

**Mil-Comm Products Company, Inc.**

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# Suggested Lubrication Practices

## for TW-25B Lubricant/Protectant on the **M16 Rifle (5.56mm)**

TW25B is the preferred lubricant. TW25B is a light, semi-fluid grease that provides both lubrication and protection against corrosion. TW25B is available in a variety of packages to make application easier: bulk jar, grease gun cartridge, syringe (for precision placement), tube, and spray ("EP"). A companion product, MC2500, is a light, pourable/pumpable oil. Product descriptions and NSNs are listed on the last page.

### Note

Before applying TW25B, the surface must be thoroughly cleaned: **all old oil and grease should be removed, the surface should be cleaned and free of oil residues**, and the surface should be dry. The EP spray can be used as needed on unpainted surfaces to quickly achieve effective corrosion protection.

### SURFACE PREPARATION

The suggested method of preparation is:

- Clean with approved cleaning product
- Flush off all residue with isopropyl alcohol

### APPLICATION

#### Conditions for applying TW25B

Conditions	Thickness	Visibility After Application	Applicators
<b>1</b> - very close tolerances - sand or dust environments	very light	white grease is <b>not visible</b>	brush, cloth, patch, spray
<b>2</b> - heavy load bearing - salt/fresh water corrosion - heat or high speed - long-term storage	light to moderate	white grease is <b>slightly visible</b>	brush, cloth, syringe, spray
<b>3</b> - bearings, gears, grease fittings - extended extreme load - marine exposure	heavy	white grease is <b>plentiful</b>	brush, caulk or grease gun, bearing packer

### General

1. **After cleaning each part, spray with EP to Condition 1 for immediate corrosion protection.**
2. Apply additional TW25B to Condition 2 as needed on parts in contact, or that slide or mesh.
3. Apply additional TW25B to Condition 3 as needed on parts where heavy load and/or pressure is experienced.
4. Where sand and/or dust accumulations would impede functionality, wipe off excess with a cloth. (The cloth can be used to apply a light coat to exterior surfaces of other parts.)

### Clear the Rifle

ALWAYS clear the rifle before working on it!

- a. Point rifle in safe direction!
- b. Place selector lever on SAFE. If weapon is not cocked, cannot be pointed toward SAFE.
- c. Remove the magazine.
- d. Lock the bolt open:
  - Pull charging handle rearward and press bottom of bolt catch.
  - Allow bolt to move forward until it engages the bolt catch.
  - Return charging handle to forward.
  - If you haven't before, now place selector lever on SAFE.
- e. Check receiver and chamber to ensure these areas contain no ammo!
- f. With selector lever pointing toward SAFE, allow bolt to go forward by pressing upper portion of bolt catch.

### Preparation

1. Disassemble the rifle as indicated by the applicable Technical Manuals. At this point:
  - a. Sling is removed.
  - b. Handguards are removed.
  - c. Upper and lower receivers are open and apart.
  - d. Bolt carrier (with bolt) is removed.
  - e. Charging handle is removed.
  - f. Firing pin retaining pin is removed.
  - g. Firing pin is removed from carrier.
  - h. Bolt cam pin is removed from carrier.
  - i. Bolt is removed from carrier.
2. If rifle is dirty or damaged:
  - j. Extractor pin is removed.
  - k. Extractor and spring are removed. (If damaged, replace spring.)
  - l. Buffer assembly is removed and action spring separated from buffer body.
3. Clean bore and all parts thoroughly!
4. After cleaning a part, **immediately** rinse in ISA and apply a very light coat (Condition 1) of TW25B. Alternatively, use the EP spray to apply very light coat.  
BE SURE to spray into carrier key (to Condition 1).

### Specific Parts and Assemblies

1. Apply moderate coat (Condition 2) of TW25B to:
  - a. Inner and outer surfaces of upper receiver.
  - b. Bore (only!) DO NOT lubricate the chamber!!
  - c. Charging handle.
  - d. Inner and outer surfaces of bolt carrier.
  - e. Inside areas of lower receiver.
  - f. All surfaces of buffer and buffer action spring.
  - g. Outer surfaces of barrel and front sight.
  - h. Surfaces under handguards.
  - i. Adjustable rear sight.
2. Depress front sight detent. Using the EP, spray a moderate coat (Condition 2) onto the spring. Depress detent several times to work TW25B into spring.
3. Use a small brush to lubricate the locking lugs to Condition 3. Wipe off excess with a clean rag.
4. Lubricate the ejector (in extractor portion of bolt) to Condition 2 using the EP spray. Wipe away any excess. Work TW25B into the ejector by gently rocking a spent cartridge in the extractor.
5. Apply moderate coat (Condition 2) TW25B to firing pin, firing pin recess in bolt, & extractor pin.
6. Apply TW25B to Condition 3 on all outside surfaces of bolt. Make certain to lubricate cam pin area and bolt rings on the bolt.
7. Apply TW25B to Condition 3 to bolt cam pin, firing pin retaining pin, to the slide and cam pin areas of bolt carrier, to the takedown and pivot pins and their detents, and to all moving parts inside the lower receiver, as well as their pins.

## REFERENCED PRODUCTS

The above instructions make reference to the following product packages:

	Mil-Comm Part Number	National Stock Number (NSN)
<b>TW25B Grease Packages</b>		
1.5 oz. Tube	TW25B-1SP11	9150-01-439-0859
4.0 oz. Tube	TW25B-4SP14	9150-01-439-1873
8 oz. Can	TW25B-1JSL16	9150-01-439-0858
16.9 fl. oz. (500 ml) EP Spray	TW25B-CA16EP	9150-01-448-2298
0.5 oz. Syringe	TW25B-1SY12	9150-01-448-2266
16 wt. oz. Cartridge, Zerk	TW25B-6NZ17	9150-01-439-0857
16 wt. oz. Cartridge, Caulk	TW25B-1NC17	9150-01-439-1864
<b>MC2500 Oil Packages</b>		
16 fl. oz. Bottle, oil	MC2500-16AP4	9150-01-439-1875
128 fl. oz. (1 Gal) Can, oil	MC2500-45AP5	9150-01-439-1887

Mil-Comm offers other packaging; contact your local representative or the Defense Logistics Agency.

### Product Descriptions

**TW25B Lubricant/Protectant and MC2500 are non-toxic, non-flammable, non-corrosive, harmless to wood, plastic, rubber, and composites. EP spray contains flammable isopropyl alcohol.**

#### TW-25B LIGHT GREASE

TW25B-1SY12	SYRINGE	0.5 weight-ounce plastic syringe (14 grams). Designed for convenient application into small, recessed or otherwise hard to reach lubrication points, featuring a one inch, tapered plastic dispensing tip and a flow turn-off valve.
TW25B-1SP11	TUBE	1.5 weight-ounce plastic tube (43 grams) featuring a dispenser tip with a screw-on closure. Designed for individual, tool, or weapons maintenance kit.
TW25B-4SP14	TUBE	4 weight-ounce plastic tube (113 grams) having a dispenser tip with a screw-on closure. Designed for large tool or weapons maintenance kit.
TW25B-1JSL16	JAR	8 weight-ounce (227 grams) plastic jar featuring screw-on lid. Designed for shop or bench use.
TW25B-1NC17	CARTRIDGE	16 weight-ounce (454 grams) plastic caulk cartridge for larger lubrication points WITHOUT grease fittings.
TW25B-6NZ17	CARTRIDGE	16 weight-ounce (454 grams) cardboard ZERK cartridge for lubrication points WITH grease fittings.
TW25B-CA16EP	COMPRESSED-AIR PRESSURIZED SPRAY CAN ("EP") (NON-AEROSOL)	16.9 fluid-ounce (500 ml) non-aerosol pressurized aluminum EP spray can designed for convenient spray application into recessed or hard to reach points, and for quick application of initial corrosion protection layer. Features an angular extended nozzle with finger pushbutton actuator.

The EP spray contains isopropyl alcohol, which helps to loosen and flush residues and distribute the TW25B.

#### MC-2500 OIL

MC2500-16AP4	BOTTLE	16 fluid-ounce aluminum bottle (472 ml) with dispenser cap.
MC2500-45AP5	CAN	1 Gallon metal UN can (3.785 liters) with pour spout.