

REMINGTON ARMS COMPANY, INC.

INTER-DEPARTMENTAL CORRESPONDENCE



Xc: J. J. Bechard
W. M. Curry
P. H. Eccleston
W. R. Googin
D. S. Hardy
A. A. Hugick
F. G. Hart
R. J. Sanzo

Cron. Copy

"CONFINE YOUR LETTER TO ONE SUBJECT ONLY"

LIMITED DISTRIBUTION

Ilion, New York
January 9, 1974

TO: W. E. LEEK *W*
FROM: C. B. WORKMAN *cmh*
SUBJECT: TECHNICAL SERVICES STAFF MEETING - JAN. 14
(Last Meeting Held December 17, 1973)

CURRENT STATUS:

N/C ENGRAVING

Model 3200 "One of a Thousand"

1. Frame Rails -- Pattern has been proved-out and is in production (Nov. 7, 1973)
2. All other patterns approved and in production.
3. 3200 "One of a Thousand" Skeet Engraving

Trigger Guard, Top Lock, Frame side panels, Frame bottom, and Fore-end Latch Cover patterns are approved and in production. Work is continuing on Fore-end Iron Bottom. Completion is expected (Jan. 9, 1974). *Complete Jan 11, 1973*

COMPUTER AIDED DESIGN

Works Engineering has taken no action within the last several months on cost estimates of sprinkler system alternates for our Computer Room. C. L. Holden has been sent a note for cost estimate on October 9, 1973.

New High Speed Range Programs utilizing the Biomation Model 8100 Transient Analyzer have been written. The fixed Data Program has been written and tested. Off-line full auto testing has been completed. An on-line program has been written and tried. It has been modified to handle two channels of data. High-Speed range has passed preliminary proof and is ready to use.

COMPUTER AIDED DESIGN (Continued)

Uniapt has been installed.

1. Uniapt Post-processor

A. KTAB 02 - (Eb)

New tape has been received. Post-processor now functions properly. A revision is forth-coming to allow the programmer to specify velocity/distance feed rate numbers. The current post processor does not have this capability - output feed rates using feed rate computer.

B. RRAB 01 - Richardson Router

Some problems still exist with this post-processor. Origin statement now works correctly. All linear and circular motions are still reversed in X and Y. Calculation of Z coordinates in cycle statements are incorrect. It is possible to get good output from this post-processor with some manipulation of data, with the existing above mentioned problems. A new tape for this post-processor is expected approximately Jan. 18, 1974.

C. EXUM 01 - Ex-Cell-O 10 B-E Work Center

The origin and trans problems have been solved. Output from this post-processor is now good. Further changes were found to be necessary after installation of the machine. These are: the cancellation of canned cycles and tool offsets at the beginning of each program, turning the coolant off before each tool change, returning to positioning mode before each tool change, and the output of the tool offset group number after each tool change. A new tape, with the above changes and the addition of full 3-axis contouring and 40 tool offsets, is expected approximately Jan 18, 1974.

A tape duplicating and verifying program has been written to allow faster and better tape processing.

A computer program which will calculate machining costs of various metals has been converted to our system and is available.

A meeting with John Breggar to discuss RAMPS (Resource Allocation Multi-Project Scheduling) was held on Nov. 21. Output from RAMPS has been received.

COMPUTER AIDED DESIGN (Continued)

A program to calculate-center of gravity and moments of inertia has been converted and is available for use.

A program to optimally fit a set of data points to a mathematical equation and then plot that equation has been written and developed. A description and user's manual will be written and distributed as time permits.

Gun motion, shooter force, etc. can now be analyzed on our digital computer much the same as any analog computer. If the equations of motion can be written, then a program to print out various displacements, forces, etc. as a function of time can then be developed. This is currently being done for the M/3200 trap.

MEASUREMENT/TEST LAB

M/3200 Over and Under Shotgun

1. Measured M/3200 - 12 Ga shoulder force, P-T curve, and gas system travel for development of trap gun.
2. Received M/3200 - 12 Ga. - 3 inch magnum shotgun for tang endurance testing at 7000 rounds.
3. Design has requested clay bird velocity and trajectory data.

M/742-X New Design Autoloading Rifle

1. High Speed movie of gas system.
2. Fired M1 Grand as 30-06 and 300 Win. Mag. for bolt velocity & function.

M/1100X New Design Autoloading shotgun

1. No activity

M/1100 Product Improvement

1. M/1100 LW 20 Ga. Test gun revisions are in process.
2. Current 20 Ga. R-P target ammo. inventory is ^{106,000}~~56,000~~ rounds - RXP was scheduled for production start up 1/74.
3. M/1100 small bore O-Ring Design change work finishing report recommend increasing O-Ring stock diameter from .072 to .092 inches.
4. LW M/1100 - 20 Ga. O-Ring size should be reviewed for improvements.

Special Testing - 12 Ga. Legal

1. Finish movies and video tapes for legal.

MEASUREMENT/TEST LAB (Continued)

Miscellaneous Lab Activity

1. Quality audit in progress for M/700 - 22/250, M/700 LH - 7mm.
2. Quality audit scheduled M/700 - 30-06, 6mm Var., 243 Var, and 25/06 Var.
3. Shooting pressure and velocity test for S.A.A.M.I. 6 vs. 4 grooves.
4. M/1100 - 12 Ga - 3" Q. A. in progress. Two (2) guns as received at 2500 rounds. Two (2) guns to be slowed down ready for bolt velocity.
5. Work continues on high speed system.
6. M/700 - 264 Win. Mag. Barrel erosion test continues.
7. M/700 - 222 Remington alter bolt test finished.
8. W. R. Googin on leave of absence 12-16-73 to 1-16-74.

SPECIFICATIONS, TECHNICAL INFORMATION & SERVICE

1. Design and layout ad for Observer Dispatch / Daily Press industrial supplement. -- Completed.
2. Work begun on package label mechanicals for following:
 - a. 870 "Ducks Unlimited" - Commemorative Grade.
 - b. 870 "Ducks Unlimited" - Presentation Grade.
 - c. 540-XR and 540-XR Junior.
 - d. 40XR Position Rifle
 - e. 40XC
3. New Owner's Manual for 540-XR and Jr. -- 50% complete.
4. Revisions to following Owner's Manuals and Instruction Folders are complete and ready for reprint in January:
 - M/1100 (12, 16, 20) Ga.
 - M/1100 (28, 410, 20 LW) Ga.
 - M/572
 - M/870 R.H.
5. Parts List has been requested for M/40 XC.
6. 3M Camera is still out of order. Part required for repair has been ordered and should be installed soon.

FGH:bd

N/C MAINTENANCE

XLO 108E

Machine installation and set up is complete. Machine is now in production. All necessary tooling to support production is here and installation of guards is complete.

Safety Inspection Complete.

AUTONUMERICS COMPUDYNE

System acceptance and training for Remington personnel was set for December 20 & 21, 1973. Machine and control was tested and some changes were suggested. Machine is now ready for shipment.

Eb

A software change, removing the key lock sequence from M06, has been ordered and will take approximately four (4) weeks from Allen-Bradley.

REPORTS ATTACHED

Model Shop Work Load

Numerical Control Work in Progress

Plastics Research Lab

C.B. Workman: bd
Illion Research Division
Attach.