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Remington Arms Company Inc.  
RESEARCH & DEVELOPMENT TECHNICAL CENTER  
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**TLW 1012**

## **M/504 RIMFIRE RIFLE DESIGN ACCEPTANCE TEST PLAN - DAT #1**

**Introduction:**

A test sample for the Design Acceptance Test (DAT) consisting of 29 rifles is scheduled for delivery in November 2002.

After completing basic measurements and inspections on the rifles in the sample, a 200 round per gun jack-function test is planned for all 29 rifles in the sample to determine the probable malfunction rate and determine if the expenditure of additional ammunition for testing is justified. This test will be followed by a 100 round live fire test shot in the long range from the shoulder in a standing position.

After completing the shoulder-fired function test, a random selection of 10 rifles will be shot for Group Size using Remington-Elcy 22 Match ammunition. An additional accuracy test will compare the group size capability of multiple ammunition types for information. This will be followed by an extended function and endurance test on a selected number of test rifles.

A selection of sample rifles will also be tested under various environmental conditions.

Finally, a sample of rifles will be tested under various conditions of intentional abuse.

**Initial Inspections, Measurements and Tests:****TLW1012A -Incoming Parts Inspection:**

Component parts for the Model 504 will be measured for critical dimensions prior to assembly of the DAT sample rifles. Records of the measurement results will be made available for inclusion in the DAT report. The parts used to fabricate the DAT sample rifles must meet the model drawing for dimension and/or for specified characteristic or the drawings will be changed accordingly prior to transmittal to production. Design will provide a list of part drawings and associated dimensions/characteristics to be inspected.

**TLW1012B -Measure Headspace:**

All test sample rifles will be measured for headspace before being tested in either the jack or shot from the shoulder. The barrel, bolt, and the receiver will be inspected for the presence of dirt or debris. Special attention will be paid to the chamber, bolt face, & locking lugs areas. Headspace measurements can be affected by the presence of dirt and debris. If dirt or debris is found clean the rifle before using the gauges.

Note that excessive headspace can result in blown case heads and/or split cases which can allow high pressure gases to escape in the chamber area potentially throwing debris in the shooters direction. Headspace that is below minimum specifications may result in accidental firing of the rifle due to crushing of the rim as the bolt is closed. A firearm with the headspace out of specification can also result in other functional problems such as hard closing, misfires, poor extraction, etc. (See S.A.A.M.I. Technical Committee Manual Volume 1, Rimfire Rifle, 6-80-00, rev. 3/18/93 & 6-80-02, rev. 1/12/94.) Min. Headspace for .22 Long Rifles is established at 0.043", Max. Headspace (after use) for .22 Long Rifles is established at 0.051" (See S.A.A.M.I. Technical Committee Manual Volume 1, Rimfire, 1185, issued 10/4/79)

J.R. Snedeker

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