

- The average of the three measurements for each sample rifle.

#### **Measure Bolt Lift and Bolt Closing Forces:**

The force required opening the bolt and closing the bolt will be measured for each sample. Both of these forces will be taken with the chamber empty and then repeated, this time with a new dummy round in the chamber. Bolt opening forces will also be checked with the firing pin cocked and uncocked as well. There is not a specification for these forces and the readings will be taken for information only.

#### **Method:**

- After locating the rifle in the trigger pull fixture and securely locking in place, (it may be necessary to clamp the fixture to the bench if not already securely fixed in place), locate the hook of the force gauge at the point on the bolt handle just behind the ball.
- With the chamber empty and using the Chatillon gauge, pull the gauge straight up and perpendicular to the bore, measure the force required to open the bolt with the firing pin cocked.
- Lock the firearm in a horizontal position, using the trigger pull holding fixture, (i.e. shooting position) before taking the measurements.
- Take three readings for each gun in the sample.
- Record all readings.
- Repeat procedure, only this time open bolt with the firing pin in the fired or fully forward position.
- Repeat the procedure again only this time push the bolt closed.
- Note that it may be necessary to start the bolt closed by hand so the firing pin head is depressed sufficiently out of the notch and can start up the cam surface of the bolt as the firing pin is cocked. Record the amount of forward force needed in order to start rotating the bolt.
- Repeat all the above procedures only this time with a new, unused dummy round in the chamber.

#### **Data Required:**

- Rifle serial number
- Each of the three readings taken for each of the 6 states for each test sample
- 1. Bolt opening force with empty chamber, firing pin cocked.