

June 14, 1984

TO: R.E. NIGHTINGALE  
FROM: C. STEPHENS  
REPORT TITLE: M/700 .338 WIN. MAG. STRENGTH TEST

ABSTRACT

A request was received from R.S. Murphy to strength test the M/700 .338 Win. Mag. with a new barrel contour.

SCOPE OF TEST

To determine what effect, if any, changing the barrel contour would have on the strength of the barrel.

TEST RESULTS

The results indicate that the new barrel contour has no effect on the strength of the barrel. A pressure workup from 52 to 130 thousand psi caused a slight binding of the action with no other apparent effects.

REPORT TEXT

Five M/700 .338 Win. Mag. rifles were delivered to the Test Lab by R. Murphy for testing. One rifle was selected at random for the strength test. A strain gage was attached to the barrel at the chamber area. Standard factory and proof rounds were shot to verify that the gage was working properly. After checking the gage handloads were loaded using 4198 powder, a 200 gr. bullet and a Winchester case. Various loads were loaded with pressure ranging from 52 to 130 thousand psi. The only apparent effect was a slight binding of the bolt that required using a hammer to open. The barrel showed no signs of failure.

TEST PROCEDURE

A. Measurements

The inside and outside dimensions of the chamber were taken in the Measurement Lab by C. Stephens and S. Franz.

B. Test Conditions

Use the same materials throughout the test.

C. Test

The test was shot in the Measurement Lab using the Iron Lung.

D. Ammunition

Handloads.