

.17 Rem. STAINLESS vs. ORDNANCE STEEL BARREL

SUMMARY and CONCLUSIONS OF FILED TEST DATA

December 1979

Performance testing between .17 Rem. stainless and Ordnance steel barrels conducted December 1979 was to determine whether the standard Spec. 155 Ordnance steel would perform adequately in the .17 Rem. caliber.

Presently .17 Rem. is the only production rifle still produced with a stainless steel barrel. All other calibers which were produced in standard production with stainless steel barrels were changed to Ordnance steel over 10 years ago. These cartridges were 7mm Rem.Mag., 264 Win., 22/250, etc.. Testing at that time indicated that stainless steel barrels were not justified on basis of either performance or cost criteria.

Other testing between 416 stainless and Ordnance steel (155) indicated that Spec. 155 would meet quality, safety and performance requirements of the .17 Rem. cartridge.

Bridgeport testing done in 1971 on the .17 Rem. for the purpose of determining differences between Ordnance steel and stainless steel is summarized by the following: "Overall the .17 erosion problem is not critical. It exhibits characteristics similar to the other high intensity centerfire cartridges which are presently in the Remington line. Under normal conditions the .17 should deliver quite acceptable accuracy life."

The Ilion Test Lab endurance testing done in 1972 (J.B.) on the .17 Rem. stainless vs. Ordnance steel does not indicate there is sufficient reason to retain 416 stainless in the production line.

2 gun Average @ 2000 rounds

	<u>Velocity</u>	<u>Avg. Group</u>
Stainless Steel	3825	2.78
Ordnance Steel	3744	1.57

The only notable advantages of stainless are average higher velocity and less throat erosion. Throat erosion at 1000 rounds with stainless steel is approx. .0002 compared to approx. .0012 in Ordnance steel.

In testing done December 1979 the most notable failure of the standard production gun (stainless steel barrel) was its poor accuracy after about 400 rounds of shooting; even though certain lots

of factory ammunition gave adequate performance, others "key-holed" and went off the paper.

In general it was concluded that the stainless steel barrel was sensitive to fouling and different lots of factory ammunition reacted differently.

The test guns supplied with Ordnance steel barrels, while having lower average velocities and slightly more throat erosion, grouped better in most all cases and were not ammunition sensitive (see results of 1400 no cleaning test).

It is recommended that if the .17 Rem. caliber is to be retained in the product line it be manufactured with a standard Ordnance steel barrel both for reasons of economy and performance.

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