

To: Jim Snedeker  
From: Edward Ford  
Subject: November Progress Report

#### Bolt Velocity Software

After using the bolt velocity program to assist production in checking the bolt velocity of two M/SP-10s, Dennis Thomas requested two changes be made to the bolt velocity program. These changes were:

1. Condense the printed output from two pages to one.
2. Allow the user to either append the current test or begin a new test when clicking the Restart button.

Both changes have been incorporated in the latest revision and the executable file updated.

#### Synthetic Trigger Plate

Testing has begun on four synthetic plastics to compare their impact strength and compression strength to those same properties of aluminum. More information will be available next month as the testing progresses.

#### Choke Tube Strains

Strain gages were mounted on a full choke tube, a modified choke tube, a rifled choke tube, an improved cylinder choke tube, a fully rifled barrel, and a fixed full choke barrel. Ten rounds of RTL12M, NSTL12HM, SP12MAGRS, PR12RS, and 3" copper solid slugs were fired through each and the strains recorded. The strain information was input into Minitab and a statistical analysis performed.

#### Design/Develop Improved Test Jack

The Endevco signal conditioner which was shipped back to the factory for repair and calibration has been repaired and returned with a certificate of calibration. While waiting for the return of the Endevco signal conditioner, a PCB accelerometer was mounted to the butt of a M/870 Express. The output of the accelerometer was input to the Tektronix 2520 data acquisition system and the recoil acceleration was recorded while firing the M/870 in a test jack. The acceleration curve was then integrated by the Tektronix data acquisition system to determine the recoil velocity. This recoil velocity will be compared to the recoil velocity of the same M/870 fired from the shoulder to determine any variances with our existing test jack.