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Lab File

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"CONFINE YOUR LETTER TO ONE SUBJECT ONLY" _____

Copy to Mr. D. Hill ✓
Follow up file ✓

Ilion, New York
July 24, 1979

TO: C. B. WORKMAN
FROM: A. A. HUGICK
DATE: JULY 17, 1979
SUBJECT: XP100 M. S. PISTOL DESIGN TEST
WORK ORDER: C 1804

INTRODUCTION:

XP-100 Bolt Action Pistol caliber 308 Win. serial number B7505396 was fabricated for metallic silhouette pistol design test. Stock and recoil lug performance are two major items being design tested with introduction of larger caliber pistols for metallic silhouette competition. This endurance test shooting was fired from an improvised recoil rest fixture per attached photo firing R308WI.

TEST OBJECTIVE:

- 1) Conduct XP-100 M. S. Pistol Design Test

TEST CONCLUSIONS:

- 1) The XP-100 caliber 308 Win. S. N. B7505396 produced NO recoil lug bending in 3300 fired rounds of R308WI.
- 2) Sear lift and sear engagement measurements showed no significant change during this 3300 fired round test. See attached data sheet.
- 3) One stock assembly (No. 8) was test fired to five hundred (500) rounds of R308WI (150 Grain PSPCL) with acceptable results producing no detectable stock cracking or damage.
- 4) Three (3) stock assemblies, (No. 2, 3, 4) failed the escutcheon during this endurance test. February 1979 XP-100 test encountered similar escutcheon failures.
- 5) The escutcheon failure was located at the 1/32" R. Drawing location.

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TEST CONCLUSIONS: (Cont'd)

- 6) All test escutcheons appear to have sharp corners at this 1/32" R location.
- 7) Visual examination of escutcheon also indicated No. 8 - 36 NF-2 threads NOT TAPPED THROUGH the escutcheon.
- 8) Two stock assemblies (No. 1, No. 7) failed the weld joint of the stock, showing no weld along trigger guard and front of grip (internal and external).
- 9) Front sight base remained tight when screwed and epoxy mounted. (1300 Rounds) ²
- 10) Two stock assemblies (No. 5 and No. 6) failed when recoil rest fixture encountered failure during endurance shooting test.
- 11) The bolt handle joint failure resulted from contact with the recoil rest fixture.

RECOMMENDATION:

- 1) XP-100 escutcheons with sharp corners lacking 1/32R. drawing specification be scrapped. Also desing considered increasing this drawing specification to a .050 R drawing specification.
- 2) Stock weld process be reviewed to eliminated partial welded joints as encountered in this endurance test.

These recommendations are made in view of the larger caliber XP-100 pistols increasing firing loads on firearm and out of specification parts and or assemblies will result in assembly failure.

FUTURE M. S. PISTOL WORK:

- 1) 7mm BR Rem. Ammo development and accuracy shooting.

A. A. Hugick

AAHugick:bd
Measurement/Test Lab
Ilion Research Division
Attached

