Remington Arms Company, Inc.
Ilion Research Division

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J. P. LINDE

MANUAL FIREARMS DESIGN GROUP
WORK SCHEDULE

	Completion Date	Responsibility	Priority
MODEL 3200			
1. Methods & Standards Reviews			
a) Review of Oper. 175 (Final Assembly)	4-23-76	P. Nasypany	F
b) Review with Industrial Eng.: Oper. 10 (Frame Sub-Assembly) and Oper. 195-T (Trigger Pre-Play & Creep Repair)	4-23-76	P. Nasypany	A
2. Elimination of Repairs through Redesign			
a) Get costs and reports of scrap and repair operations to determine problem areas.	4-2-76	P. Nasypany	A
b) Review Fore-end fit problems	4-2-76	P. Nasypany	A
c) High repair cost items will be reviewed to determine if they can be eliminated by design.	4-9-76	D. Lewis	A
d) Stock fit methods will be reviewed with Industrial Engineering to determine if the standards can be changed. 1. Bottom Tang operations 230 and 240 will be reviewed to pin point the problem with the side profiles.	4-16-76	D. Lewis	A
3. Barrel Attachment at Muzzle		P. Nasypany	A
a) Make drawings of redesigned method and send to Model Shop for parts.	4-23-76		A
b) Test by shooting.	4-23-76		A
c) Get costs.			

MODEL 3200 - Cont'd	Completion Date	Responsibility	Priority
4. Fitting Top Lock to Frame Assembly		P. Nasypany	
a) Adjustable Top Lock shim	4-16-76		A
1. Make drawing and send to Model Shop	4-2-76		
2. Conduct strength and deformation tests	4-16-76		
3. Test by shooting and dry-cycling	4-23-76		
4. Get costs			
b) Eccentric Top Lock Lever Screw		P. Nasypany	B
1. Make drawings, Parts, and test			
2. Get costs			
5. Top Lock Form			
a) A longer Top Lock so as to do away with overlap of Frame in rear area.		D. Bullis	B
6. Size Barrel Assembly/MonoBlock to Frame Assembly			
a) Make parts and press frame inward to size to Mono-block. (completed 3/5/76). Design new method to open up tight frame to size and make parts and test.	4-8-76	P. Nasypany	A
b) Get costs			B'
7. Fore-end Breakage			
a) Get percentage of actual customer repairs and costs to see if further action is justified.	3-16-76	P. Nasypany	A
8. Barrel Loop Deformation			
a) Write up report of design change costs etc.	3-26-76	P. Nasypany	A

MODEL 3200 - Cont'd.	Completion Date	Responsibility	Priority
9. Fore-end Unlatching Problems			
a) Summarize costs of different latch angle design. Investigate better finishing process for burr elimination (glass bead blasting, more effective tumbling media, re-dimensioning of Fore-end Latch). Review filing method and make new filing sample for production.	3-26-76	P. Nasypany	A
b) Consult with Hi-Dense Division on Fore-end Latch Blank changes to eliminate machining burrs. Costs.	3-26-76	P. Nasypany	A
c) Investigate making Fore-end Latch from Investment Casting (Completed). Write report.	3-26-76	P. Nasypany	A
10. Front Connector made from Stamping		P. Nasypany	
a) Make drawings, parts, and test			B
b) Get costs.			
11. Unbalanced Sears			
a) Parts up to heat treat & grind. Production problems to be checked with PE&C.		P. Nasypany	B
b) Drop tests for safety to be made.			
c) Get costs.			
12. Cost Improvements			
a) Investigate combining cocking rod and ejector cam plate clearance cuts in frame. Also drilling and countersinking of all top tang holes		P. Nasypany	B
b) Get costs.			

MODEL 3200 - Cont'd.	Completion Date	Responsibility	Priority
12. Cost Improvements - Cont'd.			
c) MonoBlock bottom radius to be combined with ejector rough mill slot.		D. Lewis	F
d) Bottom Tang Rough Mill Profile (Operations) to be made in one loading.		D. Lewis	F
e) Fore-end Iron clearance cut in MonoBlock to be combined with the Ejector Cam Plate clearance cut.		D. Lewis	F
f) Evaluated a method to pull Barrel MonoBlock locking radius tight to Frame radius at the joint pin operation.		D. Lewis	F
g) Hammerless Ejection System Redesign of ejection system to eliminate 8 parts. Models ready for test 5-1-76.	6-1-76	K. Soucy	F
h) Cast Bottom Tang Unit Bottom tang unit consisting of bottom tang, strut, and tang connecting block, to be Investment Cast as one piece. Also, Frame is redesigned to eliminate bottom tang tongue cut. Models ready for test 5-1-76.	6-1-76	K. Soucy	F
i) Delete Cam Plates Modification of hammerless ejection system. This system uses present frame surfaces instead of cam plates to cam the ejectors. Model ready for test 4-15-76.	8-1-76	K. Soucy	A
j) Screwed-in Top Barrel Top Barrel and MonoBlock redesigned to screw in and Loctite Top Barrel instead of brazing. Samples are being made by Production and should be ready by 3-30-76.	5-1-76	K. Soucy	F
k) Main Hammer Plunger Rod Various redesigns of this part are being tried in an attempt to increase endurance life.		K. Soucy	C

MODEL 3200 - Cont'd.	Completion Date	Responsibility	Priority
12. Cost Improvements - Cont'd.			
l) Welded Vent Rib The possibility of welding the rib to the Top Barrel instead of brazing is being investigated.	4-15-76	K. Soucy	A
m) Rear Connector Link Part redesigned for fine-blank fabrication in order to eliminate subsequent machining operations. Parts ready for test 5-1-76.	6-1-76	K. Soucy	F
n) Top Lock Latch Vendor tooling revision to eliminate subsequent machining operation. Parts ready for test 5-1-76.	6-1-76	K. Soucy	F
o) Shaw Casting Process General investigation of the process to determine applicability to M/3200 parts.	9-1-76	K. Soucy	A
p) Warm Forged Ejectors and Trigger Guard A forging vendor is currently evaluating these parts.	7-1-76	K. Soucy	F
q) Snap-On Trigger Guard A means of Eliminating two assembly holes and one assembly pin is being investigated.		K. Soucy	B
r) Fire Control General investigation to reduce complexity and cost of Fire Control system.	Indeterminate	K. Soucy	A
s) Recoil Force Gage A new, simple, recoil force gage is being designed to test 3200 Presentation Pad candidates. This gage can be easily adjusted to accommodate different weight pads and still negate the inertia effects. Design - Draw Model Shop	 3-19-76 4-14-76	E. Young	A
t) Excessive Brass on Cam Plates Cam Plate dimensions were changed to eliminate gap caused by tolerance build-up. This caused excess brass filet to form when brazing.		E. Young	F

MODEL 3200 - Cont'd.	Completion Date	Responsibility	Priority
13. Fore-end Iron Process			
a) Investigate cause and percentage of production scrap.	4-15-76	P. Nasypany	F
14. Elimination of Front Trigger Adjusting Screw & Nut			
a) Model drawings changed to eliminate use of the Front Trigger Adjusting Screw and Nut, and drilling and tapping of front hole in Trigger.	4-15-76	P. Nasypany	F
b) Drop tests completed.			
15. Single Barrel Trap			
a) Complete recoil reduction system Inventions Report and inventions drawings for patent application.	3-26-76	P. Nasypany	AA
b) Test recoil reduction system in model gun to be endurance fired by D. Lewis	4-30-76	P. Nasypany	A
c) Complete parts lists and drawings for cost estimate by R. L. Sassone. Cost Evaluation: 1. A complete parts list of the 3200 Single Barrel will be made. 2. All Single Barrel drawings are to be updated to the latest design.		P. Nasypany D. Lewis	B
d) Clarification drawings for Adjustable Sight System are being made for the Patent Department.	3-22-76	D. Lewis	AA
e) Remington Super Trap Choke:- Drawings for clarification are complete.	3-15-76	D. Bullis	AA

	Completion Date	Responsibility	Priority
M700 Stocks for Bill Boettner			
16. Stocks for Bill Boettner			
a) Three 32" Trap guns have been selected for the proper point of impact. Two Stocks having a 1-3/8" drop and one having a 1-1/4" drop have been made for these guns.	3-24-76	D. Lewis P. Nasypany	AA
b) Two more guns are to be selected for the required point of impact and will be fitted with factory Stocks having a drop of 1-1/2".	3-24-76	D. Lewis P. Nasypany	AA
17. Stock Shift Problems			
a) The shoulder screw tang connecting block design has been completed and tested. The cost estimate shows a R.O.I. of 13.7%. This was not enough to justify the change. The cost estimate will be studied to see what changes can be made to improve the R.O.I.	3-24-76	D. Lewis	AA
b) A keyed Tang Block design to eliminate stock shift has been completed. Parts are in the Model Shop for alteration.	3-17-76	Complete	
18. Epoxy Investigation	4-16-76	D. Lewis	A
a) A sample of the Devcon "F" putty type Epoxy is on order and is due approximately 3-19-76.			
b) The Epoxy is to be tested for chipping during shooting and slamming.			
19. Lubrication Evaluation			
a) Two samples of Molycote paste are on order: Types G-N and FS-3451. A cold weather evaluation is to be conducted to determine the effects of cold on the lubrication properties.	5-15-76	D. Lewis	A

MODEL 3200 Cont'd.	Completion Date	Responsibility	Priority
20. Stock Clearance Cut in Frame			
a) The Stock clearance cut is to be laid out to determine if it can be made on a standard milling machine.		D. Lewis	B
21. Formed Bar Stock Tang Block and Strut			
a) All drawings have been completed and prints sent out for quotes. The extruded aluminum strut has been dropped due to the inability of the vendor to hold the tolerances.		D. Lewis	F
22. Interchangeable Main Hammers		D. Lewis	F
a) New Main Hammer Bushings have been made in the Model Shop and are being assembled to the Hammers in production.			
23. Welded Ejectors		D. Bullis	A
A cost reduction method of making ejectors.			
a) Finish Drawings	3-25-76		
b) Firm quote on parts	4-26-76		
c) Development Cost	4-26-76		
24. Recoil Pad		D. Bullis	A
To make a comparable pad at reduced cost.			
a) Field Pad	3-19-76		
b) Presentation Mod.	7-20-76		

MODEL 3200 - Cont'd.	Completion Date	Responsibility	Priority
25. Rib & Ramp Alignment For lower cost Top Lock through Formed Bar Stock			
a) Finish Sketches b) Resolve Shape of Ramp	4-23-76	D. Bullis	A
26. Formed Bar Stock See if we can adapt Top Lock for Formed Bar Stock manufacture as a cost reducing measure.		D. Bullis	A
a) Top Lock b) Broach c) Status (write-up)	4-30-76		
27. Heavy Stock To increase strength of Stock and stop percentage of scrap.		D. Bullis	A
a) Finish Samples b) Drawings c) Check Checkering	4-2-76 4-30-76 4-23-76		
28. Electromark Investigate new and cheaper method of removing color from Barrel Assembly in MonoBlock area.		D. Bullis	A
a) Remove color on MonoBlock b) Samples at Electromark	4-23-76 4-30-76		
29. Choke Investigation To investigate for optimum specs. of our Modified Choke.		D. Bullis	C
a) Percentage of Patterns			

	Completion Date	Responsibility	Priority
MODEL 788			
1. Firing Pin Heads			
This is a Powdered Metal part for which the Powdered Metal supply is dwindling. It is being redesigned as a Formed Bar Stock part.			
a) Test - decision	4-19-76	E. Young D. Bullis	AA
b) Finish Drawings	4-23-76	E. Young D. Bullis	AA
2. Safe More Positive		E. Young	A
The detent on the 788 Safety is being redesigned to provide more positive "Safe" engagement.			
a) Test - Decision	4-17-76		
b) Draw	5-3-76		
c) Get Quotes	5-21-76		

	Completion Date	Responsibility	Priority
22-308 & 6mm-308			
1. "NO-GO" Head Space Gage			
a) Model Shop	4-23-76	E. Young	A
6mm-308 Final Chamber Reamers			
Cutter Grind		E. Young	
MODEL 600		F. Martin	
Mini-Carbine	3-18-76		A
In an effort to increase interest in the M/600 Mini-Carbine the Test Lab has been asked to prepare an 8 1/2 x 11 Silhouette photo to be forwarded to F. E. Morgan - Bridgeport.			
Trigger Connector	3-31-76		A
We have recently received several reports from the field of M/600 Trigger Connectors breaking. Research has been asked to evaluate the effect of broken Connectors on the safety of this rifle. A test gun is to be assembled and types of failures studied.			
Trigger Guard	6-1-76		B
Desire to replace the Delrin Trigger Guard of this model with one of metal has increased. A metal Trigger Guard has been designed and samples obtained from Investment Casting vendor. Samples have been completed in R&D Model Shop and are ready for assembly. Changes that are to be made are cosmetic and can be obtained by altering the dies.			

MODEL 600 - Cont'd.	Completion Date	Responsibility	Priority
		F. Martin	
Field Service Manual The Center Fire Safety sections of the Field Service Manual have been rewritten by the Manager of this Section. A review of this is to be completed immediately.	3-17-76		A
New Style Fire Control To reduce assembly problems in Center Fire line and to increase safety in this model, an adaptation of the reliable M/700 Fire Control has been prepared for the M/600. Model drawings have been completed and sent out for quotes. 250 guns have been assembled with excellent results. More work is to be done on this model to increase effectiveness of the Safety Detent and to prepare samples of the new Fire Control. Drawing must be transmitted when design is accepted.	8-1-76		A

MODEL 4100S TRAP - Cont'd.	Completion Date	Responsibility	Priority
Testing for Chatter - Cont'd.			
g) Measure Backlash on Sprags - Difference on (3), .12, .4, .5	3-26-76	E. Rankins	B
h) Cocking Clutch Lube - appears that we should leave vendors' lube alone. Working well in Trap #1000 with over 400,000 cycles.	3-24-76		A
i) Install modified clutch housings in traps at Ilion Fish and Game Club.	4-15-76		A
j) Rewire (4) Traps at Ilion Fish and Game Club to new layout.	4-1-76		A
k) Modify 8 prototype traps in the field - Wiring and Clutch Housings with concentricity rings.	5-1-76		A
2. Manuals			
a) 4100 Trap Manual - to be completed At printers now per Bob Andrews 1000 copies per Joe Callahan	4-15 - 4/23	B. Andrews (Du Pont)	A
b) 1-4000S Skeet Trap Manual - initial copywriting, editing, photography, art work, typesetting	4-30-76	F. Hart	A
2-Preparation of camera, ready mechanicals	5-14-76	E. Rankins	A
3-Final Printing	6-1-76		A
3. Drawings			
a) Finalize prints - update 4100 Trap Assembly	5-1-76	E. Rankins	C
b) Draw 4100S Assembly print E size	6-1-76		C
c) Layout drawings 4100S	4-2-76		A