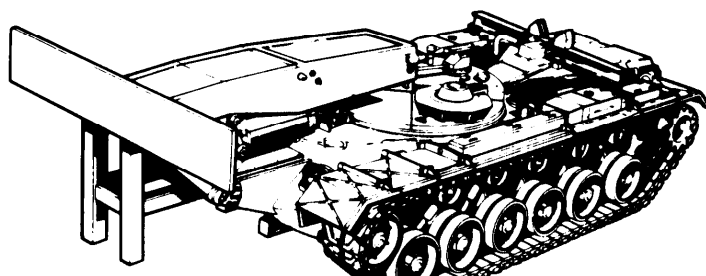


TECHNICAL MANUAL

ORGANIZATIONAL MAINTENANCE



ELECTRICAL SYSTEM MAINTENANCE	10-1
--	-------------

TRANSMISSION AND SHIFTING MAINTENANCE	11-1
--	-------------

FINAL DRIVE AND UNIVERSAL JOINTS MAINTENANCE	12-1
---	-------------

BRAKE SYSTEM MAINTENANCE	13-1
---------------------------------	-------------

TRACK AND SUSPENSION SYSTEM MAINTENANCE	14-1
--	-------------

STEERING SYSTEM MAINTENANCE	15-1
--	-------------

HULL-EXTERIOR MAINTENANCE	16-1
----------------------------------	-------------

This copy is a reprint which includes current pages from Changes 1 through 3.

M48A5 TANK CHASSIS, TRANSPORTING: FOR BRIDGE, ARMORED-VEHICLE-LAUNCHED SCISSORING TYPE, CLASS 60 (NSN 5420-01-076-6096)

TECHNICAL MANUAL

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, D. C., 20 November 1981

Organizztional Maintenance Manual

M48A5 TANK CHASSIS, TRANSPORTING: FOR BRIGE,
ARMORED-VEHICLE-LAUNCHED SCISSORING TYPE, CLASS 60
(5420-01-076-6096)

Volume 3 of 4

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2, located in the back of this manual, directly to: Commader, U.S. Army Tank-Automotive Command, ATTN: AMSTA-MB, Warren, MI 48397-5000. A reply will be furnished to you.

NOTE

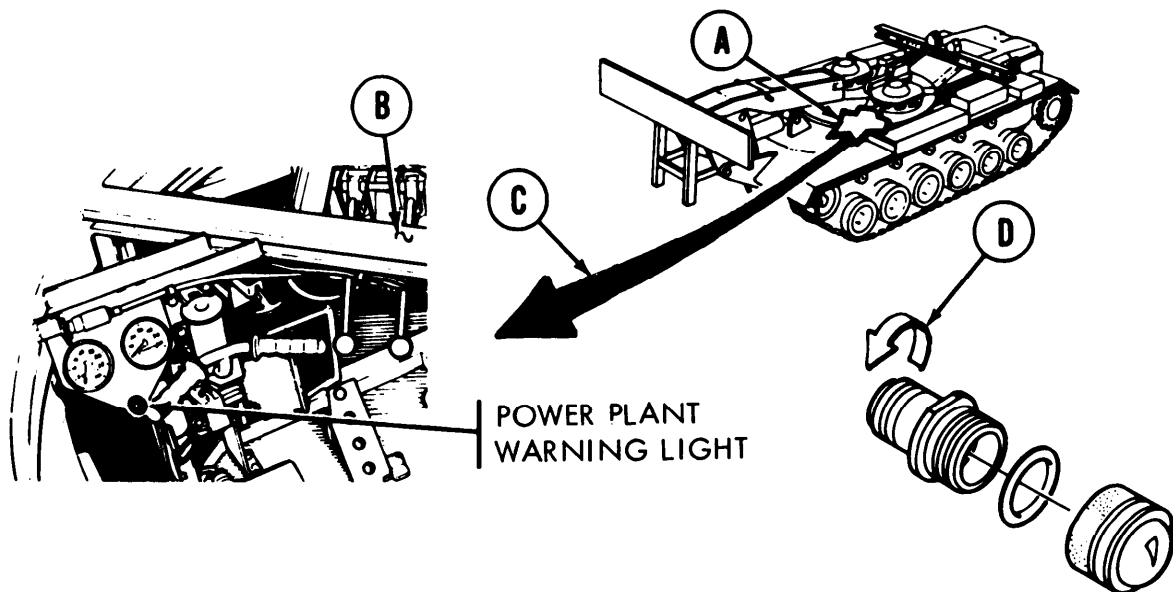
Chapters 1 thru 4 are contained in Volume 1.
Chapters 5 thru 9 are contained in Volume 2.
Chapters 10 thru 16 are contained in this Volume.
Chapters 17 thru 21, Appendixes, and Indexes are contained in Volume 4.

TABLE OF CONTENTS
VOLUME 3

		Page
	HOW TO USE THIS MANUAL.	iii
CHAPTER	10 ELECTRICAL SYSTEM MAITENANCE	10-1
	11 TRANSMISSION AND SHIFTING MAITENANCE . . .	11-1
	12 FINAL DRIVE AND UNIVERSAL JOITS MAITENANCE	12-1
	13 BRAKE SYSTEM MAINTENANCE	13-1
	14 TRACKS AND SUSPENSION SYSTEM MAINTENANCE	14-1
	15 STEERING SYSTEM MAINTENANCE	15-1
	16 HULL-EXTERIOR MAINTENANCE	16-1

HOW TO USE MANUAL:

- Manual is divided into chapters.
- Chapters are by functional group code and are presented in same order as the RPSTL (Repair Parts and Special Tools List).
- Procedure indexes are on procedures that are four pages or more, and indicate how the procedure is setup, i.e., disassembly, removal, cleaning and inspection, etc.
- All references within this technical manual refer to page numbers.
- Steps are numbered and are to be performed in that order.
- Be sure to read all NOTES ,WARNING Sand CAUTIONS.
- Locator views are included wherever necessary. These will help you locate the item which the procedure is referencing.
- Jagged circle (✱) on locator (A) indicates a cutout and means the item is inside the vehicle.
- A (∞) symbol represents the outside surface (B) of a piece of equipment that cannot be shown in its entirety.
- Callouts are shown by a circle with a letter inside.
- Locator arrows(C) are black, and mechanical motion arrows(D) are white.
- Broken leader arrow (→→) indicates the item is either inside or under the tank and cannot be seen.



TA106604

HOW TO USE THIS MANUAL - Continued

- An illustrated list of manufactured items includes complete instructions for making items authorized to be manufactured or fabricated and used at organizational maintenance.
- A maintenance information index lists all parts subject to maintenance tasks. It provides the location of all maintenance tasks related to a component in this manual.
- Certain sections of the manual have detailed “how to use” instructions at the beginning of the section - for example troubleshooting.
- As a general maintenance practice, throw away all removed lockwashers and replace with new lockwashers.

CHAPTER 10

ELECTRICAL SYSTEM MAINTENANCE

INDEX

Procedure	Page
Generator Air Intake Tube Assembly Replacement	10-3
Enne Generator Replacement	10-6
Generator Air Exhaust Pipe and Hose Replacement	10-14
Engine Generator Regulator Replacement	10-18
Engine Generator Regulator Mounting Bracket Replacement	10-20
Starter Replacement	10-21
Engine Fuel Injection Pump: Fuel Shutoff Lead Replacement	10-28
Master Control Panel Displacement	10-33
Master Control Panel Replacement	10-34
Master Control Panel Repair	10-38
Instrument Panel Cluster Assembly Replacement	10-111
Instrument Panel Cluster Assembly Repair	10-114
Instrument Panel Cluster Assembly Mounting Support and Cushion Replacement	10-137
Master Relay Assembly Replacement	10-138
Fire Extinguisher Relay and Master Relay Circuit Breaker Replacement	10-141
Interconnecting Box Assembly Replacement	10-143
Interconnecting Box Assembly Repair	10-144
High Voltage IR Power Supply and Shock Mount Assembly Repair	10-152
Fire Extinguisher Solenoid Relay Replacement	10-158
Infrared or Night Viewer Stowage Receptacle Assembly Replacement	10-160
Master Relay Mounting Plate and Bracket Replacement	10-161
Air Cleaner Motor Solenoid Relay Replacement	10-163
Fuel Shutoff and Personnel Heater Circuit Breakers Replacement	10-165
Relay and Circuit Breaker Mounting Panel Replacement	10-167
Headlight Beam Selector Switch Assembly Replacement	10-169
Headlight Beam Selector Switch Assembly Mounting Bracket Replacement	10-171
Headlight Assembly (Left and Right) Replacement	10-172
Headlight Assembly Repair (Left and Right)	10-173
Headlight Harness Base Assembly Replacement	10-181
Headlight Guard Replacement	10-185
Headlight Base Assembly Shell Replacement	10-186
Headlight Stowage Lampholder Replacement	10-187
Headlight Stowage Lampholder Repair	10-188
Powerplant Warning Light Repair	10-189
Domelight Assembly Replacement	10-191
Domelight Assembly Repair.	10-193
Domelight Resistor Assembly Replacement	10-201
Domelight Resistor Assembly Bracket Replacement	10-203

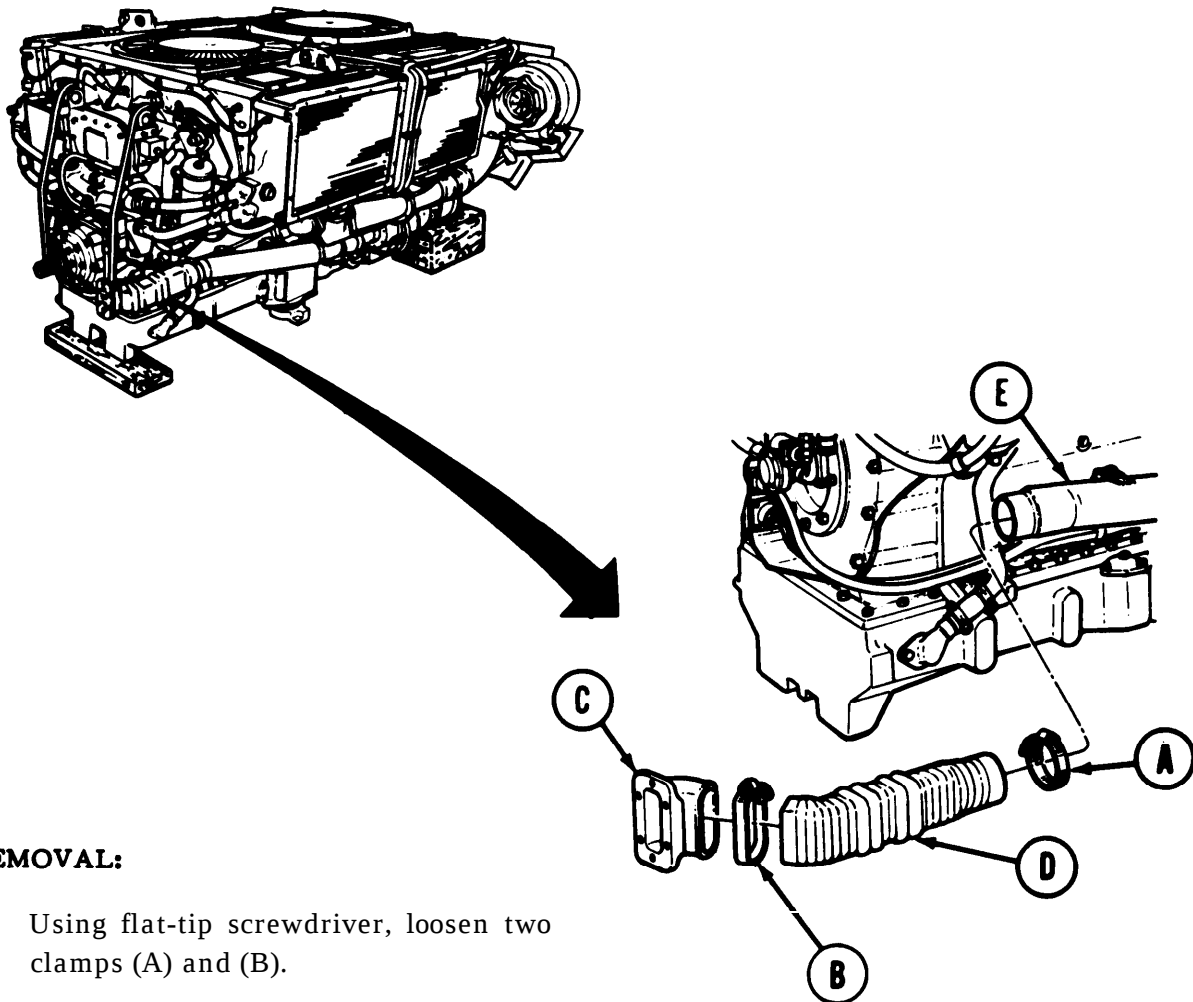
Procedure	Page
Left Taillight - Stoplight Assembly Replacement	10-204
Left Taillight - Stoplight Assembly Repair	10-207
Right Taillight - Stoplight Assembly Replacement	10-210
Right Taillight - Stoplight Assembly Repair.	10-213
Taillight Grommet Replacement	10-216
Headlight Adjustment	10-217
Engine Oil High Temperature Thermostatic Switch Replacement	10-219
Engine High Oil Pressure Transmitter Replacement	10-221
Engine Oil Temperature Transmitter Replacement.	10-224
Starter Low Voltage Relay Solenoid Replacement	10-227
Transmission Oil Temperature Transmitter Protector Replacement	10-229
Transmission Oil Pressure Transmitter Replacement	10-231
Transmission Oil Temperature Transmitter Replacement	10-234
Neutral Shift Switch Assembly Replacement	10-236
Transmission Oil High Temperature Switch Replacement	10-238
Transmission Oil Pressure Transmitter Guard Plate Replacement	10-240
Engine Oil Low Pressure Switch Replacement	10-242
Battery Jumper Cable Assembly Replacement	10-245
Battery Terminal Lug Replacement	10-251
Battery and Battery Cover Replacement	10-253
Battery Testing	10-258
Battery Ground Strap Replacement	10-263
Disconnect Battery Ground Straps.	10-268
Bulkhead Cable Disconnect.	10-269
Right Side Engine Disconnect Ground Lead Assembly Replacement	10-271
Receptacle Mounting Plate and Gasket Replacement.	10-272
Engine Starter Wiring Harness Replacement	10-274
Transmission Wiring Harness Replacement	10-281
Interconnecting Box Cable Assembly Replacement.	10-285
Engine Wiring Harness Replacement	10-286
Engine Wiring Harness (Dust Detector) Replacement	10-298
Dust Detector Hull Intermediate Lead Assembly Replacement.	10-298.8
Dust Detector Warning Light Harness Assembly Replacement	10-298.12
Dust Detector Warning Light Box Assembly and Mounting Bracket Replacement	10-298.14
Dust Detector Operational Test	10-298.16
Night Viewer Power Harness Replacement	10-298.19
Electrical Wiring Harness and Cable Connector Repair	10-298.26
Fuel Tank Capacitor and Housing Assembly Replacement (Right)	10-316
Fuel Tank Capacitor and Housing Assembly Replacement (Left)	10-321
Fuel Tank Capacitor and Housing Assembly Repair.	10-326

GENERATOR AIR INTAKE TUBE ASSEMBLY REPLACEMENT (Sheet 1 of 3)

TOOLS: 1/2in. socket with 1/2in. drive
Ratchet with 1/2in. drive
Flat-tip screwdriver

SUPPLIES: Rags (Item 65, Appendix D)
Dry cleaning solvent (Item 55, Appendix D)
Alcohol (Item 8, Appendix D)

PRELIMINARY PROCEDURE Remove powerplant (page 5-2)

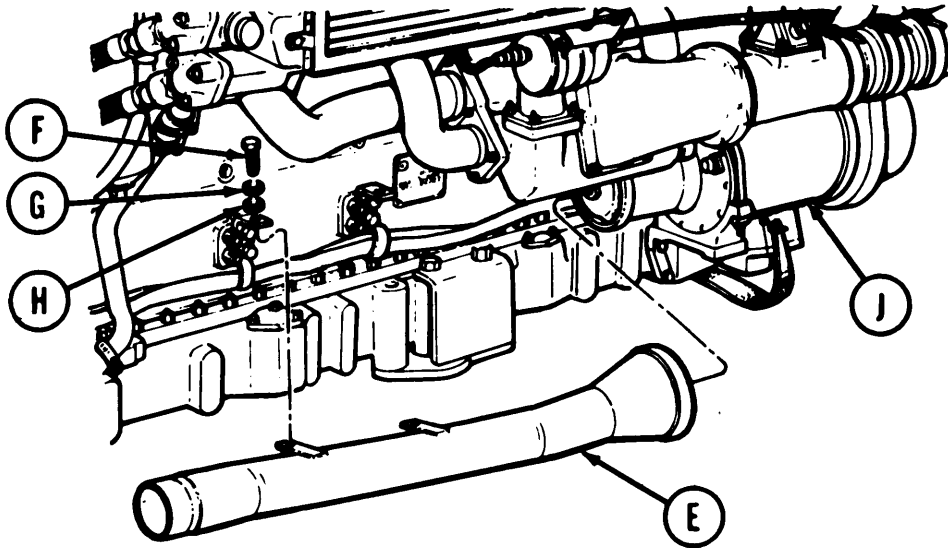
**REMOVAL:**

1. Using flat-tip screwdriver, loosen two clamps (A) and (B).
2. Remove elbow (C), hose (D), and clamps (A) and (B) from tube (E).

Go on to Sheet 2

TA168654

GENERATOR AIR INTAKE TUBE ASSEMBLY REPLACEMENT (Sheet 2 of 3)



3. Using socket, remove two bolts (F), lockwashers (G), and flat washers (H).
4. Remove tube (E) from generator (J).

WARNING

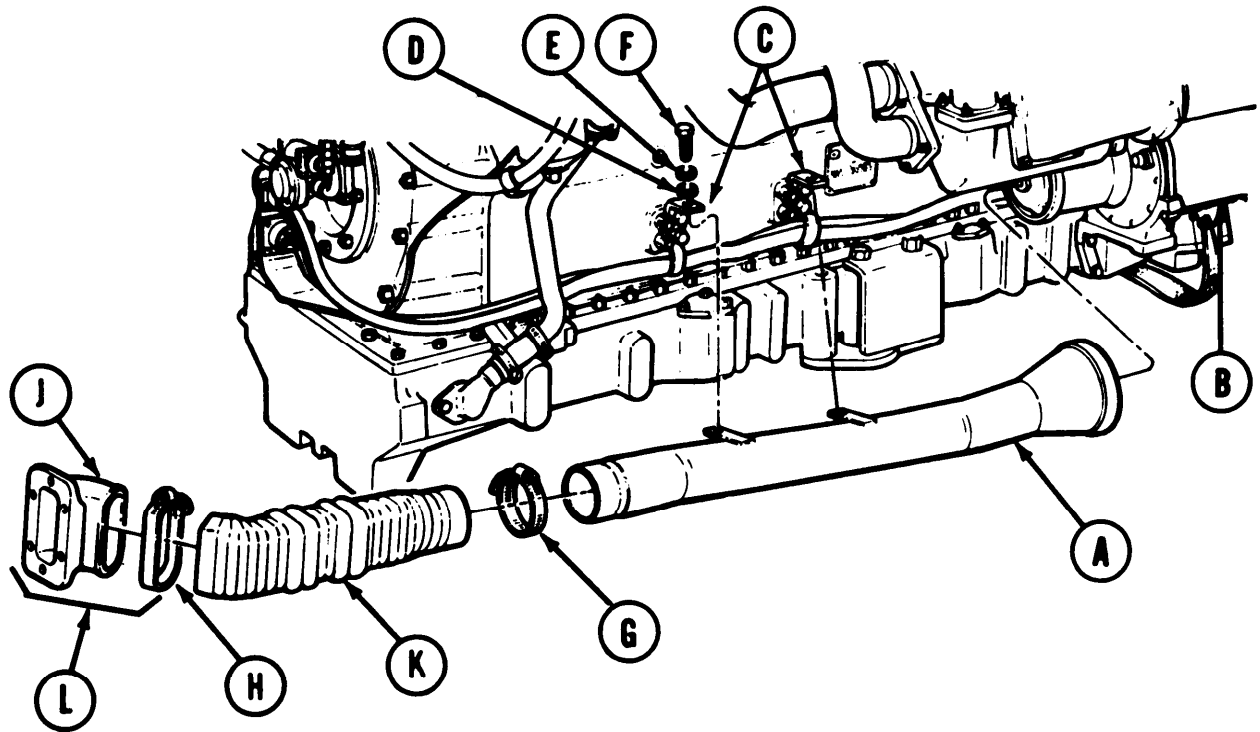
Cleaning agent specified is flammable. Use only in well ventilated areas. Keep away from flame, sparks, or heat. Do not smoke while using. Prevent contact with eyes, mouth, and/or skin. Wear rubber gloves when performing cleaning procedures.

1. Using alcohol and rags clean hose. Inspect for cracks and breaks.
2. Using dry cleaning solvent, clean tube and mounting hardware.
3. Using rags, wipe tube and mounting hardware. Inspect for bends, breaks, and cracks. Replace parts as required if defective.

Go on to Sheet 3

TA168655

GENERATOR AIR INTAKE TUBE ASSEMBLY REPLACEMENT (Sheet 3 of 3)



INSTALLATION:

1. Install tube (A) to generator (B) and angle brackets (C) on engine.
2. Install two flat washers (D), new lockwashers (E), and bolts (F) to brackets (C).
3. Using socket, tighten bolts (F) to tube (A).
4. Install clamp (G) to tube (A).
5. Install clamp (H) to elbow (J).
6. Install hose (K) to tube (A).
7. Install assembled elbow (L) to hose (K).
8. Move clamps (G) and (H) onto hose (K).
9. Using flat-tip screwdriver, tighten clamps (G) and (H).
10. Install powerplant (page 5-14).

End of Task

TA168656

ENGINE GENERATOR REPLACEMENT (Sheet 1 of 8)
PROCEDURE INDEX

PROCEDURE	PAGE
Removal	10-6
Installation	10-10

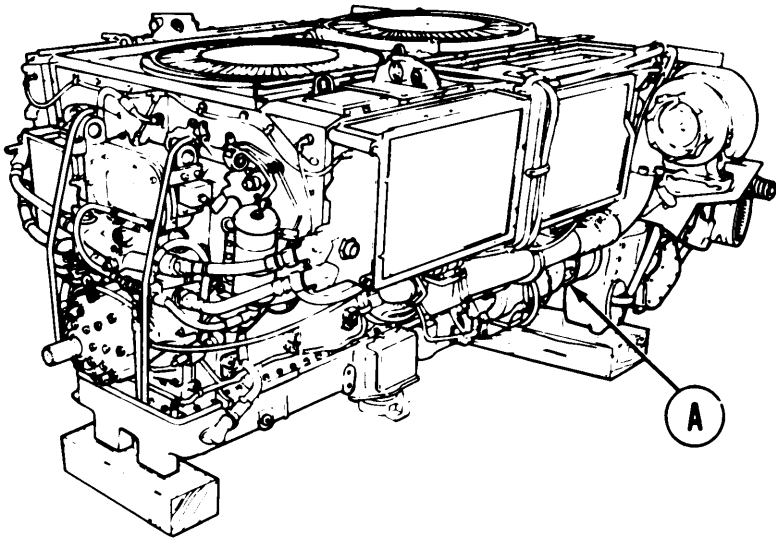
TOOLS: Spanner wrench
9/16 in. socket with 1/2 in drive
Pliers, slip joint
Ratchet with 1/2 in. drive
1/2 in. combination box and open end wrench
Flat-tip screwdriver
3/8 in. socket with 1/2 in. drive
1/2 in. socket with 1/2 in. drive
Diagonal cutting pliers
9/16 in. combination box and open end wrench

SPECIAL TOOLS: Ground hop kit (Item 30, Chapter 3, Section I)
Box wrench (10935476) (Item4, Chapter3, Section I)

SUPPLIES: Silicone compound (Item 32, Appendix D)
Two wooden blocks
Lockwire (Item 61, Appendix D)

PERSONNEL: Two

PRELIMINARY PROCEDURE: Remove powerplant (page 5-2)
Remove air intake tube assembly (page 10-3)

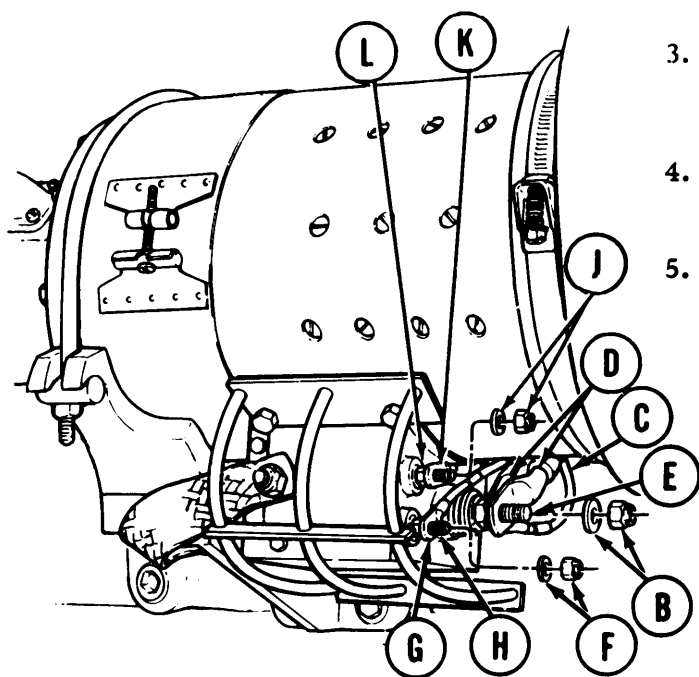


REMOVAL:

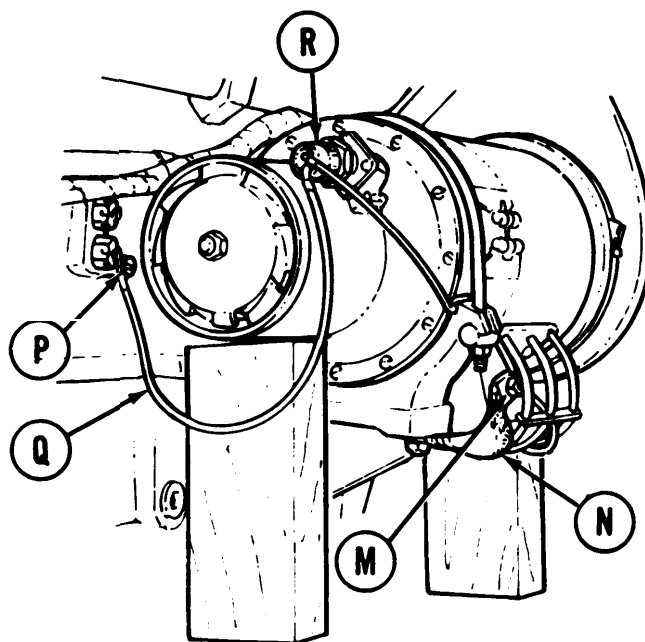
- 1. Place two wooden blocks under generator (A).

Go on to Sheet 2

ENGINE GENERATOR REPLACEMENT (Sheet 2 of 8)



2. Using 9/16 inch socket, remove nut and flat washer (B).
3. Disconnect cable (C) and two electrical leads (D) from terminal marked "B" (E).
4. Using 3/8 inch socket, remove nut and flat washer (F).
5. Disconnect electrical lead (G) from terminal marked "D" (CKT 478) (H).

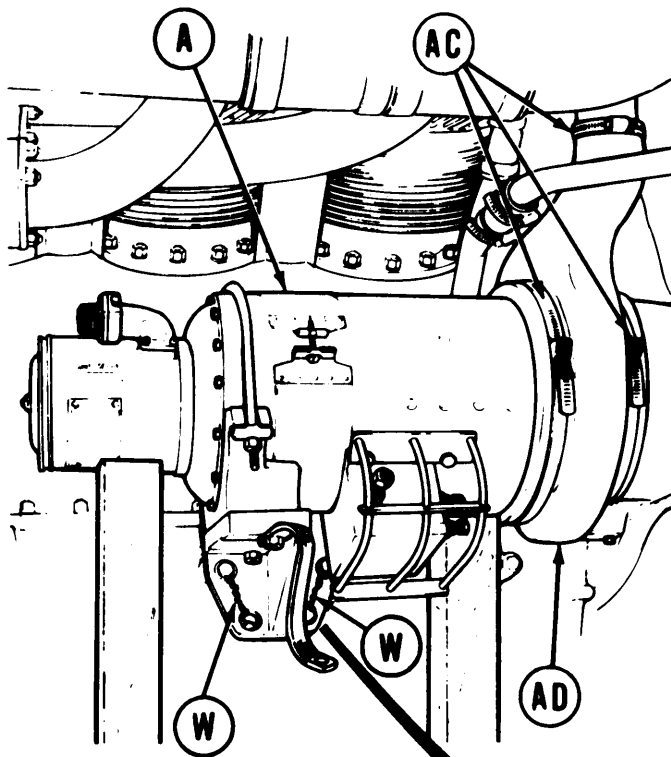


6. Using 3/8 inch socket, remove nut and flat washer (J).
7. Disconnect electrical lead (K) from terminal marked "A", (CKT 1) (L).
8. Using 9/16 inch socket, remove nut and flat washer (M).
9. Disconnect ground lead (N).
10. Using 1/2 inch socket, remove screw and lockwasher (P).
11. Disconnect electrical lead (Q).
12. Using spanner wrench, remove electrical connector (R).

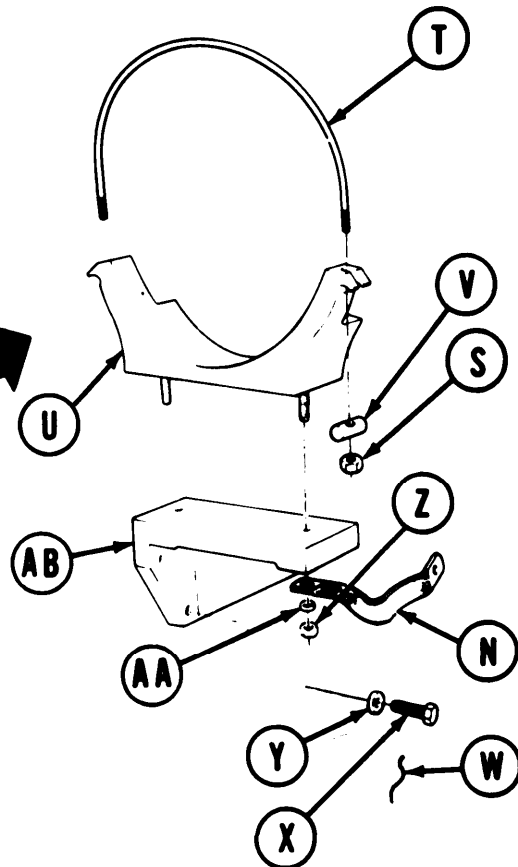
Go on to Sheet 3

TA168658

ENGINE GENERATOR REPLACEMENT (Sheet 3 of 8)



13. Using 1/2 inch wrench, loosen two nuts (S) which hold U-bolt (T) to cradle (U) until clamping bars (V) are free.
14. Using diagonal cutting pliers, cut lockwire (W).
15. Using 9/16 inch socket or 9/16 inch wrench remove four screws (X) and flat washers (Y).



16. using 9/16 inch socket, remove two nuts (Z) and flat washers (AA).
17. Remove ground lead (N).
18. Remove bracket (AB), cradle (U), and U-bolt (T) as one whole assembly from generator (A).
19. Using screwdriver, loosen three boot clamps (AC).

CAUTION

Boot (AD) is easily damaged. Be careful to prevent ripping or puncturing boot (AD).

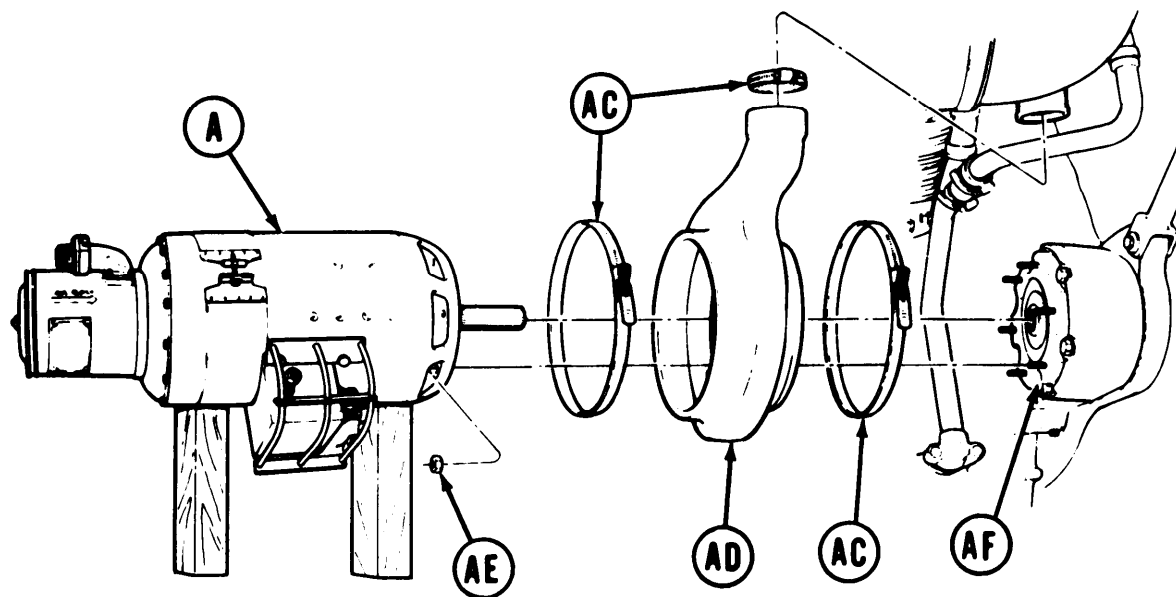
20. Slide boot clamps (AC) and boot (AD) over generator (A) to gain access for removal of mounting nuts.

Go on to Sheet 4

TA168659

ENGINE GENERATOR REPLACEMENT (Sheet 4 of 8)

21. Using special box wrench, loosen six nuts (AE). Do not remove nuts (AE) from drive adapter (AF).



22. Using two technicians, rotate generator (A) counterclockwise until openings in flange are aligned with nuts (A E).

WARNING

Generator (A) weighs approximately 100 pounds. Injury to personnel or damage to equipment could result through careless handling.

23. Using two technicians, remove generator (A) by sliding it away from drive adapter (AF).
24. Remove boot clamps (AC) and boot (AD) from generator (A).
25. Using special box wrench, remove six nuts (AE).

Go on to Sheet 5

TA168660

ENGINE GENERATOR REPLACEMENT (Sheet 5 of 8)

INSTALLATION:

1. Make sure wooden blocks are positioned under right manifold heater.

WARNING

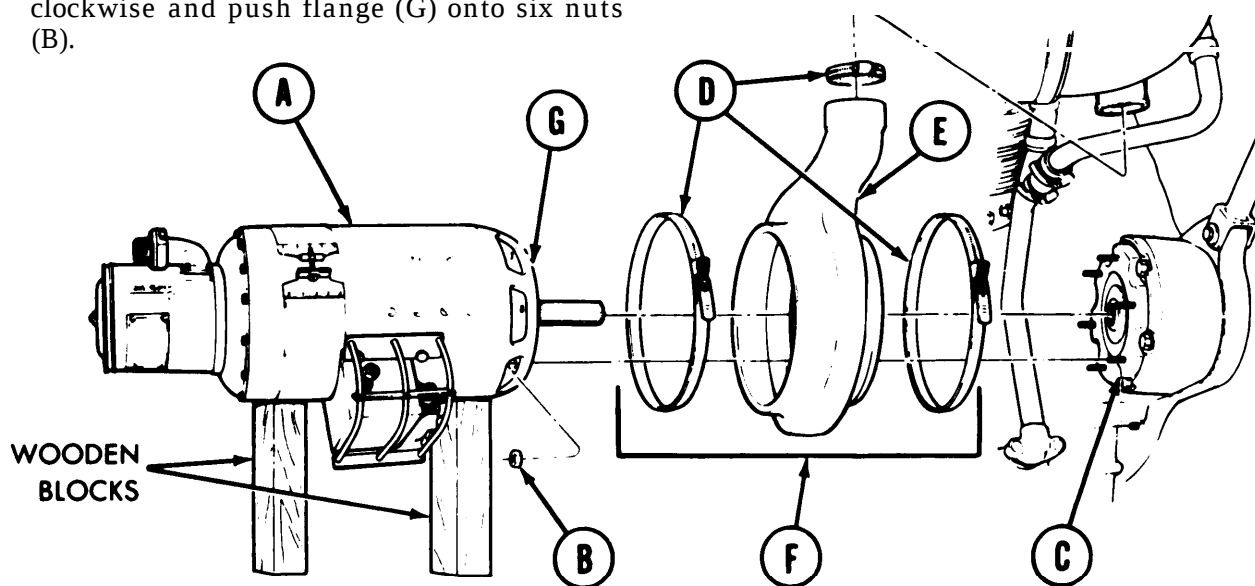
Generator (A) weighs approximately 100 pounds. Injury to personnel or damage to equipment could result through careless handling.

2. Using two technicians, place generator (A) on wood blocks.
3. Install six nuts (B) to drive adapter (C). Do not tighten nuts (B).
4. Install three boot clamps (D) to boot (E).

NOTE

Apply silicone compound to the inside of the generator boot sealing surfaces before installation.

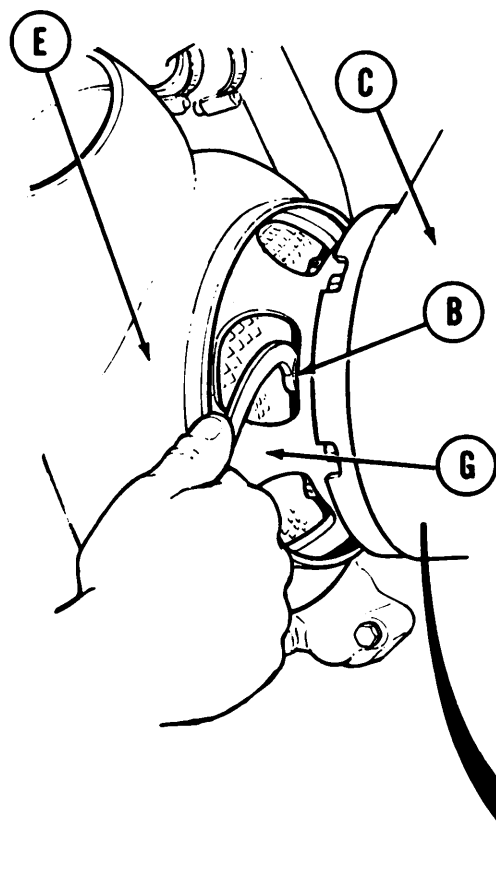
5. Install assembled boot (F) to generator (A).
6. Using two technicians? aline generator flange (G) to six nuts (B). Rotate generator (A) clockwise and push flange (G) onto six nuts (B).



Go on to Sheet 6

T A 1 6 8 6 6 1

ENGINE GENERATOR REPLACEMENT (Sheet 6 of 8)



7. Using special box wrench, tighten six nuts (B).

CAUTION

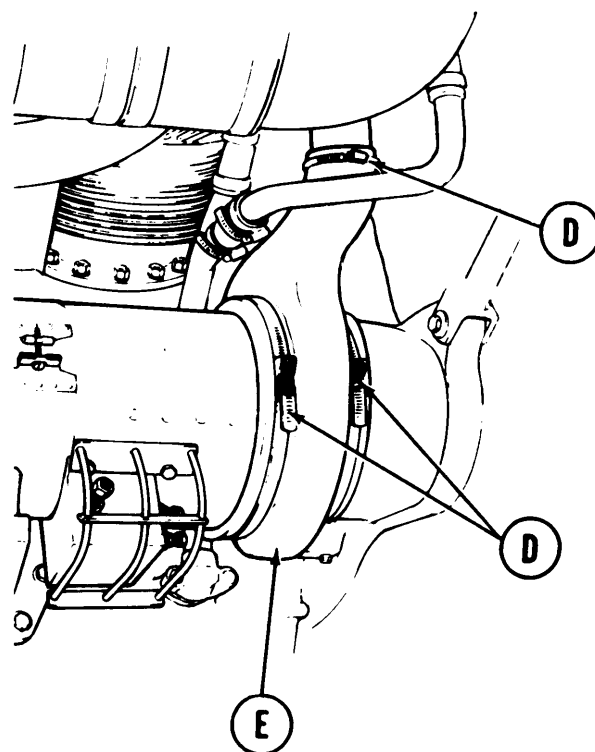
Exercise care to prevent damage to boot (E).

8. Position boot (E) onto drive adapter (C)
9. Position three boot clamps (D) Over boot (E).

10. Using screwdriver, tighten three boot clamps (D).

CAUTION

It is of utmost importance that the generator support, cradle, and "U" bolt be installed in a manner that will not disturb generator mounting alignment and still furnish adequate support to minimize vibration. Misalignment of 0.010 in. in any direction is sufficient to cause a leak (pressure loss) between the generator mounting flange and the generator mounting adapter.



Go on to Sheet 7

TA168662