



December 26, 1998

TECHNICAL NOTE 21: FUNCTIONING OF .243 CALIBER AR-10 RIFLES

Various considerations concerning gas port diameters of AR-10 rifles.

FACTS:

The AR-10 rifle was designed to function with a wide range of .308 caliber ammunition. Its function is naturally limited under other conditions, such as when firing .243 caliber ammunition.

Reliable function of AR-10 rifles is strongly affected by the supply of gas provided to the Bolt Carrier Group. Because of the wide variety of .243 caliber ammunition used, it is very difficult to select a gas port diameter that will power all rifles when shooting 60-grain bullets, without providing too much power to rifles firing 140-grain bullets.

AR-10 .243 rifles have been optimized to reliably function with 80 and 100-grain bullets. Lower chamber pressures found with some light loads, especially loads employing 60-grain bullets, may not provide enough pressure to reliably operate rifles firing those loads. Higher chamber pressures found with some other loads, especially loads using heavier bullets, may produce excessively fast cycling with the same rifles.

RECOMMENDATION:

Rifles frequently used with either light or heavy loads may require adjustment of gas port diameters to regulate the flow of gas to the mechanism. Any such adjustments must be made by a qualified gunsmith. **MODIFICATION OF THE RIFLE WILL RENDER THE RIFLE WARRANTY VOID!**

Select and use ammunition that reliably cycles your rifle.

MAW

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