature Name	Resulting True Position	Model Drawing True Position (RFS)
37	D-Datum Hole - from ABC	0 0020	0 006
38	Rear Sear Hole- from DC	0.0343	0 006
39	Engagement View Hole - from DC	0 0056	0 010
40	Safety Pivot Pin Hole - from DC	0.0096	0 004
41	Trigger Pivot Pin Hole - from DC	0.0127	0 004
56	Front Rivet Hole - from DC	0.0118	0 004
58	Rear Rivet Hole - from DC	0.0149	0 004

Receiver Insert 300327

Analysis of Hanson 200 pc. Capability run - 64 second IQC process w/ chilled core

All actual data is the mean & Std. Deviation of 25 pcs. out of the 200 pcs. run

Data was collected using Giddings & Lewis Discovery D-8 CMM with MeasureMax software and analyzed using Giddings & Lewis Real-Time Statistics Monitor software

All parts were run by same operator

Part located on:

M710 Turned Barrels

1/10 Groov	Bore
1. .3095	.3015
2. .30955	.30155
3. .3091	.3015
4. .3094	.3016
5. .3089	.3012
6. .3096	.3013
7. .3092	.30145
8. .3095	.3016
9. .3095	.3015
10 .3096	.3014

3/10 Groov	Bore
1. .3094	.3015
2. .3093	.3016
3. .3092	.3015
4. .3092	.30125
5. .3092	.3014
6. .3088	.3013
7. .3088	.3012
8. .30925	.3013
9. .3094	.3013
10 .3096	.3013

2/10 Groov	Bore
1. .3086	.3013
2. .3086	.3010
3. .3087	.3013
4. .30855	.30125
5. .3085	.30125
6. .3087	.3012
7. .3086	.3011
8. .3086	.3013
9. .3095	.3015
10. .3090	.3015

4/10 Groov	Bore
1. .3085	.3005
2. .3086	.3012
3. .3086	.3012
4. .3084	.3012
5. .3086	.3009
6. .3086	.3013
7. .3086	.3012
8. .3085	.30105
9. .3086	.3012
10. .3087	.3013

5/10 GROOV	BORE	6/10 GROOV	BORE
1. .3085	.3011	1. .3085	.3010
2. .3085	.3012	2. .3085	.3011
3. .3086	.3012	3. .3085	.3012
4. .30855	.30125	4. .30845	.30115
5. .3086	.3012	5. .3084	.3010
6. .3086	.3013	6. .3085	.30105
7. .3086	.30105	7. .3085	.30125
8. .3086	.3011	8. .30845	.3011
9. .3086	.30105	9. .3084	.30105
10. .3087	.3010	10. .3086	.30125

June 7, 2000

To: Joe Zajk
From: Marlin Jiranek

Cc: D. Danner, M. Keeney

RE: MPIF FC 0508-60 MATERIAL AND HEAT TREATMENT

SUMMARY

A sample of five M/710 bolt stops was delivered to the Elizabethtown facility for microhardness analysis. The parts were manufactured by Sterling Sintered company from MPIF FC 0508-60. The heat treatment on the print calls out a Carburize at 0.7% carbon potential and a final part hardness of HR15n 88-92. The hardness readings which were obtained upon inspection at the Hickory manufacturing plant were HR15n 80-83.

The MPIF FC 0508-60 material (which corresponds to Remington P.M. 4058) is nominally 5% Cu, 0.75% C, and the balance Fe. This material is NOT intended to be case hardened. This particular material is intended to be used in the as-sintered condition and provide good wear resistance and moderate toughness. This material inherently contains a large amount of porosity (up to 15%) in it's sintered state, but can be quench and tempered to increase the sintered apparent hardness level to HRc mid-40's. Microhardness measurements are typically not achievable due to the large amount of porosity in the material.

RECOMMENDATION

This material is most likely acceptable to be used for this component. Alternatives can be provided if required. The print should have the heat treat and the hardness sections altered to reflect the actual processing and should read as follows:

Material:	P.M. 4058 or MPIF FC 0508-60
Heat Treat:	Oil Quench & Temper or Carburize (0.7% C.P.)
Hardness:	HRc 42-48 Apparent
Color:	Black Oxide

The heat treatment, based on the carbon content of the material, can be run in either of the two processes. The standard quench and temper treatment will provide the same part as the carburized part. The carburizing atmosphere would simply provide a protective atmosphere for the component at temperature, but is really unnecessary if its cost is greater than the standard quench and temper processing.

The last potential issue is the colorability of the Fe/Cu material. The material will have undissolved Cu in the matrix (see figures in procedure section) and may not color well with the black oxide. Some sample parts will have to be run on a trial basis to determine if the coloration is acceptable.

Marlin R. Jiranek, II
Research Engineer

PROCEDURE / RESULTS

To characterize the material specimens which were sent for evaluation, al five specimens were first measured for hardness using the HR15n scale. One of the specimens was then sectioned, mounted in bakelite, and polished to an 0.05mm finish for microstructural evaluation. Three of the remaining samples were measured for density per ASTM Specification 311-93. Additionally, all four of the specimens were measured for hardness using the HRc scale.

Hardness / Density Results

The hardness and density measurement results are presented in Table 1. Note that the specification hardness is for case hardening components and is not applicable for this material, as all of the parts are out of specification tolerance per the print.

MATERIAL DATA M7J0 BOLT STOP - MPIF FC-0508-60											
Hardness								Density (ASTM B311-93)			
	Parts						Test Block	Specification	Parts (g/cc)		
	Specification	1	2	3	4	5	89.2 +/- 1.0	(g/cc)	1	2	3
HR15n	88 - 92	86.0	84.3	85.1	83.0	85.8	89.4	6.8	6.78	6.76	6.75
HRc	---	46.6	46.5	48.3	43.9	-	---				

Table 1. Hardness and density results obtained from the samples provided for analysis.

The hardness of the material is actually in the mid-40's (HRc scale) which would most likely provide sufficient strength for the application. Other materials could be substituted for this material to provide equivalent or increased strength and toughness. These materials include some of the Fe/Cu (FC Series), Fe/Ni (FN Series), low alloy steels (FL Series), and the sinter hardened materials (FLC Series).

The density of the components was slightly lower than the print. However, the MPIF standard lists the 6.8 g/cc density value as a "typical" value. Individual supplier material may differ from this value to some degree. For this reason, these numbers are acceptable from a incoming inspection perspective.

Microstructure

As expected, the microstructure of the component contains approximately 16% porosity and regions of pure Cu in the steel matrix. This is expected of steel material with greater than about 2% Cu additions. Figures 1, 2, and 3 present images of the microstructure at 50, 200, and 500X magnification. These images illustrate the amount of porosity in the material and present the microstructure of the material. The microstructure is what is expected of a quench and tempered high carbon steel material.

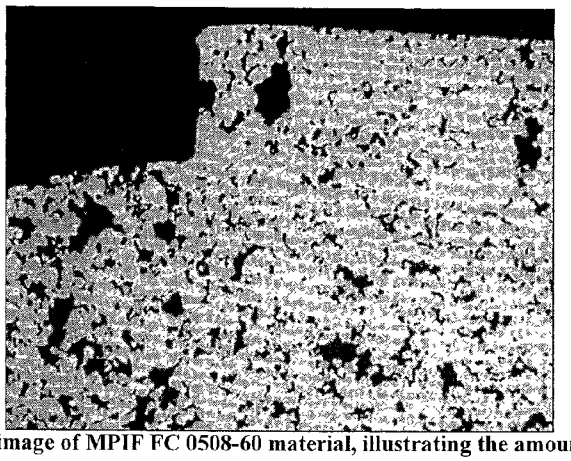

Figure 1. Unetched image of MPIF FC 0508-60 material, illustrating the amount of porosity in the part. Magnification approximately 50X.

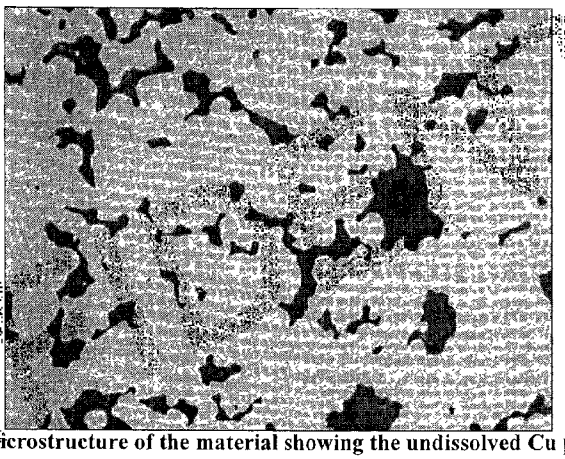

Figure 2. Unetched microstructure of the material showing the undissolved Cu present in the matrix. Magnification approximately 200X.

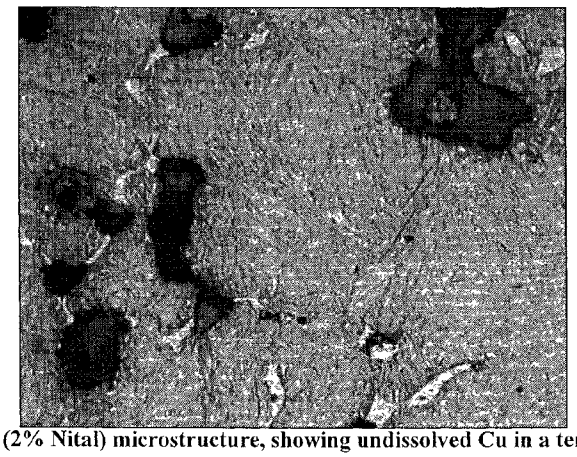

Figure 3. Etched (2% Nital) microstructure, showing undissolved Cu in a tempered martensite matrix. Magnification approximately 500X.

SHOO - JESSE
SHOT FROM BENCH
SCOPE- LEUPOLD 36 POWER
DATE- 10-1-99 THRU - 10-14-99

MODEL 710 BO CTION RIFLE
100 YARD ACCURACY

PROJECT 1095
TLR 9256E

MODEL 710 ACCURACY EVALUATION

GUN	SERIAL#	AMMO	GROUP#1	GROUP#2	GROUP#3	GROUP#4	GROUP#5	AVERAGE
1	XC1064	REM R30062 150GR	0.999	0.864	1.373	1.709	1.502	1.2894
		LOT# C12UC9113						
30.06		REM R30064 180GR	1.775	2.02	1.577	0.701	1.496	1.5138
		LOT# C03SC1326			AVERAGE BOTH AMMO TYPES -			1.4016
GUN	SERIAL#	AMMO	GROUP#1	GROUP#2	GROUP#3	GROUP#4	GROUP#5	AVERAGE
2	XC1066	REM R30062 150GR	1.594	1.022	1.091	0.802	1.078	1.1174
30.06		LOT# C12UC9113						
		REM R30064 180GR	2.086	1.277	1.924	1.304	1.354	1.589
		LOT# C03SC1326			AVERAGE BOTH AMMO TYPES -			1.3532
GUN	SERIAL#	AMMO	GROUP#1	GROUP#2	GROUP#3	GROUP#4	GROUP#5	AVERAGE
3	XC1067	REM R30062 150GR	1.615	1.929	1.966	1.02	2.651	1.8362
		LOT# C12UC9113						
30.06		REM R30064 180GR	0.769	1.268	1.997	2.35	0.995	1.4758
		LOT# C03SC1326			AVERAGE BOTH AMMO TYPES -			1.656
GUN	SERIAL#	AMMO	GROUP#1	GROUP#2	GROUP#3	GROUP#4	GROUP#5	AVERAGE
4	XC1068	REM R30062 150GR	1.055	0.887	1.355	1.303	1.204	1.1608
		LOT# C12UC9113						
30.06		REM R30064 180GR	1.393	1.296	1.867	1.349	1.034	1.3878
		LOT# C03SC1326			AVERAGE BOTH AMMO TYPES -			1.2743
GUN	SERIAL#	AMMO	GROUP#1	GROUP#2	GROUP#3	GROUP#4	GROUP#5	AVERAGE
5	XC1069	REM R30062 150GR	1.32	1.155	1.634	2.021	1.831	1.5922
		LOT# C12UC9113						
30.06		REM R30064 180GR	1.381	2.07	1.313	1.08	1.168	1.4024
		LOT# C03SC1326			AVERAGE BOTH AMMO TYPES -			1.4973

SHOO' ' - JESSE
SHOT FROM BENCH
SCOPE- LEUPOLD 36 POWER
DATE- 10-1-99 THRU - 10-14-99

MODEL 710 BO CTION RIFLE
100 YARD ACCURACY

PROJECT: 1095
TLR 9256E

GUN	SERIAL#	AMMO	GROUP#1	GROUP#2	GROUP#3	GROUP#4	GROUP#5	AVERAGE
6	XC1070	REM R30062 150GR	0.916	1.591	1.423	1.495	1.413	1.3676
		LOT# C12UC9113						
30.06		REM R30064 180GR	1.146	1.305	1.605	0.971	1.461	1.2976
		LOT# C03SC1326			AVERAGE BOTH AMMO TYPES -			1.3326
GUN	SERIAL#	AMMO	GROUP#1	GROUP#2	GROUP#3	GROUP#4	GROUP#5	AVERAGE
7	XC1071	REM R30062 150GR	1.35	1.343	1.662	1.482	1.479	1.4632
		LOT# C12UC9113						
30.06		REM R30064 180GR	1.292	0.888	1.587	1.659	1.214	1.328
		LOT# C03SC1326			AVERAGE BOTH AMMO TYPES -			1.3956
GUN	SERIAL#	AMMO	GROUP#1	GROUP#2	GROUP#3	GROUP#4	GROUP#5	AVERAGE
8	XC1074	REM R30062 150GR	1.195	1.563	1.477	1.52	1.116	1.3742
		LOT# C12UC9113						
30.06		REM R30064 180GR	1.378	1.058	1.436	1.438	0.872	1.2364
		LOT# C03SC1326			AVERAGE BOTH AMMO TYPES -			1.3053
GUN	SERIAL#	AMMO	GROUP#1	GROUP#2	GROUP#3	GROUP#4	GROUP#5	AVERAGE
9	XC1075	REM R30062 150GR	1.513	1.041	1.257	1.216	1.211	1.2476
		LOT# C12UC9113						
30.06		REM R30064 180GR	1.361	0.981	1.858	2.134	0.943	1.4554
		LOT# C03SC1326			AVERAGE BOTH AMMO TYPES -			1.3515
GUN	SERIAL#	AMMO	GROUP#1	GROUP#2	GROUP#3	GROUP#4	GROUP#5	AVERAGE
10	XC1077	REM R30062 150GR	0.746	1.449	1.443	1.598	1.333	1.3138
		LOT# C12UC9113						
30.06		REM R30064 180GR	1.362	1.464	1.018	1.272	1.679	1.359
		LOT# C03SC1326			AVERAGE BOTH AMMO TYPES -			1.3364
GUN	SERIAL#	AMMO	GROUP#1	GROUP#2	GROUP#3	GROUP#4	GROUP#5	AVERAGE
11	XC1078	REM R30062 150GR	1.805	1.479	2.025	2.103	1.483	1.779
		LOT# C12UC9113						
30.06		REM R30064 180GR	1.51	2.694	2.297	1.857	1.133	1.8982
		LOT# C03SC1326			AVERAGE BOTH AMMO TYPES -			1.8386

83

SHOO - JESSE
SHOT FROM BENCH
SCOPE- LEUPOLD 36 POWER
DATE- 10-1-99 THRU - 10-14-99

MODEL 710 BC ACTION RIFLE
100 YARD ACCURACY

PROJECT 1095
TLK 9256E

GUN	SERIAL#	AMMO	GROUP#1	GROUP#2	GROUP#3	GROUP#4	GROUP#5	AVERAGE
12	XC1080	REM R30062 150GR	1.376	1.331	1.3	1.611	1.51	1.4256
		LOT# C12UC9113						
30.06		REM R30064 180GR	1.335	1.491	1.4	1.181	1.345	1.3504
		LOT# C03SC1326			**AVERAGE BOTH AMMO TYPES -**			1.388
AVERAGE GROUP SIZE ALL GUNS R30062 150GR - 1.413								
AVERAGE GROUP SIZE ALL GUNS R30064 180GR - 1.441								
THOROUGHLY CLEANED GUNS BEFORE SHOOTING GROUPS AND BETWEEN AMMO TYPES.								
SWABBED BORE WITH ONE COTTON PATCH WITH HOPPIES SOLVENT FOLLOWED BY FOUR DRY COTTON PATCHES AFTER EACH FIVE SHOT GROUP.								
COOLED GUN AFTER EACH FIVE SHOT GROUP.								
SHOT ONE FOULING SHOT PRIOR TO SHOOTING EACH GROUP.								

Golemboski, Matt R.

From: Keeney, Mike
Sent: Friday, May 19, 2000 10:43 AM
To: Zajk, Joseph J; Golemboski, Matt R.
Subject: 710 Magazine Box Tab dimensions

Guys,
the tab locations on the latest drawing (rev. 15) are incorrect. The dimensions should be 1.648 +/-.005 in the rear and 1.524 +/-.005 in the front. Drawing will be updated and forwarded to you.

Sorry
Mike

83

Model 710 Receiver Insert Non-DAT Testing
Brian Rages
5/16/005/16/00

PURPOSE

The purpose of this test was to examine the robustness of the Remington Model 710 receiver insert during conditions of extreme abuse. The first test evaluated the tendency of the receiver insert to deform when placed in a high-temperature, high-humidity environment. The second test evaluated deformation over 10,000+ cycles of sear loading.

CONCLUSIONS

No significant longevity deficiencies were found. The ANSYS model showed stresses well below the limits of the material used in the receiver insert. The creep test revealed no significant movement of the firing pin head once the fixture reached the temperature of its chamber. The first receiver insert fatigue test showed an unexpected increase in firing pin head protrusion as the number of cycles on the insert increased. This was attributed to error caused by an inconsistent measurement technique. In the second fatigue test, care was taken to align the firing pin head before measuring. During this retest, all measurements fell within a 0.005 inch wide band. When the test was concluded, none of the gun's components showed extreme wear.

PROCEDURE

ANSYS analysis. An analysis was performed in ANSYS to determine stress levels in the receiver insert. In this analysis, it was assumed that the steel side plate and the steel pins in the plate did not deform significantly relative to the plastic receiver insert. Three steps were used in the analysis.

First, a simplified ANSYS model of the receiver insert was created. It was meshed and a stress was placed on one of the holes in the receiver insert that mated with the metal side plate. The result of this analysis was used to determine stiffness, both vertically and horizontally, for that hole. The analysis was then repeated for all the holes in the receiver insert that mated with the side plate.

An ADAMS model of the side plate was created. The holes were attached to springs whose stiffness values had been derived from the ANSYS analysis. The plate was loaded with a force equivalent to the force of the firing pin head on the sear. When the analysis was run, the plate quickly achieved equilibrium. The forces at each hole were taken from this analysis.

The ANSYS model was loaded using the forces from the ADAMS analysis. At each hole where a load was applied, the nodes in the area where loads were applied were constrained to move together. The analysis was solved using the ANSYS PCG solver.

Creep test fixture. The creep test fixture was constructed from a 710 receiver fitted to a barrel that had been cut off just beyond the chamber. The gun was fitted with a standard 710 action in which the firing pin tip had been replaced with a threaded rod long enough to protrude from the barrel. A five inch long die spring with a spring constant of 45 lbs/in was slipped over the threaded rod, and a washer and nut were used to compress the spring to 3.89 inches. The resultant load was 50 pounds, roughly twice the standard load. The complete creep fixture may be seen in Figure 1.

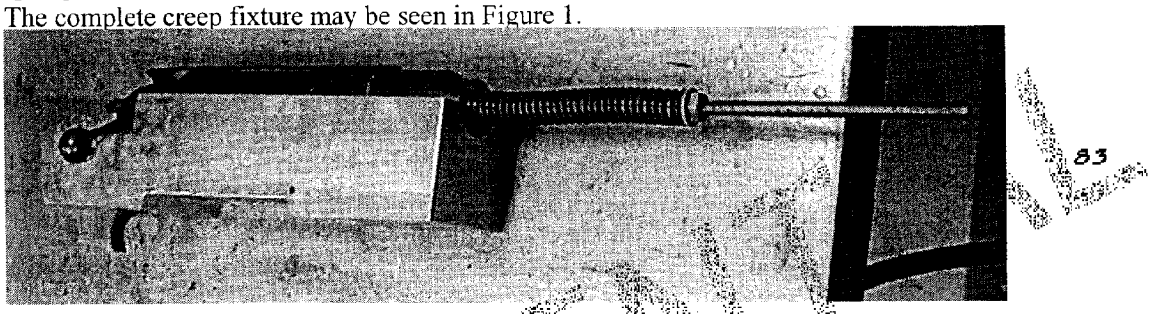

Figure 1. Creep Test Fixture.

The flat front of the receiver was placed upon a granite table and the distance from the back face of the receiver to the back face of the firing pin head was measured. Figure 2 shows the setup used to measure firing pin protrusion. Figure 3 shows the two locations used for measurement.

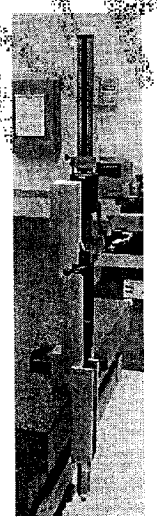

Figure 2. Height gauge used to measure firing pin protrusion (fatigue fixture shown)

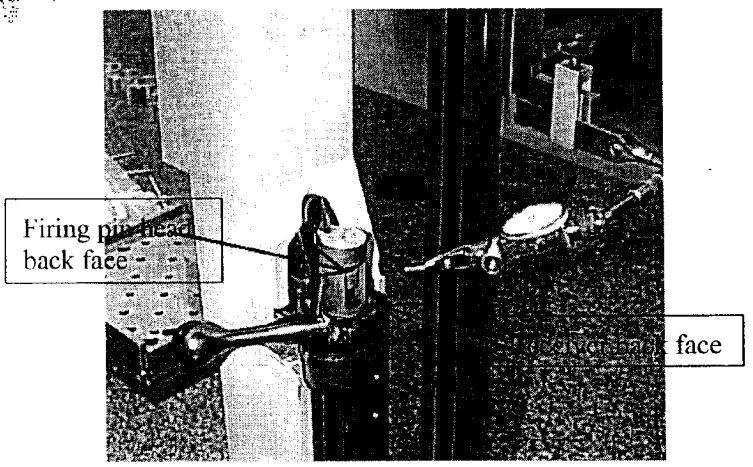

Figure 3. Closeup of measured area.

The entire fixture was placed in a humidity chamber set for 200° F and 90% relative humidity. At that temperature, the chamber was only able to achieve a relative humidity of around 70%. After the fixture had been in the humidity chamber for three hours, the firing pin head protrusion was measured again. It was then measured twice daily for ten days.

Fatigue fixture. The fatigue fixture was similar to the creep test fixture. It also was constructed from a 710 receiver and parts with a shortened barrel. A threaded rod was turned down and screwed in place of the firing pin tip. A 45 lb/in spring was used to apply 50 pounds of preload as in the creep fixture. A 1 ¼" bore air cylinder was used to press cyclically on the threaded rod, lifting the firing pin head off the sear and letting it drop again. The fatigue test fixture may be seen in Figure 4.

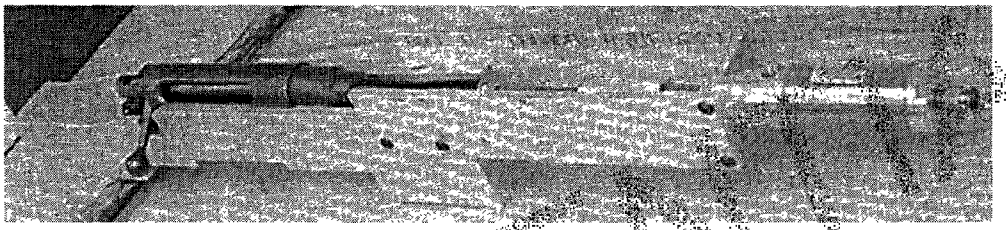

Figure 4. Fatigue Test Fixture.

Like the creep test fixture, the distance from the back face of the receiver to the back face of the firing pin head was measured with a height gauge. The firing pin head protrusion was measured before beginning the fatigue test. It was then measured every 1,000 cycles until 10,000 cycles were performed. The assembly was then disassembled and checked for wear and looseness. The receiver was reassembled with a different action and receiver insert and the test was performed again. This time, care was taken to rotate the firing pin until the firing pin head had seated completely before taking the measurement, something that had not been done during the first test. Seating the firing pin head each time caused the measurements to be more consistent. 10,000 cycles were placed on the new receiver insert, measuring every 1,000 cycles. Then, another 20,000 cycles were placed on the receiver insert and the firing pin head protrusion was measured again. The fixture was disassembled and the receiver insert and fire control parts were checked for wear.

RESULTS

ANSYS analysis. The results from the ANSYS analysis may be seen in Figure 5. The loading in the ANSYS model was based on a constant firing pin spring force of 25.5 pounds. Considerably higher stresses could be expected to occur in the fatigue test from the peak load developed due to the impact between the firing pin and sear when the firing pin was allowed to drop back into place between cycles. Under static loading, peak stress occurred at the back end of the receiver insert and at the sear pin hole. Stresses there

were calculated to be around 1,400 psi, with a strain of 0.2%. The failure criteria for the material are 9,000 psi or 2.4%, whichever comes first.

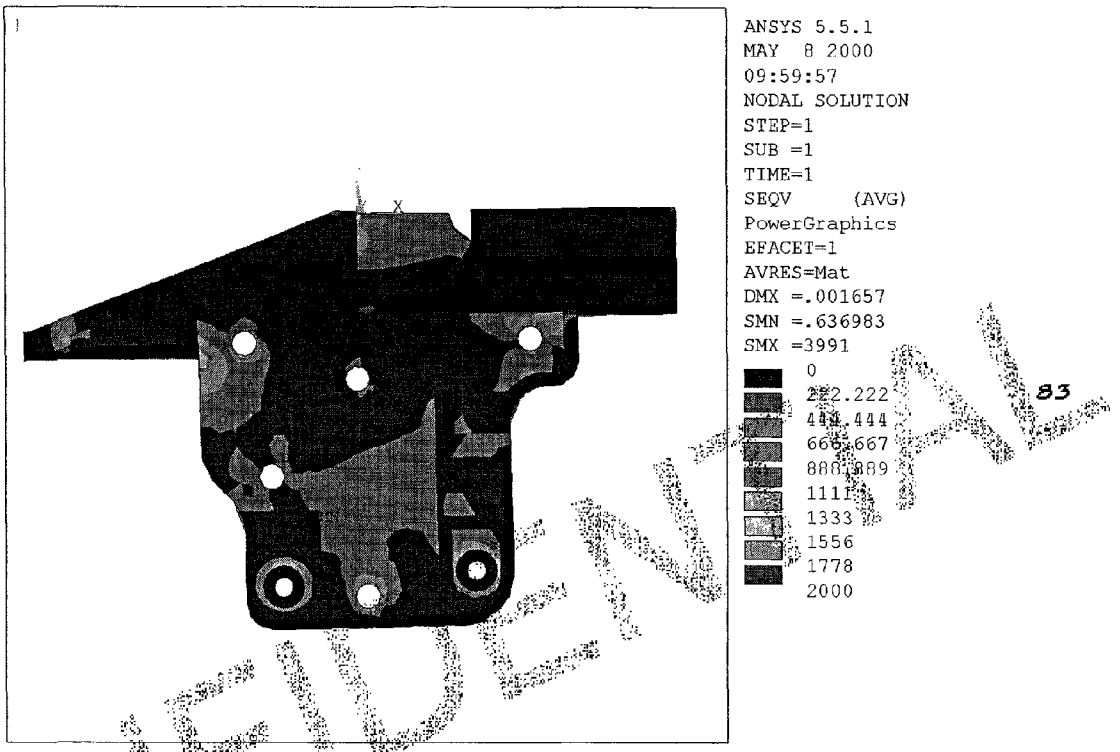

Figure 5. Von Mises stress distribution through receiver insert. (stress in psi)

Creep test. Figure 6 contains a graph of firing pin protrusion measured during the duration of the creep test. The firing pin protrusion dropped from 0.691 inches to 0.682 inches after the fixture had been in the chamber three hours. After that, the measurements fluctuated in a band between 0.684 inches and 0.6815 inches.

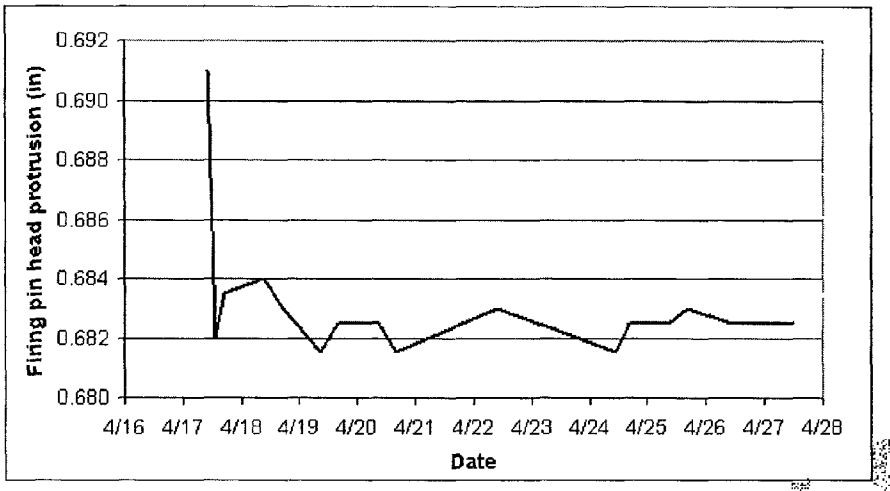

Figure 6. Firing pin protrusion over creep test duration.

Fatigue test. Figure 7 contains a graph of firing pin head protrusion over the duration of the test. In the first test, firing pin head protrusion rose over time. It climbed slowly until 5000 cycles, where it jumped 0.013 inches before leveling off. In the second test, care was taken to rotate the firing pin head back into the same alignment each time the measurement was taken. It turned out to be more consistent, with a low value of 0.693 and a high value of 0.6985 occurring early in the test. After 10,000 cycles had been put on the receiver insert, the fixture was cycled 20,000 more times. The firing pin head protrusion was then measured to be 0.6975 inches.

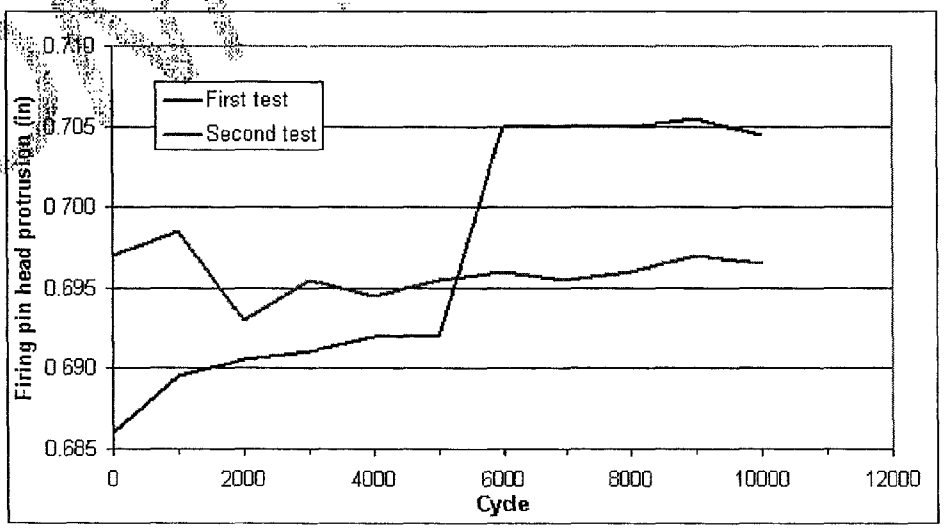

Figure 7. Firing pin protrusion over fatigue test duration.

Golemboski, Matt R.

From: Keeney, Mike
Sent: Tuesday, February 15, 2000 8:40 AM
To: Golemboski, Matt R.; Zajk, Joseph J
Cc: Diaz, Danny
Subject: 710.xls

Matt/Joe,
Attached is a spreadsheet indicating 710 performance data for the two guns that completed testing last week. There are two malfunction types common to both guns, stem low and misfires.

Misfires -- I had previously designed and prototyped higher energy firing pin springs as backup for the primary spring. I have installed a higher energy spring in both of the test guns and will have Jesse reshoot the test. Copper crusher indents averaged .018" with the new springs, versus approx. .016" with the old springs. I measured the old springs when removed from the test guns, the free length varied .04" between the two and were up to .06" shorter than the spec. Not sure if this was due to "setting" of the springs or the protos varied in free length originally. My plans are to enter DAT with the production sample springs that you have already received. If we see misfire problems during DAT, we will order the higher energy springs for part B testing. Firing pin energy and bolt lift forces are the two items that I am trying to balance, thus the desire to stay away from the higher energy spring.

Stem Low -- When we incorporated the .02" radius on the bottom side of the feed lips for the production box, the feed lip width increased from .417 to .434. The test boxes were at .417". I have opened the test box feed lips to .434 for the retest. Hopefully this will allow the rounds to sit high enough to eliminate the stem low malfunction.

Please review and let me know if you have questions,
Thanks
Mike

710 xls

DATE - 2-7-00 THRU 2-11-00
SHOOTER - JESSE

PROJECT# 241095
TLW 9256C

MODEL 710 FUNCTION / ENDURANCE TEST.

GUN	AMMO	ROUNDS	MALFUNCTIONS STEM LOW	MISFIRE
XC 1071	R30064	300	31	
	R30061	100	1	1
	R3006B	400	7	1
	R30065	700	6	1
	R30063	500	0	0
	TOTAL	**2000**	**45**	**3**

NOTE: HEAD SPACE AT START OF TEST +.003
NOTE: HEAD SPACE AT END OF TEST +.004
NOTE: GUN FUNCTION WAS SMOOTH EXCEPT FOR AMMO - R30064

GUN	AMMO	ROUNDS	MALFUNCTIONS STEM LOW	MISFIRE
XC 1075	R30064	340	15	
	R30061	580		1
	R3006B	480	9	
	R30065	200		
	R30063	400		1
	TOTAL	**2000**	**24**	**2**

NOTE: (528 RDS.) BROKEN FIRING PIN HEAD. REPLACED WITH KNOW OTHER PROBLEMS.
HEAD SPACE AT START OF TEST +.003
HEAD SPACE AT END OF TEST +.005
NOTE: GUN FUNCTION WAS SMOOTH EXCEPT FOR AMMO - R30064

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M/710 Cosmetic Review

January 26, 2000

Attendance via Conference Call: D. Diaz, M. Golemboski, A. Russo, D. Kohler, M. Keeney

The following is an item by item summary of the discussions:

Synthetic Material Color Selection:

The stock, magazine box bottom and magazine follower are the three components in question. In an attempt to differentiate the M/710 from other synthetic stocked guns, the stock color will be gray. To correspond with the stock, the box bottom will also be the same gray and since the box bottom and follower components will be molded in the same tool, the follower will also be the same gray. This will allow for the same material to be used in the molding of all three components, thus the color match should be perfect. R&D has provided a M/597 stock molded in the proposed gray color. Marketing is to determine whether the color match is correct.

We were shipped two variances of gray stocks, one was a light gray and one resembled a slate-gray. When you put a blued barreled action on the slate-gray, it makes the stock almost look black. Considering that the M/710 stock will be larger than the M/597 stock, the light gray stock will be too pronounced in the larger model. We would like to see a sample of a stock that is in between the light gray and the slate-gray. We feel that this will be the optimum color.

Stock Texture:

The M/710 stock texture will be the exact texture provided on one half of the M/597 color sample stock submitted to Marketing, similar to the M/7 texture as well. The texture specification is "Modified MT 11160".
This works!

Box Bottom Artwork:

The box bottom will have "Remington" oriented vertically along the full length of the box bottom. There will be a recessed and textured rectangular area enclosing raised "Remington" lettering. The font will match the 2000 price list font, sized accordingly to fit the box bottom. A reveal line will be added at the intersection of lettering insert and the main body of the molding tool to cover potential mismatch of the insert and tool. This will work, however:
Need to consider some texturing on the externally exposed sides of the magazine box, as well as, tapering of the stock in toward the magazine where the relief cuts are located. This will naturally draw one's fingers (especially with gloves on – we tested this) inward to the sides of the textured magazine box and cause the individual to grasp the textured

sides with their thumb, middle, ring and little finger while depressing the release with their pointer finger.
On a similar note to the raised lettered 'Remington', can we have a molded "R" on the grip cap? This should be similar to the magazine box bottom with a recessed area and raised "R". Also, the grip cap has a sharp edge and should be a little more tapered to the flat bottom.

Barrel Markings:

Will follow the exact layout and fonts of the M/700 with the exception of "Made in Mayfield KY". OK

Receiver Markings:

Will follow the exact layout and fonts of the M/700 with the exception of "710" in place of "700". After looking at the receiver, there is quite a bit more room. We can use the same style fonts but, we can enlarge the size by 2 - 4 (if is currently a 10, we could make it a 12 or 14). Additionally, the layout on the M/700 is very close to the receiver/stock line. This could be moved up slightly so that "Model 700" doesn't appear to be partially covered by the stock.

Bolt Handle Knurl:

The bolt handle will have two circular knurled regions, one on the top and one on the bottom of the ball. The knurl pitch will be the same as the M/700 bolt handle.

OK

Marketing Questions

Can the magazine for the 710 come apart for cleaning purposes?

What is the degree of angle that the bolt must travel to go from engaged to disengage. (for instance, a Browning A-Bolt's bolt travel is 60 degrees)? Please keep in mind that this gun will also be used with a scope. If the bolt travel is too outwardly canted from the stock and travels too much, it will interfere with the shooter cycling rounds with a mounted scope. The shooter should be able to cycle rounds while looking through a mounted scope with no interference from the motion of the bolt.

Is the entire bolt going to be blued? If so, what type of wear will occur on the bolt and it's bluing from riding in the plastic guides? What kind of wear and/or life (# of rounds) can be expected from the plastic guide rails? Are the guide rails replaceable? By a RARC or by a consumer?

Also on the bolt, if an individual want to disassemble it, will they need a special tool? I've also noticed that there isn't a cocking indicator on the bolt. One can't tell if there's a live round in the chamber or if the gun has been fired. This is a safety concern. Your thoughts on this would be appreciated.

Trigger: will the trigger itself be blued or chrome? Will it be adjustable?

Same question on the safety, blued or chrome? Can we use a safety similar to the top part of a M/700 that your thumb comes into contact with when moving into fire or safe positions.

Scope rails: will we be able to supply a base in the first year that we introduce the M/710? Is this something that we need to help the accessories group develop? We need to have one.

On the bottom of the gun there are three screws. Two have the same Allen head and one is different. Can we have all three the same so that only one Allen wrench or tool would be needed? If they were all interchangeable that would be great, if that is not possible due to threads or lengths, let's at least make the head use the same Allen wrench.

Lastly, let's talk about the LOP for the stock. If we made the stock to have a 13 ½" LOP (minus the thickness of the recoil pad) then from that mold would we be able to make a youth stock? However, if we make the stock in the mold so that we could outfit it with a recoil pad for either an adult (greater thickness of recoil pad and/ or a spacer) or a recoil pad for a smaller framed individual (a youth or a female), we would have much more flexibility in making alterations. Additionally, we wouldn't use as much material in making the stock and hopefully would obtain cost savings. Again, you thoughts are more than welcome in addressing this and all of the above topics.

Please let me know at your earliest convenience.

Thanks,

Drew

Michael D. Keeney
Staff Engineer

M/710 Cosmetic Review

January 26, 2000

Attendance via Conference Call: D. Diaz, M. Golemboski, A. Russo, D. Kohler, M. Keeney

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Bolt Handle Knurl:

The bolt handle will have two circular knurled regions, one on the top and one on the bottom of the ball. The knurl pitch will be the same as the M/700 bolt handle.

Golemboski, Matt R.

From: Jiranek, Marlin R.
Sent: Friday, January 21, 2000 1:03 PM
To: Keeney, Mike
Cc: Golemboski, Matt R.; Zajk, Joseph J; Danner, Dale; Urbon, James E
Subject: M/710 Issues

After the meeting, here are the things I committed to do:

1.) Material spec for the M/710 barrel steel
Will be training Jim Urbon on writing the specifications and this will be his first one. This should be completed by Jan 28.

2.) Material Spec and Material Code database for use of all specs and codes from Mayfield to be set up on the server.
Working on the plan. Will need a format for the material codes from Joe Zajk and E-mail copies of all codes and specs that Mayfield is currently using. Also, I need a copy of the Excel sheet currently being used to log design or drawing changes (which we talked about Matt). (THIS IS THE REQUEST FOR THAT INFORMATION)

3.) Recoil Bracket - use of 1008 material rather than the 1010-1020 material specified
OK, figure on a 2-5% decrease in mechanical properties across the board, with the exception of a 2-5% increase in ductility.

4.) Inspection criteria for material specifications - what should be done
Working on it. Will have something for you by Jan 26.

5.) Mechanical property comparison of switching from 1215 to 12L14 material for the firing pin body
OK, the leaded (0.15% - 0.35% Pb) steels (10XX, 11XX and 12XX) can be used across the board as a substitution for the standard material. There is little or no effect on the mechanical and fatigue properties of the material and the machinability and surface finish quality go up significantly. The material typically costs about 5-10% more, but can be cost effective due to the higher speeds the machining can be done at. There will not be any cost advantages if the machine tools are already being operated at maximum speed. This should probably be looked at across the board for parts requiring alot of machining (parts requiring >10% by weight machining removal).

6.) Firing pin head - FEA of torsional loading on MIM (either 46XX series heat treated or Fe2%Ni unheat treated) part and subsequent failure examination of the material (Instron Testing)
Passed on the FEA assignment to H. Davidon and B. Rages. They should have some results in a couple of weeks. Currently looking into getting some MIM material samples and designing a fixture for the testing portion of the process. The fixture design should be complete by end of January.

7.) Magazine Spring Heat Treatment for the stamping vendors - they are afraid that the spring will return to the straight condition during the heat cycle.
The springs done in Lion are done in this manner without any real distortion issues: Basically, form the material for the raw strip (usually spheroidized 1070 or 1090 or something) and then heat treat. Heat treatment should be Austemper and the springs should be laid flat in baskets. Final part hardness should be HRc 47-52 or equivalent. They will not straighten out, they are not shape memory alloy.

If anyone has any questions, please let me know.

Marlin.

Marlin R. Jiranek, II
Research Engineer
Remington Arms Company, Inc.
Phone: (270) 769-7645
FAX: (270) 737-9576
E-mail: jiranekmr@etown.remington.com

Golemboski, Matt R.

From: Zajk, Joseph J
Sent: Sunday, January 16, 2000 5:37 PM
To: Keeney, Mike
Cc: Golemboski, Matt R.
Subject: 710 Safety

Importance: High

Mike,

Who in Marketing needs to give the blessing to the 710 safety arm? Right now that part is rapidly becoming the constraint in making our end of May/beginning of June T&P schedule. The lead time is 18-20 wks for delivery of first production parts.

Let me know who we need to talk to in order to try to put some pressure on them from our end.

Joe Z.

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M/710 Weekly Progress Report – Week ending 1/14/00

	Actual	Budget
Capital Dollars Spent (Total Project)		$2,350,000
Capital Dollars Committed Dollars (Total Project)	$559,594	
Pre-op Dollars Spent (Total Project)		$414,000
Capital Dollars Spent (month to date)		
Capital Dollars Committed Dollars (month to date)	$121,750	
Pre-op Dollars Spent (month to date)		
T&P Date (estimated build completion date)	6/9/00	5/30/00
Product Price	$93.33	$92.79

- Product price as of information at close of business 1/14/00. Price includes $.42 for ist year amortization of Par 4 drilling fixture.
- T&P date pushed out as a result of delay in getting safety arm tool ordered. Current lead time 18-20 wks, which puts us in the end of May for part delivery. Delay is Marketing. Safety arm is currently the constraint.
- Capital does not include Welduction Induction Hardening Machine, as P.O. was not issued on Friday.

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Golemboski, Matt R.

From: Zajk, Joseph J
Sent: Sunday, January 16, 2000 5:33 PM
To: Golemboski, Matt R.
Subject: M/710 Weekly Progress Report

710 Progress Report - Week End..

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Golemboski, Matt R.

From: Zajk, Joseph J
Sent: Saturday, January 15, 2000 3:20 PM
To: Cook, Todd D.
Cc: Keeney, Mike; Golemboski, Matt R.
Subject: 710 Stock Issues

Importance: High

Sam Todd talked with me late yesterday afternoon concerning a couple of issues with the 710 stock. They are:

- **The changes in the magazine box area:** According to Sam Todd, Quality Tool still needs the updated electronic files for the changes outlined last week by you and Mike. They need the updated IGES files no later than the end of Tuesday in order to keep on track.
- **Magazine Latch Pin Retainer Core:** According to Sam, the folks at Quality Tool believe there will be a problem with the undercut or "wrap" that retains the mag latch pin as its currently modeled. They think there's too much undercut and they will deform material when the core pulls. Sam left me a drawing from Quality Tool that sort of shows what they mean. I'll fax it to you so you can take a look at it.

Both of these issues have to be addressed promptly in order to make sure the tool build progress stays on track. Please find out what you can as quickly as possible. Let me know if I can be of any assistance.

Joe Z.

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Confidential

Remington Arms Co.

Memo

To: 710 team

From: Matt Golemboski

CC: Joe Zajk

Date: 12/10/99

Re: M/710 Meeting

I would like to hold a 1:00pm meeting on Dec.10. Be prepared to discuss the following items:

	Topic	~~Completion~~ ORDER Date	Delivery Date
Barrels:	Is material ordered through Ilion		
	Heat Treat Schedule	12/16 1/17	
Bolt Head	Machining Schedule	12/16/99	
	Grinding Schedule	12/31/99	
Bolt Handle	Finished Print		
	Order Tool		
Bolt Plug 10174A3	Order Tool	12/14/99	3-20-2000
Firing Pin Head	Order Block of Material		
	Order Tool	ORDER BY 1/25/99	
F. Screw Bush	Material		
	Samples		
Magazine Latch	Material		
	Cancel Par 4 PO	12/10/99	
Magazine Box	Order 500 at $13.17 each Mayfield Cost	12/13/99	10 wks
	Etown pay $12,500 tooling charge		
Range	Design PO and Start	12/10/99	~~1/20/99~~
	Expected Design Completion	1/31/99	
Ultra Sonic Welder	Shipment from Ilion	12/ /99	

Confidential

Remington Arms Co.

To: **Mike Keeney; D. Diaz**

From: **Matt Golemboski**

CC: **Joe Zajk**

Re: **M/710 Vendor Tooling**

Date: **12/10/99**

M/710 RELEASE OF CAPITAL TOOL BUILD

83

We are at the point some tooling must be ordered to maintain schedules. Below is a list of the tooling and what the current state of the design, and preferred vendor name and contact. Some of the parts do not have a firmed design. Tool build can not begin until the design is completed. I would suggest R&D and Mayfield jointly contact the preferred vendor for each part, in order to keep cost controlled during the final during the finalization of the design.

Trigger C-15280
Vendor: Sterling Sintered
Contact: John Bartrum
Phone: 860-379-2753
The best costing to date does not include the serrations on the finger radius of the trigger. A print must be generated to order tooling. Once the drawing is issues tool build will begin immediately.

Safety D-300408
Vendor: New Hampshire Stamping
Contact: John Maffco
Phone: 603-641-1234
The texture on the top of the part has not yet been defined per marketing request.

Bolt Stop D-300345
Vendor Sterling Sintered
Contact: John Bartrum
Phone: 860-379-2753
Assume design is complete, with the exception of material change to MPIF standards. Tool will be released for build by 12/20/99. Impact of design change will be a scrapped tool.

Bolt Handle Blank C-300360
Vendor: North American Precision Casting
Contact: William Sommerville
Phone: 662-245-1155
Design requires knurling as per marketing request. Print should define parting line location and acceptable size notes, as well.

Bolt Plug C-300368
Vendor: Kellums and Coe
Contact: Kenny Ulrich
Phone: 812-283-4435
Design is complete. Texturing not specified, assume EDM finish. PO to be issued by 12/15/99.

Tumbler Blank D-300420
Vendor: PMPd
Contact: Matt Marley
Design is complete and ready to issue to tool build. Will be issued by 12/31/99.

Firing Pin Head C-300336
Vendor: Megamet Industries
Contact: Jim Mullineaux
Phone: 314-739-4499
MIM Blocks for DAT testing are being made. Paramatech will not quote on lower volume, 20,000 units. The lead-time prohibits waiting until February for testing. With a material change to MPIF standards, Mayfield will then assume design is complete and will start tooling by 1/10/00.

Stock Dwg-xxxxxx
Vendor: Par 4
Contact: Sam Todd
Phone: 502-965-9141
Tool has been issued for build. Model to be revised by 12/10/99 for new coring to accommodated the M/700 grip cap. Method of attachment has will be press fit at molding time of the stock. The assumption is no alteration of the grip cap will be required for this fit.

Magazine Latch C-300362
Vendor: Par 4
Contact: Sam Todd
Phone: 502-965-9141
Tool issued and canceled. Design on hold to convert to metal part. Powder metal option with Sterling Sintered was a quote. Suggested a die cast or investment cast or MIM. PM is and option but print must be made specific for PM.

Magazine Box E-300363
Vendor: Brainin
Contact: Richard Lee
Phone: 513-874-5486
Prototypes to be Released 12/10/99, 500 piece lot, DAT and T&P run. Upon first week of DAT testing the Production too will be released for build.

Magazine Follower D-300364 and Magazine Bottom D-300365
Vendor: Par 4
Contact: Sam Todd
Color not yet approved by marketing. Material must be common to both on the family mold. Follower is complete. The box bottom is not defined for artwork. This will impact the insert sizing. Design and build to be released by 12/10/99. Build will be conditional of artwork approval on the magazine bottom.

Magazine Spring C-300405
Vendor: Brainin
Contact: Richard Lee
Phone: 513-874-5486
Design is complete. PO will be issued by 12/31/99.

Memo

To: 710 team

From: Matt Golemboski

CC: Joe Zajk

Date: 12/06/99

Re: M/710 Magazine Latch Tool

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The M/710 magazine latch tool was approved for build on 12/2/99. The tool will be purchased through Par 4 with an 16-week lead-time to the completion of the tool. Sam Todd assured me the press time will be available and the lapse between the tool build completion and sampling will be within 2-3 days afterward. Piece price of $0.245 each for 20,000 and $31,806 for the tool. No texturing is required on the part.

No guarantee on the parting lines was given.

As of 12/6/99, Mayfield will quote the part as a Powder Metal part through Sterling Sintered. Joe has overnighted the drawings and specs to look at the possibility of a powder metal part with material the same a the 597 latch for non-heat treated and same as the barrel clamp for heat treated options. This will require Sterling to complete a secondary drill operation. The powder metal option is being pursued in case the plastic latch wears quickly, a concern brought forward by Mike Keeney on 12/6/99.

The Par 4 will be put on hold on 12/13/99 if we do not have a decision from Sterling by this time. Mett will notify Sam Todd of Par 4 to inform him of a potential changes and we will have the PO held until 12/13/99.

Assembly cost of the latch and spring to the stock will be quoted at a later date.

Elizabethtown Research Division — PARTS LIST #YYY

Date: 12/02/99

Model 710
Bolt Action
Centerfire Rifle R.H.

Supersedes Previous Model XXX
Parts List #AAA

Sheet 1 of 2

Dotted line (- - -) indicates same part number

DWG. NO.	PART NAME	30-06	270	7mm Rem Mag	300 Win Mag
	RAMAC #				
	DOCUMENT ENVELOPE ASSEMBLY	XXXX	----	----	----
	Document Envelope	1649	----	----	----
	Instruction Book	xxxx	----	----	----
	Product Owners Card	1426	----	----	----
	Remington Authorized Gunsmith	3413	----	----	----
	Safety Booklet	3499	----	----	----
	Remington Museum Flyer	3475	----	----	----
	Oval Label	3491	----	----	----
	CARTON ASSEMBLY		----	----	----
	Box & Envelope Label (Label To Read "Model 710")	993002	----	----	----
	NOTE: THE ABOVE PARTS ARE FOR PACKAGING ONLY				
C-305410-	**BARREL ASSEMBLY COMPLETE**	305410	305411	305412	305413
C-305400-	**BARREL ASSEMBLY**	305400	305401	305402	305403
E-305315-11	BARREL	305315	305316	305317	305318
E-300340-8	RECEIVER	300340	----	----	----
D-300401-A	**RECEIVER INSERT ASSEMBLY COMPLETE**	300401	----	----	----
C-300400-	**RECEIVER INSERT ASSEMBLY**	300400	----	----	----
1E-300327-17	RECEIVER INSERT	300327	----	----	----
2E-300327-29					
A-300347-A	THREADED INSERT	300347	----	----	----
C-300333-5	SIDE PLATE	300333	----	----	----
A-300328-1	SIDE PLATE PIN (2)	300328	----	----	----
C-15666	SEAR SAFETY CAM (Blk. C-91921)	15666	----	----	----
B-300351-	PIVOT PIN (3)	300351	----	----	----
A-17047	SEAR SPRING	17047	----	----	----
C-15280	TRIGGER (Blk. C-91912)	15280	----	----	----
C-19461	TRIGGER CONNECTOR (Blk. C-91924)	19461	----	----	----
B-17053	TRIGGER SCREW FRONT (Blk. B-91920)	17053	----	----	----
B-91128	TRIGGER ENGAGEMENT SCREW (Blk. B-91922)	91128	----	----	----
A-15400	TRIGGER SPRING	15400	----	----	----
A-300426-	TRIGGER STOP SCREW	300426	----	----	----
D-300408-7	SAFETY	300408	----	----	----
B-17043	SAFETY PIVOT PIN (Blk. B-91918)	17043	----	----	----
B-17044	SAFETY SNAP WASHER (Blk. 200042)	17044	----	----	----
B-300407-1	SAFETY SPRING	300407	----	----	----
C-300345-8	BOLT STOP	300345	----	----	----
B-17034	RECEIVER PLUG SCREW (4)	17034	----	----	----
B-300361-	RECOIL BRACKET	300361	----	----	----
B-300403-	**BOLT BODY ASSEMBLY**	300403	----	----	----
D-300339-5	BOLT BODY	300339	----	----	----
C-300370-	BOLT HANDLE	300370	----	----	----
C-300360-	BOLT HANDLE BLANK	300360	----	----	----
A-300329-2	BOLT HANDLE PIN	300329	----	----	----
B-305390-2	**BOLT HEAD ASSEMBLY**	305390	----	305391	----
E-300338-17	BOLT HEAD (30-06, 270)	300338	----		
C-300416-	BOLT HEAD (7mm Rem, 300 Win)			300416	----
D-300424-	BOLT HEAD BLANK	300424	----	----	----
	EXTRACTOR				
C-93712	30-06, 270 (Blk. 93711)	93712	----		
C-97322	7mm Rem, 300 Win (Blk. 97321)			97322	----
C-27340	EXTRACTOR RIVET			27341	----
B-300342-1	EJECTOR	300342	----	----	----
A-300367-	EJECTOR SPRING	300367	----	----	----
A-94555	EJECTOR PIN	94555	----	----	----
B-300330-	BOLT ASSEMBLY PIN	300330	----	----	----
B-300404-A	**FIRING PIN ASSEMBLY**	300404	----	----	----
C-300368-4	BOLT PLUG	300368	----	----	----
B-300346-	BOLT PLUG INSERT	300346	----	----	----
B-300418-	TUMBLER	300418	----	----	----
D-300420-A	TUMBLER BLANK	300420	----	----	----

Elizabethtown Research Division — PARTS LIST #YYY

Date: 12/02/99

Model 710
Bolt Action
Centerfire Rifle R.H.

Supersedes Previous Model XXX
Parts List #AAA

Sheet 2 of 2

Dotted line (- - -) indicates same part number

DWG. NO.	PART NAME	PART NUMBERS 30-06	270	7mm Rem Mag	300 Win Mag
C-201224	LOCK PLUNGER (Blk. 201223)	201224	----	----	----
	FIRING PIN ASSY CONTINUED				
A-201217	LOCK SPRING	201217	----	----	----
A-300427	SPRING RETAINER	300427	----	----	----
C-300334-A	FIRING PIN	300334	----	----	----
C-300335-2	FIRING PIN TIP	300335	----	----	----
C-300336-B	FIRING PIN HEAD	300336	----	----	----
A-300399-D	FIRING PIN SPRING	300399	----	----	----
	FRONT SIGHT				
C-15373	30-06, 270 (Blk. C-90393)	94084	----		
B-14659	7mm REM, 300 WIN			94095	----
B-28510	FRONT SIGHT RAMP (Blk. B-16724)	94657	----	----	----
B-28505	FRONT SIGHT RAMP SCREW (2) (Blk. 90347)	28505	----	----	----
B-103145	**REAR SIGHT ASSEMBLY**	103145	----	----	----
A-90906	ELEVATION SCREW	90906	----	----	----
C-93905	REAR SIGHT APERATURE (Blk. C-93906)	94333	----	----	----
C-103530	REAR SIGHT BASE (Blk. 94023)	103530	----	----	----
C-93904	REAR SIGHT SLIDE (Blk. C-93907)	94335	----	----	----
B-90904	WINDAGE SCREW (Blk. 91911)	90904	----	----	----
B-28505	REAR SIGHT BASE SCREW (2) (Blk. 90347)	28505	----	----	----
B-305455	**STOCK ASSEMBLY COMPLETE**	305455	----	----	----
	STOCK				
B-15161	FRONT SCREW BUSHING (Blk 91915)	15161	----	----	----
C-97971	GRIP CAP	97971	----	----	----
D-97973	RECOIL PAD	97973	----	----	----
C-97972	RECOIL PAD BACKER	97972	----	----	----
A-98008	RECOIL PAD SCREW (2)	98008	----	----	----
C-300362-4	MAGAZINE LATCH	300362	----	----	----
B-300398-B	LATCH SPRING	300398	----	----	----
B-300371-A	LATCH PIVOT PIN	300371	----	----	----
B-300096	SLING SWIVEL STUD (2)	300096	----	----	----
C-104125	FRONT TAKE DOWN SCREW (Blk. 104141)	104131	----	----	----
C-104125	MIDDLE TAKE DOWN SCREW (Blk. 104143)	104133	----	----	----
B-300425-	REAR TAKE DOWN SCREW	300425	----	----	----
B-305395-	**MAGAZINE ASSEMBLY**	305395	----	----	----
E-300363-9	MAGAZINE BOX	300363	----	----	----
D-300364-4	MAGAZINE FOLLOWER	300364	----	----	----
D-300365-8	MAGAZINE BOTTOM	300365	----	----	----
C-300405-	MAGAZINE SPRING	300405	----	----	----

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Golemboski, Matt R.

From: Zajk, Joseph J
Sent: Monday, December 06, 1999 6:55 PM
To: Cook, Todd D.
Cc: Diaz, Danny; Keeney, Mike; Golemboski, Matt R.
Subject: RE: Model 710 Core Issues

Importance: High

Todd,

Here's a quick summary about what we discussed today and the paths we're pursuing:

- Options 1 & 2 are not viable options
- We will investigate options 3 & 4; in particular we need to see if a 700 grip cap, modified to fit in a 710, will still satisfy the requirements for the 700 stock

We are going to do some experimenting and investigation into the option 3 grip cap modification to see if its viable. If so, we will then need to weight the cost of modifying an existing tool vs. building a whole new one. This will require input from Mayfield, E'town and Ilion as to its viability. If you have any insight as to whether this is a good idea, please let me know.

In conclusion, as it stands now, we are only pursuing those options that give us the optimal coring for the 710 stock, with an emphasis on trying to find a modified 700 grip cap geometry that satisfies both 700 & 710 stocks in order to limit the amount of unplanned capital required. Any info on Ilion's grip cap/stock assembly process that you can offer will be of great help, as Ilion's knowledge base might be temporarily somewhat degraded now that Jeff Swanson is no longer with Remington. We will be attempting to gather as much information as we can from Ilion as well.

Joe Z.

-----Original Message-----
From: Cook, Todd D.
Sent: Friday, December 03, 1999 3:54 PM
To: Zajk, Joseph J
Cc: Diaz, Danny; Keeney, Mike
Subject: Model 710 Core Issues

Joe,

I know that you will be talking about these issues next week early, but I wanted to give you a heads up on the Model 710 core issue. We still have the potential problem of a thin steel condition with the coring as designed. The issue falls out to a number of choices:

1. Use the current grip cap and have a steel condition that is not ideal. (The thin area in the mold may occasionally have to be repaired)

2. Use the current grip cap and fix the thin steel condition leading to bad sink problems and part distortion in the grip area. No core would be left in the area where your right hand would grip (for a right handed shooter).

3. Use the current grip cap, but sand off part of it so that both the sink and the thin steel condition in the grip area can be eliminated. (The same thing may be able to be accomplished with a new core or core modification in the existing grip cap mold for slightly more $ but not as much as new grip cap mold)

4. Build a new mold for a grip cap that is idealized for this application, which reduces the piece cost, but drives up the capital needs.

None of these options is ideal, but I feel certain that with some discussion you can arrive at the one that makes the most sense for your current needs. My advice is option 3 to get started and not cause extra expense. It also seems to be more durable and better for cooling. There are other advantages to the current lay out as well like minimizing sink from the screw bosses for the recoil pad. In short, I think option three is best. You may be able to see issues with it, though. I am sending you some pictures (Mike will bring them) that show the cores for these options. They are labeled for the options from this E-mail. Hopefully, they will help you see what I was up against. Anyway, if you guys need more info, I will do whatever I can.

Todd

83

TOOLING CHANGES

Remington Arms Company, Inc
Mayfield Plant
22 Rifle Trail
P O Box 99
Hickory, KY 42051
Phone. (270) 856-4200
Fax (270) 856-3233

Remington.

Fax

To: MIKE LOONEY **From:** MATT G.

Fax: **Pages:** 2

Phone: **Date:** 4/26

Re: **CC:**

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

83

CONFIDENTIAL

• **Comments:**

PLEASE REVIEW
NORTH AM. CASTING REVIEWED SEVERAL
OPTIONS & THOUGHT THIS MAY LOOK
BEST BUT IS THE MOST DIFFICULT TO
MAKE — SMXIS INC. CALL ME

Matt

MF0918

Remington Arms Company, Inc
Mayfield Plant
22 Rifle Trail
P O Box 99
Hickory, KY 42051
Phone: (270) 856-4200
Fax: (270) 856-3233

Remington.

Fax

To: GORDON DICE
From: MATT GOLEMBOSKI
Fax: 662 245 ~~4155~~ 4693
Pages: 5
Phone:
Date: 6/10/00
Re:
CC:

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

• Comments:

ATTACHED PLEASE FIND YOUR ORIGINAL SKETCH TO ME WITH .015 WIDTH CONSTANT & DETACHABLE AROUND THE RADIUS. ALSO, FIND OUR MODEL OF THE SAME DATA.

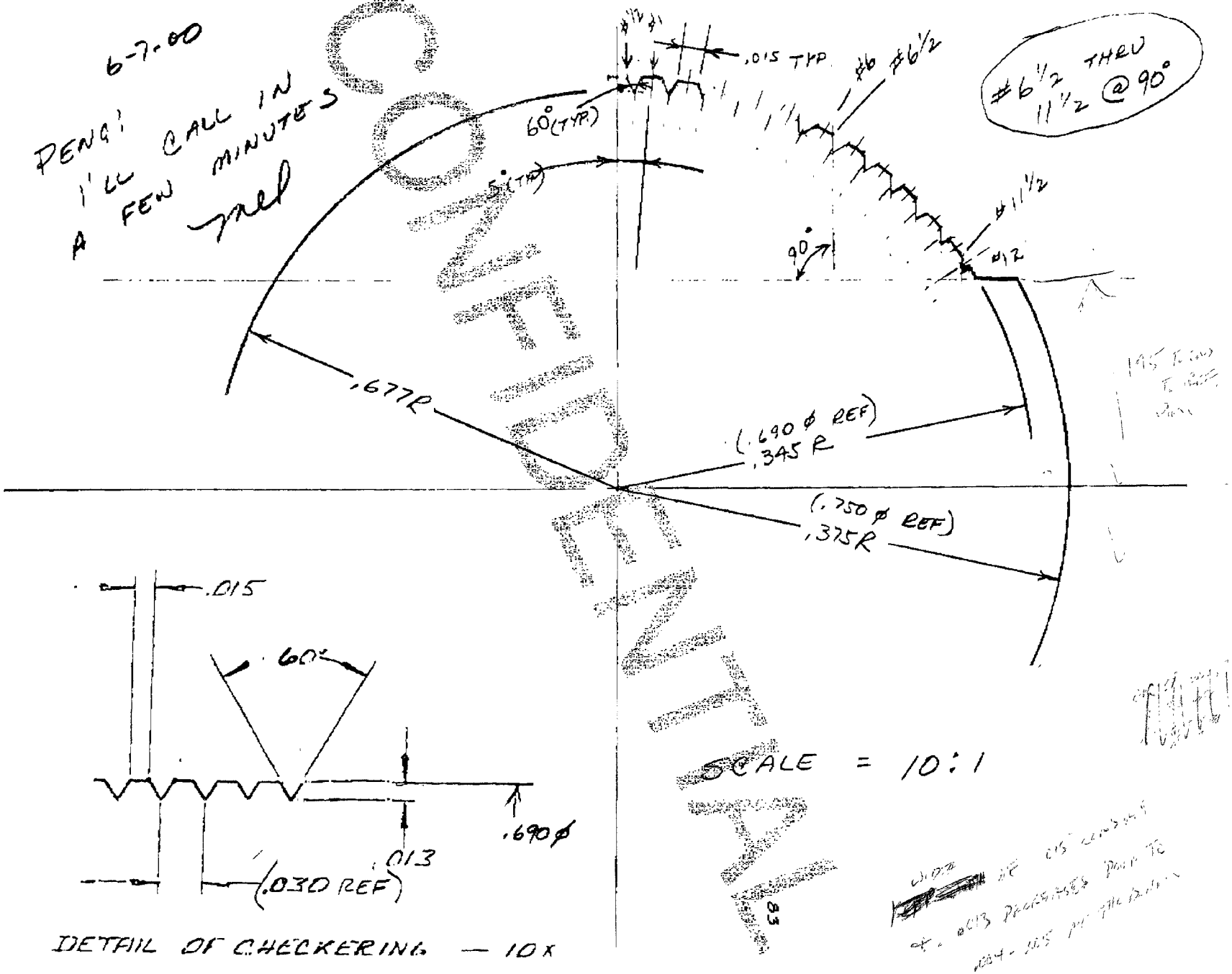
83

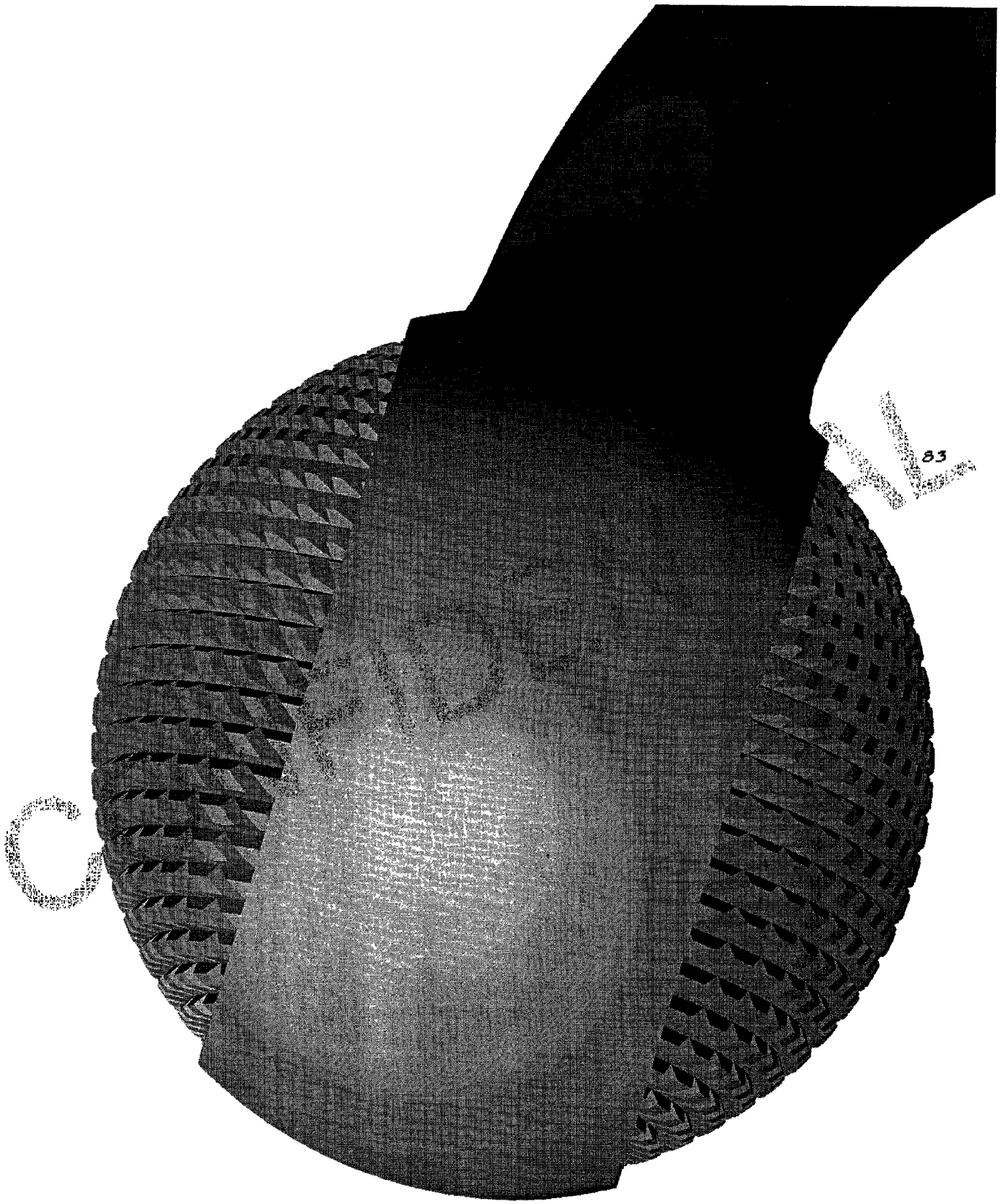
CONFIDENTIAL

MF0919

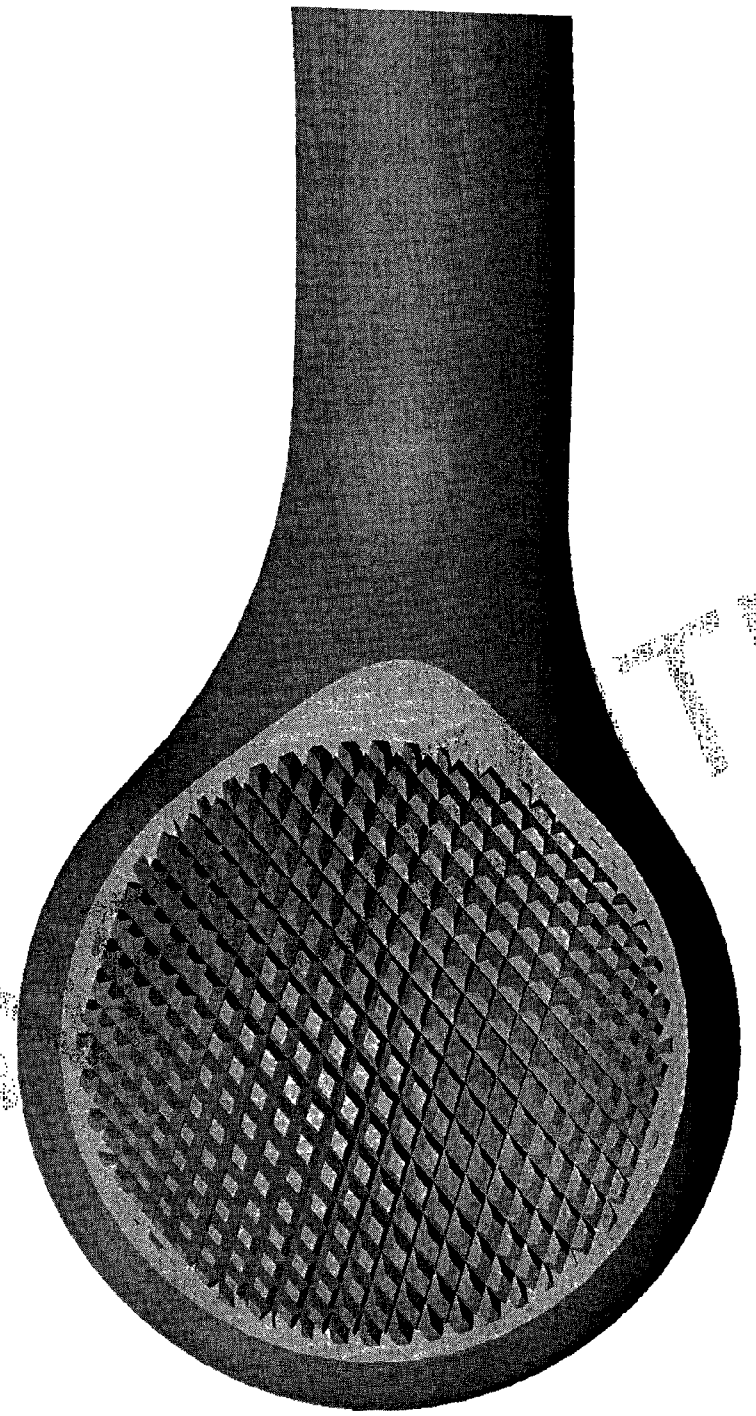
6-7-00

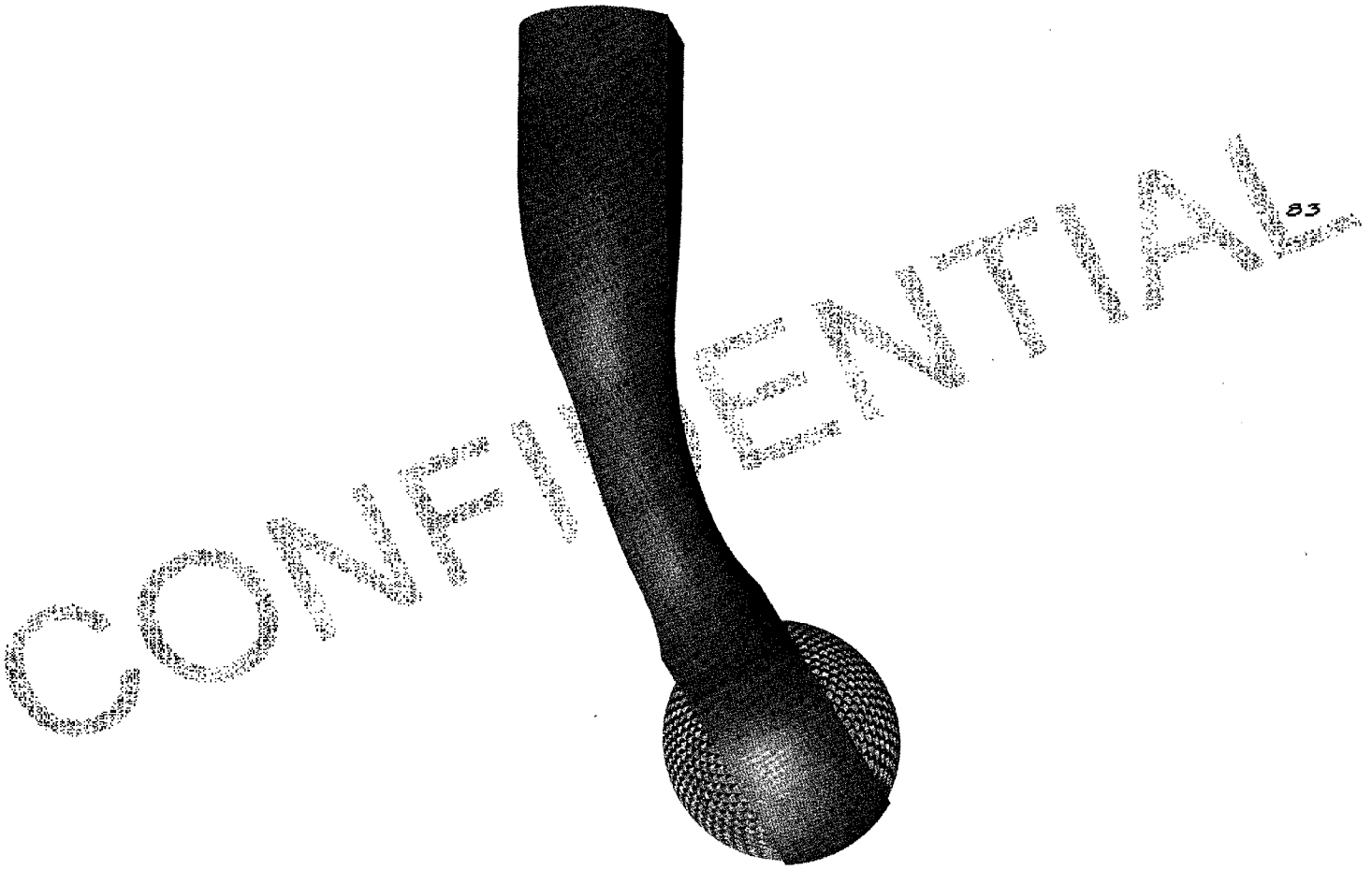
PENG:
I'LL CALL IN
A FEW MINUTES
Jrel





MF0921





MF0923

Remington Arms Co., Inc.
R&D Technical Center
315 W. Ring Road
Elizabethtown, KY 42701

Phone: 270-769-7600
Fax: 270-737-9576

Date: 6/5/00

No. of pages including cover sheet: 2

Please note our new area code.

TO:

Matt G.

Phone

Fax Phone

CC:

From:

Mike K.

83

Phone

Fax Phone

CONFIDENTIAL

REMARKS:

☐ Urgent ☐ For your review ☐ Reply ASAP ☐ Please comment

M/700 Bolt Handle Knurling - I will copy exactly for M/710.
Forward to the casting vendor.

Mike

Remington Arms Company, Inc
Mayfield Plant
22 Rifle Trail
P O Box 99
Hickory, KY 42051
Phone. (270) 856-4200
Fax (270) 856-3233

Remington.

Fax

To: Bill Somerville **From:** Matt Golembosk,

Fax: **Pages:** 2.

Phone: **Date:** 83

Re: **CC:**

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

• **Comments:**

Attached is the Drawing of the knurl
It will be recessed over a .440 diameter
on the handle. Please send a
note for the revision. Thanks

Matt

MF0925

MATERIAL AISI C 1050

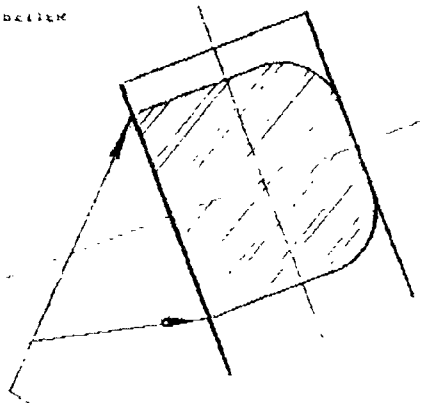
HEAT TREAT CARBON RESTORED ANNEALED

HARDNESS RB-85-95

COLOR

HEAT TREAT AND COLOR TO BE DONE BY REMINGTON

1	ADDED
2	ADDED USE



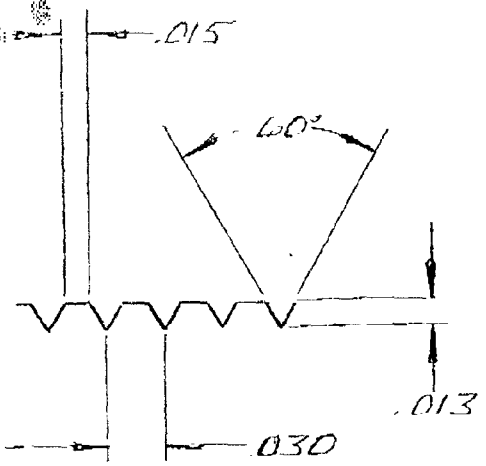
SECTION B-B

VENDORS USE ONLY

NO RAW MATERIAL TO BE SUPPLIED

.100 RAD. REF.

C-C



DETAIL OF CHECKERING — 10X

The Hanson Group, Ltd.

A United Plastics Group Company

Fax Cover Sheet
(www.hansonltd.com)

Date: 4/4/00 2 Pages (including cover)

To: Joe Zajak From: John Rezo

Company: Remington Arms

Fax: 271-856-3233

Phone:

Please return fax transmission to:
- ☐ Corporate (413) 589-7552
- ☒ Tooling (413) 589-0761
- ☐ Molding (413) 547-6167

☐ URGENT ☐ FOR REVIEW ☐ F.Y.I. ONLY ☐ PLEASE REPLY

Comments:

83

P.O. Box 789 • Ludlow, MA 01056-0789 • (413) 589-0534

The Hanson Group, Ltd.
P.O. Box 789
Ludlow, MA 01056-0789
PHONE: (413) 589-0534
FAX: (413) 589-0761

QUOTATION NO 990118-2010-15

DATE April 4, 2000

TERMS Net 30 Days

TO Mr. Jim McCollum
REMINGTON ARMS CO., INC.
315 West Ring Road
Elizabethtown, KY 42701-9318

REFERENCE: **Receiver Insert, #1E-3000327**

We are pleased to quote you as follows:

Mold 9,000 parts in Black Nylon 66 RTP299X82691GF using customer supplied single cavity tool with IQC process control @64 second cycle time:	$3,380.43/M
Mold 9,000 parts in Black Nylon 66 RTP299X82691GF using customer supplied single cavity tool with IQC process control @ 74 second cycle time:	$3,756.60/M
Mold 9,000 parts in Black Nylon 66 RTP299X82691GF using customer supplied single cavity tool with IQC process control @ 84 second cycle time:	$4,132.77/M

- Quote is based on minimum run of 1,500 units.
- Molding prices are based on current raw material costs. Changes in raw material costs may affect molding prices.
- Quoted prices are based on supplied quantities. Changes in quantities will affect prices.
- FOB Ludlow, MA Freight Collect

cc: Joe Zajk, 270-856-3233
T (270) 769-7600
F (270) 737-9576

We await your reply and assure you of our best attention and services at all times.
(Quote valid for 30 days.)
Subject to the terms and conditions on the reverse side hereof.

Eugene Tabarovsky
Corporate Engineering Manager

CLIENT COPY

F03.005SQ Rev. Level B Revised: 01/26/99

Golemboski, Matt R.

From: Morgan, Metty E.
Sent: Tuesday, March 14, 2000 9:38 AM
To: Zajk, Joseph J
Cc: Golemboski, Matt R.; Chamblee, Danny
Subject: Master Data for 710 Steel

03/14/2000

Joe,

Someone needs to enter the master data for the 710 Steel. I believe the part number is F300447 per parts list.
Information as follows:

24" per barrel
Wt. per barrel is 8.8175# ea.
12ft 6" bar weighs 55#
9000 710 guns will require around 82,000 # of this steel, I will order in 20,000# increments with the first delivery in late June.
Cost for steel is $ 62.00 per 100 pounds (cwt.)

I believe there is a conversion area somewhere in the master data, (Danny knows where) We will need to put the # to ft. 83 conversion
in there. The 1137 steel is set-up per ft., but is ordered per #, and the SAP system converts it. We should probably set the 710
steel up the same way. I will place the PO for the steel as soon as you have completed this task.

Thanks,
Mett

Golemboski, Matt R.

From: Zajk, Joseph J
Sent: Wednesday, March 15, 2000 4:53 PM
To: Keeney, Mike
Cc: Golemboski, Matt R.; Diaz, Danny
Subject: 710 Firing Pin/Firing Pin Tip

Mike,

After some discussions here we were wondering if there might be some way to avoid having an assembly dimension for the firing pin tip/firing pin. We were thinking about the following possibilities

- Could the firing pin tip be modified slightly in the back to give a larger shoulder to bear on the firing pin (and the firing pin c'bore adjusted accordingly)? Could this increased diameter of the firing pin at the back be swept so that the increased diameter remains contained inside the firing pin c'bore so we don't have to worry about tolerance stack and potential interference with the firing pin hole in the back of the bolt head?
- Another possibility might be to shrink the thread down one size (say #5-40) to give more bearing surface on the shoulder.

I know there's not a lot of room to work with. Let me know what you think.

Thanks,

Joe Z.

83

Golemboski, Matt R.

From: Keeney, Mike
Sent: Wednesday, March 15, 2000 12:36 PM
To: Morgan, Metty E.
Cc: Diaz, Danny; Golemboski, Matt R.; Zajk, Joseph J
Subject: 710 firing pin springs

Mett,
I received the rush order firing pin springs from Industrial, inspected the lengths and force values and they were right on. Jeff Wade forwarded the shipper to you so that you could receive them into SAP.

Thanks
Mike

83

Golemboski, Matt R.

From: Keeney, Mike
Sent: Wednesday, March 15, 2000 12:33 PM
To: Zajk, Joseph J
Cc: Diaz, Danny; Golemboski, Matt R.
Subject: M/710 Firing pin assembly

Joe,
After assembling the firing pins this morning, I measured from the shoulder to the end of the tip to verify the tips were seated completely. Model drawing tolerance is 1.167 to 1.183 for the assembly. My measurements were 1.158 to 1.168. I measured the extra firing pin tips (1.275) and they were within tolerance. When I attempted to measure the firing pin pocket depth it bacame apparent to me that the shelf that the tips are supposed to stop against is very small. I believe that under torque, the tips actually deform the shelf causing the shorter than m/d dimension. Would you review your measurements for the .100 +/-.003 pocket depth and double check some of the other parts to verify their position? If your measurements are OK, we will specify an assembled dimension for the firing pin tip to shoulder length. If the pockets are deep, we will adjust the M/D to match the parts. Please advise me of your findings. The parts will be used for DAT with drawing changes to follow based on your information.

Thanks
Mike

83

Golemboski, Matt R.

From: Zajk, Joseph J
Sent: Friday, March 17, 2000 10:17 AM
To: Morgan, Metty E.
Cc: Golemboski, Matt R.
Subject: Bolt Handle Blank

Gordon Dill at NAPC was mistaken as far as parting line; he was looking at something on the finish bolt handle drawing. There are a couple of minor things he suggested, like removing the suggested parting line completely and just state that there is to be a .01 max. witness at the parting line (the knurl will define where the parting line has to be) that I will talk with Mike about, but no show stoppers like he first said.

Joe Z.

Golemboski, Matt R.

From: Keeney, Mike
Sent: Friday, March 17, 2000 8:42 AM
To: Zajk, Joseph J
Cc: Golemboski, Matt R.; Morgan, Metty E.
Subject: 710 Safety Samples

Joe,
I received three safety samples from Square yesturday. Square further developed their tooling to produce more consistent contour and surface finish while eliminating the sharp burr. I spoke with Dan this morning and instructed him to proceed with this contour and to provide firm numbers for a secondary operation. Based on Marketing input, we need to coin the outside edge of the button and add serrations across the button. I asked for a .02 to .03 Radius on the top edge and serrations across the surface. Dan will provide an estimate and drawing details based on their capability.

Mike

83

Golemboski, Matt R.

From: Keeney, Mike
Sent: Thursday, March 09, 2000 3:34 PM
To: Zajk, Joseph J
Cc: Golemboski, Matt R.; Morgan, Metty E.; Diaz, Danny
Subject: 710 Safety Design

I spoke with Dan Hart this afternoon regarding the samples that I had received. The concave or "hump" geometry will be acceptable but there was a sharp burr generated along the outside edge of the button. Dan believes that the production parts will not have as extreme of a burr due to production die clearances and die roll of the blanked edges. Based on our discussion and his understanding of the burr issue, I instructed Dan to proceed with the production tool to the geometry of the concave button surface. He will make a back up set of blank punches to allow us to revert back to a flat button geometry if required. Once we have production samples to evaluate relative to burrs, we will have three options: 1. Accept the parts as produced, 2. Revert back to the flat button surface, or 3. Add a secondary coin operation to compress the burr and possibly add serrations to the top surface. Options 1&2 will not affect piece price, option 3 will add approximately $.08-.10/piece and additional tooling expense to build the coining punch and die. All three options will incorporate an additional .05" to the width of the button (.805 dimension to .855) and change the corner radii from .08 R to .150 R.

I have filed the burr off on one sample and will show it to all next tuesday in Madison. I will ship a couple of the samples to you tomorrow.

Mike

83

Golemboski, Matt R.

From: Zajk, Joseph J
Sent: Thursday, March 09, 2000 12:47 PM
To: Keeney, Mike
Cc: Golemboski, Matt R.; Diaz, Danny
Subject: Revised trigger for 710

Mike,

Per our conference call yesterday Mayfield is doing the following concerning the 710 trigger:

- Suspending tool build of the 710 trigger C-300435 pending a decision by Danny Diaz & Legal as to whether the new 700 trigger should be adopted for the 710. Please note that the tool design by Sterling Sintered for C-300435 Rev. C is complete.
- Evaluating what needs to be done from a manufacturing standpoint to machine the new MIM trigger blank D-201342 to the specifications shown on the finished trigger drawing D-109835. We currently plan to machine the blank here.

I received the prints for the new 700 trigger today. Thank you.

Also, in regards to the chamber, we concur with your recommendations and will proceed accordingly.

Please let me know if you have any questions or comments.

Joe Z.

83

Golemboski, Matt R.

From: Guiliano, Gerald P.
Sent: Thursday, March 09, 2000 12:49 PM
To: Golemboski, Matt R.
Cc: Bedore, Edward D.; Colley, Amber
Subject: FW: m710 scope rails

Please provide us with as much information about the scope rail and clip as possible. We will need cost, size, weight, lead time and minimum order runs. I have spoke with Al Russo about a number of 5,000 units on a scope rail but quantities on the clip. The 5,000 may be to steep for accessories to start (not having any information or history on the product) but we can discuss. We will need the raw material number and any other information you can provide. Thanks.

-----Original Message-----
From: Bedore, Edward D.
Sent: Monday, February 28, 2000 11:35 AM
To: Guiliano, Gerald P.
Subject: FW: m710 scope rails

LETS DISCUSS THIS ASAP.

-----Original Message-----
From: Russo, Alfred D.
Sent: Tuesday, February 15, 2000 1:41 PM
To: Bedore, Edward D.
Cc: Guiliano, Gerald P.
Subject: FW: m710 scope rails

Ed we are planning to build 7,000 guns in 2000 and 30,000 in 2001. My vote would be 2500 and 7000 for starters. Your call AL

-----Original Message-----
From: Golemboski, Matt R.
Sent: Tuesday, February 15, 2000 11:44 AM
To: Guiliano, Gerald P.
Cc: Russo, Alfred D.; Bedore, Edward D.
Subject: m710 scope rails

We have design a scope rail very similar to the M/597 rail for the M/710. This is usually a long lead time item (14 weeks). We can order some any time. I would just like for someone to give a quanity by the March 31, 2000. This will give us plenty of time to order them and have some ready for sales events etc. in the fall.

Matt Golemboski

83

Golemboski, Matt R.

From: Keeney, Mike
Sent: Tuesday, March 07, 2000 8:17 AM
To: Morgan, Metty E.
Cc: Golemboski, Matt R.
Subject: firing pin spring 300399 rev. E

Mett,
I have faxed the new firing pin spring drawing to your attention, A-300399 Rev. E. Please copy and replace 300399 Rev. D in drawing files. Also check delivery of a 15 piece minimum sample by 3/14/00.

thanks
Mike

Golemboski, Matt R.

From: Keeney, Mike
Sent: Wednesday, March 08, 2000 9:00 AM
To: Golemboski, Matt R.; Zajk, Joseph J
Cc: Morgan, Metty E.; Diaz, Danny
Subject: M/700 Trigger redesign

Guys,
received a copy of the new M/700 blank and finished drawings from David. There changes are significant, it is no longer a powder metal part instead it has become a MIM part. Since it is MIM the serrations should not be a cost issue, I would suggest that you discuss the procurement of this part with Ilion. I will forward a set of drawings for your review. The M/710 will incorporate the changes as designed by David.

Mike

Golemboski, Matt R.

From: Keeney, Mike
Sent: Thursday, March 09, 2000 3:34 PM
To: Zajk, Joseph J
Cc: Golemboski, Matt R.; Morgan, Metty E.; Diaz, Danny
Subject: 710 Safety Design

I spoke with Dan Hart this afternoon regarding the samples that I had received. The concave or "hump" geometry will be acceptable but there was a sharp burr generated along the outside edge of the button. Dan believes that the production parts will not have as extreme of a burr due to production die clearances and die roll of the blanked edges. Based on our discussion and his understanding of the burr issue, I instructed Dan to proceed with the production tool to the geometry of the concave button surface. He will make a back up set of blank punches to allow us to revert back to a flat button geometry if required. Once we have production samples to evaluate relative to burrs, we will have three options: 1. Accept the parts as produced, 2. Revert back to the flat button surface, or 3. Add a secondary coin operation to compress the burr and possibly add serrations to the top surface. Options 1&2 will not affect piece price, option 3 will add approximately $.08-.10/piece and additional tooling expense to build the coining punch and die. All three options will incorporate an additional .05" to the width of the button (.805 dimension to .855) and change the corner radii from .08 R to .150 R.

I have filed the burr off on one sample and will show it to all next tuesday in Madison. I will ship a couple of the samples to you tomorrow.

Mike

83

Golemboski, Matt R.

From: Zajk, Joseph J
Sent: Thursday, April 20, 2000 2:52 PM
To: Keeney, Mike
Cc: Morgan, Metty E.; Golemboski, Matt R.; Helmer, Gerald A.
Subject: RE: Retaining Cap

If you don't see a problem from a design standpoint in shortening the plunger stud then let's do it and add whatever you can for a stud to the bottom of the retaining cap. That means it will be a different plunger from the 700 and we'll need to get new prints of both the new plunger and the new retaining cap ASAP so we can get them quoted and on order. Send the drawings to Jerry's attention; I'll be at machine runoffs most of next week.

Joe Z.

-----Original Message-----
From: Keeney, Mike
Sent: Thursday, April 20, 2000 2:39 PM
To: Zajk, Joseph J
Subject: RE: Retaining Cap

In the current state we could not add a tab to the retainer. The plunger stud height is .094", the working height at the second load point is .127" so that only leaves us .033" clearance at nominal conditions. If we need to add a stud to the retainer we will need to shorten the stud on the plunger. Let me know if that is possible and if so, I will change the two parts.

Mike

-----Original Message-----
From: Zajk, Joseph J
Sent: Friday, April 14, 2000 4:10 PM
To: Keeney, Mike
Subject: Retaining Cap
Importance: High

Is it possible to put a small dimple or stud on the underside of the retaining cap for the bolt plug assembly? This is a recommendation from the ultrasonic welding people to help retain the spring while the cap is being welded in place. I don't know if there's room with the plunger.

If we can do that they think we can ultrasonically weld the cap on without too much difficulty.

Let me know what you think.

Joe Z.

To: Rich Kosko, The Hanson Group
Date: Sept. 9, 1999

cc: D. Diaz, J. McCollum,
M. Golemboski

Topic: Remington Receiver Insert, Pt. #300327

Rich,

Please find enclosed drawings 1E & 2E-300327. Please review and quote tool alterations per revisions no. 28 and 29 of drawing 2E-300327. The alterations are to be completed prior to the next sampling of the tool. Direct your quote to Jim McCollum, purchasing manager Elizabethtown facility.

Other tool alterations required (at no charge to Remington) are to include resizing of the four .122 +/-.0015 diameter holes and the two .097 +/-.0015 diameter holes as highlighted on drawing 2E-300327. In house inspections indicate the .122 diameter holes are .1245 and the .097 diameter holes are .100. Please resize the core pins to produce mean model drawing hole diameters.

Please call me to discuss if you have any questions or concerns.

Sincerely

Michael D. Keeney
Remington Arms Co., Inc.

83

Golemboski, Matt R.

From: Zajk, Joseph J
Sent: Tuesday, March 28, 2000 9:12 AM
To: RKoskohgl@aol.com
Cc: Golemboski, Matt R.; Keeney, Mike; JJREGOHGL1@aol.com; Vicmorando@aol.com
Subject: RE: Receiver Insert Meeting Minutes

Receiver Insert Meeting Notes ...

Rich,

In general your minutes look OK. The only discrepancy I have is with the flash on details #35 & 36. I have the flash height as being within the model drawing specs for the entire surface.

Here is my write-up of my notes for you to review as well. I kept it in the general format of the agenda I created for us to use last Thursday, and inserted the answers & conclusions immediately following each bullet point. Please review and let me know if Hanson is in agreement or if I mis-stated or omitted something.

Best regards,

Joe Zajk
Engineering Manager

83

-----Original Message-----
From: RKoskohgl@aol.com [mailto:RKoskohgl@aol.com]
Sent: Monday, March 27, 2000 3:20 PM
To: zajkjj@remington.com
Cc: Golembosmr@remington.com; keeneymd@etown.remington.com; JJREGOHGL1@aol.com; Vicmorando@aol.com
Subject: Receiver Insert Meeting Minutes

Joe

Please review my attached minutes and let me know if I may have missed anything during our discussion. Could you please check into the purchase order to cover the work necessary to grind down the 4 firing pins which Mike has requested.

We have completed the necessary changes and are scheduling the run for tomorrow 3/28/00. I will overnight the parts to your attention as they become available.

Thanks in advance for your assistance in the measurement techniques and to provide us with a "win -- win" situation for both companies.

Rich Kosko
Program Manager

Receiver Insert 300327 Meeting Notes

Meeting Date: 3/23/00
Attendees: Joe Zajk – Remington Arms
Rich Kosko – Hanson Group
Frank Fasano – Hanson Group

Reason: To discuss the path forward on the Remington receiver insert program, P/N 300327

Five general topics were covered during the meeting between Hanson & Remington on Thursday, 3/23/00. These topics were:

1. Decide on conventional molding vs. IQC molding process for receiver insert.
2. Discuss and come to an agreement on inspection methods for receiver insert.
3. Review dimensional layout
4. Discuss Lot traceability requirements
5. Gage Repeatability & Reproducibility

A more detailed list of the topic detail and the decisions mutually agreed upon by Remington & Hanson are given below. The topic detail is given in bold italics, and the decision is given below it in normal type.

Topics

1. Decide on conventional & IQC processes for receiver insert

- ***Using dimensional layouts determine best process for running receiver insert. This will be determined through analysis of feature positions between the two processes and determine which is the more accurate of the two processes.***

Based on sample parts run by Hanson on 3/22, it was determined that the IQC process was most dimensionally stable. This was determined by measuring key features on five pieces each of the conventional & IQC process. After several process iterations it was decided to use a chiller to circulate 55°F water through the long core (cores out receiver ID and tang) and to extend the cooling time in the press by 10 seconds. This yielded a cycle time of approximately 64 seconds, 10 seconds longer than the baseline IQC process used in Michigan. This resulted in a reduction of part warping by approximately 38% from the baseline IQC process and approximately 50% from the conventional process.

- ***Once process is determined run off sufficient parts to determine process stability. Remington requests copies of process parameters for final settings used for process stability run. Remington proposes the following process stability test:***
    - ***Using "final parameters", run 50 pcs. to warm up mold. Discard those parts.***
    - ***Mold a 600-piece run. From the start of the run pull & mark the following pieces: 1, 2, 3, 51, 52, 53, 101, 102, 103, 151, 152,153, 201, 202, 203, 251, 252, 253, 301, 302, 303, 351,352,353, 401,402,403,451, 452, 453, 501,502,503, 551, 52, 553, 598, 599,600. This will form thirteen data points for an x-bar chart (subgroup n=3) for each feature on the receiver insert. These samples will be shipped to Remington Arms. The parts will then be inspected via CMM by the mutually agreed upon inspection method discussed in section 2 below. NOTE: Remington's CMM software has the capability to automatically create x-bar charts for all features inspected.***

  It is desired that Hanson grinds the Bolt Stop core pin to match model drawing and grind .0015" off the diameter of the four pins currently used for the four .1220 fire control pins prior to starting the process stability run listed above.

  Hanson agreed to run the capability test as stated above. Run was to begin on 3/27, after the pins were ground down. Parts will be numbered and sent to Remington for analysis. Hanson will keep an additional 50 pieces to conduct their own capability analysis in order to correlate to Remington's analysis of data. Measurement will be by the agreed upon method listed in Topic 2, below.

2. ***Discuss and come to an agreement on inspection methods for receiver insert***
    - ***Propose using .699 diameter rod of sufficient length to locate part along entire surface of the A-datum diameter and incorporate this into general CMM fixture design D-K-10400.***

      Remington and Hanson both agree to this method.

    - ***Propose establishing a datum target on the shooter's LH side B-datum surface due to its dimensional stability and incorporating this B-Datum target on CMM inspection fixture D-K-10400.***

      Remington and Hanson both agree to this pending approval of Remington's R&D's facility.

- ***Remington to build and supply Hanson copy of all special gaging & fixtures (including prints) it will use during the inspection process.***

  Agreed upon by both parties. This is normal procedure for Remington where special fixturing is involved.

- ***Remington to supply Hanson with plug gage information sheets for plug gages Remington plans to use during its inspection process so Hanson can order duplicate plug gages.***

  Agreed upon by both parties. Remington left copies of all standard plug gages so Hanson can order the same plugs to the same wear allowance, gage tolerance class, etc.

- ***Discuss & come to agreement on critical and in-process dimensions***

  Critical and in-process dimensions agreed upon based on fax from Joe Zajk of Remington to Rich Kosko of Hanson dated 3/16/00. Terminology of "critical" vs. "in-process" mutually agreed upon. Critical dimensions are check at first and last article inspection. In-process dimensions are checked at regular intervals during run. Due to the special nature of this part the distinction between critical and in-process dimensions overlap. Therefore, Hanson has agreed to use their programmable Micro-View to check all critical dimensions (fire control holes & other dimensions listed in fax) as part of their in-process checks as well as for first and last article inspection.

  Additionally, several visual issues were discussed. They consisted of the following:

  - Flash: Critical areas for flash were pointed out and defined. On the inner surface of the fire control sideplate, ejector pin flash had to remain within the .175 +.003/-.001 model drawing tolerance (inspection #35 & 36). On the bosses surrounding the rivet holes (#57 & 59), flash had to remain below the surrounding .250 surface in order to allow sideplate to sit flush on the .250 spacer surfaces.
  - Step Gate: Hanson agreed to investigate the fit of step gate on bottom of part immediately forward of the sideplate in order to improve shutoff and matchup in order to reduce flash in that area.
  - Acceptable Parting Line Flash: Hanson to supply Remington with standard parting line flash and witness sizes for non-critical areas so Remington can review. Hanson asks that Remington locate text defining parting line flash and witness on prints once the size is agreed upon.

- Mismatch on Tang: Hanson to investigate and correct pronounced visual mismatch on top LH side of the 20 degree tang cut. Mismatch appears to be an oversight from a previous tool revision in which the tang surface was modified.
- Core pin for Press Insert Hole: During the dimensional layout review it was noticed that the GO/NOGO plug gage Remington supplied would not go down the GO depth notch on the .370 deep hole on the rear boss where the pressed insert would be ultrasonically welded in. At first glance it appears that the core pin might be damaged on the edge. Hanson will investigate and repair as necessary.

3. *Review dimensional layout*

Dimensional layout for IQC and conventional parts were reviewed. Remington supplied various plug gages to assist in the dimensional layout of the parts. This assisted in coming to final determination of process used in Topic 1 and in gaging method in Topic 2.

4. *Discuss Lot traceability requirements*

- ***Review Remington's draft of lot traceability requirements***

A draft copy of Remington's draft lot traceability requirements was supplied to Hanson. Hanson agrees to comply with the requirements. In addition, Hanson will keep all in-process and critical dimension inspections, material certifications, etc. for each lot for a minimum of two years. Hanson would notify Remington when it plans to dispose of such records so Remington has the option of obtaining this documentation for its own records.

Hanson & Remington also discussed possible ways of easily identifying parts from various lots. As there will most likely be a small number of runs per year, it may be possible to vapor hone an identification mark on a non-critical surface of the receiver insert that both Remington and Hanson can use for quick identification of lot vintage. This mark would change from run to run and be tied back to the lot number. One suggestion was to use Remington's date code system it uses for assembly; others include symbology used by other manufacturers. Remington will supply Hanson with its date code system for review. Hanson to submit to Remington possible other symbology to review. The mutually agreed upon symbology would most likely be placed on the shooters LH side of the part immediately under the rear tang surface.

5. *Gage R&R*

Remington and Hanson agreed upon Gage R&R method for determining the repeatability and reproducibility of the various inspection gages.

Meeting Minutes

Meeting Date: 02/22-23/2000 **Place:** Michigan Room

Present: Joe Zajk, Frank Fasano

CC. Matt Golemboski, Mike Keeney, Glenn Hanson, John Rego, Vic Morando, Eugene Tabarovsky, Robert Rousseau, Betty White

Subject: Remington Receiver Insert

Items discussed:

Collectively we have decided to produce parts using the "IQC" technology with a 64 sec cycle and placing the long core on a separate chiller. Preliminary results showed that this direction would yield the most favorable results in processing this particular component.

Joe spoke of lot trace ability to this part, some of the ideas we brainstormed were to place changeable date code wheel in the mold, prick punching an ejector pin, vapor hone a rectangular area on the rear of the Receiver every time a new order is received, or whatever else we may place on the side of the Receiver which will not interfere with its performance.

We also will supply dimensional reports from each factory order release and material certification from each run. First and last shots from the mold will also be sent to Remington.

Identify the same measurement technique to be used by both Remington and Hanson in measuring the Receiver during the 600 pc run.

Joe will provide us with an x-bar chart and Excel spreadsheet layout on measurements taken from the run next week.

Mike Keeney has requested that 4 pins in the firing pin location be turned down by .0015" from the present steel condition. A quote has been provided for this change, at the same time we will change the Bolt stop core pin to the .290 +/- .005 dimension.

Capability study will be done with 50 pcs from the next scheduled run on 3/28/00.

Ejector pin flash on detail #35 and #36 should not exceed +. 003 / -.000

Detail #57 and #59 should have no flash above the .250 surfaces as referenced on detail #49

Joe and Mike Keeney will establish and provide target-measuring areas for the quality department

PO Box 789 • State Street • Ludlow • MA 01056-0384 • Tel: 413-589-0534 • Fax 413-589-0761

We will e-mail (go / no-go) gage drawings of the Mickey Mouse ears to Joe for his comparison

Joe said Remington would build and provide us with a set of gages and fixtures to measure the Insert during the inspection process

We have accepted Joe's critical dimension inspection and in-process sheet except for the .559 dimensions, which requires additional thought on how the part needs to be positioned to be measured.

I will speak to our plant manager on the amount of inventory Hanson will be willing to keep during production releases. We would ideally like to produce Remington's entire order for the year in one factory run and ship the product when complete.

Frank will have one of his quality technicians write an inspection program for the automatic Micro-vue machine and establish a confidence level in the parts being measured consistently.

Frank will instruct his lab technician to perform a Gage R&R study early next week in preparation of the 600 piece pilot run.

Joe has requested when we run the process on 3/28/00, to remove and label inserts as per his instructions listed on meeting agenda. These parts will assist the inspection team to detect any process variation.

PO Box 789 • State Street • Ludlow • MA 01056-0384 • Tel: 413-589-0534 • Fax 413-589-0761

Rich Kosko

Program Manager

83

PO Box 789 • State Street • Ludlow • MA 01056-0384 • Tel: 413-589-0534 • Fax 413-589-0761

Golemboski, Matt R.

From: Cook, Todd D.
Sent: Monday, January 17, 2000 10:01 AM
To: Golemboski, Matt R.
Cc: Keeney, Mike; Zajk, Joseph J
Subject: RE: M/710 Stock Issues

Matt,

Thanks for the note. We will see you Wednesday.

The CAD Group and I are working on a request from Quality Tooling to get a trimmed surface model of the complete stock--if it's easy, it will be done by then. If not, we may be working on it until the end of the week. They did not have to have the trimmed surface model, so it's a "nice to have" at this point, but we are working on it with an eye on your future need for the data (ala DeRobertis, etc on M/597) Apparently, Quality is okay with all the other dimensions on the new models we sent, except for the under cut on the magazine latch pivot. There will need to be some undercut, but we will have to resolve with them, Mike, and you how much undercut. At this point, my opinion is that 0.007 - 0.010" per side will pull without damage. This is much less than what's called for in the CAD model. It may not be enough, if the part has to stay there for the life of the product, though. More Wednesday.

Todd

83

From: Golemboski, Matt R.
Sent: Monday, January 17, 2000 10:25 AM
To: Cook, Todd D.
Subject: keeney

Keeney is not going here today. I will be in E'town on Wednesday to discuss design issues on 710.

Matt Golemboski

Golemboski, Matt R.

From: Cook, Todd D.
Sent: Thursday, January 20, 2000 3:23 PM
To: Gary Hillyard (Quality Tool)
Cc: Golemboski, Matt R.; Zajk, Joseph J; Keeney, Mike
Subject: 710 Stock Revision: The recoil lug rear wall moves forward 0.013" to accommodate thinner lug material

Gary,

I shipped you floppies, similar to Tuesday's effort, via UPS that contain the file TEST7103.ZIP, a zip archive of the IGES file you need to have with the latest revision. The only change from the files you got Wednesday should be that the recoil lug pocket (it's a slot 0.192" wide just behind the forward screw hole) rear wall moved forward by 0.013". We will fax a sketch over to make it easier to see in the model. That's the only change I have, but as we discussed, if I hear of another, I will let you know immediately.

This E-mail is cc'd to the manufacturing group (Matt and Joe) and the design engineer (Mike) so they will know what you do. Thanks again.

Todd

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The Hanson Group, Ltd.
P.O. Box 789
Ludlow, MA 01056-0789
PHONE: (413) 589-0534
FAX: (413) 589-0761

QUOTATION NO. 990118-2010-13

DATE March 13, 2000

TERMS Net 30 Days

TO

Mr. Matt Golemboski
REMINGTON ARMS CO., INC.
22 Rifle Trail, PO Box 99
Hickory, KY 42051

REFERENCE: **Receiver Insert**

We are pleased to quote you as follows:

Mold 1000 parts using the Hanson I.Q.C. process: $ 5,000.00

Mold 500 parts using regular injection molding methods (If it is determined early in this test that the regular injection molding process is not feasible, this test will be cancelled).

These molding runs will be used to establish a stable process and to determine dimensional capability of this process.

We will also use this production run to determine the correct inspection process used on these parts. This will include a R&R study of the gauge currently owned by Remington. Any costs required to revise the existing gauge or to build new gauges are not included in this quotation. Our ultimate goal is to have an inspection measurement technique that is repeatable at both Remington and The Hanson Group.

It is a requirement that Remington provide suitable Engineering and Quality support personnel to be present at the mold trials, in Ludlow MA. These trials are expected to be during the later part of the week of March 20th.

T (502) 856-4203
F (502) 856-3233

We await your reply and assure you of our best attention and services at all times.
(Quote valid for 30 days.)
Subject to the terms and conditions on the reverse side hereof.

83

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Eugene Tabarovsky
Corporate Engineering Manager

CLIENT COPY

F03.005SQ Rev. Level B Revised: 01/26/99

MF0954

TERMS AND CONDITIONS OF SALE

These terms and conditions of sale shall govern the entire transaction or sale between the Seller and the Purchaser for the goods or product herein ("goods") as such description may be modified from time to time in writing by the Seller and the Purchaser and negate all other prior oral or written communications, representations and agreements between them as to the subject matter hereof. The terms hereof constitute an offer which unless accepted in writing within thirty (30) days from the date hereof, is effective not subject to partial acceptance by the Purchaser.

1. ACCEPTANCE. The Purchaser shall be deemed to have accepted the terms and conditions hereof upon the earlier to occur of receipt by Seller of a copy hereof executed by Purchaser or receipt by the Seller of a purchase order from the Purchaser for the goods or any delivery of the goods or other conduct of the Purchaser indicating acceptance. Any terms or conditions of a purchase order or any other document of the Purchaser, whenever executed, which are inconsistent with the terms and conditions hereof, shall not be binding on the Seller and shall not be part of the agreement for the sale or shipment of the goods, notwithstanding any provision to the contrary in any document of the Purchaser, if the Purchaser has not otherwise agreed to be bound by the terms hereof, then the Purchaser's acceptance of the goods shall constitute its agreement to be so bound. The Purchaser's orders are accepted by the Seller only when acknowledged by the Seller's general office. The Seller may at any time correct stenographic and clerical errors in documents and instruments executed by the Seller in connection with the sale of the goods.

2. WAIVER OR MODIFICATION. No waiver, alteration or modification of any of the provisions hereof shall be binding on the Seller unless made in writing and signed on behalf of the Seller by a duly authorized officer. The waiver by the Seller of any breach by the Purchaser of any provision hereof shall not constitute a waiver of any subsequent or continuing breach by the Purchaser of such provision or any other provision. Any such alteration or modification may result, among other things, in rescheduling of production and delivery and in the obligation of the Purchaser to reimburse the Seller for raw material and work-in-process previously ordered and for handling and other charges incurred by Seller, all as required by the Seller.

3. PRICE. Unless otherwise specified herein, the prices and charges for goods shall be as set forth herein. Unless otherwise specified herein, prices do not include any federal, state or local taxes and other charges, whether presently existing or imposed in the future. The Purchaser shall reimburse the Seller upon demand for all taxes and other charges including, without limitation, sales and use taxes, excises or other charges, except excises in the nature of an income tax, which the Seller may be required to pay to any government, federal, state, county or local, or other person upon the sale, production or transportation of the goods. Unless otherwise specified herein, the prices quoted herein do not include testing or inspection of the goods. Where the Purchaser requires tests or inspection not regularly provided by the Seller, the Purchaser shall reimburse the Seller for the additional costs of or the Seller's charges for such tests and inspection.

4. PAYMENT. Prices for materials delivered under any order are payable only in United States Dollars at the Seller's plant. Unless otherwise specified herein, where credit is given to the Purchaser, payment is due within thirty (30) days from the earlier of the invoice date or date of delivery. Whether any credit shall be granted to the Purchaser in any instance shall be within the sole discretion of the Seller. Each shipment made on any order shall be considered a separate sale and if payment is not received therefor within the period specified herein, the Seller may bring a separate suit to recover the contract price of each such shipment. The Seller may from time to time require different terms of payment, whether or not terms are specified herein, including, without limitation, cash on or prior to delivery. Whenever it reasonably appears to the Seller that the Purchaser's financial condition has changed or become unsatisfactory to the Seller, the Seller may demand adequate assurances from the Purchaser of its performance. If the Purchaser fails to pay any amounts due hereunder, or if within the period stated in such demand the Purchaser fails to give assurance of its ability to pay which the Seller deems adequate, the Seller may, at its option, and in addition to all remedies available to the Seller, treat such failure or refusal as a repudiation of the portion of the order which has not been fully performed and accordingly suspend or stop performance hereunder. The Purchaser shall be liable to the Seller for interest at the rate of one and one-half percent (1 1/2%) per month (or such lesser rate as may be the maximum lawful rate from time to time) on all overdue amounts.

5. SECURITY INTERESTS. To secure the purchase price and all amounts expended by the Seller to collect the purchase price and protect the goods, the Purchaser hereby grants a security interest in the goods to the Seller. The Purchaser hereby irrevocably appoints the Seller its attorney-in-fact coupled with an interest to execute and file U.C.C. financing statements to perfect the Seller's security interest in the goods. If the Purchaser does not timely pay for the goods, the Seller shall have and may exercise all other rights of a secured party under the Uniform Commercial Code and the Purchaser shall be liable for the purchase price, plus the Seller's expenses in connection with enforcing its rights hereunder, including legal fees and court costs.

6. DELAYS AND FORCE MAJEURE. Any date of delivery or shipment indicated herein is the Seller's best estimate of the approximate date when the goods will be ready for shipment. The Seller shall not be liable for damages of any nature resulting from delay for or failure of performance caused by accidents; strike or other labor difficulty; labor shortage; fire; explosion; flood, earthquake or adverse weather conditions; delay in transportation or lack of transportation facilities; federal, state, county or local government or governmental agency laws, rules, regulations, orders, proclamations, or decrees; shortage of fuel, power, materials or supplies; or any cause beyond the control of the Seller. In case of any delay so caused, the Seller shall have such additional time within which to perform as may be reasonably necessary under the circumstances, and shall have the right to apportion its materials or production among its customers in such manner as it may consider to be equitable.

7. SHIPMENT, DELIVERY AND RISK OF LOSS. Unless otherwise specified herein, delivery shall be F.O.B. the Seller's plant at Ludlow, Massachusetts. The risk of loss shall not be affected by conduct of either party that may constitute a default or breach hereunder. If the Purchaser specifies a carrier and that carrier fails or refuses to accept delivery when tendered, the Seller may store the goods for the Purchaser at the Purchaser's sole expense, but the purchase price shall be payable as if delivery occurred at the time of tender.

8. WARRANTY. The Seller warrants that the goods to be supplied to the Purchaser will conform to the description or specifications on the face hereof. SUCH WARRANTY IS IN LIEU OF ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. ALL OTHER IMPLIED WARRANTIES AND ANY LIABILITY NOT BASED UPON CONTRACT ARE HEREBY DISCLAIMED AND EXCLUDED BY THIS AGREEMENT. All warranty claims of any nature are barred if the goods have been altered, damaged, or in any way physically changed by the Purchaser, or subjected by the Purchaser to abuse, misuse, negligence or accident, or if the Purchaser fails to perform any of its duties set forth herein. All warranty claims of any nature are barred unless made by the Purchaser in a writing received by the Seller within ten (10) days after the Purchaser's receipt of the goods for defects that are not latent and within ninety (90) days after the Purchaser's receipt of the goods for latent defects.

9. DAMAGES. The liability of the Seller to the Purchaser's exclusive remedy, whether in contract or in tort, hereunder or any warranty applicable to the goods, are limited to the repair or replacement, at the Seller's option, of any defective part of the goods or the refund by the Seller of the purchase price for the goods in respect of which damages are claimed following the return to the Seller of such goods. In any event, liability of the Seller for damages hereunder shall not exceed the purchase price of the goods in respect of which damages are claimed. Goods may not be returned to the Seller without the Seller's prior permission, and then only in the manner described by the Seller. THE REMEDY HEREBY PROVIDED SHALL BE THE EXCLUSIVE AND SOLE REMEDY OF THE PURCHASER. IN NO EVENT SHALL THE SELLER BE LIABLE FOR ANY INDIRECT, PUNITIVE, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR SPECIAL DAMAGES, REGARDLESS OF WHETHER A CLAIM FOR SUCH DAMAGES IS BASED ON WARRANTY, CONTRACT, NEGLIGENCE OR OTHERWISE.

10. PATENTS, TRADEMARKS. Whenever goods make use of protected information, including, without limitation, any patent, design, copyright, trademark, trade name or trade secret provided by the Purchaser, the Purchaser warrants that it has the right to use such protected information and shall defend and indemnify the Seller against all damages, claims and losses resulting from infringement or alleged infringement of such protected information.

11. OWNERSHIP AND DISPOSITION OF HOBS, JIGS, TOOLS, PRINTS AND TRACINGS. All hobs, jigs, tools, patterns, prints and tracings required to build any goods ordered by the Purchaser are property of the Seller unless supplied by the Purchaser or unless otherwise specified in writing by the Seller. The Seller need return the Purchaser's hobs, patterns and tracings in their then existing condition, only if so specified in writing by the Purchaser. Unless otherwise specified in writing by the Purchaser, six months from the date of shipment of the goods, the Seller may dispose of, without liability, the Purchaser's prints submitted for quotation, patterns, and tracings and special hobs, jigs, tools and designs used in the manufacture of the goods.

12. CANCELLATION BY PURCHASER. In addition to all other remedies available to the Seller, the Purchaser shall be liable for any loss suffered by the Seller resulting from the Purchaser's cancellation of any order, including, without limitation, loss of the Seller's profits. If delivery does not occur within the time specified, the Purchaser's order shall remain in effect until completed or specifically cancelled by the Purchaser by a writing received by the seller.

13. ARBITRATION. Any controversy arising out of or relating hereto, including any modification or amendment hereof, shall be settled by arbitration in the City of Springfield, Massachusetts in accordance with the Rules then obtaining of the American Arbitration Association. The parties agree that the arbitrators sitting in any such controversy shall have no power to alter or modify any express provision hereof or to render an award which by its terms effects any such alteration or modification. The parties consent to the jurisdiction of the courts of the Commonwealth of Massachusetts and of the United States District Court of Massachusetts for all purposes in connection with said arbitration. The parties further consent that any process or notice of motion or other application to any of said courts or a judge thereof, or any notice in connection with any arbitration hereunder, may be served inside or outside the Commonwealth of Massachusetts by registered or certified mail, return receipt requested, or by personal service provided a reasonable time for appearance is allowed, or in such other manner as may be permissible under the rules of said court.

14. LIMITATION OF RIGHT TO ARBITRATE. Any claim by the Purchaser of any kind, nature or description is barred and waived unless Purchaser institutes arbitration proceedings within six months after giving notice of such claim as provided herein. The failure to institute arbitration proceedings within this period shall be a complete bar to the institution of any arbitration or other proceedings by the Purchaser and a waiver of all claims on the Purchaser's part.

15. ASSIGNMENT. No rights of the Purchaser hereunder or arising out of this agreement may be assigned without the express written consent of the Seller, and any attempted assignment of this agreement without the express written consent of the Seller shall be void.

16. SEVERABILITY. If any provision hereof is, becomes or is found by a court of competent jurisdiction to be at any time and under any law, rule or regulation unenforceable or invalid, the other provision hereof shall be affected thereby, and the remaining provisions hereof shall continue with the same effect as if such unenforceable or invalid provision had not been a part hereof.

17. JURISDICTION. Massachusetts law shall govern the making, construction and enforcement hereof.

MF0955

The Hanson Group, Ltd.
P.O. Box 789
Ludlow, MA 01056-0789
PHONE: (413) 589-0534
FAX: (413) 589-0761

QUOTATION NO. 990118-2010-11
DATE February 28, 2000
TERMS Net 30 Days

TO Mr. Jim McCollum
REMINGTON ARMS CO., INC.
315 West Ring Road
Elizabethtown, KY 42701-9318

3/1 : called 10:30 AM

REFERENCE: **Receiver Insert, HGL Job#9990204, 1000 Piece Run**

We are pleased to quote you as follows:

Mold 1,000 parts in RTP 299 x 83002 in single cavity mold with IQC process: $ 4,553.45 83

- Parts to be molded in IQC development tech center in MI. Please allow sufficient time to schedule this job into the lab.
- F.O.B. Ludlow, MA, Freight Collect
- Molding prices are based on current raw material costs. Changes in raw material costs may affect molding prices.
- Quoted prices are based on supplied quantities. Changes in quantities will affect prices.

cc: Joe Zajk, Remington
Mike Keeney, Remington

T (270) 769-7600
F (270) 737-9576

CONFIDENTIAL

REFERRED BY 990118-2010-13

We await your reply and assure you of our best attention and services at all times.
(Quote valid for 30 days.)
Subject to the terms and conditions on the reverse side hereof.

Roman H. Suski
Estimating Coordinator

CLIENT COPY

F03.005SQ Rev. Level B Revised: 01/26/99

MF0956

The Hanson Group, Ltd.

A United Plastics Group Company

Fax Cover Sheet
(www.hansonltd.com)

Date: 2/28/00 2 Pages (including cover) 83

To: Joe Zajk From: John Rego

Company: Remington

Fax: 270-856-3239

Phone:

Please return fax transmission to:
- ☐ Corporate (413) 589-7552
- ☒ Tooling (413) 589-0761
- ☐ Molding (413) 547-6167

☐ URGENT ☐ FOR REVIEW ☐ F.Y.I. ONLY ☐ PLEASE REPLY

Comments:

P.O. Box 789 • Ludlow, MA 01056-0789 • (413) 589-0534

Golemboski, Matt R.

From: Keeney, Mike
Sent: Wednesday, March 01, 2000 2:27 PM
To: Golemboski, Matt R.; Zajk, Joseph J
Cc: Diaz, Danny
Subject: 710 Safety Button

Guys,
I have spoken with Paul Holmberg and Al Russo relative to the cosmetic 710 sample. With the ISS bolt plug, the safety button gemometry is not the most desired feature of the rifle. They have asked that we look at reducing the sharpness of the geometry. Based on the thickness of the part, I'm not sure if we can obain a more rounded or domed top surface. I would like to talk to Square regarding possibilities. I do not want to contact square without imforming you of the issues. Would you like to do a conference call with Square to discuss?

Mike

ISO 9001

Brainin

Deer Park Die & Stamping Division — Fairfield

QUOTATION

December 14, 1999

Remington Arms Company, Inc.
22 Rifle Trail
PO Box 99
Hickory, Ky 42051

Attn: Matt Golembowski
Ref: Part # E-300363 rev. 9 with radius on edge at section B-B
We are pleased to submit the following quotation for your consideration.

TOOLING COST

Design and build progressive die to stamp part complete $83,000.00

PRODUCTION COST PER/M

Quantities:	Price/M
20/M	$600.36/M
40/M	$511.61/M
60/M	$476.20/M

Notes: Quote based on running part in quarterly production runs.
Parts will be bulk packed in Deer Park boxes on a skid.
Material quoted is a 1010/1020 Cold Rolled Steel.
Parts are to be produced by stamping in a progressive die and welding the overlap.
Tooling cost includes cost for welding fixture.
Quote Modified to allow for additional station in die to coin .020 radius edge at B-B.
Inspection: Production parts to be sample inspected per Deer Park's internal procedure when no other standard is specified by the client.
Delivery: Tooling, 14-16 weeks. Production, 4-6 weeks upon receipt of raw material.
Terms: Tooling, 1/3 at PO, 1/3 at sample submission, 1/3 at customer approval.
Terms: Production, Net 30 days.
FOB: Deer Park

Thank you for considering **Deer Park Die & Stamping, an ISO 9001 certified firm,** as your supplier.

Best Regards,

Jerry Rossman, Sales Engineer

Carl Dearman, Engineering Manager
Cc: Mike Keeney, Remington Arms Company,Inc.

4348 LE SAINT COURT, FAIRFIELD, OH 45014-5488, TEL: (513) 874-9760, FAX: (513) 874-9764, www.brainin.com
A Subsidiary of Stern Metals, Inc.

ISO 9001

Brainin

Deer Park Die & Stamping Division — Fairfield

QUOTATION

December 14, 1999

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22 Rifle Trail
PO Box 99
Hickory, Ky 42051

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Terms: Production, Net 30 days.
FOB: Deer Park

Thank you for considering **Deer Park Die & Stamping, an ISO 9001 certified firm,** as your supplier.

Best Regards,

Jerry Rossman, Sales Engineer

Carl Dearman, Engineering Manager
Cc: Mike Keeney, Remington Arms Company, Inc.

4348 LE SAINT COURT, FAIRFIELD, OH 45014-5486, TEL: (513) 874-9760, FAX: (513) 874-9764, www.brainin.com
A Subsidiary of Storm Metals, Inc.

Brainin

Deer Park Die & Stamping Division — Fairfield

To: Remington Arms Matt Golemboski FAX: 270-856-3233	From: Brainin Rich Lee	Date: 3-01-2000 Number of Pages: 2 Phone: (513) 874-9760 Fax: (513) 874-9764

Remarks:

83

—URGENT X FOR YOUR REVIEW —REPLY ASAP —PLEASE COMMENT

PART E-300363 REV. 9

PLEASE FIND COPY OF QUOTED DATED 12/14/99. STILL A VALID QUOTE.

Regards,

Rich

MF0961

Golemboski, Matt R.

From: Rossman, Jerry [jrossman@brainin.com]
Sent: Monday, January 31, 2000 10:13 AM
To: 'Golemboski, Matt R.'
Cc: Dearman, Carl
Subject: RE: Magazine Box

Matt-

Delivery date on the prototype is scheduled for March 9th, 2000. We could afford to give you some time to evaluate the prototypes but it couldn't be more than a few days before a PO is cut for production. After that you will have a couple days in which we could do some minor modifications to the production tool before it would impact the final delivery date.

Jerry Rossman

-----Original Message-----
From: Golemboski, Matt R. [mailto:golembosmr@remington.com]
Sent: Thursday, January 27, 2000 5:10 PM
To: jrossman@brainin.com
Subject: Magazine Box

What is the expected delivery date on the prototype samples? Will this occur before the drop dead date?

Matt Golemboski

83

Golemboski, Matt R.

From: Morgan, Metty E.
Sent: Monday, January 24, 2000 2:28 PM
To: Keeney, Mike
Cc: Golemboski, Matt R.
Subject: 710 Safety Arm

01/24/2000

Mike,

Dan Hart at Square Stamping can be reached at 315-896-2641.
The scenario goes: Square has quoted the best tooling cost by some $4500.00. vs. the other quoters., however, his piece price is highest. .23 cents vs .88 cents which I have just today gotten him down to .68 cents.

He says he has three issues with the design. 1.) no hole to check the cam surface.
2.) hole size
3.) tighter die clearance. shouldn't be much die break there. needs to be straight as possible.

He said our 710 safety has a form that is not on the 700 design. He is charging .285 ea. for that to Ilion. I could use some help here. Dan is very familiar with the 700 safety. He is confident that we will have trouble with a new vendor at .23 cents each. He is willing to drop the cost on other 710 parts if necessary, but says as this design is now there is no way he can move further. Please call him and see what you can do.

Thanks Mike,
Mett @ Mayfield

83

Brainin
Deer Park Die & Stamping Division

FACSIMILE COVER PAGE

Date: 1/27/00
Time: 9:03:02
Page: 1

To: Matt Golembowski
Company: Remington
Fax #: 270-737-9576

From: Jerry Rossman
Company: Brainin - Deer Park Die & Stamping Div.
Address: 4348 LeSaint Court
Fairfield, OH 45014
Fax #: 513-874-9764
Voice #: 513-874-9760

Message:

Matt-

Sorry it has taken so long to get back to you. Things have been hectic here in the office, we just got a new Network server and have been in the process of debugging. Good news is we have e-mail. My e-mail address is jrossman@brainin.com.

Anyways, Rich relayed to us you would like a drop dead date for production tooling to recieve a June 30th PPAP submission date. That being the case, a purchase order should be placed by March 10, 2000. That gives us our full standard lead time. If you place the PO any later, we may have to come back with expediting charges to cover our overtime commitments. If you have any questions, please do not hesitate to call.

Regards,

Jerry Rossman

Ps. We recieved our QS 9000 certification on Jan. 12, 2000.

83

1-12-99

MATT,

WE ARE GOING TO PROTOTYPE A TOOL AT BRAININ THEN BUILD A PRODUCTION TOOL. PLEASE CREATE A P.O. FOR $12,500 FOR PROTOTYPE TOOLING. CALL JOHN CURRY @ E'TOWN FOR A CHARGE #. E'TOWN WILL PAY FOR THE PROTOTYPE ~~TOOL~~ & WE WILL PAY FOR THE PARTS. I WANT 500 PC. 83 AT $13.17 EA. (TOTAL $6585).

DO NOT WORRY TOO MUCH ABOUT THE TEXT BECAUSE IT IS NOT THE PERMANENT TOOL. PAYMENT WILL BE SUBJECT TO FIRST ARTICLE APPROVAL.

DO NOT REFERENCE THE PRODUCTION TOOL AT THIS POINT. I AM GOING TO DISCUSS THIS WITH THEM AFTER THEY RECEIVE THIS P.O.

THANKS

Matt

Brainin

Deer Park Die & Stamping Division — Fairfield

To: Remington Arms	From: Brainin	
Matt Golembuski	Rich Lee	Date: 3-01-2000
FAX: 270-856-3233		Number of Pages: 2
		Phone: (513) 874-9760
		Fax: (513) 874-9764

Remarks:

83

—URGENT X FOR YOUR REVIEW —REPLY ASAP X PLEASE COMMENT

Matt,
Please find the latest program chart for the prototypes. Things seem to be in great shape at the present, and parts should be in your hands by 3-13 or possibly sooner. Do you wish to have any parts sent overnight to your attention, separate from the 500 lot? I will be in Detroit for the SAE Show all next week while these are being completed, so if there are any special needs, please contact Jerry Rossman. Please keep in mind the 3-10 target date to release the production tool program for a 6-30 PPAP. We will be somewhat flexible and realize you may need a little time to evaluate the part design, but would appreciate as much lead-time as possible. You might want to start your paperwork. We appreciate this opportunity to be of service and value Remington's continued patronage highly.

Best Regards,

Rich Lee
Rich

3-01-2000

Deer Park Die & Stamping Division — Fairfield

Deer Park Die & Stamping
Tooling Status Report

Customer: Remington Arms

Part Number: E-300363

Part Name: Mag. Box

Enter Task Completion % Below

Task Name	Duration	Start Date	Finish Date	wk 1 (1-17 Thru 1-21)	wk 2 (1-24 Thru 1-28)	wk 3 (1-31 Thru 2-4)	wk 4 (2-7 Thru 2-11)	wk 5 (2-14 Thru 2-18)	wk 6 (2-21 Thru 2-25)	wk 7 (2-28 Thru 3-3)	wk 8 (3-6 Thru 3-10)	wk 9	wk 10	wk 11	wk 12	wk 13	wk 14	wk 15	wk 16
SO#																			
strip layout		1-17-00	1-21-00	100%															
cross sections		1-24-00	1-27-00		100%														
design complete		1-27-00	2-9-00			100%													
steels received		2-9-00	2-11-00				100%												
components soft machined		2-1-00	2-25-00			10%	25%	55%	100%										
dieset machined		1-28-00	2-23-00						100%										
complete HT & ground		2-8-00	2-25-00				10%	60%	100%										
tryout mtl received		2-9-00	2-17-00					100%											
wire edm & jig complete		2-14-00	2-29-00					60%	100%										
fitting / assembly		2-28-00	3-3-00						100%										
tryout complete		2-28-00	3-8-00							50%									
samples made		3-8-00	3-10-00																
ISIR shipped			3-10-00																

Special Instructions / Notes: The above Time Line covers Both dies
1st Die has 3 stations. This Die will be ready For Tryout 2-25-00
2nd Die has 4 stations
While we Tryout 1st Die The 2nd Die will Be Fitted and assembled. We will Then Be able To continue The part Through The Last 4 stations.
Tryout Material is in house and we have The First 10 Prototype Flat Blanks cut and ready To run Through The 1st Die on 2-25-00.

Form # 23-1 Rev. 2 9/27/99

3-1-00 Dies are Finished. We are now developing Blank shape.
Spot welder Tips are Due in 3-2-00

Deer Park Die & Stamping Division — Fairfield

Deer Park Die & Stamping
Tooling Status Report

Customer: Remington Arms

Part Number: E-300363

Part Name: Mag. Box

Enter Task Completion % Below

Task Name	Duration	Start Date	Finish Date	wk 1 (1-17 Thru 1-21)	wk 2 (1-24 Thru 1-28)	wk 3 (1-31 Thru 2-4)	wk 4 (2-7 Thru 2-11)	wk 5 (2-14 Thru 2-18)	wk 6 (2-21 Thru 2-25)	wk 7 (2-28 Thru 3-3)	wk 8 (3-6 Thru 3-10)	wk 9	wk 10	wk 11	wk 12
SO #															
strip layout		1-17-00	1-21-00	100%											
cross sections		1-24-00	1-27-00		100%										
design complete		1-27-00	2-9-00			100%									
steels received		2-2-00	2-11-00				100%								
components soft machined		2-1-00	2-25-00			10%	25%	55%							
die set machined		1-28-00	2-23-00						100%						
complete HT & ground		2-8-00	2-25-00				10%	60%							
tryout mtl received		2-9-00	2-17-00					100%							
wire edm & jig complete		2-14-00	2-29-00					60%							
fitting / assembit		2-28-00	3-3-00												
tryout complete		2-28-00	3-8-00												
samples made		3-8-00	3-10-00												
ISIR shipped			3-10-00												

Post-it® Fax Note 7671 | Date 2/22 | # of pages ▶ 1
To MATT GREER, BOB SKI | From Jerry Bossman
Co./Dept. Remington Arms | Co. Brown Deer Park
Phone # | Phone # 874-9760 (513)
Fax # (270) 856-3233 | Fax # (513) 874-9764

Special Instructions / Notes: The above Time Line covers BOTH dies
1ST Die has 3 STATIONS. This Die will Be ready For Try out 2-25-00
2ND Die has 4 STATIONS
While we Try out 1ST Die The 2ND Die will Be Fitted and assembled. We will Then Be able To continue The part Through The last 4 STATIONS.
Try out Material is in house and we have The First 10 Prototype Flat Blanks cut and ready To run Through The 1ST Die on 2-25-00.

Form # 23-1 Rev. 2 9/27/99

Brainin

ISO 9001

Deer Park Die & Stamping Division — Fairfield

QUOTATION

December 9, 1999

Remington Arms Company, Inc.
22 Rifle Trail
PO Box 99
Hickory, Ky 42051

Attn: Metty Morgan
Ref: Part # E-300363 rev. 9, Prototypes

We are pleased to submit the following quotation for your consideration.

83

TOOLING COST

Design and build secondary "soft" tooling to stamp laser-cut parts $12,500.00

PRODUCTION COST

Quantities:	Price:
10 pcs.	$188.87 each
100 pcs.	$ 26.23 each
500 pcs.	$ 13.17 each
1000 pcs.	$ 11.83 each

Notes: Prototype parts are to be manufactured on tooling not intended for production runs.
Parts will be bulk packed in Deer Park boxes on a skid.
Material quoted is a 1010/1020 Cold Rolled Steel.
Inspection: Production parts to be sample inspected per Deer Park's internal procedure when no other standard is specified by the client.
Delivery: Tooling, 8 weeks. Production, 2-4 weeks upon receipt of raw material.
Terms: Tooling, 1/3 at PO, 1/3 at sample submission, 1/3 at customer approval.
Terms: Production, Net 30 days.
FOB: Deer Park

Thank you for considering **Deer Park Die & Stamping, an ISO 9001 certified firm,** as your supplier.

Best Regards,

Jerry Rossman, Sales Engineer

Edward J. Kreuzer, Vice President/General Manager
Copy: Matt Golemboski, Mike Keeney

4348 LE SAINT COURT, FAIRFIELD, OH 45014-5486, TEL: (513) 874-9760, FAX: (513) 874-9764, www.brainin.com

Golemboski, Matt R.

From: Keeney, Mike
Sent: Tuesday, December 14, 1999 9:35 AM
To: Golemboski, Matt R.; Zajk, Joseph J
Cc: Diaz, Danny
Subject: Couple of things

Matt/Joe,
I spoke with Jerry Rossman at Brainen regarding the feedlip coining suggestion of Metgar. I faxed a marked copy of section B-B to Jerry also. I have asked him to look at a .010 to .020 radius on the underside of the feedlips. He said they could accomplish it by adding another step to their progression and that it would only increase tool costs, not affect piece price. I asked him to review it with their tool guys, send a quote to you, and then based on the cost we would alter the drawing. Look for an updated quote from them in the next week or so.

I also spoke with John Bartrum at Sterling regarding the PM latch issue. It pretty much boils down to a secondary operation to either drill the hole or machine the spring pocket depending on press direction. I can work on the redesign if you are interested in a secondary operation. let me know if you want to pursue that.

I also spoke with Travis Ayers at Parmatech, they were going to mold boxes last night. if they could fill the tool and obtain green parts, they would have sintered parts in a week. I told him to keep us updated and that as soon as they have processed parts to review, a group of us would be out to discuss path forward. I emphasized the timing. He mentioned his main concern is holding the +/-.002 tolerances if they get that far. By no means is it a guarantee. Must be in the MIM3 Business Code to avoid projecting confidence.

Golemboski, Matt R.

From: Zajk, Joseph J
Sent: Tuesday, December 07, 1999 1:50 PM
To: Morgan, Metty E.; Helmer, Gerald A.
Cc: Golemboski, Matt R.
Subject: FW: M/710 DAT Components

Importance: High

Metty & Jerry,

Can you see which vendor is most likely at this point to get each of the following parts and ask them if they would be willing to make Mike's 150 pc. sample of each, how much, and when they can deliver? Mike would like to begin his DAT testing for the 710 in mid to late February '00. We would need to let Mike know yea or nay on each component by the middle of next week.

Joe Z.

-----Original Message-----
From: Keeney, Mike
Sent: Tuesday, December 07, 1999 1:15 PM
To: Zajk, Joseph J
Cc: Diaz, Danny; Golemboski, Matt R.
Subject: M/710 DAT Components

Joe,
Per our discussion yesturday, the following is a list of 710 components that we would like to have DAT samples made by your vendors. Please proceed with procurement of these components. As we discussed, you purchase a minimum quantity of 150 pcs. of each component. If you are not able to supply a component please let me know asap so that I can make arrangements for prototypes through alternate sources.
Thanks
Mike

A-300347-A	THREADED INSERT	.04
A-300328-1	SIDE PLATE PIN (ORDER 300 PCS, 2 PER GUN)	.02 EA
B-300351	PIVOT PIN (ORDER 450 PCS, 3 PER GUN)	.01 EA
B-300407-1	SAFETY SPRING	.06
A-300329-2	BOLT HANDLE PIN	.10
B-300342-1	EJECTOR	.16
A-300367	EJECTOR SPRING	
C-300334-A	FIRING PIN	.11
C-300385-2	FIRING PIN TIP	.33
A-300359-D	FIRING PIN SPRING	.10

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Golemboski, Matt R.

From: Keeney, Mike
Sent: Tuesday, December 07, 1999 1:43 PM
To: Golemboski, Matt R.; Zajk, Joseph J
Cc: Diaz, Danny; Cook, Todd D.; Danner, Dale
Subject: M/710 Grip Cap Issues

Matt and Joe,
Todd has developed a core change to the stock that will allow us to add use the M/700 grip cap without modification. The change will allow for a snap fit assembly of the stock and grip cap similar to the M/597. The new core design is a line on line match with the grip cap model drawing. Our intent is to build the stock mold as designed and adjust the fit of the grip cap after trial assembly. To ensure the core remains steel safe, we do not want to design more interference than line on line. The alterations to obtain the proper grip cap/stock fit will be steel removal. Todd and I will review the entire stock one more time before forwarding the final file to Par 4. The file should be forwarded by Friday, 12/10/99.

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Golemboski, Matt R.

From: Zajk, Joseph J
Sent: Tuesday, December 07, 1999 9:30 AM
To: Golemboski, Matt R.
Subject: FW: Model 710 Core Issues

I'm having Todd pursue this idea further to see if it pans out.

Joe Z.

-----Original Message-----
From: Cook, Todd D.
Sent: Tuesday, December 07, 1999 8:03 AM
To: Zajk, Joseph J
Subject: RE: Model 710 Core Issues

Joe,

Sounds like you have a good direction. I noticed the tooling cost being an issue and brought it up to the toolmaker that Par 4 uses for some of it's work (Quality Tooling). Gary Hilliard, their design engineer, seemed to think that a core set that could be used some of the time when the 710 caps are molded in the 700 cap mold would be cheap (a few thousand at most). It may pay for us to get a tool print on that mold to Gary (and other mold makers -- TRT, Hi-Tech) and have them quote making a removable core set just for the 710 to fit that mold. That way we could make parts for both with the same mold. It may be a little difficult to find all the prints that you need, but many toolmakers I have worked with can quote something like that from some good photographs of the mold and a drawing of the new core. I can supply the drawing of the new part (and the old one). Let me know what you think.

Todd

.....
From: Zajk, Joseph J
Sent: Monday, December 06, 1999 7:54 PM
To: Cook, Todd D.
Cc: Diaz, Danny; Keeney, Mike; Golemboski, Matt R.
Subject: RE: Model 710 Core Issues
Importance: High

Todd,

Here's a quick summary about what we discussed today and the paths we're pursuing:

- Options 1 & 2 are not viable options
- We will investigate options 3 & 4; in particular we need to see if a 700 grip cap, modified to fit in a 710, will still satisfy the requirements for the 700 stock

We are going to do some experimenting and investigation into the option 3 grip cap modification to see if its viable. If so, we will then need to weight the cost of modifying an existing tool vs. building a whole new one. This will require input from Mayfield, E'town and Ilion as to its viability. If you have any insight as to whether this is a good idea, please let me know.

In conclusion, as it stands now, we are only pursuing those options that give us the optimal coring for the 710 stock, with an emphasis on trying to find a modified 700 grip cap geometry that satisfies both 700 & 710 stocks in order to limit the amount of unplanned capital required. Any info on Ilion's grip cap/stock assembly process that you can offer will be of great help, as Ilion's knowledge base might be temporarily somewhat degraded now that Jeff Swanson is no longer with Remington. We will be attempting to gather as much information as we can from Ilion as well.

Joe Z.

-----Original Message-----
From: Cook, Todd D.
Sent: Friday, December 03, 1999 3:54 PM
To: Zajk, Joseph J
Cc: Diaz, Danny; Keeney, Mike
Subject: Model 710 Core Issues

Joe,

I know that you will be talking about these issues next week early, but I wanted to give you a heads up on the Model 710 core issue. We still have the potential problem of a thin steel condition with the coring as designed.

The issue falls out to a number of choices:

1. Use the current grip cap and have a steel condition that is not ideal. (The thin area in the mold may occasionally have to be repaired)

2. Use the current grip cap and fix the thin steel condition leading to bad sink problems and part distortion in the grip area. No core would be left in the area where your right hand would grip (for a right handed shooter).

3. Use the current grip cap, but sand off part of it so that both the sink and the thin steel condition in the grip area can be eliminated. (The same thing may be able to be accomplished with a new core or core modification in the existing grip cap mold for slightly more $ but not as much as new grip cap mold)

4. Build a new mold for a grip cap that is idealized for this application, which reduces the piece cost, but drives up the capital needs.

None of these options is ideal, but I feel certain that with some discussion you can arrive at the one that makes the most sense for your current needs. My advice is option 3 to get started and not cause extra expense. It also seems to be more durable and better for cooling. There are other advantages to the current lay out as well like minimizing sink from the screw bosses for the recoil pad. In short, I think option three is best. You may be able to see issues with it, though. I am sending you some pictures (Mike will bring them) that show the cores for these options. They are labeled for the options from this E-mail. Hopefully, they will help you see what I was up against. Anyway, if you guys need more info, I will do whatever I can.

Todd

83

Board Meetings

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Golemboski, Matt R.

From: Sacharnoski, Kristan M.
Sent: Tuesday, February 29, 2000 1:47 PM
To: Gooch, Jim C.
Cc: Golemboski, Matt R.; Zajk, Joseph J
Subject: RE: List

Hey Jimmy,

Plan on using the weeks starting with the beginning of April until about the last week of May for runoff and delivery of the new machines. The runoff of the LB 300 will begin the week of April 10 in Louisville with the machine arriving the following week. The progressive weeks will be the runoff and delivery of the Induction, Eddie Current, and finally ending with the Laser Machine around the middle to end of May. Exact dates for the last three machines have not been established. The P.O. on the Laser will probably cut this Friday, bet on 10 weeks for the laser from that date. Consider the riggers that you will need for the LB 300 during its delivery date on the week of April 17th as well as any material needed to move the machine into the barrel cell. Also plan on the delivery of the Crown 4018 or similar model CNC on the first week of April, "give or take a week".

Thank you,

Kristan

83

-----Original Message-----
From: Gooch, Jim C.
Sent: Tuesday, February 29, 2000 12:52 PM
To: Sacharnoski, Kristan M.
Subject: RE: List

Hey dude, If possible could send me some dates for these runoffs. Thank ya

---
From: Sacharnoski, Kristan M.
Sent: Monday, February 21, 2000 3:58 PM
To: Gooch, Jim C.
Subject: List

Here is the list of machines for runoff:

- Induction Hardening Machine
- Eddy Current Tester
- Laser
- LB 300

Each machine will take a most about 3 days for run off.

Golemboski, Matt R.

From: Morgan, Metty E.
Sent: Tuesday, February 29, 2000 1:14 PM
To: Golemboski, Matt R.
Subject: Valco

02/29/2000

Matt,

Valco / Valley Tool said today, that we should have our samples in about a week. (magazine spring)
I will call them again on Monday, the 6th as a follow up.

Also, I spoke with Gordon Dill, Engr. Mngr. for Northwest (bolt handle supplier),
I asked him to revisit the cost of the tool rebuild. I explained to him why I felt Remington
should not bare the brunt of the total expense. Joe was in on the conversation. Gordon is
going to discuss it further with William Somerville, General Manager, and get back with us.

Mett

83

Golemboski, Matt R.

From: Keeney, Mike
Sent: Monday, February 28, 2000 9:45 AM
To: Zajk, Joseph J
Cc: Golemboski, Matt R.; Diaz, Danny
Subject: 710 drawings

I am shipping the following drawings today:

Box Bottom D-300365 Rev.20: Moved spring pocket rearward .130 and added Text recessed pocket
Bolt Head Magnum C-300416 Rev. F: C datum change
Trigger C-300435 Rev. C: Corrected dimesions per your request
Follower D-300364 Rev. 16: moved spring pocket .130 rearward, added clearance for box changes
Magazine Box E-300363 Rev. 14: adjustments for spot welding per Brainen rquest.

Mike

83

FYI copy 01/06

Morgan, Metty E.

From: Keeney, Mike
Sent: Thursday, January 06, 2000 11:56 AM
To: Morgan, Metty E.
Subject: RE: 710 Purchased Parts

Mett,
here's my thoughts per part:

300327 Receiver Insert-- Mold is complete, Joe to inspect parts
300333 Side Plate--OK to order tool
300334 Safety-- Do not order, waiting for marketing approval
300345 Bolt Stop--OK to order tool
300361 Recoil Bracket--OK to order tool
300360 Bolt Handle Blank--Do not order, waiting for knurling decision
300366 Bolt Handle Braze--OK to order
300368 Bolt Plug--OK to order tool
300336 Firing Pin Head--OK to order tool
300362 Magazine Latch--OK to order tool
300363 Magazine Box--Hold/may order prototype tool?
300364 Magazine Follower--OK to order tool
300365 Magazine Bottom--OK to order tool, indicate insert will be required for artwork 83

the partslist has all current levels of revisions, you should be linked to it to view, if not let kristan know, he can link you.

Any problems let me know'
Thanks
Mike

.....

From: Morgan, Metty E.
Sent: Thursday, January 06, 2000 11:58 AM
To: Keeney, Mike
Subject: 710 Purchased Parts

01/06/00.

Mike,

When you let me know which parts I can order, please include the latest and greatest Rev. level so I will be sure to use the
most current dwg. when ordering.

Thanks,
Mett

Mayfield Visit, Dec. 6, 1999
Attendance: Mayfield -- M. Golemboski, J. Zajk, S. Truax, G. Helmer
R&D -- D. Diaz, E. Schoppman, M. Keeney

M/ 710 Review:

Stock Grip Cap - Mayfield to investigate alteration of current M/700 grip cap mold to allow for common usage of grip cap for M/700 and M/710. If alterations are not possible, the development of a M/710 specific mold will be required.

Bolt Handle Assembly - Modification of the bolt handle pin will be required to eliminate burrs generated while pressing the pin into the bolt handle. The bolt body clearance cut on the bolt handle will be altered to .690" dia. to improve the braze characterisitics.

Receiver and Bolt Body Drawings - Alterations requested by Mayfield to improve design intent relative to location and inspection of the components.

Magazine Bottom and Follower - The two components will be molded in a family tool, thus common material specifications are required.

Magazine Box - R&D will contact Deer Park Stamping to review possible coining operations to remove sharp edge on underside of feed lips. Drawings will be updated following the determination of resultant geometry.

Latch - Mayfield will quote as a Powder Metal component as back up to current synthetic direction. Based on cost, the group will decide if a metal latch is feasible. Concern is that the revised latching surface of the box may deform a synthetic latch. R&D to review synthetic material selection.

Stock Bushing Assembly - Mayfield to review stock bushing assembly and advise if there are design issues with current system.

Receiver Insert - Inspection report, program and fixture due this week, following setup, current receiver inserts will be inspected. Tool corrections to be based on inspection data and then trial quantity (1000-5000 pcs) of receiver inserts will be ordered.

Bolt Plug with ISS - R&D to generate exploded view of assembly. Mayfield to locate ultrasonic welder and proceed with assembly process development. Mayfield to investigate alternative processes to manufacture the bolt plug, such as investment casting.

DAT Schedule - Design Acceptance Testing of 30-06 caliber firearms is scheduled to begin mid February, based on delivery of receiver and bolt body tubing. Mayfield vendors will be used to provide as many of the components as possible based on delivery schedules. Mayfield to investigate procurement of MIM material blanks for machining of firing pin heads. Final assembly of the DAT firearms will be in Mayfield. Following successful completion of the 30-06 DAT, the 270 DAT will follow in April.

Bolt Action Rimfire Review:

R&D presented the staffing and program direction for the Bolt Action Rimfire introduction. The first phase of the program will be to develop and verify a design concept. Upon preliminary verification of the design function through initial prototyping, process development and costing will follow. The objective is to have a detailed schedule by the end of January 2000.

To: Joe Zajk
From: James Urbon
Date: June 27, 2000
Re: M/710 Barrel Locking Lug Microhardness

It was requested that microhardness measurements be made on the locking lugs of two M/710 barrels that were provided by Joe Zajk. The barrels were sectioned through a locking lug and then mounted and polished. Microhardness measurements, using the 1000g Vickers scale, were then taken through the locking lug, starting at the inside surface and spaced every 0.020". Figure 1 shows the location of the indents. The results are shown in figure 2. It appears that the parts are a little hard.

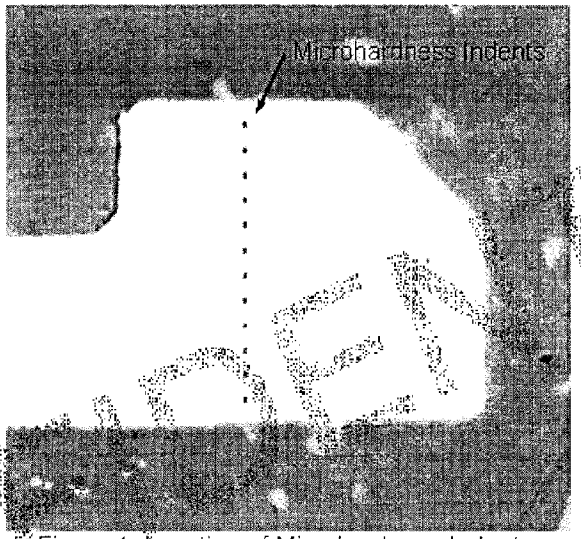

Figure 1: Location of Microhardness Indents.

	Sample #1		Sample #2	
	Hardness		Hardness	
Field #	HRC	Hv	HRC	Hv
1	46	457	47.8	482
2	47.1	472	48	484
3	46.4	463	47	471
4	46.3	462	47.4	476
5	47.6	479	47.8	481
6	46	458	47.2	474
7	46.3	462	48	484
8	46.2	460	47.7	480
9	46.5	464	47.2	474
0	47.2	474	47.2	473
1	45.3	450	44.4	439
2	44.4	439	47.2	473
Average	46.275	461.6667	47.24167	474.25
Std. Dev	0.85187	10.67992	0.960548	12.01609

Figure 2: Results of Microhardness Measurment.

Remington®

REMINGTON ARMS COMPANY, INC.

22 RIFLE TRAIL
P.O. BOX 99
HICKORY, KY 42051

TEL: 270-856-4200
FAX: 270-856-3233

3/31/00

Mr. Sam Todd
Par 4 Plastics, Inc.
P.O. Box 385
Marion, KY 42064

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Dear Sam,

As per our meeting on Friday, March 31st, this letter is to confirm the agreement on RTP material. Per a conversation between Steve Clemans of RTP and myself, Par 4 should be able to order 710 stock material from RTP at the quoted Remington cost per specific volume.

As the volumes increase the cost goes down, and it is in the best interest of all parties that the largest reasonable volume be ordered. Steve Clemans has agreed to reviewing a blanket order purchase plan that would allow Par 4 to order direct at Remington cost and have monthly quantities released against the PO. I would suggest you contact Steve and work out the plan that best suites the stock program.

Remington will commit to the maximum volume of 24,000# at this phase of the 710 program. Should the program slow or be deleted, Remington will pay for all remaining RTP material that Par 4 might still have for the 710 program, from this initial order.

If you have any questions or comments in regard to the above, please feel free to contact me.

Sincerely,

Metty E. Morgan

Metty E. Morgan
Materials Manager
Remington Arms Company, Hickory

cc: Matt Golemboski
Steve Clemans

Golemboski, Matt R.

From: Cook, Todd D.
Sent: Monday, February 28, 2000 12:39 PM
To: Keeney, Mike; Golemboski, Matt R.
Subject: Mold Try-out on Bolt Plug

Mike & Matt,

Mike Bennett called from Kellems & Coe, and they want to do a trial on the new Bolt Plug mold on Friday. They wanted some help getting the material--which as you know has been specified the same as the stock, but in black.

I do NOT have the currently specified material, RTP 199X83039E, in black. However, I did have 199X83039D in black; and I shipped it to Kenny at Kellems & Coe, so they will have it in time for the Friday trial.

The "D" version differs from the currently specified "E" grade only in the UV stabilizer--which will not effect the color, shrink, or properties (other than UV stability). "D" should be fine for tool check out for dimensions and for testing. The correct thing to do is to order the "E" material and re-sample for T&P; but I am not convinced that would be necessary, as we do no long-term weathering tests in T&P. For EET & even DAT, I think these parts will be fine. We just need to make sure that the final product has the "E" version for added UV stability.

ASIDE
This bolt plug material is a common material with M/597 Magnum Stocks, so there may be some volume discounts available. If you need more info on the specifics, let me know.

Todd

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Golemboski, Matt R.

From: Cook, Todd D.
Sent: Monday, February 28, 2000 8:47 AM
To: Zajk, Joseph J
Cc: Golemboski, Matt R.; Morgan, Metty E.
Subject: RE: 710 Stock Color Sample

Joe,

I received the new color number from RTP. To order what we are now calling the M/710 material, you need:

RTP 199X83039E in S-880849

I have 100 pounds in house (reportedly) this morning--it shipped yesterday from RTP in Indianapolis. What I am planning to do now is to get a sampling run done on the M/597 prototype mold as soon as I can. I will ship the resulting parts to you and you can forward. If the sampling is at Par 4, would you want to come over?

Todd

.....

From: Zajk, Joseph J
Sent: Friday, February 25, 2000 3:00 PM
To: Cook, Todd D.
Cc: Golemboski, Matt R.; Morgan, Metty E
Subject: RE: 710 Stock Color Sample

We would prefer to have Par 4 buy the material, but we will try to get them the price they would give us as a "national" account. As it stands right now we are going to have the color used for the 710 alone.

Let us know when you get the RTP information.

Thanks for the info.

Joe Z.

-----Original Message-----
From: Cook, Todd D.
Sent: Friday, February 25, 2000 1:47 PM
To: Zajk, Joseph J
Subject: RE: 710 Stock Color Sample

Joe,

The new RTP 199X83039E was developed to match the DSM Material. It is a high flow, 20% chemically-coupled glass-filled polypropylene homopolymer with UV stabilizer just like DSM J-60/20/E/HF/UV--the current M/597 material. The purpose of all this craziness was to give us a chance to use a competitive process to get the price down on M/597 and to bring in the M/710 material BELOW budget, since its budget was based on the current material price.

Now, let's see...

RTP 199X83039E is a new grade and RTP's color numbers are grade specific, so they will have to issue new numbers (a formality as the UV stabilizer will not effect the color). I have requested those, I bet I should know something by Monday PM. Once I have it, I will send you an E-mail with the info. That will be color numbers for the three colors, so you can order them. Also, once the color numbers are issued, we can (and have) requested updated pricing to see if we can save some. I have informed these guys that their price needs to be exciting. Tell Metty that if she is not excited by it that she can tell them that. "Todd Cook said I would be excited--I ain't excited. Give me something better! " or words to that effect.

If you agree that the new RTP material's price is attractive, I would suggest that we negotiate a contract rate for the materials and have RTP ship to Hanson and Par 4 directly. If you are not going to "combine" the M/710 volume with M/597 volume, the price won't be as good, so you might think Par 4 could buy for the same cost as us...but ... the national accounts manager has some clout in RTP on pricing as RTP is trying this way of working with multi-region firms, which may lead to a better number than if Par 4 calls their RTP Sales Engineer and asks for this material. Besides, to keep Par 4 sharp, you want to know exactly what the resin costs.

I will get the color numbers to you as soon as I have them.

83

If we don't talk again on this one today, have a great weekend.

Todd

.....
From: Zajk, Joseph J
Sent: Friday, February 25, 2000 1:38 PM
To: Keeney, Mike; Cook, Todd D.; Golemboski, Matt R.
Subject: FW: 710 Stock Color Sample
Importance: High

Its a go for the color.

Mike & Todd; please make sure the RTP chemical makeup (UV resistance, etc.) is agreeable to both of you.

Todd: Please confirm the shrink matching of the RTP material to the original material specified and let me know if its OK so I can tell Par 4 the material. If RTP is going to assign a new color number for this please let me know what it is.

The last question is: do we go through this new 'national accounts' program Todd was talking about or do we let Par 4 handle the material buy? Please let Matt & myself know you thoughts on this.

Thanks,

Joe Z.

-----Original Message-----
From: Kohler, Drew
Sent: Friday, February 25, 2000 12:32 PM
To: Zajk, Joseph J
Cc: Golemboski, Matt R.; Russo, Alfred D.; Cook, Todd D.
Subject: RE: 710 Stock Color Sample

Joe,

Al & I took a look at it yesterday and even though it's tough to tell what an entire stock will look like in that color, we feel that this color will work.

You have marketing's approval to proceed.

Drew

-----Original Message-----
From: Zajk, Joseph J
Sent: Friday, February 25, 2000 12:07 PM
To: Kohler, Drew
Subject: 710 Stock Color Sample

What do you think of the color? Let me and Matt know.

Thanks,

Joe Z.

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Golemboski, Matt R.

From: Jiranek, Marlin R.
Sent: Tuesday, March 07, 2000 2:33 PM
To: Morgan, Metty E.; Zajk, Joseph J; Golemboski, Matt R.
Cc: Danner, Dale
Subject: RE: Material Specification

Here is the scoop - - -

Yes, the changes are OK (per my E-mail of 3/6) and the specification has been changed to 704 and is currently updated and ready to print on the server. This message was sent to you, and copied Zajk and Keeney. The new specification incorporates the changes Republic wanted with exception of using billets without size limitation (blooms are acceptable). To view and get access to the spec. simply follow the instructions of the e-mail I sent (2/21, "Material Specs and Material Codes"). If you need, I can re-send this e-mail to you. With the On-Line system, you have access to all of the specs which are generated for use from Elizabethtown. . . .

-----Original Message-----
From: Morgan, Metty E.
Sent: Tuesday, March 07, 2000 2:13 PM
To: Jiranek, Marlin R.
Cc: Zajk, Joseph J; Golemboski, Matt R.
Subject: RE: Material Specification

Ok, here is where I stand. I do not have a copy of any Material Spec that is number 704 in my file. I have #124 83 I need to place
an order for 710 barrel material as soon as possible. Someone in the Engineering Dept. needs to let me know if the quote from
Republic Steel is " Ok as is" to place this PO. Republic told be today the MIL Spec you have asked for is not faxable or mailable.
It is on a 40 x 48 poster, and they suggested you contact the Government to get a copy of it. Can you or Joe Zajk please give me
an answer as to whether or not the Exceptions noted on the Republic Steel Quote are acceptable. Thanks, Mett

-----Original Message-----
From: Jiranek, Marlin R.
Sent: Tuesday, March 07, 2000 11:52 AM
To: Morgan, Metty E.
Subject: RE: Material Specification

Not the Mil Spec - I mean could you view and print Spec 704 satisfactorily? ? ? ?

-----Original Message-----
From: Morgan, Metty E.
Sent: Tuesday, March 07, 2000 12:21 PM
To: Jiranek, Marlin R.
Subject: RE: Material Specification

He is looking into sending it to me this morning. The gentleman I normally deal with, (Mark Sullivan) is out this whole week.
I hope the guy I talked with this morning can get the info. I will keep you posted. Thanks, Mett

-----Original Message-----
From: Jiranek, Marlin R.
Sent: Tuesday, March 07, 2000 10:42 AM
To: Morgan, Metty E.
Subject: Material Specification

met,

Did you get all the info you needed regarding the M/710 Bbl Steel spec from Republic. It is the first attempt at using the ON-Line spec system between us. Just wanted to know. . . .

Marlin.

Marlin R. Jiranek, II
Research Engineer
Remington Arms Company, Inc.
Phone: (270) 769-7645
FAX: (270) 737-9576
E-mail: jiranekmr@etown.remington.com

Golemboski, Matt R. **2000-14**

From: Keeney, Mike
Sent: Tuesday, March 07, 2000 8:17 AM
To: Morgan, Metty E.
Cc: Golemboski, Matt R.
Subject: firing pin spring 300399 rev. E

Mett,
I have faxed the new firing pin spring drawing to your attention, A-300399 Rev. E. Please copy and replace 300399 Rev. D in drawing files. Also check delivery of a 15 piece minimum sample by 3/14/00.

thanks
Mike

83

FEDERAL STEEL SUPPLY, INC.
747 Goddard Ave
P.O. Box 840
Chesterfield, MO 63006
636-537-2393•800-325-1584
FAX 636-537-8795

FEDERAL STEEL QUOTE#	71033 PAGE: 1
SALESMAN #	3 3 Vernon C. Smith
WAREHOUSE	2
PROS / CUST #	51924 51924
QUOTE DATE	11/10/99

ATTENTION: JOE ZAJK

FREIGHT INFO:

CUSTOMER P.O.#

YOUR INQUIRY #

COMPANY: REMINGTON ARMS CO.
MAYFIELD PLANT
P.O. BOX 99
HICKORY, KY 42051

ACCEPTED BY:

QUOTATION

LINE#	DESCRIPTION & PIECE LENGTH	QTY	PRICE	U/M	POUNDS	ITEM TOTAL
	REGRET 5' LENGTHS / 10' MNS ONLY					
	LEAD TIME 7/8 WEEKS					
	DEL PRICE / BOXED TO YOUR PLANT					
1	1.400 OD X 1.047 ID 12'6"	300 FT	4.2200	FT		1,266.00
	OD TOL= +.005/ -.000					
	ID TOL= =.000/ -.004					
	.010 MAX WALL VARIATION					
	11000' QTY PRICE =2.89/FT					
2	.6930 OD X .5010 ID 12'6"	300 FT	1.7700	FT		531.00
	OD TOL = +.003/ -.000					
	ID TOL =+.000 - .004					
	11000' QTY PRICE =1.12/FT					

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CONFIDENTIAL

This quotation and all sales resulting from it, are subject to FSSI Standard Terms & Conditions of Sale which are available upon your request.

TAXABLE TOTAL
SALES TAX

ALL ITEMS ARE OFFERED SUBJECT TO PRIOR SALE. PRICES IN U.S.$
ALL PRICES SUBJECT TO FINAL CONFIRMATION
TERMS: NET 30 DAYS UPON APPROVAL.
ist our Web site at http://www.fedsteel.com

TOTAL AMOUNT	$ 1,797.00

WT TOTAL

MF0990

Golemboski, Matt R.

From: Golemboski, Matt R.
Sent: Monday, January 31, 2000 12:17 PM
To: Keeney, Mike; Zajk, Joseph J
Subject: RE: Model 710 firing pin head FEA.

Mike, Looking at the lateral constraints and the location of the resultant stresses, do you think the lateral constraint patch is correct? I thought it would be more of a smaller area angling from the intersection of the "face of the head" the large flat surface with the hole and the location where the bottom of the head intersects cantilever. Usually when there is a mistake in modeling its in the constraints. Just a question.

-----Original Message-----
From: Keeney, Mike
Sent: Tuesday, January 25, 2000 3:12 PM
To: Golemboski, Matt R.; Zajk, Joseph J
Subject: FW: Model 710 firing pin head FEA.

Assuming the yield strength of the MIM material meets the specification, we should be OK. Marlin is going to test MIM samples to verify yield strength. Will keep you updated.

From: Rages, Brian L
Sent: Tuesday, January 25, 2000 2:51 PM
To: Keeney, Mike
Subject: Model 710 firing pin head FEA.

Mike,
Here is my report on the FEA I did on the 710 firing pin head. I'm interested in any feedback you have. It might be helpful to do the same analysis on a Model 700 firing pin head for comparison.

<< File: Firing Pin Head FEA.doc >>

-- Brian Rages

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Haley, Melissa A.

From: Golemboski, Matt R.
Sent: Wednesday, January 26, 2000 7:45 AM
To: Haley, Melissa A.
Subject: FW: Model 710 firing pin head FEA.

please print this on your color printer. thanks

-----Original Message-----
From: Keeney, Mike
Sent: Tuesday, January 25, 2000 3:12 PM
To: Golemboski, Matt R.; Zajk, Joseph J
Subject: FW: Model 710 firing pin head FEA.

Assuming the yield strength of the MIM material meets the specification, we should be OK. Marlin is going to test MIM samples to verify yield strength. Will keep you updated.

From: Rages, Brian L
Sent: Tuesday, January 25, 2000 2:51 PM
To: Keeney, Mike
Subject: Model 710 firing pin head FEA

Mike,

Here is my report on the FEA I did on the 710 firing pin head. I'm interested in any feedback you have. It might be helpful to do the same analysis on a Model 700 firing pin head for comparison.

Firing Pin Head FEA.doc

--Brian Rages

83

Model 710 Firing Pin Head Finite Element Analysis
Brian Rages
1/26/00

OBJECTIVE

The purpose of this analysis is to evaluate the distribution of stress through the cam surface of a firing pin head developed for the Remington Model 710 rifle.

CONCLUSIONS

An ANSYS model was used to predict stress distribution in the firing pin head resulting from bolt-opening forces. Two areas of high stress were predicted. Along the 0.004-inch wide contact surface between the firing pin head and the bolt body, stress was predicted to be around 120,000 psi, below the 190,000 psi yield strength of the material. At small patches at the ends of this surface, however, predicted stress rose well over 200,000 psi. It is likely that a small degree of plastic deformation will occur at these patches, widening the contact area until the stress is spread out below the material's yield strength.

Another location of significant stress occurred on the edge of the lateral constraint applied on the firing pin head by the bolt plug. Stress along the edge was predicted by the ANSYS analysis to be around 30,000 psi, with a peak of 53,000 psi occurring in a small area at the end of the patch.

THEORY

The loading conditions at the firing pin head were calculated as follows:

The bolt body cam surface is a helix with 2.18 inches of rise per turn. The angle of a surface on the helix is given by

$$\theta = \tan^{-1} \frac{2.18}{\pi \cdot d}$$

where d is the diameter of the location on the helix. Using d values of 0.498 and 0.695, the inner and outer diameters of the bolt body, resulted in slopes of 55 and 45 degrees, respectively. The average, a slope of 50 degrees, was used to calculate forces.

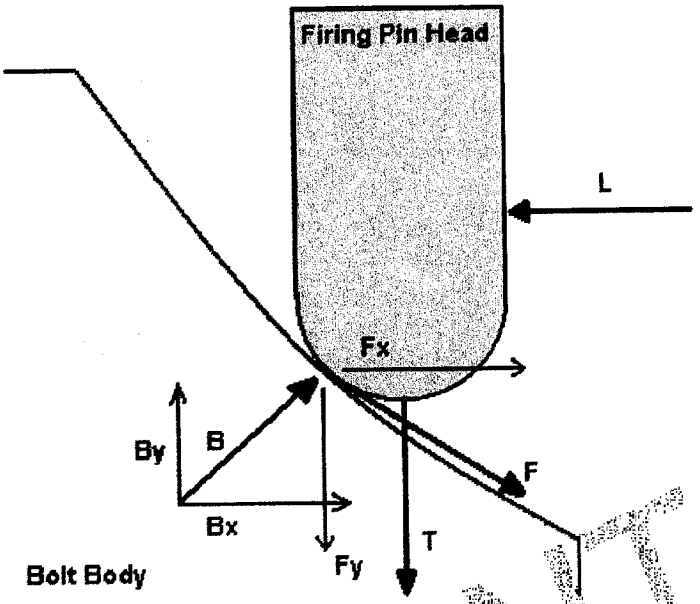

Figure 1. Diagram of stresses.

Figure 1 depicts the stress situation in the firing pin head. B represents the normal force applied to the firing pin head by the bolt body. F is the frictional force applied to the firing pin head by the bolt body. T represents the force applied to the firing pin head by the firing pin spring. L is the lateral force applied by the bolt plug on the firing pin head. F is related to B by:

$$F = \mu \cdot B$$

where μ represents the coefficient of friction between the two surfaces. *Mark's Engineering Handbook* gives μ values for steel-on-steel contact of 0.4 to 0.01, depending on lubrication. 0.4, the value for dry contact, was used.

The vertical components of the forces in Figure 1 were added and set to zero, resulting in

$$T + Fy - By = 0$$

The y components of B and F are given by

$$Fy = F\cos 50^\circ = B\mu\cos 50^\circ$$

and

$$By = B\sin 40^\circ$$

resulting in

$$T + B\mu\cos 50^\circ - B\sin 40^\circ = 0$$

From the spring specifications, T is 20 lbs. The above equation may be solved for B as

$$B = \frac{20}{\sin 40^\circ - 0.4\cos 50^\circ} = 51.86 \text{ pounds}$$

Friction may be solved for from B:

$$F = \mu \cdot B = 0.4 \cdot 51.86 = 20.74 \text{ pounds}$$

Roark's Formulas for Stress & Strain gives the following equation for width of a contact patch in the interface between a cylinder and flat plate if both materials have a Poisson's ratio of 0.3 and share the same modulus of elasticity:

$$b = 2.15\sqrt{p\frac{K_D}{E}}$$

where b is the contact patch width, p is the force over the length of the cylinder, K_D is the diameter of the cylinder, and E is the modulus of elasticity for the the plate and cylinder. Entering the appropriate values for the firing pin head to bolt body interface gives

$$b = 2.15\sqrt{\frac{51.86 \quad 0.170}{0.0798 \quad 30\times 10^6}} = 4.13\times 10^{-3} \text{ inches}$$

PROCEDURE

The analysis was conducted on a CADDS 5 model of the firing pin head developed for the Remington Model 710. The CADDS model was simplified by the removal of all fillets not in the area of the cam surface. Faces on the model were split to provide a location to apply the side constraints and cam surface pressure. The model was brought into ANSYS. It was meshed with 10-node tetrahedral elements using the ANSYS Smartmesh tool with a coarseness level of six. The areas of the protrusion on which the cam surface acted were refined with ANSYS's Meshtool and a refinement level of one. The meshed model may be seen in Figure 2.

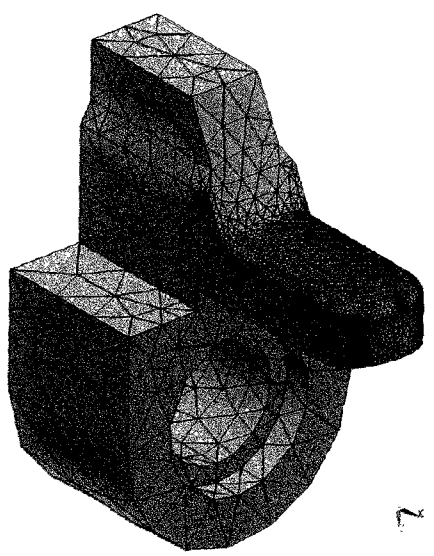

Figure 2. Meshed model of firing pin head.

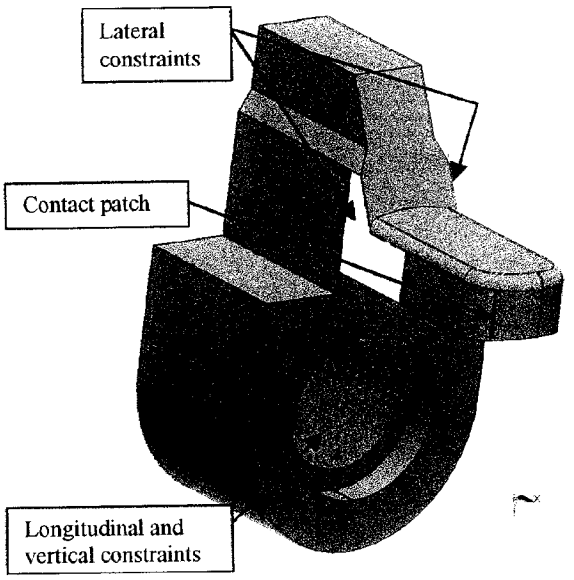

Figure 3. Constraints placed on model.

The model was constrained as follows: A longitudinal displacement constraint and a vertical displacement constraint were placed on the cylindrical area where the firing pin head attached to the firing pin. The lateral position of the firing pin head was fixed by placing displacement constraints on the areas where the bolt plug cradled the cam surface protrusion of the firing pin head. The location of the displacement constraints may be seen in Figure 3.

The load on the cam surface was applied in two components. The force normal to the cam surface was applied as a 158,000-psi pressure over the entire 0.0041 wide area. This represented a force of 51.86 pounds. The second component of the cam surface load was the force applied by the friction between the cam surface of the firing pin head and the bolt body. This was applied by selecting all the nodes on the 0.0041-inch wide area, rotating the node coordinate system 50 degrees and applying a force to each node in the negative y direction of the new coordinate system. The mesh had resulted in 317 nodes on the contact area, so the frictional force of 20.74 pounds was applied as a force of 0.06544 pounds per node.

After the model had been fully constrained and loaded, the analysis was solved using the ANSYS PCG solver with a tolerance of 10^{-8}.

RESULTS

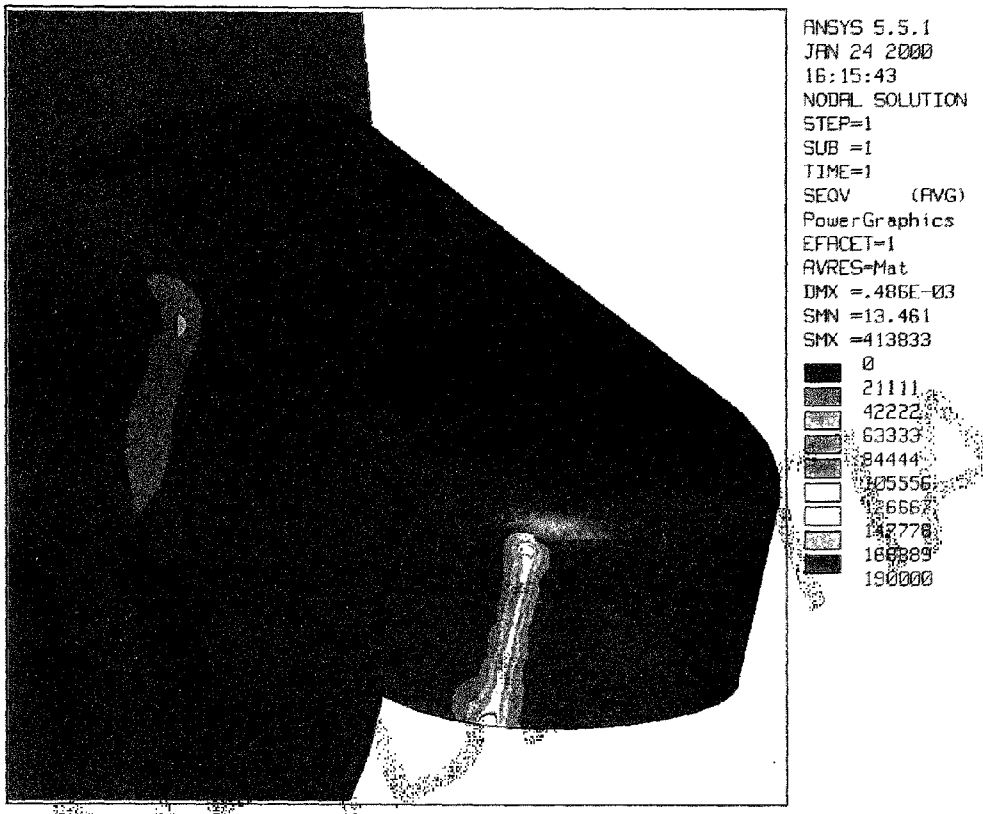

Figure 4. Stress distribution in firing pin head.

The Von Mises stress distribution predicted by the ANSYS model may be seen in Figure 4. Peak stress is concentrated in the 0.004-inch wide contact patch. Stress along the contact patch surface runs around 120,000 psi. Both the bottom and top ends of this patch contain areas, shown in gray on the above figure, where stress exceeds the 190,000 psi yield strength of the firing pin head material. One node on the bottom area returned a stress over 500,000 psi. The firing pin head may be expected to deform plastically in the regions at the ends of the contact patch. Plastic deformation in these areas will widen the contact patch area even out the stress distribution until stresses are below the yield strength of the material.

Another location of significant stress is farther back on the protrusion of the firing pin head, at the edge of the area where lateral constraints were applied. Stress in this location runs around 30,000 psi, peaking at 53,000 psi at the top end of the edge. The same pattern and levels of stress occur on the other side of the part.

APPENDIX

This appendix contains an enlarged Figure 4, as well as other views of the stress results.

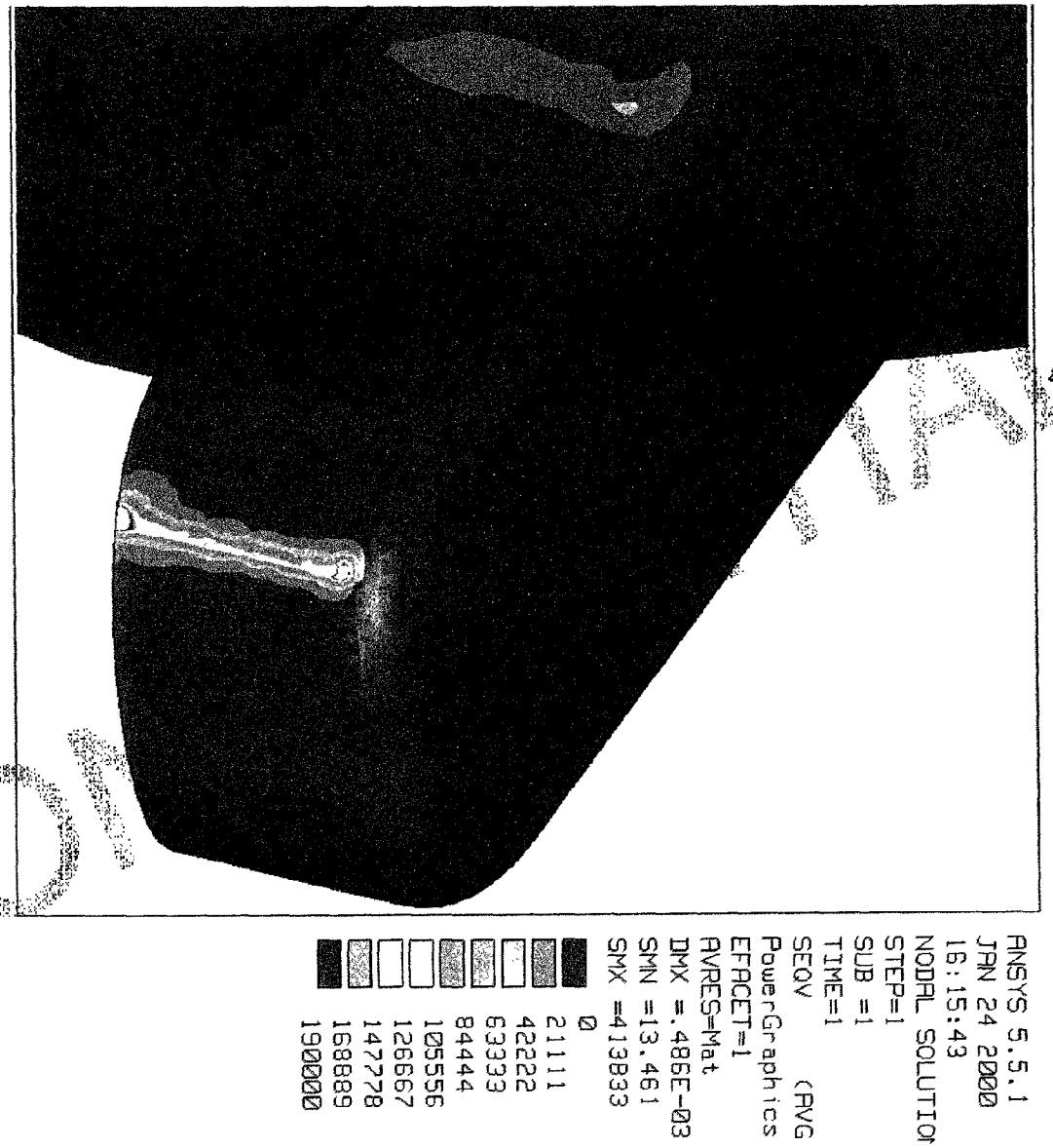

Figure 4 (enlarged). Von Mises stress distribution in firing pin head.

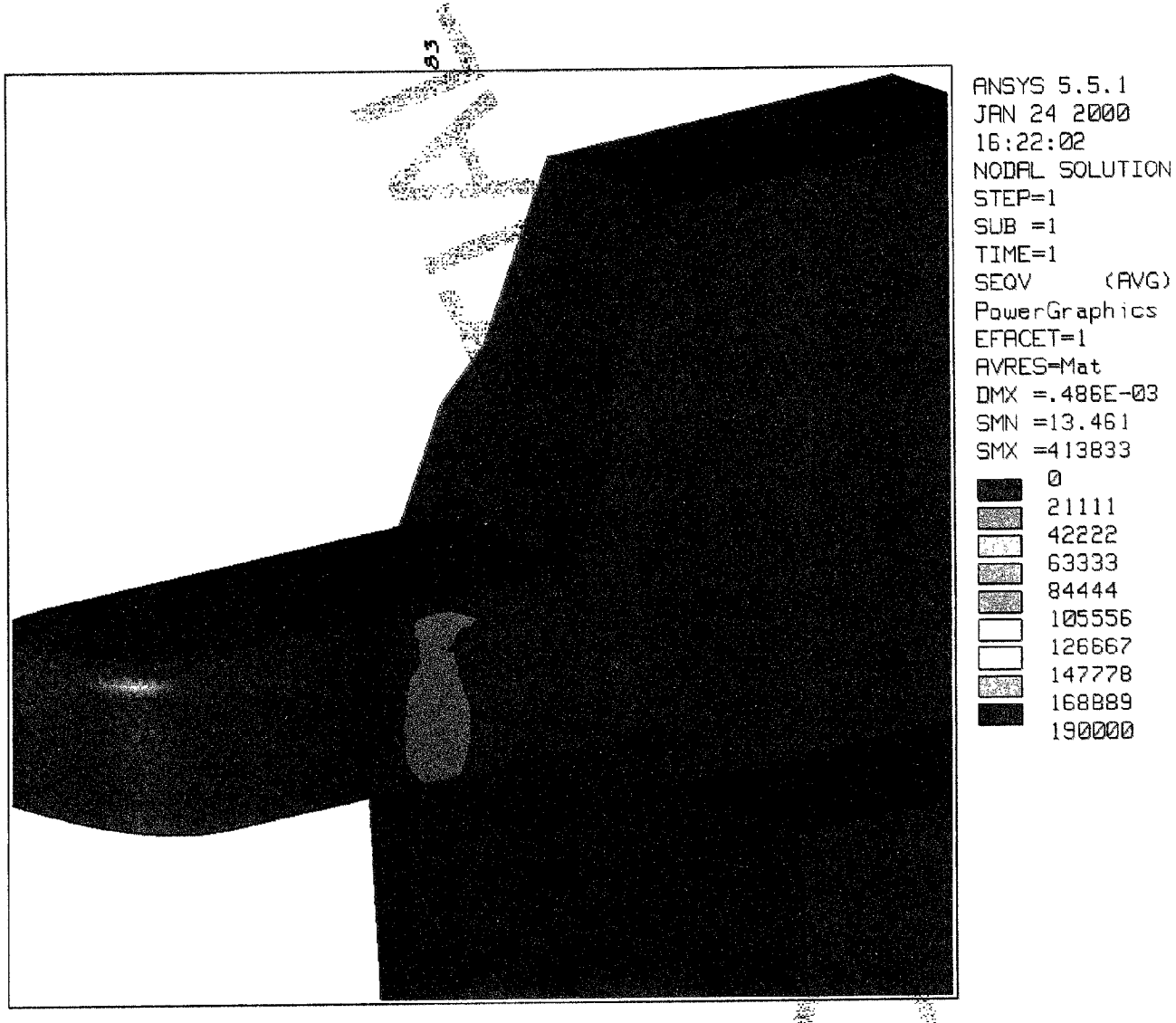

Figure 5. Von Mises stress distribution in firing pin head, other side.

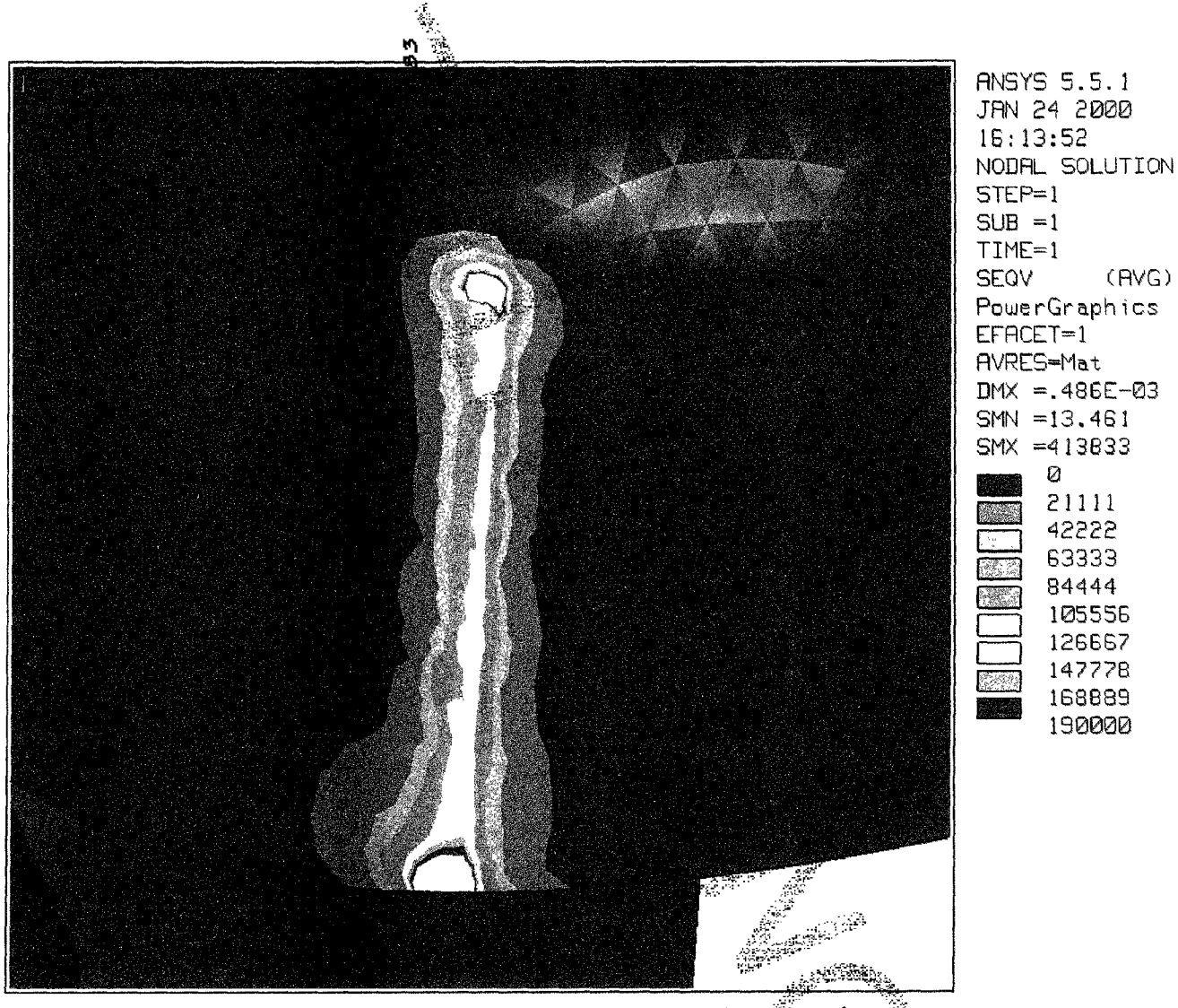

Figure 6. Von Mises stress distribution, closeup of contact patch.

Remington Arms Company, Inc.

MATERIAL SPECIFICATION #C4140

Material: Modified AISI 4140 Material intended for use in investment casting applications requiring high hardness properties in the finished product. This specification designed for use during prototyping of investment cast parts.

Analysis: The analysis of this material, shall check within the limits listed below.

Iron	(Fe)	Balance	Sulfur	(S)	0.040% MAX.
Carbon	(C)	0.40% - 0.45%	Silicon	(Si)	0.60% MAX.
Manganese	(Mn)	0.75% - 1.00%	Chromium	(Cr)	0.80% - 1.10%
Phosphorous	(P)	0.035% MAX.	Molybdenum	(Mo)	0.15% - 0.25%

Condition: The material is to be delivered to Remington as a cast part followed by a Carbon Restore / Anneal heat treatment as specified in this specification.

Certification: A copy of a chemical analysis from (1) the master melt alloy and (2) each investment tree is to be supplied with each shipment.

Heat Treatment:

Choose either of the processes below.

ALL PROCESSING TO BE DONE IN 0.40% - 0.45% CARBON POTENTIAL ATMOSPHERE

Heat to 1555°F (845°C) – Hold for 90 minutes or 1 hr/in casting thickness whichever is longer
Cool Rapidly to 1390°F (755°C)
Cool to 1230°F (665°C) rate not to exceed 25°F (14°C)/hr

Heat to 1555°F (845°C) – Hold for 90 minutes or 1 hr/in casting thickness, whichever is longer
Cool rapidly to 1245°F (675°C) – Hold for 5 hr

Identify: Each part should be marked with a permanent mark (scribe or stamp) tracing the chemistry to both the master melt alloy chemistry and the investment tree chemistry. This mark should be placed on the casting in the locations indicated on the cast blank prints, supplied by Remington Arms Company, Inc.

Remington Arms Company, Inc.

MATERIAL SPECIFICATION #602

MANDREL DRAWN, COLD FINISHED CARBON STEEL TUBING

Spec. No. 602	-MD	Mandrel Drawn, No Thermal Treatment
	-MDSR	Mandrel Drawn, Stress Relieved
	-MDSA	Mandrel Drawn, Soft Annealed

Material: AISI 1018 Cold Finished Steel Tubing

Analysis: The material shall conform to Grade Designation 1018 (ASTM A513-98). The analysis of this material shall check within the limits listed below.

Carbon	(C)	0.14-0.20	- 0.02% +0.03%
Manganese	(Mn)	0.60-0.90	+/- 0.04%
Phosphorus	(P)	0.035	MAX.
Sulfur	(S)	0.035	MAX.

Quality: The tubing shall be cold finished, externally and internally (mandrel drawn). All material furnished under this specification shall be of commercial quality unless stated otherwise in the buyer's purchase order, and shall meet all applicable requirements of ASTM Specification A513-98, "Standard Specification for Electric-Resistance-Welded Carbon & Alloy Steel Mechanical Tubing".

Tolerance: All material shall be furnished to the tolerances stated in ASTM Specification 513-98, unless otherwise specified on the buyer's purchase order.

Identify: All material shall be tagged to show (1) the name of the vendor, (2) heat number, (3) size of the stock, and (4) Remington Specification Number.

Designation: A 513 – 98

An American National Standard

AMERICAN SOCIETY FOR TESTING AND MATERIALS
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Standard Specification for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing[1]

This standard is issued under the fixed designation A 513, the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the Department of Defense

1. Scope

1.1 This specification covers electric-resistance-welded carbon and alloy steel tubing for use as mechanical tubing.

1.2 This specification covers mechanical tubing made from hot- or cold-rolled steel.

1.3 This specification covers round, square, rectangular, and special shape tubing.

Type	Size Range (Round Tubing)
Electric-Resistance-Welded Tubing from Hot-Rolled Steel	outside diameter from ½ to 15 in (19.0 to 381.0 mm) wall from 0.065 to 0.650 in (1.65 to 16.50 mm)
Electric-Resistance-Welded Tubing from Cold-Rolled Steel	outside diameter from ⅜ to 12 in. (9.92 to 304.8 mm) wall from 0.022 to 0.134 in. (0.71 to 3.40 mm)

1.4 Optional supplementary requirements are provided and when desired, shall be so stated in the order.

1.5 The values stated in inch-pound units are to be regarded as the standard.

2. Referenced Documents

2.1 *ASTM Standards:*

A 370 Test Methods and Definitions for Mechanical Testing of Steel Products[2]

E 59 Practice for Sampling Steel and Iron for Determination of Chemical Composition[3]

E 213 Practice for Ultrasonic Examination of Metal Pipe and Tubing[4]

E 273 Practice for Ultrasonic Examination of Longitudinal Welded Pipe and Tubing[4]

E 309 Practice for Eddy-Current Examination of Steel Tubular Products Using Magnetic Saturation[4]

E 570 Practice for Flux Leakage Examination of Ferromagnetic Steel Tubular Products[4]

2.2 *ANSI Standard:*

B 46.1 Surface Texture[5]

2.3 *Military Standards:*

MIL-STD-129 Marking for Shipment and Storage[6]

MIL-STD-163 Steel Mill Products Preparation for Shipment and Storage[6]

2.4 *Federal Standard:*

Fed. Std. No. 123 Marking for Shipments (Civil Agencies)[6]

3. Ordering Information

3.1 Orders for material under this specification should include the following as required to adequately describe the desired material:

3.1.1 Quantity (feet or number of lengths),

3.1.2 Name of material (electric resistance-welded carbon or alloy steel mechanical tubing),

3.1.3 Type, description and code letters, (Section 1 and 12.1),

3.1.4 Thermal condition, (12.2),

3.1.5 Flash condition, (12.3),

3.1.6 Grade designation, if required, (Section 5),

3.1.7 Report chemical analysis and product analysis, if required (Sections 6 and 7),

3.1.8 Individual supplementary requirements, if required (S1 to S10, inclusive),

3.1.9 Cross section (round, square, rectangular and special shapes),

3.1.10 Dimensions, round, outside and inside and wall thickness (see 8.1 and 8.2) or square and rectangular, outside dimension and wall thickness and corner radii, if required (see 9.1 and 9.2),

3.1.11 Length, round, mill lengths or definite cut length (see 8.3), square and rectangular, specified length (see 9.4),

3.1.12 Squareness of cut, round tubing, if required, (see 8.4),

3.1.13 Burrs removed, if required (see 11.3),

3.1.14 Protective coating (see 14.1),

3.1.15 Special packaging (see 17.1),

3.1.16 Specification designation,

[1] This specification is under the jurisdiction of ASTM Committee A-1 on Steel, Stainless Steel, and Related Alloys and is the direct responsibility of Subcommittee A01.09 on Carbon Steel Tubular Products.

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[2] *Annual Book of ASTM Standards,* Vol 01.03.

[3] *Annual Book of ASTM Standards,* Vol 03.05.

[4] *Annual Book of ASTM Standards,* Vol 03.03.

[5] Available from American National Standards Institute, 11 West 42nd St., 13th Floor, New York, NY 10036.

[6] Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

TABLE 1 Chemical Requirements for Standard Low-Carbon Steels[A]

NOTE 1— Chemistry represents heat analysis. Product analysis, except for rimmed or capped steel, is to be in accordance with usual practice as shown in Table 3.

Grade Designation	Chemical Composition Limits, %			
	Carbon	Manganese	Phosphorus, max	Sulfur, max
MT[B] 1010	0.05–0.15	0.30–0.60	0.035	0.035
MT 1015	0.10–0.20	0.30–0.60	0.035	0.035
MT X 1015	0.10–0.20	0.60–0.90	0.035	0.035
MT 1020	0.15–0.25	0.30–0.60	0.035	0.035
MT X 1020	0.15–0.25	0.70–1.00	0.035	0.035

[A] Rimmed or capped steels which may be used for the above grades are characterized by a lack of uniformity in their chemical composition, and for this reason product analysis is not technologically appropriate unless misapplication is clearly indicated.

[B] The letters MT under grade designation indicate Mechanical Tubing.

3.1.17 End use,

3.1.18 Special requirements, and

3.1.19 Special marking (Section 16).

4. Materials and Manufacture

4.1 The steel may be made by any process

4.2 If a specific type of melting is required by the purchaser, it shall be as stated on the purchase order.

4.3 The primary melting may incorporate separate degassing or refining, and may be followed by secondary melting such as electroslag or vacuum-arc remelting. If secondary melting is employed, the heat shall be defined as all of the ingots remelted from a single primary heat.

4.4 Steel may be cast in ingots or may be strand cast. When steel of different grades is sequentially strand cast, identification of the resultant transition material is required. The producer shall remove the transition material by an established procedure that positively separates the grades.

4.5 Tubes shall be made by the electric-resistance-welded process and shall be made from hot- or cold-rolled steel as specified.

5. Chemical Composition

5.1 The steel shall conform to the requirements as to chemical composition prescribed in Tables 1 and 2. If no grade is specified, Grades MT 1010 to MT 1020 may be furnished. Analyses of steels other than those listed are available. To determine their availability, the purchaser should contact the producer.

5.2 When a carbon steel grade is ordered under this specification, supplying an alloy grade that specifically requires the addition of any element other than those listed for the ordered grade in Tables 1 and 2 is not permitted.

6. Heat Analysis

6.1 An analysis of each heat of steel shall be made by the steel manufacturer to determine the percentages of the elements specified; if secondary melting processes are employed,

TABLE 2 Chemical Requirements for [illegible] Alloy Steels[A]

NOTE 1—Chemistry represents heat analysis. Product analysis, except for rimmed or capped steel, is to be in accordance with usual practice as shown in Table 3.

Grade Designation	Chemical Composition Limits, %							
	Carbon	Manganese	Phosphorus, max	Sulfur, max	Silicon	Nickel	Chromium	Molybdenum
1008	0.10 max	0.50 max	0.035	0.035	...	...	...	...
1010	0.08–0.13	0.30–0.60	0.035	0.035	...	...	...	...
1012	0.10–0.15	0.30–0.60	0.035	0.035	...	...	...	...
1015	0.12–0.18	0.30–0.60	0.035	0.035	...	...	...	...
1016	0.12–0.18	0.60–0.90	0.035	0.035	...	...	...	...
1017	0.14–0.20	0.30–0.60	0.035	0.035	...	...	...	...
1018	0.14–0.20	0.60–0.90	0.035	0.035	...	...	...	...
1019	0.14–0.20	0.70–1.00	0.035	0.035	...	...	...	...
1020	0.17–0.23	0.30–0.60	0.035	0.035	...	...	...	...
1021	0.17–0.23	0.60–0.90	0.035	0.035	...	...	...	...
1022	0.17–0.23	0.70–1.00	0.035	0.035	...	...	...	...
1[illegible]	[illegible]	[illegible].60	0.035	0.035	...	...	...	...
1024	0.18–0.25	1.30–1.65	0.035	0.035	...	...	...	...
1025	0.22–0.28	0.30–0.60	0.035	0.035	...	...	...	...
1026	0.22–0.28	0.60–0.90	0.035	0.035	...	...	...	...
1027	0.22–0.29	1.20–1.55	0.035	0.035	...	...	...	...
1030	0.27–0.34	0.60–0.90	0.035	0.035	...	...	...	...
1033	0.29–0.36	0.70–1.00	0.035	0.035	...	...	...	...
1035	0.31–0.38	0.60–0.90	0.035	0.035	...	...	...	...
1040	0.36–0.44	0.60–0.90	0.040	0.050	...	...	...	...
1050	0.47–0.55	0.60–0.90	0.040	0.050	...	...	...	...
1060	0.55–0.66	0.60–0.90	0.040	0.050	...	...	...	...
1340	0.38–0.43	1.60–1.90	0.035	0.040	0.15–0.35	...	...	...
1524	0.18–0.25	1.35–1.65	0.040	0.050	...	...	...	...
4118	0.18–0.23	0.70–0.90	0.035	0.040	0.15–0.35	...	0.40–0.60	0.08–0.15
4130	0.28–0.33	0.40–0.60	0.035	0.040	0.15–0.35	...	0.80–1.10	0.15–0.25
4140	0.38–0.43	0.75–1.00	0.035	0.040	0.15–0.35	...	0.80–1.10	0.15–0.25
5130	0.23–0.33	0.70–0.90	0.035	0.040	0.15–0.35	...	0.80–1.10	...
8620	0.18–0.23	0.70–0.90	0.035	0.040	0.15–0.35	0.40–0.70	0.40–0.60	0.15–0.25
8630	0.28–0.33	0.70–0.90	0.035	0.040	0.15–0.35	0.40–0.70	0.40–0.60	0.15–0.25

[A] Where the ellipsis (...) appears in this table, there is no requirement.

the heat analysis shall be obtained from one remelted ingot or the product of one remelted ingot of each primary melt. The heat analysis shall comform to the requirements specified, except that where the heat identity has not been maintained or where the analysis is not sufficiently complete to permit conformance to be determined, the chemical composition determined from a product analysis made by the tubular manufacturer shall conform to the requirements specified for heat analysis. When requested in the order or contract, a report of such analysis shall be furnished to the purchaser.

7. Product Analysis

7.1 When requested on the purchase order, a product analysis shall be made by the supplier. The number and source of samples for such product analysis shall be based on the individual heat or lot identity of one of the following forms of material:

7.1.1 *Heat Identity Maintained*—One product analysis per heat shall be made on either the flat-rolled stock or tube.

7.1.2 *Heat Identity Not Maintained*—A product from one tube per 2000 ft (610 m) or less for sizes over 3 in. (76.2 mm), and one tube per 5000 ft (150 m) or less for sizes 3 in. and under.

7.2 Samples for product analysis except for spectrochemical analysis shall be taken in accordance with Practice E 59. The composition thus determined shall correspond to the requirements of Tables 1-3.

7.3 If the original test for product analysis fails, retests of two additional lengths of flat-rolled stock or tubes shall be made. Both retests for the elements in question shall meet the requirements of the specification; otherwise, all remaining material in the heat or lot shall be rejected or, at the option of the producer, each length of flat-rolled stock or tube may be individually tested for acceptance. Lengths of flat-rolled stock or tubes which do not meet the requirements of the specification shall be rejected.

TABLE 3 Tolerances for Product Analysis for Steels Shown in Tables 1 and 2[A,B],

Element	Limit, or Maximum of Specified Range, %	Variation, Over the Maximum Limit or Under the Minimum Limit	
		Under min, %	Over max, %
Carbon	to 0.15, incl	0.02	0.03
	over 0.15 to 0.40, incl	0.03	0.04
	over 0.40 to 0.55, incl	0.03	0.05
Manganese	to 0.60, incl	0.03	0.03
	over 0.60 to 1.15, incl	0.04	0.04
	over 1.15 to 1.65, incl	0.05	0.05
Phosphorus		..	0.01
Sulfur		..	0.01
Silicon	to 0.30, incl	0.02	0.03
	over 0.30 to 0.60	0.05	0.05
Nickel	to 1.00, incl	0.03	0.03
Chromium	to 0.90, incl	0.03	0.03
	over 0.90 to 2.10, incl	0.05	0.05
Molybdenum	to 0.20, incl	0.01	0.01
	over 0.20 to 0.40, incl	0.02	0.02

[A] Individual determinations may vary from the specified heat limits or ranges to the extent shown in this table, except that any element in a heat may not vary both above and below a specified range.

[B] Where the ellipsis (...) appears in this table, there is no requirement.

8. Permissible Variations in Dimensions for Round Tubing

8.1 *Diameter and Wall Thickness (Hot-Rolled Steel)*—Variations from specified outside diameter for "as-welded" and "as-welded and annealed" tubing made from hot-rolled steel shall not exceed the amounts prescribed in Table 4. Permissible variations in outside diameter for tubing that has been sink-drawn for closer tolerance on outside diameter are shown in Table 5. Permissible variations in wall thickness for tubing that has been sink-drawn for closer tolerances on outside diameters are ±10 % of the nominal wall or ±0.010 in. (0.25 mm), whichever is greater. Permissible variations in wall thickness for tubing made from hot-rolled steel are shown in Table 6. Permissible variation in outside and inside diameter for tubing made from hot-rolled steel that has been mandrel drawn for closer tolerances are shown in Table 5 with wall tolerances shown in Table 7

8.2 *Diameter and Wall Thickness (Cold-Rolled Steel)*—Variations in outside diameter and inside diameter of "as-welded" and "as-welded and annealed" tubing made from cold-rolled steel are shown in Table 8. Outside diameter tolerances for cold-rolled steel tubing, sink drawn and mandrel drawn, are shown in Table 5. Wall thickness tolerances for "as-welded" tubing made from cold-rolled steel are shown in Table 9. Permissible variations in wall thickness for round tubing, mandrel drawn for closer tolerances, are shown in Table 7. Permissible variations in wall thickness for tubing that has been sink-drawn for closer tolerances on outside diameter are ±10 % of the nominal wall or ±0.010 in. (0.25 mm), whichever is greater. 83

8.3 *Length (Hot- and Cold-Rolled Steel)*—Mechanical tubing is commonly furnished in mill lengths 5 ft (1.5 m) and over. Definite cut lengths are furnished when specified by the purchaser. Tolerances for definite cut lengths round tubing shall be as given in Tables 10 and 11.

8.4 *Squareness of Cut (Hot- and Cold-Rolled Steel)*—When specified, tolerance for squareness of cut of round tubing shall be as given in Table 12. Measurements are made with use of an "L" square and feeler gage. Side leg of square to be equal to tube diameter except minimum length of 1 in. (25.4 mm) and maximum length of 4 in. (101.6 mm). Outside diameter burr to be removed for measurement.

8.5 *Straightness*— The straightness tolerance for round tubing is 0.030 in./3 ft (0.76 mm/1 m) lengths to 8.000 in. (203 mm) outside diameter. For 8.000 in outside diameter and above, straightness tolerance is 0.060 in./3 ft (1.52 mm/ 1 m) lengths. For lengths under 1 ft the straightness tolerance shall be agreed upon between the purchaser and producer.

8.6 *Ovality (Hot- and Cold-Rolled Steel)*—The ovality shall be within the tolerances except when the wall thickness is less than 3 % of the outside diameter.

8.6.1 In such cases for Types 1 and 2 (A.W.H.R. and A.W.C.R.) the ovality may be 50 % greater than the outside tolerances but the mean outside diameter shall be within the specified tolerance.

8.6.2 For Types 3, 4, 5, and 6 (S.D.H.R., S.D.C.R., M.D., and S.S.I.D.) the additional ovality shall be as follows but the mean outside diameter shall be within the specified tolerance:

TABLE 4 Diameter Tolerances for Type I (A.W.H.R.) Round Tubing

NOTE 1—Measurements for diameter are to be taken at least 2 in.[A] from the ends of the tubes.

Outside Diameter Range, in.[A]	Wall Thickness		Flash-in-Tubing[B,C]	Flash Controlled to 0.010 in. max Tubing[C,D]	Flash Controlled to 0.005 in. max Tubing[E,D]	
	Bwg[F]	in.[A]	Outside Diameter, ±	Outside Diameter, ±	Outside Diameter, ±	Inside Diameter, ±
			Tolerances, in.[A,G]			
½ to 1⅛, incl	16 to 10	0.065 to 0.134	0.0035	0.0035	0.0035	0.020
Over 1⅛ to 2, incl	16 to 14	0.065 to 0.083	0.005	0.005	0.005	0.021
Over 1⅛ to 2, incl	13 to 7	0.095 to 0.180	0.005	0.005	0.005	0.025
Over 1⅛ to 2, incl	6 to 5	0.203 to 0.220	0.005	0.005	0.005	0.029
Over 1⅛ to 2, incl	4 to 3	0.238 to 0.259	0.005	0.005	0.005	0.039
Over 2 to 2½, incl	16 to 14	0.065 to 0.083	0.006	0.006	0.006	0.022
Over 2 to 2½, incl	13 to 5	0.095 to 0.220	0.006	0.006	0.006	0.024
Over 2 to 2½, incl	4 to 3	0.238 to 0.259	0.006	0.006	0.006	0.040
Over 2½ to 3, incl	16 to 14	0.065 to 0.083	0.008	0.008	0.008	0.024
Over 2½ to 3, incl	13 to 5	0.095 to 0.220	0.008	0.008	0.008	0.026
Over 2½ to 3, incl	4 to 3	0.238 to 0.259	0.008	0.008	0.008	0.040
Over 2½ to 3, incl	2 to 0.320	0.284 to 0.320	0.010	0.010	0.010	0.048
Over 3 to 3½, incl	16 to 14	0.065 to 0.083	0.009	0.009	0.009	0.025
Over 3 to 3½, incl	13 to 5	0.095 to 0.220	0.009	0.009	0.009	0.027
Over 3 to 3½, incl	4 to 3	0.238 to 0.259	0.009	0.009	0.009	0.043
Over 3 to 3½, incl	2 to 0.360	0.284 to 0.360	0.012	0.012	0.012	0.050
Over 3½ to 4, incl	16 to 14	0.065 to 0.083	0.010	0.010	0.010	0.026
Over 3½ to 4, incl	13 to 5	0.095 to 0.220	0.010	0.010	0.010	0.028
Over 3½ to 4, incl	4 to 3	0.238 to 0.259	0.010	0.010	0.010	0.044
Over 3½ to 4, incl	2 to 0.500	0.284 to 0.500	0.015	0.015	0.015	0.053
Over 4 to 5, incl	16 to 14	0.065 to 0.083	0.020	0.020	0.020	0.036
Over 4 to 5, incl	13 to 5	0.095 to 0.220	0.020	0.020	0.020	0.045
Over 4 to 5, incl	4 to 3	0.238 to 0.259	0.020	0.020	0.020	0.054
Over 4 to 5, incl	2 to 0.500	0.284 to 0.500	0.020	0.020	0.020	0.058
Over 5 to 6, incl	16 to 10	0.065 to 0.134	0.020	0.020	0.020	0.036
Over 5 to 6, incl	9 to 5	0.148 to 0.220	0.020	0.020	0.020	0.040
Over 5 to 6 incl	4 to 3	0.238 to 0.259	0.020	0.020	0.020	0.054
Over 5 to 6, incl	2 to 0.500	0.284 to 0.500	0.020	0.020	0.020	0.058
Over 6 to 8, incl	11 to 10	0.120 to 0.134	0.025	0.025	0.025	0.043
Over 6 to 8, incl	9 to 5	0.148 to 0.220	0.025	0.025	0.025	0.045
Over 6 to 8, incl	4 to 3	0.238 to 0.259	0.025	0.025	0.025	0.059
Over 6 to 8, incl	2 to 0.500	00	0.025	0.025	0.025	0.063
Over 8 to 10, incl	14 to 12	0.083 to 0.109	0.030	0.030	0.030	0.041
Over 8 to 10, incl	11 to 10	0.120 to 0.134	0.030	0.030	0.030	0.043
Over 8 to 10, incl	9 to 5	0.148 to 0.220	0.030	0.030	0.030	0.045
Over 8 to 10, incl	4 to 3	0.238 to 0.259	0.030	0.030	0.030	0.059
Over 8 to 10, incl	2 to 0.500	0.248 to 0.500	0.030	0.030	0.030	0.063
Over 10 [illegible] incl	14 to 12	0.083 to 0.109	0.035	0.035	0.035	0.041
Over 10 to 12, incl	11 to 10	0.120 to 0.134	0.035	0.035	0.035	0.043
Over 10 to 12, incl	9 to 5	0.148 to 0.220	0.035	0.035	0.035	0.045
Over 10 to 12, incl	4 to 3	0.238 to 0.259	0.035	0.035	0.035	0.059
Over 10 to 12, incl	2 to 0.500	0.284 to 0.500	0.035	0.035	0.035	0.063

[A] 1 in. = 25.4 mm.

[B] Flash-In-Tubing is produced only to outside diameter tolerances and wall thickness tolerances and the inside diameter welding flash does not exceed the wall thickness or ⅜ in., whichever is less.

[C] Flash Controlled to 0.010 in. maximum tubing consists of tubing which is commonly produced only to outside diameter tolerances and wall thickness tolerances, in which the height of the remaining welding flash is controlled not to exceed 0.010 in.

[D] No Flash tubing is further processed for closer tolerances with mandrel-tubing produced to outside diameter and wall, inside diameter and wall, or outside diameter and inside diameter to tolerances with no dimensional indication of inside diameter flash. This condition is available in Types 5 and 6.

[E] Flash Controlled to 0.005 in. maximum tubing is produced to outside diameters and wall thickness tolerance, inside diameter and wall thickness tolerances, or outside diameters and inside diameter tolerances, in which the height of the remaining flash is controlled not to exceed 0.005 in. Any remaining flash is considered to be part of the applicable inside diameter tolerances.

[F] Birmingham Wire Gage.

[G] The ovality shall be within the above tolerances except when the wall thickness is less than 3 % of the outside diameter, in such cases see 8.6.1.

TABLE 5 Diameter Tolerances for Types 3, 4, 5, and 6 (S.D.H.R., S.D.C.R., M.D. and S.S.I.D) Round Tubing

NOTE 1—Measurements for diameter are to be taken at least 2 in. from the ends of the tubes.

[redacted]

14 0[redacted]

[A] Tubing, flash in or flash controlled which is further processed without mandrel to obtain tolerances closer than those shown in Tables 4 and 8

[B] The ovality shall be within the above tolerances except when the wall thickness is less than 3% of the outside diameter, in such cases see 8 6 2

[C] Tubing produced to outside diameter and wall thickness, or inside diameter and wall thickness, or outside diameter and inside diameter, with mandrel to obtain tolerances closer than those shown in Tables 4 and 8 and no dimensional indication of inside diameter flash

[D] Where the ellipsis (...) appears in this table, the tolerance is not addressed

Outside Diameter, in (mm)	Additional Ovality Tolerance, in. (mm)
Up to 2 (50 8), incl	0 010 (0 25)
Over 2 to 3 (50 8 to 76 2), incl	0 015 (0 38)
Over 3 to 4 (76 2 to 101 6), incl	0 020 (0 51)
Over 4 to 5 (101 6 to 127 0), incl	0 025 (0.64)
Over 5 to 6 (127 0 to 152 4), incl	0 030 (0 76)
Over 6 to 7 (152 4 to 177 8), incl	0 035 (0 89)
Over 7 to 8 (177 8 to 203 2), incl	0 040 (1.02)
Over 8 to 9 (203.2 to 228.6), incl	0 045 (1 14)
Over 9 to 10 (228 6 to 254 0), incl	0 050 (1 27)
Over 10 to 11 (254 0 to 279 4), incl	0 055 (1 40)
Over 11 to 12 (279.4 to 304 8), incl	0 060 (1 52)
Over 12 to 12 500 (304 8 to 317 5), incl	0 065 (1 65)

9. Permissible Variations in Dimensions of Square and Rectangular Tubing

9.1 *Diameter and Wall Thickness*—Permissible variations in outside dimensions for square and rectangular tubing shall be as given in Table 13. The wall thickness tolerance is ± 10 % of the nominal wall thickness.

9.2 *Corner Radii*— Unless otherwise specified, the corners of square and rectangular tubing shall be slightly rounded inside and outside, consistent with wall thickness. The outside corners may be slightly flattened. The radii of corners shall be [redacted] given in Table 14.

[redacted] *Squareness*—Permissible variations for squareness shall [redacted]mined by the following equation:

$$\pm b = c \times 0.006 \text{ in.}$$

[redacted]for out-of-square, and
[redacted]nal dimension across flats.
[redacted] sides is commonly determined by one of [redacted]

[redacted] two adjustable contact points on each [redacted]les. A fixed feeler gage is then used to [redacted]stance between the free contact point [redacted]ing.
[redacted]d with a direct reading vernier, may [redacted]ngular deviation which, in turn, may [redacted]ches.
[redacted] from the specified length shall not [redacted]ribed in Table 15.
[redacted]rances are shown in Table 16. The [redacted]ctangular tubing may be measured by [redacted] tubing on a surface plate and noting the [redacted]ner of the opposite end of same side above [redacted] Twist may also be measured by the use of a [redacted]tor equipped with a level, and noting the [redacted]ation on opposite ends, or at any point throughout [redacted]th.

[redacted].6 *Straightness*— The straightness tolerance is 1/16 in./3 ft (1.7 mm/1 m).

10. Tubing Sections Other Than Square and Rectangular

10.1 In addition to square and rectangular tubing, many producers supply a variety of special sections, such as oval, streamlined, hexagonal, octagonal, round inside and hexagonal or octagonal outside, ribbed inside or out, triangular, rounded rectangular and D shapes. Manufacturing practices limit the size range and section available from the various producers. These special sections may be made through turkshead rolls or through a die with or without use of a mandrel. Since the sections are special, dies and other tools are not held available. Therefore, when inquiring for shapes other than square and rectangular, it is essential to give full details as to dimensions and finish

11. Workmanship, Finish, and Appearance

11.1 The tubing shall be free of injurious defects and shall have a workmanlike finish.

11.2 The tubing shall be free of scale. In the case of thermally treated tubing a slight amount of color will not be considered cause for rejection.

11.3 When burrs must be removed from one or both ends, it shall be specified in the purchase order.

TABLE 6 Wall Thickness Tolerance for Type I (A.W.H.R.) Round Tubing

Wall thick[illegible]	Outside Diameter, in [A]						
[illegible]	Over 1 to 1 5/16, incl	Over 1 5/16 to 3 1/2, incl	Over 3 3/4 to 4 1/2, incl	Over 4 1/2 to 6, incl	Over 6 to 8, [illegible]	Over 8 to 10, [illegible]	Over 10 to 12, [illegible]

Golemboski, Matt R.

From: Zajk, Joseph J
Sent: Monday, December 20, 1999 5:39 PM
To: Golemboski, Matt R.
Subject: FW: 1018 Seamless Tubing Specification

Importance: High

I sent this to Marlin concerning the tubing specs. FYI.

Joe Z.

-----Original Message-----
From: Zajk, Joseph J
Sent: Monday, December 20, 1999 3:42 PM
To: Jiranek, Marlin R.
Subject: RE: 1018 Seamless Tubing Specification
Importance: High

Marlin,

Could you please include the following information in the 1018 material specification:

- Specify DOM (Drawn over Mandrel) for seamless tubing processing method
- Specify surface roughness as 63 RMS max. on ID of tubing
- Specify 10 foot length for bar material

I would like to have separate specifications for the 710 receiver and the 710 bolt body made out of the generic material spec (with the above additions). On the receiver I would like the following additional information:

- Maximum wall thickness variation of 3% (equivalent to .010 TIR)
- Specify maximum surface roughness of OD as 125 RMS

For the bolt body I would like the following additional information:

- Maximum wall thickness variation of 3% (equivalent to .006 TIR)
- Specify maximum surface roughness of OD as 63 RMS, ground finish.

I don't have any problem with the general material spec format as you have written them in the past or you assigning numbers from E'town. I would like to see a numbering system such as 710-001, etc., and I can add a cover sheet to list changes to the spec. I would like for material spec sheets to be changed using our current ECR/DCR change system.

As far as access, Mike has been posting out parts lists on Erdntas2 so we can access them from the network. You can place our material specs on the same server if you like. We'll have to talk about limiting access only to individuals in Mayfield and E'town who have a reason to be looking at out stuff.

You and I can work out the details after the holidays on the standardized system. For now assign the receiver 710-001 and 710-002. If possible, I would like to get these material specs updated ASAP for FreeMarkets. Our RFQ goes out on 12/29 and we need to get them this info before then, preferrably before 12/23.

Thanks,

Joe Z.

-----Original Message-----
From: Jiranek, Marlin R.
Sent: Monday, December 20, 1999 8:24 AM
To: Golemboski, Matt R.; Zajk, Joseph J; Keeney, Mike; Morgan, Metty E.
Subject: 1018 Seamless Tubing Specification

Matt,

Attached are 2 specifications, one for the current 1010-1020 seamless tubing (lost the file in a hard drive crash last January)and one for the 1018 seamless tubing (requested by Mike Keeney). I assigned them both arbitrary numbers (600 & 601) and will use theese unless you have a desire to change them to something different. I do not have any idea how Ilion and Hickory communicate specifications and the old system assignments were basically used for the VAX system which is being phased out. If we want to create a material specification database for Mayfield, we should discuss format and a method of putting it on the server, so that it can be viewed by your facility and ours. If we don't

want to do this, then use away and assign any number you want, which may fit your tracking needs. I am open to any suggestions.

Marlin.

<< File: Spec 600 1010-1020 ST.doc >> << File: Spec 601 1018 ST.doc >>

Golemboski, Matt R.

From: Jiranek, Marlin R.
Sent: Monday, December 20, 1999 8:24 AM
To: Golemboski, Matt R.; Zajk, Joseph J; Keeney, Mike; Morgan, Metty E.
Subject: 1018 Seamless Tubing Specification

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Marlin.

Spec 600 1010-1020 ST.doc

Spec 601 1018 ST.doc

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Remington Arms Company, Inc.

MATERIAL SPECIFICATION #600

Spec. No. 600-CF-A Cold Finished Seamless Tube, Annealed – Standard Quality

Material: AISI 1010-1020 Seamless Steel Tubing

Analysis: The material shall conform to Grade Designation MT1015 (ASTM A519-94). The analysis of this material shall check within the limits listed below.

Carbon	(C)	0.10-0.20	+/- 0.03%
Manganese	(Mn)	0.30-0.60	+/- 0.03%
Phosphorus	(P)	0.040	MAX.
Silicon	(Si)	0.050	MAX.

Quality: All material furnished under this specification shall be of commercial quality unless stated otherwise in the buyer's purchase order, and shall meet all applicable requirements of ASTM Specification A519-94, "Standard Specification for Seamless Carbon and Alloy Steel Mechanical Tubing".

Tolerance: All material shall be furnished to the tolerances stated in ASTM Specification 519-94, unless otherwise specified on the buyer's purchase order.

Identify: All material shall be tagged to show (1) the name of the vendor, (2) heat number, (3) size of the stock, and (4) Remington Specification Number.

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Remington Arms Company, Inc.

MATERIAL SPECIFICATION #601

Spec. No. 601-CF-A Cold Finished Seamless Tube, Annealed – Standard Quality

Material: AISI 1018 Seamless Steel Tubing

Analysis: The material shall conform to Grade Designation 1018 (ASTM A519-94). The analysis of this material shall check within the limits listed below.

Carbon	(C)	0.15-0.20	+/- 0.02%
Manganese	(Mn)	0.60-0.90	+/- 0.03%
Phosphorus	(P)	0.040	MAX.
Silicon	(Si)	0.050	MAX.

Quality: All material furnished under this specification shall be of commercial quality unless stated otherwise in the buyer's purchase order, and shall meet all applicable requirements of ASTM Specification A519-94, "Standard Specification for Seamless Carbon and Alloy Steel Mechanical Tubing".

Tolerance: All material shall be furnished to the tolerances stated in ASTM Specification 519-94, unless otherwise specified on the buyer's purchase order.

Identify: All material shall be tagged to show (1) the name of the vendor, (2) heat number, (3) size of the stock, and (4) Remington Specification Number.

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18 December, 1999

x.c. M. Golemboski
M. Keeney
J. Zajk

To: Jim Rabbia
From: Glen Sietsema

RE: Trip Report – Travel To Welduction Corp. – Novi, MI

On December 16 – 17, 1999 Joe Zajk and I traveled to Welduction Corp. to evaluate Induction Equipment for hardening the lugs of the M/710 barrel. While at Welduction we set up the equipment and ran a number of sample barrels made from AISI 4140 material. These samples will be used for testing in E-Town. We also finalized the design concept for permanent fixturing and discussed a tentative schedule for delivery of production hardening equipment to Mayfield.

Our primary contacts at Welduction are:
Dan Williams - President
Bill Hutchinson - Metallurgical Manager
Tim G. Boussie - Engineering Director
Michael Doerr - Sales Manager

Summary:
The induction process successfully hardened the M/710 sample barrels made form AISI 4140 Material. A production fixturing concept for the induction equipment was agreed to. Delivery of the equipment will be approximately 16 – 18 weeks from time of PO. The delivery and price will be finalized after Welduction receives a formal RFQ including a machine specification from Remington Mayfield.

Purpose of Travel:
The purpose of the trip was to bring Joe Zajk up to date on the status of the M/710 Induction Hardening equipment. Joe will assume responsibility for the equipment now that the M/710 production will be in Mayfield. The trip was also to run AISI 4140 barrel samples. All previous samples were made from Remington Specification 155 Steel.

Both the short samples and full length barrels made of AISI 4140 were hardened. The process is capable of hardening the material.

Joe evaluated equipment that is very similar to that quoted to Remington. The controller, footprint, guarding, and mechanical aspects of the induction system were the same as that quoted to Remington. The power supply for the M/710 application will need to be larger than the system evaluated at Welduction.

We had a summary meeting were the final design concept was agreed to for the production equipment. Welduction indicated delivery would be approximately 16 – 18 weeks. The delivery schedule and price for the production equipment will be finalized after the RFQ and machine specification is received from Remington Mayfield.

A copy of my draft machine specification will be forwarded to Joe with his copy of this report.

Induction Hardening Equipment
Rifle Barrel

MACHINE SPECIFICATION NO:

DATE: **1 March, 1999**

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INDEX

1. **SCOPE OF WORK:**

1.1 Develop a process for, and provide equipment to, harden the chamber area of a rifle barrel.

The is specification involves two parts.

- The first is to develop a process and induction coil to harden rifle barrel chambers. This coil will be used to heat treat development barrel samples on equipment at the supplier facility.
- The second is to provide the induction hardening system capable of heat treating the barrel chambers at Remington Arms Co. - Ilion, NY.

Both the process development and induction equipment will meet the Hardening Specification listed in 1.1.A. The process development will meet the schedule and volumes listed in 1.1.B and 1.1.C.

1.1.A Hardening Specifications:

Part Name:	Barrel
Material:	AISI 1155 Modified – Or 4140
Hardness:	HRc 57 Min as Quenched HRc 37 - 42 After Temper
Heat Treat Location:	Breech End - See Drawing ~~D EXP 5806~~ Add Part No
Transition Zone:	0.835 - 1.30 from breech end
Atmosphere:	The Inside Diameter requires a neutral atmosphere (Nitrogen Purge) during the hardening process. The rifled portion of the barrel is in it's finished condition and must be protected form scale and discoloration.
Straightness:	Increase of 0.006 TIR on center Maximum
Volume:	50,000 units per year or One part every 90 seconds.

1.1.B - Coil Development

Vendor shall develop an induction coil and process to harden the barrel chambers. Remington will supply samples to demonstrate the capability of the coil. The coil design will be the property of Remington Arms Co.

Prior to purchase of the hardening equipment the vendor will be requested to harden three sample lots of barrels, each less than 50 pieces. These sample lots will be used by Remington to prove the design and the process prior to acceptance of the hardening equipment. The sample lots are described in section 1.1.C.

-Above Complete

1.1.C - Development Samples: - Below complet

Twelve samples for process and coil development will be shipped with Purchase Order. These samples are 1.230" Diameter x 6" long with I.D. geometry per D EXP 5806. These twelve samples are for process development only and can be destroyed.

A Twenty Barrel sample of the finished barrel to be heat treated the week of April 19, 1999.

A Fifty Barrel sample of the finished barrel to be heat treated in June, 1999.

1.2 The machines are to be used at the Remington Arms', Ilion, New York manufacturing facility.

1.3 The manufacturer or vendor shall include in the proposal,

recommendations and pricing for any standard accessories or options, which are necessary to protect basic components and/or extend the precision life expectancy of the equipment.

1.4 Preliminary and final drawings of machine, fixtures, etc. must be approved by Remington Arms technical representative at all phases of the project.

1.5 The machine will be furnished complete and ready in all respects for immediate installation and operation.

1.6 Workmanship in all phases of fabrication and finishing of the specified equipment and attachments shall be equal to the best standard practices of the machine tool industry.

1.7 The bidder is required to provide, as part of the quotation, a detailed description of any deviations from the provisions of this specification. Failure to declare deviations or exceptions to this specification in the bid proposal will indicate to the buyer the bidder's intent to furnish equipment in strict compliance with the stated requirements.

1.8 The scope of work will not be expanded or contracted without formal alteration to the purchase order.

2. EFFICIENCY AND CONTROLLABILITY:

2.1 The vendor will be responsible for ensuring that the machine will have a 90% efficiency (up time). This does not include downtime, or part load/unload time.

2.2 All specified equipment shall be guaranteed to perform satisfactorily up to the limits specified by the manufacturer. The vendor shall state in the proposal the nature and extent of warranty coverage on the equipment to be furnished.

2.3 All materials and standard purchased components incorporated in the design of the manufacturer's equipment, including attachments and accessories, shall be new and high quality, obtained from reputable manufacturers of such materials and components, and shall conform to industry standards for the class and type of equipment specified.

3. DRAWINGS:

Include Electronic Form
How many Drawings?

- 2 sets drawings -- one at machine -- one in engineering
- 3 sets instructions -- 1 machine, 2 process engineering, 3 plain engineering.

3.1 The manufacturer shall provide all drawings of special attachments, special electrical, hydraulic and or mechanical interfacing.

3.2 The manufacturer shall provide maintenance and operating instruction manuals and a complete set of electrical drawings, elementary diagrams, wiring diagrams, panel layouts, electronic and electrical parts lists and sequence of operations.

3.3 The manufacturer shall provide installation drawings upon receipt of a purchase order. All necessary parts lists, instruction, operation and/or maintenance manuals pertaining to the furnished equipment and any attachments or accessories supplied therewith, shall be furnished upon delivery of the equipment, unless otherwise stated in the proposal.

3.4 Prior to delivery of the machine the vendor shall furnish a parts list detailing all special design and standard manufactured parts considered to be critical to the operation of the machine (components for which Remington should keep replacements in inventory due to long lead times or high usage) is to be provided by vendor.

4. HYDRAULIC SYSTEMS:

4.1 Hydraulic reservoirs to be equipped with heat exchangers.

4.2 Flow control valves to be pressure/temperature compensated for all feed applications if applicable.

5. ELECTRICAL/ELECTRONIC SYSTEMS:

5.1 Electrical controls to be of the following manufacture:

Motor starters (NEMA rated, not IEC), relays, push buttons, selector switches, pilot lights, terminal blocks (1492-F3, 1492-CA3), and pressure switches (with Brad Harrison quick disconnects, or equiv.) are to be Allen-Bradley only.

Adjustable frequency drives are to be Allen-Bradley 1333 (up to 2 HP) or 1336 (3 HP and above) only. Ratings are to be for 480V, 3 Phase.

Limit switches are to be Allen-Bradley, Square D, or Microswitch with quick disconnects (Brad Harrison or equiv.).

Proximity switches are to be Efector or Balluff with quick disconnects (Brad Harrison or equiv.). Proximity switches should be used where ever possible to minimize use of mechanically actuated limit switches.

Photoelectric switches are to be Allen-Bradley, Banner, Efector, or Microswitch with quick disconnects (Brad Harrison or equiv.).

Temperature controllers are to be Partlow 1000 (high limits), MIC2000, MIC6000, MIC8200.

5.2 AC motors are to be a totally enclosed, fan cooled, ball bearing, energy efficient type.

5.3 Programmable controllers are to be Allen-Bradley type SLC 5 series only. Full documentation of the controller program is required, including original tape/disk input to the documentation software package (Allen-Bradley preferred).

5.4 Primary power supply shall be 480 volt, 3 phase, 60 hz. Power source is delta-corner ground. Do not provide fusing for the center phase but include motor overloads for all 3 phases.

5.5 Electrical controls are to be 115 volt, grounded, single phase, in NEMA 12 enclosures and junction boxes.

5.6 The main control panel must be equipped with a fusible knife type disconnect switch with visible blades and a lever type operating handle. Rotary actuated disconnects are not acceptable. All disconnect switches are to be of Square-D (preferred) or Allen-Bradley manufacture only.

5.7 Construction is to be per applicable NEMA and NEC code requirements. All machine wiring, except quick disconnect cables and electronic control cables, is to be type MTF 600V stranded. 115VAC control wiring is to be 16AWG (red) minimum, DC control wiring is to be 16AWG (blue) minimum, and 600VAC wiring is to be 14AWG (black or color coded to indicate phases) minimum. All 600VAC wires are to be in a minimum of 3/4 in. rigid conduit or liquid tight flexible conduit. Wires are to be terminated at equipment with solderless compression type connectors made by Thomas and Betts Co. only. The use of wire nuts is to be minimized. Field wiring used to connect pieces of equipment in a system (HVAC equipment, pumping systems, power feeders, etc.) is to be type THHN 600V stranded to facilitate pulling through conduit.

Liquid tight flexible conduit of a UL approved grounding type shall be used where a flexible raceway is required, keeping the lengths to the NEC requirements. If this is impractical, a hard service cord (oil-resistant thermoplastic elastomer, SEO, or equiv.) can be used on a limited basis, using rubber grommet type squeeze strain reliefs. Lengths of cord used with quick disconnects should be kept to a minimum.

Conduits are to be reamed, burrs removed, and double locknuts and bushings used where they enter boxes, fittings, or cabinets, except at threaded hubs. In places where liquid is a problem, sealing type threaded hubs are to be used. Conduits are to be installed with cast condulet type fittings. Running threads on conduit will not be permitted.

All wires are to be provided with a durable oil resistant wire number marker. All limit, proximity, photo, pressure switches, solenoid valves, etc. are to be labeled to assist in locating them for maintenance purposes (engraved laminated plastic, or embossed metal are preferred, flexible embossed self-adhesive plastic labels are not acceptable).

Control cabinets are to be laid out neatly using terminal strips for all field wiring connections and plastic wire ducts to route wiring within the enclosure.

5.8 Complete documentation is to be provided on all systems, including schematic diagrams and maintenance manuals of all equipment. If schematics are available on computer disk, provide them on 3.5 inch media and in .DXF format.

5.9 If any specialized programming equipment is required for controls (programming pads for motor drives, software for controllers, etc.), this is to be provided with the equipment.

6. **SAFETY:**

6.1 The equipment offered shall be quoted with all necessary safety devices, shields, guards, enclosures, electrical mechanical interlocks, etc., required to adequately protect the operator and/or persons in the immediate vicinity of the machines. The words "all necessary" relate to, but are not necessarily limited to, compliance with OSHA.

6.2 The design and quality of all safety devices, shields, guards enclosures, etc., shall be in compliance with, but not necessarily limited to OSHA requirements.

6.3 The bidder shall provide as part of the quotation the results of sound level tests on the quoted equipment. These must indicate the level of sound generated by the offered equipment running at maximum spindle speed (in each range if applicable) and with feeding and support systems operating. Test data may be limited to machine running noise only. Tool noise, etc., resulting from physical work is not required as part of this data. In general, sound level tests conducted in accordance with any of the following methods will be acceptable:

- O United States Of America Standard (USAS) S1.2
- O American Society Of Heating, Refrigeration, And Air Conditioning Engineers (ASHRAE) Standard 36.
- O Ashrae Standard 36a.
- O Ashrae Standard 36b.
- O Institute Of Electrical And Electronics Engineering (IEEE) No. 85.
- O Air Moving And Conditioning Association (AMCA) Bulletin No. 300.

6.4 The operator must have easy access to all controls that would be used for the normal operation of the machine, without violating any guards or otherwise endangering their well-being.

7. **OPERATING AND MAINTENANCE:**

7.1 Operating and maintenance instruction will be made available by the vendor.

7.2 The vendor is to quote training of Remington operating and

maintenance personnel as an option.

8. NON DISCLOSURE:

8.1 The vendor must sign Remington's Confidential Information Agreement Form before purchase of equipment.

9. ACCEPTANCE:

Define when machine is acceptable. If changes made during run-off now run off needed.

9.1 Machine manufacturer is to run machine for a minimum of six hours in the presence of a Remington Arms technical representative.

9.1.1 Vendor Run-Off

During the vendor run off a minimum of 100 pieces will be hardened at the manufacturers facility. Outside diameter (O.D.) hardness and straightness (TIR) will be measured 100%. A twenty barrel sample will be sectioned for microstructural and core hardness evaluation. This sample will be the barrels processed sequentially numbering 1,2,10,11,20,21,.....90,91,99,100

Issues:

How to measure Hardnes:

- o Scale: HRc, 15n, Knoop
- o Location: OD Exally where on part , cross-section, where to measure core hardness.

How to mesure core Hardness:

- o Knoop Hardness (Ring) From ID to OD, across length of lug

How to measure straightness.

TIR

How many to do micros on: 10 of 100 - at Vendor and after Remington Run Off at Ilion Town

9.2 Final acceptance is to be conducted immediately following installation and run-off at Ilion.

9.2.1 Ilion Run-Off

During the Ilion Site Run-Off the same procedures will be followed as at the Vendor Run-Off. A 100 piece sample will be evaluated for O.D. Hardness, TIR, Microstructure and Core Hardness as described in 9.1.1.

10. DISASSEMBLY AND RE-ASSEMBLY:

10.1 Machine manufacturer will provide services of a machine tool serviceman to supervise and instruct Remington and/or third party personnel if requested, when the machine is disassembled for shipment. This serviceman, or an acceptable alternate, will supervise and instruct Remington personnel in the reassembly and operation of the machine, and final acceptance at Ilion within (1) week of notification.

11. DELIVERY:

11.1 The vendor shall, as part of the proposal, provide the buyer with a firm delivery date computed in consecutive days from the date of purchase order receipt.

11.2 Outline drawings, floor space requirements, shipping weight and net installed weight of the equipment to be furnished, shall be included in the vendor's proposal.

11.3 Furnished equipment shall be skidded, blocked, braced, crated and/or boxed as necessary to adequately protect the equipment while in transit.

11.4 Vendor will provide for installation of equipment, any necessary slings, straps, and attachments necessary to safely install machine.

12. TECHNICAL REPRESENTATIVE:

Glen D. Sietsema, Metallurgical Engineer
Remington Arms Co., Inc.
14 Hoefler Avenue
Ilion, New York 13357
Telephone: (315) - 895 - 3234
Fax: (315) - 895 - 3407

Golemboski, Matt R.

From: Keeney, Mike
Sent: Wednesday, December 15, 1999 3:35 PM
To: Zajk, Joseph J
Cc: Golemboski, Matt R.; Diaz, Danny
Subject: 710

Joe,
per your request here are the MPIF standards for the PM and MIM components. The parts that are 710 only will have these spec assigned as material specifications. The add used M/700 parts will not have these specs added to the drawings until next year when you guys outsource them, at that point we will generate new drawings and part numbers.

Part	Current Spec	MPIF Standard
Tumbler	MIM Iron 2% NI	MIM-4600
Firing Pin Hd	MIM Iron 2% NI	MIM-4650
Bolt Stop	PM 4058	FC-0508-60
Sear	HD 2020	FN-0200-25
Trigger	HD 1000	F-0000-20
Front Sight	HD 1003	F-0005-25
R.S. Aperature	HD 1000	F-0000-15
R.S. Base	Injectalloy 2% NI	MIM-4600
R.S. Slide	Injectalloy Iron	MIM-FE

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Stock Mold Texture will be specified as "Modified MT 11160" and referenced to Mold Tech shop order number 15664.

Bolt Plug texture will be an EDM finish referenced against a Sharme (sp) scale that I will have tomorrow.

Kristan is bringing a drawing package along with him, in it is an exploded view of the bolt plug ISS assembly per you request.

Another drawing package will go out tomorrow or friday with the bolt handle blank and finished drawings, trigger drawings, bolt plug and what ever else I can get done.

Mike

83

Bor + Rear

Copy FYI

(270) 965-9141
Fax (270) 965-9560

PAR 4 PLASTICS, INC.

351 Industrial Drive
P.O. Box 385
Marion, KY 42064

11/3/00

Ms. Metty Morgan
Remington Arms Co, Inc.
22 Rifle Trail
Hickory, KY. 42051

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Dear Metty,

Please issue a P.O. for the latest revisions to the Model 710 Stock completed at "Remingtons" request. See list below.

#1.	Move B-Datum .006 per CAD Model.	$ 1,375.00
#2.	Add .020 clearance to Grip Cap area and remove ribs.	$ 3,600.00
#3.	Add clearance for sear pivot per CAD Model.	$ 2,850.00
	Total =	$ 7,825.00

Sincerely
PAR 4 PLASTICS, INC.

Sam Todd
Dir. Sales/Marketing

PO / Item / D I A	Material / Plnt	SLoc / SL del. date	Vendor	Name / Short text / Scheduled qty	Order qty.	Un	Net Price	Curr.	Order date / Mat. group / per Un
M017602	ZZ		106719	CROUCH BUILDING ASSOICATES, INC				M01	05/09/2000
00010				CONSTRUCT 100 YARD RANGE PER QUOTE-90%					11CAPPROJ
F MAY					1.000	EA	413,999.10	USD	1 EA
Order 292068									
		D 08/18/2000			1.000	EA			
Still to be delivered					0.856	EA	354,383.23	USD	85.60 %
Still to be invoiced					0.856	EA	354,383.23	USD	85.60 %
00020				10% OF TOTAL CONTRACT COST-RETAINED					11CAPPROJ
F MAY					1.000	EA	45,999.90	USD	1 EA
Order 292068									
		D 08/18/2000			1.000	EA			
Still to be delivered					0.856	EA	39,375.91	USD	85.60 %
Still to be invoiced					1.000	EA	45,999.90	USD	100.00 %
M017607	ZZ		106467	QUICK TEK				M01	05/02/2000
00010				FIXTURING & PROGRAMMING / 710 BOLT HEAD					TOOLING
Y MAY					1	LOT	2,000.00	USD	1 LOT
Order 292068									
		D 05/05/2000			1	LOT			
Still to be delivered					0	LOT	0.00	USD	0.00 %
Still to be invoiced					0	LOT	0.00	USD	0.00 %
M017611	ZZ		106726	CARPENTER-RATHBONE PRECISION				M09	05/08/2000
00010				3 LEG PROFILE ENGINEERING CHARGE					TOOLING
F MAY					1.000	EA	2,600.00	USD	1 EA
Order 292068									
		D 05/31/2000			1.000	EA			
Still to be delivered					1.000	EA	2,600.00	USD	100.00 %
Still to be invoiced					1.000	EA	2,600.00	USD	100.00 %
M017627	ZZ		106410	FARRIS, MCINTOSH, & TRENGER, INC				M09	06/15/2000
00010				SOIL TESTING, MAY, 2000 TECHNICIAN-I					SERVICE
F MAY					11.750	HR	35.00	USD	1 HR
Order 292068									
		D 06/16/2000			11.750	HR	PReq 1000501804		00010
Still to be delivered					0.000	HR	0.00	USD	0.00 %
Still to be invoiced					0.000	HR	0.00	USD	0.00 %
00020				MILEAGE CHARGE FOR TECHNICIAN SOIL					SERVICE
F MAY					120.000	EA	0.32	USD	1 EA
Order 292068									
		D 06/16/2000			120.000	EA	PReq 1000501804		00020
Still to be delivered					0.000	EA	0.00	USD	0.00 %
Still to be invoiced					0.000	EA	0.00	USD	0.00 %
M018374	ZZ		5390090	PHI ASSOCIATES				M09	05/22/2000
00010				TRIGGER ADJUSTING FIXTURE DK-10438					TOOLING
F MAY					1.000	EA	5,995.00	USD	1 EA
Order 292068									
		D 06/26/2000			1.000	EA	PReq 1000490683		00010
Still to be delivered					0.000	EA	0.00	USD	0.00 %
Still to be invoiced					1.000	EA	5,995.00	USD	100.00 %
M018417	ZZ		106544	TENNESSEE SCALE WORKS				M09	05/22/2000
00010				LOAD CELL #DFGS-R-10					03
F MAY					1.000	EA	2,000.00	USD	1 EA
Order 292068									
		D 06/16/2000			1.000	EA	PReq 1000491049		00010
Still to be delivered					0.000	EA	0.00	USD	0.00 %
Still to be invoiced					0.000	EA	0.00	USD	0.00 %
M018451	ZZ		103439	Falconite, Inc.				M09	05/26/2000
00010				RENTAL 30' ELECTRIC BOOM LIFT—4 WEEKS					MISC
F MAY					1.000	EA	1,350.00	USD	1 EA
Order 292068									
		D 05/30/2000			1.000	EA	PReq 1000494484		00010

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PO Item Material D I A Plnt SLoc SL del. date	Vendor Name Short text Order qty Un Scheduled qty Un	Net Price	Curr.	Order date Mat. group per Un
Still to be delivered	0.000 EA	0.00	USD	0.00 %
Still to be invoiced	0.000 EA	0.00	USD	0.00 %
00020	ENVIRONMENTAL FEE			MISC
F MAY	1.000 EA	6.00	USD	1 EA
Order 292068				
D 05/30/2000	1.000 EA PReq 1000494484			00020
Still to be delivered	0.000 EA	0.00	USD	0.00 %
Still to be invoiced	0.000 EA	0.00	USD	0.00 %
00030	KENTUCKY FREIGHT			MISC
F MAY	1.000 EA	50.00	USD	1 EA
Order 292068				
D 05/30/2000	1.000 EA PReq 1000494484			00030
Still to be delivered	0.000 EA	0.00	USD	0.00 %
Still to be invoiced	0.000 EA	0.00	USD	0.00 %
00040	ESTIMATED KY SALES TAX 6%			MISC
F MAY	1.000 EA	1.00	USD	1 EA
Order 292068				
D 05/30/2000	1.000 EA PReq 1000494484			00040
Still to be delivered	0.000 EA	0.00	USD	0.00 %
Still to be invoiced	0.000 EA	0.00	USD	0.00 %
M018521 ZZ 106533	CYBERTECH, INTERNATIONAL			M09 06/07/2000
00010	ADDITIONAL EQUIPMENT-DOOR LOCK SAFETY			11CAPPROJ
F MAY	1.000 EA	1,530.00	USD	1 EA
Order 292068				
D 06/16/2000	1.000 EA PReq 1000499210			00010
Still to be delivered	0.000 EA	0.00	USD	0.00 %
Still to be invoiced	0.000 EA	0.00	USD	0.00 %
M018524 ZZ 106410	FARRIS, MCINTOSH, & TRENGER, INC			M08 06/15/2000
00010	CONCRETE TESTING, MAY, 2000 TECHNICIAN			SERVICE
F MAY	4.750 HR	35.00	USD	1 HR
Order 292068				
D 06/16/2000	4.750 HR PReq 1000501804			00030
Still to be delivered	0.000 HR	0.00	USD	0.00 %
Still to be invoiced	0.000 HR	0.00	USD	0.00 %
00020	MILEAGE CHARGE FOR TECHNICIAN CONCRETE			SERVICE
F MAY	60.000 EA	0.32	USD	1 EA
Order 292068				
D 06/16/2000	60.000 EA PReq 1000501804			00040
Still to be delivered	0.000 EA	0.00	USD	0.00 %
Still to be invoiced	0.000 EA	0.00	USD	0.00 %
00030	MAY CONST. BASELINE STAKING PARTY CHIEF			SERVICE
F MAY	2.250 HR	40.00	USD	1 HR
Order 292068				
D 06/16/2000	2.250 HR PReq 1000501804			00050
Still to be delivered	0.000 HR	0.00	USD	0.00 %
Still to be invoiced	0.000 HR	0.00	USD	0.00 %
00040	MAY CONST BASELINE STAKING INSTRUMENTMAN			SERVICE
F MAY	2.250 HR	32.00	USD	1 HR
Order 292068				
D 06/16/2000	2.250 HR PReq 1000501804			00060
Still to be delivered	0.000 HR	0.00	USD	0.00 %
Still to be invoiced	0.000 HR	0.00	USD	0.00 %
00050	MAY CONST. BASELINE STAKING RODMAN			SERVICE
F MAY	2.250 HR	27.00	USD	1 HR
Order 292068				
D 06/16/2000	2.250 HR PReq 1000501804			00070
Still to be delivered	0.000 HR	0.00	USD	0.00 %
Still to be invoiced	0.000 HR	0.00	USD	0.00 %
00060	MILEAGE CONSTRICTION BASELINE STAKING			SERVICE

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PO          Vendor      Name                                    Order date
  Item  Material        Short text                                Mat. group
  D I A Plnt SLoc           Order qty.   Un      Net Price  Curr.   per Un
            SL del. date  Scheduled qty.  Un

     F MAY                        40.000  EA           0.32  USD        1 EA
    Order 292068
            D 06/16/2000          40.000  EA  PReq 1000501804 00080
    Still to be delivered          0.000  EA           0.00  USD     0.00 %
    Still to be invoiced           0.000  EA           0.00  USD     0.00 %
M018561     ZZ   106795      CRAWFORD ELECTRIC                   M09 06/15/2000
  00010                       INSTALL 50' 600 AMP 480 VOLT 3PHASE BUSS 15
     F MAY                        1.000  EA      10,600.00  USD        1 EA
    Order 292068
            D 06/30/2000          1.000  EA  PReq 1000500843 00010
    Still to be delivered         1.000  EA      10,600.00  USD   100.00 %
    Still to be invoiced          1.000  EA      10,600.00  USD   100.00 %
M018591     ZZ   102641      MSC INDUSTRIAL SUPPLY               M09 06/16/2000
  00030                       #06556104 MASTER VIEW 14" COMPARATOR     LAB EQUIP
     F MAY                        1.000  EA       2,819.60  USD        1 EA
    Order 292068
            D 06/30/2000          1.000  EA  PReq 1000504941 00040
    Still to be delivered         0.000  EA           0.00  USD     0.00 %
    Still to be invoiced          0.000  EA           0.00  USD     0.00 %
M018615     ZZ   106694      KELLCO MACHINE                      M09 06/19/2000
  00010                       ASSEMBLY COMPLETE PER PACKAGE E-K-10491  TOOLING
     F MAY                        1.000  EA       4,200.00  USD        1 EA
    Order 292068
            D 06/27/2000          1.000  EA  PReq 1000505216 00010
    Still to be delivered         1.000  EA       4,200.00  USD   100.00 %
    Still to be invoiced          1.000  EA       4,200.00  USD   100.00 %
M018632     ZZ   103439      Falconite, Inc.                     M09 06/21/2000
  00010                       RENTAL 30'ELECTRIC BOOM LIFT-2ND 30 DAYS MISC
     F MAY                        1.000  EA       1,350.00  USD        1 EA
    Order 292068
            D 06/23/2000          1.000  EA  PReq 1000506238 00010
    Still to be delivered         0.000  EA           0.00  USD     0.00 %
    Still to be invoiced          0.000  EA           0.00  USD     0.00 %
  00020                       ESTIMATED KY SALES TAX 6% 2ND 4 WKS RENT SERVICE
     F MAY                        1.000  EA          81.00  USD        1 EA
    Order 292068
            D 06/23/2000          1.000  EA  PReq 1000506238 00020
    Still to be delivered         0.000  EA           0.00  USD     0.00 %
    Still to be invoiced          0.000  EA           0.00  USD     0.00 %
M018659     ZZ   105652      PAR 4 PLASTICS, INC.                M09 06/23/2000
  00010                       710 GUN STOCKS SHIPPED TO ETOWN          RAW
     F MAY                       23.000  EA           5.38  USD        1 EA
    Order 292068
            D 06/23/2000         23.000  EA  PReq 1000506317 00010
    Still to be delivered         0.000  EA           0.00  USD     0.00 %
    Still to be invoiced          0.000  EA           0.00  USD     0.00 %
  00020                       MATERIAL--RTP 199X83039E USED IN SAMPLE  RAW
     F MAY                          106  LB           0.88  USD        1 LB
    Order 292068
            D 06/23/2000           106  LB  PReq 1000506317 00020
    Still to be delivered            0  LB           0.00  USD     0.00 %
    Still to be invoiced             0  LB           0.00  USD     0.00 %
M018676     ZZ   102574      Gen-Con, Inc.                       M09 06/27/2000
  00010                       FABRICATE AND INSTALL EXHAUST FAN AND    MISC
     F MAY                        1.000  EA       2,985.62  USD        1 EA
    Order 292068
            D 07/31/2000          1.000  EA  PReq 1000507914 00010
    Still to be delivered         1.000  EA       2,985.62  USD   100.00 %
    Still to be invoiced          1.000  EA       2,985.62  USD   100.00 %
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PO Item D I A	Type Vendor Material Plnt SLoc SL del. date	Name Short text Order qty. Scheduled qty.	Un Un	Net Price	PGp Order date Mat. group Curr. per Un
	F MAY	1.000	EA	4,250.00	USD 1 EA
	Order 292068				
	D 05/19/2000	1.000	EA	PReq 1000474659	00010
	Still to be delivered	1.000	EA	4,250.00	USD 100.00 %
	Still to be invoiced	1.000	EA	4,250.00	USD 100.00 %
M17492	ZZ 100361	REGAL INDUSTRIES INC			M01 02/03/2000
00010		DISCOVERY D8 COORDINATE MEASURING MACHN. MISC			
	F MAY	1.000	EA	52,400.00	USD 1 EA
	Order 292068				
	D 03/23/2000	1.000	EA		
	Still to be delivered	0.000	EA	0.00	USD 0.00 %
	Still to be invoiced	0.000	EA	0.00	USD 0.00 %

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PO          Type Vendor      Name                                    PGp Order date
  Item  Material             Short text                                  Mat. group
  D I A Plnt SLoc                Order qty.   Un                Net Price  Curr.   per Un
            SL del. date     Scheduled qty.   Un

     Still to be delivered            1.000  EA        104,000.00  USD  100.00 %
     Still to be invoiced             1.000  EA        104,000.00  USD  100.00 %
M017546A    ZZ   105344      AB LASERS                                M01 03/14/2000
  00010                      AB LASER MACHINE "StarMark LME-1D" BASIC MISC
      F MAY                           1.000  EA        104,000.00  USD        1 EA
     Order 292068
            D 05/22/2000              1.000  EA
     Still to be delivered            0.700  EA         72,800.00  USD   70.00 %
     Still to be invoiced             0.700  EA         72,800.00  USD   70.00 %
M017553     ZZ   106507      NORTH AMERICAN PRECISION CASTING         M01 03/24/2000
  00010                      4-CAVITY MOLD / KNURLED 710 BOLT HANDLE  TOOLING
      F MAY                           1.000  EA          8,595.00  USD        1 EA
     Order 292068
            D 05/01/2000              1.000  EA
     Still to be delivered            0.000  EA              0.00  USD    0.00 %
     Still to be invoiced             0.500  EA          4,297.50  USD   50.00 %
M017559     ZZ   105652      PAR 4 PLASTICS, INC.                     M01 03/27/2000
  00010                      710 STOCK DRILLING FIXTURE                RAW
      F MAY                           1.000  EA          7,500.00  USD        1 EA
     Order 292068
            D 04/20/2000              1.000  EA
     Still to be delivered            0.000  EA              0.00  USD    0.00 %
     Still to be invoiced             0.000  EA              0.00  USD    0.00 %
M017574     ZZ   106668      TECHNICAL EQUIPMENT SALES                M01 04/06/2000
  00010                      HAAS VF-3D APC VERTICAL MACHINING CENTER 11CAPPROJ
      F MAY                           1.000  EA        115,000.00  USD        1 EA
     Order 292068
            D 05/09/2000              1.000  EA
     Still to be delivered            0.850  EA         97,750.00  USD   85.00 %
     Still to be invoiced             1.000  EA        115,000.00  USD  100.00 %
M018069     ZZ   103437      Universal Machine, Inc.                  M09 04/04/2000
  00010                      BUILDING PROOF TEST BOX PER DRAWING       MISC
      F MAY                           1.000  EA          5,052.75  USD        1 EA
     Order 292068
            D 04/28/2000              1.000  EA  PReq 1000471298 00010
     Still to be delivered            1.000  EA          5,052.75  USD  100.00 %
     Still to be invoiced             1.000  EA          5,052.75  USD  100.00 %
M018075     ZZ   106667      ORBITFORM                                M09 04/04/2000
  00010                      Orbitform Orbital Riveter -see long text CA
      F MAY                           1.000  EA         11,100.00  USD        1 EA
     Order 292068
            D 05/19/2000              1.000  EA  PReq 1000471294 00010
     Still to be delivered            1.000  EA         11,100.00  USD  100.00 %
     Still to be invoiced             1.000  EA         11,100.00  USD  100.00 %
M018084     ZZ   103024      Savage Range Systems, Inc.               M09 04/04/2000
  00010                      ONE 8' RIFLE RATED RANGE                  MISC
      F MAY                           1.000  EA         13,600.00  USD        1 EA
     Order 292068
            D 05/15/2000              1.000  EA  PReq 1000471299 00010
     Still to be delivered            1.000  EA         13,600.00  USD  100.00 %
     Still to be invoiced             1.000  EA         13,600.00  USD  100.00 %
  00020                      MODIFY TRAP TO INCLUDE REPLACEABLE WEAR  MISC
      F MAY                           1.000  EA          5,000.00  USD        1 EA
     Order 292068
            D 05/15/2000              1.000  EA  PReq 1000471299 00020
     Still to be delivered            1.000  EA          5,000.00  USD  100.00 %
     Still to be invoiced             1.000  EA          5,000.00  USD  100.00 %
M018158     ZZ   1689884     MECCO MARKING                            M09 04/13/2000
  00010                      PNEUMATIC MARKER (NON IMPACT) COMPLETE    MISC
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PO          Type Vendor      Name                                    PGp Order date
  Item  Material             Short text                                  Mat. group
  D I A Plnt SLoc                Order qty.    Un      Net Price  Curr.    per Un
            SL del. date     Scheduled qty.   Un.

  00010                      MB-6 SINGLE STATION BRAZE MACHINE          11CAPPROJ
      F MAY                           1.000  EA        59,635.00  USD         1 EA
     Order 292068
            D 05/08/2000              1.000  EA
     Still to be delivered            0.000  EA             0.00  USD      0.00 %
     Still to be invoiced             0.334  EA        19,910.09  USD     33.40 %
M017491     ZZ   1881473       SQUARE STAMPING MFG CORP.                  M01 01/26/2000
  00010                      MFGR. STAMPING DIE FOR 710 SAFETY          TOOLING
      F MAY                           1.000  EA        19,900.00  USD         1 EA
     Order 292068
            D 04/11/2000              1.000  EA
     Still to be delivered            1.000  EA        19,900.00  USD    100.00 %
     Still to be invoiced             1.000  EA        19,900.00  USD    100.00 %
  00020                      ADDITIONAL TOOL CHARGE FOR CHANGE OF DIE TOOLING
      F MAY                           1.000  EA         2,900.00  USD         1 EA
     Order 292068
            D 04/11/2000              1.000  EA
     Still to be delivered            1.000  EA         2,900.00  USD    100.00 %
     Still to be invoiced             1.000  EA         2,900.00  USD    100.00 %
M017497     ZZ   106543        VALCO/ VALLEY TOOL AND DIE INC.            M01 02/04/2000
  00010                      TOOL MOLD (TO PRODUCE TO PRINT C-300405) TOOLING
      F MAY                           1.000  EA        16,055.00  USD         1 EA
     Order 292068
            D 04/27/2000              1.000  EA
     Still to be delivered            0.000  EA             0.00  USD      0.00 %
     Still to be invoiced             0.333  EA         5,346.32  USD     33.30 %
M017498     ZZ   106543        VALCO/ VALLEY TOOL AND DIE INC.            M01 02/04/2000
  00010                      PROTOTYPE MAGAZINE SPRING C-300405 / 710 MISC
      F MAY                       1,000.000  EA             2.50  USD         1 EA
     Order 292068
            D 03/02/2000          1,000.000  EA
     Still to be delivered            0.000  EA             0.00  USD      0.00 %
     Still to be invoiced             0.000  EA             0.00  USD      0.00 %
M017530     ZZ   106500        BRAININ DEER PARK DIE & STAMPING           M01 03/06/2000
  00010                      Design & build Progressive Die E-300363   TOOLING
      F MAY                           1.000  EA        83,000.00  USD         1 EA
     Order 292068
            D 06/09/2000              1.000  EA
     Still to be delivered            0.666  EA        55,278.00  USD     66.60 %
     Still to be invoiced             0.666  EA        55,278.00  USD     66.60 %
M017531     ZZ   101155        INDUSTRIAL SPRING OF ST. LOUIS             M01 03/07/2000
  00010                      PROTOTYPE FIRING PIN SPRINGS A-300399     SAMPLES
      F MAY                          20.000  EA            10.00  USD         1 EA
     Order 292068
            D 03/13/2000             20.000  EA
     Still to be delivered            0.000  EA             0.00  USD      0.00 %
     Still to be invoiced             0.000  EA             0.00  USD      0.00 %
M017532     ZZ   106507        NORTH AMERICAN PRECISION CASTING           M01 03/07/2000
  00010                      DESIGN & MFG.CUTTERS TO MAKE KNURLING     SAMPLES
      F MAY                              1  ST           925.00  USD         1 ST
     Order 292068
            D 03/15/2000                 1  ST
     Still to be delivered               0  ST             0.00  USD      0.00 %
     Still to be invoiced                0  ST             0.00  USD      0.00 %
M017546     ZZ   103386        Paulo, St. Louis                           M01 03/14/2000
  00010                      AB LASER MACHINE "StarMark LME-1D" BASIC MISC
      F MAY                           1.000  EA       104,000.00  USD         1 EA
     Order 292068
            D 05/22/2000              1.000  EA  PReq 1000443217 00010
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PO          Type Vendor      Name                                    PGp Order date
  Item  Material             Short text                                  Mat. group
  D I A Plnt SLoc                Order qty.    Un      Net Price  Curr.    per Un
            SL del. date     Scheduled qty.   Un

            D 04/26/2000            1.000  EA
     Still to be delivered          0.300  EA       46,050.00  USD    30.00 %
     Still to be invoiced           0.300  EA       46,050.00  USD    30.00 %
M017477     ZZ   1881473     SQUARE STAMPING MFG CORP           M01 01/19/2000
  00010                      PRODUCTION TOOL FOR B-300361 RECOIL BRKT TOOLING
      F MAY                         1.000  EA        550.00  USD         1 EA
     Order 292068
            D 03/15/2000            1.000  EA
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
M017478     ZZ   1881473     SQUARE STAMPING MFG CORP           M01 01/20/2000
  00010                      TOOL FOR 710 PART# C-300333 SIDE PLATE  TOOLING
      F MAY                         1.000  EA       7,500.00  USD         1 EA
     Order 292068
            D 03/29/2000            1.000  EA
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
M017479     ZZ   1875145     ANDERSON SCREW PRODUCTS INC        M01 01/20/2000
  00010                      TOOL FOR 710 BOLT PLUG INSERT #B-300346 TOOLING
      F MAY                         1.000  EA       2,250.00  USD         1 EA
     Order 292068
            D 03/29/2000            1.000  EA
     Still to be delivered          1.000  EA       2,250.00  USD   100.00 %
     Still to be invoiced           1.000  EA       2,250.00  USD   100.00 %
M017480     ZZ   106504      MEGAMET INDUSTRIES                 M01 01/20/2000
  00010                      TOOLING MOLD / 710 LOCK TUMBLER B-300420 TOOLING
      F MAY                         1.000  EA      20,000.00  USD         1 EA
     Order 292068
            D 03/29/2000            1.000  EA
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.333  EA       6,660.00  USD    33.30 %
M017484     ZZ   106507      NORTH AMERICAN PRECISION CASTING   M01 01/24/2000
  00010                      4-CAVITY INJECTION MOLD/ 710 BOLT HANDLE TOOLING
      F MAY                         1.000  EA       6,550.00  USD         1 EA
     Order 292068
            D 03/27/2000            1.000  EA
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
M017486     ZZ   105686      STERLING SINTERED TECHNOLOGIES     M01 01/25/2000
  00010                      TOOLING FOR 710 BOLT STOP      C-300345  TOOLING
      F MAY                         1.000  EA       5,500.00  USD         1 EA
     Order 292068
            D 04/03/2000            1.000  EA
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.500  EA       2,750.00  USD    50.00 %
M017487     ZZ   105686      STERLING SINTERED TECHNOLOGIES     M01 01/25/2000
  00010                      TOOLING MOLD FOR 710 TRIGGER C-300435     TOOLING
      F MAY                         1.000  EA       1,435.00  USD         1 EA
     Order 292068
            D 04/11/2000            1.000  EA
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
  00020                      CANCELLATION CHARGE-CHARGE FOR DESIGN     TOOLING
  L   F MAY                         1.000  EA       1,435.00  USD         1 EA
     Order 292068
            D 04/11/2000            1.000  EA
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
M017490     ZZ   106533      CYBERTECH, INTERNATIONAL           M01 01/31/2000
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PO          Type Vendor      Name                                   PGp Order date
  Item  Material             Short text                                 Mat. group
  D I A Plnt SLoc                Order qty.   Un      Net Price   Curr.    per Un
              SL del. date   Scheduled qty.   Un

M016948     ZZ   103437      Universal Machine, Inc.                M09 03/14/2000
  00010                      BUILD SIGHT HOLE FIXTURE EK-10452          TOOLING
      F MAY                            1.000  EA       3,000.00  USD          1 EA
     Order 292068
              D 04/11/2000             1.000  EA  PReq 1000445982 00010
     Still to be delivered             1.000  EA       3,000.00  USD   100.00 %
     Still to be invoiced              1.000  EA       3,000.00  USD   100.00 %
M017435     ZZ   105652      PAR 4 PLASTICS, INC.                   M01 12/13/1999
  00010                      1 CAVITY PRODUCTION MOLD FOR 710 STOCK     TOOLING
      F MAY                            1.000  EA     145,300.00  USD          1 EA
     Order 292068
              D 03/29/2000             1.000  EA
     Still to be delivered             0.000  EA           0.00  USD     0.00 %
     Still to be invoiced              0.333  EA      48,384.00  USD    33.30 %
M017443     ZZ   101070      KELLEMS & COE TOOL CORP                M01 12/14/1999
  00010                      2-CAVITY PRODUCTION MOLD F300368 FOR 710 TOOLING
      F MAY  RM20                      1.000  EA      38,000.00  USD          1 EA
     Order 292068
              D 03/21/2000             1.000  EA
     Still to be delivered             0.000  EA           0.00  USD     0.00 %
     Still to be invoiced              0.333  EA      12,654.00  USD    33.30 %
M017457     ZZ   102282      MATTHEW MACHINERY                      M01 12/21/1999
  00010                      OKUMA LB-300 MY    CNC TURNING CENTER      910
      F MAY                            1.000  EA     219,700.00  USD          1 EA
     Order 292068
              D 04/07/2000             1.000  EA
     Still to be delivered             1.000  EA     219,700.00  USD   100.00 %
     Still to be invoiced              1.000  EA     219,700.00  USD   100.00 %
  00020                      LB-300 MACHINE  RUN-OFF AND SET-UP         910
      F MAY                            1.000  EA       5,000.00  USD          1 EA
     Order 292068
              D 04/07/2000             1.000  EA
     Still to be delivered             1.000  EA       5,000.00  USD   100.00 %
     Still to be invoiced              1.000  EA       5,000.00  USD   100.00 %
M017465     ZZ   105652      PAR 4 PLASTICS, INC.                   M01 01/11/2000
  00010                      2 CAVITY PRODUCTION MOLD / 710 MAG LATCH TOOLING
      F MAY                            1.000  EA      31,806.00  USD          1 EA
     Order 292068
              D 04/24/2000             1.000  EA
     Still to be delivered             0.000  EA           0.00  USD     0.00 %
     Still to be invoiced              0.333  EA      10,591.40  USD    33.30 %
M017466     ZZ   105652      PAR 4 PLASTICS, INC.                   M01 01/12/2000
  00010                      2+2 Family Mold- 710 Follower/Box Bottom TOOLING
      F MAY                            1.000  EA      73,786.00  USD          1 EA
     Order 292068
              D 04/17/2000             1.000  EA
     Still to be delivered             0.340  EA      25,087.24  USD    34.00 %
     Still to be invoiced              0.340  EA      25,087.24  USD    34.00 %
M017470     ZZ   106504      MEGAMET INDUSTRIES                     M01 01/14/2000
  00010                      METAL INJECTION MOLD FOR 710 / C-300336    TOOLING
      F MAY                            1.000  EA      16,000.00  USD          1 EA
     Order 292068
              D 03/16/2000             1.000  EA
     Still to be delivered             0.500  EA       8,000.00  USD    50.00 %
     Still to be invoiced              0.500  EA       8,000.00  USD    50.00 %
M017471     ZZ   105901      WELDUCTION CORP                        M01 01/17/2000
  00010                      FLEXSCAN INDUCTION HEAT TREAT CENTER       11CAPPROJ
      F MAY                            1.000  EA     153,500.00  USD          1 EA
     Order 292068
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PO          Type Vendor      Name                                   PGp Order date
  Item  Material             Short text                                 Mat. group
  D I A Plnt SLoc                Order qty.    Un      Net Price  Curr.    per Un
              SL del. date   Scheduled qty.    Un
-------------------------------------------------------------------------------------
  00030                      WGC SPECIAL AIR PROBE TO CHK .3000/.3010 03
      F MAY                           1.000  EA        2,605.38  USD         1 EA
     Order 292068
             D 02/28/2000             1.000  EA  PReq 1000328038 00030
     Still to be delivered            0.000  EA             0.00  USD      0.00 %
     Still to be invoiced             0.000  EA             0.00  USD      0.00 %
  00090                      AEQ 21-33-10 MICRO-AIR DIGITAL COMPARATOR 03
      F MAY                           1.000  EA        4,393.75  USD         1 EA
     Order 292068
             D 02/28/2000             1.000  EA  PReq 1000328038 00090
     Still to be delivered            0.000  EA             0.00  USD      0.00 %
     Still to be invoiced             0.000  EA             0.00  USD      0.00 %
M016619     ZZ   3557873           WILSON INSTRUMENT INC                  M09 01/28/2000
  00010                      MODEL 2001T DIGITAL ROCKWELL TESTER          LAB EQUIP
      F MAY                           1.000  EA       13,800.00  USD         1 EA
     Order 292068
             D 02/29/2000             1.000  EA  PReq 1000335538 00010
     Still to be delivered            0.000  EA             0.00  USD      0.00 %
     Still to be invoiced             0.000  EA             0.00  USD      0.00 %
M016649     ZZ   100361            REGAL INDUSTRIES INC                   M09 02/04/2000
  00010                      MEASURE MAX PROGRAMMING OF PARTS             LAB EQUIP
      F MAY                           1.000  EA        5,675.00  USD         1 EA
     Order 292068
             D 03/01/2000             1.000  EA  PReq 1000344508 00010
     Still to be delivered            1.000  EA        5,675.00  USD    100.00 %
     Still to be invoiced             1.000  EA        5,675.00  USD    100.00 %
M016749     ZZ   102282            MATTHEW MACHINERY                      M09 02/15/2000
  00010                      CHUCK                                        17
      F MAY                           1.000  EA        5,155.00  USD         1 EA
     Order 292068
             D 02/29/2000             1.000  EA  PReq 1000387532 00010
     Still to be delivered            0.000  EA             0.00  USD      0.00 %
     Still to be invoiced             0.000  EA             0.00  USD      0.00 %
  00020                      CYLINDER                                     17
      F MAY                           1.000  EA        3,350.00  USD         1 EA
     Order 292068
             D 02/29/2000             1.000  EA  PReq 1000387532 00020
     Still to be delivered            0.000  EA             0.00  USD      0.00 %
     Still to be invoiced             0.000  EA             0.00  USD      0.00 %
  00040                      PART OF ORDER TAXABLE KY TAX 6%              17
      F MAY                           1.000  EA             2.51  USD         1 EA
     Order 292068
             D 02/29/2000             1.000  EA
     Still to be delivered            0.000  EA             0.00  USD      0.00 %
     Still to be invoiced             0.000  EA             0.00  USD      0.00 %
M016804     ZZ   103024            Savage Range Systems, Inc.             M09 02/22/2000
  00010                      PROOF AND FUNCTION BULLET TRAP               910
      F MAY                           1.000  EA       11,000.00  USD         1 EA
     Order 292068
             D 03/31/2000             1.000  EA  PReq 1000398161 00010
     Still to be delivered            1.000  EA       11,000.00  USD    100.00 %
     Still to be invoiced             1.000  EA       11,000.00  USD    100.00 %
M016929     ZZ   5108204           BROOKFIELD MACHINE INC                 M09 03/10/2000
  00010                      PART #E-K-10462                              MISC
      F MAY                           1.000  EA        5,530.00  USD         1 EA
     Order 292068
             D 04/10/2000             1.000  EA  PReq 1000434694 00010
     Still to be delivered            0.000  EA             0.00  USD      0.00 %
     Still to be invoiced             1.000  EA        5,530.00  USD    100.00 %
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PO          Type Vendor     Name                                  PGp Order date
  Item  Material            Short text                                Mat. group
  D I A Plnt SLoc               Order qty.   Un        Net Price  Curr.    per Un
            SL del. date    Scheduled qty.   Un

M016377     ZZ   5208718    GIDDINGS & LEWIS                      M09 12/14/1999
  00010                     K150 RETROFIT KIT RS-5; S/N: D-0323-0996 SERVICE
     F MAY                              1.000  EA       13,000.00  USD        1 EA
    Order 292068
            D 01/17/2000                1.000  EA  PReq 1000270627 00010
    Still to be delivered               0.000  EA            0.00  USD     0.00 %
    Still to be invoiced                0.000  EA            0.00  USD     0.00 %
  00020                     ESTIMATED KY SALES TAX AT 6%              SERVICE
     F MAY                              1.000  EA          780.00  USD        1 EA
    Order 292068
            D 01/17/2000                1.000  EA
    Still to be delivered               0.000  EA            0.00  USD     0.00 %
    Still to be invoiced                0.000  EA            0.00  USD     0.00 %
M016396     ZZ   106410     FARRIS, MCINTOSH, & TRENGER, INC      M09 12/14/1999
  00010                     TOPOGRAPHIC SURVEY                        SERVICE
     F MAY                              1.000  EA        1,300.00  USD        1 EA
    Order 292068
            D 01/31/2000                1.000  EA  PReq 1000274300 00010
    Still to be delivered               0.000  EA            0.00  USD     0.00 %
    Still to be invoiced                0.000  EA            0.00  USD     0.00 %
  00020                     ENGINEERING CHARGE                        SERVICE
     F MAY                              1.000  EA       13,902.00  USD        1 EA
    Order 292068
            D 01/31/2000                1.000  EA  PReq 1000274300 00020
    Still to be delivered               0.000  EA            0.00  USD     0.00 %
    Still to be invoiced                1.000  EA       13,902.00  USD   100.00 %
M016555     ZZ   106516     MICROCENTRIC                          M09 01/21/2000
  00010                     SF-1787-01 CB42-S/A6 LOW PROFILE COLLET 03
     F MAY                              1.000  EA        3,645.00  USD        1 EA
    Order 292068
            D 02/10/2000                1.000  EA  PReq 1000321299 00010
    Still to be delivered               0.000  EA            0.00  USD     0.00 %
    Still to be invoiced                1.000  EA        3,645.00  USD   100.00 %
M016586     ZZ   5108204    BROOKFIELD MACHINE INC                M09 01/25/2000
  00010                     DESIGN/BUILD DPTH GAGE RIFLE CHAM SHLD    TOOLING
     F MAY                              1.000  EA        8,732.00  USD        1 EA
    Order 292068
            D 03/31/2000                1.000  EA  PReq 1000328051 00010
    Still to be delivered               0.000  EA            0.00  USD     0.00 %
    Still to be invoiced                1.000  EA        8,732.00  USD   100.00 %
  00020                     DESIGN/BUILD DPTH GAGE RIFLE CHAM NECK    TOOLING
     F MAY                              1.000  EA        8,470.00  USD        1 EA
    Order 292068
            D 03/31/2000                1.000  EA  PReq 1000328051 00020
    Still to be delivered               0.000  EA            0.00  USD     0.00 %
    Still to be invoiced                1.000  EA        8,470.00  USD   100.00 %
M016617     ZZ   106524     WESTERN GAGE CORPORATION              M09 01/28/2000
  00010                     WGC SPECIAL. TRIPLE CIRCUIT, AIR SPINDLE 03
     F MAY                              1.000  EA        5,467.25  USD        1 EA
    Order 292068
            D 02/28/2000                1.000  EA  PReq 1000328038 00010
    Still to be delivered               0.000  EA            0.00  USD     0.00 %
    Still to be invoiced                0.000  EA            0.00  USD     0.00 %
  00020                     NON RECURRING ENGINEER CHARGE FOR ABOVE  03
     F MAY                              1.000  EA          926.25  USD        1 EA
    Order 292068
            D 02/28/2000                1.000  EA  PReq 1000328038 00020
    Still to be delivered               0.000  EA            0.00  USD     0.00 %
    Still to be invoiced                0.000  EA            0.00  USD     0.00 %
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END 292068

Cost center 0000028200

Material Requisn. S C R	Item I A	Short text / Requested qty. / Ordered qty.	Un / Un	Delivy date / Release date	Requester / Trackg.no.	PGp	Mat. gp. / Plnt / SPl.	sLoc / MC
		1-1/4" X 3" FLAT STOCK #8910K74				M09	44	
1000400248	00010	1.000	EA	D 02/24/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			02/22/2000	HUTSONLR			
Desired vendor		101041 MCMASTER-CARR SUPPLY CO						
		BK-8065 .0754/.0810 ZZ TOLERANCE GAGE				M09	03	
1000400251	00010	1.000	EA	D 03/20/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			02/22/2000	HUTSONLR			
Desired vendor		1884329 HARVEY DAVIDSON SALES INC						
		BK-8066 .2482/.2520 ZZ TOLERANCE GAGE				M09	03	
1000400251	00020	1.000	EA	D 03/20/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			02/22/2000	HUTSONLR			
		BK-8067 .1482/.1520 ZZ TOLERANCE GAGE				M09	03	
1000400251	00030	1.000	EA	D 03/20/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			02/22/2000	HUTSONLR			
		BK-8068 .1224/.128 ZZ TOLERANCE GAGE				M09	03	
1000400251	00040	1.000	EA	D 03/20/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			02/22/2000	HUTSONLR			
		BK-8069 .0712/.075 ZZ TOLERANCE GAGE				M09	03	
1000400251	00050	1.000	EA	D 03/20/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			02/22/2000	HUTSONLR			
		BK-8062 .2605/.2700 ZZ TOLERANCE GAGE				M09	03	
1000400251	00060	1.000	EA	D 03/20/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			02/22/2000	HUTSONLR			
		BK-8063 .2745/.284 ZZ TOLERANCE GAGE				M09	03	
1000400251	00070	1.000	EA	D 03/20/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			02/22/2000	HUTSONLR			
		BK-8064 1.043/1.0490 X TOLERANCE GAGE				M09	03	
1000400251	00080	1.000	EA	D 03/20/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			02/22/2000	HUTSONLR			
		BK-8070 .3176/.3225Z TOLERANCE GAGE				M09	03	
1000400251	00090	1.000	EA	D 03/20/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			02/22/2000	HUTSONLR			
		BK-8071 .2482/.2520 Z TOLERANCE GAGE				M09	03	
1000400251	00100	1.000	EA	D 03/20/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			02/22/2000	HUTSONLR			
		BK-8072 .2552/.2590 Z TOLERANCE GAGE				M09	03	
1000400251	00110	1.000	EA	D 03/20/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			02/22/2000	HUTSONLR			
		BK-8073 .4952/.5010 Z TOLERANCE GAGE				M09	03	
1000400251	00120	1.000	EA	D 03/20/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			02/22/2000	HUTSONLR			
		BK-8074 .2231/.2260 Z TOLERANCE GAGE				M09	03	
1000400251	00130	1.000	EA	D 03/20/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			02/22/2000	HUTSONLR			
		BK-8075 .0956/.0985 Y TOLERANCE GAGE				M09	03	
1000400251	00140	1.000	EA	D 03/20/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			02/22/2000	HUTSONLR			
		BK-8076 .2855/.2950 ZZ TOLERANCE GAGE				M09	03	
1000400251	00150	1.000	EA	D 03/20/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			02/22/2000	HUTSONLR			
		BK-8077 .1225/.1320 ZZ TOLERANCE GAGE				M09	03	
1000400251	00160	1.000	EA	D 03/20/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			02/22/2000	HUTSONLR			
		BK-8078 .1206/.1235 Y TOLERANCE GAGE				M09	03	
1000400251	00170	1.000	EA	D 03/20/2000	GOLEMBOSKIMR		MAY	
N R A NB	Z			02/22/2000	HUTSONLR			
		BK-8079 .2305/.2500 ZZ TOLERANCE				M09	03	
1000400251	00180	1.000	EA	D 03/20/2000	GOLEMBOSKIMR		MAY	

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ORIGINAL

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Cost center 0000028200

Material Requisn. S C R	Item OTy. I A	Short text Requested qty. Ordered qty.	Un Un	Deliv. date Release date	Requester Trackg.no.	PGp	Mat. gp. Plnt SLoc SPl. MC
N R A NB	Z			02/22/2000	HUTSONLR		
		BK-1040 .699/.703 ZZ TOLERANCE				M09	03
1000400251	00190	1.000	EA	D 03/20/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			02/22/2000	HUTSONLR		
		MAGAZINE LATCH COMPARATOR SCREEN K-10425				M09	TOOLING
1000402335	00010	1.000	EA	D 03/23/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			02/23/2000	HUTSONLR		
Desired vendor		5390090 PHI ASSOCIATES					
		RECEIVER PLUG GAGE K-10426				M09	TOOLING
1000402336	00010	1.000	EA	D 03/23/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			02/23/2000	HUTSONLR		
Desired vendor		5390090 PHI ASSOCIATES					
		2-COLLET-COOLANT ADAPTERS FOR .214 DIA.				M09	MISC
1000402337	00010	1.000	EA	D 02/25/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			02/23/2000	HUTSONLR		
Desired vendor		103437 Universal Machine, Inc.					

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PO          Type Vendor      Name                                  PGp Order date
  Item  Material             Short text                                Mat. group
  D I A Plnt SLoc                Order qty.   Un   Net Price   Curr.   per Un
            SL del. date     Scheduled qty.   Un

M016637     ZZ   104762      G AND H TOOL & DIE INC                M09 02/04/2000
  00010                      B-63907 EXTRACTOR FUNCTIONAL WIDTH GAGE  TOOLING
     Z MAY                          1.000  EA          115.00  USD        1 EA
     Cost center 28200
            D 02/29/2000            1.000  EA  PReq 1000342294 00010
     Still to be delivered          1.000  EA          115.00  USD  100.00 %
     Still to be invoiced           1.000  EA          115.00  USD  100.00 %
  00020                      C-45390 EXTRACTOR COMPARATOR AND FIXTURE TOOLING
     Z MAY                          1.000  EA          558.00  USD        1 EA
     Cost center 28200
            D 02/29/2000            1.000  EA  PReq 1000342294 00020
     Still to be delivered          1.000  EA          558.00  USD  100.00 %
     Still to be invoiced           1.000  EA          558.00  USD  100.00 %
  00030                      C-44604 TRIGGER CONNECT SQUARENESS GAGE  TOOLING
     Z MAY                          1.000  EA          105.00  USD        1 EA
     Cost center 28200
            D 02/29/2000            1.000  EA  PReq 1000342294 00030
     Still to be delivered          1.000  EA          105.00  USD  100.00 %
     Still to be invoiced           1.000  EA          105.00  USD  100.00 %
  00040                      C-44522 TRIGGER CONNECT WIDTH GAGE       TOOLING
     Z MAY                          1.000  EA          135.00  USD        1 EA
     Cost center 28200
            D 02/29/2000            1.000  EA  PReq 1000342294 00040
     Still to be delivered          1.000  EA          135.00  USD  100.00 %
     Still to be invoiced           1.000  EA          135.00  USD  100.00 %
  00050                      C-43887 TRIGGER CONNECT & COMPARATOR FIX TOOLING
     Z MAY                          1.000  EA          595.00  USD        1 EA
     Cost center 28200
            D 02/29/2000            1.000  EA  PReq 1000342294 00050
     Still to be delivered          1.000  EA          595.00  USD  100.00 %
     Still to be invoiced           1.000  EA          595.00  USD  100.00 %
M016638     ZZ   103982      MAYFIELD PLUMBING & ELEC. SUPPLY      M09 02/04/2000
  00010                      PVC SCH40 3/4 COUPLING 85203             MISC
     Z MAY                         10.000  EA            0.20  USD        1 EA
     Cost center 28200
            D 02/04/2000           10.000  EA  PReq 1000348486 00010
     Still to be delivered          0.000  EA            0.00  USD    0.00 %
     Still to be invoiced           0.000  EA            0.00  USD    0.00 %
  00020                      2" PVC SCH 40 COUPLING 85211             MISC
     Z MAY                          1.000  EA            0.76  USD        1 EA
     Cost center 28200
            D 02/04/2000            1.000  EA  PReq 1000348486 00020
     Still to be delivered          0.000  EA            0.00  USD    0.00 %
     Still to be invoiced           0.000  EA            0.00  USD    0.00 %
  00030                      UNIWELD PVC CEMENT 1 PINT 8367501246     MISC
     Z MAY                          1.000  EA            3.70  USD        1 EA
     Cost center 28200
            D 02/04/2000            1.000  EA  PReq 1000348486 00030
     Still to be delivered          0.000  EA            0.00  USD    0.00 %
     Still to be invoiced           0.000  EA            0.00  USD    0.00 %
  00040                      UNIWELD PVC/CPVC CLNR 1 PT 8367507346    MISC
     Z MAY                          1.000  EA            2.81  USD        1 EA
     Cost center 28200
            D 02/04/2000            1.000  EA  PReq 1000348486 00040
     Still to be delivered          0.000  EA            0.00  USD    0.00 %
     Still to be invoiced           0.000  EA            0.00  USD    0.00 %
M016642     ZZ   103681      YOUNGBLOOD'S TRUE VALUE HOME CTR      M09 02/04/2000
  00010                      #143743 MP205 1/4 PT PVC CEMENT          MISC
     Z MAY                          1.000  EA            1.68  USD        1 EA
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PO          Type Vendor      Name                                   PGp Order date
  Item  Material             Short text                                Mat. group
  D I A Plnt SLoc                Order qty.    Un        Net Price  Curr.   per Un
            SL del. date     Scheduled qty.   Un

     Cost center 28200
            D 02/04/2000            1.000  EA  PReq 1000348484 00010
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
  00020                     #149658 MP214 1/4 PT PVC CLEANER          MISC
      Z MAY                         1.000  EA            1.58  USD        1 EA
     Cost center 28200
            D 02/04/2000            1.000  EA  PReq 1000348484 00020
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
  00030                     #341040 3/4" X 10' SCH 40 PIPE            MISC
      Z MAY                         2.000  EA            1.50  USD        1 EA
     Cost center 28200
            D 02/04/2000            2.000  EA  PReq 1000348484 00030
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
  00040                     #346764 3/4" PVC BALL VALVE-SXS           MISC
      Z MAY                         3.000  EA            3.18  USD        1 EA
     Cost center 28200
            D 02/04/2000            3.000  EA  PReq 1000348484 00040
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
  00050                     #412783 8 PACK ENERGIZER AA BATTERIES     MISC
      Z MAY                         2.000  EA            5.49  USD        1 EA
     Cost center 28200
            D 02/04/2000            2.000  EA  PReq 1000348484 00050
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
  00060                     #415281 164604 3/4" PVC SLIP UNION        MISC
      Z MAY                         4.000  EA            2.18  USD        1 EA
     Cost center 28200
            D 02/04/2000            4.000  EA  PReq 1000348484 00060
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
  00070                     #544296 151051 1/2"-1" PVC PIPE CUTTER    MISC
      Z MAY                         2.000  EA           12.99  USD        1 EA
     Cost center 28200
            D 02/04/2000            2.000  EA  PReq 1000348484 00070
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
  00080                     #740290 18260 10.5 OZ RELY-ON LATEX WHIT MISC
      Z MAY                         2.000  EA            0.94  USD        1 EA
     Cost center 28200
            D 02/04/2000            2.000  EA  PReq 1000348484 00080
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
  00090                     #34 PL 3/4" PVC 45 DEG ELBOW 4539         MISC
      Z MAY                         6.000  EA            0.48  USD        1 EA
     Cost center 28200
            D 02/04/2000            6.000  EA  PReq 1000348484 00090
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
  00100                     #34PC 3/4" PVC COUPLING                   MISC
      Z MAY                         8.000  EA            0.14  USD        1 EA
     Cost center 28200
            D 02/04/2000            8.000  EA  PReq 1000348484 00100
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
  00110                     #34PL 30707 3/4" PVC 90 DEG ELBOW         MISC
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PO          Type Vendor      Name                                    PGp Order date
  Item  Material             Short text                                  Mat. group
  D I A Plnt SLoc                Order qty.   Unit        Net Price  Curr.   per Un
                SL del. date Scheduled qty.   Un

      Z MAY                          10.000  EA               0.19  USD        1 EA
     Cost center 28200
            D 02/04/2000             10.000  EA  PReq 1000348484 00110
     Still to be delivered            0.000  EA               0.00  USD     0.00 %
     Still to be invoiced             0.000  EA               0.00  USD     0.00 %
  00120                      #34PM 30407 3/4" PVC MALE ADAPTOR          MISC
      Z MAY                           5.000  EA               0.19  USD        1 EA
     Cost center 28200
            D 02/04/2000              5.000  EA  PReq 1000348484 00120
     Still to be delivered            0.000  EA               0.00  USD     0.00 %
     Still to be invoiced             0.000  EA               0.00  USD     0.00 %
M016657     ZZ   103982            MAYFIELD PLUMBING & ELEC. SUPPLY      M09 02/04/2000
  00010                      1/2" BLACK PIPE                            MISC
      Z MAY                         400.000  FT               0.62  USD        1 FT
     Cost center 28200
            D 02/04/2000            400.000  FT  PReq 1000348483 00010
     Still to be delivered          400.000  FT             248.00  USD   100.00 %
     Still to be invoiced           400.000  FT             248.00  USD   100.00 %
  00020                      3/4 X 1/2 BUSHING                          MISC
      Z MAY                          25.000  EA               0.24  USD        1 EA
     Cost center 28200
            D 02/04/2000             25.000  EA  PReq 1000348483 00020
     Still to be delivered           25.000  EA               6.00  USD   100.00 %
     Still to be invoiced            25.000  EA               6.00  USD   100.00 %
  00030                      1/2 X 3/8 BUSHING                          MISC
      Z MAY                          25.000  EA               0.21  USD        1 EA
     Cost center 28200
            D 02/04/2000             25.000  EA  PReq 1000348483 00030
     Still to be delivered           25.000  EA               5.25  USD   100.00 %
     Still to be invoiced            25.000  EA               5.25  USD   100.00 %
  00040                      1/2'—90 DEGREE ELBOW                       MISC
      Z MAY                          25.000  EA               0.51  USD        1 EA
     Cost center 28200
            D 02/04/2000             25.000  EA  PReq 1000348483 00040
     Still to be delivered           25.000  EA              12.75  USD   100.00 %
     Still to be invoiced            25.000  EA              12.75  USD   100.00 %
  00050                      1/2" COUPLING                              MISC
      Z MAY                          25.000  EA               0.70  USD        1 EA
     Cost center 28200
            D 02/04/2000             25.000  EA  PReq 1000348483 00050
     Still to be delivered           25.000  EA              17.50  USD   100.00 %
     Still to be invoiced            25.000  EA              17.50  USD   100.00 %
M016660     ZZ   106552            UNIVERSAL COATINGS CORPORATION        M09 02/08/2000
  00010                      LBR & MTLS TO PREPARE SURFACE AND APPLY    MISC
      Z MAY                           1.000  EA             470.00  USD        1 EA
     Cost center 28200
            D 02/08/2000              1.000  EA  PReq 1000355094 00010
     Still to be delivered            0.000  EA               0.00  USD     0.00 %
     Still to be invoiced             0.000  EA               0.00  USD     0.00 %
M016676     ZZ   104046            SOUTHFORK ELECTRIC                    M09 02/10/2000
  00010                      SQD H362NRB 60A 600V 4SN SW                16
      Z MAY                           2.000  EA             347.77  USD        1 EA
     Cost center 28200
            D 02/10/2000              2.000  EA  PReq 1000378492 00010
     Still to be delivered            0.000  EA               0.00  USD     0.00 %
     Still to be invoiced             2.000  EA             695.54  USD   100.00 %
  00020                      1706 1-1/2 D/C INS KO HUB ST-5/H0150-TB  16
      Z MAY                           1.000  EA             411.56  USD      100 EA
     Cost center 28200
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PO Item D I A	Type Vendor Material Plnt SLoc SL del. date	Name Short text Order qty. Scheduled qty.	Un Un	Net Price	PGp Order date Mat. group Curr.	per Un
	D 02/10/2000	1.000	EA	PReq 1000378492	00020	
	Still to be delivered	0.000	EA	0.00	USD	0.00 %
	Still to be invoiced	0.000	EA	0.00	USD	0.00 %
00030		BUSS FRS-R60 600V RK TD FUSE			16	
	Z MAY	6.000	EA	10.30	USD	1 EA
	Cost center 28200					
	D 02/10/2000	6.000	EA	PReq 1000378492	00030	
	Still to be delivered	0.000	EA	0.00	USD	0.00 %
	Still to be invoiced	0.000	EA	0.00	USD	0.00 %
00040		BUSS FRS-R30 600V RK TD FUSE			16	
	Z MAY	6.000	EA	10.30	USD	1 EA
	Cost center 28200					
	D 02/10/2000	6.000	EA	PReq 1000378492	00040	
	Still to be delivered	0.000	EA	0.00	USD	0.00 %
	Still to be invoiced	0.000	EA	0.00	USD	0.00 %
00050		1702 1/2 D/C INS KO HUB ST-1/H050-TB			16	
	Z MAY	1.000	EA	200.85	USD	100 EA
	Cost center 28200					
	D 02/10/2000	1.000	EA	PReq 1000378492	00050	
	Still to be delivered	0.000	EA	0.00	USD	0.00 %
	Still to be invoiced	0.000	EA	0.00	USD	0.00 %
00060		SQD H361NRB 30A-480V-4SN SW			16	
	Z MAY	1.000	EA	327.25	USD	1 EA
	Cost center 28200					
	D 02/10/2000	1.000	EA	PReq 1000378492	00060	
	Still to be delivered	0.000	EA	0.00	USD	0.00 %
	Still to be invoiced	1.000	EA	327.25	USD	100.00 %
00070		SQD Q02140 SP-120/240V-40A CB			16	
	Z MAY	2.000	EA	15.00	USD	1 EA
	Cost center 28200					
	D 02/10/2000	2.000	EA	PReq 1000378492	00070	
	Still to be delivered	1.000	EA	15.00	USD	50.00 %
	Still to be invoiced	1.000	EA	15.00	USD	50.00 %
00080		SQD QO0-4L70RB RT LD-CNTR			16	
	Z MAY	1.000	EA	43.27	USD	1 EA
	Cost center 28200					
	D 02/10/2000	1.000	EA	PReq 1000378492	00080	
	Still to be delivered	0.000	EA	0.00	USD	0.00 %
	Still to be invoiced	0.000	EA	0.00	USD	0.00 %
00090		SQD FA34040 3P-480V-40A CB			16	
	Z MAY	1.000	EA	275.79	USD	1 EA
	Cost center 28200					
	D 02/10/2000	1.000	EA	PReq 1000378492	00090	
	Still to be delivered	0.000	EA	0.00	USD	0.00 %
	Still to be invoiced	0.000	EA	0.00	USD	0.00 %
00100		1703 3/4 D/C INS KO HUB ST-2/H075-TB			16	
	Z MAY	1.000	EA	236.21	USD	100 EA
	Cost center 28200					
	D 02/10/2000	1.000	EA	PReq 1000378492	00100	
	Still to be delivered	0.000	EA	0.00	USD	0.00 %
	Still to be invoiced	0.000	EA	0.00	USD	0.00 %
00110		BUSS FRS-R40 600V RK TD FUSE			16	
	Z MAY	3.000	EA	10.30	USD	1 EA
	Cost center 28200					
	D 02/10/2000	3.000	EA	PReq 1000378492	00110	
	Still to be delivered	0.000	EA	0.00	USD	0.00 %
	Still to be invoiced	3.000	EA	30.90	USD	100.00 %
00120		WIRE THNN-8-BLK-19STR-CUICLCUT			16	
	Z MAY	1,500.000	EA	138.34	USD	1,000 EA

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PO          Type Vendor      Name                                    PGp Order date
  Item  Material             Short text                                  Mat. group
  D I A Plnt SLoc                Order qty.     UM        Net Price  Curr.    per Un
              SL del. date   Scheduled qty.     Un

     Cost center 28200
             D 02/10/2000        1,500.000   EA   PReq 1000378492 00120
     Still to be delivered           0.000   EA              0.00  USD      0.00 %
     Still to be invoiced            0.000   EA              0.00  USD      0.00 %
  00130                      WIRE THNN-3-BLK-19STR CU-1000R            16
      Z MAY                        500.000   EA             419.07  USD    1,000 EA
     Cost center 28200
             D 02/10/2000        500.000   EA   PReq 1000378492 00130
     Still to be delivered           0.000   EA              0.00  USD      0.00 %
     Still to be invoiced            0.000   EA              0.00  USD      0.00 %
  00140                      CONDUIT 1-1/2 EMT                         16
      Z MAY                        120.000   EA              79.00  USD      100 EA
     Cost center 28200
             D 02/10/2000        120.000   EA   PReq 1000378492 00140
     Still to be delivered           0.000   EA              0.00  USD      0.00 %
     Still to be invoiced            0.000   EA              0.00  USD      0.00 %
  00150                      2006 1-1/2 STL S/SCR EMT CONN TC125       16
      Z MAY                          3.000   EA             195.72  USD      100 EA
     Cost center 28200
             D 02/10/2000          3.000   EA   PReq 1000378492 00150
     Still to be delivered           0.000   EA              0.00  USD      0.00 %
     Still to be invoiced            0.000   EA              0.00  USD      0.00 %
  00160                      2026 1-1/2 STL S/SCR EMT CPLG TK125       16
      Z MAY                         12.000   EA             231.87  USD      100 EA
     Cost center 28200
             D 02/10/2000         12.000   EA   PReq 1000378492 00160
     Still to be delivered           0.000   EA              0.00  USD      0.00 %
     Still to be invoiced            0.000   EA              0.00  USD      0.00 %
  00170                      CONDUIT 3/4 EMT                           16
      Z MAY                        360.000   EA              28.35  USD      100 EA
     Cost center 28200
             D 02/10/2000        360.000   EA   PReq 1000378492 00170
     Still to be delivered           0.000   EA              0.00  USD      0.00 %
     Still to be invoiced            0.000   EA              0.00  USD      0.00 %
  00180                      2003 3/4 STEEL S/SCR EMT CONN TC122       16
      Z MAY                          9.000   EA              59.50  USD      100 EA
     Cost center 28200
             D 02/10/2000          9.000   EA   PReq 1000378492 00180
     Still to be delivered           0.000   EA              0.00  USD      0.00 %
     Still to be invoiced            0.000   EA              0.00  USD      0.00 %
  00190                      2023 3/4 STEEL S/SCR EMT CPLG TK122       16
      Z MAY                         36.000   EA              75.20  USD      100 EA
     Cost center 28200
             D 02/10/2000         36.000   EA   PReq 1000378492 00190
     Still to be delivered           0.000   EA              0.00  USD      0.00 %
     Still to be invoiced            0.000   EA              0.00  USD      0.00 %
  00200                      1403 3/4 105D PLSTC INS BUSH 322          16
      Z MAY                         10.000   EA               7.82  USD      100 EA
     Cost center 28200
             D 02/10/2000         10.000   EA   PReq 1000378492 00200
     Still to be delivered           0.000   EA              0.00  USD      0.00 %
     Still to be invoiced            0.000   EA              0.00  USD      0.00 %
  00210                      3M 35-GRN-3/4 X 66 FT CODING TAPE         16
      Z MAY                          4.000   EA               3.72  USD        1 EA
     Cost center 28200
             D 02/10/2000          4.000   EA   PReq 1000378492 00210
     Still to be delivered           0.000   EA              0.00  USD      0.00 %
     Still to be invoiced            4.000   EA             14.88  USD    100.00 %
M016692     ZZ   103595      Consolidated Electrical Distributor  M09 02/08/2000
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PO          Type Vendor      Name                                   PGp Order date
  Item  Material             Short text                                Mat. group
  D I A Plnt SLoc                Order qty.    Un      Net Price  Curr.    per Un
            SL del. date     Scheduled qty.    Un

  00010                      LAMP INSTALLER #800T-N82                   16
      Z MAY                          2.000  EA            3.72  USD        1 EA
     Cost center 28200
            D 02/18/2000             2.000  EA  PReq 1000355096 00010
     Still to be delivered           0.000  EA            0.00  USD     0.00 %
     Still to be invoiced            2.000  EA            7.44  USD   100.00 %
  00020                      MOMENTARY PUSH BUTTON #800T-B4A            16
      Z MAY                          4.000  EA           48.41  USD        1 EA
     Cost center 28200
            D 02/18/2000             4.000  EA  PReq 1000355096 00020
     Still to be delivered           0.000  EA            0.00  USD     0.00 %
     Still to be invoiced            0.000  EA            0.00  USD     0.00 %
  00030                      ENCLOSURE #800T-ITZ                        16
      Z MAY                          6.000  EA           55.86  USD        1 EA
     Cost center 28200
            D 02/18/2000             6.000  EA  PReq 1000355096 00030
     Still to be delivered           0.000  EA            0.00  USD     0.00 %
     Still to be invoiced            0.000  EA            0.00  USD     0.00 %
M016694     ZZ    102641       MSC INDUSTRIAL SUPPLY                   M09 02/08/2000
  00010                      FEDERAL SERIES C MODEL C81 DIAL INDICAT    03
      Z MAY                          2.000  EA          107.00  USD        1 EA
     Cost center 28200
            D 02/18/2000             2.000  EA  PReq 1000355095 00010
     Still to be delivered           2.000  EA          214.00  USD   100.00 %
     Still to be invoiced            2.000  EA          214.00  USD   100.00 %
M016695     ZZ    101041       MCMASTER-CARR SUPPLY CO                 M09 02/08/2000
  00010                      DB9 MALE CONNECTOR #2146T11                16
      Z MAY                          2.000  EA            8.21  USD        1 EA
     Cost center 28200
            D 02/10/2000             2.000  EA  PReq 1000355404 00010
     Still to be delivered           0.000  EA            0.00  USD     0.00 %
     Still to be invoiced            0.000  EA            0.00  USD     0.00 %
  00020                      WIRE #75985K56                             16
      Z MAY                         30.000  FT            0.38  USD        1 FT
     Cost center 28200
            D 02/10/2000            30.000  FT  PReq 1000355404 00020
     Still to be delivered           0.000  FT            0.00  USD     0.00 %
     Still to be invoiced            0.000  FT            0.00  USD     0.00 %
  00030                      CABLE #7925K57                             16
      Z MAY                          1.000  EA            7.18  USD        1 EA
     Cost center 28200
            D 02/10/2000             1.000  EA  PReq 1000355404 00030
     Still to be delivered           0.000  EA            0.00  USD     0.00 %
     Still to be invoiced            0.000  EA            0.00  USD     0.00 %
  00040                      BRUSH-YELLOW #20175T1                      16
      Z MAY                          2.000  EA            5.58  USD        1 EA
     Cost center 28200
            D 02/10/2000             2.000  EA  PReq 1000355404 00040
     Still to be delivered           0.000  EA            0.00  USD     0.00 %
     Still to be invoiced            0.000  EA            0.00  USD     0.00 %
M016696     ZZ    102641       MSC INDUSTRIAL SUPPLY                   M09 02/08/2000
  00010                      STARRETT MAG BASE INDICAT HLDR #86422177 MISC
      Z MAY                          4.000  EA           91.95  USD        1 EA
     Cost center 28200
            D 02/18/2000             4.000  EA  PReq 1000355405 00010
     Still to be delivered           0.000  EA            0.00  USD     0.00 %
     Still to be invoiced            0.000  EA            0.00  USD     0.00 %
M016700     ZZ    102641       MSC INDUSTRIAL SUPPLY                   M09 02/10/2000
  00010                      .696"/.694" DIA X 4" OAL SOLID CARBIDE     03
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PO          Type Vendor      Name                                   PGp Order date
  Item  Material             Short text                                 Mat. group
  D I A Plnt SLoc                Order qty.   Unit        Net Price  Curr.   per Un
              SL del. date   Scheduled qty.   Un

      Z MAY                          1.000  EA            287.50  USD        1 EA
     Cost center 28200
              D 02/22/2000           1.000  EA  PReq 1000355408 00010
     Still to be delivered           0.000  EA              0.00  USD     0.00 %
     Still to be invoiced            1.000  EA            287.50  USD   100.00 %
M016701     ZZ    5390090    PHI ASSOCIATES                        M09 02/08/2000
  00010                        DIMPLE FIXTURE                          TOOLING
      Z MAY                          1.000  EA          1,200.00  USD        1 EA
     Cost center 28200
              D 04/08/2000           1.000  EA  PReq 1000355101 00010
     Still to be delivered           1.000  EA          1,200.00  USD   100.00 %
     Still to be invoiced            1.000  EA          1,200.00  USD   100.00 %
M016702     ZZ    5390090    PHI ASSOCIATES                        M09 02/08/2000
  00010                        BOLT HANDLE FIXTURE                     TOOLING
      Z MAY                          1.000  EA          1,800.00  USD        1 EA
     Cost center 28200
              D 04/08/2000           1.000  EA  PReq 1000355102 00010
     Still to be delivered           1.000  EA          1,800.00  USD   100.00 %
     Still to be invoiced            1.000  EA          1,800.00  USD   100.00 %
M016703     ZZ    5390090    PHI ASSOCIATES                        M09 02/08/2000
  00010                        GRINDING FIXTURE                        TOOLING
      Z MAY                          1.000  EA          1,580.00  USD        1 EA
     Cost center 28200
              D 05/12/2000           1.000  EA  PReq 1000355402 00010
     Still to be delivered           1.000  EA          1,580.00  USD   100.00 %
     Still to be invoiced            1.000  EA          1,580.00  USD   100.00 %
M016710     ZZ    5390090    PHI ASSOCIATES                        M09 02/10/2000
  00010                        COMPARATOR FIXTURE M/710 TRIGGER        TOOLING
      Z MAY                          1.000  EA            510.00  USD        1 EA
     Cost center 28200
              D 02/29/2000           1.000  EA  PReq 1000378490 00010
     Still to be delivered           1.000  EA            510.00  USD   100.00 %
     Still to be invoiced            1.000  EA            510.00  USD   100.00 %
M016711     ZZ    5390090    PHI ASSOCIATES                        M09 02/10/2000
  00010                        COMPARATOR SCREEN M/710 TRIGGER         TOOLING
      Z MAY                          1.000  EA            180.00  USD        1 EA
     Cost center 28200
              D 02/29/2000           1.000  EA  PReq 1000378491 00010
     Still to be delivered           1.000  EA            180.00  USD   100.00 %
     Still to be invoiced            1.000  EA            180.00  USD   100.00 %
M016733     ZZ    104762     G AND H TOOL & DIE, INC               M09 02/14/2000
  00010                        C-K-10407 & 10407-2 BOLT STOP COMPARATOR TOOLING
      Z MAY                          1.000  EA            720.00  USD        1 EA
     Cost center 28200
              D 03/21/2000           1.000  EA  PReq 1000380697 00010
     Still to be delivered           1.000  EA            720.00  USD   100.00 %
     Still to be invoiced            1.000  EA            720.00  USD   100.00 %
M016734     ZZ    104762     G AND H TOOL & DIE, INC               M09 02/14/2000
  00010                        D-K-10412 EJECTOR COMPARATOR FIXTURE    TOOLING
      Z MAY                          1.000  EA            490.00  USD        1 EA
     Cost center 28200
              D 03/21/2000           1.000  EA  PReq 1000380698 00010
     Still to be delivered           1.000  EA            490.00  USD   100.00 %
     Still to be invoiced            1.000  EA            490.00  USD   100.00 %
M016735     ZZ    104762     G AND H TOOL & DIE, INC               M09 02/14/2000
  00010                        D-K-10420 & 10420-2 MAG BOX DMM FIXTURE TOOLING
      Z MAY                          1.000  EA            620.00  USD        1 EA
     Cost center 28200
              D 03/21/2000           1.000  EA  PReq 1000380699 00010
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PO          Type Vendor      Name                                    PGp Order date
  Item  Material             Short text                                  Mat. group
  D I A Plnt SLoc                Order qty.   Net Price   Curr.    per Un
              SL del. date   Scheduled qty.   Un

     Still to be delivered          1.000  EA        620.00  USD  100.00 %
     Still to be invoiced           1.000  EA        620.00  USD  100.00 %
M016736     ZZ    104762     G AND H TOOL & DIE, INC            M09 02/14/2000
  00010                      C-K-10415/10415-2 BLT PLG INSERT DET 1/2 TOOLING
     Z MAY                          1.000  EA        150.00  USD        1 EA
     Cost center 28200
            D 03/21/2000            1.000  EA  PReq 1000380700 00010
     Still to be delivered          1.000  EA        150.00  USD  100.00 %
     Still to be invoiced           1.000  EA        150.00  USD  100.00 %
  00020                      C-K-10415/10415-2 BLT PLG INSERT DET 2/2 TOOLING
     Z MAY                          1.000  EA         40.00  USD        1 EA
     Cost center 28200
            D 03/21/2000            1.000  EA  PReq 1000380700 00020
     Still to be delivered          1.000  EA         40.00  USD  100.00 %
     Still to be invoiced           1.000  EA         40.00  USD  100.00 %
  00030                      C-K-10415/10415-2 BLT PLG INSERT DET 4/2 TOOLING
     Z MAY                          1.000  EA         55.00  USD        1 EA
     Cost center 28200
            D 03/21/2000            1.000  EA  PReq 1000380700 00030
     Still to be delivered          1.000  EA         55.00  USD  100.00 %
     Still to be invoiced           1.000  EA         55.00  USD  100.00 %
M016740     ZZ    104762     G AND H TOOL & DIE, INC            M09 02/14/2000
  00010                      D-K-10402 RECEIV INSERT FUNCTIONAL GAGE TOOLING
     Z MAY                          1.000  EA        210.00  USD        1 EA
     Cost center 28200
            D 03/21/2000            1.000  EA  PReq 1000385304 00010
     Still to be delivered          1.000  EA        210.00  USD  100.00 %
     Still to be invoiced           1.000  EA        210.00  USD  100.00 %
M016754     ZZ   1884329     HARVEY DAVIDSON SALES INC          M09 02/15/2000
  00010                      # BK-8062 PLUG GAGE .3000/.3010 XX      03
     Z MAY                          1.000  EA         48.25  USD        1 EA
     Cost center 28200
            D 03/29/2000            1.000  EA  PReq 1000385555 00010
     Still to be delivered          1.000  EA         48.25  USD  100.00 %
     Still to be invoiced           1.000  EA         48.25  USD  100.00 %
  00020                      # BK-8058 PLUG GAGE .7054/.711 ZZ       03
     Z MAY                          1.000  EA         23.00  USD        1 EA
     Cost center 28200
            D 02/29/2000            1.000  EA  PReq 1000385555 00020
     Still to be delivered          1.000  EA         23.00  USD  100.00 %
     Still to be invoiced           1.000  EA         23.00  USD  100.00 %
  00030                      # BK-8061 PLUG GAGE .3006/.3015 ZX      03
     Z MAY                          1.000  EA         28.00  USD        1 EA
     Cost center 28200
            D 02/29/2000            1.000  EA  PReq 1000385555 00030
     Still to be delivered          1.000  EA         28.00  USD  100.00 %
     Still to be invoiced           1.000  EA         28.00  USD  100.00 %
  00040                      # BK-8060 PLUG GAGE .2985/.299 X        03
     Z MAY                          1.000  EA         31.25  USD        1 EA
     Cost center 28200
            D 02/29/2000            1.000  EA  PReq 1000385555 00040
     Still to be delivered          1.000  EA         31.25  USD  100.00 %
     Still to be invoiced           1.000  EA         31.25  USD  100.00 %
  00050                      # BK-8059 PLUG GAGE .2911/.293 Z        03
     Z MAY                          1.000  EA         21.75  USD        1 EA
     Cost center 28200
            D 02/29/2000            1.000  EA  PReq 1000385555 00050
     Still to be delivered          1.000  EA         21.75  USD  100.00 %
     Still to be invoiced           1.000  EA         21.75  USD  100.00 %
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PO          Type Vendor      Name                                   PGp Order date
  Item  Material             Short text                                 Mat. group
  D I A Plnt SLoc                Order qty.   Un      Net Price  Curr.   per Un
                SL del. date Scheduled qty.   Un

  00060                      # BK-8057 PLUG GAGE .702/.707ZZ            03
      Z MAY                            1.000  EA          23.00  USD        1 EA
     Cost center 28200
            D 02/29/2000               1.000  EA  PReq 1000385555 00060
     Still to be delivered             1.000  EA          23.00  USD  100.00 %
     Still to be invoiced              1.000  EA          23.00  USD  100.00 %
  00070                      # BK-8048 PLUG GAGE .2750/.2[illegible]ZZ   03
      Z MAY                            1.000  EA          85.75  USD        1 EA
     Cost center 28200
            D 03/29/2000               1.000  EA  PReq 1000385555 00070
     Still to be delivered             1.000  EA          85.75  USD  100.00 %
     Still to be invoiced              1.000  EA          85.75  USD  100.00 %
  00080                      # BK-8049 PLUG GAGE .1255/.1265 XX         03
      Z MAY                            1.000  EA          53.50  USD        1 EA
     Cost center 28200
            D 03/29/2000               1.000  EA  PReq 1000385555 00080
     Still to be delivered             1.000  EA          53.50  USD  100.00 %
     Still to be invoiced              1.000  EA          53.50  USD  100.00 %
  00090                      # BK-8050 PLUG GAGE .0752/.0850Z           03
      Z MAY                            1.000  EA          18.25  USD        1 EA
     Cost center 28200
            D 02/29/2000               1.000  EA  PReq 1000385555 00090
     Still to be delivered             1.000  EA          18.25  USD  100.00 %
     Still to be invoiced              1.000  EA          18.25  USD  100.00 %
  00100                      # BK-8051 PLUG GAGE .0985/.1015 Y          03
      Z MAY                            1.000  EA          24.25  USD        1 EA
     Cost center 28200
            D 02/29/2000               1.000  EA  PReq 1000385555 00100
     Still to be delivered             1.000  EA          24.25  USD  100.00 %
     Still to be invoiced              1.000  EA          24.25  USD  100.00 %
  00110                      # BK-8052 PLUG GAGE .1486/.1505 XX         03
      Z MAY                            1.000  EA          53.50  USD        1 EA
     Cost center 28200
            D 03/29/2000               1.000  EA  PReq 1000385555 00110
     Still to be delivered             1.000  EA          53.50  USD  100.00 %
     Still to be invoiced              1.000  EA          53.50  USD  100.00 %
  00120                      # BK-8053 PLUG GAGE .2782/.2820 Z          03
      Z MAY                            1.000  EA          39.50  USD        1 EA
     Cost center 28200
            D 03/29/2000               1.000  EA  PReq 1000385555 00120
     Still to be delivered             1.000  EA          39.50  USD  100.00 %
     Still to be invoiced              1.000  EA          39.50  USD  100.00 %
  00130                      # BK-8054 PLUG GAGE .1255/.1264 XX         03
      Z MAY                            1.000  EA          53.50  USD        1 EA
     Cost center 28200
            D 03/29/2000               1.000  EA  PReq 1000385555 00130
     Still to be delivered             1.000  EA          53.50  USD  100.00 %
     Still to be invoiced              1.000  EA          53.50  USD  100.00 %
M016755     ZZ   102641      MSC INDUSTRIAL SUPPLY                     M09 02/15/2000
  00010                      THREAD GAGE-FIRING PIN #BK-9011            03
      Z MAY                            1.000  EA         100.30  USD        1 EA
     Cost center 28200
            D 02/29/2000               1.000  EA  PReq 1000387530 00010
     Still to be delivered             1.000  EA         100.30  USD  100.00 %
     Still to be invoiced              1.000  EA         100.30  USD  100.00 %
  00020                      THREAD GAGE-THREADED INSERT #BK-9010       03
      Z MAY                            1.000  EA          53.00  USD        1 EA
     Cost center 28200
            D 02/29/2000               1.000  EA  PReq 1000387530 00020
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PO          Type Vendor      Name                                    PGp Order date
  Item  Material             Short text                                  Mat. group
  D I A Plnt SLoc                Order qty.    Un     Net Price  Curr.    per Un
              SL del. date   Scheduled qty.    Un

     Still to be delivered            1.000  EA          53.00  USD  100.00 %
     Still to be invoiced             1.000  EA          53.00  USD  100.00 %
  00030                      THREAD GAGE—BARREL #BK-9013              03
      Z MAY                           1.000  EA          46.00  USD        1 EA
     Cost center 28200
              D 02/29/2000            1.000  EA  PReq 1000387330 00030
     Still to be delivered            1.000  EA          46.00  USD  100.00 %
     Still to be invoiced             1.000  EA          46.00  USD  100.00 %
M016756     ZZ    102641       MSC INDUSTRIAL SUPPLY                  M09 02/17/2000
  00010                      THRD RING GAGE #BK-7008 REAR TAKE-DWN GA 03
      Z MAY                           1.000  EA         134.00  USD        1 EA
     Cost center 28200
              D 03/01/2000            1.000  EA  PReq 1000389352 00010
     Still to be delivered            1.000  EA         134.00  USD  100.00 %
     Still to be invoiced             1.000  EA         134.00  USD  100.00 %
  00020                      SET PLUG GAGE #BK-6008 REAR TAKE-DOWN SC 03
      Z MAY                           1.000  EA         121.00  USD        1 EA
     Cost center 28200
              D 03/01/2000            1.000  EA  PReq 1000389352 00020
     Still to be delivered            1.000  EA         121.00  USD  100.00 %
     Still to be invoiced             1.000  EA         121.00  USD  100.00 %
  00030                      THR-RING GAGE #BK-7007 FRT & MID TAKE-DN 03
      Z MAY                           1.000  EA         130.00  USD        1 EA
     Cost center 28200
              D 03/01/2000            1.000  EA  PReq 1000389352 00030
     Still to be delivered            1.000  EA         130.00  USD  100.00 %
     Still to be invoiced             1.000  EA         130.00  USD  100.00 %
  00040                      SET PLUG GAGE #BK-6007 FRT & MID TAKE-DN 03
      Z MAY                           1.000  EA         110.00  USD        1 EA
     Cost center 28200
              D 03/01/2000            1.000  EA  PReq 1000389352 00040
     Still to be delivered            1.000  EA         110.00  USD  100.00 %
     Still to be invoiced             1.000  EA         110.00  USD  100.00 %
  00050                      THREAD RING GAGE #BK-7006 FIRING PIN TIP 03
      Z MAY                           1.000  EA         140.00  USD        1 EA
     Cost center 28200
              D 03/01/2000            1.000  EA  PReq 1000389352 00050
     Still to be delivered            1.000  EA         140.00  USD  100.00 %
     Still to be invoiced             1.000  EA         140.00  USD  100.00 %
  00060                      SET RING GAGE #BK-6006 FIRING PIN TIP    03
      Z MAY                           1.000  EA         121.00  USD        1 EA
     Cost center 28200
              D 03/01/2000            1.000  EA  PReq 1000389352 00060
     Still to be delivered            1.000  EA         121.00  USD  100.00 %
     Still to be invoiced             1.000  EA         121.00  USD  100.00 %
  00070                      THREAD RING GAGE #BK-7005 FIRING PIN     03
      Z MAY                           1.000  EA         134.00  USD        1 EA
     Cost center 28200
              D 03/01/2000            1.000  EA  PReq 1000389352 00070
     Still to be delivered            1.000  EA         134.00  USD  100.00 %
     Still to be invoiced             1.000  EA         134.00  USD  100.00 %
  00080                      SET PLUG GAGE- BK-6005 FIRING PIN        03
      Z MAY                           1.000  EA         127.00  USD        1 EA
     Cost center 28200
              D 03/01/2000            1.000  EA  PReq 1000389352 00080
     Still to be delivered            1.000  EA         127.00  USD  100.00 %
     Still to be invoiced             1.000  EA         127.00  USD  100.00 %
M016758     ZZ    102641       MSC INDUSTRIAL SUPPLY                  M09 02/15/2000
  00010                      PLUG GAGE BK-6009 TRIGGER SCREWS         03
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PO Item D I A	Type Vendor Material Plnt SLoc SL del. date	Name Short text Order qty. Scheduled qty.	Un Un	Net Price	PGp Order date Mat. group Curr. per Un
	Z MAY	1.000	EA	179.00	USD 1 EA
	Cost center 28200				
	D 03/26/2000	1.000	EA	PReq 1000387533	00010
	Still to be delivered	1.000	EA	179.00	USD 100.00 %
	Still to be invoiced	1.000	EA	179.00	USD 100.00 %
00020		THREAD RING GAGE BK-7009 TRIGGER SCREWS 03			
	Z MAY	1.000	EA	220.00	USD 1 EA
	Cost center 28200				
	D 03/26/2000	1.000	EA	PReq 1000387533	00020
	Still to be delivered	1.000	EA	220.00	USD 100.00 %
	Still to be invoiced	1.000	EA	220.00	USD 100.00 %
M016778	ZZ 102641	MSC INDUSTRIAL SUPPLY			M09 02/17/2000
00010		TP200 STYLUS MODULE A/1207/0010			MISC
	Z MAY	3.000	EA	630.00	USD 1 EA
	Cost center 28200				
	D 02/29/2000	3.000	EA	PReq 1000389359	00010
	Still to be delivered	3.000	EA	1,890.00	USD 100.00 %
	Still to be invoiced	3.000	EA	1,890.00	USD 100.00 %

PO / Item / D I A	Type	Vendor / Material / Plnt SLoc / SL del. date	Name / Short text / Order qty. / Scheduled qty.	Un	Net Price	Curr.	PGp / Mat. group / per	Order date / Un
M015752	ZZ	102641	MSC INDUSTRIAL SUPPLY				M01	08/30/1999
00020			FREIGHT				03	
K MAY			1.000	EA	9.24	USD	1	EA
Cost center 28200								
D 09/30/1999			1.000	EA				
Still to be delivered			0.000	EA	0.00	USD	0.00	%
Still to be invoiced			0.000	EA	0.00	USD	0.00	%
M015787	ZZ	5888440	KAYS ENGINEERING INC				M01	09/02/1999
00010			#00249 GIZMO #2				17	
Z MAY			16.000	EA	120.00	USD	1	EA
Cost center 28200								
D 09/09/1999			16.000	EA				
Still to be delivered			0.000	EA	0.00	USD	0.00	%
Still to be invoiced			0.000	EA	0.00	USD	0.00	%
M015788	ZZ	6093720	EDGETEK MACHINE CORP				M01	09/02/1999
00010			A02B-0237-J895 EXTRA OFFSETS-48 PAIR				17	
Z MAY			1.000	EA	599.00	USD	1	EA
Cost center 28200								
D 09/10/1999			1.000	EA				
Still to be delivered			0.000	EA	0.00	USD	0.00	%
Still to be invoiced			0.000	EA	0.00	USD	0.00	%
M015802	ZZ	5380140	DANJON MANUFACTURING CORP				M01	09/08/1999
00010			30-06 RIFLING BUTTON TICN COATED ON .290				03	
Z MAY			1.000	EA	186.00	USD	1	EA
Cost center 28200								
D 09/29/1999			1.000	EA				
Still to be delivered			0.000	EA	0.00	USD	0.00	%
Still to be invoiced			0.000	EA	0.00	USD	0.00	%
00020			.299 CARBIDE BORE REAMERS ON 43" TUBES				03	
Z MAY			4.000	EA	126.55	USD	1	EA
Cost center 28200								
D 09/29/1999			4.000	EA				
Still to be delivered			0.000	EA	0.00	USD	0.00	%
Still to be invoiced			0.000	EA	0.00	USD	0.00	%
00030			.292 DIA. A/C GUN DRILLS X 56" OAL				03	
Z MAY			8.000	EA	90.00	USD	1	EA
Cost center 28200								
D 09/29/1999			8.000	EA				
Still to be delivered			0.000	EA	0.00	USD	0.00	%
Still to be invoiced			0.000	EA	0.00	USD	0.00	%
M015803	ZZ	102641	MSC INDUSTRIAL SUPPLY				M01	09/08/1999
00010			FACE DRIVERS-ROHM-#089085				03	
Z MAY			4.000	EA	182.77	USD	1	EA
Cost center 28200								
D 09/09/1999			4.000	EA				
Still to be delivered			0.000	EA	0.00	USD	0.00	%
Still to be invoiced			0.000	EA	0.00	USD	0.00	%
00020			FACE DRIVERS 089086				03	
Z MAY			3.000	EA	162.00	USD	1	EA
Cost center 28200								
D 09/09/1999			3.000	EA				
Still to be delivered			0.000	EA	0.00	USD	0.00	%
Still to be invoiced			0.000	EA	0.00	USD	0.00	%
M015804	ZZ	104125	INTERNATIONAL DRILL GUIDE				M01	09/08/1999
00010			DRILL GUIDES B140 .283-.296 .263				03	
Z MAY			100.000	EA	3.50	USD	1	EA
Cost center 28200								
D 09/15/1999			100.000	EA				
Still to be delivered			0.000	EA	0.00	USD	0.00	%

PO / Item / D I A	Type	Vendor / Material / Plnt SLoc / SL del. date	Name / Short text / Order qty. / Scheduled qty.	Un	Net Price	Curr.	PGp / Mat. group / per	Order date / Un
Still to be invoiced			0.000	EA	0.00	USD	0.00	%
M015806	ZZ	103068	Motion Industries, Inc.				M01	09/09/1999
00010			FAFNIR 202 KLD4 BRG				MISC	
Z MAY			24.000	EA	16.65	USD	1	EA
Cost center 28200								
D 09/13/1999			24.000	EA				
Still to be delivered			0.000	EA	0.00	USD	0.00	%
Still to be invoiced			0.000	EA	0.00	USD	0.00	%
M015807	ZZ	1658772	HARDINGE BROTHERS INC				M01	09/08/1999
00010			.270 5C ROUND SERRATED COLLET				03	
Z MAY			2.000	EA	70.00	USD	1	EA
Cost center 28200								
D 09/29/1999			2.000	EA				
Still to be delivered			0.000	EA	0.00	USD	0.00	%
Still to be invoiced			0.000	EA	0.00	USD	0.00	%
00020			.271 5C ROUND SERRATED COLLET				03	
Z MAY			2.000	EA	70.00	USD	1	EA
Cost center 28200								
D 09/29/1999			2.000	EA				
Still to be delivered			0.000	EA	0.00	USD	0.00	%
Still to be invoiced			0.000	EA	0.00	USD	0.00	%
M015809	ZZ	102641	MSC INDUSTRIAL SUPPLY				M01	09/09/1999
00010			SOLID CARBIDE BUSHING PRINT # AK-10205				03	
Z MAY			4.000	EA	117.65	USD	1	EA
Cost center 28200								
D 09/30/1999			4.000	EA				
Still to be delivered			0.000	EA	0.00	USD	0.00	%
Still to be invoiced			0.000	EA	0.00	USD	0.00	%
M015811	ZZ	103554	Fluid Power Products				M01	09/09/1999
00010			PARKER #H1 5.1 M539CM HYDRAULIC POWER				17	
Z MAY			1.000	EA	2,366.00	USD	1	EA
Cost center 28200								
D 09/23/1999			1.000	EA				
Still to be delivered			0.000	EA	0.00	USD	0.00	%
Still to be invoiced			0.000	EA	0.00	USD	0.00	%
M015829	ZZ	5885460	PACIFIC PRECISION GRINDING				M01	09/10/1999
00010			CARBIDE ROUGH CHAMBER REAMER 30-06 PER				03	
Z MAY			6.000	EA	168.00	USD	1	EA
Cost center 28200								
D 09/27/1999			6.000	EA				
Still to be delivered			0.000	EA	0.00	USD	0.00	%
Still to be invoiced			0.000	EA	0.00	USD	0.00	%
00020			30-06 FINISH REAMERS, E-40252-N				03	
Z MAY			3.000	EA	168.00	USD	1	EA
Cost center 28200								
D 09/27/1999			3.000	EA				
Still to be delivered			0.000	EA	0.00	USD	0.00	%
Still to be invoiced			0.000	EA	0.00	USD	0.00	%
00030			SPECIAL COUNTERBORE TOOLS PER PRINT				03	
Z MAY			3.000	EA	214.00	USD	1	EA
Cost center 28200								
D 09/27/1999			3.000	EA				
Still to be delivered			0.000	EA	0.00	USD	0.00	%
Still to be invoiced			0.000	EA	0.00	USD	0.00	%
M015831	ZZ	104753	ERNST WINTER AND SON, INC.				M01	09/10/1999
00010			1162/PLATED WHEEL-DIRECT PLATED CBN				09	
Z MAY			2.000	EA	685.00	USD	1	EA
Cost center 28200								
D 10/08/1999			2.000	EA				

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PO          Type Vendor      Name                                   PGp Order date
  Item  Material             Short text                                Mat. group
  D I A Plnt SLoc                Order qty.    UN        Net Price  Curr.    per Un
                SL del. date Scheduled qty.    Un

     Still to be delivered            0.000  EA              0.00  USD     0.00 %
     Still to be invoiced             0.000  EA              0.00  USD     0.00 %
M015849     ZZ    104762     G AND H TOOL & DIE, INC                M01 09/13/1999
  00010                      RIFLER TAILSTOCK GUIDE BUSHING              TOOLING
      Z MAY                           1.000  EA             85.50  USD         1 EA
     Cost center 28200
            D 09/24/1999              1.000  EA
     Still to be delivered            0.000  EA              0.00  USD     0.00 %
     Still to be invoiced             0.000  EA              0.00  USD     0.00 %
  00020                      RIFLER HEADSTOCK BUSHING                    TOOLING
      Z MAY                           1.000  EA             54.50  USD         1 EA
     Cost center 28200
            D 09/24/1999              1.000  EA
     Still to be delivered            0.000  EA              0.00  USD     0.00 %
     Still to be invoiced             0.000  EA              0.00  USD     0.00 %
M015851     ZZ    106259     PIONEER BROACH                         M01 09/13/1999
  00010                      SPECIAL SMALL BODY AUTOMATIC BROACH         TOOLING
      Z MAY                           1.000  EA            953.00  USD         1 EA
     Cost center 28200
            D 09/27/1999              1.000  EA
     Still to be delivered            0.000  EA              0.00  USD     0.00 %
     Still to be invoiced             0.000  EA              0.00  USD     0.00 %
M015853     ZZ    102641     MSC INDUSTRIAL SUPPLY                  M01 09/13/1999
  00010                      STOCK NUMBER 60329646 1" X 45 DEGREE        03
      Z MAY                           3.000  EA            102.81  USD         1 EA
     Cost center 28200
            D 09/17/1999              3.000  EA
     Still to be delivered            0.000  EA              0.00  USD     0.00 %
     Still to be invoiced             0.000  EA              0.00  USD     0.00 %
M015855     ZZ    101041     MCMASTER-CARR SUPPLY CO                M09 09/15/1999
  00010                      HONE #4424A15                               03
      Z MAY                           1.000  EA             15.61  USD         1 EA
     Cost center 28200
            D 09/17/1999              1.000  EA  PReq 1000166073 00010
     Still to be delivered            0.000  EA              0.00  USD     0.00 %
     Still to be invoiced             0.000  EA              0.00  USD     0.00 %
  00020                      HONE #4424A76                               03
      Z MAY                           1.000  EA             23.44  USD         1 EA
     Cost center 28200
            D 09/17/1999              1.000  EA  PReq 1000166073 00020
     Still to be delivered            0.000  EA              0.00  USD     0.00 %
     Still to be invoiced             0.000  EA              0.00  USD     0.00 %
  00030                      ALLEN SET #5709A52                          03
      Z MAY                           2.000  EA             11.67  USD         1 EA
     Cost center 28200
            D 09/15/1999              2.000  EA  PReq 1000166069 00010
     Still to be delivered            0.000  EA              0.00  USD     0.00 %
     Still to be invoiced             0.000  EA              0.00  USD     0.00 %
  00040                      1-1/8" GROUND ROD #6061K351                 03
      Z MAY                           1.000  EA             15.81  USD         1 EA
     Cost center 28200
            D 09/15/1999              1.000  EA  PReq 1000166069 00020
     Still to be delivered            0.000  EA              0.00  USD     0.00 %
     Still to be invoiced             0.000  EA              0.00  USD     0.00 %
  00050                      1/4" SOCKET #54615A25                       03
      Z MAY                           1.000  EA              7.25  USD         1 EA
     Cost center 28200
            D 09/15/1999              1.000  EA  PReq 1000166069 00030
     Still to be delivered            0.000  EA              0.00  USD     0.00 %
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PO          Type Vendor      Name                                   PGp Order date
  Item  Material             Short text                                 Mat. group
  D I A Plnt SLoc                Order qty.    Unit      Net Price  Curr.    per Un
              SL del. date   Scheduled qty.    Un

     Still to be invoiced              0.000  EA              0.00  USD      0.00 %
  00060                       5/16" SOCKET #54615A26                   03
      Z MAY                            1.000  EA              7.25  USD         1 EA
     Cost center 28200
            D 09/15/1999               1.000  EA  PReq 1000166069 00040
     Still to be delivered             0.000  EA              0.00  USD      0.00 %
     Still to be invoiced              0.000  EA              0.00  USD      0.00 %
  00070                       3/8" SOCKET #54615A27                    03
      Z MAY                            1.000  EA              7.25  USD         1 EA
     Cost center 28200
            D 09/15/1999               1.000  EA  PReq 1000166069 00050
     Still to be delivered             0.000  EA              0.00  USD      0.00 %
     Still to be invoiced              0.000  EA              0.00  USD      0.00 %
M015856     ZZ    103943           GRAINGER, INC.                        M09 09/15/1999
  00010                           DRILL #1M967                           03
      Z MAY                            2.000  EA             63.05  USD         1 EA
     Cost center 28200
            D 09/17/1999               2.000  EA  PReq 1000166072 00010
     Still to be delivered             0.000  EA              0.00  USD      0.00 %
     Still to be invoiced              0.000  EA              0.00  USD      0.00 %
M015859     ZZ    102641           MSC INDUSTRIAL SUPPLY                 M09 09/15/1999
  00010                           GARR 5/32" 4 FL CARB ENDMILL EDP #13090  03
      Z MAY                           10.000  EA              8.67  USD         1 EA
     Cost center 28200
            D 09/20/1999              10.000  EA  PReq 1000166036 00010
     Still to be delivered             0.000  EA              0.00  USD      0.00 %
     Still to be invoiced              0.000  EA              0.00  USD      0.00 %
  00020                           GARR 1/4" 3 FL CARB DRILL EDP#90550      03
      Z MAY                           10.000  EA             19.22  USD         1 EA
     Cost center 28200
            D 09/20/1999              10.000  EA  PReq 1000166036 00020
     Still to be delivered             0.000  EA              0.00  USD      0.00 %
     Still to be invoiced              0.000  EA              0.00  USD      0.00 %
  00030                           GARR 17/64" 3 FL CARB DRILL EDP #90570   03
      Z MAY                           10.000  EA             21.58  USD         1 EA
     Cost center 28200
            D 09/20/1999              10.000  EA  PReq 1000166036 00030
     Still to be delivered             0.000  EA              0.00  USD      0.00 %
     Still to be invoiced              0.000  EA              0.00  USD      0.00 %
  00040                           GARR 3/8" N/C CARB SPOT DRILL EDP# 91130 03
      Z MAY                           10.000  EA             18.11  USD         1 EA
     Cost center 28200
            D 09/20/1999              10.000  EA  PReq 1000166036 00040
     Still to be delivered             0.000  EA              0.00  USD      0.00 %
     Still to be invoiced              0.000  EA              0.00  USD      0.00 %
  00050                           GARR 9/16 4 FL CARB ENDMILL EDP# 13320   03
      Z MAY                           12.000  EA             47.39  USD         1 EA
     Cost center 28200
            D 09/20/1999              12.000  EA  PReq 1000166036 00050
     Still to be delivered             0.000  EA              0.00  USD      0.00 %
     Still to be invoiced              0.000  EA              0.00  USD      0.00 %
  00060                           GARR 3/8" 4 FL CARB ENDMILL EDP # 13230  03
      Z MAY                           10.000  EA             17.33  USD         1 EA
     Cost center 28200
            D 09/20/1999              10.000  EA  PReq 1000166036 00060
     Still to be delivered             0.000  EA              0.00  USD      0.00 %
     Still to be invoiced              0.000  EA              0.00  USD      0.00 %
  00070                           GARR 1/4 CYL SH STD CAR ROT FILE 60020   03
      Z MAY                           10.000  EA              5.99  USD         1 EA
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PO          Type Vendor      Name                                   PGp Order date
  Item  Material             Short text                                 Mat. group
  D I A Plnt SLoc                Order qty.   Unit      Net Price  Curr.    per Un
            SL del. date     Scheduled qty.   Un

     Cost center 28200
            D 09/20/1999            10.000  EA   PReq 1000166036 00070
     Still to be delivered           0.000  EA              0.00  USD     0.00 %
     Still to be invoiced            0.000  EA              0.00  USD     0.00 %
  00080                      1/4-28 R&N SPIRAL BTM TAP EDP#V85015      03
     Z MAY                          12.000  EA              8.73  USD        1 EA
     Cost center 28200
            D 09/20/1999            12.000  EA   PReq 1000166036 00080
     Still to be delivered           0.000  EA              0.00  USD     0.00 %
     Still to be invoiced            0.000  EA              0.00  USD     0.00 %
  00090                      GARR 1/4" 4 FL CARB ENDMILL EDP#13450     03
     Z MAY                          20.000  EA              9.92  USD        1 EA
     Cost center 28200
            D 09/20/1999            20.000  EA   PReq 1000166036 00090
     Still to be delivered           0.000  EA              0.00  USD     0.00 %
     Still to be invoiced            0.000  EA              0.00  USD     0.00 %
  00100                      GARR 5/8 .030 COR RAD 4 FL CAR EM 60390 03
     Z MAY                          12.000  EA             59.48  USD        1 EA
     Cost center 28200
            D 09/20/1999            12.000  EA   PReq 1000166036 00100
     Still to be delivered           0.000  EA              0.00  USD     0.00 %
     Still to be invoiced            0.000  EA              0.00  USD     0.00 %
  00110                      GARR 27/64 3 FL CARB ENDMILL EDP # 90755 03
     Z MAY                          12.000  EA             48.38  USD        1 EA
     Cost center 28200
            D 09/20/1999            12.000  EA   PReq 1000166036 00110
     Still to be delivered           0.000  EA              0.00  USD     0.00 %
     Still to be invoiced            0.000  EA              0.00  USD     0.00 %
  00120                      GARR 3/4 ENDMILL MODIFIED TO DRAW 90759   03
     Z MAY                           3.000  EA            111.75  USD        1 EA
     Cost center 28200
            D 09/20/1999             3.000  EA   PReq 1000166036 00120
     Still to be delivered           0.000  EA              0.00  USD     0.00 %
     Still to be invoiced            0.000  EA              0.00  USD     0.00 %
  00130                      GARR EDP#18350                            03
     Z MAY                           3.000  EA             87.53  USD        1 EA
     Cost center 28200
            D 09/20/1999             3.000  EA   PReq 1000166036 00130
     Still to be delivered           0.000  EA              0.00  USD     0.00 %
     Still to be invoiced            0.000  EA              0.00  USD     0.00 %
  00140                      GARR 7.10 3 FLU CARBIDE DRILL             03
     Z MAY                          12.000  EA             28.35  USD        1 EA
     Cost center 28200
            D 09/20/1999            12.000  EA   PReq 1000166036 00140
     Still to be delivered           0.000  EA              0.00  USD     0.00 %
     Still to be invoiced            0.000  EA              0.00  USD     0.00 %
  00150                      .213 DIA X 5/8 FL LGTH 1/4 SHK 2-1/2 OAL 03
     Z MAY                          13.000  EA             33.95  USD        1 EA
     Cost center 28200
            D 09/20/1999            13.000  EA   PReq 1000166036 00150
     Still to be delivered           0.000  EA              0.00  USD     0.00 %
     Still to be invoiced            0.000  EA              0.00  USD     0.00 %
M015860     ZZ   102641         MSC INDUSTRIAL SUPPLY                  M01 09/30/1999
  00010                      ENERPAC GAUGE GF-230                      03
     Z MAY                           1.000  EA            153.00  USD        1 EA
     Cost center 28200
            D 09/20/1999             1.000  EA   PReq 1000166107 00010
     Still to be delivered           0.000  EA              0.00  USD     0.00 %
     Still to be invoiced            0.000  EA              0.00  USD     0.00 %
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PO          Type Vendor     Name                                   PGp Order date
  Item  Material            Short text                                 Mat. group
  D I A Plnt SLoc               Order qty.     Un.      Net Price  Curr.    per Un
                SL del. date  Scheduled qty.   Un

  00020                     ENERPACAD APTOR GA-1                        03
      Z MAY                           1.000  EA            26.50  USD         1 EA
     Cost center 28200
            D 09/20/1999              1.000  EA  PReq 1000166107 00020
     Still to be delivered            0.000  EA             0.00  USD      0.00 %
     Still to be invoiced             0.000  EA             0.00  USD      0.00 %
M015862     ZZ   102641      MSC INDUSTRIAL SUPPLY                   M09 09/15/1999
  00010                     PARLEC ER 32-0196 COLLET                    03
      Z MAY                           5.000  EA            24.65  USD         1 EA
     Cost center 28200
            D 09/22/1999              5.000  EA  PReq 1000166074 00010
     Still to be delivered            0.000  EA             0.00  USD      0.00 %
     Still to be invoiced             0.000  EA             0.00  USD      0.00 %
  00020                     PARLEC ER32-0393 COLLET                     03
      Z MAY                           4.000  EA            24.65  USD         1 EA
     Cost center 28200
            D 09/22/1999              4.000  EA  PReq 1000166074 00020
     Still to be delivered            0.000  EA             0.00  USD      0.00 %
     Still to be invoiced             0.000  EA             0.00  USD      0.00 %
  00030                     PARLEC ER32-0275 COLLET                     03
      Z MAY                           6.000  EA            24.65  USD         1 EA
     Cost center 28200
            D 09/22/1999              6.000  EA  PReq 1000166074 00030
     Still to be delivered            0.000  EA             0.00  USD      0.00 %
     Still to be invoiced             0.000  EA             0.00  USD      0.00 %
  00040                     PARLEC ER32-0787 COLLET                     03
      Z MAY                           4.000  EA            24.65  USD         1 EA
     Cost center 28200
            D 09/22/1999              4.000  EA  PReq 1000166074 00040
     Still to be delivered            0.000  EA             0.00  USD      0.00 %
     Still to be invoiced             0.000  EA             0.00  USD      0.00 %
  00050                     PARLEC ER32-0275 COLLET                     03
      Z MAY                           2.000  EA            24.65  USD         1 EA
     Cost center 28200
            D 09/22/1999              2.000  EA  PReq 1000166074 00050
     Still to be delivered            0.000  EA             0.00  USD      0.00 %
     Still to be invoiced             0.000  EA             0.00  USD      0.00 %
  00060                     PARLEC ER32-0590 COLLET                     03
      Z MAY                           2.000  EA            24.65  USD         1 EA
     Cost center 28200
            D 09/22/1999              2.000  EA  PReq 1000166074 00060
     Still to be delivered            0.000  EA             0.00  USD      0.00 %
     Still to be invoiced             0.000  EA             0.00  USD      0.00 %
  00070                     PARLEC ER32-0315 COLLET                     03
      Z MAY                           2.000  EA            24.65  USD         1 EA
     Cost center 28200
            D 09/22/1999              2.000  EA  PReq 1000166074 00070
     Still to be delivered            0.000  EA             0.00  USD      0.00 %
     Still to be invoiced             0.000  EA             0.00  USD      0.00 %
  00080                     PARLEC ER32-0157 COLLET                     03
      Z MAY                           6.000  EA            24.65  USD         1 EA
     Cost center 28200
            D 09/22/1999              6.000  EA  PReq 1000166074 00080
     Still to be delivered            0.000  EA             0.00  USD      0.00 %
     Still to be invoiced             0.000  EA             0.00  USD      0.00 %
M015863     ZZ   102641      MSC INDUSTRIAL SUPPLY                   M09 09/15/1999
  00010                     STOCK PILOT PRINT PER QUOTE #C-K10200       03
      Z MAY                           2.000  EA           120.55  USD         1 EA
     Cost center 28200
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PO          Type Vendor     Name                                    PGp Order date
  Item  Material            Short text                                  Mat. group
  D I A Plnt SLoc                 Order qty.   Un        Net Price  Curr.   per Un
                SL del. date  Scheduled qty.   Un

              D 09/30/1999            2.000  EA  PReq 1000166076 00010
     Still to be delivered            0.000  EA            0.00  USD     0.00 %
     Still to be invoiced             0.000  EA            0.00  USD     0.00 %
M015865     ZZ   103497      SMW Systems, Inc.                     M09 09/15/1999
  00010                       SPHERICAL ROL ST THL-OMNIREST 25660501 17
      Z MAY                           1.000  EA          619.00  USD        1 EA
     Cost center 28200
              D 09/30/1999            1.000  EA  PReq 1000166131 00010
     Still to be delivered            0.000  EA            0.00  USD     0.00 %
     Still to be invoiced             0.000  EA            0.00  USD     0.00 %
M015868     ZZ   102719      KENNAMETAL, INC.                      M09 09/15/1999
  00010                       100DA0250 COLLET 1/4" ERICKSON 1014725    03
      Z MAY                           4.000  EA           10.83  USD        1 EA
     Cost center 28200
              D 09/24/1999            4.000  EA  PReq 1000164685 00010
     Still to be delivered            0.000  EA            0.00  USD     0.00 %
     Still to be invoiced             0.000  EA            0.00  USD     0.00 %
  00020                       10DA0500 COLLET 1/2" ERICKSON 1014934     03
      Z MAY                           2.000  EA           10.83  USD        1 EA
     Cost center 28200
              D 09/24/1999            2.000  EA  PReq 1000164685 00020
     Still to be delivered            0.000  EA            0.00  USD     0.00 %
     Still to be invoiced             0.000  EA            0.00  USD     0.00 %
  00030                       100DA0422 COLLET 27/64" ERICKSON 1014868 03
      Z MAY                           2.000  EA           10.83  USD        1 EA
     Cost center 28200
              D 09/24/1999            2.000  EA  PReq 1000164685 00100
     Still to be delivered            0.000  EA            0.00  USD     0.00 %
     Still to be invoiced             0.000  EA            0.00  USD     0.00 %
  00040                       KENNAMETAL A06NERI GROOVING BORING BAR    03
      Z MAY                           2.000  EA           84.28  USD        1 EA
     Cost center 28200
              D 09/24/1999            2.000  EA  PReq 1000164685 00120
     Still to be delivered            0.000  EA            0.00  USD     0.00 %
     Still to be invoiced             0.000  EA            0.00  USD     0.00 %
  00050                       NG-1094L KC 720 INSERT                    03
      Z MAY                          12.000  EA           11.50  USD        1 EA
     Cost center 28200
              D 09/24/1999           12.000  EA  PReq 1000164685 00130
     Still to be delivered            0.000  EA            0.00  USD     0.00 %
     Still to be invoiced             0.000  EA            0.00  USD     0.00 %
  00060                       KENN SS100FC108659 FLOATING TOOL HOLDER   03
      Z MAY                           4.000  EA          264.18  USD        1 EA
     Cost center 28200
              D 09/24/1999            4.000  EA  PReq 1000164685 00140
     Still to be delivered            0.000  EA            0.00  USD     0.00 %
     Still to be invoiced             0.000  EA            0.00  USD     0.00 %
  00070                       KENN SS100FC188688 FLOATING TOOL HOLDER   03
      Z MAY                           2.000  EA          295.38  USD        1 EA
     Cost center 28200
              D 09/24/1999            2.000  EA  PReq 1000164685 00150
     Still to be delivered            0.000  EA            0.00  USD     0.00 %
     Still to be invoiced             0.000  EA            0.00  USD     0.00 %
  00080                       KENNAMETAL C12-SCLPR2 BORING BAR          03
  L   Z MAY                           2.000  EA          454.50  USD        1 EA
     Cost center 28200
              D 09/24/1999            2.000  EA  PReq 1000164685 00160
     Still to be delivered            0.000  EA            0.00  USD     0.00 %
     Still to be invoiced             0.000  EA            0.00  USD     0.00 %
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PO          Type Vendor      Name                                   PGp Order date
  Item  Material             Short text                                 Mat. group
  D I A Plnt Sloc                Order qty.   Un      Net Price  Curr.    per Un
                SL del. date Scheduled qty.   Un

  00090                      KENNAMETAL CPMT 21.51-LF KC9010 INSERT   03
  L    Z MAY                          12.000  EA          12.59  USD        1 EA
     Cost center 28200
              D 09/24/1999            12.000  EA  PReq 1000164685 00170
     Still to be delivered             0.000  EA           0.00  USD     0.00 %
     Still to be invoiced              0.000  EA           0.00  USD     0.00 %
  00100                      7/32" ERICKSON 100DA0219 COLLET          03
     Z MAY                           6.000  EA          17.80  USD        1 EA
     Cost center 28200
              D 09/24/1999             6.000  EA  PReq 1000164685 00180
     Still to be delivered             0.000  EA           0.00  USD     0.00 %
     Still to be invoiced              0.000  EA           0.00  USD     0.00 %
  00110                      7/16" ERICKSON 100DA0438 COLLET          03
     Z MAY                           2.000  EA          10.83  USD        1 EA
     Cost center 28200
              D 09/24/1999             2.000  EA  PReq 1000164685 00190
     Still to be delivered             0.000  EA           0.00  USD     0.00 %
     Still to be invoiced              0.000  EA           0.00  USD     0.00 %
  00120                      9/16" ERICKSON 100DA0562 COLLET 1014978  03
     Z MAY                           2.000  EA          10.83  USD        1 EA
     Cost center 28200
              D 09/24/1999             2.000  EA  PReq 1000164685 00200
     Still to be delivered             0.000  EA           0.00  USD     0.00 %
     Still to be invoiced              0.000  EA           0.00  USD     0.00 %
M015876    ZZ   103554             Fluid Power Products                 M09 09/30/1999
  00010                      HYD. CYLINDER 2" STROKE HBT252B2P1TS1    17
     Z MAY                           1.000  EA       1,537.10  USD        1 EA
     Cost center 28200
              D 09/29/1999             1.000  EA  PReq 1000167658 00010
     Still to be delivered             0.000  EA           0.00  USD     0.00 %
     Still to be invoiced              0.000  EA           0.00  USD     0.00 %
  00020                      HYDROLIC CYLINER 6" STROKE HBT256B2P1TS1 17
     Z MAY                           1.000  EA       1,578.90  USD        1 EA
     Cost center 28200
              D 09/29/1999             1.000  EA  PReq 1000167658 00020
     Still to be delivered             0.000  EA           0.00  USD     0.00 %
     Still to be invoiced              0.000  EA           0.00  USD     0.00 %
M015885    ZZ   102719             KENNAMETAL, INC.                     M09 10/07/1999
  00010                      KENDEX BORING BARS A08NEL2 1094825       03
     Z MAY                           2.000  EA          84.28  USD        1 EA
     Cost center 28200
              D 10/06/1999             2.000  EA  PReq 1000193073 00010
     Still to be delivered             0.000  EA           0.00  USD     0.00 %
     Still to be invoiced              0.000  EA           0.00  USD     0.00 %
  00020                      K BAR 7000 SERIES SOLID MINI E08NEL2 KWH 03
     Z MAY                           1.000  EA         342.18  USD        1 EA
     Cost center 28200
              D 10/06/1999             1.000  EA  PReq 1000193073 00020
     Still to be delivered             0.000  EA           0.00  USD     0.00 %
     Still to be invoiced              0.000  EA           0.00  USD     0.00 %
  00030                      THREAD & GROOVING INSERTS NG2125RK KC935 03
     Z MAY                          20.000  EA          16.49  USD        1 EA
     Cost center 28200
              D 10/06/1999            20.000  EA  PReq 1000193073 00030
     Still to be delivered             0.000  EA           0.00  USD     0.00 %
     Still to be invoiced              0.000  EA           0.00  USD     0.00 %
  00040                      UPGRADE FROM C12NELR05 E12NKLCR05 KWH    03
     Z MAY                           1.000  EA         498.18  USD        1 EA
     Cost center 28200
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PO          Type Vendor      Name                                   PGp Order date
  Item  Material             Short text                                 Mat. group
  D I A Plnt SLoc                 Order qty.   Unit   Net Price  Curr.   per Un
            SL del. date     Scheduled qty.   Un

            D 10/06/1999            1.000   EA   PReq 1000193073 00040
     Still to be delivered          0.000   EA            0.00  USD     0.00 %
     Still to be invoiced           0.000   EA            0.00  USD     0.00 %
  00050                      K-BAR 7000 SERIES, SOLID MINI E12NKLCL05 03
      Z MAY                         1.000   EA          498.18  USD        1 EA
     Cost center 28200
            D 10/06/1999            1.000   EA   PReq 1000193073 00050
     Still to be delivered          0.000   EA            0.00  USD     0.00 %
     Still to be invoiced           0.000   EA            0.00  USD     0.00 %
  00060                      TOP-NOTCH TURNING INSERTS NPGR51R KC935  03
      Z MAY                        10.000   EA           11.46  USD        1 EA
     Cost center 28200
            D 10/06/1999           10.000   EA   PReq 1000193073 00060
     Still to be delivered          0.000   EA            0.00  USD     0.00 %
     Still to be invoiced           0.000   EA            0.00  USD     0.00 %
  00070                      TOP-NOTCH TURNING INSERTS NPGR51L KC935  03
      Z MAY                        10.000   EA           11.46  USD        1 EA
     Cost center 28200
            D 10/06/1999           10.000   EA   PReq 1000193073 00070
     Still to be delivered          0.000   EA            0.00  USD     0.00 %
     Still to be invoiced           0.000   EA            0.00  USD     0.00 %
M015886     ZZ   104762        G AND H TOOL & DIE, INC              M01 09/17/1999
  00010                      WIRECUT SLOT PER PRINT                   TOOLING
      Z MAY                         1.000   EA           65.00  USD        1 EA
     Cost center 28200
            D 09/30/1999            1.000   EA
     Still to be delivered          0.000   EA            0.00  USD     0.00 %
     Still to be invoiced           0.000   EA            0.00  USD     0.00 %
M015889     ZZ   101041        MCMASTER-CARR SUPPLY CO              M09 09/30/1999
  00010                      STEEL RECTANGLE 3' STICK #8910K81        MISC
      Z MAY                         1.000   EA          117.06  USD        1 EA
     Cost center 28200
            D 09/23/1999            1.000   EA   PReq 1000172792 00010
     Still to be delivered          0.000   EA            0.00  USD     0.00 %
     Still to be invoiced           0.000   EA            0.00  USD     0.00 %
  00020                      FLAT STOCK 18" LONG #8892K39             MISC
      Z MAY                         1.000   EA           31.21  USD        1 EA
     Cost center 28200
            D 09/23/1999            1.000   EA   PReq 1000172792 00020
     Still to be delivered          0.000   EA            0.00  USD     0.00 %
     Still to be invoiced           0.000   EA            0.00  USD     0.00 %
M015894     ZZ   102641        MSC INDUSTRIAL SUPPLY                M09 09/30/1999
  00010                      3/8" N/C #91130 GARR CARBIDE SPOTTING DR 03
  L   Z MAY                    10.000   EA           18.11  USD        1 EA
     Cost center 28200
            D 09/27/1999           10.000   EA   PReq 1000174573 00010
     Still to be delivered          0.000   EA            0.00  USD     0.00 %
     Still to be invoiced           0.000   EA            0.00  USD     0.00 %
M015899     ZZ   103554        Fluid Power Products                 M09 09/30/1999
  00010                      ACCUMULATOR #AB005B3T1A1                  17
      Z MAY                         1.000   EA          331.20  USD        1 EA
     Cost center 28200
            D 09/30/1999            1.000   EA   PReq 1000174574 00010
     Still to be delivered          0.000   EA            0.00  USD     0.00 %
     Still to be invoiced           0.000   EA            0.00  USD     0.00 %
  00020                      FITTING #12-8F50G5-S                      17
      Z MAY                         2.000   EA            2.56  USD        1 EA
     Cost center 28200
            D 09/30/1999            2.000   EA   PReq 1000174574 00020
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PO          Type Vendor      Name                                    PGp Order date
  Item  Material             Short text                                  Mat. group
  D I A Plnt SLoc                Order qty.   Un        Net Price  Curr.    per Un
                SL del. date Scheduled qty.   Un

      Still to be delivered            0.000  EA             0.00  USD     0.00 %
      Still to be invoiced             0.000  EA             0.00  USD     0.00 %
  00030                        FITTING #8-6F50G5-S                   17
      Z MAY                            2.000  EA             1.85  USD        1 EA
      Cost center 28200
              D 09/30/1999             2.000  EA  PReq 1000174574 00030
      Still to be delivered            0.000  EA             0.00  USD     0.00 %
      Still to be invoiced             0.000  EA             0.00  USD     0.00 %
  00040                        MANIFOLD #AD03P022S/C                 17
      Z MAY                            1.000  EA            83.38  USD        1 EA
      Cost center 28200
              D 09/30/1999             1.000  EA  PReq 1000174574 00040
      Still to be delivered            0.000  EA             0.00  USD     0.00 %
      Still to be invoiced             0.000  EA             0.00  USD     0.00 %
M015900     ZZ   104140          BARLCAY'S METAL COMPANY               M09 10/07/1999
  00010                        2" X 4" X 1/4" THICK TUBING 20 FOOT STIC 44
      Z MAY                            1.000  EA            72.00  USD        1 EA
      Cost center 28200
              D 09/22/1999             1.000  EA  PReq 1000174575 00010
      Still to be delivered            0.000  EA             0.00  USD     0.00 %
      Still to be invoiced             0.000  EA             0.00  USD     0.00 %
  00020                        4' X 4' X1/2 THICK PLATE STEEL        44
      Z MAY                            1.000  EA           106.00  USD        1 EA
      Cost center 28200
              D 09/22/1999             1.000  EA  PReq 1000174575 00020
      Still to be delivered            0.000  EA             0.00  USD     0.00 %
      Still to be invoiced             0.000  EA             0.00  USD     0.00 %
  00030                        VIEW 3000 SAFETY GLASSES              44
      Z MAY                            4.000  EA             6.50  USD        1 EA
      Cost center 28200
              D 09/22/1999             4.000  EA  PReq 1000174575 00030
      Still to be delivered            0.000  EA             0.00  USD     0.00 %
      Still to be invoiced             0.000  EA             0.00  USD     0.00 %
  00040                        VIEW 3000 50 REPLACEMENT LENS         44
      Z MAY                            4.000  EA             6.50  USD        1 EA
      Cost center 28200
              D 09/22/1999             4.000  EA  PReq 1000174575 00040
      Still to be delivered            0.000  EA             0.00  USD     0.00 %
      Still to be invoiced             0.000  EA             0.00  USD     0.00 %
  00050                        ESTIMATED KY SALES TAX 6%             44
      Z MAY                            1.000  EA            13.80  USD        1 EA
      Cost center 28200
              D 09/22/1999             1.000  EA  PReq 1000174575 00050
      Still to be delivered            0.000  EA             0.00  USD     0.00 %
      Still to be invoiced             0.000  EA             0.00  USD     0.00 %
M015903     ZZ   101041          MCMASTER-CARR SUPPLY CO               M09 09/30/1999
  00010                        3/16 & 1/4 BROACH SET #3152A16        03
      Z MAY                            1.000  EA           228.28  USD        1 EA
      Cost center 28200
              D 09/27/1999             1.000  EA  PReq 1000175885 00010
      Still to be delivered            0.000  EA             0.00  USD     0.00 %
      Still to be invoiced             0.000  EA             0.00  USD     0.00 %
M015904     ZZ   102641          MSC INDUSTRIAL SUPPLY                 M09 09/30/1999
  00010                        ROHM LATHE CENTER #017172 CARBIDE TIP 03
      Z MAY                            1.000  EA            95.80  USD        1 EA
      Cost center 28200
              D 09/27/1999             1.000  EA  PReq 1000175894 00010
      Still to be delivered            0.000  EA             0.00  USD     0.00 %
      Still to be invoiced             0.000  EA             0.00  USD     0.00 %
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PO          Type Vendor      Name                                    PGp Order date
  Item  Material             Short text                                  Mat. group
  D I A Plnt SLoc                Order qty.    Unit        Net Price  Curr.    per Un
                SL del. date Scheduled qty.    Un

  00030                      LATHE CENTER #00085033                        03
      Z MAY                          1.000  EA              12.60  USD         1 EA
     Cost center 28200
            D 09/27/1999             1.000  EA  PReq 1000175894 00030
     Still to be delivered           0.000  EA               0.00  USD      0.00 %
     Still to be invoiced            0.000  EA               0.00  USD      0.00 %
M015909     ZZ   103595       Consolidated Electrical Distributor   M09 09/30/1999
  00010                      CONTACTOR #100-A12N3                          16
      Z MAY                          5.000  EA              70.26  USD         1 EA
     Cost center 28200
            D 09/30/1999             5.000  EA  PReq 1000174580 00010
     Still to be delivered           0.000  EA               0.00  USD      0.00 %
     Still to be invoiced            0.000  EA               0.00  USD      0.00 %
  00020                      OVERLOAD #193-A1F1                            16
      Z MAY                          1.000  EA              38.64  USD         1 EA
     Cost center 28200
            D 09/30/1999             1.000  EA  PReq 1000174580 00020
     Still to be delivered           0.000  EA               0.00  USD      0.00 %
     Still to be invoiced            0.000  EA               0.00  USD      0.00 %
  00030                      AUXILIARY CONTACTS # 195-BA02G                16
      Z MAY                          4.000  EA              12.15  USD         1 EA
     Cost center 28200
            D 09/30/1999             4.000  EA  PReq 1000174580 00030
     Still to be delivered           0.000  EA               0.00  USD      0.00 %
     Still to be invoiced            0.000  EA               0.00  USD      0.00 %
  00040                      FUSEABLE BLOCK #1492-WFB1024                  16
      Z MAY                         10.000  EA              24.54  USD         1 EA
     Cost center 28200
            D 09/30/1999            10.000  EA  PReq 1000174580 00040
     Still to be delivered           0.000  EA               0.00  USD      0.00 %
     Still to be invoiced            0.000  EA               0.00  USD      0.00 %
  00050                      RAIL #1492-N1                                 16
      Z MAY                          1.000  EA               6.92  USD         1 EA
     Cost center 28200
            D 09/30/1999             1.000  EA  PReq 1000174580 00050
     Still to be delivered           0.000  EA               0.00  USD      0.00 %
     Still to be invoiced            0.000  EA               0.00  USD      0.00 %
  00060                      RAIL #199-OR1                                 16
      Z MAY                          1.000  EA               6.79  USD         1 EA
     Cost center 28200
            D 09/30/1999             1.000  EA  PReq 1000174580 00060
     Still to be delivered           0.000  EA               0.00  USD      0.00 %
     Still to be invoiced            0.000  EA               0.00  USD      0.00 %
  00070                      PRESS SWITCH #836T-T302J                      16
      Z MAY                          1.000  EA             293.82  USD         1 EA
     Cost center 28200
            D 09/30/1999             1.000  EA  PReq 1000174580 00070
     Still to be delivered           0.000  EA               0.00  USD      0.00 %
     Still to be invoiced            0.000  EA               0.00  USD      0.00 %
  00080                      PUSH BUTTON #800T-A1A                         16
      Z MAY                          3.000  EA              30.59  USD         1 EA
     Cost center 28200
            D 09/30/1999             3.000  EA  PReq 1000174580 00080
     Still to be delivered           0.000  EA               0.00  USD      0.00 %
     Still to be invoiced            0.000  EA               0.00  USD      0.00 %
  00090                      PUSH BUTTON #800T-A2A                         16
      Z MAY                          3.000  EA              30.59  USD         1 EA
     Cost center 28200
            D 09/30/1999             3.000  EA  PReq 1000174580 00090
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PO Type Vendor / Item Material / D I A Plnt SLoc / SL del. date	Name / Short text / Order qty. / Scheduled qty.	UM / Un	Net Price	Curr.	PGp Order date / Mat. group / per	Un
Still to be delivered	0.000	EA	0.00	USD	0.00 %	
Still to be invoiced	0.000	EA	0.00	USD	0.00 %	
00100	PUSH BUTTON #800T-FX16AS			16		
Z MAY	6.000	EA	65.66	USD	1	EA
Cost center 28200						
D 09/30/1999	6.000	EA	PReq 1000174580	00100		
Still to be delivered	0.000	EA	0.00	USD	0.00 %	
Still to be invoiced	0.000	EA	0.00	USD	0.00 %	
00110	ENCLOSURE #800T-3T2			16		
Z MAY	2.000	EA	70.16	USD	1	EA
Cost center 28200						
D 09/30/1999	2.000	EA	PReq 1000174580	00110		
Still to be delivered	0.000	EA	0.00	USD	0.00 %	
Still to be invoiced	0.000	EA	0.00	USD	0.00 %	
00120	ENCLOSURE #800T-2T2			16		
Z MAY	1.000	EA	59.36	USD	1	EA
Cost center 28200						
D 09/30/1999	1.000	EA	PReq 1000174580	00120		
Still to be delivered	0.000	EA	0.00	USD	0.00 %	
Still to be invoiced	0.000	EA	0.00	USD	0.00 %	
00130	TRANSFORMER #1497-N19			16		
Z MAY	1.000	EA	224.93	USD	1	EA
Cost center 28200						
D 09/30/1999	1.000	EA	PReq 1000174580	00130		
Still to be delivered	0.000	EA	0.00	USD	0.00 %	
Still to be invoiced	0.000	EA	0.00	USD	0.00 %	
00140	ENCLOSURE NOMA4 #24X24X6			16		
Z MAY	1.000	EA	228.18	USD	1	EA
Cost center 28200						
D 09/30/1999	1.000	EA	PReq 1000174580	00140		
Still to be delivered	0.000	EA	0.00	USD	0.00 %	
Still to be invoiced	0.000	EA	0.00	USD	0.00 %	
00150	ENCLOSURE PANEL #24X24			16		
Z MAY	1.000	EA	39.25	USD	1	EA
Cost center 28200						
D 09/30/1999	1.000	EA	PReq 1000174580	00150		
Still to be delivered	0.000	EA	0.00	USD	0.00 %	
Still to be invoiced	0.000	EA	0.00	USD	0.00 %	
00160	EFFECTOR SWITH #IG0351			16		
L Z MAY	2.000	EA	145.00	USD	1	EA
Cost center 28200						
D 09/30/1999	2.000	EA	PReq 1000174580	00160		
Still to be delivered	0.000	EA	0.00	USD	0.00 %	
Still to be invoiced	0.000	EA	0.00	USD	0.00 %	
00170	EFFECTOR SWITH #L32043			16		
Z MAY	2.000	EA	30.00	USD	1	EA
Cost center 28200						
D 09/30/1999	2.000	EA	PReq 1000174580	00170		
Still to be delivered	0.000	EA	0.00	USD	0.00 %	
Still to be invoiced	0.000	EA	0.00	USD	0.00 %	
00180	MANUAL INTERRUPTER 190-MN			16		
Z MAY	1.000	EA	126.60	USD	1	EA
Cost center 28200						
D 09/27/1999	1.000	EA	PReq 1000176121	00010		
Still to be delivered	0.000	EA	0.00	USD	0.00 %	
Still to be invoiced	0.000	EA	0.00	USD	0.00 %	
00190	TRIE UNIT 190-P160L			16		
Z MAY	1.000	EA	65.20	USD	1	EA
Cost center 28200						

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PO          Type Vendor      Name                                    PGp Order date
  Item  Material             Short text                                  Mat. group
  D I A Plnt SLoc                Order qty.   Un        Net Price  Curr.    per Un
                SL del. date Scheduled qty.   Un

              D 09/27/1999          1.000  EA  PReq 1000176121 00020
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
M015916     ZZ   102719      KENNAMETAL, INC.                    M09 10/07/1999
  00010                      180 DA COLLET SS100DA1801638.  1015625      03
      Z MAY                         1.000  EA          115.46  USD        1 EA
     Cost center 28200
              D 10/07/1999          1.000  EA  PReq 1000194142 00010
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
M015918     ZZ   103437      Universal Machine, Inc.             M09 10/07/1999
  00010                      REAMER GUIDES MACHINED TO LARGER I.D.     TOOLING
      Z MAY                         8.000  EA           40.00  USD        1 EA
     Cost center 28200
              D 10/07/1999          8.000  EA  PReq 1000194146 00010
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
M015941     ZZ   102719      KENNAMETAL, INC.                    M09 09/30/1999
  00010                      ERICKSON COLLET 9/16 #180DA0562          03
      Z MAY                         2.000  EA           14.58  USD        1 EA
     Cost center 28200
              D 09/30/1999          2.000  EA  PReq 1000184057 00010
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
M015960     ZZ   101041      MCMASTER-CARR SUPPLY CO             M09 10/07/1999
  00010                      #9464K134 VITTON O-RING                  19
      Z MAY                         1.000  EA            7.13  USD        1 EA
     Cost center 28200
              D 10/07/1999          1.000  EA  PReq 1000194145 00010
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
  00020                      #9452K138 BUNA-N O-RING                  19
      Z MAY                         1.000  EA            9.05  USD        1 EA
     Cost center 28200
              D 10/07/1999          1.000  EA  PReq 1000194145 00020
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
M015961     ZZ   102641      MSC INDUSTRIAL SUPPLY               M09 10/07/1999
  00010                      #36889350 DUFF-NORTON ROTARY UNION       03
      Z MAY                         1.000  EA           93.86  USD        1 EA
     Cost center 28200
              D 10/12/1999          1.000  EA  PReq 1000193074 00010
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
  00020                      #40210726 HAND TAP                       03
      Z MAY                         1.000  EA            9.75  USD        1 EA
     Cost center 28200
              D 10/12/1999          1.000  EA  PReq 1000193074 00020
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
  00030                      FREIGHT NDA                              03
      K MAY                         1.000  EA           20.75  USD        1 EA
     Cost center 28200
              D 10/12/1999          1.000  EA
     Still to be delivered          0.000  EA            0.00  USD     0.00 %
     Still to be invoiced           0.000  EA            0.00  USD     0.00 %
M015970     ZZ   5380140     DANJON MANUFACTURING CORP           M09 10/07/1999
  00010                      .29 DIA X54" GUNDRILLS; KIDNEY COOL HOLE 03
      Z MAY                         8.000  EA           90.00  USD        1 EA
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PO          Type Vendor      Name                                  PGp Order date
  Item  Material             Short text                                Mat. group
  D I A Plnt SLoc              Order qty.     Un.      Net Price  Curr.    per Un
                SL del. date   Scheduled qty.   Un

     Cost center 28200
              D 10/15/1999            8.000  EA  PReq 1000193070 00010
     Still to be delivered            0.000  EA            0.00  USD     0.00 %
     Still to be invoiced             0.000  EA            0.00  USD     0.00 %
M015975     ZZ   103437      Universal Machine, Inc                  M09 10/12/1999
  00010                      HUB MACHINED COMPLETE PER PRINT            TOOLING
      Z MAY                           1.000  EA          220.00  USD         1 EA
     Cost center 28200
              D 10/11/1999            1.000  EA  PReq 1000197474 00010
     Still to be delivered            0.000  EA            0.00  USD     0.00 %
     Still to be invoiced             0.000  EA            0.00  USD     0.00 %
M016009     ZZ   102641      MSC INDUSTRIAL SUPPLY                   M09 10/12/1999
  00010                      DISTANCE MEASURING WHEEL #01044684         MISC
      Z MAY                           1.000  EA           58.27  USD         1 EA
     Cost center 28200
              D 10/11/1999            1.000  EA  PReq 1000197470 00010
     Still to be delivered            0.000  EA            0.00  USD     0.00 %
     Still to be invoiced             0.000  EA            0.00  USD     0.00 %
M016025     ZZ   101041      MCMASTER-CARR SUPPLY CO                 M09 10/12/1999
  00010                      12 MM DRILL #8950A28                       MISC
      Z MAY                           1.000  EA           17.39  USD         1 EA
     Cost center 28200
              D 10/12/1999            1.000  EA  PReq 1000197484 00010
     Still to be delivered            0.000  EA            0.00  USD     0.00 %
     Still to be invoiced             0.000  EA            0.00  USD     0.00 %
  00020                      SCRIBER #2157A12                           MISC
      Z MAY                           2.000  EA            4.91  USD         1 EA
     Cost center 28200
              D 10/12/1999            2.000  EA  PReq 1000197484 00020
     Still to be delivered            0.000  EA            0.00  USD     0.00 %
     Still to be invoiced             0.000  EA            0.00  USD     0.00 %
M016029     ZZ   101041      MCMASTER-CARR SUPPLY CO                 M09 10/14/1999
  00010                      RIGHT-HAND ROD END #60645K36               MISC
      Z MAY                           3.000  EA            6.86  USD         1 EA
     Cost center 28200
              D 10/14/1999            3.000  EA  PReq 1000198613 00010
     Still to be delivered            0.000  EA            0.00  USD     0.00 %
     Still to be invoiced             0.000  EA            0.00  USD     0.00 %
M016043     ZZ   5380140     DANJON MANUFACTURING CORP               M09 10/14/1999
  00010                      COMBINATION 2-STAGE BUTTON W/ COAT & HT  03
  L   Z MAY                       2.000  EA          209.00  USD         1 EA
     Cost center 28200
              D 11/15/1999            2.000  EA
     Still to be delivered            0.000  EA            0.00  USD     0.00 %
     Still to be invoiced             0.000  EA            0.00  USD     0.00 %
  00020                      COMBINATION 2-STAGE BUTTON W/ COAT & HT  03
      Z MAY                           2.000  EA          209.00  USD         1 EA
     Cost center 28200
              D 11/15/1999            2.000  EA  PReq 1000199801 00010
     Still to be delivered            0.000  EA            0.00  USD     0.00 %
     Still to be invoiced             0.000  EA            0.00  USD     0.00 %
M016056     ZZ   102641      MSC INDUSTRIAL SUPPLY                   M09 11/02/1999
  00010                      40210163 5/16-18 4FL LH TPR CLEV HAND TA 03
      Z MAY                           1.000  EA            6.32  USD         1 EA
     Cost center 28200
              D 10/27/1999            1.000  EA  PReq 1000217217 00010
     Still to be delivered            0.000  EA            0.00  USD     0.00 %
     Still to be invoiced             0.000  EA            0.00  USD     0.00 %
  00020                      FREIGHT TO JOE ZAJK IN NC                  03
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PO          Type Vendor      Name                                   PGp Order date
  Item  Material             Short text                                Mat. group
  D I A Plnt SLoc                Order qty.    Unit   Net Price   Curr.    per Un
            SL del. date     Scheduled qty.    Un

      Z MAY                          1.000   EA            5.28   USD        1 EA
    Cost center 28200
            D 10/27/1999             1.000   EA  PReq 1000217217 00020
    Still to be delivered            0.000   EA            0.00   USD     0.00 %
    Still to be invoiced             0.000   EA            0.00   USD     0.00 %
M016082     ZZ    103554     Fluid Power Products                   M09 10/21/1999
  00010                        6-8 F50X-S                                MISC
      Z MAY                          4.000   EA            1.45   USD        1 EA
    Cost center 28200
            D 10/19/1999             4.000   EA  PReq 1000209369 00010
    Still to be delivered            0.000   EA            0.00   USD     0.00 %
    Still to be invoiced             0.000   EA            0.00   USD     0.00 %
  00020                        6-6-6 RTX-S                               MISC
      Z MAY                          2.000   EA            4.75   USD        1 EA
    Cost center 28200
            D 10/19/1999             2.000   EA  PReq 1000209369 00020
    Still to be delivered            0.000   EA            0.00   USD     0.00 %
    Still to be invoiced             0.000   EA            0.00   USD     0.00 %
  00030                        6C50X-S                                   MISC
      Z MAY                          4.000   EA            3.75   USD        1 EA
    Cost center 28200
            D 10/19/1999             4.000   EA  PReq 1000209369 00030
    Still to be delivered            0.000   EA            0.00   USD     0.00 %
    Still to be invoiced             0.000   EA            0.00   USD     0.00 %
  00040                        6-1/4 F50G-S                              MISC
      Z MAY                          1.000   EA            1.55   USD        1 EA
    Cost center 28200
            D 10/19/1999             1.000   EA  PReq 1000209369 00040
    Still to be delivered            0.000   EA            0.00   USD     0.00 %
    Still to be invoiced             0.000   EA            0.00   USD     0.00 %
  00050                        F451TC0606-6-6-6-60.00 6FJIC B/E 3/8" HO MISC
      Z MAY                          2.000   EA           20.00   USD        1 EA
    Cost center 28200
            D 10/19/1999             2.000   EA  PReq 1000209369 00050
    Still to be delivered            0.000   EA            0.00   USD     0.00 %
    Still to be invoiced             0.000   EA            0.00   USD     0.00 %
  00060                        F451TC0606-6-6-6-48.00 6FJIC B/E 3/8" HO MISC
      Z MAY                          1.000   EA           18.00   USD        1 EA
    Cost center 28200
            D 10/19/1999             1.000   EA  PReq 1000209369 00060
    Still to be delivered            0.000   EA            0.00   USD     0.00 %
    Still to be invoiced             0.000   EA            0.00   USD     0.00 %
  00070                        F451TC0606-6-6-6-36.00 6FJIC B/E 3/8" HO MISC
      Z MAY                          1.000   EA           16.00   USD        1 EA
    Cost center 28200
            D 10/19/1999             1.000   EA  PReq 1000209369 00070
    Still to be delivered            0.000   EA            0.00   USD     0.00 %
    Still to be invoiced             0.000   EA            0.00   USD     0.00 %
  00080                        F451TC0606-6-6-6-38.00 6FJIC B/E 3/8" HO MISC
      Z MAY                          1.000   EA           18.00   USD        1 EA
    Cost center 28200
            D 10/19/1999             1.000   EA  PReq 1000209369 00080
    Still to be delivered            0.000   EA            0.00   USD     0.00 %
    Still to be invoiced             0.000   EA            0.00   USD     0.00 %
  00090                        F451TC0606-6-6-6-8.00 6FJIC B/E 3/8" HOS MISC
      Z MAY                          1.000   EA           13.00   USD        1 EA
    Cost center 28200
            D 10/19/1999             1.000   EA  PReq 1000209369 00090
    Still to be delivered            0.000   EA            0.00   USD     0.00 %
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PO          Type Vendor      Name                                   PGp Order date
  Item  Material             Short text                                 Mat. group
  D I A Plnt SLoc                Order qty.   Un        Net Price  Curr.    per Un
            SL del. date     Scheduled qty.   Un

     Still to be invoiced                0.000  EA            0.00  USD      0.00 %
  00100                      F451TC0606-10-10-5.00 10FJIC B/E 5/8" MISC
     Z MAY                               1.000  EA           20.50  USD         1 EA
     Cost center 28200
            D 10/19/1999                 1.000  EA  PReq 1000209369 00100
     Still to be delivered               0.000  EA            0.00  USD      0.00 %
     Still to be invoiced                0.000  EA            0.00  USD      0.00 %
  00110                      F451TC0606-10-10-24.00 10FJIC B/E 5/8 MISC
     Z MAY                               1.000  EA           25.00  USD         1 EA
     Cost center 28200
            D 10/19/1999                 1.000  EA  PReq 1000209369 00110
     Still to be delivered               0.000  EA            0.00  USD      0.00 %
     Still to be invoiced                0.000  EA            0.00  USD      0.00 %
  00170                      6-4 HTXS UNION                          MISC
     Z MAY                               1.000  EA            5.50  USD         1 EA
     Cost center 28200
            D 10/26/1999                 1.000  EA  PReq 1000234012 00010
     Still to be delivered               0.000  EA            0.00  USD      0.00 %
     Still to be invoiced                0.000  EA            0.00  USD      0.00 %
  00180                      F451TC0606-10-10-10-20.00 43 SER.       MISC
     Z MAY                               1.000  EA           25.00  USD         1 EA
     Cost center 28200
            D 10/26/1999                 1.000  EA  PReq 1000234012 00020
     Still to be delivered               0.000  EA            0.00  USD      0.00 %
     Still to be invoiced                0.000  EA            0.00  USD      0.00 %
  00190                      6 C50X-S STR THD ELBOW                  MISC
     Z MAY                               4.000  EA           15.00  USD         1 EA
     Cost center 28200
            D 10/26/1999                 4.000  EA  PReq 1000234012 00030
     Still to be delivered               0.000  EA            0.00  USD      0.00 %
     Still to be invoiced                4.000  EA           60.00  USD    100.00 %
M016104     ZZ   102719      KENNAMETAL, INC.                        MC  10/26/1999
  00010                      HOLDER S5200WN32M525                    MISC
     Z MAY                               1.000  EA           81.00  USD         1 EA
     Cost center 28200
            D 11/19/1999                 1.000  EA  PReq 1000214194 00010
     Still to be delivered               1.000  EA           81.00  USD    100.00 %
     Still to be invoiced                1.000  EA           81.00  USD    100.00 %
  00020                      ENDMILL F3AH1500A0K30                   MISC
     Z MAY                               2.000  EA          147.00  USD         1 EA
     Cost center 28200
            D 10/27/1999                 2.000  EA  PReq 1000214194 00020
     Still to be delivered               0.000  EA            0.00  USD      0.00 %
     Still to be invoiced                0.000  EA            0.00  USD      0.00 %
  00030                      ENDMILL K1CR-0.50-S02.8-0               MISC
     Z MAY                               2.000  EA           75.68  USD         1 EA
     Cost center 28200
            D 10/27/1999                 2.000  EA  PReq 1000214194 00030
     Still to be delivered               0.000  EA            0.00  USD      0.00 %
     Still to be invoiced                0.000  EA            0.00  USD      0.00 %
  00040                      ENDMILL K1PR-125-RP3                    MISC
     Z MAY                               1.000  EA           91.54  USD         1 EA
     Cost center 28200
            D 10/27/1999                 1.000  EA  PReq 1000214194 00040
     Still to be delivered               0.000  EA            0.00  USD      0.00 %
     Still to be invoiced                0.000  EA            0.00  USD      0.00 %
  00050                      INSERT SDCH2.61-52ENLO KC 725M          MISC
     Z MAY                              10.000  EA           11.41  USD         1 EA
     Cost center 28200
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PO          Type Vendor      Name                                    PGp Order date
  Item  Material             Short text                                  Mat. group
  D I A Plnt SLoc                Order qty.   Net Price  Curr.    per Un
              SL del. date   Scheduled qty.   Un

              D 10/27/1999          10.000  EA  PReq 1000214194 00050
      Still to be delivered          0.000  EA          0.00  USD     0.00 %
      Still to be invoiced           0.000  EA          0.00  USD     0.00 %
  00060                      INSERT RPG832.5 KC 725M                MISC
      Z MAY                         10.000  EA         12.65  USD        1 EA
      Cost center 28200
              D 10/27/1999          10.000  EA  PReq 1000214194 00060
      Still to be delivered          0.000  EA          0.00  USD     0.00 %
      Still to be invoiced           0.000  EA          0.00  USD     0.00 %
M016105     ZZ   102641       MSC INDUSTRIAL SUPPLY                  M09 11/02/1999
  00010                      63804462 17/64 SCREW MACHINE DRILL        03
      Z MAY                         10.000  EA          3.06  USD        1 EA
      Cost center 28200
              D 10/29/1999          10.000  EA  PReq 1000217222 00010
      Still to be delivered          0.000  EA          0.00  USD     0.00 %
      Still to be invoiced           0.000  EA          0.00  USD     0.00 %
  00020                      63792105 "K" DRILL                        03
      Z MAY                         10.000  EA          1.97  USD        1 EA
      Cost center 28200
              D 10/29/1999          10.000  EA  PReq 1000217222 00020
      Still to be delivered          0.000  EA          0.00  USD     0.00 %
      Still to be invoiced           0.000  EA          0.00  USD     0.00 %
  00030                      #06761464 GARR 51234 3/8 TICN 6 FLUTE     03
      Z MAY                          5.000  EA         25.38  USD        1 EA
      Cost center 28200
              D 10/29/1999           5.000  EA  PReq 1000217222 00030
      Still to be delivered          0.000  EA          0.00  USD     0.00 %
      Still to be invoiced           5.000  EA        126.90  USD   100.00 %
  00040                      #06758998 GARR 51154 1/4 TICN 6 FLUTE     03
      Z MAY                          5.000  EA         15.16  USD        1 EA
      Cost center 28200
              D 10/29/1999           5.000  EA  PReq 1000217222 00040
      Still to be delivered          0.000  EA          0.00  USD     0.00 %
      Still to be invoiced           5.000  EA         75.80  USD   100.00 %
  00050                      #06820591 GARR 12234 3/8 TICH 223 MC      03
      Z MAY                          5.000  EA         23.46  USD        1 EA
      Cost center 28200
              D 11/10/1999           5.000  EA  PReq 1000217222 00050
      Still to be delivered          0.000  EA          0.00  USD     0.00 %
      Still to be invoiced           5.000  EA        117.30  USD   100.00 %
  00060                      #06851273 GARR 12194 5/16 TICN 223 MC     03
      Z MAY                          5.000  EA         20.04  USD        1 EA
      Cost center 28200
              D 10/29/1999           5.000  EA  PReq 1000217222 00060
      Still to be delivered          0.000  EA          0.00  USD     0.00 %
      Still to be invoiced           3.000  EA         60.12  USD    60.00 %
M016107     ZZ   106259       PIONEER BROACH                         M09 10/26/1999
  00010                      SPECIAL PULLER DOGS FOR PAS-291 S BROACH MISC
      Z MAY                          1.000  EA        150.00  USD        1 EA
      Cost center 28200
              D 10/22/1999           1.000  EA  PReq 1000211097 00010
      Still to be delivered          0.000  EA          0.00  USD     0.00 %
      Still to be invoiced           0.000  EA          0.00  USD     0.00 %
  00020                      FREIGHT CHARGES                          MISC
      Z MAY                          1.000  EA         32.20  USD        1 EA
      Cost center 28200
              D 10/22/1999           1.000  EA  PReq 1000211097 00020
      Still to be delivered          0.000  EA          0.00  USD     0.00 %
      Still to be invoiced           0.000  EA          0.00  USD     0.00 %
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PO / Item / D I A	Type	Vendor / Material / Plnt SLoc / SL del. date	Name / Short text / Order qty. / Scheduled qty.	Un / Un	Net Price	PGp / Curr.	Order date / Mat. group / per Un
M016114	ZZ	5885460	PACIFIC PRECISION GRINDING			M09	10/26/1999
00010			30/06 CHAMBER REAMER				MISC
Z MAY			4.000	EA	137.00	USD	1 EA
Cost center 28200							
D 10/25/1999			4.000	EA	PReq 1000214195	00010	
Still to be delivered			0.000	EA	0.00	USD	0.00 %
Still to be invoiced			0.000	EA	0.00	USD	0.00 %
00020			FREIGHT CHARGES				MISC
Z MAY			1.000	EA	52.25	USD	1 EA
Cost center 28200							
D 10/25/1999			1.000	EA	PReq 1000214195	00020	
Still to be delivered			0.000	EA	0.00	USD	0.00 %
Still to be invoiced			0.000	EA	0.00	USD	0.00 %
M016116	ZZ	103388	DoAll Louisville Co.			M09	10/27/1999
00010			SANDVICK U-MAX DRILL ENDMILL #R216.2-315				03
Z MAY			1.000	EA	161.00	USD	1 EA
Cost center 28200							
D 11/01/1999			1.000	EA	PReq 1000215649	00010	
Still to be delivered			0.000	EA	0.00	USD	0.00 %
Still to be invoiced			0.000	EA	0.00	USD	0.00 %
00020			SANDVICK INSERT #R216.2-08 02 04-2A 235				03
Z MAY			10.000	EA	8.72	USD	1 EA
Cost center 28200							
D 11/01/1999			10.000	EA	PReq 1000215649	00020	
Still to be delivered			0.000	EA	0.00	USD	0.00 %
Still to be invoiced			0.000	EA	0.00	USD	0.00 %
M016133	ZZ	101041	MCMASTER-CARR SUPPLY CO			M09	11/02/1999
00010			HIGH SPPED REAMER #3002A34				03
Z MAY			3.000	EA	13.87	USD	1 EA
Cost center 28200							
D 10/29/1999			3.000	EA	PReq 1000217220	00010	
Still to be delivered			0.000	EA	0.00	USD	0.00 %
Still to be invoiced			0.000	EA	0.00	USD	0.00 %
M016143	ZZ	102719	KENNAMETAL, INC.			M09	11/02/1999
00010			ROYAL VERSA-TURN LIFE CENTER				03
Z MAY			1.000	EA	194.00	USD	1 EA
Cost center 28200							
D 11/10/1999			1.000	EA	PReq 1000224221	00010	
Still to be delivered			0.000	EA	0.00	USD	0.00 %
Still to be invoiced			0.000	EA	0.00	USD	0.00 %
M016148	ZZ	103554	Fluid Power Products			M09	11/12/1999
00010			D27AA1A GEAR PUMP				17
Z MAY			1.000	EA	122.10	USD	1 EA
Cost center 28200							
D 11/10/1999			1.000	EA	PReq 1000235268	00010	
Still to be delivered			0.000	EA	0.00	USD	0.00 %
Still to be invoiced			0.000	EA	0.00	USD	0.00 %
00030			#686632K D SERIES KIT P326G				17
Z MAY			1.000	EA	27.50	USD	1 EA
Cost center 28200							
D 11/08/1999			1.000	EA	PReq 1000228486	00010	
Still to be delivered			0.000	EA	0.00	USD	0.00 %
Still to be invoiced			0.000	EA	0.00	USD	0.00 %
M016150	ZZ	5208718	GIDDINGS & LEWIS			M09	11/02/1999
00010			MEASURE MAX INSPECTION PART PROGRAM				MISC
K MAY			1.000	EA	5,565.00	USD	1 EA
Cost center 28200							
D 11/10/1999			1.000	EA	PReq 1000217212	00010	
Still to be delivered			0.000	EA	0.00	USD	0.00 %

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PO          Type Vendor      Name                                  PGp Order date
  Item  Material             Short text                                Mat. group
  D I A Plnt SLoc                Order qty.    Un        Net Price  Curr.    per Un
              SL del. date   Scheduled qty.    Un

     Still to be invoiced              1.000  EA        5,565.00  USD  100.00 %
M016169     ZZ   106410      FARRIS, MCINTOSH, & TRENGER, INC.     M09 11/18/1999
  00010                      BUILD A 100 METER RIFE RANGE SITE        MISC
      K MAY                             1.000  EA        1,442.00  USD        1 EA
     Cost center 28200
             D 11/19/1999               1.000  EA  PReq 1000217397 00010
     Still to be delivered              0.000  EA             0.00  USD     0.00 %
     Still to be invoiced               0.000  EA             0.00  USD     0.00 %
M016186     ZZ   106014      CAMPBELL'S MACHINE SHOP INC.          M09 12/01/1999
  00010                      C-300360 BOLT HANDLE BLANK               TOOLING
      Z MAY                            50.000  EA             8.83  USD        1 EA
     Cost center 28200
             D 12/01/1999              50.000  EA  PReq 1000254133 00010
     Still to be delivered              0.000  EA             0.00  USD     0.00 %
     Still to be invoiced               0.000  EA             0.00  USD     0.00 %
M016201     ZZ   102641      MSC INDUSTRIAL SUPPLY                 M09 11/16/1999
  00010                      CARR LANE COLLET CLR-100-VS VISE SINGLE 03
      Z MAY                             1.000  EA        1,311.00  USD        1 EA
     Cost center 28200
             D 11/17/1999               1.000  EA  PReq 1000242375 00010
     Still to be delivered              0.000  EA             0.00  USD     0.00 %
     Still to be invoiced               0.000  EA             0.00  USD     0.00 %
M016206     ZZ   102719      KENNAMETAL, INC.                      M09 11/12/1999
  00010                      KENDEX BORING BARS-EXC DEVIBRATORS       03
      Z MAY                             1.000  EA          399.12  USD        1 EA
     Cost center 28200
             D 11/08/1999               1.000  EA  PReq 1000232557 00010
     Still to be delivered              0.000  EA             0.00  USD     0.00 %
     Still to be invoiced               1.000  EA          399.12  USD   100.00 %
  00020                      KENDEX SCREW ON INSERT                   03
      Z MAY                             5.000  EA           14.63  USD        1 EA
     Cost center 28200
             D 11/08/1999               5.000  EA  PReq 1000232557 00020
     Still to be delivered              0.000  EA             0.00  USD     0.00 %
     Still to be invoiced               5.000  EA           73.15  USD   100.00 %
M016242     ZZ   102641      MSC INDUSTRIAL SUPPLY                 M09 11/16/1999
  00010                      #13 1500 SERIES DRILL #59430             03
      Z MAY                             6.000  EA           12.59  USD        1 EA
     Cost center 28200
             D 11/30/1999               6.000  EA  PReq 1000242482 00010
     Still to be delivered              0.000  EA             0.00  USD     0.00 %
     Still to be invoiced               0.000  EA             0.00  USD     0.00 %
  00020                      #13 3FL DRILL MODIF .185 DIA +.00-.0005  03
      Z MAY                             6.000  EA           49.81  USD        1 EA
     Cost center 28200
             D 11/30/1999               6.000  EA  PReq 1000242482 00020
     Still to be delivered              0.000  EA             0.00  USD     0.00 %
     Still to be invoiced               0.000  EA             0.00  USD     0.00 %
M016270     ZZ   106411      MID AMERICA MACHINE, INC.             M09 11/18/1999
  00010                      BARREL BLKS SAWED & FACED ENDS TO LENGTH MISC
      Z MAY                           120.000  EA             5.00  USD        1 EA
     Cost center 28200
             D 10/08/1999             120.000  EA  PReq 1000246560 00010
     Still to be delivered              0.000  EA             0.00  USD     0.00 %
     Still to be invoiced               0.000  EA             0.00  USD     0.00 %
  00020                      ESTIMATED KY SALES TAX 6%                MISC
      K MAY                             1.000  EA            36.00  USD        1 EA
     Cost center 28200
             D 10/08/1999               1.000  EA
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PO          Type Vendor      Name                                   PGp Order date
  Item  Material             Short text                                 Mat. group
  D I A Plnt SLoc                Order qty.   Un   Net Price   Curr.    per Un
                SL del. date Scheduled qty.   Un

     Still to be delivered            0.000  EA          0.00  USD      0.00 %
     Still to be invoiced             0.000  EA          0.00  USD      0.00 %
M016296     ZZ   6093720     EDGETEK MACHINE CORP                   M09 12/06/1999
  00010                      WHEEL ARBOR #WA001436                     17
      Z MAY                         1.000  EA        932.00  USD         1 EA
     Cost center 28200
              D 12/17/1999          1.000  EA  PReq 1000264456 00010
     Still to be delivered          0.000  EA          0.00  USD      0.00 %
     Still to be invoiced           0.000  EA          0.00  USD      0.00 %
  00020                      END CAP E.R. SPOL #SP001427               17
      Z MAY                         1.000  EA        124.70  USD         1 EA
     Cost center 28200
              D 12/17/1999          1.000  EA  PReq 1000264456 00020
     Still to be delivered          0.000  EA          0.00  USD      0.00 %
     Still to be invoiced           0.000  EA          0.00  USD      0.00 %
  00030                      SPACER 3" ID X .500 THK #SS01438-3        17
      Z MAY                         1.000  EA         95.67  USD         1 EA
     Cost center 28200
              D 12/17/1999          1.000  EA  PReq 1000264456 00030
     Still to be delivered          0.000  EA          0.00  USD      0.00 %
     Still to be invoiced           0.000  EA          0.00  USD      0.00 %
M016303     ZZ   103096      FEDERAL STEEL SUPPLY                   M09 12/01/1999
  00010                      10' BAR LENGTH 1.400 OD X 1.04 ID         RAW
      Z MAY                       300.000  FT          4.22  USD         1 FT
     Cost center 28200
              D 01/31/2000        300.000  FT  PReq 1000257647 00010
     Still to be delivered        300.000  FT      1,266.00  USD   100.00 %
     Still to be invoiced         300.000  FT      1,266.00  USD   100.00 %
  00020                      10' BAR LENGTH .6930 OD X .5010 ID        RAW
      Z MAY                       300.000  FT          1.77  USD         1 FT
     Cost center 28200
              D 12/10/1999        300.000  FT  PReq 1000257647 00020
     Still to be delivered        300.000  FT        531.00  USD   100.00 %
     Still to be invoiced         300.000  FT        531.00  USD   100.00 %
M016314     ZZ   101041      MCMASTER-CARR SUPPLY CO                M09 12/01/1999
  00010                      FLAT STOCK 1" X 2" X 24" #9517K283        MISC
      Z MAY                         1.000  EA         75.94  USD         1 EA
     Cost center 28200
              D 12/03/1999          1.000  EA  PReq 1000257753 00010
     Still to be delivered          0.000  EA          0.00  USD      0.00 %
     Still to be invoiced           0.000  EA          0.00  USD      0.00 %
  00020                      5/32" ALLEN #54615A22                     MISC
      Z MAY                         1.000  EA          6.35  USD         1 EA
     Cost center 28200
              D 12/03/1999          1.000  EA  PReq 1000257753 00020
     Still to be delivered          0.000  EA          0.00  USD      0.00 %
     Still to be invoiced           0.000  EA          0.00  USD      0.00 %
  00030                      3/16" ALLEN #54615A23                     MISC
      Z MAY                         1.000  EA          6.35  USD         1 EA
     Cost center 28200
              D 12/03/1999          1.000  EA  PReq 1000257753 00030
     Still to be delivered          0.000  EA          0.00  USD      0.00 %
     Still to be invoiced           0.000  EA          0.00  USD      0.00 %
M016315     ZZ   1658772     HARDINGE BROTHERS INC                  M09 12/01/1999
  00010                      37/64" 5 C COLLET                         03
      Z MAY                         2.000  EA         21.00  USD         1 EA
     Cost center 28200
              D 12/03/1999          2.000  EA  PReq 1000257754 00010
     Still to be delivered          0.000  EA          0.00  USD      0.00 %
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PO          Type Vendor     Name                                    PGp Order date
  Item  Material            Short text                                  Mat. group
  D I A Plnt SLoc               Order qty.    Unit        Net Price  Curr.    per Un
              SL del. date  Scheduled qty.    Un

     Still to be invoiced              0.000  EA                0.00  USD      0.00 %
M016378     ZZ    106467     QUICK TEK                                 M09 12/14/1999
  00010                      FIX AND PROGRAM CHARGE C-300333 REV 2     TOOLING
      K MAY                            1.000  EA              460.00  USD         1 EA
     Cost center 28200
             D 12/14/1999              1.000  EA
     Still to be delivered             0.000  EA                0.00  USD      0.00 %
     Still to be invoiced              1.000  EA              460.00  USD    100.00 %
  00020                      FIX AND PROGRAM CHARGE C-300334 REV A     TOOLING
      K MAY                            1.000  EA              390.00  USD         1 EA
     Cost center 28200
             D 12/14/1999              1.000  EA
     Still to be delivered             0.000  EA                0.00  USD      0.00 %
     Still to be invoiced              1.000  EA              390.00  USD    100.00 %
M016416     ZZ   2643807     CHROMALOX CORP                            M09 12/21/1999
  00010                      GS3-184 CHROMALOX IMMERSION HEATER        MISC
      Z MAY                            1.000  EA              537.00  USD         1 EA
     Cost center 28200
             D 12/23/1999              1.000  EA  PReq 1000279473 00010
     Still to be delivered             0.000  EA                0.00  USD      0.00 %
     Still to be invoiced              0.000  EA                0.00  USD      0.00 %
M016435     ZZ    101041     MCMASTER-CARR SUPPLY CO                   M09 12/21/1999
  00020                      KEYSTOCK #92530A100                       MISC
      Z MAY                           15.000  EA                1.89  USD         1 EA
     Cost center 28200
             D 12/22/1999             15.000  EA  PReq 1000288708 00020
     Still to be delivered             0.000  EA                0.00  USD      0.00 %
     Still to be invoiced              0.000  EA                0.00  USD      0.00 %
  00030                      RECTANGLES #8992K22                       MISC
      Z MAY                            2.000  EA               16.16  USD         1 EA
     Cost center 28200
             D 12/22/1999              2.000  EA  PReq 1000288708 00030
     Still to be delivered             0.000  EA                0.00  USD      0.00 %
     Still to be invoiced              0.000  EA                0.00  USD      0.00 %
  00040                      RECTANGLES #8992K21                       MISC
      Z MAY                            1.000  EA               11.31  USD         1 EA
     Cost center 28200
             D 12/22/1999              1.000  EA  PReq 1000288708 00040
     Still to be delivered             0.000  EA                0.00  USD      0.00 %
     Still to be invoiced              0.000  EA                0.00  USD      0.00 %
M016450     ZZ    106014     CAMPBELL'S MACHINE SHOP INC.              M09 01/13/2000
  00010                      C-300360 BOLT HANDLE BLANK                03
      Z MAY                           50.000  EA                8.83  USD         1 EA
     Cost center 28200
             D 12/31/1999             50.000  EA  PReq 1000295956 00010
     Still to be delivered             0.000  EA                0.00  USD      0.00 %
     Still to be invoiced              0.000  EA                0.00  USD      0.00 %
  00020                      1-300329 BOLT HANDLE PIN                  03
      Z MAY                           50.000  EA                2.50  USD         1 EA
     Cost center 28200
             D 12/31/1999             50.000  EA  PReq 1000295956 00020
     Still to be delivered             0.000  EA                0.00  USD      0.00 %
     Still to be invoiced              0.000  EA                0.00  USD      0.00 %
M016477     ZZ   5380140     DANJON MANUFACTURING CORP                 M09 01/13/2000
  00010                      .263 DIA A/C GUN DRILLS X 54" OAL         03
      Z MAY                           16.000  EA               76.80  USD         1 EA
     Cost center 28200
             D 02/28/2000             16.000  EA  PReq 1000290268 00010
     Still to be delivered            16.000  EA            1,228.80  USD    100.00 %
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PO          Type Vendor     Name                                    PGp Order date
  Item  Material            Short text                                  Mat. group
  D I A Plnt SLoc               Order qty.   Un      Net Price  Curr.    per Un
            SL del. date    Scheduled qty.   Un

     Still to be invoiced            16.000  EA        1,228.80  USD  100.00 %
  00020                      .269 CARBIDE BORE REAMER ON 54" TUBE      03
     Z MAY                            8.000  EA          152.80  USD        1 EA
     Cost center 28200
            D 02/28/2000              8.000  EA  PReq 1000290268 00020
     Still to be delivered            8.000  EA        1,062.40  USD  100.00 %
     Still to be invoiced             8.000  EA        1,062.40  USD  100.00 %
  00030                      .280/.2715 CARBIDE COMB. BUT. RH 1T 10"  03
     Z MAY                            2.000  EA          196.00  USD        1 EA
     Cost center 28200
            D 02/28/2000              2.000  EA  PReq 1000290268 00030
     Still to be delivered            2.000  EA          392.00  USD  100.00 %
     Still to be invoiced             2.000  EA          392.00  USD  100.00 %
M016508     ZZ   5390090     PHI ASSOCIATES                          M09 01/18/2000
  00010                      RECEIVER INSERT CMM FIXTURE #K-10400      TOOLING
     Z MAY                            1.000  EA          960.00  USD        1 EA
     Cost center 28200
            D 02/24/2000              1.000  EA  PReq 1000315829 00010
     Still to be delivered            1.000  EA          960.00  USD  100.00 %
     Still to be invoiced             1.000  EA          960.00  USD  100.00 %
  00020                      RECEIVER INSERT PLUG GAGE # K-10401       TOOLING
     Z MAY                            1.000  EA          120.00  USD        1 EA
     Cost center 28200
            D 02/24/2000              1.000  EA  PReq 1000315829 00020
     Still to be delivered            1.000  EA          120.00  USD  100.00 %
     Still to be invoiced             1.000  EA          120.00  USD  100.00 %
  00030                      RECEIVER INSERT FUNCTION GAGE # K-10402  TOOLING
     Z MAY                            1.000  EA          360.00  USD        1 EA
     Cost center 28200
            D 02/24/2000              1.000  EA  PReq 1000315829 00030
     Still to be delivered            1.000  EA          360.00  USD  100.00 %
     Still to be invoiced             1.000  EA          360.00  USD  100.00 %
M016509     ZZ   5390090     PHI ASSOCIATES                          M09 01/18/2000
  00010                      SIDE PLATE COMPARATOR FIXTURE # K-10403   TOOLING
     Z MAY                            1.000  EA          300.00  USD        1 EA
     Cost center 28200
            D 02/24/2000              1.000  EA  PRcq 1000316063 00010
     Still to be delivered            1.000  EA          300.00  USD  100.00 %
     Still to be invoiced             1.000  EA          300.00  USD  100.00 %
  00020                      SIDE PLATE COMPARATOR SCREEN #K-10404     TOOLING
     Z MAY                            1.000  EA          240.00  USD        1 EA
     Cost center 28200
            D 02/24/2000              1.000  EA  PReq 1000316063 00020
     Still to be delivered            1.000  EA          240.00  USD  100.00 %
     Still to be invoiced             1.000  EA          240.00  USD  100.00 %
M016510     ZZ   5390090     PHI ASSOCIATES                          M09 01/18/2000
  00010                      SAFETY COMPARATOR FIXTURE #K-10405        TOOLING
     Z MAY                            1.000  EA          360.00  USD        1 EA
     Cost center 28200
            D 02/24/2000              1.000  EA  PReq 1000316064 00010
     Still to be delivered            1.000  EA          360.00  USD  100.00 %
     Still to be invoiced             1.000  EA          360.00  USD  100.00 %
  00020                      SAFETY COMPARATOR SCREEN #K-10406         TOOLING
     Z MAY                            1.000  EA          180.00  USD        1 EA
     Cost center 28200
            D 02/24/2000              1.000  EA  PReq 1000316064 00020
     Still to be delivered            1.000  EA          180.00  USD  100.00 %
     Still to be invoiced             1.000  EA          180.00  USD  100.00 %
M016511     ZZ   5390090     PHI ASSOCIATES                          M09 01/18/2000
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PO          Type Vendor      Name                                      PGp Order date
  Item  Material             Short text                                    Mat. group
  D I A Pint SLoc                Order qty.   Un        Net Price  Curr.    per Un
                SL del. date Scheduled qty.   Un

  00010                      BOLT STOP COMPARATOR FIXTURE #K-10407     TOOLING
      Z MAY                           1.000  EA            600.00  USD         1 EA
     Cost center 28200
               D 02/24/2000           1.000  EA  PReq 1000316065 00010
     Still to be delivered            1.000  EA            600.00  USD  100.00 %
     Still to be invoiced             1.000  EA            600.00  USD  100.00 %
  00020                      BOLT STOP COMPARATOR SCREEN #K-10408      TOOLING
      Z MAY                           1.000  EA            180.00  USD         1 EA
     Cost center 28200
               D 02/24/2000           1.000  EA  PReq 1000316065 00020
     Still to be delivered            1.000  EA            180.00  USD  100.00 %
     Still to be invoiced             1.000  EA            180.00  USD  100.00 %
M016512     ZZ   5390090     PHI ASSOCIATES                          M09 01/18/2000
  00010                      BOLT HAND BLANK COMPARATOR FIX #K-10409   TOOLING
      Z MAY                           1.000  EA            980.00  USD         1 EA
     Cost center 28200
               D 02/24/2000           1.000  EA  PReq 1000316066 00010
     Still to be delivered            1.000  EA            980.00  USD  100.00 %
     Still to be invoiced             1.000  EA            980.00  USD  100.00 %
  00020                      BOLT HAND BLANK COMPARATOR SCR #K-10410   TOOLING
      Z MAY                           1.000  EA            360.00  USD         1 EA
     Cost center 28200
               D 02/24/2000           1.000  EA  PReq 1000316066 00020
     Still to be delivered            1.000  EA            360.00  USD  100.00 %
     Still to be invoiced             1.000  EA            360.00  USD  100.00 %
M016513     ZZ   5390090     PHI ASSOCIATES                          M09 01/18/2000
  00010                      BOLT HEAD BLANK COMPARATOR SCR # K-10411 TOOLING
      Z MAY                           1.000  EA            120.00  USD         1 EA
     Cost center 28200
               D 02/24/2000           1.000  EA  PReq 1000316067 00010
     Still to be delivered            1.000  EA            120.00  USD  100.00 %
     Still to be invoiced             1.000  EA            120.00  USD  100.00 %
M016514     ZZ   5390090     PHI ASSOCIATES                          M09 01/18/2000
  00010                      EJECTOR COMPARATOR FIXTURE # K-10412      TOOLING
      Z MAY                           1.000  EA            360.00  USD         1 EA
     Cost center 28200
               D 02/24/2000           1.000  EA  PReq 1000316068 00010
     Still to be delivered            1.000  EA            360.00  USD  100.00 %
     Still to be invoiced             1.000  EA            360.00  USD  100.00 %
  00020                      EJECTOR COMPARATOR SCREEN #K-10413        TOOLING
      Z MAY                           1.000  EA            120.00  USD         1 EA
     Cost center 28200
               D 02/24/2000           1.000  EA  PReq 1000316068 00020
     Still to be delivered            1.000  EA            120.00  USD  100.00 %
     Still to be invoiced             1.000  EA            120.00  USD  100.00 %
M016515     ZZ   5390090     PHI ASSOCIATES                          M09 01/18/2000
  00010                      BOLT PLUG FUNCTIONAL GAGE # K-10414       TOOLING
      Z MAY                           1.000  EA            720.00  USD         1 EA
     Cost center 28200
               D 02/24/2000           1.000  EA  PReq 1000316069 00010
     Still to be delivered            1.000  EA            720.00  USD  100.00 %
     Still to be invoiced             1.000  EA            720.00  USD  100.00 %
M016516     ZZ   5390090     PHI ASSOCIATES                          M09 01/18/2000
  00010                      BOLT PLUG INSERT COMPARATOR FIX #K-10415 TOOLING
      Z MAY                           1.000  EA            360.00  USD         1 EA
     Cost center 28200
               D 02/24/2000           1.000  EA  PReq 1000316070 00010
     Still to be delivered            1.000  EA            360.00  USD  100.00 %
     Still to be invoiced             1.000  EA            360.00  USD  100.00 %
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PO          Type Vendor     Name                                    PGp Order date
  Item  Material            Short text                                  Mat. group
  D I A Plnt SLoc               Order qty.   Un        Net Price  Curr.    per Un
            SL del. date    Scheduled qty.   Un

  00020                     BOLT PLUG INSERT COMPARATOR SCR #K-10416 TOOLING
      Z MAY                           1.000  EA           180.00  USD         1 EA
     Cost center 28200
            D 02/24/2000              1.000  EA  PReq 1000316070 00020
     Still to be delivered            1.000  EA           180.00  USD   100.00 %
     Still to be invoiced             1.000  EA           180.00  USD   100.00 %
M016517     ZZ   5390090     PHI ASSOCIATES                        M09 01/18/2000
  00010                     FIRING PIN TIP COMPARATOR SCR # K-10417  TOOLING
      Z MAY                           1.000  EA           120.00  USD         1 EA
     Cost center 28200
            D 02/24/2000              1.000  EA  PReq 1000316071 00010
     Still to be delivered            1.000  EA           120.00  USD   100.00 %
     Still to be invoiced             1.000  EA           120.00  USD   100.00 %
M016518     ZZ   5390090     PHI ASSOCIATES                        M09 01/18/2000
  00010                     FIRING PIN HEAD COMPARATOR FIX #K-10418  TOOLING
      Z MAY                           1.000  EA           480.00  USD         1 EA
     Cost center 28200
            D 02/24/2000              1.000  EA  PReq 1000316072 00010
     Still to be delivered            1.000  EA           480.00  USD   100.00 %
     Still to be invoiced             1.000  EA           480.00  USD   100.00 %
  00020                     FIRING PIN HEAD COMPARATOR SCR #K-10419  TOOLING
      Z MAY                           1.000  EA           180.00  USD         1 EA
     Cost center 28200
            D 02/24/2000              1.000  EA  PReq 1000316072 00020
     Still to be delivered            1.000  EA           180.00  USD   100.00 %
     Still to be invoiced             1.000  EA           180.00  USD   100.00 %
M016519     ZZ   5390090     PHI ASSOCIATES                        M09 01/18/2000
  00010                     MAGAZINE BOX CMM FIXTURE # K-10420       TOOLING
      Z MAY                           1.000  EA           960.00  USD         1 EA
     Cost center 28200
            D 02/24/2000              1.000  EA  PReq 1000316073 00010
     Still to be delivered            1.000  EA           960.00  USD   100.00 %
     Still to be invoiced             1.000  EA           960.00  USD   100.00 %
M016520     ZZ   5390090     PHI ASSOCIATES                        M09 01/18/2000
  00010                     MAG FOLLOWER COMPARATOR FIXTURE #K-10421 TOOLING
      Z MAY                           1.000  EA           360.00  USD         1 EA
     Cost center 28200
            D 02/24/2000              1.000  EA  PReq 1000316074 00010
     Still to be delivered            1.000  EA           360.00  USD   100.00 %
     Still to be invoiced             1.000  EA           360.00  USD   100.00 %
  00020                     MAG FOLLOWER COMPARATOR SCREEN #K-10422  TOOLING
      Z MAY                           1.000  EA           120.00  USD         1 EA
     Cost center 28200
            D 02/24/2000              1.000  EA  PReq 1000316074 00020
     Still to be delivered            1.000  EA           120.00  USD   100.00 %
     Still to be invoiced             1.000  EA           120.00  USD   100.00 %
M016537     ZZ   104140      BARLCAY'S METAL COMPANY               M09 01/18/2000
  00010                     200' PIECE 2" X 2" X 1/4" ANGLE            44
      Z MAY                           1.000  EA           173.64  USD         1 EA
     Cost center 28200
            D 01/18/2000              1.000  EA  PReq 1000316080 00010
     Still to be delivered            0.000  EA             0.00  USD     0.00 %
     Still to be invoiced             0.000  EA             0.00  USD     0.00 %
  00020                     40' PIECE 1/4" X 1-1/4" FLAT               44
      Z MAY                           1.000  EA            17.00  USD         1 EA
     Cost center 28200
            D 01/18/2000              1.000  EA  PReq 1000316080 00020
     Still to be delivered            0.000  EA             0.00  USD     0.00 %
     Still to be invoiced             0.000  EA             0.00  USD     0.00 %
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PO          Type Vendor      Name                                   PGp Order date
  Item  Material             Short text                                 Mat. group
  D I A Plnt SLoc                Order qty.   Un        Net Price  Curr.    per Un
            SL del. date     Scheduled qty.   Un

  00030                      16 GA METAL 4' X 3'                        44
      Z MAY                          2.000  EA            36.00  USD        2 EA
     Cost center 28200
            D 01/18/2000             2.000  EA  PReq 1000316080 00030
     Still to be delivered           0.000  EA             0.00  USD     0.00 %
     Still to be invoiced            0.000  EA             0.00  USD     0.00 %
  00040                      ESTIMATED KY SALES TAX 6%                  44
      Z MAY                          1.000  EA            15.10  USD        1 EA
     Cost center 28200
            D 01/18/2000             1.000  EA  PReq 1000316080 00040
     Still to be delivered           0.000  EA             0.00  USD     0.00 %
     Still to be invoiced            0.000  EA             0.00  USD     0.00 %
M016538     ZZ   103943            GRAINGER, INC.                     M09 01/18/2000
  00010                      4" SWIVEL CASTER #2G130                    MISC
      Z MAY                          8.000  EA            25.00  USD        1 EA
     Cost center 28200
            D 01/20/2000             8.000  EA  PReq 1000316081 00010
     Still to be delivered           0.000  EA             0.00  USD     0.00 %
     Still to be invoiced            0.000  EA             0.00  USD     0.00 %
  00020                      4" RIGID CASTER #2G131                     MISC
      Z MAY                          8.000  EA            15.80  USD        1 EA
     Cost center 28200
            D 01/20/2000             8.000  EA  PReq 1000316081 00020
     Still to be delivered           0.000  EA             0.00  USD     0.00 %
     Still to be invoiced            0.000  EA             0.00  USD     0.00 %
M016546     ZZ   102855            Lohn & Associates                  M09 01/18/2000
  00010                      BARREL BASKET 18" HIGH X 36" DIAMETER      TOOLING
      Z MAY                          1.000  EA         2,475.00  USD        1 EA
     Cost center 28200
            D 03/27/2000             1.000  EA  PReq 1000315827 00010
     Still to be delivered           1.000  EA         2,475.00  USD   100.00 %
     Still to be invoiced            1.000  EA         2,475.00  USD   100.00 %
M016555     ZZ   106516            MICROCENTRIC                       M09 01/21/2000
  00020                      SK-1787-01 SPECIAL 42BZ1 QUICK CHANGE      03
      Z MAY                          2.000  EA           562.00  USD        1 EA
     Cost center 28200
            D 02/10/2000             2.000  EA  PReq 1000321299 00020
     Still to be delivered           2.000  EA         1,124.00  USD   100.00 %
     Still to be invoiced            2.000  EA         1,124.00  USD   100.00 %
  00030                      AS-1787-01 HARDENED STOP BUSHING           03
      Z MAY                          2.000  EA           585.00  USD        1 EA
     Cost center 28200
            D 02/10/2000             2.000  EA  PReq 1000321299 00030
     Still to be delivered           2.000  EA         1,170.00  USD   100.00 %
     Still to be invoiced            2.000  EA         1,170.00  USD   100.00 %
M016558     ZZ   104140            BARLCAY'S METAL COMPANY            M09 01/25/2000
  00010                      20' SQ TUBE 2" X 1/4"                      44
      Z MAY                          3.000  EA            50.00  USD        1 EA
     Cost center 28200
            D 01/25/2000             3.000  EA  PReq 1000328053 00010
     Still to be delivered           0.000  EA             0.00  USD     0.00 %
     Still to be invoiced            3.000  EA           150.00  USD   100.00 %
  00020                      14" WALTER C.O.W                           44
      Z MAY                          6.000  EA            42.00  USD        6 EA
     Cost center 28200
            D 01/25/2000             6.000  EA  PReq 1000328053 00020
     Still to be delivered           0.000  EA             0.00  USD     0.00 %
     Still to be invoiced            6.000  EA            42.00  USD   100.00 %
  00030                      1/4" PLATE 4' X 4'                         44
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PO          Type Vendor      Name                                   PGp Order date
  Item  Material             Short text                                Mat. group
  D I A Plnt SLoc                Order qty.    Un        Net Price  Curr.    per Un
                SL del. date Scheduled qty.    Un

      Z MAY                          2.000  EA            102.92  USD        2 EA
     Cost center 28200
              D 01/25/2000           2.000  EA  PReq 1000328053 00030
     Still to be delivered           0.000  EA              0.00  USD     0.00 %
     Still to be invoiced            2.000  EA            102.92  USD   100.00 %
  00040                      ESTIMATED KY SALES TAX 6%                   44
      Z MAY                          1.000  EA             17.70  USD        1 EA
     Cost center 28200
              D 01/25/2000           1.000  EA  PReq 1000328053 00040
     Still to be delivered           0.000  EA              0.00  USD     0.00 %
     Still to be invoiced            1.000  EA             17.70  USD   100.00 %
M016559     ZZ   101041           MCMASTER-CARR SUPPLY CO                M09 01/25/2000
  00010                          3/4" DELRIN ROD #8572K58                 MISC
      Z MAY                         15.000  FT              1.75  USD        1 FT
     Cost center 28200
              D 01/31/2000          15.000  FT  PReq 1000323294 00010
     Still to be delivered           0.000  FT              0.00  USD     0.00 %
     Still to be invoiced            0.000  FT              0.00  USD     0.00 %
  00020                          1-1/4" DELRIN ROD #8572K23                MISC
      Z MAY                         15.000  FT              5.04  USD        1 FT
     Cost center 28200
              D 01/31/2000          15.000  FT  PReq 1000323294 00020
     Still to be delivered           0.000  FT              0.00  USD     0.00 %
     Still to be invoiced            0.000  FT              0.00  USD     0.00 %
M016563     ZZ   102641           MSC INDUSTRIAL SUPPLY                  M09 01/21/2000
  00010                          PRECISION BENCH CENTER #09131301         03
      Z MAY                          2.000  EA          1,931.16  USD        1 EA
     Cost center 28200
              D 01/31/2000           2.000  EA  PReq 1000323153 00010
     Still to be delivered           0.000  EA              0.00  USD     0.00 %
     Still to be invoiced            2.000  EA          3,862.32  USD   100.00 %
M016581     ZZ   3557873          WILSON INSTRUMENT INC                  M02 01/25/2000
  00010                          VARI-REST SIZE 8 USE W/ MODEL A644T TEST 46
      Z MAY                          1.000  EA            890.00  USD        1 EA
     Cost center 28200
              D 02/28/2000           1.000  EA  PReq 1000330024 00010
     Still to be delivered           1.000  EA            890.00  USD   100.00 %
     Still to be invoiced            1.000  EA            890.00  USD   100.00 %
M016587     ZZ   106411           MID AMERICA MACHINE, INC.              M09 01/25/2000
  00010                          MACHINE .100 OFF OF OD OF BARREL BLANKS  MISC
      Z MAY                        102.000  EA              7.50  USD        1 EA
     Cost center 28200
              D 01/25/2000         102.000  EA  PReq 1000328052 00010
     Still to be delivered           0.000  EA              0.00  USD     0.00 %
     Still to be invoiced          102.000  EA            765.00  USD   100.00 %
M016599     ZZ   101041           MCMASTER-CARR SUPPLY CO                M09 01/28/2000
  00010                          9/32 ENDMILL #89145A42                   03
      Z MAY                          1.000  EA             14.64  USD        1 EA
     Cost center 28200
              D 01/27/2000           1.000  EA  PReq 1000330051 00010
     Still to be delivered           0.000  EA              0.00  USD     0.00 %
     Still to be invoiced            1.000  EA             14.64  USD   100.00 %
  00020                          19/64 ENDMILL #89145A43                  03
      Z MAY                          1.000  EA             14.72  USD        1 EA
     Cost center 28200
              D 01/27/2000           1.000  EA  PReq 1000330051 00020
     Still to be delivered           0.000  EA              0.00  USD     0.00 %
     Still to be invoiced            1.000  EA             14.72  USD   100.00 %
  00030                          5/16 ENDMILL #89145A44                   03
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PO          Type Vendor      Name                                   PGp Order date
  Item  Material             Short text                                 Mat. group
  D I A Plnt SLoc                Order qty.   Unit   Net Price  Curr.    per Un
            SL del. date     Scheduled qty.   Un

      Z MAY                          1.000  EA          14.02  USD        1 EA
     Cost center 28200
            D 01/27/2000             1.000  EA  PReq 1000330051 00030
     Still to be delivered           0.000  EA           0.00  USD     0.00 %
     Still to be invoiced            1.000  EA          14.02  USD   100.00 %
  00040                      21/64 ENDMILL #89145A45                 03
      Z MAY                          1.000  EA          14.72  USD        1 EA
     Cost center 28200
            D 01/27/2000             1.000  EA  PReq 1000330051 00040
     Still to be delivered           0.000  EA           0.00  USD     0.00 %
     Still to be invoiced            1.000  EA          14.72  USD   100.00 %
  00050                      PLUMB BOB AND CASE #2178A1              03
      Z MAY                          5.000  EA          11.56  USD        1 EA
     Cost center 28200
            D 01/27/2000             5.000  EA  PReq 1000330051 00050
     Still to be delivered           0.000  EA           0.00  USD     0.00 %
     Still to be invoiced            5.000  EA          57.80  USD   100.00 %
M016610     ZZ   102641      MSC INDUSTRIAL SUPPLY                   M09 01/28/2000
  00010                      #06235691 MITUTOYO MINI-MIKE            03
      Z MAY                          1.000  EA         174.31  USD        1 EA
     Cost center 28200
            D 02/10/2000             1.000  EA  PReq 1000335542 00010
     Still to be delivered           1.000  EA         174.31  USD   100.00 %
     Still to be invoiced            1.000  EA         174.31  USD   100.00 %
  00020                      #01044585 MTI DIGITEST CALIPER GAGE     03
      Z MAY                          1.000  EA         686.40  USD        1 EA
     Cost center 28200
            D 02/10/2000             1.000  EA  PReq 1000335542 00020
     Still to be delivered           1.000  EA         686.40  USD   100.00 %
     Still to be invoiced            1.000  EA         686.40  USD   100.00 %
  00030                      #98668130 CHAMFER CHECK                 03
      Z MAY                          1.000  EA         122.06  USD        1 EA
     Cost center 28200
            D 02/10/2000             1.000  EA  PReq 1000335542 00030
     Still to be delivered           1.000  EA         122.06  USD   100.00 %
     Still to be invoiced            1.000  EA         122.06  USD   100.00 %
  00040                      #98556434 NON-CAT MTI CORP              03
      Z MAY                          1.000  EA         257.84  USD        1 EA
     Cost center 28200
            D 02/10/2000             1.000  EA  PReq 1000335542 00040
     Still to be delivered           1.000  EA         257.84  USD   100.00 %
     Still to be invoiced            1.000  EA         257.84  USD   100.00 %
  00050                      #00622464 MITUTOYO DIG DEPTH GAGE       03
      Z MAY                          1.000  EA         302.72  USD        1 EA
     Cost center 28200
            D 02/10/2000             1.000  EA  PReq 1000335542 00050
     Still to be delivered           1.000  EA         302.72  USD   100.00 %
     Still to be invoiced            1.000  EA         302.72  USD   100.00 %
M016612     ZZ   101041      MCMASTER-CARR SUPPLY CO                 M09 01/28/2000
  00010                      RODS 3/32 5 LB BOX #7972A278            44
      Z MAY                          1.000  EA          36.50  USD        1 EA
     Cost center 28200
            D 02/03/2000             1.000  EA  PReq 1000335541 00010
     Still to be delivered           1.000  EA          36.50  USD   100.00 %
     Still to be invoiced            1.000  EA          36.50  USD   100.00 %
  00020                      7/8" ROUND 6' LENGTH #89325K19          44
      Z MAY                         16.000  EA          70.50  USD        1 EA
     Cost center 28200
            D 02/03/2000            16.000  EA  PReq 1000335541 00020
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PO          Type Vendor      Name                                   PGp Order date
  Item  Material             Short text                                 Mat. group
  D I A Plnt SLoc                Order qty.   Un        Net Price  Curr.    per Un
            SL del. date     Scheduled qty.   Un

     Still to be delivered          16.000  EA        1,128.00  USD  100.00 %
     Still to be invoiced           16.000  EA        1,128.00  USD  100.00 %
  00030                       1/8" ROUND 6' LENGTH #89325K11                44
      Z MAY                         16.000  EA            7.20  USD        1 EA
     Cost center 28200
            D 02/03/2000            16.000  EA  PReq 1000335541 00030
     Still to be delivered          16.000  EA          115.20  USD  100.00 %
     Still to be invoiced           16.000  EA          115.20  USD  100.00 %
  00040                       1/8" PRESSURE GUAGE #38105K13                 03
      Z MAY                          4.000  EA            8.85  USD        1 EA
     Cost center 28200
            D 02/03/2000             4.000  EA  PReq 1000335541 00040
     Still to be delivered           4.000  EA           35.40  USD  100.00 %
     Still to be invoiced            4.000  EA           35.40  USD  100.00 %
  00050                       GRINDER #46225A81                             03
      Z MAY                          1.000  EA          136.25  USD        1 EA
     Cost center 28200
            D 02/03/2000             1.000  EA  PReq 1000335541 00050
     Still to be delivered           1.000  EA          136.25  USD  100.00 %
     Still to be invoiced            1.000  EA          136.25  USD  100.00 %
M016613     ZZ   104762          G AND H TOOL & DIE, INC                M09 01/28/2000
  00010                       ALIGNMENT BORE PER PRINT                      TOOLING
      Z MAY                          1.000  EA          375.00  USD        1 EA
     Cost center 28200
            D 02/15/2000             1.000  EA  PReq 1000335543 00010
     Still to be delivered           1.000  EA          375.00  USD  100.00 %
     Still to be invoiced            1.000  EA          375.00  USD  100.00 %
M016614     ZZ   102641          MSC INDUSTRIAL SUPPLY                  M09 01/28/2000
  00010                       FEDERAL SERIES C MODEL C81 DIAL INDICATO 03
      Z MAY                          2.000  EA          107.00  USD        1 EA
     Cost center 28200
            D 02/04/2000             2.000  EA  PReq 1000335544 00010
     Still to be delivered           2.000  EA          214.00  USD  100.00 %
     Still to be invoiced            2.000  EA          214.00  USD  100.00 %
M016617     ZZ   106524          WESTERN GAGE CORPORATION               M09 01/28/2000
  00040                       RGM-XX-C-3000 RING GAGE, MASTER               03
      Z MAY                          1.000  EA          114.95  USD        1 EA
     Cost center 28200
            D 02/28/2000             1.000  EA  PReq 1000328038 00040
     Still to be delivered           1.000  EA          114.95  USD  100.00 %
     Still to be invoiced            1.000  EA          114.95  USD  100.00 %
  00050                       RGM-XX-C-3010 RING GAGE, MASTER               03
      Z MAY                          1.000  EA          114.95  USD        1 EA
     Cost center 28200
            D 02/28/2000             1.000  EA  PReq 1000328038 00050
     Still to be delivered           1.000  EA          114.95  USD  100.00 %
     Still to be invoiced            1.000  EA          114.95  USD  100.00 %
  00060                       WGC SPECIAL AIR PROBE TO CHK .3080/.3090 03
      Z MAY                          1.000  EA        1,895.25  USD        1 EA
     Cost center 28200
            D 02/28/2000             1.000  EA  PReq 1000328038 00060
     Still to be delivered           1.000  EA        1,895.25  USD  100.00 %
     Still to be invoiced            1.000  EA        1,895.25  USD  100.00 %
  00070                       RGM-XX-C-.3080 RING GAGE, MASTER              03
      Z MAY                          1.000  EA          114.95  USD        1 EA
     Cost center 28200
            D 02/28/2000             1.000  EA  PReq 1000328038 00070
     Still to be delivered           1.000  EA          114.95  USD  100.00 %
     Still to be invoiced            1.000  EA          114.95  USD  100.00 %
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PO / Item / D I A	Type	Vendor / Material / Plnt	SLoc / SL del. date	Name / Short text / Order qty. / Scheduled qty.	Un / Un	Net Price	Curr.	PGp / Mat. group	Order date / per Un
00080				RGM-XX-C-.3090 RING GAGE, MASTER				03	
Z MAY				1.000	EA	114.95	USD		1 EA
Cost center 28200									
	D		02/28/2000	1.000	EA	PReq 1000328038		00080	
Still to be delivered				1.000	EA	114.95	USD		100.00 %
Still to be invoiced				1.000	EA	114.95	USD		100.00 %
M016618	ZZ		5380140	DANJON MANUFACTURING CORP				M09	01/28/2000
00010				DRILL .292 DIA X 54" LONG W/ KIDNEY				03	
Z MAY				36.000	EA	76.00	USD		1 EA
Cost center 28200									
	D		02/21/2000	36.000	EA	PReq 1000331768		00010	
Still to be delivered				36.000	EA	2,736.00	USD		100.00 %
Still to be invoiced				36.000	EA	2,736.00	USD		100.00 %
00020				REAMERS .299 DIA. TO BE PVD COATED WITH				03	
Z MAY				12.000	EA	145.80	USD		1 EA
Cost center 28200									
	D		02/21/2000	12.000	EA	PReq 1000331768		00020	
Still to be delivered				12.000	EA	1,749.60	USD		100.00 %
Still to be invoiced				12.000	EA	1,749.60	USD		100.00 %
00030				BUTTON .3112 GROOVE X .301 BORE DIAMETER				03	
Z MAY				5.000	EA	209.00	USD		1 EA
Cost center 28200									
	D		02/21/2000	5.000	EA	PReq 1000331768		00030	
Still to be delivered				5.000	EA	1,045.00	USD		100.00 %
Still to be invoiced				5.000	EA	1,045.00	USD		100.00 %
M016621	ZZ		106525	TBI STEEL				M09	01/28/2000
00010				3/16" RND STAINLESS 316 GRADE X 12'STICK 44					
Z MAY				2.000	EA	3.00	USD		1 EA
Cost center 28200									
	D		02/04/2000	2.000	EA	PReq 1000335540		00010	
Still to be delivered				2.000	EA	6.00	USD		100.00 %
Still to be invoiced				2.000	EA	6.00	USD		100.00 %
00020				1/4" RND STAINLESS 316 GRADE X 12' STICK 44					
Z MAY				21.000	EA	5.45	USD		1 EA
Cost center 28200									
	D		02/04/2000	21.000	EA	PReq 1000335540		00020	
Still to be delivered				21.000	EA	114.45	USD		100.00 %
Still to be invoiced				21.000	EA	114.45	USD		100.00 %
00030				1/2" RND STAINLESS 316 GRADE X 12' STICK 44					
Z MAY				1.000	EA	20.95	USD		1 EA
Cost center 28200									
	D		02/04/2000	1.000	EA	PReq 1000335540		00030	
Still to be delivered				1.000	EA	20.95	USD		100.00 %
Still to be invoiced				1.000	EA	20.95	USD		100.00 %
00040				1" X 1/2" FLAT STNLESS 316 GRD X 12'STIC 44					
Z MAY				16.000	EA	59.70	USD		1 EA
Cost center 28200									
	D		02/04/2000	16.000	EA	PReq 1000335540		00040	
Still to be delivered				16.000	EA	955.20	USD		100.00 %
Still to be invoiced				16.000	EA	955.20	USD		100.00 %
M017369	ZZ		103096	FEDERAL STEEL SUPPLY				M01	09/10/1999
00010				1.437 OD X .937 ID DOM TUBE TO CLEAN TO RAW					
Z MAY				300.000	FT	4.83	USD		1 FT
Cost center 28200									
	D		09/14/1999	300.000	FT				
Still to be delivered				0.000	FT	0.00	USD		0.00 %
Still to be invoiced				0.000	FT	0.00	USD		0.00 %
00020				.750 OD X .482 ID DOM TUBE TO CLEAN TO RAW					
Z MAY				300.000	FT	2.60	USD		1 FT

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PO          Type Vendor      Name                                   PGp Order date
  Item  Material             Short text                                 Mat. group
  D I A Plnt SLoc                Order qty.   Un        Net Price  Curr.    per Un
            SL del. date     Scheduled qty.   Un

     Cost center 28200
            D 09/14/1999            300.000  FT
     Still to be delivered            0.000  FT            0.00  USD     0.00 %
     Still to be invoiced             0.000  FT            0.00  USD     0.00 %
M017372     ZZ   102282        MATTHEW MACHINERY                   M01 09/17/1999
  00010                        710 RUN-OFF OF THREE PARTS            SERVICE
  L   K MAY                        1.000  EA       21,930.00  USD         1 EA
     Cost center 28200
            D 10/05/1999             1.000  EA
     Still to be delivered           0.000  EA            0.00  USD     0.00 %
     Still to be invoiced            0.000  EA            0.00  USD     0.00 %
  00020                        710 RUN-OFF OF THREE PARTS            SERVICE
     K MAY                           1.000  EA       24,780.00  USD         1 EA
     Cost center 28200
            D 10/05/1999             1.000  EA  PReq 1000251480 00010
     Still to be delivered           0.000  EA            0.00  USD     0.00 %
     Still to be invoiced            0.000  EA            0.00  USD     0.00 %
M017442     ZZ   105149        ISELI CO.                           M01 12/14/1999
  00030                        NON-RECURRING ENGINEERING CHARGE F300328 RAW
     K MAY  RM20                     1.000  EA          225.00  USD         1 EA
     Cost center 28200
            D 01/25/2000             1.000  EA
     Still to be delivered           0.000  EA            0.00  USD     0.00 %
     Still to be invoiced            1.000  EA          225.00  USD   100.00 %
  00040                        NON-RECURRING ENGINEERING CHARGE F300342 RAW
     K MAY  RM20                     1.000  EA          400.00  USD         1 EA
     Cost center 28200
            D 01/25/2000             1.000  EA
     Still to be delivered           0.000  EA            0.00  USD     0.00 %
     Still to be invoiced            1.000  EA          400.00  USD   100.00 %
```

Copy FYI 1/25

Quick Tek MFG, INC.

Quotation

Date: Januart 25, 2000

☒ Via Fax only
❑ Via Fax, confirmed by Mail
❑ Via Phone, confirmed by Fax
❑ Via Phone, confirmed by Mail
❑ Via U.S. Mail only
❑ Via e-mail only
❑ xc:

To: Metty E. Morgan, Materials Manager
Remington Arms, Mayfield Plant
22 Rifle Trail Trail, P.O. Box 99
Hickory, KY 42051

Inquiry Date: 1/24/00 Inquiry Number:

Terms: 1%10 net 30 F.O.B. Paris, KY

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We are pleased to submit the following quotation.

Item #	Dwg. Number	Description	Annual Quantity	Unit Price, $	Delivery
	B-300346	Bolt Plug Insert per REV D Dwg. Dated 1/20/00	300	10.70	2 to 3 wks

With your needs of a fast delivery, we cannot have a cutter ground for the .020R/.125R form. .
Instead, we would finish contour the form with a 3/64 (.047) diameter end mill.
We could lower the price if a larger radius than .020±.005 would be allowed.

❑ Attached Information:

Prices quoted are firm for 30 days after date of quotation.
Delivery times quoted are time after receipt of order and credit/terms acceptability.
Delivery times are based upon lead time at date of quotation and are subject to change at time of order.
Subject to acceptability of credit, our regular terms are 1%10 net 30 days from invoice date.
We appreciate prompt payments. Past Due Amounts will be assessed a 1-1/2% per month service charge.

Submitted by Chuck Ulinski or Tim Fryman Signature: CU Ulinski

Manufacturing Services, Conventional & CNC Machining

104 Second St. Paris, KY 40361 606-987-2591 Fax 606-987-2563 e-mail quicktek1@aol.com

MF1080

G&H Tool & Die, Inc.

PHONE (901) 536-6473 • FAX (901) 536-5813 • 898 N. HWY. 45 WEST • UNION CITY, TN 38261

Date 10/11/99

Quote # 3524

TO: REMINGTON ARMS

ATTN: JIM GOOCH

The Following is a Quotation

83

QUANTITY	DESCRIPTION	PRICE
1	FIXTURE PER PRINTS	$778.00 EA

DELIVERY:

FROM: BILL HUTCHISON

MF1081

Material / Requisn. / S C R Oty. / Release strategy	Item / I A	Short text / Requested qty. / Req. val. / Release indicator	Un / Cur	Deliv. date / Release date / Release option	Requester / Trackg.no.	PGp / Mat. gp. / Plnt / SPl.	SLoc / MC
X		U-SHAPED LIGHT BULBS #8315K15			M09	28	
1000319551	00010	12.000	EA	D 01/21/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	128.40	USD	01/20/2000	HUTSONLR		
S1		**B APPROVED FOR PURCHAS Release effected**					
Desired vendor		101041 MCMASTER-CARR SUPPLY CO					
X		SF-1787-01 CB42-S/A6 LOW PROFILE COLLET			M09	03	
1000321299	00010	1.000	EA	D 02/10/2000	GOLEMBOSKIMR	MAY	
N R A NB	F	3,645.00	USD	01/20/2000	HUTSONLR		
S1		B APPROVED FOR PURCHAS Release effected					
Desired vendor		106516 MICROCENTRIC					
X		SK-1787-01 SPECIAL 42BZ1 QUICK CHANGE			M09	03	
1000321299	00020	2.000	EA	D 02/10/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	1,124.00	USD	01/20/2000	HUTSONLR		
S1		**B APPROVED FOR PURCHAS Release effected**					
X		AS-1787-01 HARDENED STOP BUSHING			M09	03	
1000321299	00030	2.000	EA	D 02/10/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	1,170.00	USD	01/20/2000	HUTSONLR		
S1		B APPROVED FOR PURCHAS Release effected					
X		"COPY" STAMP			M09	02	
1000321300	00010	1.000	EA	D 01/20/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	7.16	USD	01/20/2000	HUTSONLR		
S1		**B APPROVED FOR PURCHAS Release effected**					
Desired vendor		102249 HOWARD D. HAPPY CO					
X		BOX OF LARGE BINDER CLIPS			M09	02	
1000321300	00020	5.000	EA	D 01/20/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	14.45	USD	01/20/2000	HUTSONLR		
S1		B APPROVED FOR PURCHAS Release effected					
		REPORT COVERS			M09	02	
1000321300	00030	25.000	EA	D 01/20/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	22.00	USD	01/20/2000	HUTSONLR		
S1		**B APPROVED FOR PURCHAS Release effected**					
X		WASTE RECEPTACLE			M09	02	
1000321300	00040	1.000	EA	D 01/20/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	33.78	USD	01/20/2000	HUTSONLR		
S1		B APPROVED FOR PURCHAS Release effected					
X		REMINGTON SHIPPING LABELS			M09	47	
1000321346	00010	3,000.000	EA	D 01/20/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	108.60	USD	01/20/2000	HUTSONLR		
S1		**B APPROVED FOR PURCHAS Release effected**					
Desired vendor		102514 MAYFIELD PRINTING INC					
X		CARBIDE REAMERS			M09	03	
1000321347	00010	3.000	EA	D 01/20/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	24.51	USD	01/20/2000	HUTSONLR		
S1		B APPROVED FOR PURCHAS Release effected					
Desired vendor		2486462 BALZERS TOOL COATING INC					
X		UPS RED CHARGES			M09	03	
1000321347	00020	1.000	EA	D 01/20/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	18.50	USD	01/20/2000	HUTSONLR		
S1		**B APPROVED FOR PURCHAS Release effected**					
X		PRECISION BENCH CENTER #09131301			M09	03	
1000323153	00010	2.000	EA	D 01/31/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z	3,862.32	USD	01/21/2000	HUTSONLR		
S1		B APPROVED FOR PURCHAS Release effected					
Desired vendor		102641 MSC INDUSTRIAL SUPPLY					

CHECK FOR LB 300

83

Remington Arms, Co., Inc.

Please deliver to:
Remington Arms Co., Inc.
Mayfield Plant
22 Rifle Trail
HICKORY KY 42051

COPY
FYI
mm

Purchase order

Page
1

PO number/date
M017471 01/17/2000

Contact **Telephone**
M. Morgan/502-856-4204
Fax Number/

Vendor: 105901

WELDUCTION CORP
22750 HESLIP DRIVE
NOVI MI 48375
TELEPHONE: 248 735-2800
FAX: 248 735-2821

Currency USD

83

ATTN: MR. MICHAEL DOERR

CONFIDENTIAL

Item	Material Quantity	Unit	Description	Unit Price	Per/Un	Net price
00010	1	EA	FLEXSCAN INDUCTION HEAT TREAT CENTER	153,500.00	EA	153,500.00

Delivery date: 04/26/2000

MANUFACTURE AND PROVIDE TO REMINGTON PER WELDUCTION QUOTE #99-113C DATED 01/14/2000, AND REMINGTON MACHINE SPECIFICATION 710-03, ONE FLEXSCAN INDUCTION HEAT TREAT CENTER.

ITEM 10:
START-UP, DEBUG, AND TEST RUN WILL BE COMPLETED AT WELDUCTION PRIOR TO DELIVERY. A WRITTEN ACCEPTANCE OF EQUIPMENT WILL BE REQUIRED FROM REMINGTON BEFORE DELIVERY OF SAID EQUIPMENT. TRYOUT PARTS TO PRINT SPECIFICATIONS WILL BE SUPPLIED TO WELDUCTION FOR RUN-OFF, AT NO CHARGE. TO MEET THE MAY 12TH DEADLINE, MACHINE MUST BE SHIPPED BY APRIL 26TH. RUN-OFF MUST BE CONDUCTED BY APRIL 20TH.

ITEM 11:
INSTALLATION AND START-UP SERVICE WILL CONSISTS OF (3) 24 HOUR DAYS OF ASSISTANCE FROM A QUALIFIED FIELD SERVICE ENGINEER PROVIDED BY WELDUCTION. THIS INSTALLATION SHOULD TAKE PLACE BETWEEN APRIL 26TH AND MAY 12TH FOR COMPLETION. WELDUCTION WILL PROVIDE A FIELD SERVICE REP TO INSPECT INSTALLATION, AND INSTRUCT OPERATING PERSONNEL AFTER INSTALLATION HAS BEEN COMPLETED.

OPTIONAL EQUIPMENT:
OPTIONS A THROUGH E, WILL NOT BE REQUIRED BY REMINGTON

Purchase order

PO number/date	*Page*
M017471 01/17/2000	2

WELDUCTION CORP
22750 HESLIP DRIVE
NOVI MI 48375
TELEPHONE: 248 735-2800
FAX: 248 735-2821

Item	Material Quantity	Unit	Description	Unit Price	Per/Un	Net price

AT THIS TIME.

MACHINE WARRANTY IS 12 MONTHS AFTER DELIVERY SET-UP.
PERISHABLE TOOLING AND CONTACT SURFACES ARE EXCLUDED.

PAYMENT TERMS: FOR 3% DISCOUNT
10% DOWN WITH PURCHASE ORDER
30% UPON COMPLETION OF ENGINEERING
30% UPON SUBSTANTIAL RECEIPT OF PURCHASED COMPONENTS
20% UPON EQUIPMENT SHIPMENT
FINAL 10% UPON INSTALLATION ACCEPTANCE, NET 45 DAYS
** INVOICING WILL BE REQUIRED **

TOTAL REMINGTON EXPENSE (EXCLUDING FREIGHT) SHOULD NOT
EXCEED $148,895.00

Total net value USD 153,500.00

83

MF1084

Cost center 0000028200

Material Requisn. S C R OTy.	Item I A	Short text Requested qty. Ordered qty.	Un Un	DelIv. date Release date	Requester trackg.no.	PGp	Mat. gp. Plnt SLoc SPl. MC
		SK-1787-01 SPECIAL 42BZ1 QUICK CHANGE				M09	03
1000321299	00020	2.000	EA	D 02/10/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/20/2000	HUTSONLR		
		AS-1787-01 HARDENED STOP BUSHING				M09	03
1000321299	00030	2.000	EA	D 02/10/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/20/2000	HUTSONLR		
		PRECISION BENCH CENTER #09131301				M09	03
1000323153	00010	2.000	EA	D 01/31/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/21/2000	HUTSONLR		
Desired vendor		102641 MSC INDUSTRIAL SUPPLY					

7/10 Charges

Cost center 0000028200

Material / Requisn. / S C R	Item / Qty. / I A	Short text / Requested qty. / Ordered qty.	Un / Un	Deliv. date / Release date	Requester / Trackg.no.	PGp / Plnt	Mat. gp. / SLoc / Spl. MC
		BARREL BASKET 18" HIGH X 36" DIAMETER				M09	TOOLING
1000315827	00010	1.000	EA	D 03/27/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/17/2000	HUTSONLR		
Desired vendor		102855 Lohn & Associates					
		RECEIVER INSERT CMM FIXTURE #K-10400				M09	TOOLING
1000315829	00010	1.000	EA	D 02/24/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/17/2000	HUTSONLR		
Desired vendor		5390090 PHI ASSOCIATES					
		RECEIVER INSERT PLUG GAGE # K-10401				M09	TOOLING
1000315829	00020	1.000	EA	D 02/24/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/17/2000	HUTSONLR		
		RECEIVER INSERT FUNCTION GAGE # K-10402				M09	TOOLING
1000315829	00030	1.000	EA	D 02/24/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/17/2000	HUTSONLR		
		SIDE PLATE COMPARATOR FIXTURE # K-10403				M09	TOOLING
1000316063	00010	1.000	EA	D 02/24/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/17/2000	HUTSONLR		
Desired vendor		5390090 PHI ASSOCIATES					
		SIDE PLATE COMPARATOR SCREEN #K-10404				M09	TOOLING
1000316063	00020	1.000	EA	D 02/24/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/17/2000	HUTSONLR		
		SAFETY COMPARATOR FIXTURE #K-10405				M09	TOOLING
1000316064	00010	1.000	EA	D 02/24/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/17/2000	HUTSONLR		
Desired vendor		5390090 PHI ASSOCIATES					
		SAFETY COMPARATOR SCREEN #K-10406				M09	TOOLING
1000316064	00020	1.000	EA	D 02/24/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/17/2000	HUTSONLR		
		BOLT STOP COMPARATOR FIXTURE #K-10407				M09	TOOLING
1000316065	00010	1.000	EA	D 02/24/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/17/2000	HUTSONLR		
Desired vendor		5390090 PHI ASSOCIATES					
		BOLT STOP COMPARATOR SCREEN #K-10408				M09	TOOLING
1000316065	00020	1.000	EA	D 02/24/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/17/2000	HUTSONLR		
		BOLT HAND BLANK COMPARATOR FIX #K-10409				M09	TOOLING
1000316066	00010	1.000	EA	D 02/24/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/17/2000	HUTSONLR		
Desired vendor		5390090 PHI ASSOCIATES					
		BOLT HAND BLANK COMPARATOR SCR #K-10410				M09	TOOLING
1000316066	00020	1.000	EA	D 02/24/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/17/2000	HUTSONLR		
		BOLT HEAD BLANK COMPARATOR SCR # K-10411				M09	TOOLING
1000316067	00010	1.000	EA	D 02/24/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/17/2000	HUTSONLR		
Desired vendor		5390090 PHI ASSOCIATES					
		EJECTOR COMPARATOR FIXTURE # K-10412				M09	TOOLING
1000316068	00010	1.000	EA	D 02/24/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/17/2000	HUTSONLR		
Desired vendor		5390090 PHI ASSOCIATES					
		EJECTOR COMPARATOR SCREEN #K-10413				M09	TOOLING
1000316068	00020	1.000	EA	D 02/24/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/17/2000	HUTSONLR		
		BOLT PLUG FUNCTIONAL GAGE # K-10414				M09	TOOLING
1000316069	00010	1.000	EA	D 02/24/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/17/2000	HUTSONLR		
Desired vendor		5390090 PHI ASSOCIATES					
		BOLT PLUG INSERT COMPARATOR FIX #K-10415				M09	TOOLING

710 Purchase for

ORIGINAL

83

MF1086

Cost center 0000028200

Material / Requisn. / S C R	Item / OTy. / I A	Short text / Requested qty. / Ordered qty.	Un / Un	Deliv. date / Release date	PGp / Requester / Trackg.no.	Mat. gp. / Plnt / SPl.	Sloc / MC
1000316070	00010	1.000	EA	D 02/24/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z			01/17/2000	HUTSONLR		
Desired vendor		5390090 PHI ASSOCIATES					
		BOLT PLUG INSERT COMPARATOR SCR #K-10416			M09	TOOLING	
1000316070	00020	1.000	EA	D 02/24/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z			01/17/2000	HUTSONLR		
		FIRING PIN TIP COMPARATOR SCR # K-10417			M09	TOOLING	
1000316071	00010	1.000	EA	D 02/24/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z			01/17/2000	HUTSONLR		
Desired vendor		5390090 PHI ASSOCIATES					
		FIRING PIN HEAD COMPARATOR FIX #K-10418			M09	TOOLING	
1000316072	00010	1.000	EA	D 02/24/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z			01/17/2000	HUTSONLR		
Desired vendor		5390090 PHI ASSOCIATES					
		FIRING PIN HEAD COMPARATOR SCR #K-10419			M09	TOOLING	
1000316072	00020	1.000	EA	D 02/24/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z			01/17/2000	HUTSONLR		
		MAGAZINE BOX CMM FIXTURE # K-10420			M09	TOOLING	
1000316073	00010	1.000	EA	D 02/24/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z			01/17/2000	HUTSONLR		
Desired vendor		5390090 PHI ASSOCIATES					
		MAG FOLLOWER COMPARATOR FIXTURE #K-10421			M09	TOOLING	
1000316074	00010	1.000	EA	D 02/24/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z			01/17/2000	HUTSONLR		
Desired vendor		5390090 PHI ASSOCIATES					
		MAG FOLLOWER COMPARATOR SCREEN #K-10422			M09	TOOLING	
1000316074	00020	1.000	EA	D 02/24/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z			01/17/2000	HUTSONLR		
		200' PIECE 2" X 2" X 1/4" ANGLE			M09	44	
1000316080	00010	1.000	EA	D 01/18/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z			01/18/2000	HUTSONLR		
		40' PIECE 1/4" X 1-1/4" FLAT			M09	44	
1000316080	00020	1.000	EA	D 01/18/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z			01/18/2000	HUTSONLR		
Desired vendor		104140 BARLCAY'S METAL COMPANY					
		16 GA METAL 4' X 3'			M09	44	
1000316080	00030	2.000	EA	D 01/18/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z			01/18/2000	HUTSONLR		
		ESTIMATED KY SALES TAX 6%			M09	44	
1000316080	00040	1.000	EA	D 01/18/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z			01/18/2000	HUTSONLR		
		4" SWIVEL CASTER #2G130			M09	MISC	
1000316081	00010	8.000	EA	D 01/20/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z			01/18/2000	HUTSONLR		
Desired vendor		103943 GRAINGER, INC.					
		4" RIGID CASTER #2G131			M09	MISC	
1000316081	00020	8.000	EA	D 01/20/2000	GOLEMBOSKIMR	MAY	
N R A NB	Z			01/18/2000	HUTSONLR		

11/13/99

Cost center 0000028200

Material Requisn. S C R OTy.	Item I A	Short text Requested qty. Ordered qty.	Un Un	Deliv. date Release date	Requester Trackg.no.	PGp SPl.	Mat. gp. Plnt SLoc MC
		.263 DIA A/C GUN DRILLS X 54" OAL				M09	03
1000290268	00010	16.000	EA	D 01/31/2000	GOLEMBOSKIMR		MAY
N R B NB	Z			12/22/1999	HUTSONLR		
Desired vendor		5380140 DANJON MANUFACTURING CORP					
		.269 CARBIDE BORE REAMER ON 54" TUBE				M09	03
1000290268	00020	8.000	EA	D 01/31/2000	GOLEMBOSKIMR		MAY
N R B NB	Z			12/22/1999	HUTSONLR		
		.280/.2715 CARBIDE COMB. BUT. RH 1T 10"				M09	03
1000290268	00030	2.000	EA	D 01/31/2000	GOLEMBOSKIMR		MAY
N R B NB	Z			12/22/1999	HUTSONLR		
		C-300360 BOLT HANDLE BLANK				M09	03
1000295956	00010	50.000	EA	D 12/31/1999	GOLEMBOSKIMR		MAY
N R B NB	Z			01/05/2000	HUTSONLR		
Desired vendor		106014 CAMPBELL'S MACHINE SHOP INC.					
		1-300329 BOLT HANDLE PIN				M09	03
1000295956	00020	50.000	EA	D 12/31/1999	GOLEMBOSKIMR		MAY
N R B NB	Z			01/05/2000	HUTSONLR		
		PARTS FOR THE TRIG ASSY FIXTURE CK10129				M09	03
1000296261	00010	3.000	EA	D 12/22/1999	GOLEMBOSKIMR		MAY
N R B NB	Z			01/05/2000	HUTSONLR		
Desired vendor		104762 G AND H TOOL & DIE, INC					

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Part Name	Receiver	**Operation Name**	machine receiver
Part Number	300340	**Operation Number**	

Capital Required

Machine or Fixture	Dollars		Expected Delivery
Okuma LT-15 MY Twin Spindle/Twin Turret Turning Center	$ 389,200.00		12 wks ARO
Manual Touch Setter for LT-15MY	$ 22,203.00		
LNS THB 42-LC Bar Feeder (Single Bar)	$ 16,570.00		
Okuma Part Catcher for RH Turret	$ 11,385.00		
Side Chip Conveyor	$ 10,530.00		
Barfeeder Modification	$ 2,673.00		
Barfeeder Interface	$ 2,420.00		
Extra Memory(2100 ft.)	$ 3,710.00		
Signal Tower	$ 1,400.00		
Tool Life Management	$ 1,740.00		
G&L Discovery CMM	$ 52,000.00		
Installation	$ 3,651.82		
TOTAL CAPITAL	$ 517,482.82		

GOSIGERinc.

January 20, 2000

Joe Zajk Mett Morgan
Remington Arms Company, Inc.
22 Rifle Trail
Mayfield, Ky. 42051

Dear Joe,

We are pleased to offer the following proposal for your consideration:

OKUMA Model Crown V Vertical Machining Center.

Machine Price	$110,200.00
Options Required:	
Midaco M3020FL Pallet Changer	$19,500.00
Cast Iron Option inc. Tslots	$25,400.00
Midaco Factory Trained Installation	$1,500.00
Haas HA5C/2 Indexer W/AC 125 closer	$12,900.00
32 Tool ATC	$7,070.00
50 Set work Coordinate	NC
Thru Spindle Coolant	$10,620.00
1280 Tape Storage	$3,070.00
Tool Life Management	$1,914.00
Read Write Get Put for Haas Indexer	$1,890.00
Lift Up Chip Conveyor	$10,020.00
Prep for Lift Up Chip Conveyor	$3,080.00
User Task II W/ I-O Variables	$3,980.00

Total... $185,744.00 W/Aluminum Pallets $191,644.00 Cast Iron Pallets

Remington Price .....$163,744.00 Aluminum Pallets
Remington Price .....$169,204.00 Cast Iron T Slotted Pallets

DELIVERY: 4 to 6 Weeks
F.O.B: Charlotte, NC
TERMS: 10% Down, Net 25 Days or Gosiger Financial Program

Joe, Mett thank you for the opportunity of quoting on your requirements and we hope to be favored with your valued order.

Sincerely,

Michael T. Mooney, CMfgE
Engineering / Key Accounts Manager

KENTUCKY DIVISION
4104 Bishop Lane
Louisville, KY 40218
(502) 962-9889 Fax (502) 962-8595

STERLING SINTERED TECHNOLOGIES, INC.

COPY FYI 1/25

249 Rockwell St.
Winsted, CT 06098
Phone (860) 379-2753
Fax (860) 738-0664

To: Metty Morgan Date: 1/25/00

Company: Remington Arms Co. Fax #: 270-856-3233

Subject: Revised Quotes From: Roland

Message:

Hello! Below are the updated quotes on the Bolt Stop and Trigger

P/N C-300345 Bolt Stop
20M @ $223.60/M
40M @ $194.95/M
120M @ $188.85/M
Tooling $5,500

P/N C-300435 Trigger
20M @ $501.50/M/M
40M @ $492.75/M
120M @ $486.90/M
Tooling $14,100

Lead Time 10wks ARO

Questions? Please call me.

PAGE 1 of 1

PRECISION POWDERED METAL
STRUCTURAL COMPONENTS
SELF-LUBRICATING BEARINGS

270 856 3282

MF1091

QUOTATION

Megamet Industries
Powder Injection Molding
4073 Wedgeway Court • Earth City, MO 63045
314 739-4499 fax 314 739-5281

Quotation Number: 00011701
Date: January 17, 2000
Prepared By: Jim Mullineaux

To: Remington Arms Co., Inc.
22 Rifle Trail
P.O. Box 99
Hickory, KY 42051
Attn. Metty Morgan

Phone: 270-856-4200
Fax: 270-856-3233

CONFIDENTIAL

RE: REVISED QUOTE FOR RFQ Lock Tumbler Re-Quote

Quantity	Part Description	Description of Work	Price
1 ea	Mold	Metal injection mold	$ 17,500.00
1 ea	Furnace Fixtures	Furnace fixtures to hold parts during processing	$ 2,500.00
20K pcs.	B300420	Metal injection molded Alloy FN02 parts per drawing	$ 0.63 each
40K pcs.	B300420	Metal injection molded Alloy FN02 parts per drawing	$ 0.60 each 83
60K pcs.	B300420	Metal injection molded Alloy FN02 parts per drawing	$ 0.55 each
1 ea	Mold	Metal injection mold	$ 15,000.00
1 ea	Furnace Fixtures	Furnace fixtures to hold parts during processing	$ 1,000.00
20K pcs.	B300336	Metal injection molded Alloy FN02 parts per drawing	$ 1.50 each
40K pcs.	B300336	Metal injection molded Alloy FN02 parts per drawing	$ 1.45 each
60K pcs.	B300336	Metal injection molded Alloy FN02 parts per drawing	$ 1.35 each

*** Notes: Mold cost is higher for B300420 because of the part's complex shape will require more slides in the mold.**

DESIGN INFO: Complete, original, signed and dated print complete and ready for tooling design is required. A 3D solid model database in acceptable format if available is requested. Additional charges will apply if engineering time is required.

TOOLING: Tooling charges listed above include design and fabrication of said tools. Upon receipt of final tooling payment, customer will obtain ownership of those tools. Tooling charge is based upon maximum capacity stated. Tooling is guaranteed to last at least the lesser of 3 times the order quantity or 36 months unless there is a customer-originated design change.

PARTS: Parts will be supplied in the heat treated, surface finish, and surface coating conditions specified. Engineering reviews with the customer as well as sample pieces submitted will be used to evaluate acceptable mold design and molding and sintering practices with regard to gate location, shrinkage, appearance, and tooling design.

SAMPLES: Samples 10 weeks ARO and acceptance of purchase order by Megamet. See below for multiple orders.

CONFIDENTIAL

FAX

GOSIGERinc.

Date 3/2/00

Number of pages including cover sheet 2

TO: Joe Gayle

FROM: Dan Gwinn
MATTHEW MACHINERY DIVISION

Phone
Fax Phone (270) 856-3233

Phone 502-962-9889
Fax Phone 502-962-8595

83

CC:

REMARKS: ☐ Urgent ☐ For your review ☐ Reply ASAP ☐ Please Comment

Joe:
① I did not quote freight & Rigging, this would be easier and cheaper if handled by Remington, we can discuss.
② Also the 32 tool ATC option is not retrofittable

Call me
Thanks
Dan

Thanks,
Dan Gwinn
Sales Manager

MF1093

GOSIGER inc.

March 2, 2000

Remington Arms Co.
22 Rifle Trail
Hickory, KY 42051

Attn: Joe Zayk

I am pleased to quote the following Okuma Vertical Machining Centers for your consideration.

OKUMA CROWN V4018.....$110,200.00
Options:

- Chip Conveyor.....$13,108.00
- Tool Lift Management.....1,910.00
- Additional Tape Storage 1280M.....4,960.00
- Word Coordinate System 50 sets.....640.00
- Through-Spindle Coolant.....9,280.00

Total for all above.....$140,098.00

- 32 Tool ATC additional.....10,719.00

OKUMA MX45 VAE.....$ 89,200.00
Options:

- Chip Conveyor.....$13,108.00
- Tool Lift Management.....1,910.00
- Additional Tape Storage 1280M.....5,080.00
- Work Coordinate System 50 sets.....640.00
- Through-Spindle Coolant.....9,648.00

Total for all above.....$119,586.00

- 32 Tool ATC additional.....10,719.00

OKUMA CADET MATE.....$ 78,700.00
Options:

- Chip Conveyor.....$5,110.00
- Tool Lift Management.....1,910.00
- Additional Tape Storage 1280M.....6,660.00
- Work Coordinate System 50 sets.....640.00
- Through-Spindle Coolant.....5,040.00

Total for all above.....$ 98,060.00

Dan Gwinn
Sales Manager

Dan Gwinn

MATTHEW MACHINERY DIVISION

4104 Bishop Lane
Louisville, KY 40218
502-962-9889 FAX 502-962-8595

83

MF1094

QUOTATION

Quotation Number: 00011701
Date: January 17, 2000
Prepared By: Jim Mullineaux

Megamet Industries
Powder Injection Molding
4073 Wedgeway Court • Earth City, MO 63045
314 739-4499 fax 314 739-5281

To: Remington Arms Co., Inc.
22 Rifle Trail
P.O. Box 99
Hickory, KY 42051
Attn. Metty Morgan

Phone: 270-856-4200
Fax: 270-856-3233

CONFIDENTIAL

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1 ea	Mold	Metal injection mold	$ 15,000.00
1 ea	Furnace Fixtures	Furnace fixtures to hold parts during processing	$ 1,000.00
20K pcs.	B300336	Metal injection molded Alloy FN02 parts per drawing	$ 1.50 each
40K pcs.	B300336	Metal injection molded Alloy FN02 parts per drawing	$ 1.45 each
60K pcs.	B300336	Metal injection molded Alloy FN02 parts per drawing	$ 1.35 each

83

CONFIDENTIAL

* **Notes: Mold cost is higher for B300420 because of the part's complex shape will require more slides in the mold.**

DESIGN INFO: Complete, original, signed and dated print complete and ready for tooling design is required. A 3D solid model database in acceptable format if available is requested. Additional charges will apply if engineering time is required.

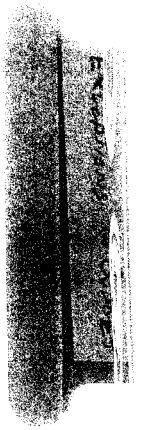
TOOLING: Tooling charges listed above include design and fabrication of said tools. Upon receipt of final tooling payment, customer will obtain ownership of those tools. Tooling charge is based upon maximum capacity stated. Tooling is guaranteed to last at least the lesser of 3 times the order quantity or 36 months unless there is a customer-originated design change.

PARTS: Parts will be supplied in the heat treated, surface finish, and surface coating conditions specified. Engineering reviews with the customer as well as sample pieces submitted will be used to evaluate acceptable mold design and molding and sintering practices with regard to gate location, shrinkage, appearance, and tooling design.

SAMPLES: Samples 10 weeks ARO and acceptance of purchase order by Megamet. See below for multiple orders.

CONFIDENTIAL

83



MF1096

Remington Arms Co., Inc.
R&D Technical Center
315 W. Ring Road
Elizabethtown, KY 42701
Phone: 270-789-7600
Fax: 270-737-9576

Date: 4/24/00

No. of pages including cover sheet: 6

Please note our new area code.

TO:

Matt G.

Phone

Fax Phone

CC:

From:

Mike R.

Phone

Fax Phone

REMARKS:

☐ Urgent ☐ For your review ☐ Reply ASAP ☐ Please comment

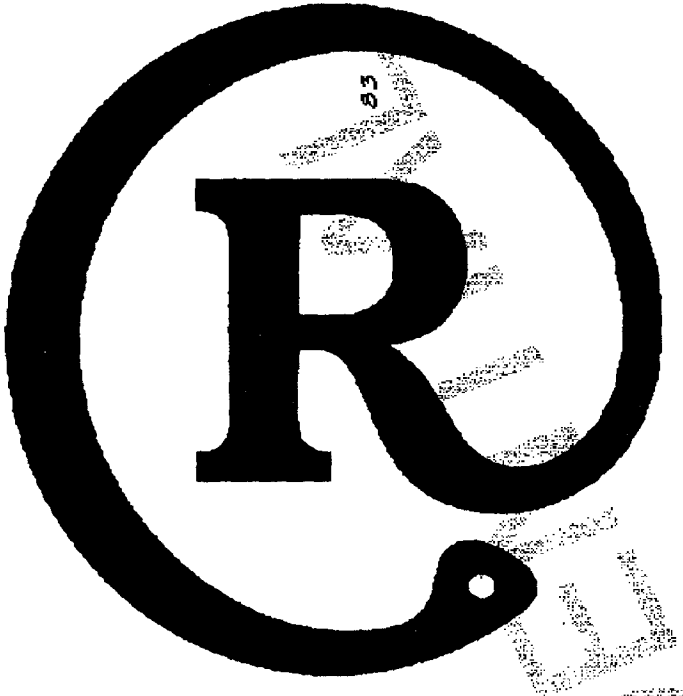
Trigger & Sear Pins w/ Retaining Clip.

Please Review and add to your drawing file.

These are new parts so Matt will have to order.

Mike

Price $2.00

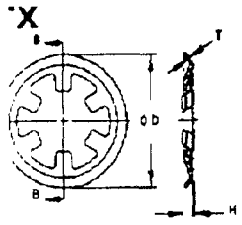


CERTIFIED TO QS-9000
REGISTERED TO ISO-9002

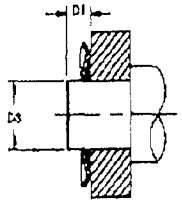
1-800-55-ROTOR

ROTOR CLIP COMPANY, INC.
187 Davidson Avenue Somerset, New Jersey 08875-0461
732-469-7333 1-800-557-6867 Fax: 732-469-7898
Visit our site on the internet-rotorclip.com

TX

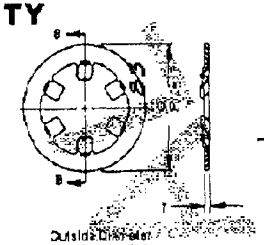


Outside Diameter with Section B-B

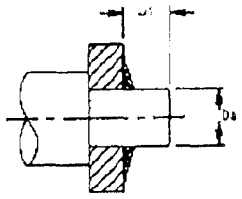


Installation View

TY



Outside Diameter with Section B-B



Installation View

SHAFT DIAMETER Ds DEC FROM	TO	Ds FRACT	Ds mm	OUTSIDE DIAMETER O.D.	Tol.	No. of prongs	RING HEIGHT H	Tol	THICKNESS T	Tol	Thrust Ld. @ Std. T lbs.	Weight Per 1000 Pcs @ Std. T lbs.	Thickness Optional Tol	Thrust Ld. @ Opt. T lbs.	Weight Per 1000 Pcs @ Opt. T lbs.	Min. Distance face of part to end of shaft D1
.091	.097	3/32	2.39	3/8	±.006	3	.029	±.002	.010 ±.001		21	.16	±.002	45	[illegible]	.054
.121	.129	1/8	3.17	3/8		4	.029				35	.19		65	[illegible]	.054
.152	.160	5/32	3.96	3/8		4	.029				41	.22		70	.35	.054
.184	.192	3/16	4.76	1/4		6	.039	±.007			54	.27		85	.42	.064
.246	.254	1/4	6.35	1/2		6	.042	±.008	.015 ±.002		112	.55	±.010	58	.33	.074
.308	.316	5/16	7.92	3/4		8	.042				112	.64		62	.41	.074
.371	.379	3/8	9.52	5/8		8	.042				122	.74		85	[illegible]	.074
.432	.443	7/16	11.1	7/8		10	.045	±.009			122	.96				.090
.495	.505	1/2	12.7	3/8	±.010	0	.054	±.010			127	1.27				.108
.557	.567	9/16	14.27	7/8		2	.054				127	1.33				.108
.620	.630	5/8	15.84	.951		2	.054				137	1.47				.108
.745	.755	3/4	19.05	1.016		4	.054				147	1.55				.108
.870	.880	7/8	22.23	1.203		6	.054				147	1.96				.108
.955	1.006	1	25.4	1.327		18	.054				147	2.27				.108

PLATED RINGS ADD .002" TO MAXIMUM THICKNESS AND HEIGHT.
NDARD THICKNESS FOR STAINLESS STEEL IS AS FOLLOWS TX4-TX-37, .010"; TX45-TX-100, .015".
TX4-TX-18 OPTIONAL THICKNESS (.015"), ADD .003" TO RING HEIGHT VALUES (H SHOWN
TX-37 OPTIONAL THICKNESS (.010") DEDUCT .006" FROM RING HEIGHT VALUES (H SHOWN
HICKNESS SPECIFICATIONS SEE PAGE 94

SHAFT DIAMETER Inches Ds DEC FROM	TO	Ds FRACT	Ds mm	OUTSIDE DIAMETER O.D.	Tol	No. Of Prongs	THICKNESS T	Tol.	Thrust Load lbs.	WEIGHT Per 1000 Pcs lbs.	Min. Distance Face of part to end of shaft D1
.093	.065	3/32	2.39	.350	±.005	3	.010	±.001	13	.09	.040
.121	.130	1/8	3.17	.325		4			20	.11	.040
.155	.157	5/32	3.96	.355		4			23	.17	.040
.187	.189	3/16	4.77	.387		6			35	.20	.040
.233	.230	7/32	5.58	.418		6			35	.21	.040
.237	.241		6.10	.460		6	.015	±.002	40	.35	.060
.243	.251	1/4	6.35	.450		6	.010	±.001	40	.23	.040
.311	.313	5/16	7.92	.512		6			45	.26	.040
.374	.376	3/8	9.53	.575		6			45	.27	.040
.437	.439	7/16	11.1	.638		6	.015	±.002	50	.41	.060
.493	.502	1/2	12.7	.750		6			50	.72	.060
.590	.564	9/16	14.27	.812	±.010	6			50	.75	.060
.623	.627	5/8	15.88	.875		7			50	.82	.060
.743	.752	3/4	19.05	.900		8			55	.97	.060
.873	.877	7/8	22.23	.125		10			50	1.1	.060
.933	1.000	1	25.4	.250		10			45	1.2	.060

PLATED RINGS ADD .002" TO MAXIMUM THICKNESS AND HEIGHT
SIZES MAY BE AVAILABLE UPON REQUEST.
DEN HOUSINGS/SHAFTS MADE OF COLD ROLLED STEEL. FOR AN EXPLANATION OF FORMULAS USED TO DERIVE
LOAD AND OTHER PERFORMANCE DATA CONTACT THE ROTOR CLIP ENGINEERING DEPT
HICKNESS SPECIFICATIONS SEE PAGE 94

DES. BY DATE	DRN. BY DATE	CHK. BY DATE
	JAW 4-25-00	

CLIP

NUMBER	SCALE	SUPERSEDES	REFERENCE
-300465	Remington.		

MODEL	PART NO	PART USE
710	300465	CLIP

DO NOT SCALE THIS DRAWING WORK TO FIGURES UNLESS OTHERWISE NOTED.
TOLERANCES ON DECIMAL DIMENSIONS ARE:
1 PLACE (.1) - TOLERANCE ± .015
2 PLACE (.01) - TOLERANCE ± .010
3 PLACE (.001) - TOLERANCE ± .005
& ON FRACTIONAL DIMENSIONS ± 1/64
& ON ANGULAR DIMENSIONS ± 00°-30'
FINISHES ARE DESIGNATED BY ROOT MEAN SQUARE (R.M.S.) MICRO-INCH ROUGHNESS VALUES AND ARE THE MAXIMUM ROUGHNESS ACCEPTABLE, UNLESS OTHERWISE SPECIFIED.

FINISH ROUGHNESS TO BE 125 √ OR BETTER.

THIS DRAWING OR INFORMATION IS PROPRIETARY INFORMATION TO THE REMINGTON ARMS COMPANY, INC.

MATERIAL AND HEAT TREAT

MATERIAL
HEAT TREAT
HARDNESS
FINISH
HEAT TREAT AND COLOR TO BE DONE BY REMINGTON

FOR PART NO. 300465 ORDER
ROTOR CLIP COMPANY PART# TY-12 83

WAS	REV	BY	DATE

ALTERATIONS

SOLIDWORKS FILENAME - ERDNTAS3\CAD FILES\RIFLE\MODEL 710\CONVERSION\300465 A-300465

MF1100

R-300464

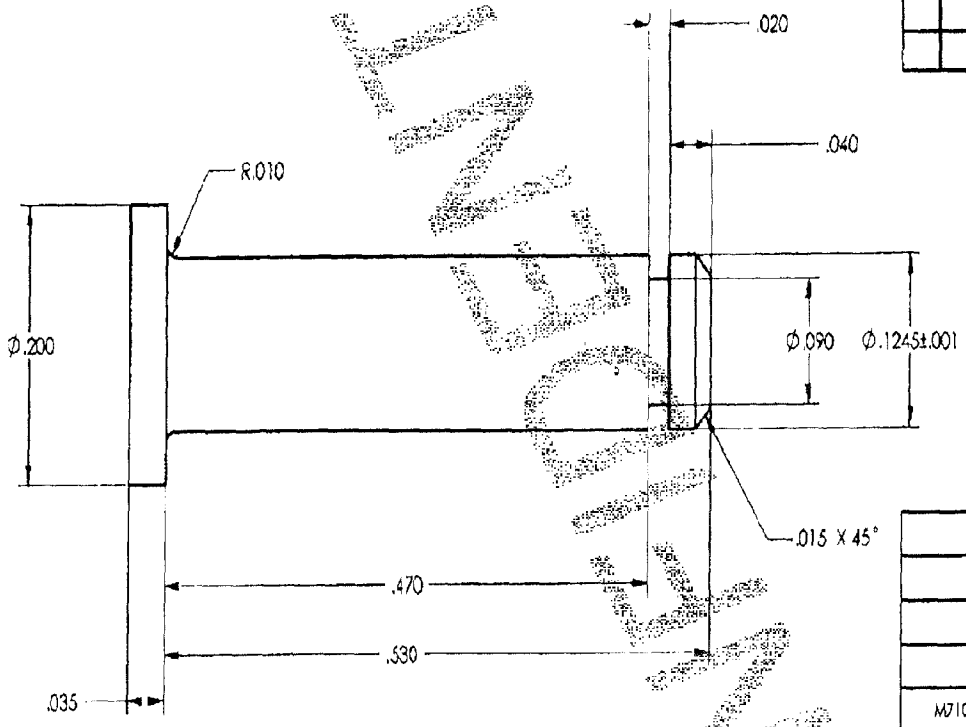
THIS DRAWING OR INFORMATION IS PROPRIETARY INFORMATION TO THE REMINGTON ARMS COMPANY, INC

UNLESS OTHERWISE NOTED
TOLERANCES ON DECIMAL DIMENSIONS ARE:
1 PLACE (.1) - TOLERANCE ± .015
2 PLACE (.01) - TOLERANCE ± .010
3 PLACE (.001) - TOLERANCE ± .005
& ON FRACTIONAL DIMENSIONS ± 1/64
& ON ANGULAR DIMENSIONS ± 00° -30'
FINISHES ARE DESIGNATED BY ROOT MEAN SQUARE (RMS) MICRO-INCH ROUGHNESS VALUES AND ARE THE MAXIMUM ROUGHNESS ACCEPTABLE, UNLESS OTHERWISE SPECIFIED.
FINISH ROUGHNESS TO BE 125 √ OR BETTER

MATERIAL	AISI 1018
HEAT TREAT	CARBURIZE (.70% POTENTIAL)
HARDNESS	RISN 88-92 (.008 MIN CASE)
FINISH	BLACK OXIDE

HEAT TREAT AND COLOR TO BE DONE BY REMINGTON

ALT.	VIAS	REF	Y	DATE



M710	300464	SEAR RETAINING PIN
MODEL	PART NO.	PART USE

DES. BY DATE	DRN. BY DATE	CHK. BY DATE
MDK 4-25-00	JAW 4-25-00	

TITLE SEAR RETAINING PIN

NUMBER	SCALE	SUPERSEDES	REFERENCE
B-300464	10:1		

Remington

SOLIDWORKS FILENAME - ERONTASS\CAD FILES\RIFLE\MODEL 710\CONVERSION\300464

B-300463

THIS DRAWING OR INFORMATION IS PROPRIETARY INFORMATION TO THE REMINGTON ARMS COMPANY, INC

DO NOT SCALE THIS DRAWING! WORK TO FIGURES UNLESS OTHERWISE NOTED.
TOLERANCES ON DECIMAL DIMENSIONS ARE:
1 PLACE (.1) - TOLERANCE ± .015
2 PLACE (.01) - TOLERANCE ± .010
3 PLACE (.001) - TOLERANCE ± .005
& ON FRACTIONAL DIMENSIONS ± 1/64
& ON ANGULAR DIMENSIONS ± 00° 30'
FINISHES ARE DESIGNATED BY ROOT MEAN SQUARE (R.M.S.) MICRO-INCH ROUGHNESS VALUES AND ARE THE MAXIMUM ROUGHNESS ACCEPTABLE UNLESS OTHERWISE SPECIFIED.
FINISH ROUGHNESS TO BE 125 √ OR BETTER.

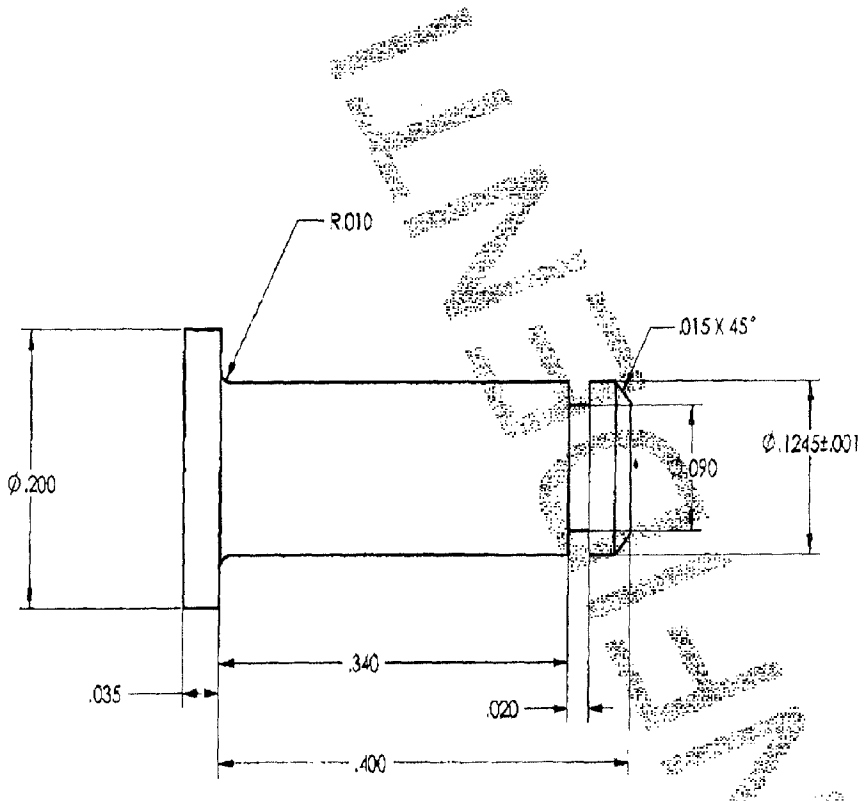
MATERIAL AND HEAT TREAT

MATERIAL	AISI 1018
HEAT TREAT	CARBURIZE (.70% POTENTIAL)
HARDNESS	RISN 88-92 (.008 MIN CASE)
FINISH	BLACK OXIDE

HEAT TREAT AND COLOR TO BE DONE BY REMINGTON

ALTERATIONS

ALT	WAS	Rc	BY	DATE



710	300463	TRIGGER PIVOT PIN
MODEL	PART NO.	PART USE

DES. BY DATE	DRN. BY DATE	CHK BY DATE
MOK 4-25-00	JAW 4-25-00	

TITLE TRIGGER PIVOT PIN

NUMBER	SCALE	SUPERSEDES	REFERENCE
B-300463	10:1		

Remington

SOLIDWORKS FILENAME - BRDNTASS\CAD FILES\RFLEW\MODEL 710\CONVERSION\300463

TO: JETTY

COPY 6/20

Dollar A Day Auto & R.V.
2905 Lone Oak Road
Paducah, Kentucky 42001
(502) 554-5674

Jack N. Clark
Billie Clark

Greg L. Clark

LOCAL 1 DAY ESTIMATE
"RETURNED BACK TO ME"

$19.95	$.39 MILE	$14.00 INSURANCE	10 FT
29.95	$.39 MILE		14 FT
	$.49 MILE		17 FT
39.95	$.49 MILE		24+26 FT

$80.00 DEPOSIT – PLUS, DEPENDS ON ESTIMATED COST

NOTE: BUSINESS CHECKS; CASH, CREDIT CARDS

THANKS
GREG

OVER

MF1103

1 - WAY RENTALS

$80.00 DEPOSIT ALWAYS

1) PRO RATED RATES TO ALL CITIES

2) INSURANCE IS OPTIONAL; COVERAGE IS ON TRUCK ON EQUIPMENT + CONTENTS.
   a. DEPENDS ON MILES WHAT INS. COVERAGE WOULD BE.

3) MILES ALLOWED + $.40 PER MILES OVER ALLOWED

4) DAYS ALLOWED + $40.00 A DAY OVER ALLOWED

5) PLUS TX

EXAMPLE: NASHVILLE

10 FT	14 FT	17 FT	24 FT	26 FT
$154.00	$161.00	$179.00	$220.00	$227.00
2 DAYS	2 DAYS	2 DAYS	2 DAYS	2 DAYS
189 MILES	189 MI	189 MI	189 MI	189 MI
28.00 INS.	28.00 INS	28.00 INS	28.00 INS	28.00 INS

MF1104

BUSHNELL®

SPORTS OPTICS WORLDWIDE

9200 Cody ~ Overland Park, KS 66214

facsimile transmittal

Copy

FYI

To:	Metty Morgan	Fax:	(270) 856-3233
From:	Chris Lalik	Date:	June 5, 2000
Phone:	(913) 752-3431	Fax:	(913) 752-3580
Re:	Quote	Pages:	2
CC:	Drew Kohler		

___ Urgent ___ For Review ___ Please Comment ___ Please Reply ___ Please Recycle

Notes:

Thanks for working with me on this. Call me with any questions.

Chris

83

. . . . . .

BUSHNELL
SPORTS OPTICS WORLDWIDE

9200 Cody • Overland Park, Kansas 66214-1734
(913) 752-3400 • Fax (913) 752-3550

BUSHNELL

BAUSCH & LOMB

06/05/00

Ms. Met Morgan
Remington Arms Company, Inc.
PO. Box 99
Hickory, KY 42051

Dear Mettie.

Thank you for giving BUSHNELL® the opportunity to bid on the 3-9x40 riflescope which will be used on your new rifle for WAL*MART. Given that we have similarly positioned brands, combining our products into a package deal makes a lot of sense. Hopefully this will be the start of additional projects.

We would like to offer our 3-9x40 Matte or Gloss SHARPSHOOTER® Details are as follows:

Price for 10000 pieces	25.00
Price for 20000 pieces	24.50
Scheduled Shipments assuming 10000 piece order	1000 pieces by the end of July 9000 pieces in August
Ongoing Order Lead time	90 Days
Terms	Net 45
Freight	F.O.B Kansas City
Warranty	Lifetime Limited
Instructions	Enclosed with product
Packaging	Shipped in bubble wrap

I will get you 2 samples for testing by June 15th, although they probably will be gloss. Drew thinks that a matte finish will probably be best, but if you decide that you prefer the gloss, that will be OK.

Please call with any questions I look forward to working with you.

Sincerely,

Chris Lalik
Riflescope and HOLOsight Product Manager

83

MF1106

Morgan, Metty E.

From: Golemboski, Matt R.
Sent: Saturday, May 20, 2000 7.17 AM
To: Morgan, Metty E.
Subject: FW: trigger

reload the demand for transport orders to look like this.
5/31-200
6/20-400
6/29-300
7/12-600

F109835
TCO
5/25
mm

-----Original Message-----
From: Balio, John R
Sent: Saturday, May 20, 2000 6 46 AM
To: Morgan, Metty E.; Ferreira, Louis B.
Cc: Haggerty, David C., Golemboski, Matt R , Traut, John A.
Subject: RE. trigger

Lou,

We cannot afford 1,500 triggers - MIM is behind so we are too. Mayfield needs 200 by 5/31 and 400 more by 6/20. Pick the remainder once MIM gets back on schedule.

-----Original Message-----
From: **Morgan, Metty E.**
Sent: Thursday, May 18, 2000 2:20 PM
To: Balio, John R.
Cc: Golemboski, Matt R.
Subject: trigger

05/18/2000

John,

I have created a transport order for part # F109835 trigger. PO.# 5500004152
The due date for Mayfield is 06/01. Could you please see that these parts (1500) are shipped and transferred in the appropriate time to arrive into Mayfield by 6/01/00.

Thank you in advance.
Metty

Golemboski, Matt R.

From: Keeney, Mike
Sent: Friday, March 17, 2000 8:42 AM
To: Zajk, Joseph J
Cc: Golemboski, Matt R.; Morgan, Metty E.
Subject: 710 Safety Samples

Joe,
I received three safety samples from Square yesturday. Square further developed their tooling to produce more consistent contour and surface finish while eliminating the sharp burr. I spoke with Dan this morning and instructed him to proceed with this contour and to provide firm numbers for a secondary operation. Based on Marketing input, we need to coin the outside edge of the button and add serrations across the button. I asked for a .02 to .03 Radius on the top edge and serrations across the surface. Dan will provide an estimate and drawing details based on their capability.

Mike

83

(502) 965-9141
Fax (502) 965-9560

PAR 4 PLASTICS, INC.

Princeton Road
P.O. Box 385
Marion, KY 42064

1/31/00

Ms. Metty Morgan
Remington Arms Co, Inc.
22 Rifle Trail
P.O. Box 99
Hickory, KY. 42051

Copy: Mr. Matt Golemboski
Mr. Joe Zajk
File

Dear Metty;

Per Remingtons request, we are pleased to quote the following:

#1. Piece price change for 710 Latch, PN # C-3000362 reflecting material change to Ultem 1000 from originally quoted material Nylon 66. Annual volumes of 20,000 pieces.

COST $ .411 EA..

PLEASE NOTE: Our cost for the Ultem 1000 material is $ 7.25 per lb. as opposed to $ 1.75 lb. for the Nylon. Also, scrap rates for this material run higher which is why the price had to increase. Once this job is in production we will evaluate cycle times and scrap to see if we can reduce the price.

#2. 710 Stock Sub Assembly, which includes Par 4 Plastics, Inc. installing the Butt Spacer, Recoil Pad, and Screws, then installing the Latch and Spring Assembly. The Stock will then be placed into a divider sleeve and carton for shipping.

WORST CASE BY ADDING SECOND OPERATOR.

WILL MATCH INTERNAL PRICE. FOR ASSY OF BUTT PLATE.

COST $ 1.05 EA.

NOTE: It may be possible to incorporate this operation in with molding the stock if the cycle time permits. In which case the entire operation could be performed with one operator. Par 4 will work with Remington to see if this is feasible. If so, there would be no additional charge for this operation unless we agreed to change the cycle time, which could affect the molding price.

If you have any questions, or I can be of any assistance, please let me know.

2.5 MIN PRESS CYCLE TIME FOR STOCK MOLD.

SINCERELY
PAR 4 PLASTICS, INC.

Sam Todd

SAM TODD
DIR. SALES & MARKETING

83

MF1109

MAG LATCH 2X PRICE INCREASE.

$2.-$2.25/lb FOR GREY POLYPROP CUSTOM COLOR.

$0.91 WAS THE ESTIMATE BECAUSE WE SPECIFIED GREY.

WE COULD GO 59¢ GREY.

Golemboski, Matt R.

From: Keeney, Mike
Sent: Thursday, January 20, 2000 2:21 PM
To: Russo, Alfred D.; Kohler, Drew; Zajk, Joseph J; Golemboski, Matt R.
Cc: Diaz, Danny
Subject: M/710 Cosmetic Issues

I would like to set up a conference call to discuss the outstanding 710 issues. I realize Al and Drew will be busy catching up from the SHOT show, so I will leave the time up to them. We need to review the issues as soon as posssible, preferably by 1/27. I will ship the M/710 cosmetic sample to Drews attention. The sample is exactly as Al saw it during his visit to E-town. The safety arm is cosmetically correct but the movement is not. Al and Drew please review the cosmetics, prior to the conf. call, in reference to:
synthetic part colors
box bottom artwork
trigger - smooth finger radius
safety button
barrel and receiver rollmarks

Al and Drew, when you get this message and have a chance, give me a call to set up a time.

Thanks
Mike

83

Remington Arms Co.

Memo

To: 710 team

From: Matt Golemboski

CC: Joe Zajk

Date: 01/13/00

Re: M/710 lock tumbler (B-300420-A)

The lock tumbler blank 300420 was not available at the time of the estimate, the white paper did not reflect the addition of the tooling, estimated cost $35,000. This tool should be made in Ilion to be consistent in processing with all other safety locks. The development time would be decreased, as well.

If the tool has not been quoted through Ilion, make sure that happens and the tool is ordered ASAP.

83

Remington Arms Co.

Memo

To: 710 team

From: Matt Golemboski

CC: Joe Zajk

Date: 01/13/00

Re: M/710 Magazine Spring 300405

During the initial quoting process the magazine spring did not have a print. The M/700 magazine spring was used for costing. In October the design of the magazine spring 300405 was received. This was quoted by at least two people F&G Multislide and North American Spring and Stamping. Brainin should be in this mix, because we may want to ship the box bottom and follower from Par 4 to Brainin and receive a part complete. North American should be dropped due to the comments about quality on the quote, I do not want to purchase a blank an have to heat treat it.

The White Paper listed the part at $0 capital and $ 0.42 each (ref part #17028). The F&G quote was $.55 each, and 24 weeks for production parts.

Remington Arms Co.

Memo

To: 710 team

From: Matt Golemboski

CC: Joe Zajk

Date: 01/13/00

Re: M/710 Trigger Pt#300435

The white paper was based on the Ilion SAP cost of $1.53 for the M/700 trigger C-15280. We requested the serrations be removed from the trigger bow to get a trigger per Sterling Sintered Quote #2965A for $0.37 each and a capital charge of $15,225 that was not in the white paper budget. This expense should be made and a new tool purchased. The tool has a payback of 8 months and is justified.

Some of the necessary notes are not on the print. This can be followed after the PO is placed.

STERLING SINTERED TECHNOLOGIES, INC.

P.O. BOX 1057 • WINSTED, CONNECTICUT 06098
(860) 379-2753 • FAX: (860) 738-0664

QUOTATION

NUMBER 2965A DATE 10/06/99

TO REMINGTON ARMS CO., INC.
ATTN:MATT GOLEMBOSKI
MAYFIELD PLANT
22 RIFLE TRAIL
HICKORY KY 42051

SHIP TO

PH 270/856-4204 Fax 270/856-3233

TERMS	SHIP VIA	SALESPERSON	PAGE
NET 30 DAYS		6	83 1

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
	Part # C-15280 Rev 31		
	TRIGGER Ref: NO SERRATIONS		
20,000		377.10/M	7,542.00
40,000		367.55/M	14,702.00
120,000		347.70/M	41,724.00
	Misc Charges:		
	TOOLING		15,225.00
	* PLEASE NOTE: QUOTED WITH NO SERRATIONS		
	50% OF TOOLING CHARGE DUE WITH PURCHASE ORDER BALANCE UPON APPROVAL OF TOOLING SAMPLES. TOOLING SAMPLES WILL BE SHIPPED 12 WEEKS ARO PRODUCTION TO FOLLOW TOOL APPROVAL BY 6-8 WEEKS UNLESS CUSTOMER ACCEPTS RESPONSIBILITY FOR PRODUCTION, GIVEN THAT IT MEETS THE PRINT		
	THIS QUOTE IS GOOD FOR 30 DAYS FROM THE QUOTE DATE.		
	OUR REVISION CONTROL PROCEDURE REQUIRES THAT PRINT REVISION LEVELS ACCOMPANY ALL PURCHASE ORDERS. PLEASE ASSIST US IN OUR CONTINUOUS IMPROVEMENT PROCESS.		
	THANK-YOU FOR THE OPPORTUNITY TO QUOTE. ANN DELUTRIE		

MF1115

83

WEEKLY UPDATES

Golemboski, Matt R.

From: Helmer, Gerald A.
Sent: Tuesday, January 18, 2000 4:04 PM
To: Truax, Sheldon F.
Cc: Zajk, Joseph J; Golemboski, Matt R.; Gooch, Jim C.; Chavis, William T.; Morgan, Metty E.
Subject: Coloring Racks

Shelly, Jimmy Gooch has quoted to build 6 racks for coloring M/710 barrels, bolt bodies and bolt heads (4 racks for barrels and 2 racks for the bodies and heads). His total quote for material and labor is $3,831.98 versus a vendor quote of $12,220.00 (diff. of $8,388.02). He will order material 1/19/00 and a sample of each rack is to be completed in 2 to 3 weeks. The barrel racks will hold 50 barrels each and the two racks for bodies and heads will hold 100 bodies and 100 heads on each rack.

83

Golemboski, Matt R.

From: Zajk, Joseph J
Sent: Tuesday, January 18, 2000 1:16 PM
To: Connell, Chris
Cc: Golemboski, Matt R.; Morgan, Metty E.
Subject: RE: HS Code

I agree. Go ahead and use that code. I don't recall off hand if the parts for our plant were to have the freight charges paid for by the supplier, but if the bolt body & receiver have the same stipulation (supplier to pay freight & shipping charges), we want the same note added to your addendum stating "Remington is not the importer of record".

-----Original Message-----
From: Connell, Chris [mailto:CConnell@freemarkets.com]
Sent: Tuesday, January 18, 2000 11:57 AM
To: 'Zajk, Joseph J'
Subject: FW: HS Code
Importance: High

Joe

Sorry for the confusion. HS stands for the Harmononized System (Harmonized Commodity Description And Coding System) which is used by the government to classify items for duty. Below is Ilion's response and I think you would probably use the same one. It stands for: parts or accessories of shotguns or rifles. Ill use this if you concur.

Chris

-----Original Message-----
From: Rabbia, James A. [mailto:rabbiaja@remington.com]
Sent: Monday, January 17, 2000 4:41 PM
To: 'Connell, Chris'
Subject: HS Code

I talked to our logisitics guys and they told me the HS code for choke tubes is HS9305290000

Also they have great concern that even though we are requesting all freight and duty be paid for by the supplier we may be still responsible for the importing. Therefore they would like you to specify in your addendum that "Remington is not to the importer of record". The importer of record needs to be the supplier.

83

Remington Arms, Co., Inc.

Please deliver to:
Remington Arms Co., Inc.
Mayfield Plant
22 Rifle Trail
HICKORY KY 42051

Purchase order

Page
1

PO number/date
M018020 03/24/2000

Contact ***Telephone***
M. Morgan/502-856-4204
Fax Number/

Vendor: 103212

AUTOMATIC SWISS CORPORATION
PO BOX 416
ADDISON IL 60101
TELEPHONE: 630-543-3888
FAX: 630-543-1486

Delivery : UPS UPS 3rd Party Billing (922W20)
Terms of pmt: Within 45 days Due net

Currency USD

** ATTN: MR. JIM RUPPRECHT **

83

Item	Material Quantity	Unit	Description	Unit Price	Per/Un	Net price
00010	F300329 9,500 ~~20,000.000~~	EA	710 - BOLT HANDLE PIN	0.14	EA	2,800.00

MANUFACTURE PER REMINGTON DRAWING SPECIFICATIONS.
DRWG. #A-300329 REV 2

REMINGTON OBLIGATION TO QUANTITY SHOWN WILL BE BASED ON ACCEPTANCE OF THE FIRST ARTICLE APPROVAL SAMPLE LOT OF 50 PIECES, TO BE IN MAYFIELD PLANT NO LATER THAN DATE SHOWN.

PRICE SHOWN PER QUOTE DATED 12-10-1999 FROM JIM TO METT.
AUTOMATIC SWISS CONTACT IS MR. JIM RUPPRECHT AT 630-543-3888
PLEASE CONTACT METT MORGAN WITH ANY DELIVERY SCHEDULE PROBLEMS AT 270-856-4204 PINS TO BE BLACK OXIDED, COMPLETE UPON ARRIVAL.

Please deliver according to the following schedule:

Qty.	Unit	Delivery date	Time
10,000.000	Each	05/10/2000	00:00:00
10,000.000	Each	11/20/2000	: :

00020	1.000	EA	NON-RECURRING ENGINEERING CHARGE 450.00	EA	450.00

Delivery date 05/10/2000

Total net value USD 3,250.00

5-8-00/5000056699

MF1119

Automatic Swiss Corp.

• SWISS SCREW MACHINE PRODUCTS •

1130 W. National Avenue • P.O. Box #416 • Addison, Illinois 60101

Phone: (630) 543-3888 Fax #: (630) 543-1486

38081

SHIP TO
Remington
22 Rifle Trail
Hickory, Ky 42050

Shipped Via UPS Third Party Date 5-9-0

QUANTITY	DESCRIPTION
10,500	P# 300329
	PO M018020
	2 Boxes
	5250 pc 23#

Bolt Handle Pin
F300329

Received By

UPS TRACKING #'s
1Z 6 20 472 03 1007 1374 6
1358
11
11

CONFIDENTIAL

83

Golemboski, Matt R.

From: Morgan, Metty E.
Sent: Wednesday, May 31, 2000 9:41 AM
To: Golemboski, Matt R.
Cc: Hobbs, Janice M.; Chamblee, Danny
Subject: F300329 Pins

05/31/2000

Per Peter at Automatic Swiss, they ran the entire order when they ran this pin. He checked his records, and they are as follows: Bolt Handle Pin for 710
ran 21,600
shipped to Mayfield 10,500 in two boxes 23# ea.
remaining quantity on their shelf is 11,580 ea (Peter checked their stock today)

This means that we did receive 10,500 and we have either misplaced them or lost them. We need to look further for them.

Mett

83

Vendor	Part#	Direct Material	Direct Labor	Packaging	OH	Freight	Landed Cost	Unit Cost
Remington	300340	2.18	0.06	0	3.04	0	0	5.28
TNH	300340	1.21	0.57	0.09	2.8	0.47	0.17	5.31
Hauser	300340	1.4	1.26	0.02	4.21	0.11	0	7
Impro	300340	0.545	1.45	0.103	2.57	0.31	0.2	5.1875
Delta Max to Min		0.855	0.88	0.083	1.64	0.36	0.2	1.8125
Remington	300339	0.74	0.03	0	1.2	0	0	1.97
THN	300339	0.33	0.28	0.03	1.15	0.19	0.07	2.05
Hauser	300339	0.59	0.46	0.02	1.54	0.02	0	2.63
Impro	300339	0.178	0.57	0.04	1.035	0.1225	0.099	2.04

	Receiver 597	Revised Receiver 710	Revised Bolt Body 710
Run Time	0.0530	0.0058	0.0033
Material (inclu	3.40	2.18	0.74
Labor	0.56	0.06	0.03
Incremental Overhead			
Employee Ben	0.32	0.04	0.02
Tooling Costs	0.30	1.43	0.29
Deprciation	0.32	1.38	0.80
Property Taxes (.008 of Fixed Asset Cost	0.04	0.11	0.05
Electricity (esti	0.02	0.08	0.04
	4.96	5.28	1.98

REMINGTON ARMS COMPANY, INC.
FIREARMS - MAYFIELD

02/03/00

C:\WINDOWS\Desktop\[710 Capital & Start up Costs.xls]710 capital by operation

In House Capital

Part Name	Operation	Equipment	Capital Required	Capital Actual	(Under)/ Over	Date Ordered	Expected Delivery Date	PO #
Barrel	Cut off		$0		0			
	Drill	cones	$9,960	0	(9,960)	canceled		
	Ream		$0		0			
	Rifle	gages	$9,800		(9,800)			
	Wash & Stress Relieve	baskets	$6,900		(6,900)			
	Turn	gages	$10,100		(10,100)			
OP 70	Face & Chamber	gages	**$33,300**	23,595	(9,705)		See BBL Capital OP. 70	
	Face & Chamber	machine	**$222,880**	226,500	3,620	12/21	4/7	M017457
	Cut off and Crown	chuck	$15,000		(15,000)			
	wash and eddy current test	machine	$75,000		(75,000)			
	Induction Harden	machine	**$166,000**	153,500	(12,500)	1/17	4/20	M017471
	Inspect Hardness	machine	**$12,000**	13,800	1,800	1/28	2/29	M016619
	Drill and tap sight	fix & gages	$7,600		(7,600)			
	Roll mark	fix & gages	$6,300		(6,300)			
	Angulanty Straighten	fix & gages	$3,500		(3,500)			
	Centerless Polish		$0		0			
	Glass Bead Blast	fixtures	$2,500		(2,500)			
	Color	racks	$6,000		(6,000)			
Bolt Head	Inspect Purchased Part Blank	gage	$2,500		(2,500)			
	Superabrasive Grind Lugs	fix & gage	$43,800		(43,800)			
	CNC Machine Bolt Face Complete	fix & gage	$174,784		(174,784)			
	CNC Machine Cam Cuts, Ejector Retaining Pin Hole	fix & gage	$15,000		(15,000)			
	CNC Machine Bolt Head Retaining Pin Hole	fix & gage	$15,000		(15,000)			
	Punch Rem Extractor Rotation Notch	fix & gage	$10,000		(10,000)			
	Vendor Heat Treat		$0		0			
	Inspect for Hardness		$0		0			
	Black Oxide		$0		0			
Bolt Body	Inspect Purchased Part Blank	gage	$2,000		(2,000)			
	Machine Cam Cuts	machine	$0		0			
	Assemble Braze Bolt	machine	$90,000	59,635	(30,365)	31-Jan	8-May	M17490
	Deplate	tanks	$9,500		(9,500)			
	Eddy Current Test		$0		0			
	Glass Bead Blast	fix	$2,500		(2,500)			
	Black Oxide		$0		0			
Receiver	Inspect Purchased Part Blank	gage	$2,500		(2,500)			
	Machine A-load	Machine	$461,831		(461,831)			
	CMM		**$52,000**	52000	0			
	Machine B-load		$0		0			
	Vibratory tumble deburr		$0		0			

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REMINGTON ARMS COMPANY, INC.
FIREARMS - MAYFIELD 02/03/00

C:\WINDOWS\Desktop\[710 Capital & Start up Costs xls]710 capital by operation

Barrel Assembly	Press Receiver to Barrel	fixture	$0		0
	Inspect for straightness	gage	$3,500	6000	2,500
Final Assembly	Gallery	100yd range	$100,000		(100,000)
		snails	$30,000		(30,000)
		HVAC	$25,000		(25,000)
		other	**$10,000**	15202	5,202
					0
			$100,000		(100,000)
			$65,000		(65,000)
	TOTAL IN HOUSE CAPITAL		**$1,801,755**	550,232	($1,251,523)

Purchased Parts

Part #	Part Name	Capital	Tool	Capital Actual		Date Ordered	Expected Delivery Date	PO #
300327	Receiver Insert	**48,000**	Mold	45227	(2,773)			
300333	Side Plate	*10,000*	Stamping Die	7500	(2,500)	1/20	3/29	M017478
300334	Safety Arm	**23,880**	Stamping Die	19,900	(3,980)	1/26	4/11	M017491
300345	Bolt Stop	**6,820**	PM	5500	(1,320)	1/25	2/28	M017486
300361	Recoil Bracket	**2,225**	Stamping Die	550	(1,675)	1/19	3/15	M017477
300360	Bolt Handle Blank	**12,800**	Invest Cast Die	6895	(5,905)	1/24	3/27	M017484
300366	Bolt H. Braze Shim	*0*	Use Paste		0	canceled		
300368	Bolt Plug	**38,088**	Mold	38,000	(88)	12/14	3/21	M017443
300336	Firing pin head	**23,000**	MIM Mold	16,000	(7,000)	1/14	3/16	M017470
300362	Mag Latch	**33,480**	Mold	31,806	(1,674)	1/11	4/24	M017465
300363	Magazine Box	***28,000***	Mold	0	(28,000)	1/13	3/9	
300364	Magazine Follower	**33,300**	Mold}	0	(33,300)	see Mag Bottom		M017466
300365	Magazine Bottom	**47,880**	Mold}	73,786	25,906	1/12	4/17	M017466
	Stock	**150,300**	Mold	145,300	(5,000)	12/13	3/29	M017435
	Styrofoam Bed	0	Die		0			
	PPI	**38000**	See PPI Detail	13000	(25,000)			
	} follower and box bottom family mold							
	TOTAL VENDOR CAPITAL	$495,773		$ 403,464	(92,309)			

Addition Items Unbudgeted

Trigger	0	PM Die	16,000	16,000	14-Jan	16-Mar	M01740
Bolt Plug Insert	0	Extrusion die	2250	2,250	20-Jan	29-Mar	M017479
Tumbler	0	MIM Mold	20,000	20,000	20-Jan	29-Mar	M017480
Micro Centric Chuck	0	Chuck head	3645	3,645	21-Jan	10-Feb	M016555
Magazine Spring	0	Stamping Die					
TOTAL UNBUDGETTED			41,895	41,895			

Total Budget	**$2,297,528**
Total Committed	$ 995,591
Remainding	$1,301,937
Free Markets Avoidance	$461,831
Remainder to Budget	$840,106

Outstanding Purchases	$833,784
Remainder to Budget	$840,106
Projected Capital Spending Over/(under)	**(6,322)**

About $30,000 additional dollars will be available with outsourcing the bolt head

Barrel Capital - Line item Detail

	Item	Estimated Price	Actual Price	Date Ordered	Date Due	PO Number
	Air Gauge	$ 6,080.00				
	Basket	$ 4,708.00				
	Basket	$ 4,708.00				
	Profile Gauge	$ 5,000.00				
OP 70	AIR GAGE,SETRINGS,MASTER TAPER	$ 6,390.00	6393	28-Jan	28-Feb	M016617
OP 70	SHOULDER DEPTH GAGE W/MASTER AND DESIGN COST	$ 3,780.00	8732	25-Jan	31-Mar	M016586
OP 70	THROAT DEPTH GAGE W/MASTER AND DESIGN COST	$ 3,780.00				
OP 70	NECK DEPTH GAGE W/MASTER AND DESIGN COST	$ 3,780.00	8470	25-Jan	31-Mar	M016586
OP 70	2.995 LENGTH GAGE	$ 3,500.00				
OP 70	HEADING GAGE,HEADING PLUGS	$ 9,240.00				
	Okuma LB-300 MY 250T Space Turn Lathe	$ 201,700.00	226,500	12/21	4/7	M017457
	Thru-Spindle Coolant	$ 6,669.00				
	Hi-Pressure Coolant	$ 981.00				
	Manual Touch Setter	$ 3,200.00				
	Extra Memory (2100 ft)	$ 3,710.00				
	Chip Conveyor	$ 6,620.00				
	Installation	$ 2,138.22				
	Clamping Chuck	$ 15,000.00				
	Sight Hole location Fixture - Design & Build	$ 7,640.00				
	Sight Hole Position Gage - Design & Build	$ 6,875.00				
	Induction Hardening Machining	$ 166,000.00	153,500	1/17	4/20	M017471
	Rockwell 20BIT Hardness Tester	$ 14,800.00	13800	1/28	2/29	M016619
	Installation	$ 766.26				
	wash and eddy current test	$ 75,000 00				
	New Barrel Ejection System for Ilion's Press Machine	$ 5,000.00				
	Bench centers	$ 4,530 00				
	Hydraulic Press	$ 5,000.00				
	Roll Mark Fixture - Design and build	$ 3,730.00				
	Color Racks	$ 6,000.00				
	Glass Bead Fixture	$ 2,500.00				
	Locator/Roller Adapter	$ 1,500.00				
		$ 584,245	417395			
			$ (166,850)			

Additional Non Capital items that were included as capital tooling in the estimate

.708 C'BORE PLUG GAGE	$ 67.00
.7045 C'BORE PLUG GAGE	$ 67.00
C'BORE DIAL GAGE	$ 550 00
PISTOL GRIP INDICATOR	$ 500.00
CHAMFER GAGE	$ 220.00
.325 PLUG GAGE W/DESIGN	$ 960.00
FORM GAGE/LOCKING LUG W/DE	$ 570.00

710 Capital & Start up Costs

Item	Estimated Price	Actual Price	Date Ordered	Date Due	PO Number
G&L Retrofit	$ 10,000.00	13000	14-Dec	17-Jan	M016377

TOTAL PPI $13,000

PPI Capital

REMINGTON ARMS COMPANY, INC.
FIREARMS - MAYFIELD
710 Start Up Costs White Paper vs Actual
C:\WINDOWS\Desktop\[710 Capital & Start up Costs.xls]Start Up Costs

02/03/00

	White Paper Costs	Actual Costs Aug-99	Sep-99	Oct-99	Nov-99	Dec-99	Jan-00	Total	(Under)/ Over
Direct Labor	44,537.04							-	(44,537.04)
From Overhead									
Setters	25,914.48			1,394.36				1,394.36	(24,520.12)
Maintenance	27,083.36							-	(27,083.36)
EBs	56,570.23			648.62				648.62	(55,921.61)
Other Costs									
Travel	10,124.93	124.93		1,803.39	3,168.68	(1,010.34)	202.37	4,289.03	(5,835.90)
Material for Receiver	2,175.00		1,425.00					1,425.00	(750.00)
Material for Bolt Body	3,000.00		750.00					750.00	(2,250.00)
Material for 1,000 Learning Guns ($43.86/ea)	43,860.00							-	(43,860.00)
Material for 60 T&P Guns ($43.86/ea)	2,631.60							-	(2,631.60)
Material for 30 DAT Guns ($43.86/ea)	1,315.80							-	(1,315.80)
15,000 rns of Ammo	3,000.00							-	(3,000.00)
Disassembly & Rearrange	6,000.00							-	(6,000.00)
Tooling & Inspection	64,015.47		16,503.92	15,521.26	4,738.20	2,949.01		39,712.39	(24,303.09)
Prototype Parts	32,000.00		149.75		23,780.00		765.00	24,694.75	(7,305.25)
Material Handling Purchases	58,000.00						3,862.32	3,862.32	(54,137.68)
Miscellaneous	36,906.85				1,288.00		1,638.77	2,926.77	(33,980.08)
1999 startup Costs	417,134.76	124.93	18,828.67	19,367.63	32,974.88	1,938.67	6,468.46	79,703.24	(337,431.52)

Golemboski, Matt R.

From: Golemboski, Matt R.
Sent: Friday, January 14, 2000 11:46 AM
To: Bristol, II Ronald H.
Subject: m710

Just a quick update on M/710

Total capital committed to date	$530,000	
Actual Capital outlay to date	$133,000	(downpayments)
Capital to be commited 1st quarter	$475,000	(downpayments)

Tooling is being ordered. Not all designs are firmed (safety arm and bolt handle) is the main concern. Progress is gaining speed on our end, slow start getting everyone organized.

I will be out of the office on Tuesday and Wednesday (1/18-1/19/99) to go to a possible 710 bolt head vendor in Lexington, KY in effort to reduce machining in plant and to review M710 and NAS in E'town on Wednesday. Longo should be ready begining of February to take customer service parts. After that I will announce warehouse changes to come and start D&R of the warehouse in February. I will try to send you an update each week on the status of the spending and performance to the original plan that will be more complete than this.

Matt Golemboski

83

REMINGTON ARMS COMPANY, INC.
FIREARMS - MAYFIELD 01/21/00

C:\windows\TEMP\[Book1.xls]710 capital by operation

In House Capital

Part Name	Operation	Equipment	Capital Required	Capital Actual	Date Ordered	Expected Delivery Date
Barrel	Cut off		$0			
	Drill	cones	$9,960			
	Ream		$0			
	Rifle	gages	$9,800			
	Wash & Stress Relieve	baskets	$6,900			
	Turn	gages	$10,100			
	Face & Chamber	gages	$33,300			
	Face & Chamber	machine	**$222,880**	221,500	12/21	4/7
	Cut off and Crown	chuck	$15,000			
	wash and eddy current test	machine	$75,000			
	Induction Harden	machine	**$166,000**	148,950	1/17	4/20
	Inspect Hardness	machine	$12,000			
	Drill and tap sight	fix & gages	$7,600			
	Roll mark	fix & gages	$6,300			
	Angularity Straighten	fix & gages	$3,500			
	Centerless Polish		$0			
	Glass Bead Blast	fixtures	$2,500			
	Color	racks	$6,000			
	Inspect Purchased Part					
Bolt Head	Blank	gage	$2,500			
	Superabrasive Grind Lugs	fix & gage	$49,800			
	CNC Machine Bolt Face Complete	fix & gage	**$174,784**			
	CNC Machine Cam Cuts, Ejector Retaining Pin Hole	fix & gage	$15,000			
	CNC Machine Bolt Head Retaining Pin Hole	fix & gage	$15,000			
	Punch Form Extractor Rotation Notch	fix & gage	$10,000			
	Vendor Heat Treat		$0			
	Inspect for Hardness		$0			
	Black Oxide		$0			
	Inspect Purchased Part					
Bolt Body	Blank	gage	$2,000			
	Machine Cam Cuts	machine	$0			
	Assemble Braze Bolt	machine	$90,000			
	Deplate	tanks	$9,500			
	Eddy Current Test		$0			
	Glass Bead Blast	fix	$2,500			
	Black Oxide		$0			
	Inspect Purchased Part					
Receiver	Blank	gage	$2,500			
	Machine A-load	machine & CMM	**$513,831**			
	Machine B-load		$0			

REMINGTON ARMS COMPANY, INC.
FIREARMS - MAYFIELD 01/21/00

C:\windows\TEMP\[Book1.xls]710 capital by operation

	Vibratory tumble deburr		$0
Barrel Assembly	Press Receiver to Barrel	fixture	$0
	Inspect for straightness	gage	$3,500
Final Assembly	Gallery	100yd range	**$100,000**
		snails	$30,000
		HVAC	$25,000
		other	$10,000
			$100,000
			$65,000
			$1,801,755

Purchased Parts

Part #	Part Name	Capital	Tool	Capital Actual	Date Ordered	Expected Delivery Date
300327	Receiver Insert	48,000	Mold			
300333	Side Plate	*10,000*	Stamping Die			
300334	Safety Arm	23,880	Stamping Die			
300345	Bolt Stop	6,820	PM			
300361	Recoil Bracket	2,225	Stamping Die	550	1/19	3/15
300360	Bolt Handle Blank	12,800	Invest Cast Die			
300366	Bolt H. Braze Shim	*0*	Use Paste			
300368	Bolt Plug	38,088	Mold	38,000	12/14	3/21
300336	Firing pin head	23,000	MIM Mold	16,000	1/14	3/16
300362	Mag Latch	33,480	Mold	31,806	1/11	4/24
300363	Magazine Box	*28,000*	Mold	12,500	1/13	3/9
300364	Magazine Follower	33,300	Mold}	-		
300365	Magazine Bottom	47,880	Mold}	73,786	1/12	4/17
	Stock	**150,300**	Mold	145,300	12/13	3/29
	Styrofoam Bed	0	Die			
	PPI	38000				
		$495,773				

Total	**$2,297,528**
Installation	$0
	$2,297,528

REMINGTON ARMS COMPANY, INC. 01/21/00
FIREARMS - MAYFIELD
710 Capital White Paper vs Actual
C:\windows\TEMP\[710 Capital Start up Costs.xls]Capital Spend Out

	White Paper	Vendor	PO #	Amt	(Under)/ Over
Barrel					
cones	9,960				(9,960)
gages & fixtures	73,100				(73,100)
baskets	6,900				(6,900)
machine	**222,880**			221,500	(1,380)
chuck	15,000				(15,000)
machine	75,000				(75,000)
machine	**166,000**			148,950	(17,050)
machine	12,000				(12,000)
racks	6,000				(6,000)
Total	586,840			370,450	(216,390)
Bolt Head					
fix & gage	42,500				(42,500)
Superabrasive Grind Lugs	43,800				(43,800)
CNC Machine	**174,784**			-	(174,784)
Total	261,084			-	(261,084)
Bolt Body					
gage & Fixture	4,500				(4,500)
machine	90,000				(90,000)
tanks	9,500				(9,500)
Total	104,000			-	(104,000)
Receiver					
fix & gage	2,500				(2,500)
machine	**513,831**				(513,831)
Total	516,331			-	(516,331)
Range					
100yd range	**290,000**				(290,000)
snails	30,000				(30,000)
other	10,000				(10,000)
Total	330,000			-	(330,000)
Purchased Parts					
Receiver Insert	48,000	Hanson		48,000	-
Side Plate	*10,000*	quare Stamping			(10,000)
Safety Arm	23,880				(23,880)
Bolt Stop	6,820				(6,820)
Recoil Bracket	2,225	quare Stamping		550	(1,675)
Bolt Handle Blank	12,800				(12,800)
Bolt Plug	38,088	Kellems & Coe	M017443	38,000	(88)
Firing pin head	23,000	Megamet		16,000	(7,000)
Mag Latch	33,480	Par 4 Plastics		31,806	(1,674)
Magazine Box	*28,000*	Brainin		12,500	(15,500)
Magazine Follower	33,300	Par 4 Plastics		73,786	40,486
Magazine Bottom	47,880	Par 4 Plastics		-	(47,880)
Stock	**150,300**	Par 4 Plastics	M017435	145,348	(4,952)
PPI	41,500				(41,500)

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REMINGTON ARMS COMPANY, INC. 01/21/00
FIREARMS - MAYFIELD
710 Capital White Paper vs Actual
C:\windows\TEMP\[710 Capital Start up Costs.xls]Capital Spend Out

	White				(Under)/
Total	499,273			365,990	(133,283)
Other					
Press to attach Barrel/Receiver	-	In House	N/A	5,811	5,811
Installation	61,000				(61,000)
Total	61,000			5,811	(55,189)
Total Capital	2,358,528			742,251	(1,616,277)

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M/710 Weekly Progress Report – 1/20/00

	Actual	Budget
Capital Dollars Spent (Total Project)		$2,350,000
Capital Dollars Committed Dollars (Total Project)	$721,144.00	
Pre-op Dollars Spent (Total Project)		$414,000
Capital Dollars Spent (month to date)		
Capital Dollars Committed Dollars (month to date)	$282,142.00	
Pre-op Dollars Spent (month to date)	0	
T&P Date (estimated build completion date)	6/9/00	5/30/00
Product Price	$89.00	$92.79

- Product price as of information at close of business 1/19/00. Price includes $.42 for 1st year amortization of Par 4 drilling fixture.
- T&P date pushed out as a result of delay in getting safety arm tool ordered. Current lead time 18-20 wks, which puts us in the end of May for part delivery. Delay is Marketing. Safety arm is currently the constraint.
- Overhead percentages standardized with white paper at 291% variable and 157% fixed, resulting in a price drop of approximately $4.00 from last week's price report.

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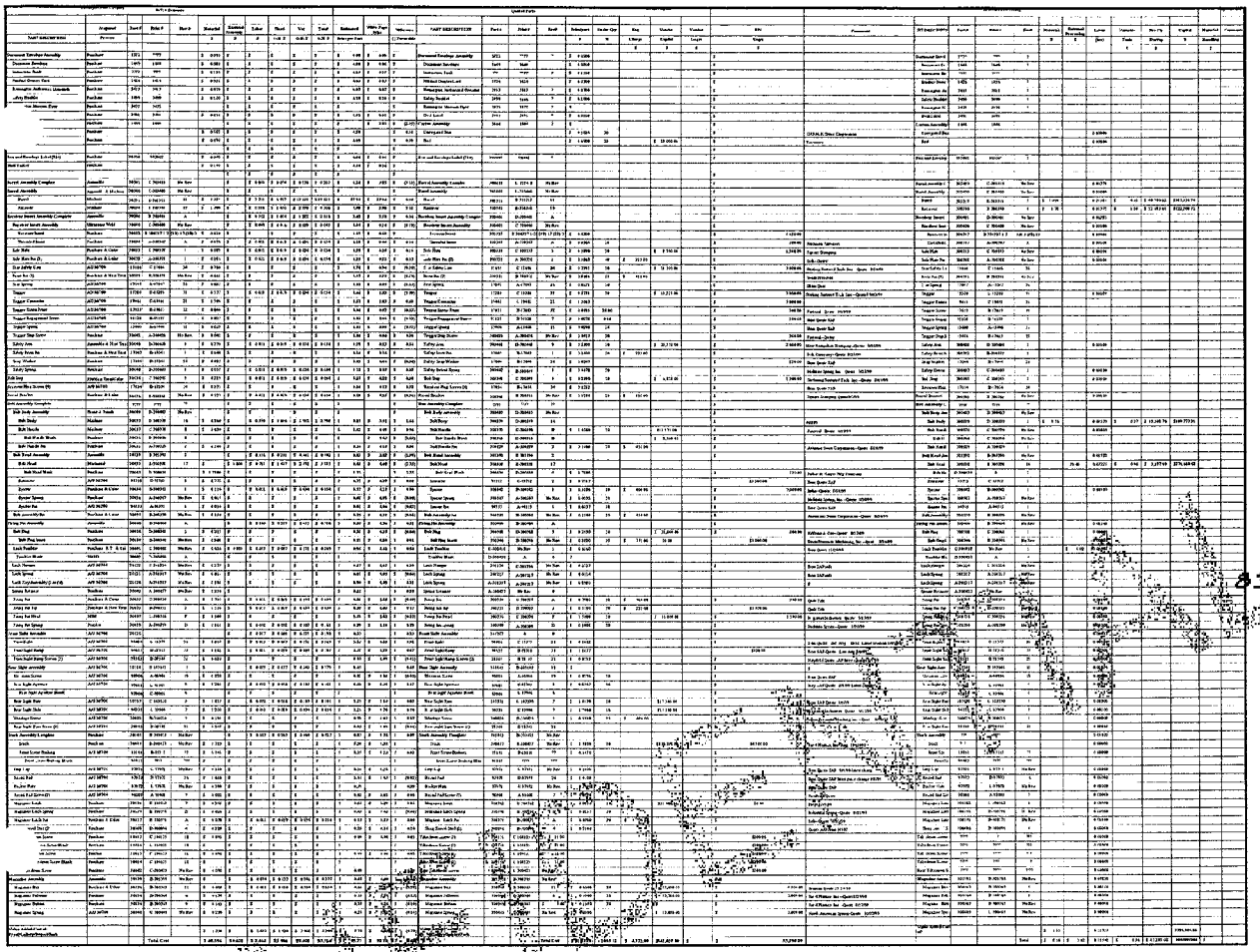

FIRST QUARTER CAPITAL TOOL EXPENDITURES

PART Number	DESCRIPITON	VENDOR	TOOLING CHARGE	AMOUNT OF TOOLING CHARGE DUE 1ST QTR.
300437	STOCK	PAR 4 PLASTIC	$145,300.00	***$48,433.33
300365	BOX BOTTOM	PAR 4 PLASTIC	$73.786.00	*** $24595.33
300333	SIDE PLATE	SQUARE STAMPING	$8,500.00	$4,250.00
300364	FOLLOWER	PAR 4 PLASTIC	$33,300.00	***$11,100.00
300362	LATCH	PAR 4 PLASTIC	$31,806.00	***$10602.00
300368	BOLT PLUG	KELLEMS AND COE	$38,000.00	***$12666.67
300405	MAGAZINE SPRING		$13,900.00	$4,633.33
300345	BOLT STOP	STERLING SINTERED	$6,820.00	$3,410.00
300370	BOLT HANDLE	NORTH AMERICAN	$6,895.00	$3,447.50
300336	FIRING PIN HEAD		$17,500.00	$5,833.33
300361	RECOIL BRACKET	SQUARE STAMPING	$550.00	$550.00
300420	LOCK TUMBLER	ILION	$39,000.00	$13,000.00
300435	TRIGGER	STERLING SINTERED	$15,225.00	$5,075.00
300363	MAG BOX	BRAININ DEER PARK	$12,500.00	***$4166.67
	INDUCTION HEAT TREAT CENTER	WELDUCTION		$156,450.00
	TOTAL			$207,749.16

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***THESE PURCHASE ORDERS ARE ALREADY IN PLACE AS OF 1/19/00

Remington Arms Company, Inc.
Mayfield Plant
22 Rifle Trail
P.O. Box 99
Hickory, KY 42051
Phone: (270) 856-4200
Fax: (270) 856-3233

Remington.

Fax

To: Danny Diaz
From: Matt G.
Fax:
Pages: 2
Phone:
Date: 12/14/99
Re:
CC: Mike Kreager

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

• Comments:

THIS IS THE QUOTE FOR THE M/700 MAGAZINE BOX

83

MF1136

STERLING SINTERED TECHNOLOGIES
249 ROCKWELL STREET
WINSTED CT 06098

FACSIMILE TRANSMITTAL SHEET

TO: JOE ZAJK	FROM: ANN DELUTRIE
COMPANY: REMINGTON	DATE: 12/08/99
FAX NUMBER: 270-856-3233	TOTAL NO. OF PAGES INCLUDING COVER: 1
PHONE NUMBER: 270-856-4209	SENDER'S REFERENCE NUMBER:
RE: RFQ	YOUR REFERENCE NUMBER:

☐ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

83

JOE,

IN REFERENCE TO P/N C-300362 REV 4, WE SINCERELY APPRECIATE THE OPPORTUNITY TO LOOK AT THIS, BUT FEEL THE LEAST COSTLY P.M. APPROACH WOULD NOT BE COMPETITIVE WITH A DIE CASTING.

IF YOU HAVE ANY QUESTIONS, PLEASE DON'T HESITATE TO CALL.

REGARDS,
ANN

PHONE: 860-379-2753

FAX: 860-738-0664

ISO 9001

Brainin

Deer Park Die & Stamping Division — Fairfield

QUOTATION

December 8, 1999

Remington Arms Company, Inc.
22 Rifle Trail
PO Box 99
Hickory, Ky 42051

Attn: Metty Morgan
Ref: Part # D-300408 rev. 7

We are pleased to submit the following quotation for your consideration.

TOOLING COST

Design and build progressive and secondary die to stamp part complete $42,000.00

PRODUCTION COST PER/M

Quantities:	Price/M
20/M	$212.93/M
40/M	$166.78/M
60/M	$151.39/M

Notes: Quote based on running part in quarterly production runs.
Parts will be bulk packed in Deer Park boxes on a skid.
Quote is based on stamping of part ONLY. Material quoted is a 1010/1020 CRS.
Remington to be responsible for Black Oxide and Heat Treating.
Brainin-Deer Park takes exception to holding the 0.006" True Position tolerance.

Inspection: Production parts to be sample inspected per Deer Park's internal procedure when no other standard is specified by the client.
Delivery: Tooling, 14-16 weeks. Production, 4-6 weeks upon receipt of raw material.
Terms: Tooling, 1/3 at PO, 1/3 at sample submission, 1/3 at customer approval.
Terms: Production, Net 30 days.
FOB: Deer Park

Thank you for considering **Deer Park Die & Stamping, an ISO 9001 certified firm,** as your supplier.

Best Regards,

Jerry Rossman, Sales Engineer

Edward J Kreuzer, Vice President/General Manager

4348 LE SAINT COURT, FAIRFIELD, OH 45014-5486, TEL: (513) 874-9760, FAX: (513) 874-9764, www.brainin.com

ISO 9001

Brainin

Deer Park Die & Stamping Division — Fairfield

QUOTATION

December 8, 1999

Remington Arms Company, Inc.
22 Rifle Trail
PO Box 99
Hickory, Ky 42051

Attn: Metty Morgan
Ref: Part # C-30-333 rev. 5, Side Plate

We are pleased to submit the following quotation for your consideration.

TOOLING COST

Design and build progressive and secondary die to stamp part complete $17,500.00

PRODUCTION COST PER/M

Quantities:	Price/M
20/M	$160.88/M
40/M	$114.72/M
60/M	$ 99.34/M

Notes: Quote based on running part in quarterly production runs.
Parts will be bulk packed in Deer Park boxes on a skid.
Quote is based on stamping of part ONLY. Material quoted is a 1010/1020 CRS.
Remington to be responsible for Black Oxide.

Inspection: Production parts to be sample inspected per Deer Park's internal procedure when no other standard is specified by the client.
Delivery: Tooling, 14-16 weeks. Production, 4-6 weeks upon receipt of raw material.
Terms: Tooling, 1/3 at PO, 1/3 at sample submission, 1/3 at customer approval.
Terms: Production, Net 30 days.
FOB: Deer Park

Thank you for considering **Deer Park Die & Stamping, an ISO 9001 certified firm,** as your supplier.

Best Regards,

Jerry Rossman, Sales Engineer

Edward J. Kreuzer, Vice President/General Manager

4348 LE SAINT COURT, FAIRFIELD, OH 45014-5486, TEL: (513) 874-9760, FAX: (513) 874-9764, www.brainin.com

Swiss Precision Machining, Inc.
7550 N. Oak Park Ave., Niles, IL 60714 (847) 647-7111 / FAX (847) 647-7110

December 8, 1999

Remington Arms Company, Inc.
22 Rifle Trail
P.O. Box 99
Hickory, KY 42051
ATTN: Metty Morgan

Dear Metty:

We are pleased to submit the following quotation for your consideration:

Part #B-17043
20,000 @ $.165 each
40,000 @ $.149 each
60,000 @ $.143 each
Non-recurring engineering fee $150.00
Note: Part is quoted less color as we could not identify the Nitre Black with our outside sources.

Our current lead-time is 6-8 weeks and our terms are Net 30. All parts will be shipped FOB Niles, IL. If you have any questions please don't hesitate to call.

Sincerely,

SWISS PRECISION MACHINING, INC.

Joseph A. Haupers
Sales Manager

JAH/kas

SPM

TOTAL P.02

PRICE QUOTATION

Automatic Swiss Corporation
1130 W. National Avenue
P.O. Box 416
Addison, IL. 60101
Phone: (630) 543-3888
Fax: (630) 543-1486

To : REMINGTON ARMS
Attn : METTY MORGAN
PHONE:

Date 12/8/99
Quote #
Rep.

83

Part #	B0-17043
Part Description	PIN
Material Type	12L14

Exceptions:
SMALL CUT-OFF TIP ONE END

Quantity	Price/Pc
20000	$ 0.150
40000	$ 0.125
60000	$ 0.115

Engineering 350

By JIM RUPPRECHT

Lead Time 6 WEEKS Terms Are 1/2 10 Net 30 F.O.B. Addison

Note: All quotations and agreements are contingent upon strikes, accidents, fires, availability of materials and all other causes beyond our control. Prices are based on costs and conditions existing on date of quotation and are subject to change by Seller before final acceptance.
Typographical and stenographic errors are subject to correction. Purchaser assumes liability for patent and copyright infringement when goods are made to Purchaser's specifications. Conditions not specifically stated herein shall be governed by established trade customs. Terms inconsistent with those stated herein which may appear on Purchaser's formal order will not be binding on the Seller.

47794

ISELI — WALWORTH, WI 53184

PRECISION MACHINED COMPONENTS - PHONE (414) 275-2108 - FAX (414) 275-6094
402 NORTH MAIN STREET, P.O. BOX 1060

QUOTATION

A DANAHER COMPANY

ATTN: Metty Morgan
Remington Arms Company
P.O. Box 99
Hickory, KY 42051

BY SUBMITTING YOUR PURCHASE ORDER FOR THESE GOODS, YOU AGREE TO THE TERMS AND CONDITIONS OF SALE SET FORTH ON THE FACE AND REVERSE SIDES HEREOF. ANY DIFFERENT OR ADDITIONAL TERMS IN YOUR ACCEPTANCE OF THIS OFFER ARE HEREBY OBJECTED TO.

THANK YOU FOR YOUR INQUIRY. WE ARE PLEASED TO SEND THE FOLLOWING QUOTATION.

PLEASE REFER ALL CORRESPONDENCE TO ISELI COMPANY AT WALWORTH, WISCONSIN.

DATE	REFERENCE	
12-7-99		OUR TERMS ARE NET 30 DAYS

83

QUANTITY	DESCRIPTION	PRICE
20,000 pcs.	P/N B-17043 Safety Pivot Pin	$ .14/ea.
40,000 pcs.	"	$ .12/ea.
60,000 pcs.	"	$ .11/ea.
	Non-recurring Engineering Charge - $325.00	

Quoted in C12L14 material.

Quoted with Nitre Black reading Black Oxide.

Quoted with .010" Max. cornerbreaks unless noted.

ABOVE PRICES FIRM UNTIL 6-30-00 - Subject to raw material costs.

DELIVERY CAN ONLY BE ASCERTAINED AT TIME OF ORDER PLACEMENT.

"It is unwise to pay too much, but it is worse to pay too little. When you pay too much, you lose a little money, that is all. When you pay too little, you sometimes lose everything, because the thing you bought was incapable of doing the thing it was bought to do. The common law of business balance prohibits paying a little and getting a lot — it can't be done.

If you deal with the lowest bidder, it is well to add something for the risk. And if you do that, you will have enough for something better."
John Ruskin (1819-1900)

Our quality standards are based on individual customer preference

Very truly yours,

Carey Luiting
SALES MANAGER

ISELI COMPANY

MF1142

47795

ISELI — WALWORTH, WI 53184

PRECISION MACHINED COMPONENTS - PHONE (414) 275-2108 - FAX (414) 275-6094
402 NORTH MAIN STREET, P.O. BOX 1060

QUOTATION

A DANAHER COMPANY

ATTN: Metty Morgan
Remington Arms Company
P.O. Box 99
Hickory, KY 42051

BY SUBMITTING YOUR PURCHASE ORDER FOR THESE GOODS, YOU AGREE TO THE TERMS AND CONDITIONS OF SALE SET FORTH ON THE FACE AND REVERSE SIDES HEREOF. ANY DIFFERENT OR ADDITIONAL TERMS IN YOUR ACCEPTANCE OF THIS OFFER ARE HEREBY OBJECTED TO.

THANK YOU FOR YOUR INQUIRY. WE ARE PLEASED TO SEND THE FOLLOWING QUOTATION.

PLEASE REFER ALL CORRESPONDENCE TO ISELI COMPANY AT WALWORTH, WISCONSIN.

DATE	REFERENCE	
12-7-99		OUR TERMS ARE NET 30 DAYS

QUANTITY	DESCRIPTION	PRICE
20,000 pcs.	P/N A-300427 Spring Retainer	$ .09/ea.
40,000 pcs.	"	$ .08/ea.
60,000 pcs.	"	$ .07/ea.
	Non-recurring Engineering Charge - $200.00	

Quoted with .010" Max. cut-off nib on one end.

ABOVE PRICES FIRM UNTIL 6-30-00 - Subject to raw material costs.

DELIVERY CAN ONLY BE ASCERTAINED AT TIME OF ORDER PLACEMENT.

"It is unwise to pay too much, but it is worse to pay too little. When you pay too much, you lose a little money, that is all. When you pay too little, you sometimes lose everything, because the thing you bought was incapable of doing the thing it was bought to do. The common law of business balance prohibits paying a little and getting a lot — it can't be done.

If you deal with the lowest bidder, it is well to add something for the risk. And if you do that, you will have enough for something better."
John Ruskin (1819-1900)

Our quality standards are based on individual customer preference

Very truly yours,

Carey Luhing
SALES MANAGER

ISELI COMPANY

MF1143

copy

Remington®

REMINGTON ARMS COMPANY, INC.
22 RIFLE TRAIL
P.O. BOX 99
HICKORY, KY 42051

TEL: 270-856-4200
FAX: 270-856-3233

3/8/00

Sterling Sintered Technologies
249 Rockwell Street
Winsted, CT 06098-1946

Attn: Roland

Due to some possible design changes, we regretfully request that Sterling please put a "hold" on the manufacturing of the Trigger tool. Drawing # C-300435, PO# M017487. 83

A meeting will be held today in hopes of making final decisions in this matter. Please hold all production of this tool until you are contacted by myself or our Engineering Manager, Joe Zajk.

Thank you for your understanding and cooperation in this matter.

Sincerely,

Metty Morgan

Metty E. Morgan
Materials Manager
Mayfield Plant

```
  Material              Short text                                  PGp     Mat. gp.
  Requisn.    Item       Requested qty.  Un  Deliv. date  Requester        Plnt SLoc
  S C R Oty. I A               Req. val. Cur Release date Trackg.no.        SPl. MC
  Release strategy            Release indicator      Release option
X                       WGC SPECIAL. TRIPLE CIRCUIT, AIR SPINDLE M09      03
  1000328038 00010              1.000 EA  D 02/28/2000 GOLEMBOSKIMR   MAY
  N R A NB     F              5,467.25 USD   01/27/2000 HUTSONLR
  S1                          B APPROVED FOR PURCHAS Release effected
X                       NON RECURRING ENGINEER CHARGE FOR ABOVE  M09      03
  1000328038 00020              1.000 EA  D 02/28/2000 GOLEMBOSKIMR   MAY
  N R A NB     F              926.25 USD   01/27/2000 HUTSONLR
  S1                          B APPROVED FOR PURCHAS Release effected
X                       WGC SPECIAL AIR PROBE TO CHK .3000/.3010 M09      03
  1000328038 00030              1.000 EA  D 02/28/2000 GOLEMBOSKIMR   MAY
  N R A NB     F              2,605.38 USD   01/27/2000 HUTSONLR
  S1                          B APPROVED FOR PURCHAS Release effected
X                       RGM-XX-C-3000 RING GAGE, MASTER          M09      03
  1000328038 00040              1.000 EA  D 02/28/2000 GOLEMBOSKIMR   MAY
  N R A NB     Z                114.95 USD   01/27/2000 HUTSONLR
  S1                          B APPROVED FOR PURCHAS Release effected
X                       RGM-XX-C-3010 RING GAGE, MASTER          M09      03
  1000328038 00050              1.000 EA  D 02/28/2000 GOLEMBOSKIMR   MAY
  N R A NB     Z                114.95 USD   01/27/2000 HUTSONLR
  S1                          B APPROVED FOR PURCHAS Release effected
X                       WGC SPECIAL AIR PROBE TO CHK .3080/.3090 M09      03
  1000328038 00060              1.000 EA  D 02/28/2000 GOLEMBOSKIMR   MAY
  N R A NB     Z              1,895.25 USD   01/27/2000 HUTSONLR
  S1                          B APPROVED FOR PURCHAS Release effected
X                       RGM-XX-C-.3080 RING GAGE, MASTER         M09      03
  1000328038 00070              1.000 EA  D 02/28/2000 GOLEMBOSKIMR   MAY
  N R A NB     Z                114.95 USD   01/27/2000 HUTSONLR
  S1                          B APPROVED FOR PURCHAS Release effected
X                       RGM-XX-C-.3090 RING GAGE, MASTER         M09      03
  1000328038 00080              1.000 EA  D 02/28/2000 GOLEMBOSKIMR   MAY
  N R A NB     Z                114.95 USD   01/27/2000 HUTSONLR
  S1                          B APPROVED FOR PURCHAS Release effected
X                       AEG 21-33-10 MICRO-AIR DIGTAL COMPARATOR M09      03
  1000328038 00090              1.000 EA  D 02/28/2000 GOLEMBOSKIMR   MAY
  N R A NB     F              4,393.75 USD   01/27/2000 HUTSONLR
  S1                          B APPROVED FOR PURCHAS Release effected
X                       9/32 ENDMILL #89145A42                   M09      03
  1000330051 00010              1.000 EA  D 01/27/2000 GOLEMBOSKIMR   MAY
  N R A NB     Z                14.64 USD   01/25/2000 HUTSONLR
  S1                          B APPROVED FOR PURCHAS Release effected
  Desired vendor              101041     MCMASTER-CARR SUPPLY CO
X                       19/64 ENDMILL #89145A43                  M09      03
  1000330051 00020              1.000 EA  D 01/27/2000 GOLEMBOSKIMR   MAY
  N R A NB     Z                14.72 USD   01/25/2000 HUTSONLR
  S1                          B APPROVED FOR PURCHAS Release effected
X                       5/16 ENDMILL #89145A44                   M09      03
  1000330051 00030              1.000 EA  D 01/27/2000 GOLEMBOSKIMR   MAY
  N R A NB     Z                14.02 USD   01/25/2000 HUTSONLR
  S1                          B APPROVED FOR PURCHAS Release effected
X                       21/64 ENDMILL #89145A45                  M09      03
  1000330051 00040              1.000 EA  D 01/27/2000 GOLEMBOSKIMR   MAY
  N R A NB     Z                14.72 USD   01/25/2000 HUTSONLR
  S1                          B APPROVED FOR PURCHAS Release effected
X                       PLUMB BOB AND CASE #2178A1               M09      03
  1000330051 00050              5.000 EA  D 01/27/2000 GOLEMBOSKIMR   MAY
  N R A NB     Z                57.80 USD   01/25/2000 HUTSONLR
  S1                          B APPROVED FOR PURCHAS Release effected
X                       .834 DIAMETER 5C COLLET                  M09      03
  1000330052 00010              2.000 EA  D 01/27/2000 GOLEMBOSKIMR   MAY
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Material            Short text                                PGp     Mat. gp.
Requisn.    Item     Requested qty.  Un  Deliv. date  Requester     Plnt SLoc
S C R Oty. I A             Req. val. Cur Release date Trackg.no.     SPl. MC
Release strategy            Release indicator      Release option

N R A NB     Z                 68.00 USD   01/25/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
Desired vendor      1658772    HARDINGE BROTHERS INC
X                   F40 CW RS WM 25 LIGHT BULBS              M09     28
1000330053 00010             30.000 EA  D 01/31/2000 GOLEMBOSKIMR  MAY
N R A NB     Z                 37.50 USD   01/25/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
Desired vendor      103595     Consolidated Electrical Distributor
X                   DREMEL GRINDSTONE 3/16 #454-9411-4501    M09     MISC
1000330054 00010              6.000 EA  D 01/31/2000 GOLEMBOSKIMR  MAY
N R A NB     Z                 28.68 USD   01/25/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
Desired vendor      102641     MSC INDUSTRIAL SUPPLY
X                   SANDING BELT/DRUMS #09023904             M09     MISC
1000330054 00020              4.000 EA  D 01/31/2000 GOLEMBOSKIMR  MAY
N R A NB     Z                  9.00 USD   01/25/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
X                   78678612 46040 SER 830M 4 FL ENDMILLS    M09     03
1000331759 00010              2.000 EA  D 01/26/2000 GOLEMBOSKIMR  MAY
N R A NB     Z                 15.90 USD   01/26/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
Desired vendor      102641     MSC INDUSTRIAL SUPPLY
X                   01192715 3/32 4 FL 1/8 SHK SOLID CARBIDE M09     03
1000331759 00020              2.000 EA  D 01/26/2000 GOLEMBOSKIMR  MAY
N R A NB     Z                 10.00 USD   01/26/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
X                   FREIGHT                                  M09     03
1000331759 00030              1.000 EA  D 01/26/2000 GOLEMBOSKIMR  MAY
N R A NB     Z                  7.93 USD   01/26/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
X                   SD601416 SPINDLE, EX REACH 4S2-107-1D05  M09     17
1000331761 00010              1.000 EA  D 01/26/2000 GOLEMBOSKIMR  MAY
N R A NB     Z             10,535.00 USD   01/26/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
Desired vendor      6093720    EDGETEK MACHINE CORP
X                   GATES BELT, 10 RIB #10/5M775JB           M09     17
1000331761 00020              1.000 EA  D 01/26/2000 GOLEMBOSKIMR  MAY
N R A NB     Z                149.17 USD   01/26/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
X                   FREIGHT                                  M09     17
1000331761 00030              1.000 EA  D 01/26/2000 GOLEMBOSKIMR  MAY
N R A NB     Z                219.65 USD   01/26/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
X                   DRILL .292 DIA X 54" LONG W/ KIDNEY      M09     03
1000331768 00010             36.000 EA  D 02/21/2000 GOLEMBOSKIMR  MAY
N R A NB     Z             2,736.00 USD   01/26/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
Desired vendor      5380140    DANJON MANUFACTURING CORP
X                   REAMERS .299 DIA. TO BE PVD COATED WITH  M09     03
1000331768 00020             12.000 EA  D 02/21/2000 GOLEMBOSKIMR  MAY
N R A NB     Z             1,749.60 USD   01/26/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
X                   BUTTON .3112 GROOVE X .301 BORE DIAMETER M09     03
1000331768 00030              5.000 EA  D 02/21/2000 GOLEMBOSKIMR  MAY
N R A NB     Z             1,045.00 USD   01/26/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
X                   DRILL BIT 5/8 #2906A11                   M09     03
1000331809 00010              1.000 EA  D 01/28/2000 GOLEMBOSKIMR  MAY
N R A NB     Z                21.59 USD   01/26/2000 HUTSONLR
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Material            Short text                                PGp     Mat. gp.
Requisn.    Item     Requested qty.  Un  Deliv. date  Requester     Plnt SLoc
S C R Oty. I A             Req. val. Cur Release date Trackg.no.     SPl. MC
Release strategy            Release indicator      Release option
S1                        B APPROVED FOR PURCHAS Release effected
Desired vendor      101041     MCMASTER-CARR SUPPLY CO
X                   MODEL 2001T DIGITAL ROCKWELL TESTER       M09     LAB EQUIP
1000335538 00010            1.000 EA  D 02/29/2000 GOLEMBOSKIMR  MAY
N R A NB     F            13,800.00 USD  01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
Desired vendor      3557873    WILSON INSTRUMENT INC
X                   REPLENISH POSTAGE MACHINE METER           M09     02
1000335539 00010            1.000 EA  D 01/28/2000 GOLEMBOSKIMR  MAY
N R A NB     K            375.00 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
Desired vendor      102634     United States Postal Service
X                   3/16" RND STAINLESS 316 GRADE X 12'STICK M09     44
1000335540 00010            2.000 EA  D 02/04/2000 GOLEMBOSKIMR  MAY
N R A NB     Z              6.00 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
Desired vendor      106525     TBI STEEL
X                   1/4" RND STAINLESS 316 GRADE X 12' STICK M09     44
1000335540 00020           21.000 EA  D 02/04/2000 GOLEMBOSKIMR  MAY
N R A NB     Z            114.45 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
X                   1/2" RND STAINLESS 316 GRADE X 12' STICK M09     44
1000335540 00030            1.000 EA  D 02/04/2000 GOLEMBOSKIMR  MAY
N R A NB     Z             20.95 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
X                   1" X 1/2" FLAT STNLESS 316 GRD X 12' STIC M09    44
1000335540 00040           16.000 EA  D 02/04/2000 GOLEMBOSKIMR  MAY
N R A NB     Z            965.20 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
X                   ROD 3/32 5 LB BOX #7972A278               M09     44
1000335541 00010            1.000 EA  D 02/03/2000 GOLEMBOSKIMR  MAY
N R A NB     Z             36.50 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
Desired vendor      101041     MCMASTER-CARR SUPPLY CO
X                   7/8" ROUND 6' LENGTH #89325K19            M09     44
1000335541 00020           16.000 EA  D 02/03/2000 GOLEMBOSKIMR  MAY
N R A NB     Z          1,128.00 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
X                   1/8" ROUND 6' LENGTH #89325K11            M09     44
1000335541 00030           16.000 EA  D 02/03/2000 GOLEMBOSKIMR  MAY
N R A NB     Z            115.20 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
X                   1/8" PRESSURE GUAGE #38105K13             M09     03
1000335541 00040            4.000 EA  D 02/03/2000 GOLEMBOSKIMR  MAY
N R A NB     Z             35.40 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
X                   GRINDER #46225A81                         M09     03
1000335541 00050            1.000 EA  D 02/03/2000 GOLEMBOSKIMR  MAY
N R A NB     Z            136.25 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
X                   #06235691 MITUTOYO MINI-MIKE              M09     03
1000335542 00010            1.000 EA  D 02/10/2000 GOLEMBOSKIMR  MAY
N R A NB     Z            174.31 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
Desired vendor      102641     MSC INDUSTRIAL SUPPLY
X                   #01044585 MTI DIGITEST CALIPER GAGE       M09     03
1000335542 00020            1.000 EA  D 02/10/2000 GOLEMBOSKIMR  MAY
N R A NB     Z            686.40 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
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Material            Short text                                  PGp     Mat. gp.
Requisn.    Item     Requested qty.  Un  Deliv. date  Requester      Plnt SLoc
S C R Oty. I A             Req. val. Cur Release date Trackg.no.      SPl. MC
Release strategy            Release indicator      Release option

X                   #98668130 CHAMFER CHECK                         M09     03
1000335542 00030              1.000 EA  D 02/10/2000 GOLEMBOSKIMR   MAY
N R A NB     Z              122.06 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
X                   #98556434 NON-CAT MTI CORP                      M09     03
1000335542 00040              1.000 EA  D 02/10/2000 GOLEMBOSKIMR   MAY
N R A NB     Z              257.84 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
X                   #00622464 MITUTOYO DIG DEPTH GAGE               M09     03
1000335542 00050              1.000 EA  D 02/10/2000 GOLEMBOSKIMR   MAY
N R A NB     Z              302.72 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
X                   ALIGNMENT BORE PER PRINT                        M09     TOOLING
1000335543 00010              1.000 EA  D 02/15/2000 GOLEMBOSKIMR   MAY
N R A NB     Z              375.00 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
Desired vendor      104762     G AND H TOOL & DIE, INC
X                   FEDERAL SERIES C MODEL C81 DIAL INDICATO        M09     03
1000335544 00010              2.000 EA  D 02/04/2000 GOLEMBOSKIMR   MAY
N R A NB     Z              214.00 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
Desired vendor      102641     MSC INDUSTRIAL SUPPLY
X                   TOTAL LABOR-8 HOURS AT REGULAR TIME             M09     SERVICE
1000335545 00010              1.000 EA  D 01/28/2000 GOLEMBOSKIMR   MAY
N R A NB     Z              544.00 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
Desired vendor      102390     PROCESS & POWER
X                   TOTAL LABOR OT 1-1/2 HOURS                      M09     SERVICE
1000335545 00020              1.000 EA  D 01/28/2000 GOLEMBOSKIMR   MAY
N R A NB     Z              153.00 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
X                   MILEAGE-150 MILES AT .85 A MILE                 M09     SERVICE
1000335545 00030              1.000 EA  D 01/28/2000 GOLEMBOSKIMR   MAY
N R A NB     Z              127.50 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
X                   COUPLING SET I-R NEEDED FOR REPAIR              M09     SERVICE
1000335545 00040              1.000 EA  D 01/28/2000 GOLEMBOSKIMR   MAY
N R A NB     Z               14.90 USD   01/28/2000 HUTSONLR
S1                        B APPROVED FOR PURCHAS Release effected
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Order 000000292068

Material Requisn. S C R QTy.	Item I A	Short text Requested qty. Ordered qty.	Un Un	Deliv. date Release date	PGp Requester Trackg.no.	Mat. gp. Plnt SLoc SPl. MC
		WGC SPECIAL. TRIPLE CIRCUIT, AIR SPINDLE M09				03
1000328038	00010	1.000	EA	D 02/28/2000	GOLEMBOSKIMR	MAY
N R A NB	F			01/27/2000	HUTSONLR	
		NON RECURRING ENGINEER CHARGE FOR ABOVE M09				03
1000328038	00020	1.000	EA	D 02/28/2000	GOLEMBOSKIMR	MAY
N R A NB	F			01/27/2000	HUTSONLR	
		WGC SPECIAL AIR PROBE TO CHK .3000/.3010 M09				03
1000328038	00030	1.000	EA	D 02/28/2000	GOLEMBOSKIMR	MAY
N R A NB	F			01/27/2000	HUTSONLR	
		AEQ 21-33-10 MICRO-AIR DIGTAL COMPARATOR M09				03
1000328038	00090	1.000	EA	D 02/28/2000	GOLEMBOSKIMR	MAY
N R A NB	F			01/27/2000	HUTSONLR	
		MODEL 2001T DIGITAL ROCKWELL TESTER M09				LAB EQUIP
1000335538	00010	1.000	EA	D 02/29/2000	GOLEMBOSKIMR	MAY
N R A NB	F			01/28/2000	HUTSONLR	
Desired vendor		3557873 WILSON INSTRUMENT INC				

710 Equipment

ORIGINAL

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Cost center 0000028200

Material Requisn. S C R	Item I A	Short text Requested qty. Ordered qty.	Un Un	Deliv. date Release date	Requester Trackg.no.	PGp	Mat. gp. Plnt SLoc SPl. MC
		RGM-XX-C-3000 RING GAGE, MASTER				M09	03
1000328038	00040	1.000	EA	D 02/28/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/27/2000	HUTSONLR		
		RGM-XX-C-3010 RING GAGE, MASTER				M09	03
1000328038	00050	1.000	EA	D 02/28/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/27/2000	HUTSONLR		
		WGC SPECIAL AIR PROBE TO CHK .3080/.3090				M09	03
1000328038	00060	1.000	EA	D 02/28/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/27/2000	HUTSONLR		
		RGM-XX-C-.3080 RING GAGE, MASTER				M09	03
1000328038	00070	1.000	EA	D 02/28/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/27/2000	HUTSONLR		
		RGM-XX-C-.3090 RING GAGE, MASTER				M09	03
1000328038	00080	1.000	EA	D 02/28/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/27/2000	HUTSONLR		
		9/32 ENDMILL #89145A42				M09	03
1000330051	00010	1.000	EA	D 01/27/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/25/2000	HUTSONLR		
Desired vendor		101041 MCMASTER-CARR SUPPLY CO					
		19/64 ENDMILL #89145A43				M09	03
1000330051	00020	1.000	EA	D 01/27/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/25/2000	HUTSONLR		
		5/16 ENDMILL #89145A44				M09	03
1000330051	00030	1.000	EA	D 01/27/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/25/2000	HUTSONLR		
		21/64 ENDMILL #89145A45				M09	03
1000330051	00040	1.000	EA	D 01/27/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/25/2000	HUTSONLR		
		PLUMB BOB AND CASE #2178A1				M09	03
1000330051	00050	5.000	EA	D 01/27/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/25/2000	HUTSONLR		
		DRILL .292 DIA X 54" LONG W/ KIDNEY				M09	03
1000331768	00010	36.000	EA	D 02/21/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/26/2000	HUTSONLR		
Desired vendor		5380140 DANJON MANUFACTURING CORP					
		REAMERS .299 DIA. TO BE PVD COATED WITH				M09	03
1000331768	00020	12.000	EA	D 02/21/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/26/2000	HUTSONLR		
		BUTTON .3112 GROOVE X .301 BORE DIAMETER				M09	03
1000331768	00030	5.000	EA	D 02/21/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/26/2000	HUTSONLR		
		3/16" RND STAINLESS 316 GRADE X 12'STICK				M09	44
1000335540	00010	2.000	EA	D 02/04/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/28/2000	HUTSONLR		
Desired vendor		106525 TBI STEEL					
		1/4" RND STAINLESS 316 GRADE X 12' STICK				M09	44
1000335540	00020	21.000	EA	D 02/04/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/28/2000	HUTSONLR		
		1/2" RND STAINLESS 316 GRADE X 12' STICK				M09	44
1000335540	00030	1.000	EA	D 02/04/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/28/2000	HUTSONLR		
		1" X 1/2" FLAT STNLESS 316 GRD X 12'STIC				M09	44
1000335540	00040	16.000	EA	D 02/04/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/28/2000	HUTSONLR		
		RODS 3/32 5 LB BOX #7972A278				M09	44
1000335541	00010	1.000	EA	D 02/03/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/28/2000	HUTSONLR		
Desired vendor		101041 MCMASTER-CARR SUPPLY CO					

710 Start-up

ORIGINAL

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MF1150

Cost center 0000028200

Material Requisn. S C R	Item I A	Short text Requested qty. Ordered qty.	Un Un	Deliv. date Release date	Requester Trackg.no.	PGp	Mat. gp. Plnt SLoc SPl. MC
		7/8" ROUND 6' LENGTH #89325K19				M09	44
1000335541	00020	16.000	EA	D 02/03/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/28/2000	HUTSONLR		
		1/8" ROUND 6' LENGTH #89325K11				M09	44
1000335541	00030	16.000	EA	D 02/03/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/28/2000	HUTSONLR		
		1/8" PRESSURE GUAGE #38105K13				M09	03
1000335541	00040	4.000	EA	D 02/03/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/28/2000	HUTSONLR		
		GRINDER #46225A81				M09	03
1000335541	00050	1.000	EA	D 02/03/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/28/2000	HUTSONLR		
		#06235691 MITUTOYO MINI-MIKE				M09	03
1000335542	00010	1.000	EA	D 02/10/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/28/2000	HUTSONLR		
Desired vendor		102641 MSC INDUSTRIAL SUPPLY					
		#01044585 MTI DIGITEST CALIPER GAGE				M09	03
1000335542	00020	1.000	EA	D 02/10/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/28/2000	HUTSONLR		
		#98668130 CHAMFER CHECK				M09	03
1000335542	00030	1.000	EA	D 02/10/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/28/2000	HUTSONLR		
		#98556434 NON-CAT MTI CORP				M09	03
1000335542	00040	1.000	EA	D 02/10/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/28/2000	HUTSONLR		
		#00622464 MITUTOYO DIG DEPTH GAGE				M09	03
1000335542	00050	1.000	EA	D 02/10/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/28/2000	HUTSONLR		
		ALIGNMENT BORE PER PRINT				M09	TOOLING
1000335543	00010	1.000	EA	D 02/15/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/28/2000	HUTSONLR		
Desired vendor		104762 G AND H TOOL & DIE, INC					
		FEDERAL SERIES C MODEL C81 DIAL INDICATO				M09	03
1000335544	00010	2.000	EA	D 02/04/2000	GOLEMBOSKIMR		MAY
N R A NB	Z			01/28/2000	HUTSONLR		
Desired vendor		102641 MSC INDUSTRIAL SUPPLY					

WESTERN GAGE CORPORATION
3316-A MAYA LINDA
CAMARILLO CA 93012-8059
TELEPHONE: 805-445-1410
FAX: 805-445-7530

Item	Material Quantity	Unit	Description	Unit Price	Per/Un	Net price
00060			WGC SPECIAL AIR PROBE TO CHK .3080/.3090			
	1	EA		1,895.25	EA	1,895.25
	Delivery date 02/28/2000					
	GROOVE, MAJOR, CHROME, STD JET SERIES 50 COMPLETE WITH 28" HANDLE, HOSE & FITTING					
00070			RGM-XX-C-.3080 RING GAGE, MASTER			
	1	EA		114.95	EA	114.95
	Delivery date 02/28/2000					
	CLASS XX, CHROME					
00080			RGM-XX-C-.3090 RING GAGE, MASTER			
	1	EA		114.95	EA	114.95
	Delivery date 02/28/2000					
	CLASS XX, CHROME					
00090			AEQ 21-33-10 MICRO-AIR DIGTAL COMPARATOR			
	1	EA		4,393.75	EA	4,393.75
	Delivery date 02/28/2000					
	TRIPLE CHANNEL, TRIPLE DISPLAY, STANDARD AMPL, RS-232 SERIAL OUTPUT					

Total net value USD 15,747.68

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Remington Arms, Co., Inc.

Please deliver to:
Remington Arms Co., Inc.
Mayfield Plant
22 Rifle Trail
HICKORY KY 42051

Purchase order

Page
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PO number/date
M016617 01/28/2000

Contact **Telephone**
M. Morgan/502-856-4204
Fax Number/

Vendor: 106524

WESTERN GAGE CORPORATION
3316-A MAYA LINDA
CAMARILLO CA 93012-8059
TELEPHONE: 805-445-1410
FAX: 805-445-7530

COPY

Terms of pmt: Within 45 days Due net. Currency USD

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Item	Material Quantity	Unit	Description	Unit Price	Per/Un	Net Price
00010	1	EA	WGC SPECIAL. TRIPLE CIRCUIT, AIR SPINDLE	5,467.25	EA	5,467.25
	Delivery date 02/28/2000					
	TO CHECK INTERNAL CHAMBER DIAMETERS .4708/.4728; .4425/4440; AND .3404/.3424, SERIES 50, CHROME; COMPLETE WITH MIN/MAX SETTING MASTERS, HOSES, AND FITTINGS					
00020	1	EA	NON RECURRING ENGINEER CHARGE FOR ABOVE	926.25	EA	926.25
	Delivery date 02/28/2000					
00030	1	EA	WGC SPECIAL AIR PROBE TO CHK .3000/.3010	2,605.38	EA	2,605.38
	Delivery date 02/28/2000					
	LAND DIA, MINOR, CHROME, LEAF STYLUS, SERIES 50, COMPLETE WITH 28" HANDLE, HOSE AND FITTING.					
00040	1	EA	RGM-XX-C-3000 RING GAGE, MASTER	114.95	EA	114.95
	Delivery date 02/28/2000					
	CLASS XX, CHROME					
00050	1	EA	RGM-XX-C-3010 RING GAGE, MASTER	114.95	EA	114.95
	Delivery date 02/28/2000					
	CLASS XX, CHROME					

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MF1153

Remington Arms, Co., Inc.

Please deliver to:
Remington Arms Co., Inc.
Mayfield Plant
22 Rifle Trail
HICKORY KY 42051

Purchase order

Page
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PO number/date
M016618 01/28/2000

Contact ***Telephone***
M. Morgan/502-856-4204
Fax Number/

Vendor: 5380140

DANJON MANUFACTURING CORP
PO BOX 212
CHESHIRE CT 06410
TELEPHONE: 203-272-7258
FAX: 203-272-7259

COPY

Delivery : UPS UPS 3rd Party Billing (922W20)
Terms of pmt: Within 45 days Due net

Currency USD

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Item	Material Quantity	Unit	Description	Unit Price	Per/Un	Net price
00010	36	EA	DRILL .292 DIA X 54" LONG W/ KIDNEY	76.00	EA	2,736.00
	Delivery date 02/21/2000					
	COOLANT HOLE AND C-3 CARBIDE - DRIVE END COOL HOLE TO BE TAPPED FOR 3/8-24 THREAD					
00020	12	EA	REAMERS .299 DIA. TO BE PVD COATED WITH	145.80	EA	1,749.60
	Delivery date 02/21/2000					
	BALZER'S HARDLUBE OR EQUIV.					
00030	5	EA	BUTTON .3112 GROOVE X .301 BORE DIAMETER	209.00	EA	1,045.00
	Delivery date 02/21/2000					
	TICN OR HARDLUBE COATED. BUTTON TO BE SIX GROOVES, 1 TURN IN 10 INCHES RH TWIST; RIFLE LAND GEOMETRY PER CHAMBER DRAWING LB-153					

Total net value USD 5,530.60

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