

CC: G. O. Clifford
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Ilion, New York
April 14, 1949

TO:	S. M. Alvis	E. E. Folmsbee	E. Sapp
	W. I. Best	D. S. Foote	E. A. Streed
	L. J. Boyle	H. J. Hackman	A. Travostino
	E. R. Carr	F. C. Hitchcock	<u>M. H. Walker</u>
	K. R. Chadwick	D. E. Miller	R. A. Williamson
	P. H. Eccleston	J. W. Miller	

FROM: E. K. Wheat

SUBJECT: CENTER FIRE RIFLE ACCURACY MEETING

PURPOSE:

To report progress and discuss the future program.

CONCLUSIONS:

1. The barrel reaming operation (M/721-22) is "in control" with new tolerances established. Studies indicate that .0015" tolerance is being efficiently met and other adverse conditions have been eliminated.
2. Plug sizing has eliminated pilot trouble in later operations (chambering) and has reduced bore size longitudinal fluctuation.
3. Straight blanks have less bore variation and a spring back of approximately .0005" smaller in size than upset blanks. Accommodation has been made to take care of most of the variation in barrels by sizing, reduction of rifle plug dia., and reduction of the ream size.
4. Bore spotting and sight adjustment has been approximately 50% in effect for the last 3317 guns. Rejects for Point of Impact should reflect a reduction from 20% (6 months average) to less than 5% at targeting with 100% coverage.
5. Factors included in the "Point of Impact" study are under study and corrections are being made (per assignment list under "Future Program".)
6. Plug sizing and ream size control will be included in the study of other M/721-22 calibers to include .270 - .257 and .222.

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7. Swinger rejects to be rechecked by bore spotting. Barrel bending to be discontinued. Final disposition of rejects to be reviewed by a committee.

FUTURE PROGRAM:

1. Change Process Record: E. Sapp
 - a. Barnes Ream Specs. (.298" - .2995")
 1. Reset Air Gage (pointers only)
 2. Change Process Record
 - b. Reduce Rifle Plug to .3105" / .002
 1. Drawing C-53976 - E. Sapp
 2. Repair stores plugs - E. K. Wheat
 - c. Add sizing operation.
 1. Order .301" / .0002 plugs - E. Sapp
 2. Include on Drawing C-53976 - E. Sapp
2. Review blank comparison and recheck when new upset dies are received. M. H. Walker, E. R. Carr, E. K. Wheat
3. Bore Spotting
 - a. Bore spotting and sight adjustment move to assembly. P. H. Eccleston, R. A. Williamson
 - b. Operation in Process Record - E. Sapp.
 - c. M/81 next on program - P. H. Eccleston.
4. Plug sizing and ream control. Calibers .270 - .257 - .222 - E. K. Wheat.
5. Point of Impact factors.
 - a. Barrel Bracket - A. Travostino.
 - b. Front Sight Ramp - E. E. Chadwick
 1. Gage
 2. Fixture
 3. Process

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5. Point of Impact factors (cont'd)

c. Rear Sights - E. Sapp

1. New setps
2. New design
3. Assembly - E. R. Carr

d. Barrel taper and dimensions

1. Gage - A. Travostino
2. Concentricity - W. A. Best

e. Front Sight Ramp - E. Sapp

1. Bottom radius

f. Dovetail alignment with bolt rails - A. Travostino

g. Heavy trigger pull - W. A. Best

h. Customer Point of Impact - E. K. Wheat

Recap of Point of Impact Rejects

<u>Target</u>	<u>Bore Spotted</u>	<u>Swingers</u>	<u>Sight Repairs</u>	<u>Non Group (1st & 2nd)</u>
3317	1472 44.5%	382 11 1/2%	148 4 1/2%	193 5 1/2%

6. Target trends - W. A. Best

7. Firing data on special lot of 30'06 - E. K. Wheat
W. A. Best


 E. K. Wheat
 Arms Technical Division

EKW/ml