

• Rifle Lubrication

During this portion of our Armorer's Course we will cover the following:

- The necessity of lubrication.
- Correct types of lubrication, oil and grease.
- How much oil should be used during operation?
- Break-in procedures.

THE NECESSITY OF LUBRICATION - ALL MOVING PARTS!

In the simplest terms - all moving parts in the Bushmaster XM15E2S weapons system require regular and repeated lubrication. Metal to metal contact and motion creates friction. Friction creates heat. Heat breaks down lubricant. Loss of lubricant accelerates the wear between parts, and can quickly seize up the function of those rifle parts. In a critical life or death incident, the Law Enforcement or Military professional needs to rely on the tools at hand - namely the Bushmaster rifle or carbine. A well maintained and lubricated weapon can save your life. An unlubricated weapon can seize up and get you killed. Beyond the knowledge of the rifle and necessary repair techniques, one of the most critical responsibilities of the Bushmaster Armorer is to establish and maintain a regular maintenance and lubrication program. The biggest problem we see at the Bushmaster factory in dealing with customer repairs is damage due to lack of lubrication.

During our descriptions of lubrication application, we will use the following terms:

MINIMUM - one or two drops on springs, detents, small components, etc.

SKIN COAT - enough to place a glaze on the part or component

GENEROUS - oil should be applied by point or applicator of lubrication

HEAVY - this application of oil is to the point were it is dripping off the component or assembly

CORRECT TYPES OF LUBRICATION

There is a confusing array of oils and gun lubricants out on the market today. In the scope of AR15 type rifle lubrication, the biggest question becomes, can the selected lubricant perform to the average standards found within the AR15 type rifle "environment"?

This environment primarily involves HIGH TEMPERATURES! Operating temperatures within the AR15 type rifle can easily reach 380 to 420 degrees Fahrenheit. None of the oils on the market have temperature rating charts included with their packaging, so we can only offer the recommendations that come out of our experience.

Here at Bushmaster we use Teflon based oils, and our experience leads us to believe that these synthetic oils and lubrications are the best type for use in this weapons system. Teflon based oils lay down a very thin penetrating coating, but one that is capable of withstanding a temperature range of -25 degrees to +480 degrees on average.

WE RECOMMEND AND USE THESE OIL & LUBRICANT BRANDS

- Tetra Oil and all Tetra Products
- Rem-Oil with Teflon
- Tri-Flo
- Hoppe's

NOTE: Bushmaster does *not* recommend the use of any fluorocarbon type spray lubricant products. We have found that as soon as the rifle heats up to operating temperature, this type of oil will dissipate and lubrication will be lost.



HOW MUCH OIL TO USE - WHERE TO APPLY

Refer to this list, and the term definitions (*MINIMUM - SKIN COAT - GENEROUS - HEAVY*) when lubricating the various AR15 type rifle components, assemblies and subassemblies.

IN THE LOWER RECEIVER ASSEMBLY:

- **ACTION SPRING** (often called the **BUFFER SPRING**) – Use a *MINIMUM* amount of oil. The oil can be applied with a cleaning patch or cloth.
- **BUFFER RETAINER & SPRING** – Use a *MINIMUM* amount of oil between the buffer retainer and spring.
- **HAMMER, TRIGGER AND DISCONNECTOR** – Apply a *MINIMUM* amount of oil between face of trigger radius of hammer and tail of disconnecter.
- **SAFETY SELECTOR** – Apply a *SKIN COAT* in the grooved area of selector (where the detent rides).
- **TAKE DOWN PIN ASSEMBLY** – Apply a *MINIMUM* amount of oil. To apply, there is a groove on the take-down pin with a small hole located on the round head side.
- **PIVOT PIN ASSEMBLY** – Apply a *MINIMUM* amount of oil. To apply oil, there is a small hole located on the outside of the head of the pin.

IN THE UPPER RECEIVER ASSEMBLY:

- **CHARGING HANDLE** – Apply a *MINIMUM* amount of oil behind the charging handle latch.
- **BOLT CARRIER ASSEMBLY** – Apply a *GENEROUS* amount of oil all over the exterior of the carrier.
- **CAM PIN** – Apply a skin coat amount of oil on shaft area only.
- **BARREL ASSEMBLY** – Apply a *SKIN COAT* amount of oil to the inside of the barrel with a cleaning patch on a rod (cleaning kit).
- **UNDER THE HAND GUARDS** – Remove upper and lower hand guards from barrel, apply a *SKIN COAT* of oil around barrel area.
- **FRONT SIGHT POST** – Apply a *MINIMUM* amount of oil between front sight post and detent. Point applicator above tip of detent, then apply oil.
- **REAR SIGHT ASSEMBLY** – Apply a *SKIN COAT* amount of oil to elevation knob only.

LUBRICATION TIMING SCHEDULE

The military has adopted a simple approach to lubrication maintenance scheduling for weapons that need to be on a "ready for use" status. And, in military fashion, they have reduced that lubrication maintenance schedule to a one word acronym - *L O A M* - which stands for *Lubricate Once A Month*.

If you establish a regular program of once a month applications of oil or lubricant on all moving parts (springs, detents and trigger components) on all weapons you are responsible for, they will always be ready for use.

