3.5.2 Intentional Abuse

3.5.2.1 *TLW0300AQ – Pierced Primer Test*

This test involves using a wedge-shaped firing pin point with the intent of piercing the primer thereby allowing high-pressure gases to escape from the shell in the chamber into the bolt, magazine box and receiver areas. The purpose of this test is to evaluate effects on the product due to this release of high-pressure gases into the action. A standard factory round is used for this test.

Three rounds were pierced for this test. There was no indication of damage to the rifle from any of the three test rounds.

3.5.2.2 TLW0300AR – High Pressure Test

The purpose of this test is to determine the probable extent of gun damage that might occur if a customer purposely or accidentally handloads an extremely high pressure load. In the case of the .30-06, a standard load case is loaded with approximately 50.5 grains of IMR4198 powder using a 220-grain bullet. Trial runs are made at lower powder volume levels (generating under 100,000 psi due to transducer limitations) to verify the load at known levels. In this case 47 grains of IMR4198 were used to produce an estimated pressure level of 94,800 psi. For the high pressure load, 50.5 grains of IMR4198 powder was used giving an estimated pressure level of 120,000 psi. (Note: 50.5 grains of powder is the maximum amount that will fit in the case without extensive compression of the powder.)

Damage on the rifle was noted as follows:

- Bolt Plug was set back on bolt body but remained attached to the bolt body.
- The magazine spring, magazine follower and magazine box bottom were thrown clear of the rifle.
- The bolt was firmly seized in the receiver/barrel assembly requiring milling of the parts to free the bolt assembly from the action.
- There was shear and set back noted on the locking lugs of the bolt head. The locking lugs in the barrel were unaffected.

This level of damage is not unusual given the pressure level.