

SHOTGUNS - contd.Model 1100, 410 Gauge

R & D reviewed three charts covering the shell ejection in the Model 1100, 410 gauge gun.

As shown in Exhibit 1, the original compromise chamber was designed to accommodate interchangeable 2½" and 3" shells. One Barrel orifice size was selected to provide adequate power for the low powered 2½" shell so that the desired Bolt velocity would be adequate. This resulted with 3" shell being over-powered with objectionably high and perhaps dangerous ejection velocity. With this combination, using Remington ammunition only, performance with a 3" and 2½" shell was around 2% and 3% respectively. A notch was provided at the 2½" position on the Ejector to facilitate ejection but could not be reproduced in production.

At the October Operations Committee Meeting, it was agreed to provide a 3" field and a 2½" skeet gun adjusted to provide optimum chamber and orifice conditions tailored to the power available as shown in Exhibit 2. In providing a 3" Ejector with a longer shell and a 2½" Ejector for the shorter shell, when using Remington ammunition, a performance of 1% for each type could be obtained with satisfactory manual ejection for both. Because the 2½" shell now ejected earlier, it was found that it would not rebound off the Operating Handle at the appropriate time as had heretofore occurred and the ejection pattern of the empty shell was rearward and dangerously close to the shooter's face. It was, therefore, necessary to compensate for this problem by changing the 2½" Ejector back to the 3" position as shown in Exhibit 3.

The final recommended combination (Exhibit 3) allows optimum chamber and orifice conditions for both shells when utilizing Remington ammunition and a 1% performance should be achieved. Manual ejection is satisfactory for the 3" shell but in some instances may be faulty with the 2½" shell because of conditions mentioned in Exhibit 1. This is not deemed to be critical.

Only two guns with Plant produced parts have been available for development testing. The design will have to be confirmed when Plant produced guns are available.