

TEST AND MEASUREMENT LAB

- TEST REPORT

REQUESTER: K. Green

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DATE: Nov. 2, 1989

REPORT NO: 892832

WORK ORDER: 481152

TEST TYPE: Endurance / Strength

REASON FOR TEST:

To determine the endurance life and the ultimate strength of the 17 caliber barrels made to the upset barrel process.

EQUIPMENT REQUIRED:

8 Model 700, 17 cal. upset barrel process & 1 Model 700, 22/250

Cal.	Serial#	Comment
17	A6863413	Stress Relieved, used in destructive test
17	A6864021	Not Stress Relieved, used in destructive test
17	A6861310	Stress Relieved, endurance gun
17	A6862427	Stress Relieved, endurance gun
17	A6864953	Stress Relieved, endurance gun
17	B6257036	Not Stress Relieved, endurance gun
17	A6862992	Not Stress Relieved, endurance gun
17	A6861855	Not Stress Relieved, endurance gun

1988 C6357962 22/250

48000 rounds Remington 17 cal ammo

3000 rounds Remington 22-250 ammo

1000 rounds Federal 22-250 ammo

Iron Lung

Reloading Equipment

Shooting Room 52-1-A

Protective Shield & lanyard

TEST PROCEDURE:STRENGTH:

Two Barrels, one stress relieved and one non-stress relieved, were used in the destructive test.

The bore was plugged with four 25 gn. bullets ahead of the chamber.

Each gun, in turn, was fixtured in the iron lung and had a destructive load shot through the it. The guns were fired remotely by means of a lanyard.

The following destructive load was fired in each gun:

25 gn. 296 powder

25 gn Remington bullet

Remington case

Remington primer

Estimated pressure 150000 psi +

Test # 892832

2

W.O. #481152

TEST PROCEDURE: (cont.)

ENDURANCE:

Each gun was endurance tested using the following procedure:

A lanyard was attached to the gun so that the gun could be fired from behind a screen.

A cartridge was loaded in the chamber (The magazine was NOT loaded)

The tester would walk behind the screen and fire the gun.

The gun was fired twenty times using this procedure and then cooled.

Every 100 rounds the bore was cleaned.

TEST RESULTS:

STRENGTH:

Neither the stress relieved nor the non-stress relieved barrel failed during the ultimate strength test.

ENDURANCE:

All of the bores showed severe heat checking ahead of the chamber after 500 rounds. Endurance shooting continued until each gun had 8000 rounds shot through it. There were no failures in neither the stress relieved nor the non-stress relieved barrels.

One Model 700, 22-250 caliber, serial # C6357962, was endurance tested 4000 rounds during a previous 17 caliber test (891701). This 22-250 was continued to 8000 rounds with no barrel failure.