

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

2 Carlton Ave, E. Rutherford, NJ 07073  
(201) 935-8561 FAX: (201) 935-6059

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# Suggested Lubrication Practices

for **TW-25B Lubricant/Protectant** on the

## **M2 Machine Gun**

(0.50cal, single-barrel)

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**

<b>Conditions</b>	<b>Thickness</b>	<b>Visibility After Application</b>	<b>Applicators</b>
<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 functioning, wipe off excess with a cloth.*** (The cloth can be used to apply a light coat to exterior surfaces of other parts.)

### Specific Parts and Assemblies

1. Completely disassemble the gun. Inspect for evidence of excessive wear, breakage, cracks, chips, bends, burrs, rolled edges, overheating, or other stress or fatigue. Repair or replace as indicated in inspection and maintenance procedures. Clean off all debris and lubricant residue using approved non-solvent cleaners or, if available, rinse with isopropyl alcohol.
2. Immediately after cleaning each part, protect all surfaces against corrosion by spraying a thin coat of TW-25B to Condition 1 using the EP spray can.
3. During re-assembly, ensure that TW-25B is applied to the following parts to the Condition indicated in the rightmost column of this table. (While all parts received TW-25B to Condition 1 in Step 2 above, Condition 1 is mentioned repeatedly to ensure that functional parts retain a coating during and after assembly.)

<b>Assembly</b>	<b>Components to Lubricate</b>	<b>Lubricate to Condition</b>
Receiver Housing:	1. all flanges and rails inside the receiver housing	2
	2. breech lock cam NOTE: This is a CRITICAL heavy lubrication point!	3
	3. feed pawls	1
	4. retracting slide and retracting lever (inner and outer parts of the charging handle assembly)	1
Barrel Extension Assembly:	1. <b>breech lock</b> , especially the beveled edges that face up NOTE: This is a CRITICAL heavy lubrication point!	3
	2. all flanges, rails, and tracks inside Barrel Extension Assembly	3
Barrel Buffer Assembly (also called the "Recoil Buffer Assembly"):	1. buffer accelerator, especially the curved cam surfaces that face down	1
	2. all surfaces of the breech lock depressor fingers	1
	3. top and bottom surfaces of the barrel buffer body	1
Bolt Assembly:	1. firing pin extension (and NOT the firing pin)	1
	2. cocking lever	1
	3. trackway in the bolt switch	1
	4. trackway on top of Bolt Assembly selected by the bolt switch	1
	5. all flanges on the sides of the bolt assembly that ride on the rails in the receiver housing	2
	6. the bottom surfaces of the Bolt Assembly	1
	7. the Driving Spring Rod (sub-assembly)	2
Backplate Assembly:	1. slide grooves	1
Barrel:	1. barrel threads	1
	2. bore and exterior (Leave the chamber dry!)	1
Mounting Device:	1. all elevation and traversing mechanisms	1
	2. all bolt threads	1

If the weapon will be used in a environment of heavy sand and dust, reduce the amount of lubricant applied to the feed pawls and charging handle rails by wiping off excess with a cloth. Re-use the lubricant on the cloth to apply a thin coat on the exterior surfaces of other parts, such as the barrel.

### MAINTENANCE & RE-LUBRICATION

1. After 2,500 rounds: inspect the weapon, remove any debris, and touch-up any points where lubricant is needed.
2. After 5,000 rounds: inspect the weapon, and remove any debris. If necessary, break down the gun, clean, and repeat the entire lubrication procedure.

REFERENCED PRODUCTS

	<b>Mil-Comm Part Number</b>	<b>National Stock Number (NSN)</b>
<b>TW25B Grease Packages</b>		
1.5 wt. oz. Tube	TW25B-1SP11	9150-01-439-0859
4.0 wt. oz. Tube	TW25B-4SP14	9150-01-439-1873
8 wt. oz. Can	TW25B-1JSL16	9150-01-439-0858
16.9 fl. oz. (500 ml) EP Spray	TW25B-CA16EP	9150-01-448-2298
0.5 wt. 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.