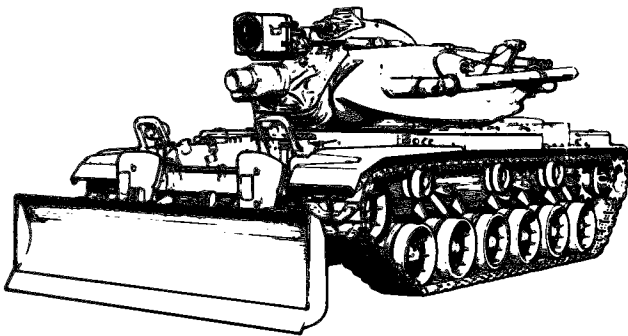


## TECHNICAL MANUAL

### ORGANIZATIONAL MAINTENANCE VOLUME 5 OF 5 CHAPTERS 16 THRU 23



### COMBAT ENGINEER VEHICLE, FULL-TRACKED, M728 2350-00-795-1797 (HULL)

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This copy is a reprint which includes current pages from Change 1.

Technical Manual  
 No. 9-2350-222-20-1

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

ORGANIZATIONAL MAINTENANCE  
 COMBAT ENGINEER VEHICLE  
 FULL TRACKED, M728  
 NSN (2350-00-795-1797)  
 (HULL)

**REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS**

You can help improve this manual. If you find any mistake 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, direct to: Commander, U.S. Army Tank-Automotive Command, Attn: AMSTA-MB, Warren, Michigan 48397-5000. A reply will be furnished directly to you.

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\*This manual, together with TM 9-2350-222-20-1-1, 20 February 1981, TM 9-2350-222-20-1-2, 20 February 1981, TM 9-2350-222-20-1-3, 20 February 1981, and TM 9-2350-222-20-1-4, 20 February 1981, supersedes TM 9-2350-222-20, 27 September 1965, including all changes.

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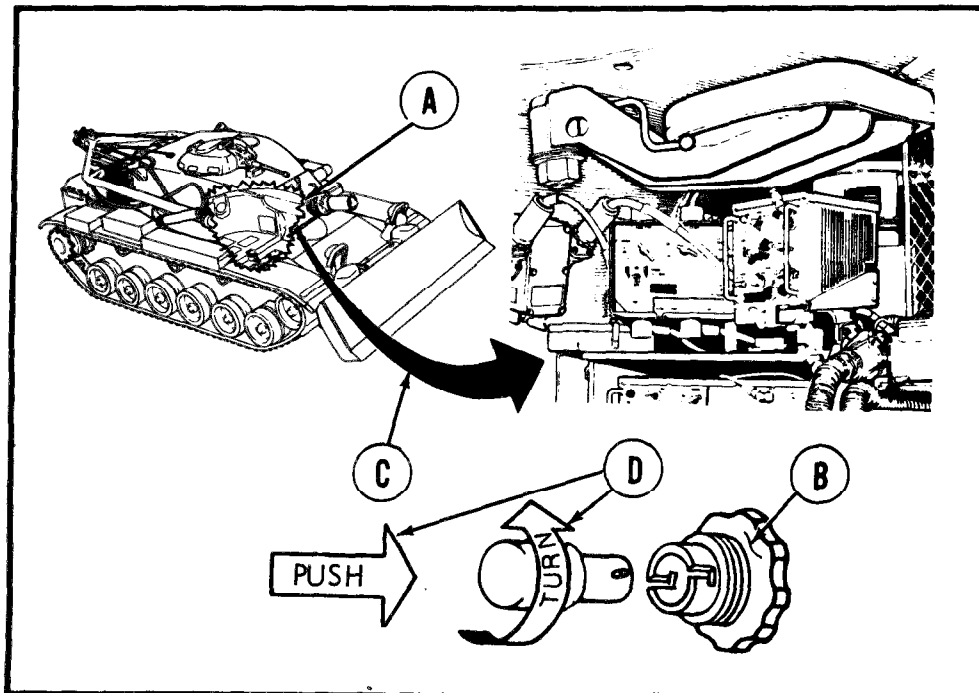
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**HOW TO USE THIS MANUAL:**

- This manual is divided into chapters.
- Chapters are by functional group code and are presented in same order as the RPSTL (Repair Parts and Special Tool List).
- Procedure indexes are on procedures that are four pages or more, and indicate how the procedure is set up, 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, WARNINGS, AND CAUTIONS.
- Locator views are included wherever necessary. These will help you locate the item for 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 vehicle and cannot be seen.



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**HOW TO USE THIS MANUAL - Continued**

- Certain sections of the manual have detailed 'how to use' instructions at the beginning of the section - for example troubleshooting.
- A maintenance information index is located in back of this manual. It is set up in alphabetical order and maintenance function, for example, disassemble, clean, inspect, repair, remove, install, assemble, and test.
- An illustrated list of manufactured items, or better known as fabricated tools, is located in back of this manual. It is nothing more than direction on how to fabricate tools that are listed throughout the manual.

## CHAPTER 16

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TOWING PINTLE REPAIR (Sheet 1 of 5)

PROCEDURE INDEX

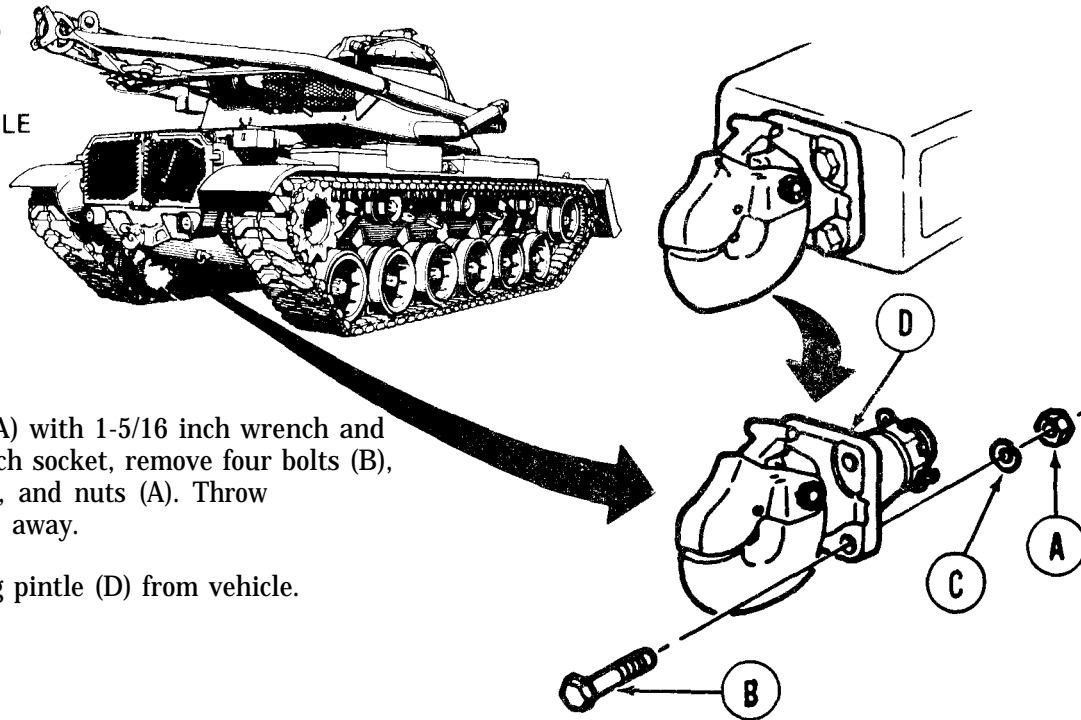
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TOOLS: 1-5/16 in. open end wrench  
 Hammer  
 Long round nose pliers  
 Flat-tip screwdriver  
 Center punch  
 3/8 in. drive punch  
 59-62 in. pinchpoint crowbar  
 3-1/4 in. socket with 1 in. drive  
 Ratchet with 1 in. drive  
 1-1/2 in. socket with 3/4 in. drive  
 1-5/16 in. socket with 3/4 in. drive  
 8 in. extension with 3/4 in. drive  
 Ratchet with 3/4 in. drive  
 1-1/2 in. open end wrench

SUPPLIES: Dry cleaning solvent (Item 54, Appendix D)  
 Cotter pins (MS24665-359) (2 required)  
 Lockwasher (MS35338-52) (4 required)

PERSONNEL: Two

REAR OF VEHICLE



REMOVAL:

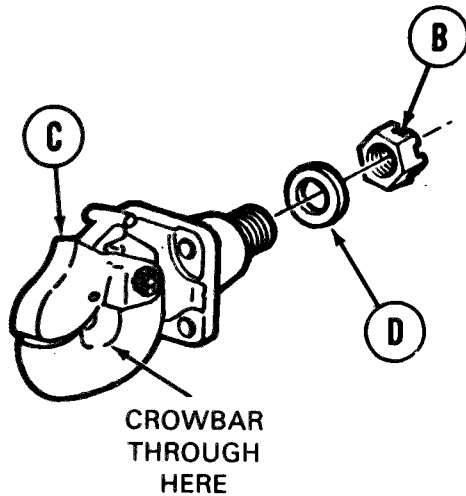
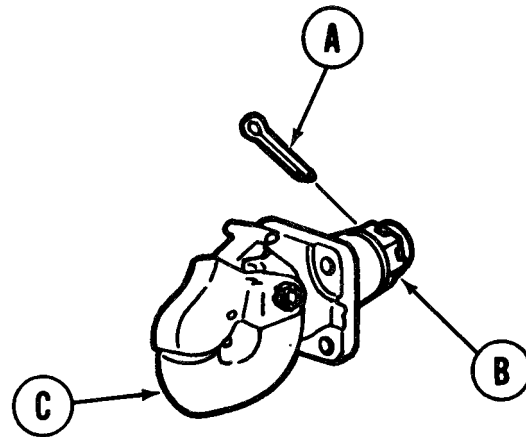
1. Holding nuts (A) with 1-5/16 inch wrench and using 1-5/16 inch socket, remove four bolts (B), lockwashers (C), and nuts (A). Throw lockwashers (C) away.
2. Remove towing pintle (D) from vehicle.

Go onto Sheet 2

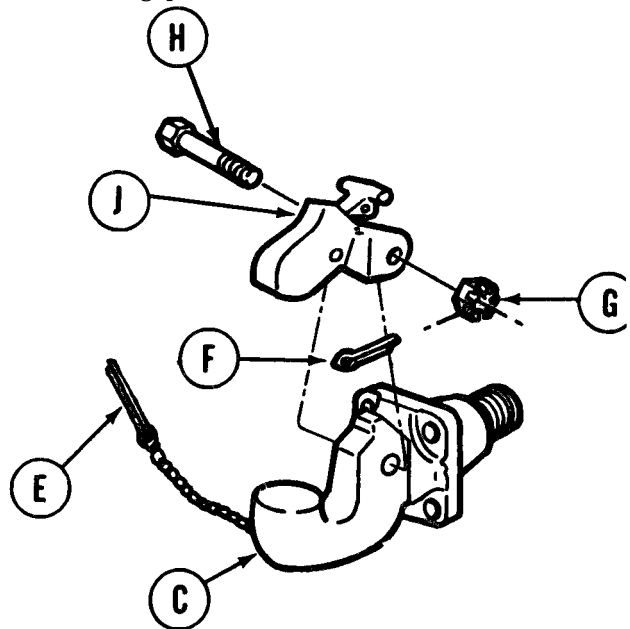
**TOWING PINTLE REPAIR (Sheet 2 of 5)**

**DISASSEMBLY:**

1. Using pliers and hammer, remove cotter pin (A) from nut (B) at rear of towing pintle (C). Throw cotter pin away.
2. Place crowbar through hole of towing pintle (C).



3. With one person holding crowbar, second person, using 3-1/4 inch socket, remove nut (B) and flat washer (D).
4. Pull cotter pin (E) that is hooked to chain out of towing pintle (C).



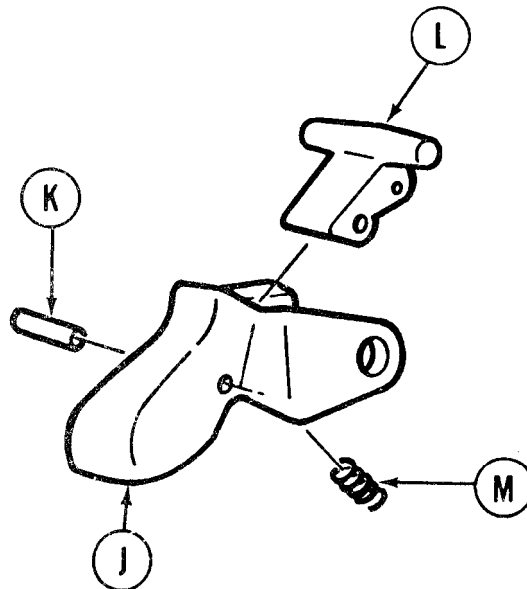
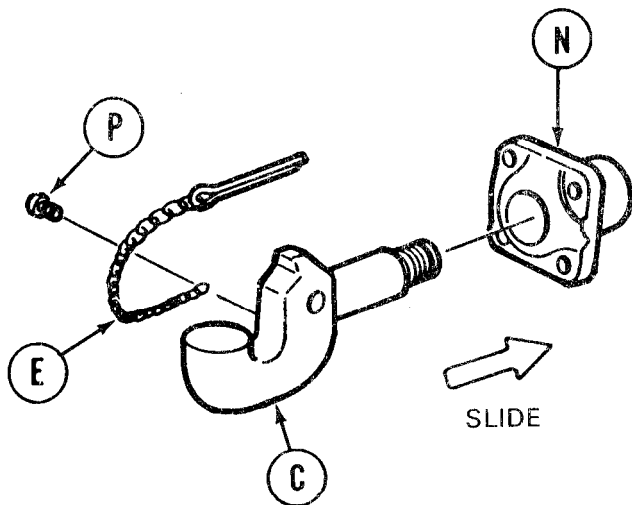
5. Using pliers, remove cotter pin (F). Throw cotter pin away.
6. Place 1-1/2 inch wrench on nut (G).
7. Using 1-1/2 inch socket, remove nut (G) and bolt (H) securing latch (J) to towing pintle (C).
8. Remove latch (J).

Go on to Sheet 3

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**TOWING PINTLE REPAIR (Sheet 3 of 5)**

9. Using hammer and 3/8 inch punch, remove staked pin (K) securing latch (L) to latch (J).
10. Remove latch (L) and spring (M) from latch (J) housing.



11. Slide sleeve assembly (N) off towing pintle (C).
12. Using screwdriver, remove screw (P) and chain and cotter pin (E) from towing pintle (C).

**CLEANING AND INSPECTION:**

1. Inspect nuts and pintle for excessive wear or stripping of threads. Replace as required.
2. Remove any deformed metal from around cavity from which pin was removed.

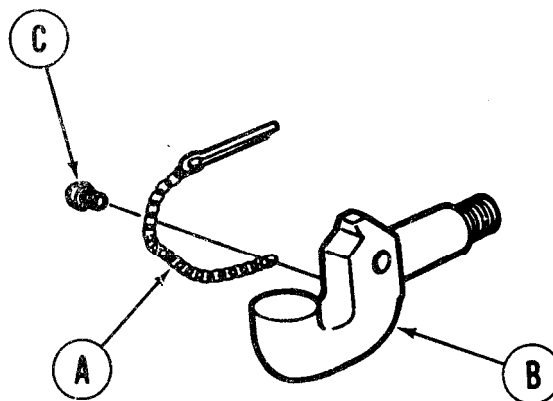
**WARNING**

**Compressed air used for cleaning purposes will not exceed 30 psi. Use only with effective chip guarding and personal protective equipment (goggles/shield, gloves, etc.)**

3. Wash lock cavity with dry cleaning solvent (Item 54, Appendix D) and dry with low-pressure compressed air.

**ASSEMBLY:**

1. Place chain and cotter pin (A) in installation position on towing pintle (B).
2. Using screwdriver, install screw (C) securing chain and cotter pin to pintle (B).

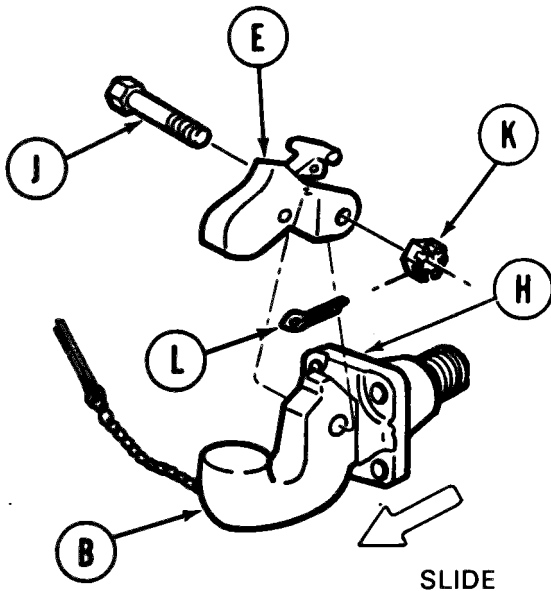
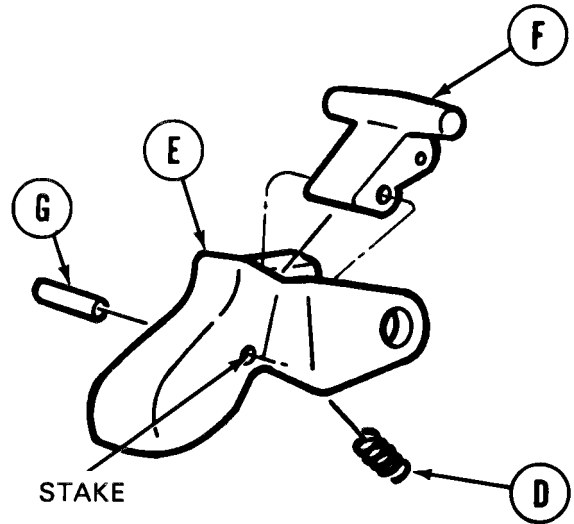


Go on to Sheet 4

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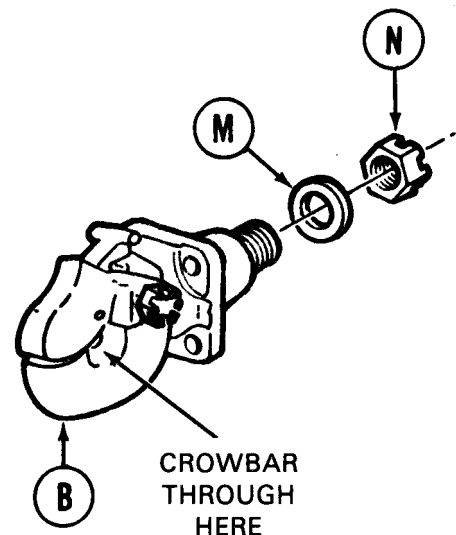
**TOWING PINTLE REPAIR (Sheet 4 of 5)**

3. Place spring (D) in installation position in latch (E).
4. Place latch (F) in installation position in latch (E).
5. Using hammer, install pin (G) securing latch (F) to latch (E).
6. Using hammer and center punch, stake pin (G) in four places to latch (E).
7. Slide sleeve (H) onto pintle (B).



8. Place latch (E) in installation position on pintle (B).
9. Install bolt (J) through latch (E) and pintle (B). Install nut (K) on bolt (J).
10. Using 1-1/2 inch socket and 1-1/2 inch wrench, tighten bolt (J) and nut (K).
11. Aline hole in bolt (J) with slot in nut (K).
12. Using pliers, install new cotter pin (L) through nut (K) and bolt (J).

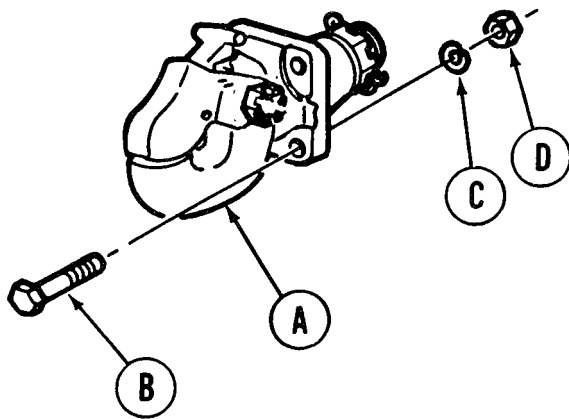
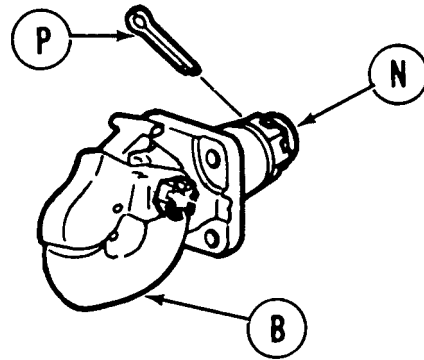
13. Place flat washer (M) and nut (N) on towing pintle (B).
14. Place crowbar through hole in towing pintle (B).
15. Using 3-1/4 inch socket, tighten nut (N), while other person holds crowbar.



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**TOWING PINTLE REPAIR (Sheet 5 of 5)**

16. Aline hole in pintle (B) with slot on nut (N).
17. Using pliers, install new cotter pin (P) through nut (N) and pintle (B).
18. Using pliers, bend ends of cotter pin (P) to secure cotter pin in place.



**INSTALLATION:**

1. Install towing pintle (A) in vehicle mounting brackets.
2. Install four bolts (B), new lockwashers (C), and nuts (D).
3. Place 1-5/16 inch wrench on four nuts (D).
4. Using 1-5/16 inch socket, tighten four bolts (B).

End of Task

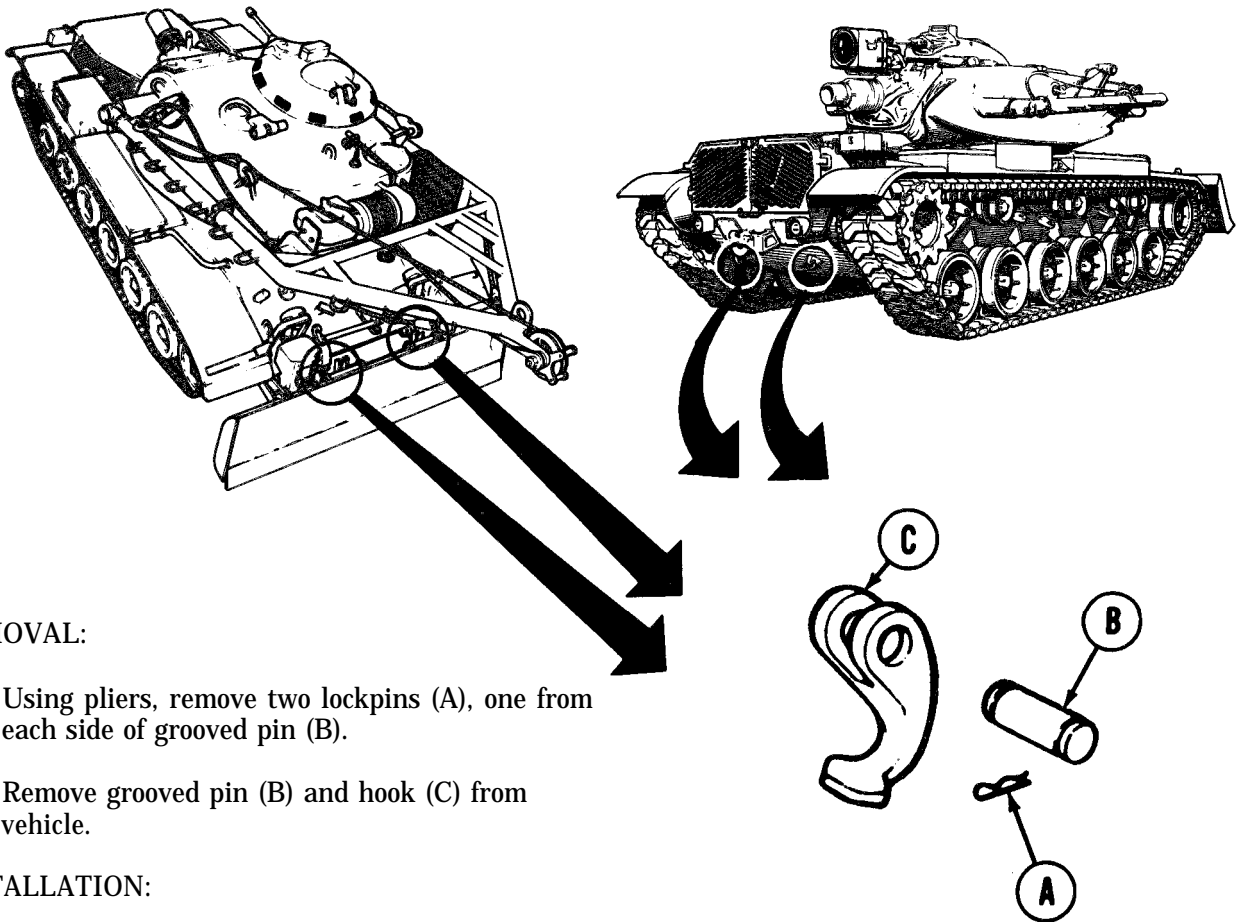
TA140620

**TOW CABLE HOOK REPLACEMENT (Sheet 1 of 1)**

TOOLS: Long round nose pliers

**NOTE**

Four hooks are issued with vehicle. They are placed at front and rear.



**REMOVAL:**

1. Using pliers, remove two lockpins (A), one from each side of grooved pin (B).
2. Remove grooved pin (B) and hook (C) from vehicle.

**INSTALLATION:**

1. Place hook (C) in position on vehicle.
2. Place grooved pin (B) in position in hook.
3. Using pliers, install two lockpins (A).

End of Task

TA140621

INTAKE GRILLE DOOR NO. 1 (LEFT AND RIGHT) REPLACEMENT (Sheet 1 of 1)

TOOLS: 3/4 in. socket with 1/2 in. drive  
Ratchet with 1/2 in. drive

SUPPLIES: Lockwasher (MS35338-67)

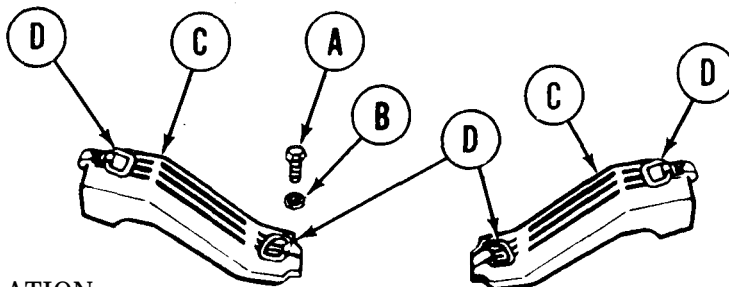
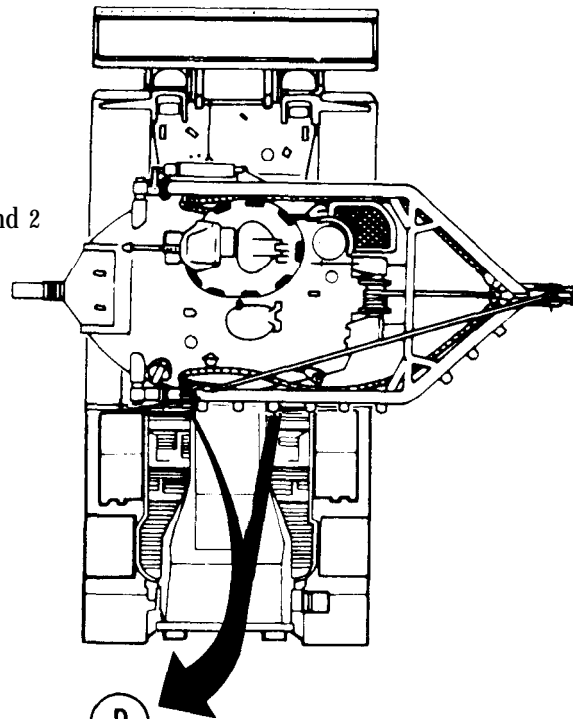
PERSONNEL: Two

REFERENCE: TM 9-2350-222-10

PRELIMINARY PROCEDURE: Open Nos. 5, 4, 3, and 2  
intake grille doors  
(TM 9-2350-222-10)

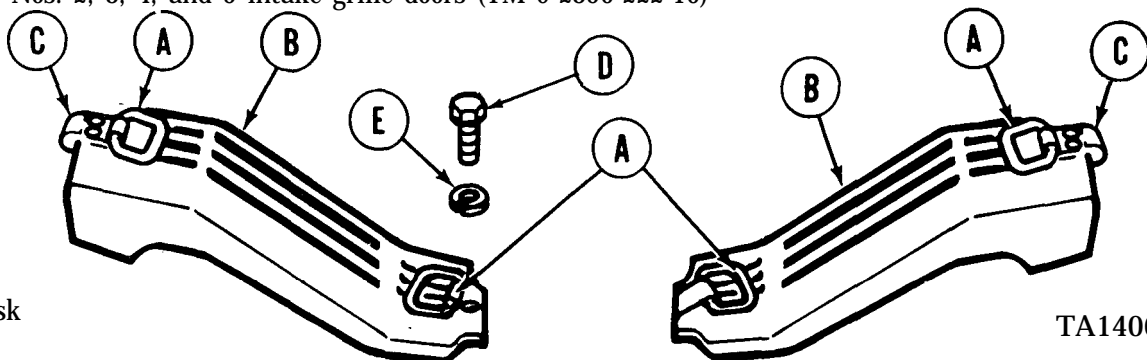
REMOVAL:

1. Using socket, remove screw (A) and lockwasher (B) from doors (C). Throw lockwasher (B) away.
2. Using handles (D), lift door (C) until door (C) disengages from vehicle.
3. Using second person, remove door (C) from vehicle.



INSTALLATION:

1. With two persons using handles (A), lift door (B) above vehicle and slowly lower, making sure bracket (C) fits into slot in vehicle before lowering door (B) to closed position.
2. Using socket, install screw (D) and new lockwasher (E) into door (B) securing door (B) to vehicle.
3. Close Nos. 2, 3, 4, and 5 intake grille doors (TM 9-2350-222-10)



End of Task

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