

ARMALITE

AR-18 (AR-180)

OPERATION & MAINTENANCE MANUAL

- * General Data
- * Accessories
- * Special Tools
- * Operation--Usual & Unusual Conditions
- * Telescopic Sight
- * Repair
- * Cleaning
- * Preventative Maintenance
- * Trouble Shooting
- * Disassembly/Assembly
- * Replacement of Parts

Armalite, Inc.
118 East 16th Street
Costa Mesa, California

OPERATING AND MAINTENANCE MANUAL

RIFLE, 5.56 - MM, AR - 18

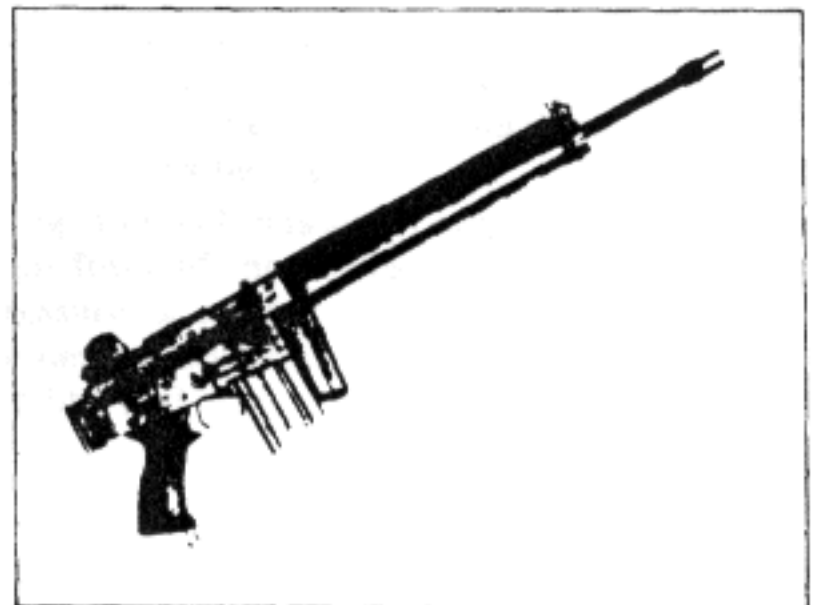
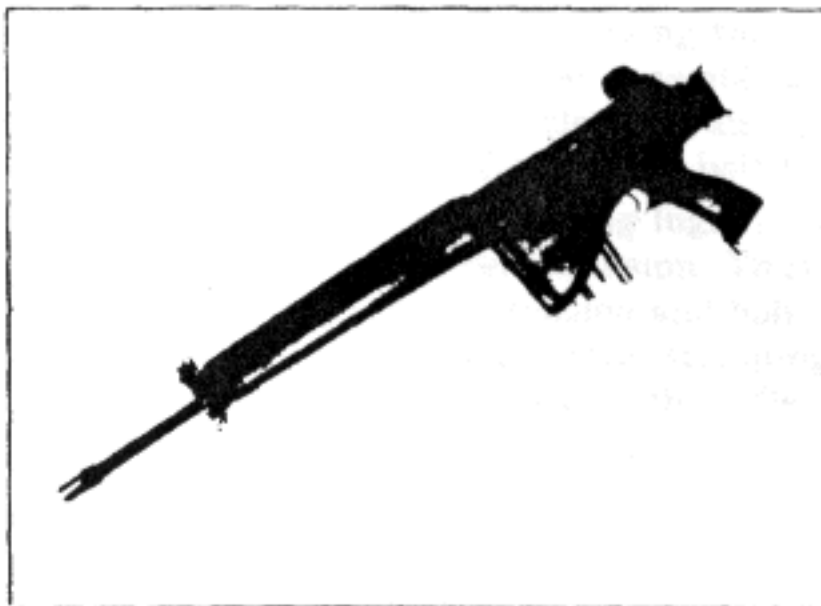
**Armalite, Inc.
118 East 16th Street
Costa Mesa, California**

TABLE OF CONTENTS

CHAPTER	Page
I INTRODUCTION	1 - 1
SECTION 1	
1 - 1. General	1 - 1
1 - 2. Scope	1 - 1
SECTION 2	
1 - 3. Description and Data	1 - 1
1 - 4. Description	1 - 1
SECTION 3	
1 - 10. Tabulated Data	1 - 1
SECTION 4	
1 - 12. Accessories	1 - 3
1 - 15. Special Tools	1 - 3
II OPERATING INSTRUCTIONS	2 - 1
SECTION 1	
2 - 1. Service Upon Receipt of Materials	2 - 1
2 - 6. Services	2 - 1
2 - 9. Bipod	2 - 1
SECTION 2	
2 - 12. Controls	2 - 1
SECTION 3	
2 - 14. Operation Under Usual Conditions	2 - 2
2 - 16. Preparation for Firing	2 - 2
2 - 18. Clean and Lubricate Bolt Carrier Group	2 - 2
2 - 19. Loading	2 - 2
2 - 22. Firing	2 - 3
2 - 27. Stoppage and Immediate Action Procedures	2 - 3
2 - 31. Unloading	2 - 4
SECTION 4	
2 - 33. Operation Under Unusual Conditions	2 - 5
SECTION 5	
2 - 36. Telescopic Sight	2 - 6
2 - 40. Installation	2 - 6
2 - 42. Maintenance	2 - 6
III ORGANIZATIONAL MAINTENANCE INSTRUCTIONS	3 - 1
SECTION 1	
3 - 1. Repair Parts, Tools and Equipment	3 - 1
SECTION 2	
3 - 8. Cleaning and Lubricating after Firing	3 - 1
3 - 9. Cleaning and Lubricating the Barrel	3 - 1
3 - 10. Cleaning and Lubricating Bolt Carrier Group	3 - 2
3 - 11. Cleaning and Lubricating Lower Receiver Group	3 - 2
SECTION 3	
3 - 12. Preventive Maintenance Services	3 - 2
SECTION 4	
3 - 14. Trouble Shooting	3 - 2
SECTION 5	
3 - 16. Maintenance of Rifle	3 - 3
3 - 17. Disassembly/Assembly	3 - 3
3 - 18. Cleaning, Inspection and Repair	3 - 7
3 - 21. Replacement of Parts	3 - 7
3 - 23. Function of Check	3 - 7



Rifle 5.56 m.m. — AR-18
Figure 1-1



Rifle 5.56 m.m. AR-18 Stock Folded
Figure 1-2

Length

Rifle with flash suppressor-compensator..... 38 in.
 Rifle with bayonet-knife.....43.5 in.
 Barrel 18 in.
 Barrel with flash suppressor.....19.8 in.

Mechanical Features

Rifling, R.H. 6 grooves — 1 turn in 12"
 Bore Maximum..... .2190
 Groove Maximum..... .2235
 Sight Radius.....19.5 in.
 Trigger pull
 Maximum 8.5 lbs.
 Minimum 5.0 lbs.
 Method of Operation.....Gas
 Type of Mechanism.....Rotating Bolt
 Method of Feeding — Magazine.....20 rds.
 CoolingAir

Ammunition

Caliber5.56-mm
 TypeBall, Tracer & Grenade Launching (Blank)

Firing Characteristics

Muzzle Velocity (Average).....3250 fps
 Muzzle Energy.....1300 ft-lb.
 Chamber Pressure.....52,000 psi
 Cyclic Rate of Fire.....700/800 rds. per minute
 Maximum Rate of Fire
 Semiautomatic45/65 rds. per minute
 Automatic150/200 rds. per minute
 Sustained Rate of Fire.....12/15 rds. per minute
 Maximum Range.....2653 meters
 Maximum Effective Range.....460 meters

Table 1-1. ACCESSORIES

Item	Identifying Number	Figure Number
Bayonet-Knife AR-18	2862	1-3
Bipod, Rifle AR-18	2773.5	1-3
Case, Bipod	2864	1-3
Scabbard, Bayonet-Knife AR-18	2863	1-3

Table 1-2. SPECIAL TOOLS

Item	Identifying Number	Figure Number
Rod, cleaning, small arms, AR-18	2866	1-8
Brush, cleaning, small arms	2867	1-8

Section 4

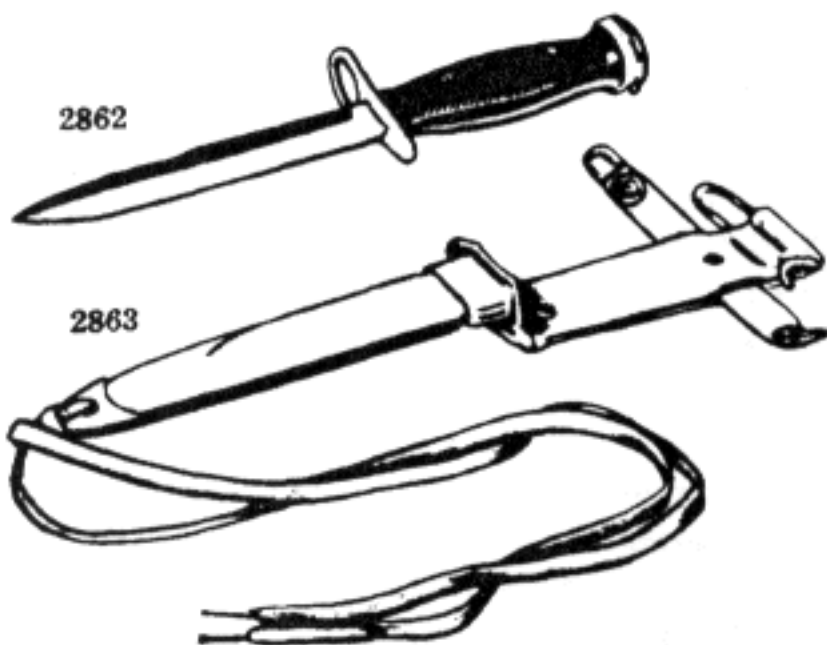
1-12. ACCESSORIES AND SPECIAL TOOLS.

1-13. ACCESSORIES.

1-14. Accessories are tabulated in Table 1-1 and listed in Appendix I, which is the authority for requisitioning replacements.

1-15. Special Tools.

1-16. Special Tools are tabulated in Table 1-2 and listed in Appendix I, which is the authority for requisitioning replacements.



2862

2863

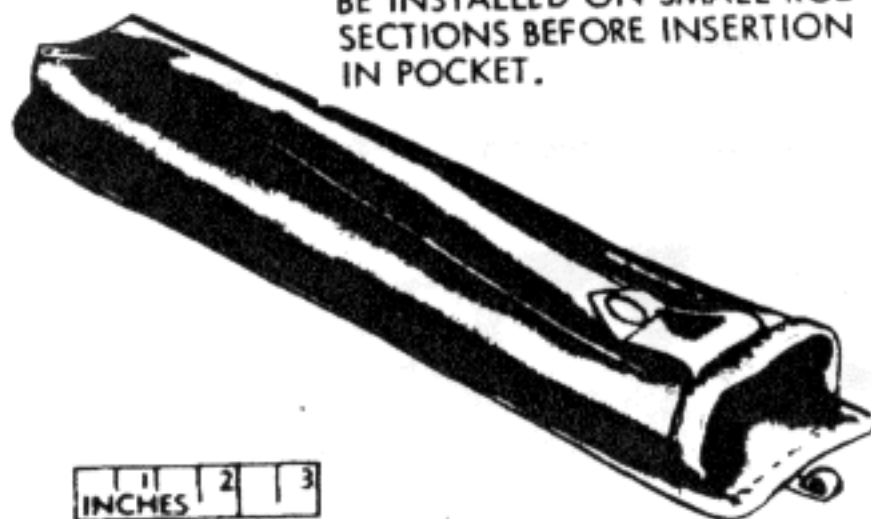
Bayonet-Knife AR-18 and Bayonet-
Scabbard, Bayonet-Knife AR-18



INCHES 1 2 3

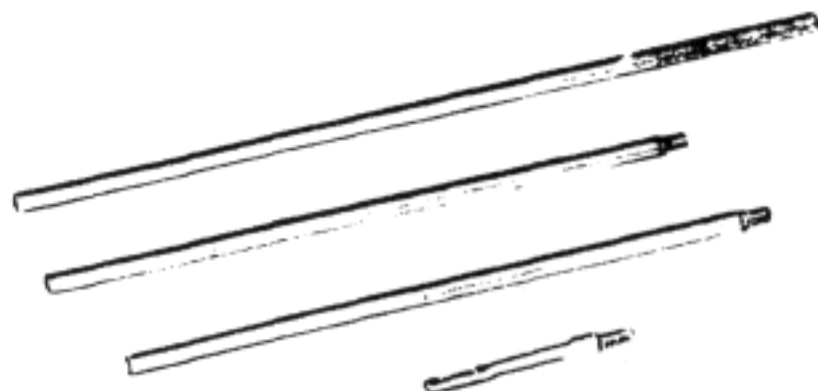
Rifle Bipod, AR-18 2773-5

BRUSH AND SWAB SECTION TO
BE INSTALLED ON SMALL ROD
SECTIONS BEFORE INSERTION
IN POCKET.



INCHES 1 2 3

Bipod Case - 2864



INCHES 1 2

Small Arms Cleaning Rod - 2866



INCHES 1 2

Small Arms Cleaning Brush - 2867

Table 3-1. TROUBLE SHOOTING

Malfunction	Probable Cause	Remedy
Bolt fails to lock to the rear after last round.	1. Faulty magazine.	Replace magazine.
Failure to feed.	1. Faulty magazine. 2. Binding bolt and bolt carrier in locked position.	Replace magazine. Disassemble and clean (on a new weapon, one or two drops of oil on the guide rods may remedy this trouble). Check firing pin and spring and oil. Clean and lubricate bolt and carrier, higher echelon.
Failure to fire.	1. Improper assembly of firing pin. 2. Improperly installed hammer or trigger spring. 3. Obstructed chamber.	Reinstall firing pin and check bolt takedown pin for damage. Also check spring and replace if broken. Disassemble and install properly. Clean.
Fires with selector lever on SAFE.	1. Faulty selector lever. 2. Faulty or misaligned trigger pin.	Higher echelon. Replace trigger pin.
With selector lever on SEMI, fires when trigger is released.	1. Faulty or misaligned trigger pin. 2. Faulty hammer or trigger.	Notify higher echelon. Notify higher echelon.
Bolt seizes, will not rotate.	1. Carbon dirty or burred bolt group.	Hold rifle in vertical position and strike butt sharply on ground while pushing down on charging handle. Clean as necessary.

Section 5

3-16. MAINTENANCE OF RIFLE.

3-17. DISASSEMBLY/ASSEMBLY. This section contains instruction on disassembly, assembly and maintenance, before and after firing. For disassembly and assembly instructions, see figures 3-1 thru 3-19.

Table 3-4.

INSPECTION

Part, Components or Area	Instructions
Barrel and Barrel Extension Front Sight & Operating Rod. Upper & Lower Receiver Groups. Bolt and Bolt Carrier.	Inspect surfaces for cracks or defects. Check barrel extension for burrs, broken or worn locking lugs. Inspect bore for damage. Check front sight and operating rod for cracks and general condition. Inspect the receivers and all parts for cracks. Inspect all parts for wear or damage. Check springs for condition, straightness and tension. Check for cracks in bolt. Inspect bolt for condition of locking lugs, pitted or chipped bolt face, and elongated firing pin hole. Inspect firing pin for wear and burrs. Inspect bolt carrier for cracks, burrs and chips. Check socket head cap screws for being staked.

