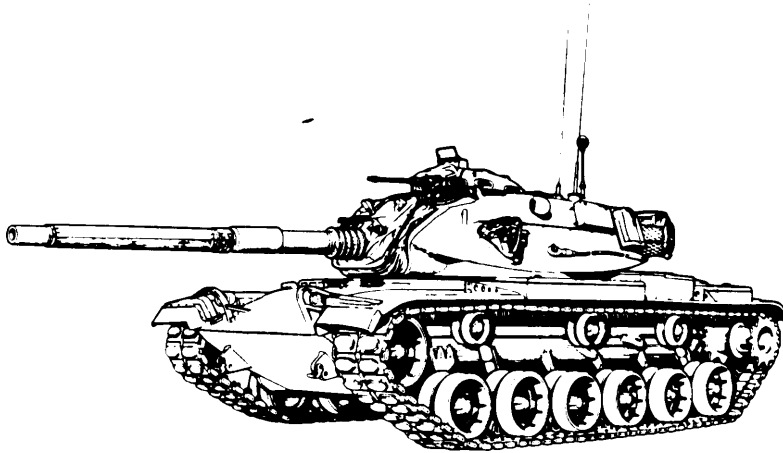


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## DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

# AIR INDUCTION SYSTEM MAINTENANCE



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## M48 & M60 SERIES VEHICLES

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HEADQUARTERS, DEPARTMENT OF THE ARMY, WASHINGTON, D.C.

SEPTEMBER 1985



**AIR INDUCTION SYSTEM MAINTENANCE  
M48 AND M60 SERIES VEHICLES**

**REPORTING OF 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 to you.

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\* Supersedes TB 9-2300-378-14, September 1982

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## **CHAPTER 1**

### **INTRODUCTION**

#### **1-1. General**

The material in these instructions will help you in what should be continuous effort to keep your vehicle running properly. Scheduled inspections and repairs can prevent deadlining your vehicle. Spend a few minutes to read and familiarize yourself with the contents of these instructions before performing the maintenance checks and procedures.

#### **1-2. Scope**

These instructions are to be used for the maintenance of the M48A5, M60A1, M60A1 RISE, M60A3, M728, M48A5 AVLB, M60A1 AVLB air induction system. These instructions are the result of:

- a. Technical manual evaluations
- b. Engineering problem analysis
- c. New design efforts due to field problem reports, tests, and recommendations
- d. PS Magazine articles and other publication sources reflecting user ideas and suggestions

Much of this information will be included in future changes and revisions to technical manuals. These instructions provide procedures that are to be performed at the operator and organizational, direct support and general support maintenance levels. Chapters 2 and 3 provide crew and Organizational Maintenance inspection and maintenance procedures for vehicles equipped with the conventional air induction system. Chapter 4 provides instructions to apply reliability improvements to vehicles equipped with the conventional air induction system. Chapters 5 and 6 provide crew and Organizational Maintenance inspection and maintenance procedures for vehicles equipped with the improved clean air induction system. Appendix B lists repair parts required to support vehicles equipped with either the conventional or improved air induction system.

#### **NOTE**

This technical bulletin must be used in conjunction with the applicable vehicle operator's manual (TM-10) and hull organizational maintenance manual (TM-20-1).



**CHAPTER 2**  
**CONVENTIONAL AIR INDUCTION SYSTEM**  
**CREW MAINTENANCE**

**2-1. General**

This chapter contains inspection and maintenance instructions that the crew is authorized to perform to keep the air induction system operational. A large percentage of engines have to be replaced because dust, dirt, and foreign material is drawn into the engine due to a defective air induction system. The crew is responsible for the condition of the vehicle. Crew maintenance is limited to performance of the daily preventive maintenance, checks, and services (PMCS). Report all uncorrected defects to organizational maintenance. The crew may perform other maintenance procedures, but only under the direction of organizational maintenance.

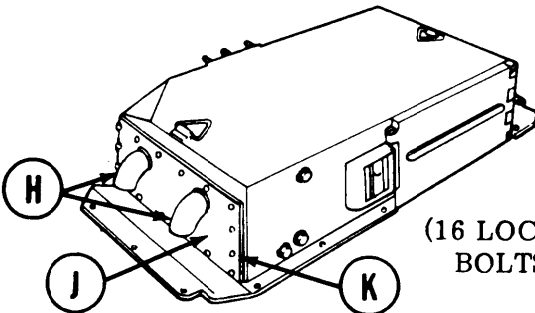
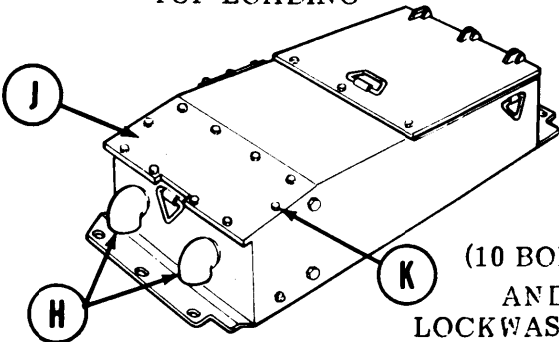
**2-2. Preventive Maintenance Checks and Services (PMCS)**

The following PMCS table lists checks and services that are to be performed on a daily basis to find, correct, or report problems that are caused by normal wear and tear.

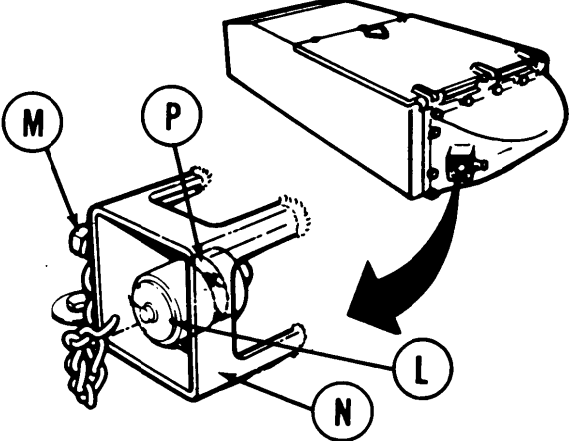
Preventive Maintenance Checks and Services, Sub-Section I - Continued

ITEM	BEFORE	DURING	AFTER	ITEM TO BE INSPECTED Procedure	DAILY (required only if you operate)	EQUIPMENT IS NOT READY/AVAILABLE IF -
1.	●			<p><b>AIR CLEANER HOUSINGS AND DOORS RIGHT AND LEFT SIDES</b></p> <p>Inspect housing (A) for cracks and dents.</p>		
2.	●			<p>Check Door (B), hinges (C), door locking bolts or fasteners (D) for cracks, broken or missing parts.</p>		
3.	●			<p>Check base plate (E) for cracks.</p>		
4.	●			<p>Check that inspection plugs (F) and drain plug (G) are not missing.</p>	<p><b>CRACKED OR DENTED HOUSING. ANY DAMAGED OR MISSING AIR CLEANER DOOR OR DOOR FASTENERS. ANY MISSING DRAIN OR INSPECTION PLUGS. BROKEN OR BENT DOOR HINGES.</b></p>	

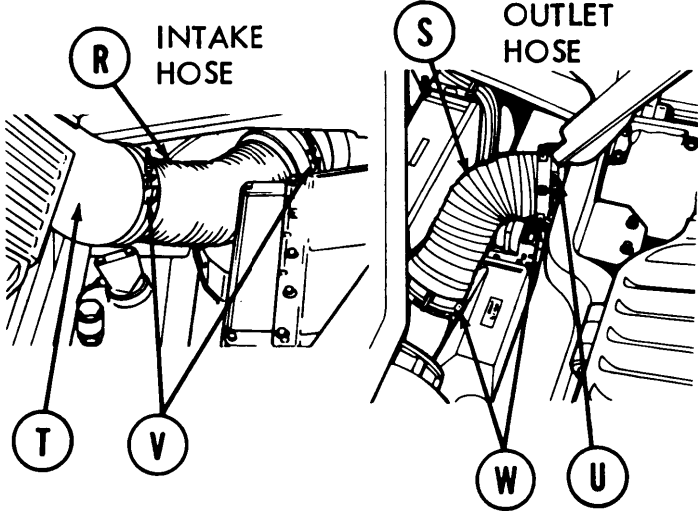
**Preventive Maintenance Checks and Services - Continued**

ITEM	BEFORE	DURING	AFTER	ITEM TO BE INSPECTED Procedure	EQUIPMENT IS NOT READY/AVAILABLE IF -
5.	●			<p>AIR CLEANER BLOWER MOTORS (RIGHT AND LEFT SIDES) (ENGINE RUNNING)</p> <p>Check that flow of air can be felt at all four blower motor elbows (H).</p> <p align="center"><b>CAUTION</b></p> <p>If no airflow is present, shut off engine.</p>	<p><b>NO AIRFLOW AT EITHER BLOWER MOTOR ELBOW ON SAME AIR CLEANER HOUSING.</b></p> <p><b>BLOWER MOTOR ACCESS PLATE MISSING.</b></p>
6.	●			<p>Check blower motor access plate (J) for cracks, loose or missing locking bolts (k).</p> <p align="center"><b>SIDE LOADING</b></p>  <p align="center">(16 LOCKING BOLTS)</p>	<p align="center"><b>TOP LOADING</b></p>  <p align="center">(10 BOLTS AND LOCKWASHERS)</p>

Preventive Maintenance Checks and Services - Continued

ITEM	BEFORE	DURING	AFTER	<b>ITEM TO BE INSPECTED</b> <b>Procedure</b>	<b>DAILY</b> <b>(required only if you operate)</b>	<b>EQUIPMENT IS NOT READY/AVAILABLE IF -</b>
7.	●			<p><b>FILTER CLOG INDICATORS, RIGHT AND LEFT SIDES</b>                      (If your tank is equipped with restriction indicators)</p> <p>Check that restriction indicator (L), pipe plug (M) or restriction indicator guard (N) are not damaged or missing.</p>		
8.	●			<p>Check indicator reading.</p> <p><b>Early model - filter clog indicator window (P) should not show red. If red, notify organizational maintenance.</b></p> <p><b>Late model - A reading of 30 or more means that the filter element requires cleaning. Notify organizational maintenance. A reading of 25 indicates that the elements should be cleaned before any extensive move.</b></p>	<div data-bbox="1381 722 1911 803" style="border: 1px solid black; padding: 2px;"> <p><b>BOTH FILTER CLOG INDICATOR AND PIPE PLUG ARE MISSING.</b></p> </div> <div data-bbox="1381 812 1911 893" style="border: 1px solid black; padding: 2px;"> <p><b>EARLY MODEL - FILTER CLOG INDICATOR SHOWS RED.</b></p> </div> <div data-bbox="1381 901 1911 982" style="border: 1px solid black; padding: 2px;"> <p><b>LATE MODEL - SHOWS 30 OR MORE.</b></p> </div>	

**Preventive Maintenance Checks and Services - Continued**

ITEM	BEFORE	DURING	AFTER	ITEM TO BE INSPECTED Procedure	DAILY (required only if you operate)	EQUIPMENT IS NOT READY/AVAILABLE IF -
				<p><b>AIR CLEANER ELBOWS, HOSES, AND CLAMPS - RIGHT AND LEFT SIDES</b> (Accomplish with top grille doors open)</p> <p><b>NOTE</b> All AVLBs Bridge must be in a raised position to perform Steps 9, 10, and 11.</p>	 <p>The diagram shows two views of the air cleaner assembly. The left view shows the intake hose (R) and its elbow (T). The right view shows the outlet hose (S) and its elbow (U). Clamps are labeled V and W. Arrows point from the labels to the corresponding parts in the diagram.</p>	
9.	●			Check that air cleaner intake hoses (R) and outlet hoses (S) are not cracked, damaged, or missing.		
10.	●			Check that intake hose elbows (T) and outlet hose elbows (U) are not loose, damaged, or missing.		
11.	●			Check intake (V) and outlet (W) hose clamps (two on each hose) to ensure they are not loose, broken, or missing.		
<p align="center"><b>INTAKE OR OUTLET HOSES ARE DAMAGED OR MISSING. ELBOWS ARE LOOSE OR DAMAGED. HOSE CLAMPS LOOSE, BROKEN, OR MISSING.</b></p>						

**Preventive Maintenance Checks and Services - Continued**

ITEM	BEFORE	DURING	AFTER	ITEM TO BE INSPECTED Procedure	DAILY (required only if you operate)	EQUIPMENT IS NOT READY/AVAILABLE IF -
				DURING PERIOD OF OPERATION, LOOK FOR THESE INDICATIONS OF A DIRTY AIR INDUCTION SYSTEM.		
12.		●		Exhaust smoke is excessively black.		
13.		●		Filter clog indicator does not indicate or shows a red window (early model) or a high reading (late model). See filter clog indicators (paragraph 2-4) for detailed instructions.	<div data-bbox="1266 431 1902 553" style="border: 1px solid black; padding: 5px;"> <p><b>EARLY MODEL - FILTER CLOG REMAINS RED AFTER RESET. LATE MODEL - SHOWS 30 INCHES OR MORE.</b></p> </div>	
14.		●		Noticeable loss of engine power		
15.		●		Little or no airflow from the blower motor discharge elbows.	<div data-bbox="1266 613 1902 735" style="border: 1px solid black; padding: 5px;"> <p><b>NO AIRFLOW AT EITHER BLOWER MOTOR ELBOW ON SAME AIR CLEANER HOUSING.</b></p> </div>	



### 2-3. Air Cleaner Inspection.

- a. Examine the housing and the base plate for hairline cracks. If you find cracks in the housing, report to organizational maintenance immediately so the air cleaner assembly can be replaced. Do not operate the tank until it is repaired.
- b. With the engine running, check to see that air exhaust can be felt at all four blower motor elbows (fig. 2-1). Notify organizational maintenance immediately if two are not working on the same air cleaner. Do not operate your tank. If air exhaust can be felt at only one blower motor elbow on each air cleaner, you may continue to operate. Notify organizational maintenance at first opportunity because the blower motors may be inoperative and require replacement.

#### NOTE

Not all air cleaners have air cleaner filter clog indicators.

- c. If your air cleaner has a filter clog indicator, take a reading as described in paragraph 2-4.

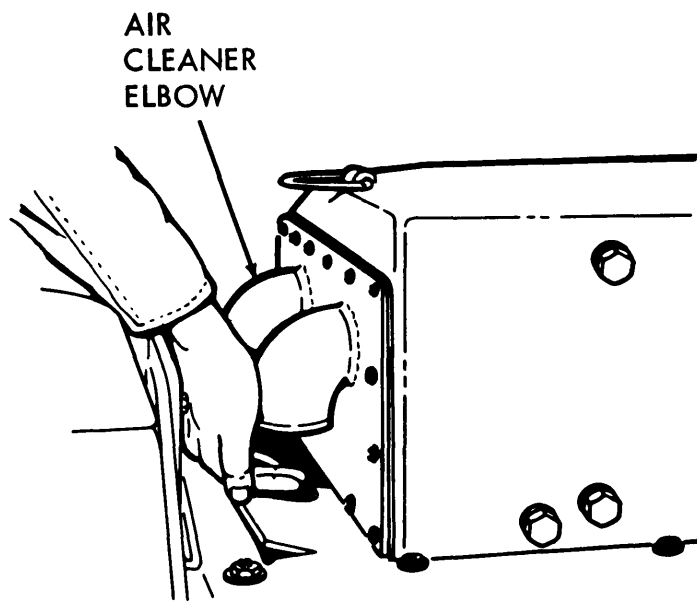


Figure 2-1. Blower motor check.

## **2-4. Air Cleaner Filter Clog Indicator**

### *a. General.*

The air cleaner filter clog indicator provides a visual means of determining when the air cleaner filter element must be serviced without actually opening the air cleaner box and inspecting the filter element. Two models of indicators are presently being used (fig. 2-2).

### *b. Checking. To determine if air filter element needs servicing.*

Check indication on air restriction indicator.

Early Model - If red disk is visible, notify organizational maintenance.

Late Model-If reading is more than 25, notify organizational maintenance.

## **2-5. Engine Air Intake (Fig. 2-3).**

### *a. General.*

During normal and water fording operations, the engine air intakes (view A) must be positioned to draw air from the crew compartment. During extreme cold or an NBC attack alert, the engine air intakes must be reversed to draw air from the engine compartment (para b below)

### *b. Reversal Procedure.*

- (1) Remove four screws and washers and cover (view A). A gasket is cemented to cover.
- (2) Remove six nuts and washers (view B).
- (3) Remove eight nuts and washers.
- (4) Remove intake from bulkhead.
- (5) If gaskets and/or intake are damaged, notify organizational maintenance.
- (6) Position intake on flange studs with screen toward engine compartment. (View C).
- (7) Install six nuts and washers on studs. (View C).
- (8) Install eight nuts and washers on studs. (View D).
- (9) Position cover on intake and install four screws and washers.

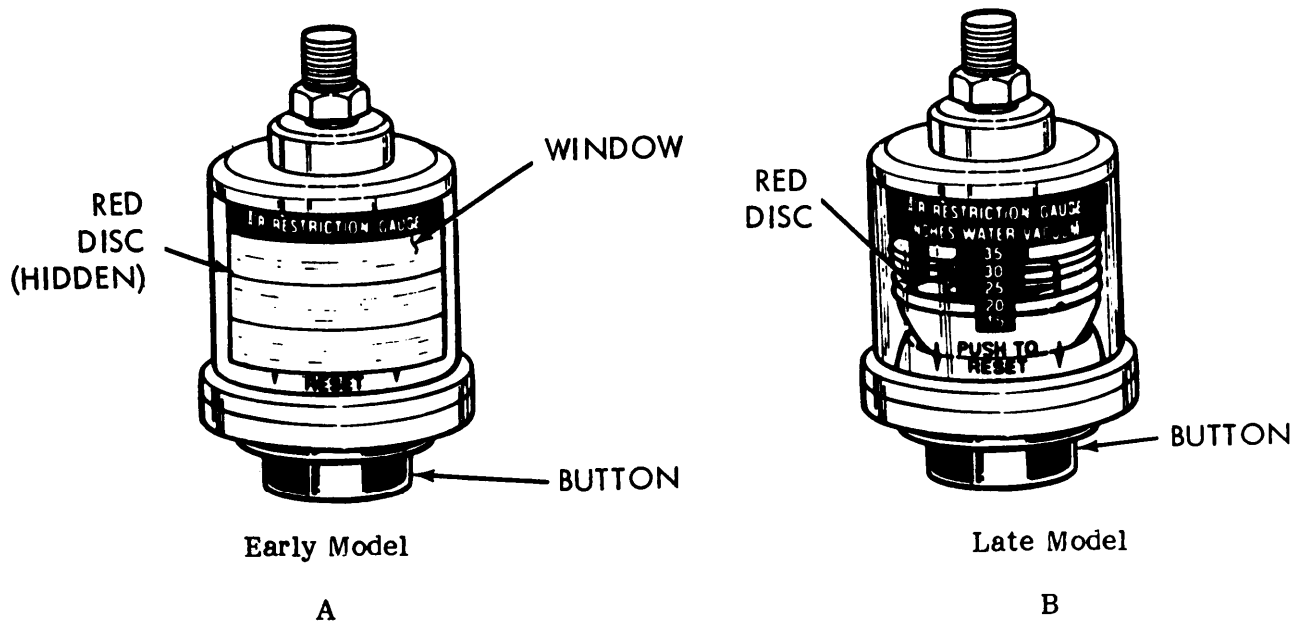


Figure 2-2. Air cleaner filter clog indicator.

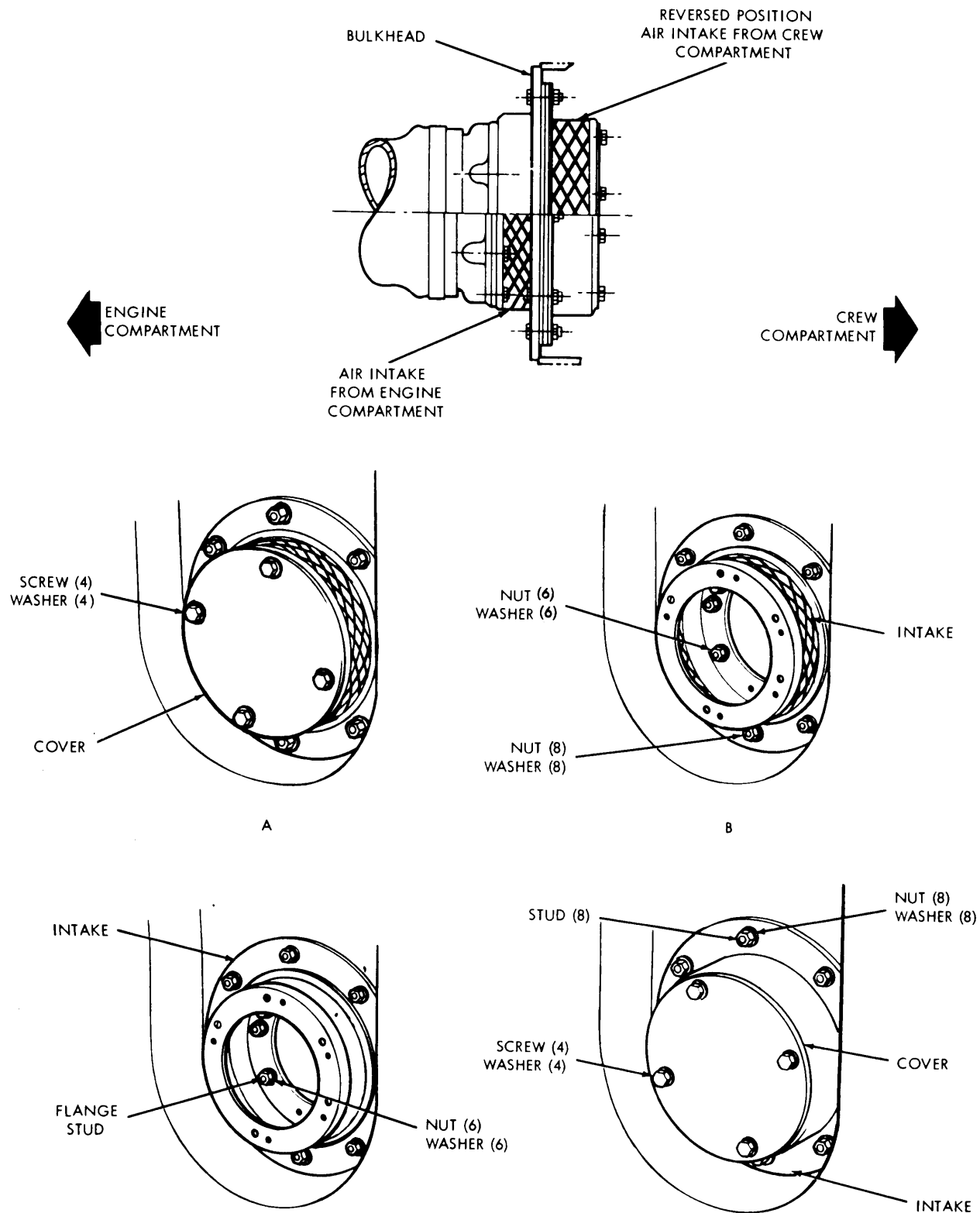


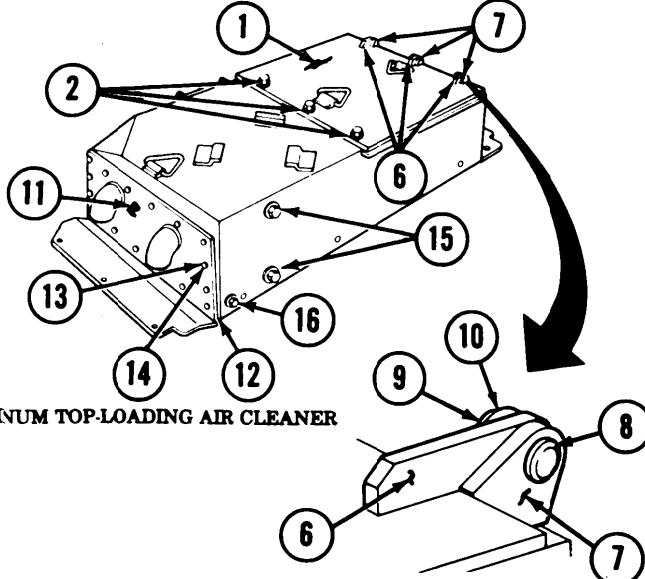
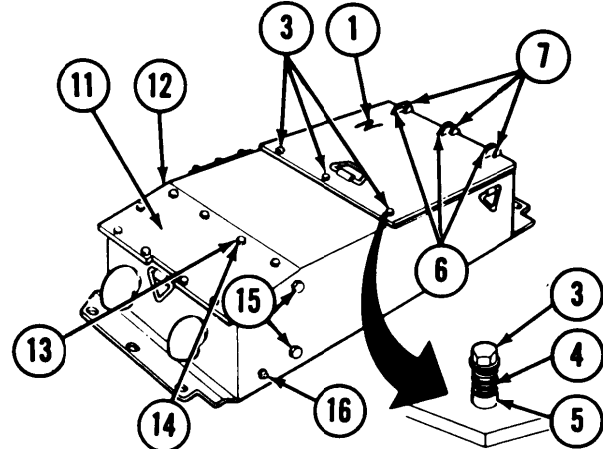
Figure 2-3. Engine air intake

**CHAPTER 3**  
**CONVENTIONAL AIR INDUCTION SYSTEM**  
**ORGANIZATIONAL MAINTENANCE**

**3-1. Preventive Maintenance Checks and Services (PMCS)**

- a. General* Preventive maintenance for the conventional air induction system is the systematic care, inspection, and service of equipment to maintain it in serviceable condition and detect faults and failure before extensive and time-consuming repairs or replacement are required. Not all possible repairs are described in these instructions. Those that are will be referenced in the PMCS. For items not referenced and are not self-explanatory, refer to the appropriate TM-20 technical manual.
- b. Procedures* The PMCS table is set up to be performed by organizational personnel QUARTERLY and should be assisted by the crew. For vehicles equipped with top loading air cleaners; perform PMCS table 3-1, for vehicles equipped with side loading air cleaners, perform PMCS table 3-2.

Table 3-1. Top Loading Air Cleaner Organizational Preventive Maintenance Checks And Services

ITEM NO.	ITEM TO BE INSPECTED	PROCEDURES TOP LOADING AIR CLEANERS ONLY
1.	Air Cleaners (Left and Right Sides)	<p style="text-align: center;"><b>NOTE</b></p> <p>If captive bolts are missing or defective, see paragraph 4-3.</p> <p>Check air cleaner doors (1) for damaged or missing bolts and washers (2) or captive bolts (3).</p> <p>If door (1) is equipped with captive bolts (3), check springs (4) and retainers (5) for damage or missing.</p> <p>Check door hinges (6) and housing hinges (7) for damage cracks or missing.</p> <p>Ensure hinges (6) and (7) are held together with serviceable pin (8), washer (9), and cotter pin (10).</p> <p>Check that blower motor access plate (11), gasket (12), and mounting screws (13) and lockwashers (14) are not loose, damaged, or missing.</p> <p>Check that pipe plugs (15) (also known as inspection plugs) and drain plug (16) are not loose or missing.</p> <p style="text-align: center;"><b>SERVICE NOTE</b></p> <p>Remove the two inspection plugs. Direct air into the top hole and blow dust out bottom hole. Reinstall plugs.</p> <div style="display: flex; justify-content: space-around; align-items: center;">  <p style="text-align: center;">ALUMINUM TOP-LOADING AIR CLEANER</p> </div> <div style="display: flex; justify-content: space-around; align-items: center;">  <p style="text-align: center;">ARMORED TOP-LOADING AIR CLEANER</p> </div>

**NOTE**  
If any defects are found that require replacement of the aluminum air cleaner housing, see paragraph 4-10.

7. Air Cleaners  
(Left and  
Right Sides)

Check air cleaner housing  
for cracks or damage.

8.

Check base plate (17) for  
cracks or damage.

9.

Ensure base plate (17) for  
aluminum air cleaner is  
properly secured to fender  
support (18) with screw (19)  
and washer (20).

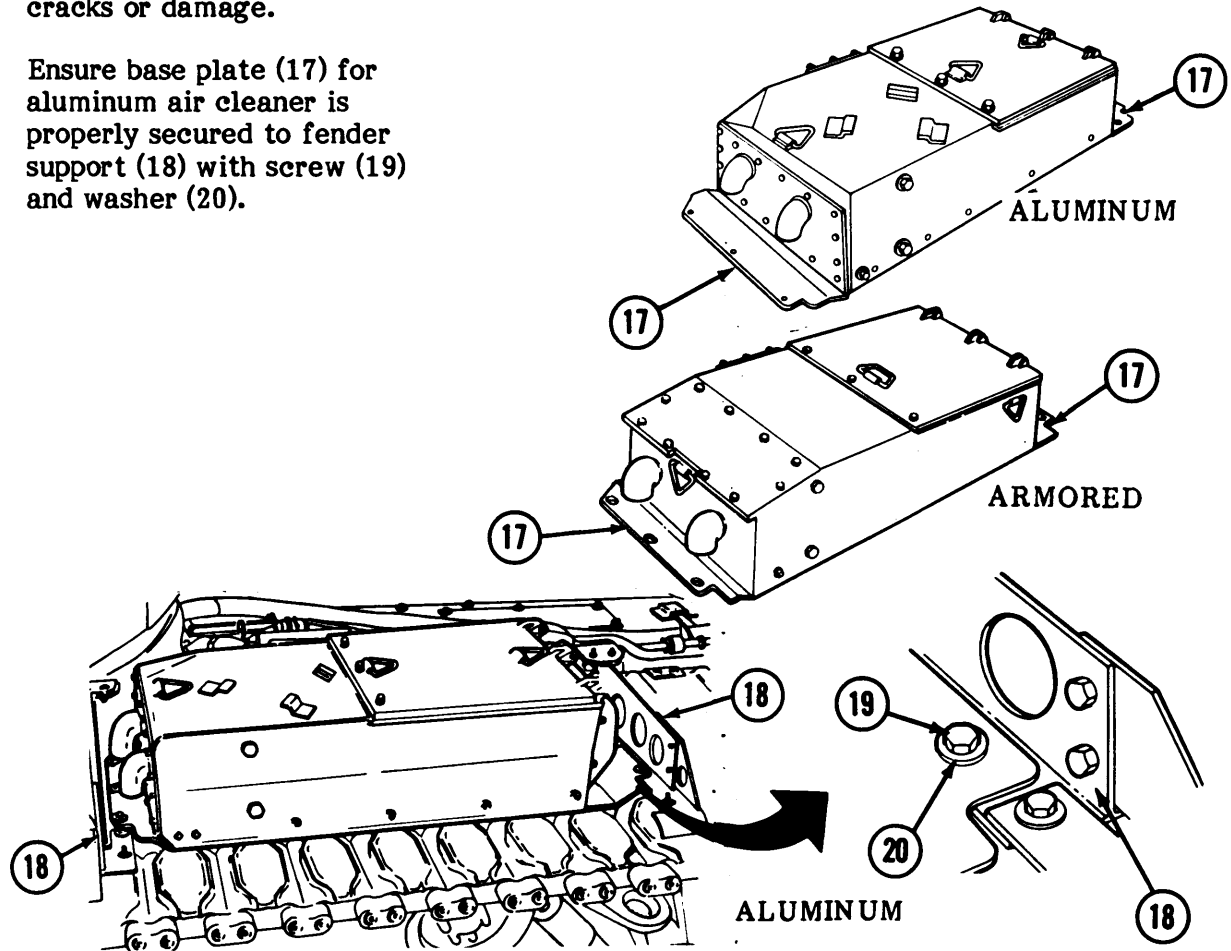
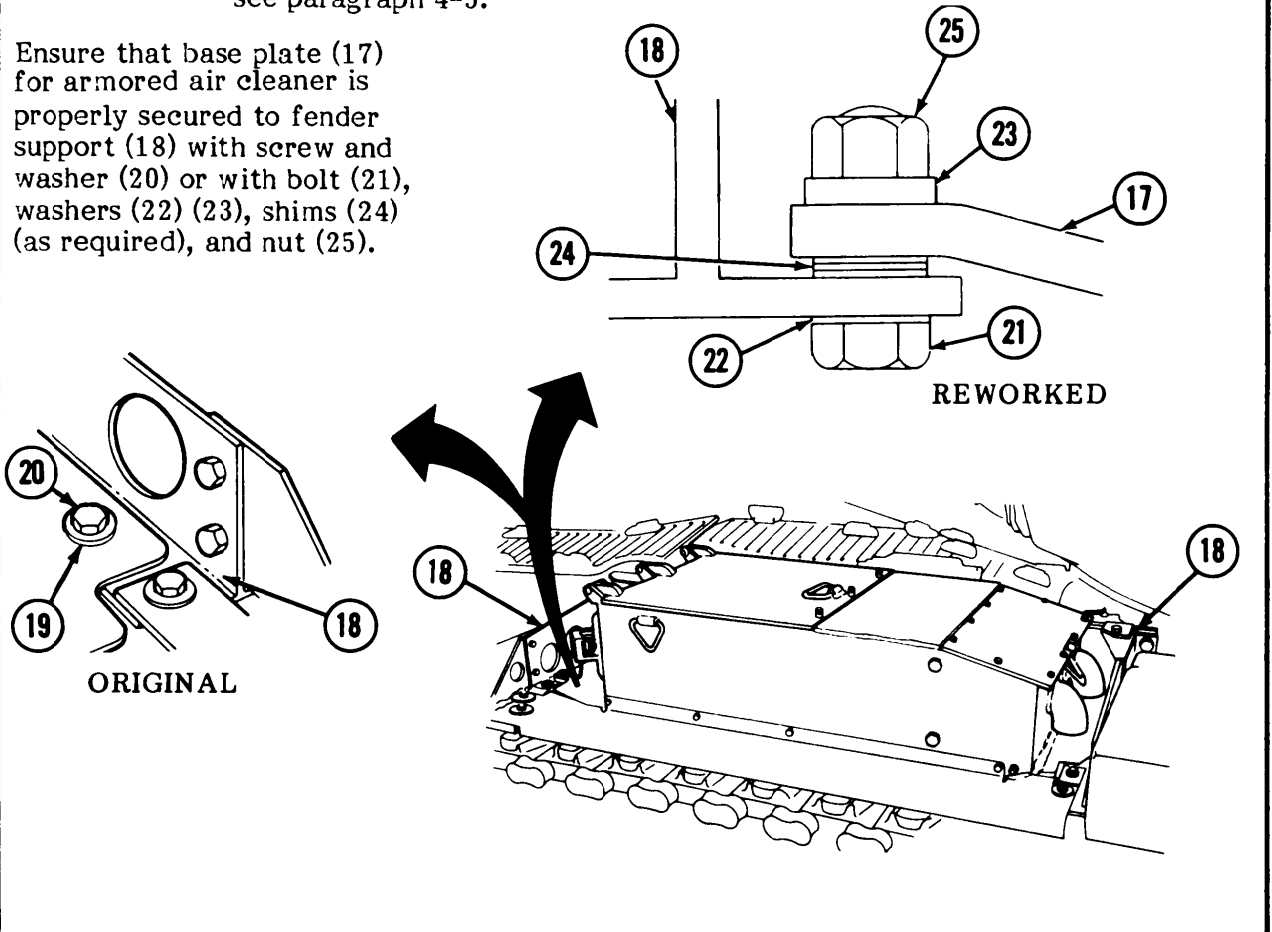


Table 3-1. Top Loading Air Cleaner Organizational Preventive Maintenance Checks and Services-Continued

ITEM NO.	ITEM TO BE INSPECTED	PROCEDURES TOP LOADING AIR CLEANERS ONLY
9. Cont.	Air Cleaners (Left and Right Sides)	<p><b>NOTE</b> If armored air cleaner base plate (17) is secured with original 3/8 inch screw (19) and washer (20), see paragraph 4-5.</p> <p>Ensure that base plate (17) for armored air cleaner is properly secured to fender support (18) with screw and washer (20) or with bolt (21), washers (22) (23), shims (24) (as required), and nut (25).</p> 



Air Cleaners  
(Left and  
Right Sides)

WITH AIR CLEANER FILTER ACCESS DOOR OPEN

10. Check access door seal (26) for permanent indentation, excessive hardness, cracks, damage, or missing.

11. Check that cam arms (27) are not bent, cracked, or missing.

12. Check sealing lip (28) on housing for any damage.

**NOTE**

1. Air cleaner assembly must be replaced if cam arms are cracked or missing.
2. Air cleaner assembly must be replaced if sealing lip is damaged.

13. Check three bolt holes (29) to ensure they have been drilled through and are free from dirt or obstruction. (See paragraph 4-2).

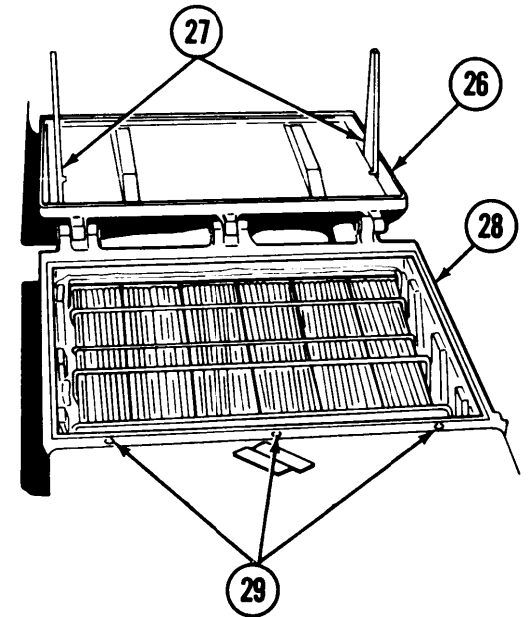
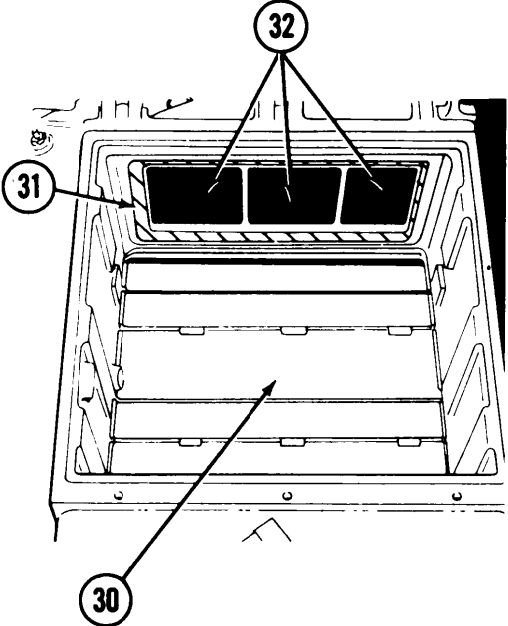
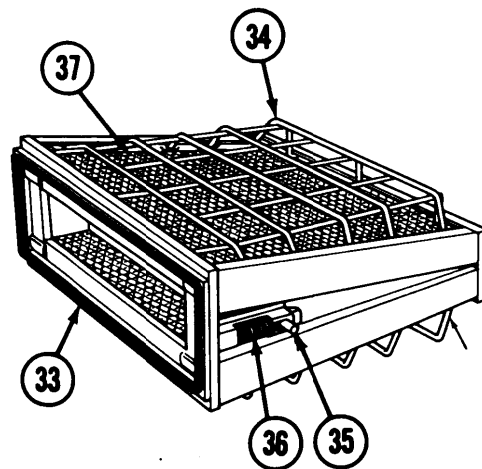


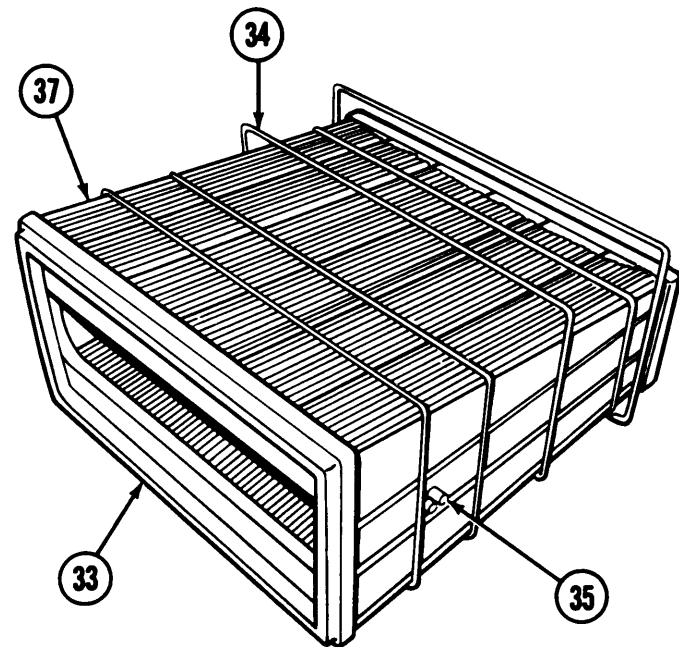
Table 3-1. Top Loading Air Cleaner Organizational Preventive Maintenance Checks and Services - Continued

ITEM NO.	ITEM TO BE INSPECTED	PROCEDURES TOP LOADING AIR CLEANERS ONLY
14.	Air Cleaners (Left and Right Sides)	<p><u>REMOVE FILTER ELEMENT FROM FILTER COMPARTMENT</u></p> <p><b>NOTE</b> If any defects are found that require replacement of the aluminum air cleaner housing, see paragraph 4-10.</p> <p>Check filter compartments (30) for internal cracks or damage.</p> <p>Check filter element sealing surface (31) for any damage which could prevent proper sealing of the filter element.</p> <p>Check inside of air cleaner outlet elbow (32) for dust trails.</p> <p><b>NOTE</b> Dust trails in the outlet elbow may be caused by damaged seal between air cleaner and outlet elbow, missing air restriction indicator (if equipped) or damaged air filter element.</p> 
15.		
16.		

- |     |   |  |
|-----|---|--|
| 17. | Air Cleaners<br>(Left and<br>Right Sides) | Check that filter element seal (33) does not have permanent indentation, excessive hardness, cracks, damage, or is missing           |
| 18. |   | Check filter element frame (34) and both locking pins (35) for damage.   |
| 19. |   | Check that spring (36) is not damaged or missing.  |
| 20. |   | Check filter element (37) for rips, holes, tears, or other damage. If serviceable, <u>clean</u> . If unserviceable, <u>replace</u> . |

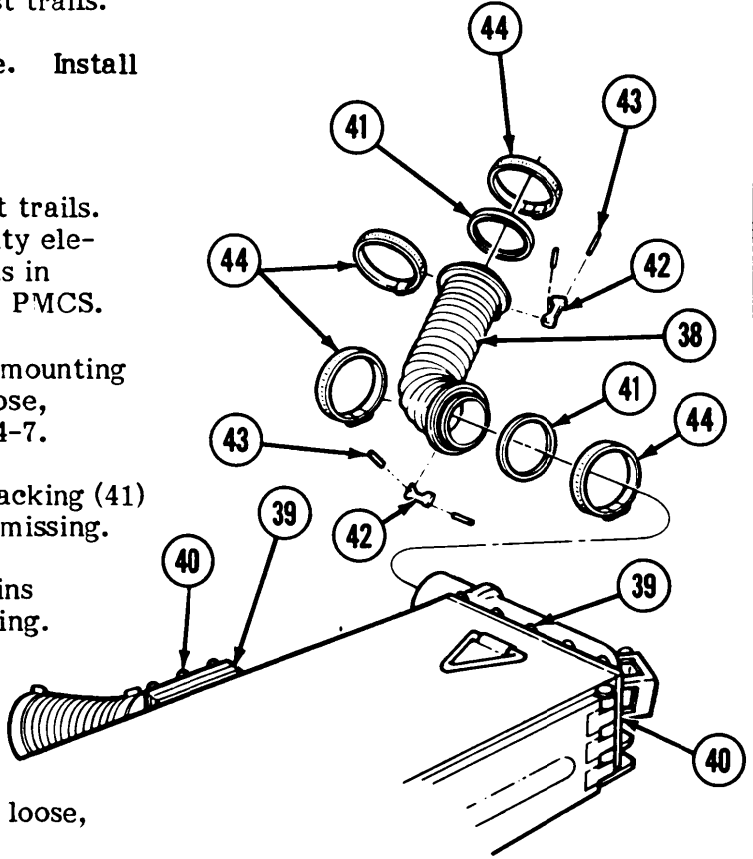


LATE MODEL  
(SPRING LOADED) FILTER ASSY.



EARLY FILTER ASSY.

Table 3-1. Top Loading Air Cleaner Organizational Preventive Maintenance Checks and Services - Continued

ITEM NO.	ITEM TO BE INSPECTED	PROCEDURES TOP LOADING AIR CLEANERS ONLY
21.	Air Cleaners Elbows, Hoses, and Clamps (Left and Right Sides)	<p><u>ACCOMPLISH WITH TOP GRILLE DOORS OPEN</u></p> <p>Remove air cleaner outlet hose (38), check for cracks, holes, or damage and dust trails.</p> <p>Replace hose (38) if unserviceable. Install hose (38) if serviceable.</p> <p><b>NOTE</b> Look for the source of dust trails. Dust can enter from a faulty element or failure of the parts in Steps 22 through 33 of this PMCS.</p> 
22.		Check that intake and outlet elbow mounting nuts (39) and gaskets (40) are not loose, or missing. If loose, see paragraph 4-7.
23.		Check that outlet hose preformed packing (41) is not loose, hardened, damaged, or missing.
24.		Check that fingers (42) and spring pins (43) are not loose, damaged, or missing.
25.		Check that hose clamps (44) are not loose, damaged, or missing.

- |     |   |  |
|-----|---|--|
| 26. | Air Cleaners<br>Elbows, Hoses,<br>and Clamps<br>(Left and<br>Right Sides) | Check elbow (45) for cracks or damage and dust trails.<br>Ensure washers (46), nuts (47), and gasket (48) are<br>not loose or missing. |
| 27. |   | Check both air cleaner inlet hoses (49) for cracks,<br>tears, holes, or damage.  |
| 28. |   | Check that hose clamps (50) are tight, not damaged,<br>or missing.   |

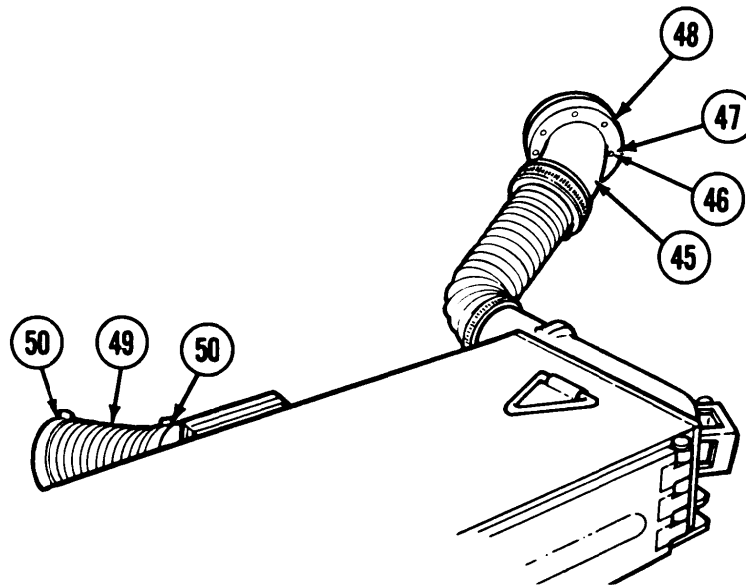
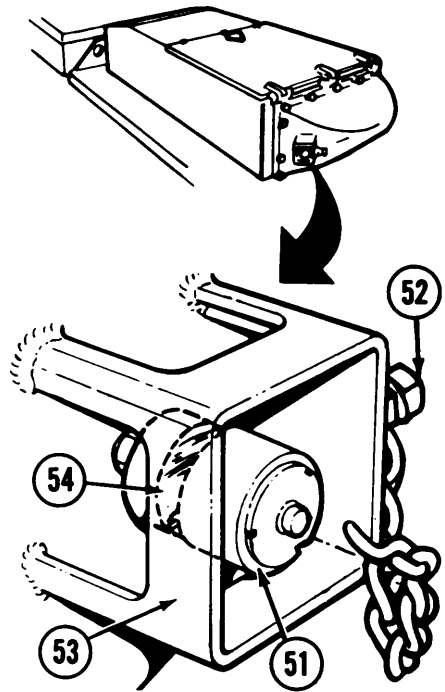


Table 3-1. Top Loading Air Cleaner Organizational Preventive Maintenance Checks and Services - Continued

ITEM NO.	ITEM TO BE INSPECTED	PROCEDURES TOP LOADING AIR CLEANERS ONLY
29.	Air Cleaner Filter Clog Indicators (left and right sides) (If equipped)	<p>Using fingers, check if filter clog indicator (51) is loose or missing. If loose, tighten finger tight.</p> <p style="text-align: center;"><b>NOTE</b></p> <p>Filter clog indicator must be present. If indicator is not installed, plug (52) must be installed in place of indicator (51) until indicator (51) is available.</p>
30.		<p>Check indicator (51) for cracks. Check that pipe plug (52) is not missing. Check that clog indicator guard (53) is not missing or damaged.</p>
31.		<p>Check indicator reading in window (54).</p> <p>Late Model - A reading of 30 or more indicates filters require cleaning. A reading of 25 indicates that the elements should be cleaned before any extensive move.</p> <p style="text-align: center;"><b>WARNING</b></p> <p>Make sure area around vehicle is clear of personnel and equipment before performing the following step.</p> <p>Early Model - Start engine, apply vehicle brakes, put transmission lever in high gear, accelerate to 1800/1900 rpm for no more than 30 seconds, and check filter clog indicator reading. If window (54) shows red, press reset button and repeat procedure above. If window shows red again, clean or replace filter element. If reset button won't depress, filter clog indicator (51) is defective and must be replaced (TM 20-1).</p>



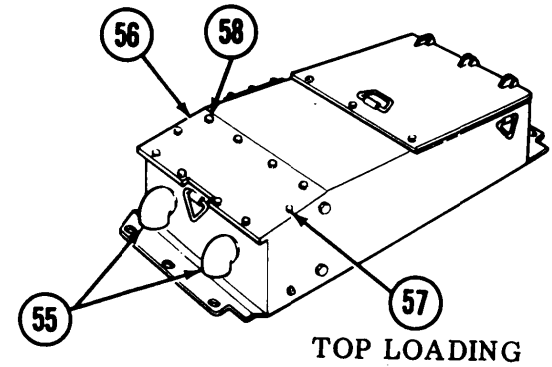
ACCOMPLISH WITH ENGINE RUNNING

32. Air Cleaner  
Blower Motor  
(Right and  
Left Sides)

Place hand under all four blower motor elbows (55) and feel for strong flow of air.

**CAUTION**

If no airflow is present, shut off engine and repair. (TM20)



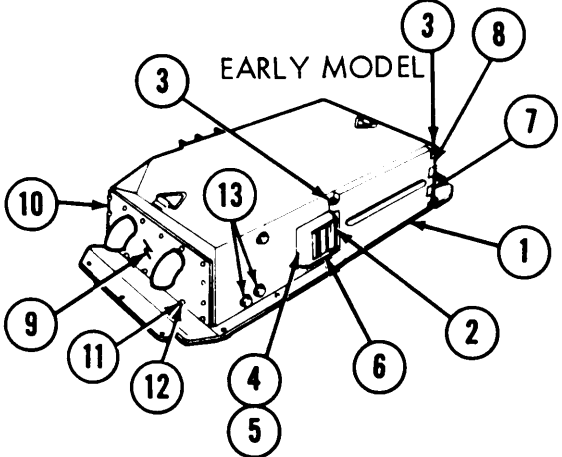
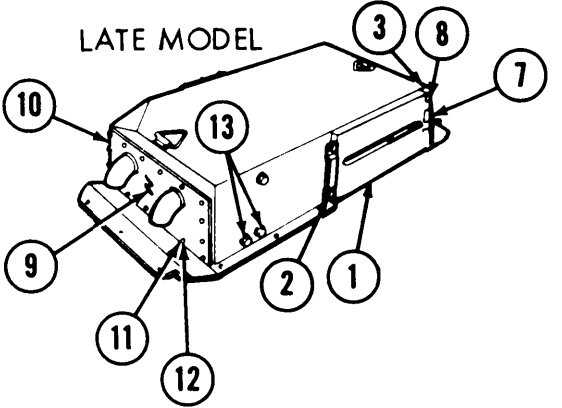
- 33.

Check that blower motor access plate (56) is not cracking or missing. Check that mounting bolts and lockwashers (57) are not loose or missing.

**CAUTION**

Do not operate vehicle without access plate(s).

Table 3-2. Side Loading Air Cleaner Organizational Preventive Maintenance Checks and Services - Continued

ITEM NO.	ITEM TO BE INSPECTED	PROCEDURES SIDE LOADING AIR CLEANERS ONLY
1.	Air Cleaners (Left and Right Sides)	<p><b>NOTE</b> Repairs to the side loading air cleaner are limited to the latching device, servicing the filter element, and replacing the blower motor. For any other defect, refer to paragraph 4-10.</p> <p>Check air cleaner doors (1) for damage and for missing or damaged bolts with washers (2), hinge pins (3), latch (4), latch screws (5), and handle (6).</p> <p>Check door hinge (7) and housing hinge (8) for cracks or damage.</p> <p>Check that blower motor access plate (9), gasket (10), and mounting screws (11), and washers (12) are not loose, damaged, or missing.</p>  
2.		
3.		



Air Cleaners  
(Left and  
Right Sides)

Check that pipe plugs (13) (also known as drain or inspection plugs) are not loose or missing.

**SERVICE NOTE**

Remove the two inspection plugs.  
Direct compressed air into top hole  
and blow dust out the bottom hole.  
Reinstall plugs.

5. Check air cleaner housing (14) for cracks or damage.
6. Check base plate (15) for cracks or damage.
7. Ensure base plate (15) is secured to fender supports (16) by six self-locking bolts (17) and twelve washers (18) (six lock and six flat washers).

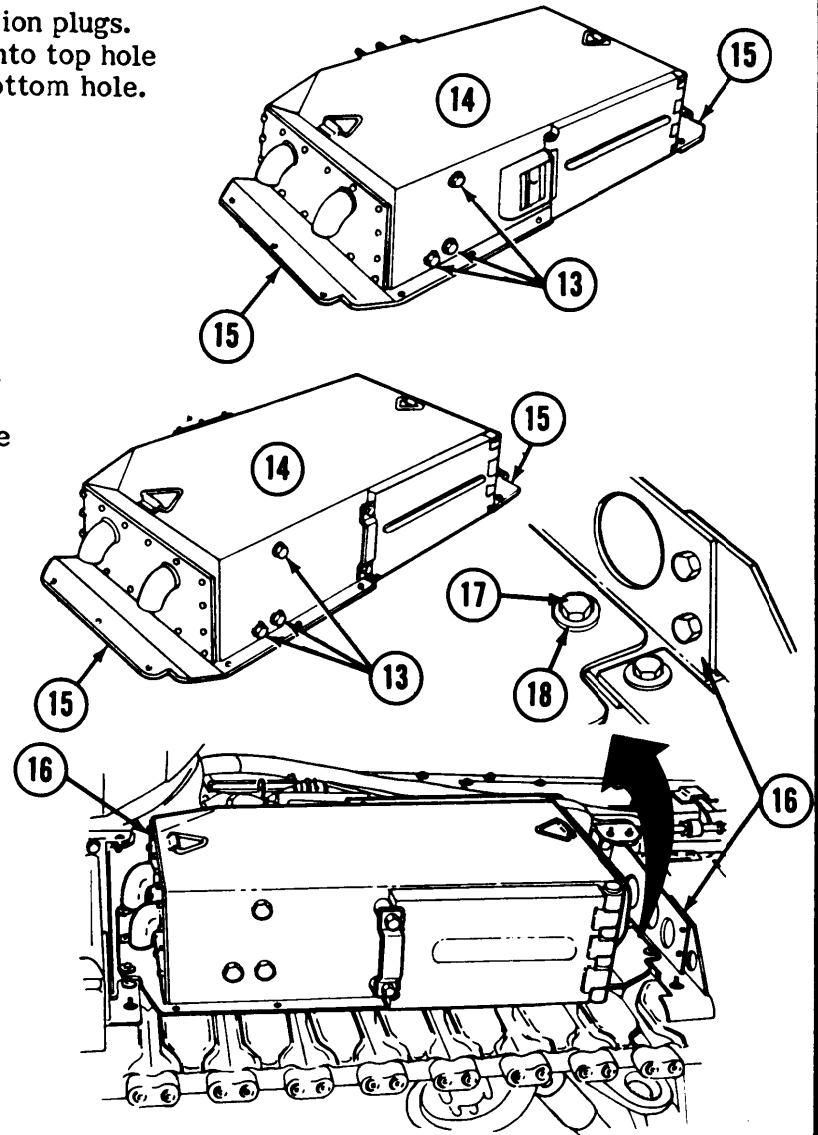
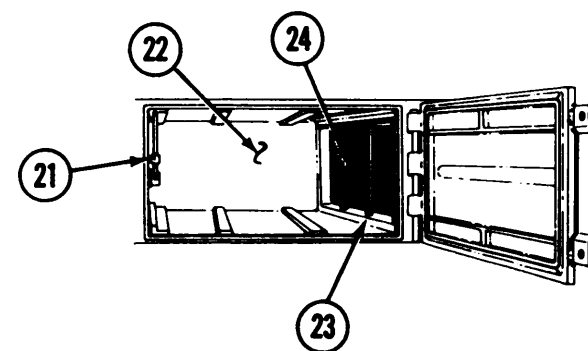
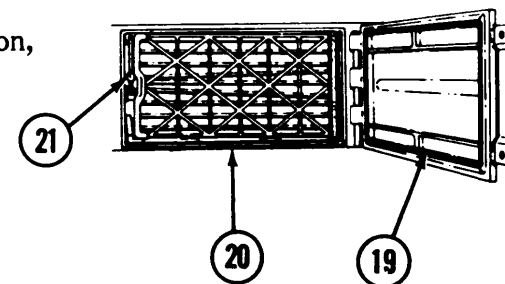


Table 3-2. Side Loading Air Cleaner Organizational Preventive Maintenance Checks and Services - Continued

ITEM NO.	ITEM TO BE INSPECTED	PROCEDURES SIDE LOADING AIR CLEANERS ONLY
8.	Air Cleaner Access Door And Filter Compartment	<p><u>WITH AIR CLEANER FILTER ACCESS DOOR OPEN</u></p> <p>Check access door seal (19) for permanent indentation, excessive hardness, cracks, damage, or missing.</p>
9.		<p>Check sealing lip (20) on housing for any damage.</p> <p><b>NOTE</b> Housing must be replaced if sealing lip is damaged.</p>
10.		<p>Check filter latching rod and springs (21) for damage or missing.</p>
		<p><u>WITH FILTERS REMOVED FROM FILTER COMPARTMENT (See paragraph 2-3)</u></p>
11.		<p>Check filter compartments (22) for internal cracks or damage.</p>
12.		<p>Check sealing surface (23) for dents, cracks, damage, or missing seal.</p>
13.		<p>Check inside of air cleaner outlet elbow (24) for dust trails.</p> <p><b>NOTE</b> Dust trails in the outlet elbow may be caused by damaged seal between air cleaner and outlet elbow or damaged air filter element.</p>



14. Air Cleaner Filters (Left and Right Side)

Check filter element seal (25) for permanent indentation, excessive hardness, cracks, damage, or missing.

15.

Check basket frame (26) and four seal retaining tabs (27) for damage or missing.

16.

Remove filter element (28) from basket (26). Remove twelve baffles (29) from filter element.

17.

Check filter element (28) for rips, holes, tears, or other damage.

18.

Check each baffle (29) for cracks and broken corners.

19.

Replace any unserviceable parts of filter assembly. Clean and reassemble.

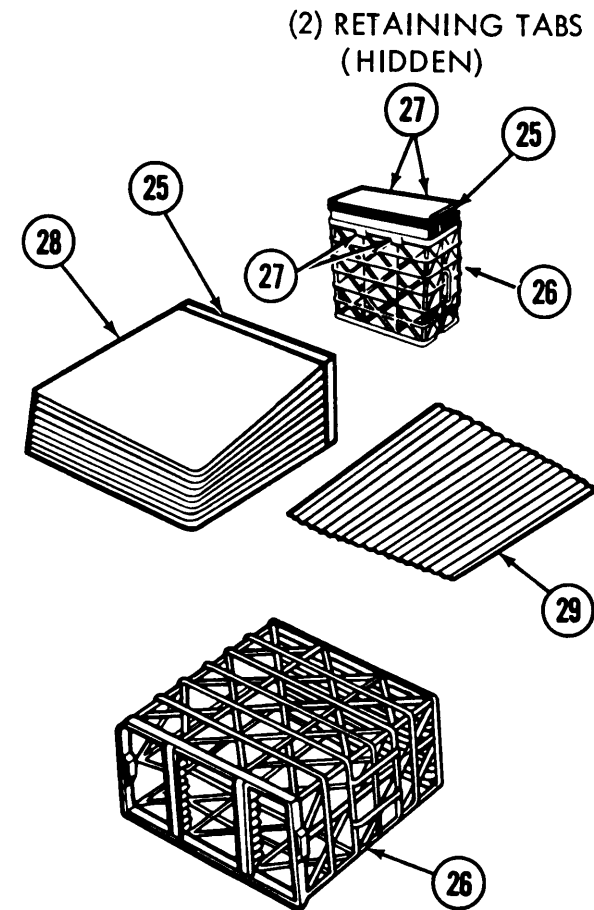
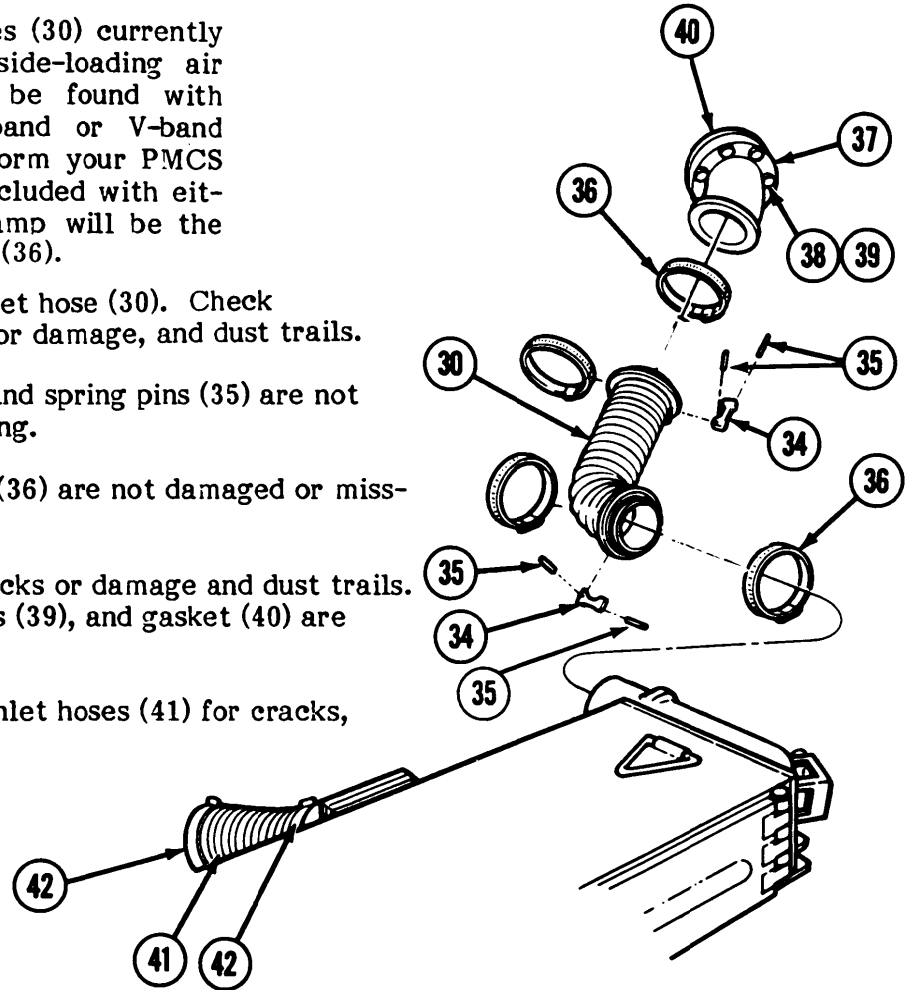


Table 3-2. Side Loading Air Cleaner Organizational Preventive Maintenance Checks and Services - Continued

ITEM NO.	ITEM TO BE INSPECTED	PROCEDURES SIDE LOADING AIR CLEANERS ONLY
20.	Air Cleaner Elbows, Hoses and Clamps (Left and Right Sides)	<p><u>ACCOMPLISH WITH TOP GRILLE DOORS OPEN</u></p> <p><b>NOTE</b> The outlet hoses (30) currently found on the side-loading air cleaners may be found with either finger band or V-band clamps, so perform your PMCS accordingly. Included with either type of clamp will be the flat band clamp (36).</p> <p>Remove air cleaner outlet hose (30). Check for cracks, holes, tears or damage, and dust trails.</p> <p>Check that fingers (34) and spring pins (35) are not loose, damaged, or missing.</p> <p>Check that hose clamps (36) are not damaged or missing.</p> <p>Check elbow (37) for cracks or damage and dust trails. Ensure washers (38), nuts (39), and gasket (40) are not loose or missing.</p> <p>Check both air cleaner inlet hoses (41) for cracks, holes, tears, or damage.</p>



25.

Check that hose clamps (42) are not damaged or missing.

**NOTE**

Look for the source of dust trails. Dust can enter from a damaged filter element or failure of parts in Steps 20 through 27 of this PMCS.

26.

Check that intake and outlet elbow mounting nuts (31) and gasket (32) are not loose or missing. (See paragraph 4-7).

27.

Check that outlet hose preformed packing (33) are not loose, hardened, damaged, or missing.

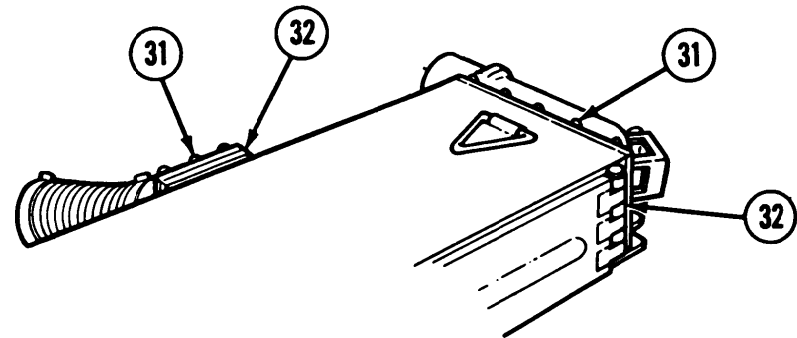
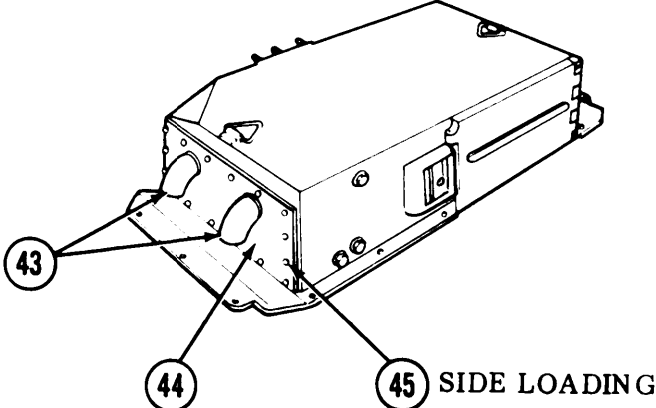


Table 3-2. Side Loading Air Cleaner Organizational Preventive Maintenance Checks and Services - Continued

ITEM NO.	ITEM TO BE INSPECTED	PROCEDURES SIDE LOADING AIR CLEANERS ONLY
29.	Air Cleaner Blower Motors (Right and Left Sides)	<p><u>ACCOMPLISH WITH ENGINE RUNNING</u></p> <p>Place hand under all four blower motor elbows (43) and feel for strong flow of air.</p> <p style="text-align: center;"><b>CAUTION</b></p> <p style="text-align: center;">If no airflow is present, shut off engine and repair (TM-20)</p>
30.		<p>Check blower motor access plate (44) for cracks, loose or missing locking bolts (45).</p> <p style="text-align: center;"><b>CAUTION</b></p> <p style="text-align: center;">Do not operate vehicle without access plate(s).</p> <p>TA148803</p> <div style="text-align: right;">  </div>

### 3-2. Air Cleaner Filter Element Replacement

#### **CAUTION**

Never operate the engine without a filter element. If you do, dust and dirt will be drawn directly into the engine and cause severe damage.

a. *Top Loading Air Filter Element (Fig. 3-1).*

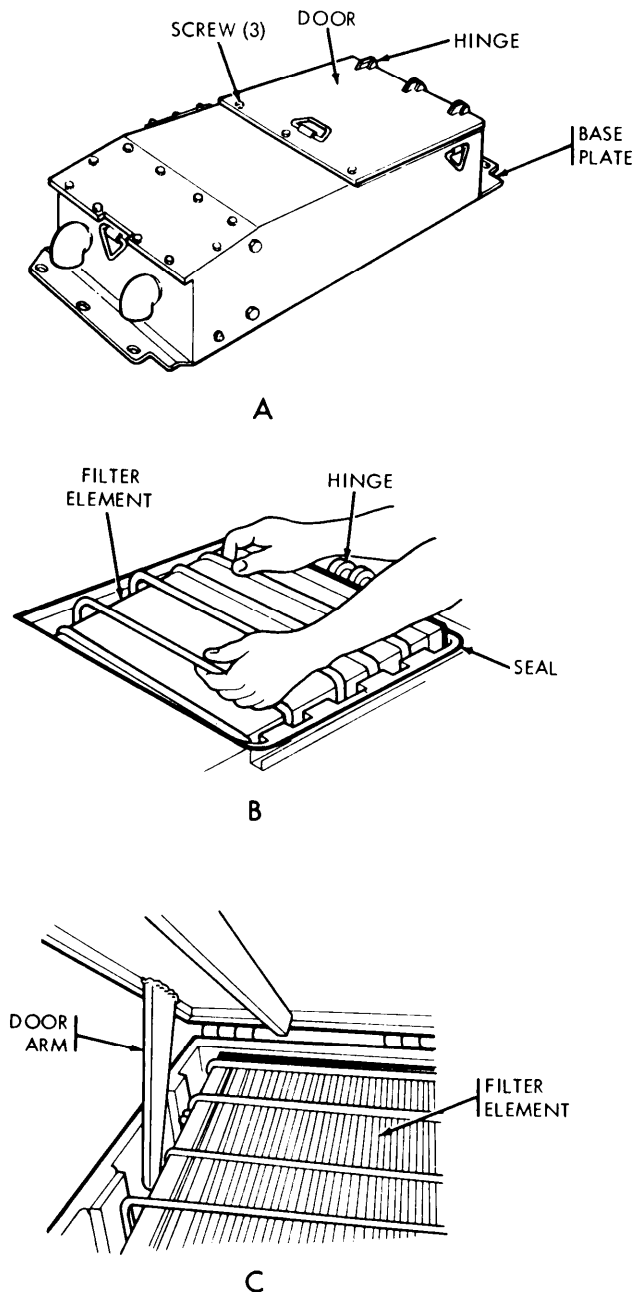


Figure 3-1. Top loading air cleaner filter element replacement.

(1) *Removal*

- (a) Clean outside of housing. Wipe dust from air cleaner access door and hinges, bolt area, base plate, and fender (view A).

**CAUTION**

Do not walk on air cleaner access door when it is open. Do not open air cleaner door when any engine grille doors are open.

- (b) Loosen three screws securing air cleaner door, and open door (view A).

**CAUTION**

Do not damage filter element seal when removing or installing element.

- (c) Slide filter element away from door hinges and carefully lift it straight up to remove from box (view B).

**CAUTION**

Do not hit filter element against a solid object. This will cause damage to element. Do not start engine with filter element removed, or damage to engine will result.

- (d) Cover outlet elbow port and close air cleaner door.

(2) *Installation.*

- (a) Open air cleaner access door and remove cover from air outlet port. Wipe out filter compartment with clean damp cloth.

**CAUTION**

When installing filter element, make sure that the seal end of element is at the hinge end of air filter assembly before lowering into compartment. Ensure filter compartment is clean before installing element.

- (b) Carefully lower filter element to bottom of box and slide toward hinges as far as possible (view B).

- (c) Make sure that filter element is properly positioned so that door arms engage locking pins on sides of filter element (view C).

**CAUTION**

Before closing access door, ensure all dirt and debris is removed from hinge area.

- (d) Close access door and secure with three screws.



b. Side Loading Air Filter Element (Fig. 3-2).

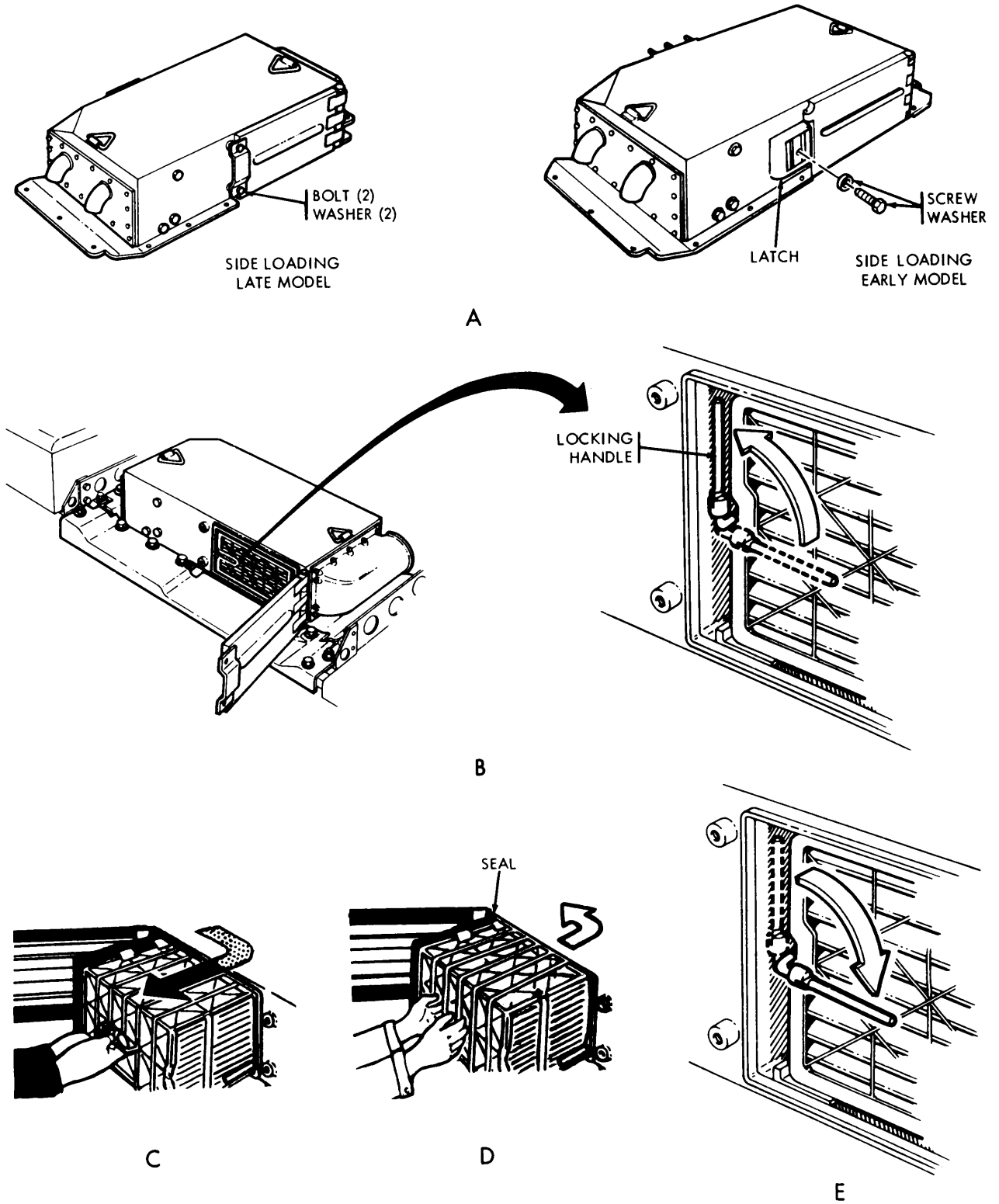


Figure 3-2. Side loading air cleaner filter element replacement.

*(1) Removal*

- (a)* Remove screw and washer (on early model) or two bolts and washers (on late model) securing the access door (view A).
- (b)* Open door to a full open position.
- (c)* Rotate locking rod handle 1/4 turn upward to release filter assembly (view B).

**CAUTION**

Do not damage filter element seal when removing or installing element.

- (d)* Slide filter toward front of vehicle and away from air outlet elbow duct (view C). Ease filter out of compartment carefully, to avoid damaging seal or seal retaining tabs.

**CAUTION**

Do not hit filter element against a solid object. This will cause damage to element. Do not start engine with filter element removed, or damage to engine will result.

- (e)* Cover outlet elbow port and close air clean access door.

*(2) Installation.*

- (a)* Open air cleaner access door and remove cover from outlet port.
- (b)* Wipe out filter compartment using clean damp cloth.
- (c)* Position filter so that seal will be toward air outlet elbow duct (view D).
- (d)* Slide filter into housing as far as it will go, being careful not to damage either seal or filter retaining tabs (view D). Slide filter toward rear of vehicle so that filter seal makes direct contact with housing.
- (e)* Secure filter assembly in place by rotating locking rod handle 1/4 turn downward (view E).

**CAUTION**

Clear door area prior to closing door. Lubricate bolt threads lightly.

- (f)* Close door carefully and secure with handle latch and screw and washer (early model) or with two bolts and washers (late model) (view A). Do not omit any bolts or washers.

**3-3. Air Cleaner Filter Element Service.**

- a.* Clean and inspect air cleaner (para. 2-3).
- b.* Remove air filter element (para. 3-2a for top loading), para. 3-2b for side loading).
- c.* Clean air filter element (para. 3-4b).

- d. Reach into elbow duct as far as you can and wipe dust into filter compartment. With a damp clean cloth, clean out filter compartment. Make sure dust or dirt did not go back toward air outlet elbow duct.
- e. Cover outlet port with cardboard and tape to prevent dirt from entering engine.
- f. Close access door if element will not be replaced immediately.

**CAUTION**

Inform crew that filter element has been removed and engine must not be started. Damage to engine could result if engine is started.

- g. Install air filter element (para. 3-2a(2) for top loading) (para. 3-2b(2) for side loading).

**3-4. Air Cleaner Filter Element Inspection and Cleaning.**

**NOTE**

There are two approved methods for cleaning of the top loading air filter elements, using compressed air or washing.

**CAUTION**

Do not bang or strike the element against the vehicle or any solid object. Striking the element will damage the element and the filter element must be replaced. DO NOT use a brush to clean the element. Brushes will tear holes in the filter and will allow dust and dirt to pass through and be drawn directly into the engine.

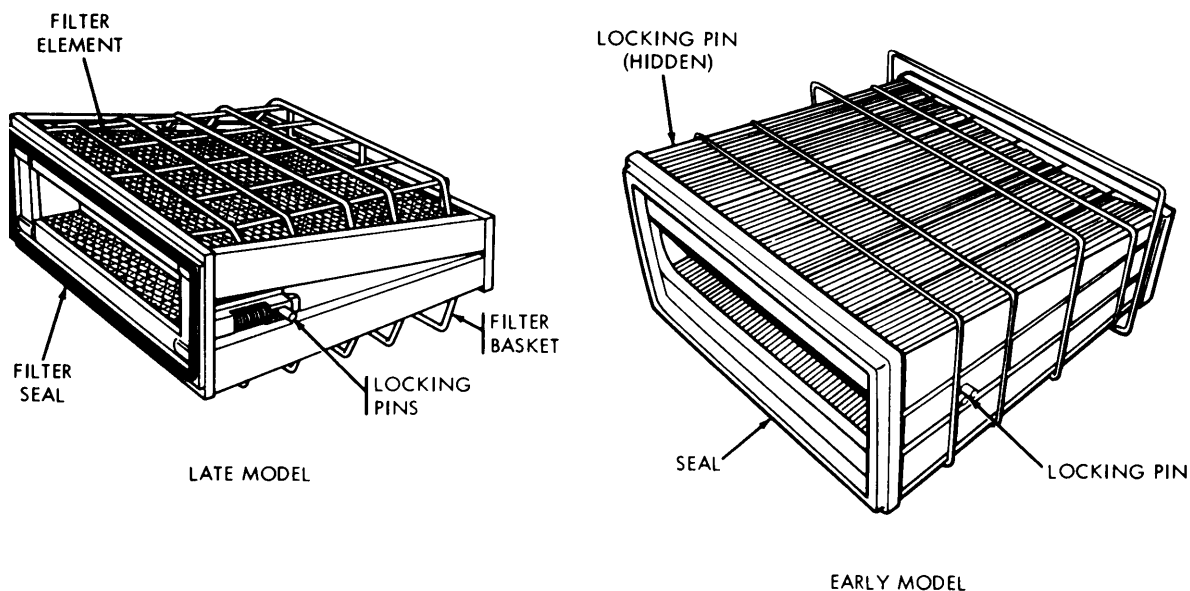
*a. Inspection.*

*(1) General.*

Inspect the filter for any defect that will let the air flow draw foreign material, including pieces of a damaged filter element, into the elbow duct. The most common defects are:

- (a)* Holes in the filter material.
- (b)* Loose parts or deformation of the element.
- (c)* Damaged seals and sealing surfaces.
- (d)* Damaged tabs and parts that hold the element in the sealed position.

(2) Top Loading Filter Element (Fig. 3-3).



- (a) Check filter element seal for permanent indentation, excessive hardness, cracks, damage, or missing.
- (b) Check filter element frame and both locking pins and springs (if equipped) for damage or missing parts.
- (c) Place light inside of filter element and check for ruptured material. Inspect from outside.
- (d) If inspection reveals any defects, replace filter element.
- (e) If filter is contaminated with dust, clean with compressed air or by washing (paragraph 3-4b).
- (f) If filter is contaminated with carbon, or oil deposits, replace filter element.
- (g) If filter element in the right air cleaner is contaminated with fuel:
  - (1) Replace filter element.
  - (2) Check for proper installation of fuel tank vent valve (paragraph 3-5).

Figure 3-3. Top loading filter element inspection.

## (3) Side Loading Filter Element (Fig. 3-4).

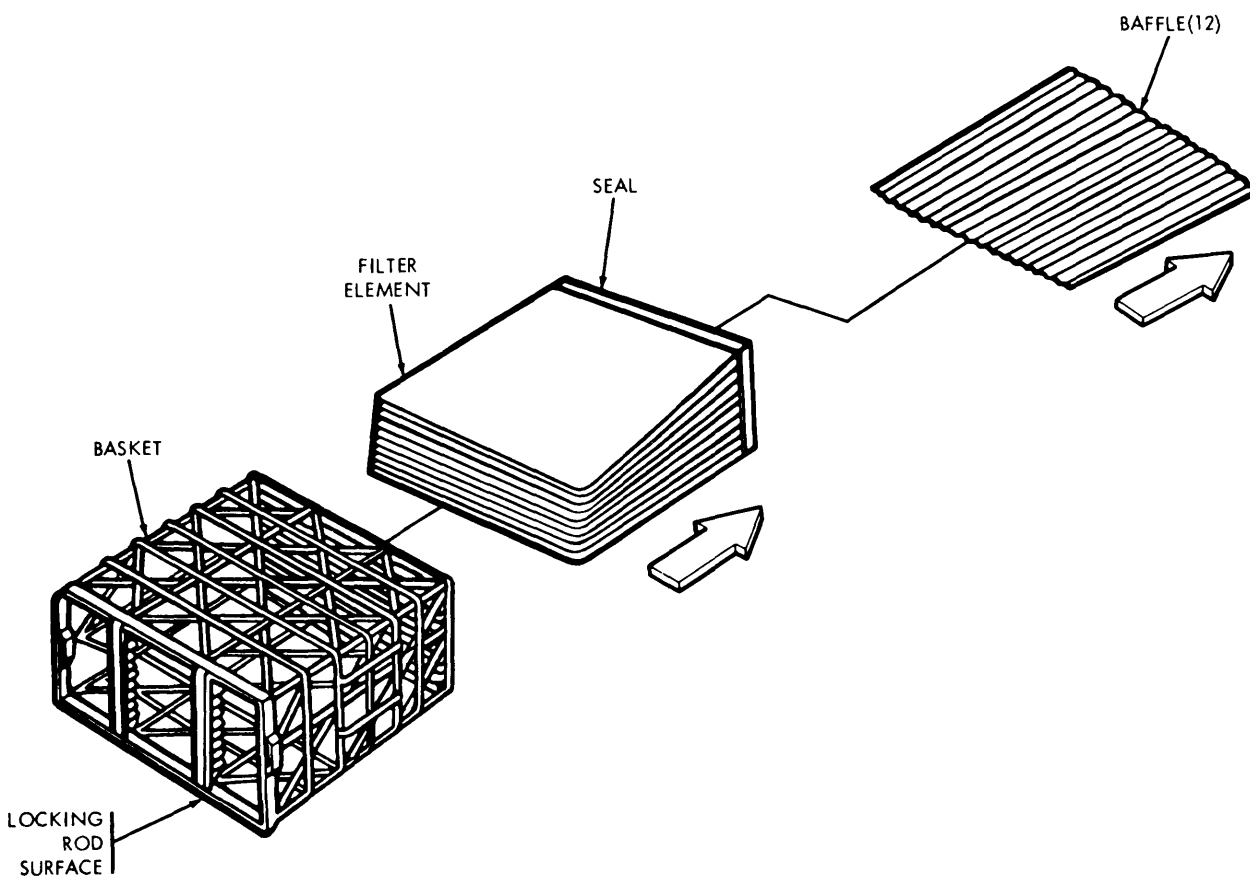


Figure 3-4. Side loading filter element inspection.

- (a) Check filter element seal for permanent indentation, excessive hardness, cracks, damage, or missing.
- (b) Disassemble filter element.

**NOTE**

It may be necessary to use pliers to remove top and bottom baffle. Be careful not to damage baffles.

1. Remove 12 baffles from inside of filter element.
  2. Remove filter element from basket.
- (c) Inspect baffles for cracks, bends, or broken out sections.
  - (d) Inspect filter element for holes or damaged seal.
  - (e) Inspect basket and locking rod surface for breaks or dents.

- (f) Replace any damaged or defective part.

**CAUTION**

Side loading element is to be cleaned with air only. Washing can damage the element.

- (g) If filter is contaminated with carbon, or oil deposit, replace element.
- (h) If filter element in right air cleaner is contaminated with fuel:
  1. Replace filter element.
  2. Check for proper installation of fuel tank vent valve (paragraph 3-5).

b. *Cleaning (Fig. 3-5).*

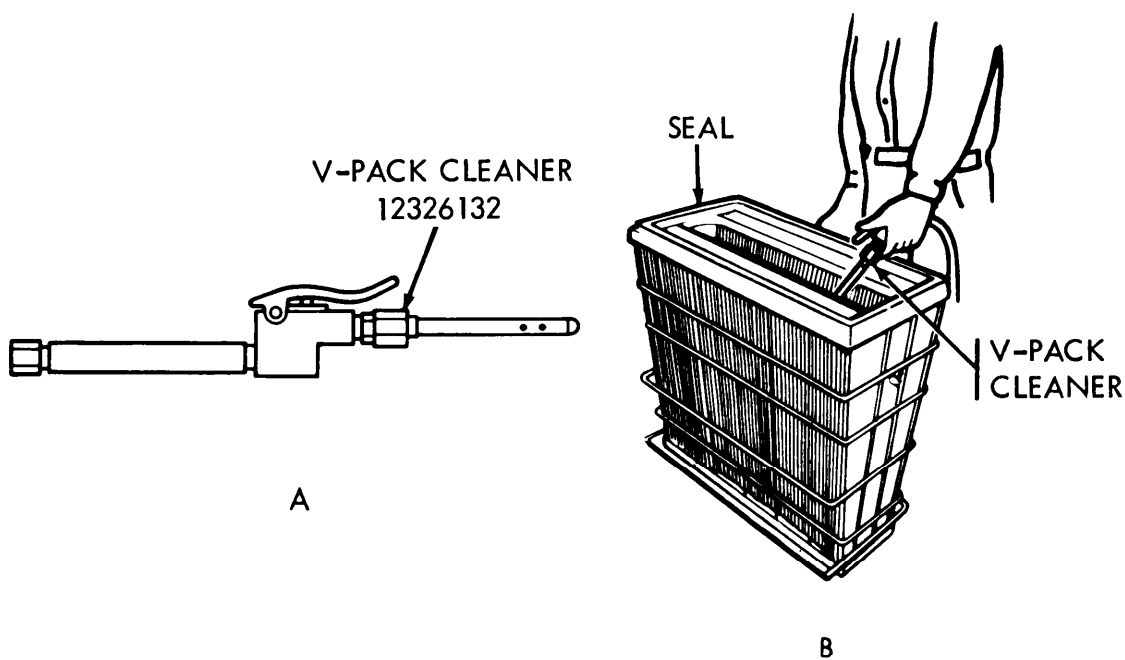


Figure 3-5. Air filter element compressed air cleaning.

(1) *Compressed Air.*

**CAUTION**

When shaking filter element; keep dust from inside pockets of element. Ensure that all creases and seams are free of dust, and never hit element against any surface.

- (a) Grasp filter element at sealing end and shake vigorously to shake out excessive dust.

**WARNING**

Compressed air used for cleaning purposes must not exceed 90 psi. Use only with effective chip guarding and personal protective equipment (goggles/shield, gloves, etc.).

- (b) Using V-pack cleaner (12326132) (view A), direct stream of compressed air against inside of filter element (view B).
  - (c) Move air stream up and down inside length of pleats or pocket until no dust is visibly being blown out.
  - (d) Inspect element before installing.
- (2) *Washing*

**CAUTION**

**DO NOT** wash side loading air cleaner filter. Damage to element will result.

**CAUTION**

Do not hit element against solid object. Do not steam clean. Do not use solvent. Damage to element will result.

- (a) Clean element using compressed air (para. 3-4b), before wetting filter element. Air must not exceed 90 psi.
  - (b) Prepare solution of warm water (80°F to 110°F) and detergent (see below) in container large enough to hold filter element (see para. (3) below).
    - Detergent, Liquid - NSN 7930-00-929-1220-50 lb. drum
    - Detergent, Liquid - NSN 7930-00-990-7391-25 lb. drum
    - Detergent, Liquid - NSN 7930-00-985-6904-20 oz. box
  - (c) Soak filter element in cleaning solution for 15 to 20 minutes, then gently shake it back and forth for 2 to 3 minutes to free dirt deposits.
  - (d) Rinse filter element with cool water (35°F to 80°F) until all traces of dirt and detergent are removed.
  - (e) If hose is used to rinse filter element, maximum line pressure of 40 psi should be used.
  - (f) Make sure filter element is completely dry before using.
  - (g) Air dry in a dust-free area at normal room temperature until filter element is completely dry. If circulating air is used, temperature must not exceed 160°F.
  - (h) Permanently mark filter to indicate date it was washed. Four washings should be considered the approximate life of an element.
  - (i) Inspect filter element before installing.
- (3) *Washing Vat Fabrication.*

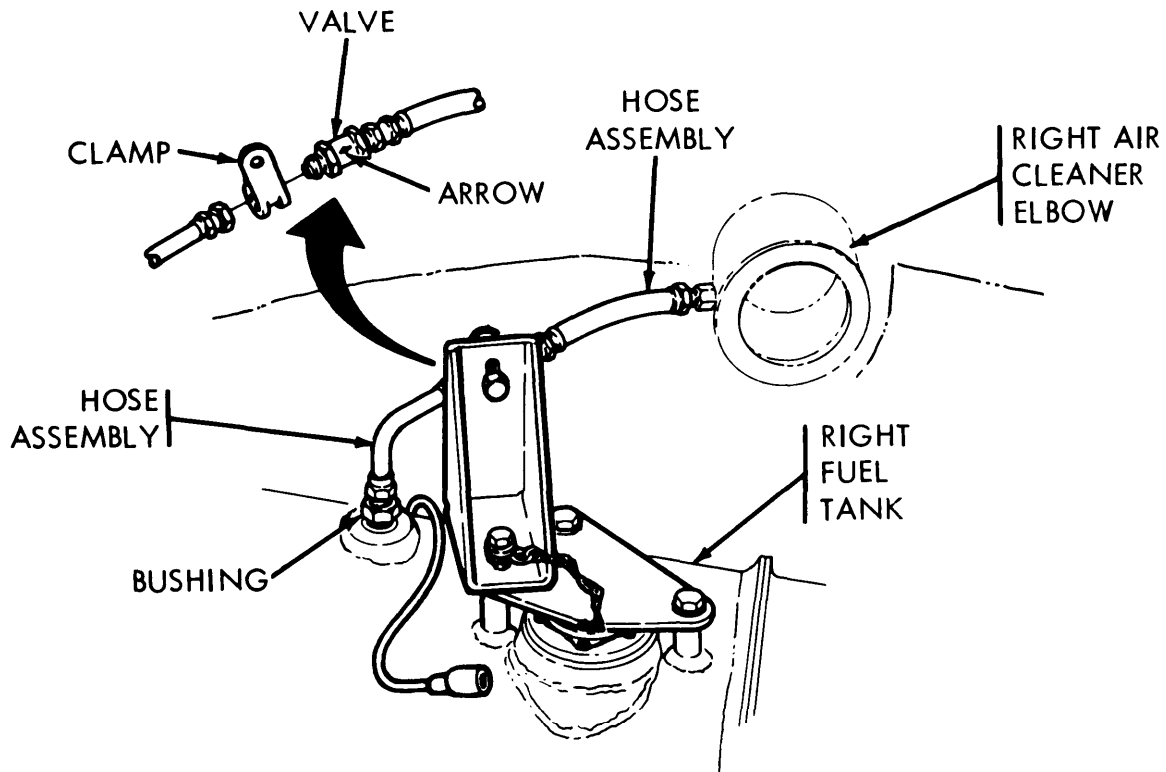
**NOTE**

A suitable washing vat can be fabricated using the following suggested procedures:

- (a) Obtain a 55 gallon drum, approximately 23 inch diameter and 34 inch high.
- (b) Thoroughly clean out drum (steam clean).
- (c) Remove one end of drum (preferably the end with plugs in it). Minimum height of drum must be 23 inches.
- (d) Obtain a length of 5/8 or 3/4 inch water hose sufficient to cover cut edges of drum.
- (e) Split water hose lengthwise and position on cut edge of drum. This will prevent filter element damage from the cut edge.

**3-5. Final Drive and Fuel Tank Vent Systems Inspection.**

a. *Fuel Tank Vent System (Fig. 3-6).*



*Figure 3-6. Fuel tank vent system inspection.*



- (1) Open top grille doors to expose top of fuel tanks and air cleaner outlet elbows. Move to right side of vehicle.

**NOTE**

Two types of air cleaner outlet elbows may be found on M48/M60 series. Early model has no hole to accept fuel tank vent lines and late model has a hole to accept a vent line fitting.

- (2) Inspect fuel tank for presence of vent line from fuel tank to air cleaner.
- (3) If vehicle is equipped with fuel tank to air cleaner vent system, go to step 4. If not, go to step 8.
- (4) Make sure valve arrow points toward right fuel tank. If installed incorrectly, fuel will enter the air cleaner. Reverse valve installation, if required.
- (5) Check hose assemblies for line pliability, deterioration and general serviceability. If any hoses are defective, replace (TM-20).
- (6) Inspect all fittings and connectors for cracks or other damage. Replace as necessary (TM-20).
- (7) Check for loose, broken or cracked clamps, brackets or bushings. Replace as necessary (TM-20). Go to step 10.
- (8) Check outlet elbow for plug (late model vent hole). Install replacement plug if missing.
- (9) Tighten pipe plug securely.
- (10) Close right side grille doors (TM-10).

*b. Final Drive Vent System (Fig. 3-7).*

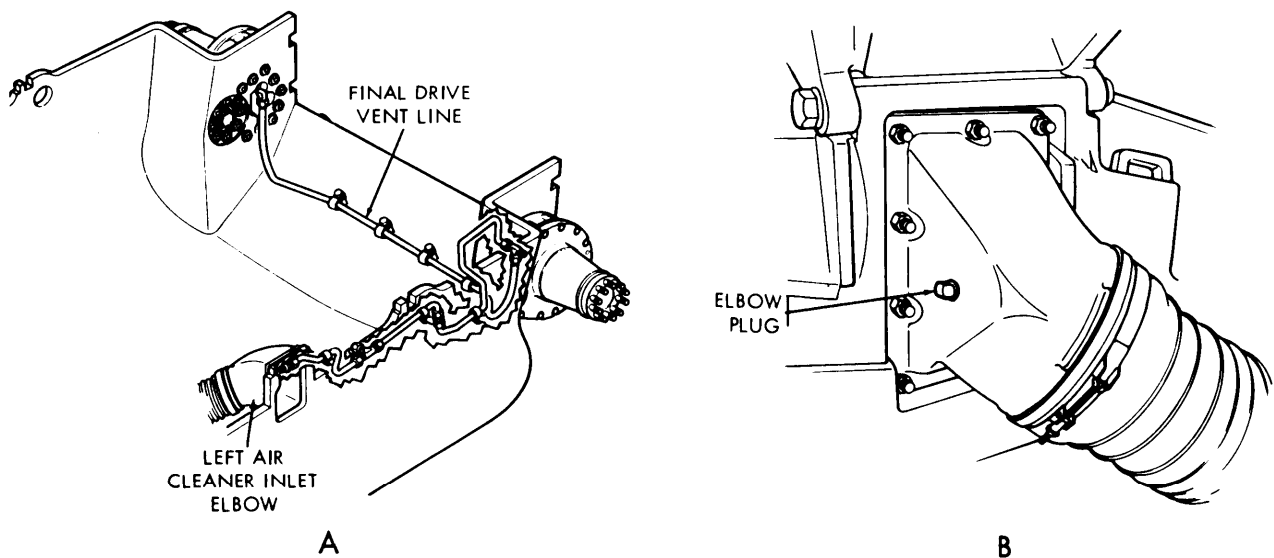


Figure 3-7. Final drive vent system inspection.

- (1) Move to left side of vehicle.
- (2) Inspect left air cleaner inlet elbow for presence of final drive vent line system (view A).
- (3) If vehicle is equipped with final drive vent system, go to step 4. If not equipped with final drive vent system, go to step 6.
- (4) Check all lines and fittings for cracks or other damage. Replace if necessary (TM-20).
- (5) Check fitting at inlet elbow for security. Go to step 7.
- (6) If vehicle is not equipped with final drive venting system, check elbow for plug (view B). Install replacement plug, if missing.
- (7) Close grille doors.

### 3-6. Air Cleaner Hoses Inspection and Replacement

#### a. Inspection.

- (1) Air Intake Hoses Inlet Screen to Air Cleaner) (Fig. 3-8).

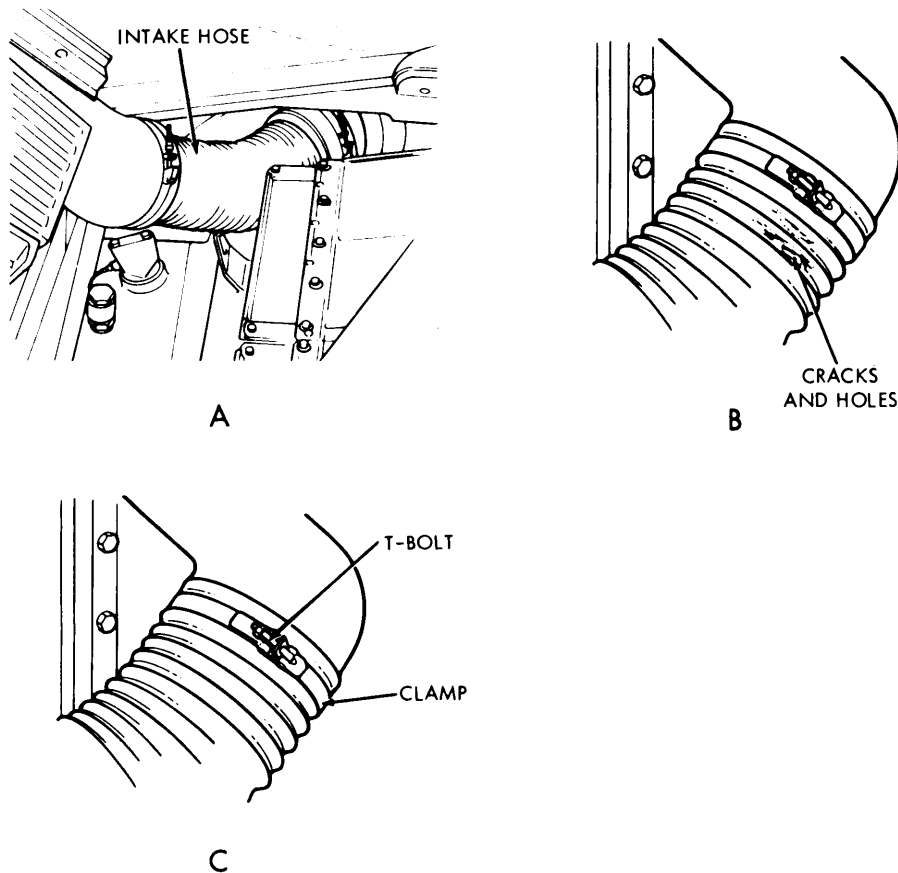


Figure 3-8. Air intake hoses inspection.

**NOTE**

Inspection of left and right intake hoses is the same.

- (a) Traverse turret so main gun points over left or right side of tank.
- (b) Open top grille doors.
- (c) Check intake hoses for misalignment (view A). A hose that appears too short may be misaligned. Align misaligned hoses.
- (d) Check intake hoses for holes or cracks (view B). Replace defective hoses. Refer to para. 3-6b.
- (e) Check for loose hose clamps (view C). Make sure hose is properly seated and clamps are positioned correctly. Tighten loose clamps.
- (f) Check flat band clamp and screw threads on T-bolt (view C). If clamps or threads are damaged or missing, replace clamp.

(2) *Air Outlet Hoses (Air Cleaner to Turbosupercharger).*

**NOTE**

If finger band clamps are installed, perform steps (a)1 thru (a)8. V-band clamps are installed, perform steps (b)1 thru (b)7. Inspection of left and right outlet hoses is the same.

(a) *Finger Band Clamps (Fig. 3-9).*

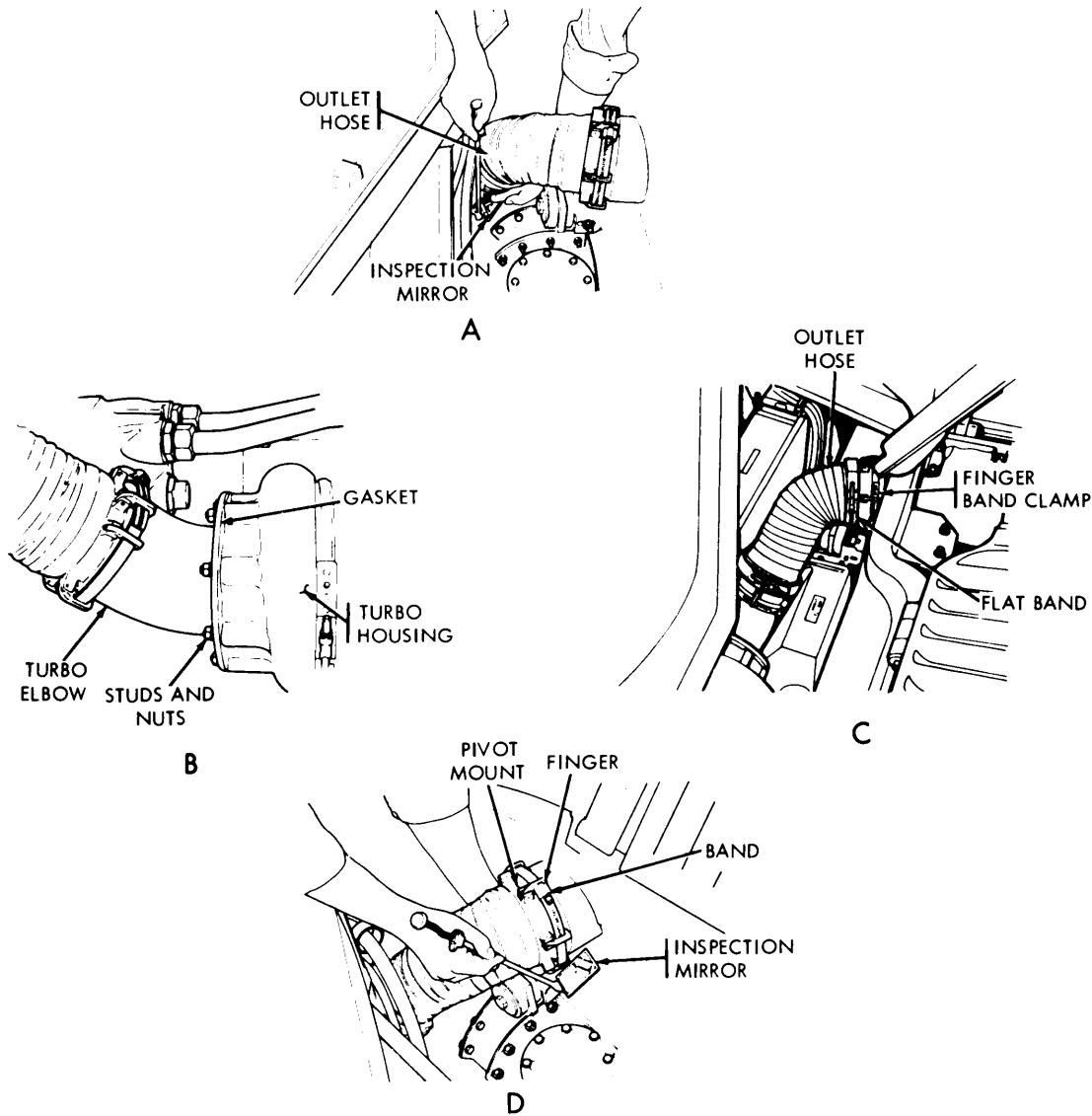


Figure 3-9. Air outlet hoses inspection (finger band clamp).

1. Open top deck grille doors (TM-10).
2. Inspect air cleaner outlet hose for damage (i.e., tears, punctures, sharp folds, hardness, or exposed support wire) (view A). An inspection mirror, McMaster Carr Co., model 1023T2 and flashlight are necessary, to view bottom of hose.
3. Feel hose with hands to detect any defects which may indicate damage or looseness. Replace defective hose. Refer to para. 3-6b.
4. Inspect outlet hose connection at engine turbo elbow (view B).

5. Check turbo elbow flange to ensure that all studs, and nuts are present, and tight (view B).
6. Check turbo elbow for gasket between turbo elbow, and turbo housing. Inspect gasket as much as possible looking for tears, folds, and missing pieces using an inspection mirror, and flashlight where necessary.
7. Inspect connection of outlet hose to outlet elbow (view C). Check that band clamp is installed. Inspect clamp for damage, or missing parts (i.e., bent, broken, or missing fingers, torn band, broken finger pivot mounts). Replace defective hose or clamp. Refer to para. 3-6b.
8. Verify that all fingers engage outlet elbow flange (view D). Use inspection mirror and flashlight to view bottom fingers. Grasp each finger individually, and attempt to move it side to side. Movement of any finger indicates a loose clamp. Tighten clamp if loose. Attempt to rotate flat band clamp, located on hose just behind finger band clamp. Any movement indicates a loose clamp. Tighten clamp if loose.

(b) V-Band Clamps (Fig. 3-10).

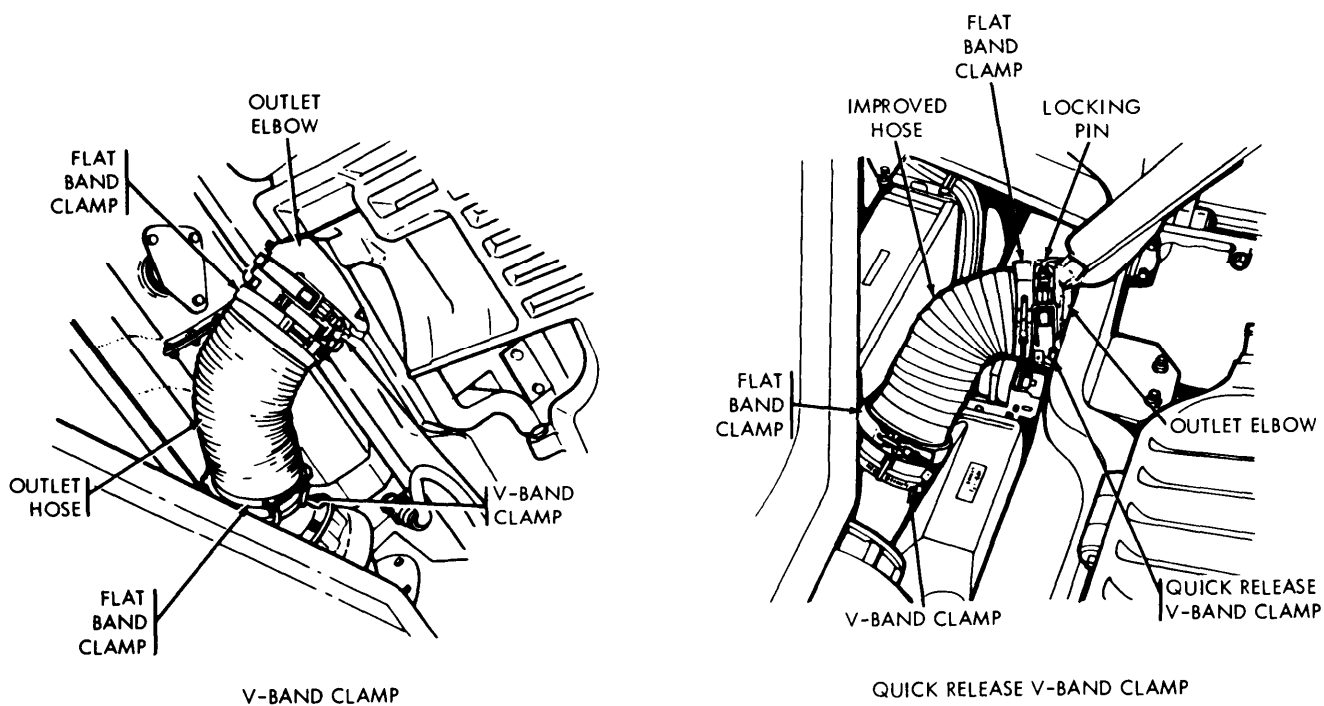


Figure 3-10. Air outlet hose inspection (V-band clamp).

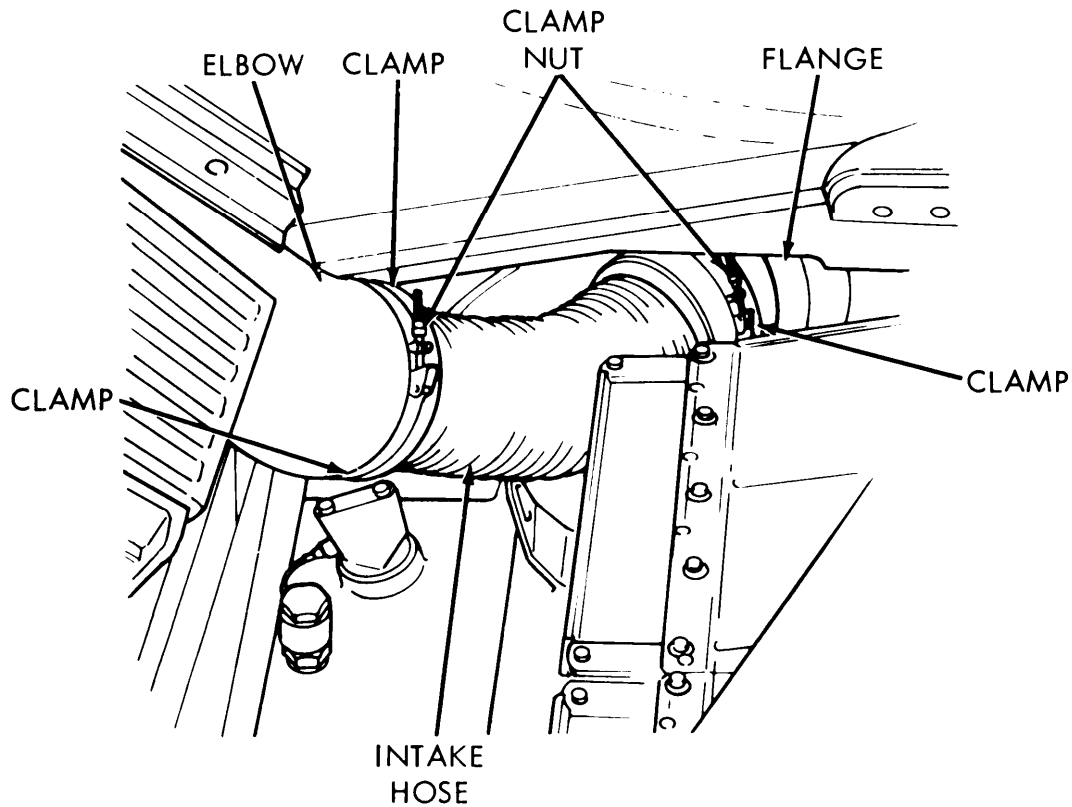
#### NOTE

If V-band clamps, and V-band clamps with quick release handle are installed instead of the finger band clamps, perform steps 1 thru 7.

1. Inspect clamp for visual damage.
2. Make sure nut on adjustment screw is tight.
3. Check that quick release handle is down and secured with locking pin.
4. Grasp clamp and attempt to rotate it. Any movement indicates a loose clamp, tighten as necessary.
5. Grasp hose just behind hose flange, and attempt to move flange. Any movement indicates a loose clamp, tighten as necessary.
6. Check turbocharger inlet V-band clamp for split bands, bent or stripped T-bolts and damaged nuts. Replace defective clamp (NSN 5340-00-678-6178). Refer to para. 3-6b.
7. Check air cleaner outlet quick-release V-band clamp for split band, bent or stripped T-bolt, damaged nut or quick-release lever. Replace defective clamp (NSN 4730-01-132-9086). Refer to para. 3-6b.

*b. Replacement*

*(1) Intake Hose (Flat Band Clamp) (Fig. 3-11)*



*Figure 3-11. Air intake hose replacement.*

- (a) Using 3/8 inch wrench, loosen clamp nut at each end of intake hose.
- (b) Slide clamp over intake hose.
- (c) Remove hose from elbow and flange (5).

- (d) Remove clamps from hose and throw hose away.
- (e) Obtain new hose - NSN 2940-00-678-4700 (part no. 8762783).
- (f) Loosely install one clamp at each end of hose.
- (g) Install hose on elbow and flange.
- (h) Slide clamps over elbow and flange.
- (i) Using 3/8 inch wrench, tighten clamp nuts.
- (j) Close top grille doors (TM-10).

(2) Outlet Hose (Finger Band Clamp) (Fig. 3-12).

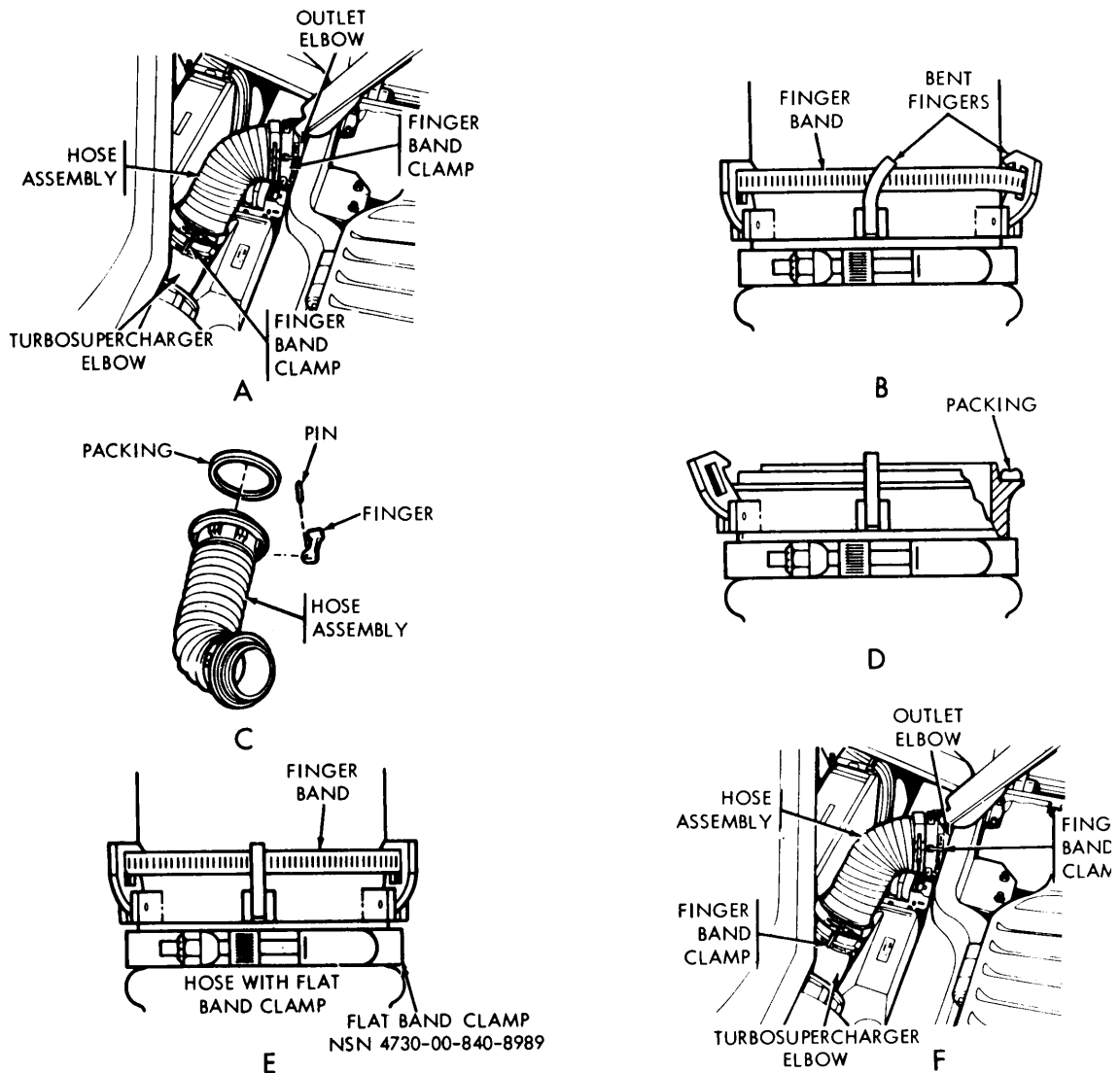


Figure 3-12. Air outlet hose replacement (finger band clamp).

- (a) Loosen two clamps (view A).
- (b) Remove hose assembly from air cleaner outlet elbow and turbosupercharger elbow.
- (c) Remove hose assembly.
- (d) Remove clamps from hose assembly.
- (e) Check hose assembly for damage or defective parts. If a hose or flange is unserviceable, replace hose assembly.
- (f) Make sure fingers are not bent (view B). If any are bent, replace as follows:
  - 1. Using a hammer and punch, drive out pin holding finger in place (view C).
  - 2. Position new finger - NSN 2940-00-614-9007 part no. 1655238) - on hose assembly.
  - 3. Using pliers, install new pin - NSN 5315-00-058-9780 (part no. MS16562-235) - securing finger to hose assembly.
  - 4. Using hammer, tap pin into place.
- (g) Check preformed packing (view D). If it is cracked, loose, or dried out, replace as follows:
  - 1. Remove defective packing and clean away old adhesive.
  - 2. Apply adhesive MIL-SPEC-MMM-A-1617, Type II - NSN 8040-00-152-0063 (2.5 oz. can) or NSN 8040-00-152-0067 (6 oz. can) - in groove of hose assembly flange.
  - 3. Install new packing - NSN 5330-00-729-5049 (part no. 10870861).
- (h) Check metal flange ends for bonding to hose. If bonding is loose, replace hose assembly.
- (i) Check finger band clamp for damage (view D). If damaged, replace clamp - NSN 4730-00-908-6294 (part no. MS35842-16).
- (j) Check new flat band clamp, make sure it is properly installed. If it is not, loosen, apply a light coat of lubricant (silicone grease MIL-G-46886) to area of hose where clamp will be installed, install clamp and tighten securely.
- (k) Thread finger band clamp through slots in fingers (view E).
- (l) Position one end of hose assembly on air cleaner outlet elbow and other end on turbosupercharger elbow (view F).
- (m) Make sure fingers grip lips of elbows by feeling under hose.
- (n) Using screwdriver, tighten clamps securely.



(o) Close top grille doors (TM-10).

(3) Outlet Hose (V-Band Clamp) (Fig. 3-13).

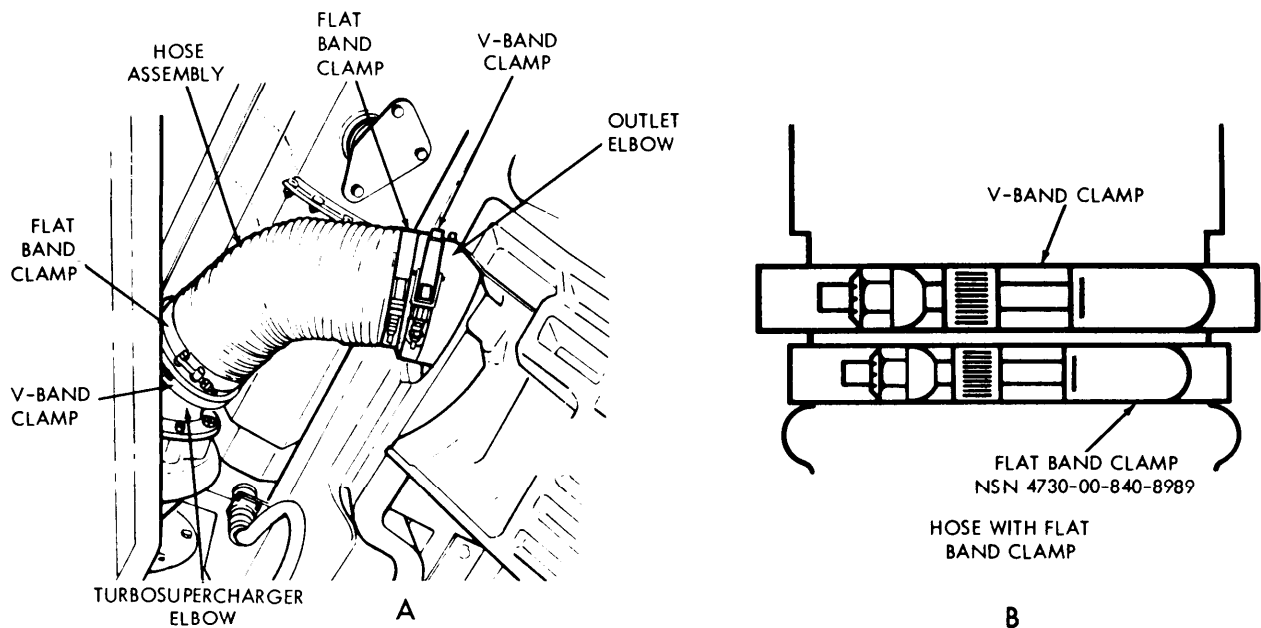


Figure 3-13. Air outlet hose replacement (V-band clamp).

- (a) Loosen hose clamps (view A).
- (b) Remove clamps from hose.
- (c) Remove hose from elbows.
- (d) Inspect hose packing. If it is cracked, loose or dry, replace as follows:
  1. Remove packing and clean away adhesive.
  2. Apply adhesive, MIL-SPEC MMM-A-1617, Type II - NSN 8040-00-152-0063 (2.5 oz. can) or NSN 8040-00-152-0067 (6 oz. can) - in groove of hose assembly flange.
  3. Install new packing - NSN 5330-00-729-5049 (part no. 10870861).
- (e) Check metal flange ends for bonding to hose. If bonding is loose, replace hose assembly.
- (f) Check V-band clamps for split bands (view B) bent or stripped T-bolts, and damaged nuts. Replace defective clamp NSN 5340-00-678-6178 (part no. 8711310). Turbocharger end, NSN 4730-01-132-9086, PN 01-1000 outlet end.
- (g) Check flat band clamp for proper installation. If not installed properly, loosen and apply a light coat of lubricant (silicone grease MIL-G-46886) to the area of hose where clamp will be installed, install clamp and tighten securely.

- (h) Position hose between elbows, with curved end of hose toward outlet elbow. Adjust position for minimum strain on hose.
- (i) Position hose flange (curved end) against flange on outlet elbow.
- (j) Install and tighten clamp.
- (k) Position flange on other end of hose against turbosupercharger elbow.
- (l) Install and tighten clamp.
- (m) Close top grille doors (TM-10).

(4) *Outlet Hose (Quick-Release V-Band Clamp) (Fig. 3-14).*

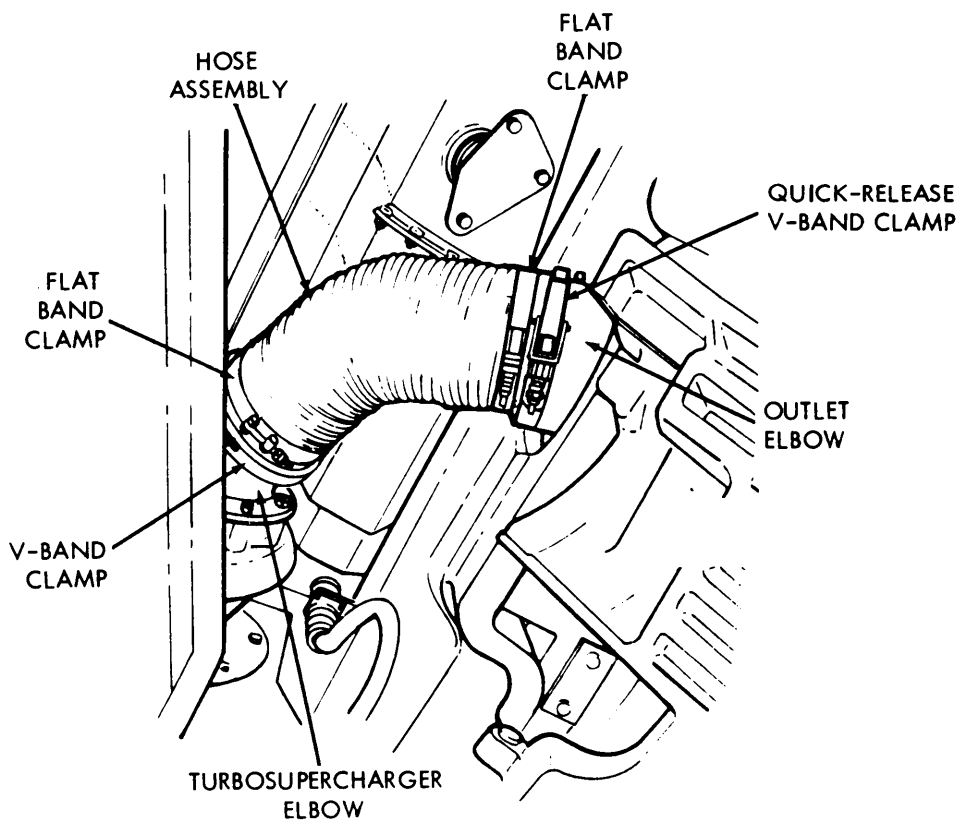


Figure 3-14. Air outlet hose replacement (quick release v-band clamp).

- (a) Using wrench, loosen clamp.
- (b) Pull pin and release clamp.

- (c) Disconnect hose assembly from outlet elbow of air cleaner and elbow of turbocharger.
- (d) Position one end of hose assembly onto outlet elbow and other end over turbosupercharger elbow.
- (e) Tighten T-bolt nut to eliminate all clearance between T-bolt and clamp. Tighten T-bolt one additional turn. This will apply approximately 8-12 lb-in torque.
- (f) Using wrench, tighten clamp.
- (g) Close quick release clamp and install pin.
- (h) Close top deck grille doors TM-10.

### 3-7. Army Oil Analysis Program

#### a. General.

- (1) The Army Oil Analysis Program is part of a DOD-wide effort to detect impending equipment component failures and lubricant condition through periodic analysis of oil samples.
- (2) Oil analysis helps determine the internal condition of engines, gearboxes, transmissions, and other oil-lubricated system and components. Your tank is included in the program.
- (3) Just like a doctor checks your blood for diseases, your expert Army laboratory technicians analyze your oil sample to tell you what is going on inside your engine and the condition of your oil.

#### b. Purpose.

- (1) To detect potential component failure.
- (2) To reduce maintenance costs through preventive maintenance - prior to major repair.
- (3) To develop a data bank relating to component wear or failure.

#### c. Procedures.

Refer to TB 43-0211.

#### **NOTE**

Be sure to identify each oil sample with the engine serial number and tank serial number.



**CHAPTER 4**  
**RELIABILITY IMPROVEMENTS**

**4-1. General.**

Material in this chapter describes improvements to the air induction system. Much of this information has or will be issued as MWOs, or retrofit instructions. This information will be included in future changes or revisions to technical manuals. Table 4-1 lists the improvements, reference to procedures, and the lowest maintenance level authorized to perform them.

**Table 4-1. Reliability Improvements**

Reliability Improvements	Maintenance Level	Paragraph Reference
Rework of Top Loading Air Cleaner Access Door Bolt Holes	Org.	4-2
Top Loading Air Cleaner Captive Screw Replacement	Org.	4-3
Installation of Late Model Air Filter Clog Indicator	Org.	4-4
Armored Air Cleaner Mounting Bolt Replacement	Org.	4-5
Improved V-Band Hose Clamp and Torque Specifications	Org.	4-6
Improved Spring Loaded Air Filter	Org.	4-7
Ground Hop Kit	Org.	4-8
Retrofit of Aluminum Side or Top Loading to Armored Top Loading Air Cleaner	GS/DS	4-9
Rework of Grille Door Hinge	GS/DS	4-10
Housing Screw Hole Repair (Access Door Screw) Housing Vertical Guide Bar Rework	GS/DS	4-11

## **4-2. Top Loading Air Cleaner Access Door Bolt Holes Rework**

### *a. General*

The three (3) screw holes located on top of the top loading air cleaners (Fig. 4-1) which secure the access door are required to be drilled completely through. If they are not, dirt settles in the screw holes and the screws bottom out before tight, resulting in not obtaining a good seal between the access door and the air cleaner. Secondly, damage to both the screw and screw hole can occur.

### *b. Inspection.*

Check access door bolts and bolt threads (Fig. 4-1). Ensure bolt threads and threads in holes are not stripped. If stripped, replace bolts and/or re-tap bolt holes. Clean bolt holes by removing all accumulated sand, dirt, or debris. Check all three threaded bolt holes to ensure the holes have not been drilled through. If the bolt holes have been drilled through, disregard this rework procedure. If they have not been drilled through, proceed with the rework procedure.

### *c. Rework Procedure.*

#### *(1) Tools Required*

(a) Electric Drill Motor (1/4 or 3/8 inch chuck)

(b) No. 12 High Speed Drill Bit

#### *(2) Fabricated Tools*

(a) Fabricate drill guide (fig. 4-2)

(b) Fabricate drill stop (fig. 4-3)

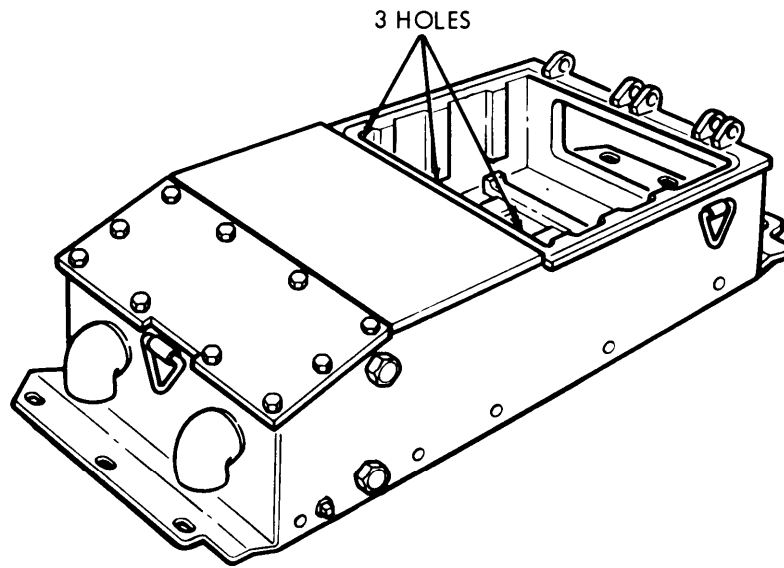


Figure 4-1. Air cleaner access door bolt holes.

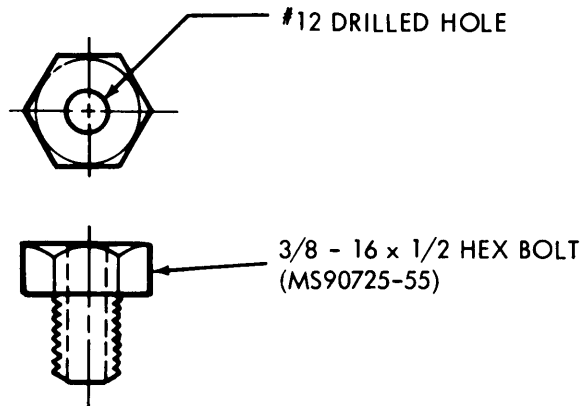


Figure 4-2. Drill guide fabrication

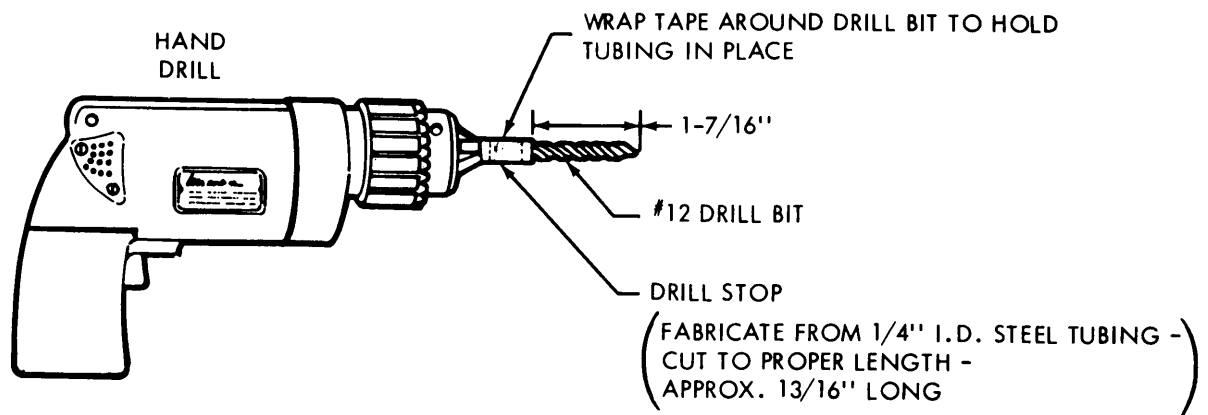


Figure 4-3. Drill stop fabrication.

(3) Procedure (Fig. 4-4).

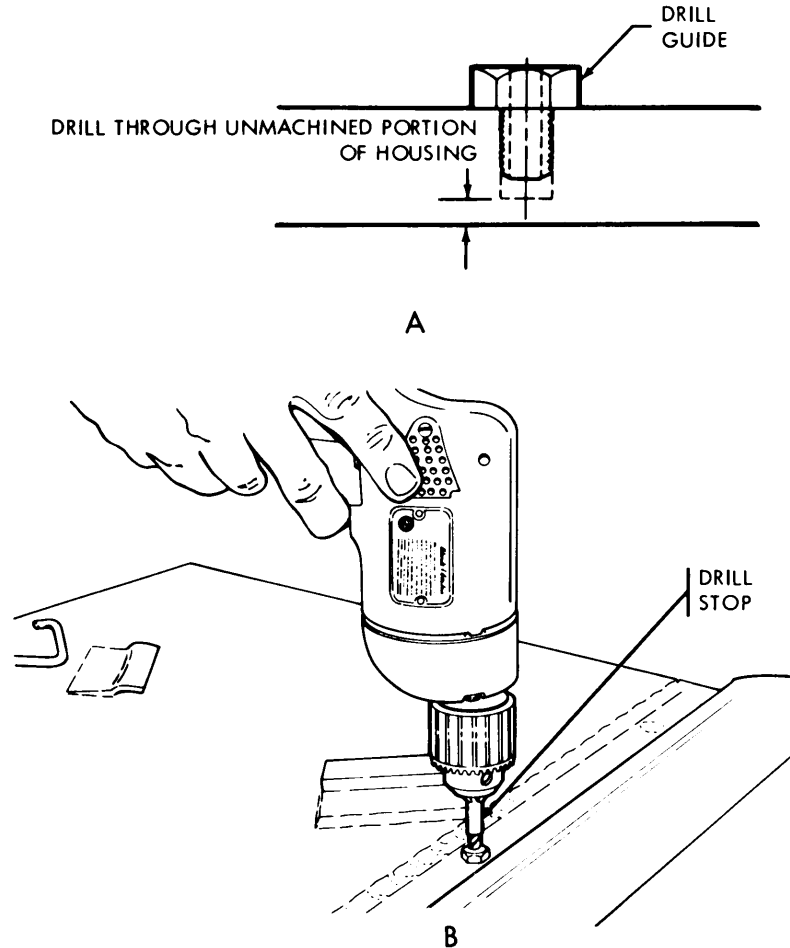


Figure 4-4. Top loading air cleaner access door bolt holes rework.

- (a) Remove air cleaner filter element (para. 3-2a).
- (b) Cover housing opening with tape and cardboard or a large cloth to prevent metal chips and dirt from entering the filter area.
- (c) Install fabricated drill guide in bolt hole (view A).
- (d) Place fabricated drill stop on a No. 12 drill bit to limit depth to 1-7/16 inch. Wrap tape around bit to hold stop in place (Fig. 4-3).

**CAUTION**

Do not drill hole through without drill stop installed or damage to air cleaner precleaned tubes will result.

- (e) Using a hand drill with the No. 12 drill bit and stop, carefully drill through incompletely machined portion of hole (view B).



- (f) Drill remaining bolt holes using same procedure as described above.
- (g) Using compressed air, clean all metal chips from bolt holes.
- (h) Install air filter element (para. 3-2a).
- (i) Repeat procedure on opposite air cleaner.

### **4-3. Top Loading Air Cleaner Captive Screw Replacement**

#### *a. General.*

Field reports indicate that some captive screws which are attached to armor top loading air cleaner access doors are being stripped, damaged and/or are missing. When this situation occurs, dirt/dust can enter directly into air cleaners which could result in damage to the engine.

#### **NOTE**

If bolt holes in housing are stripped, notify direct support for repair of holes. If holes are not stripped, proceed with replacement procedures.

#### *b. Procedure.*

##### *(1) Tools and Materials Required*

- (a) Hammer, hand: 1 lb. 5120-00-061-8543
- (b) Punch, drive pin: 3/4 in. 5120-00-239-0038
- (c) Wrench, combination box open end: 9/16 in. 5120-00-228-9507
- (d) Tape, masking
- (e) Cloth or cardboard (used to cover housing opening)
- (f) Wood, 2 in. x 4 in. x 18 in. long
- (g) Screws (per air cleaner) PN 12290914 (3 required)
- (h) Punch, center 5120-00-293-3509

(2) Procedure (Fig. 4-5).

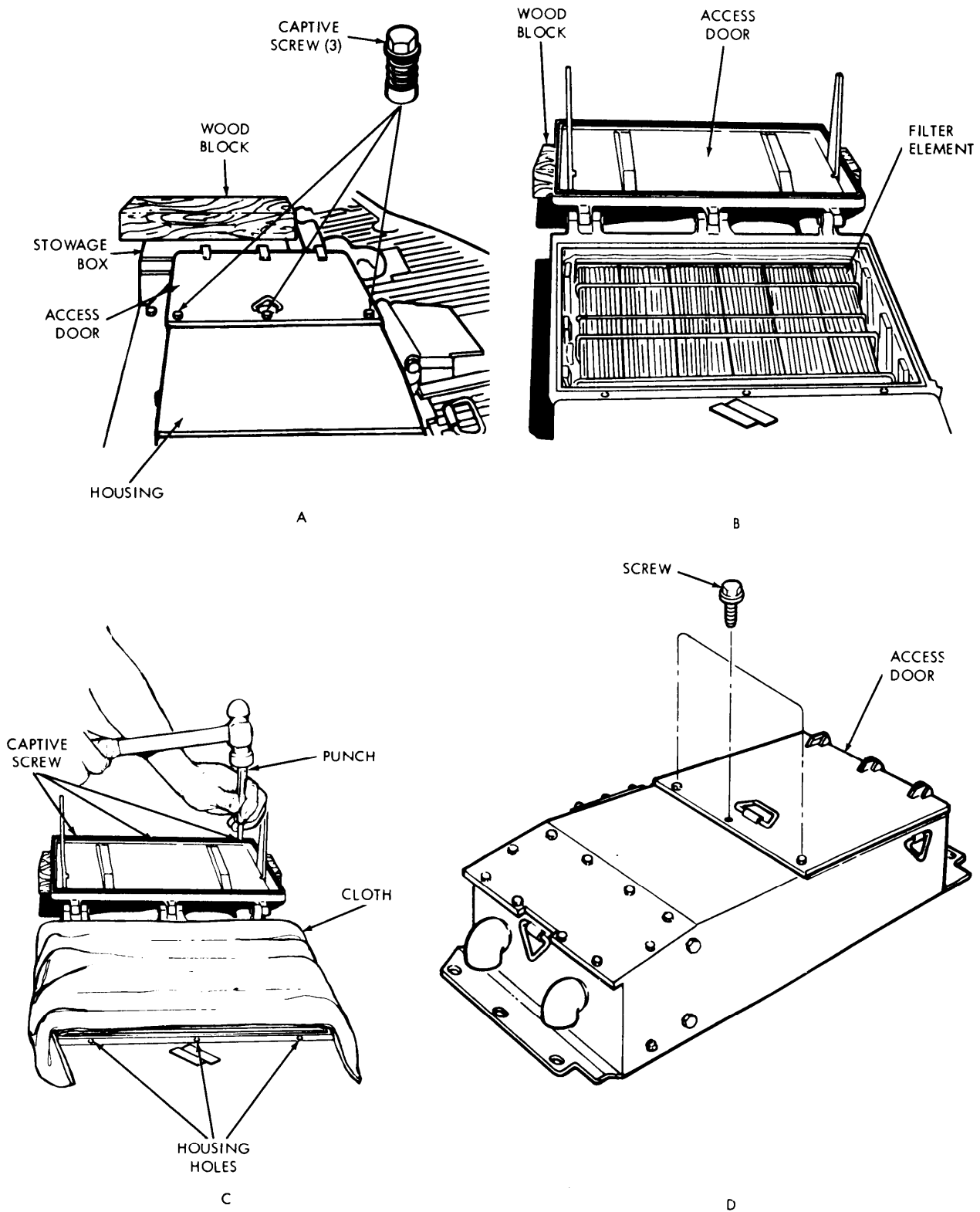


Figure 4-5. Top loading air cleaner captive screw replacement.

- (a) Using 9/16 wrench, loosen remaining captive screws securing access door to housing (view A).
- (b) Position a block (2 x 4 x 18) of wood across fender storage box so access door will rest on block of wood when door is opened.
- (c) Open access door allowing it to rest firmly against block of wood. Block must be positioned to inside of captive screw(s) (view B).
- (d) Remove filter element, cover, and store temporarily in a safe place.
- (e) Using tape and cardboard or a large cloth, cover housing opening (so dirt cannot fall into box). (Do not cover housing bolt holes.)
- (f) Using a hammer and punch drive pin, drive out damaged captive screw(s) (view C).
- (g) Remove tape, cardboard or cloth from housing opening. Using a damp clean rag, wipe inside of filter housing removing any dirt or metal chips.
- (h) Install filter element, make sure all seals and gaskets are in place. Carefully close access door (view B).

**CAUTION**

It may be necessary for mechanic to kneel on access door to start screws. Make sure screws are fully engaged before releasing weight from access door or hole threads will be stripped.

- (i) Install three new screws PN 12290914, NSN 5306-01-091-3384 in access door and finger tighten (view D). Using torque wrench, tighten three screws, starting with middle, to 40-48 lb-ft (54-65 N·M).
- (j) Repeat procedure for opposite air cleaner.

#### **4-4. Air Cleaner Filter Clog Indicator Rework**

*a. General.*

The following procedures to rework the air cleaner outlet elbow to accept the late model filter clog indicator.

*b. Rework Procedure.*

*(1) Tools and Equipment Required:*

- (a) Hacksaw
- (b) Scribe
- (c) 1/8 - 27 NPTF tap
- (d) Electric drill with a 90° drive angle with a 3/8 inch chuck

- (e) Size "R" drill bit (0.339)
- (f) 1/8 inch drill bit
- (g) Hand driven metal stamping die set
- (h) 1. Number set NSN 5110-00-289-004  
2. Letter set NSN 5110-00-289-0008
- (h) Arc welding machine
- (i) Shield holding fixture (fabricated by Direct Support Maintenance) (fig. 4-6).

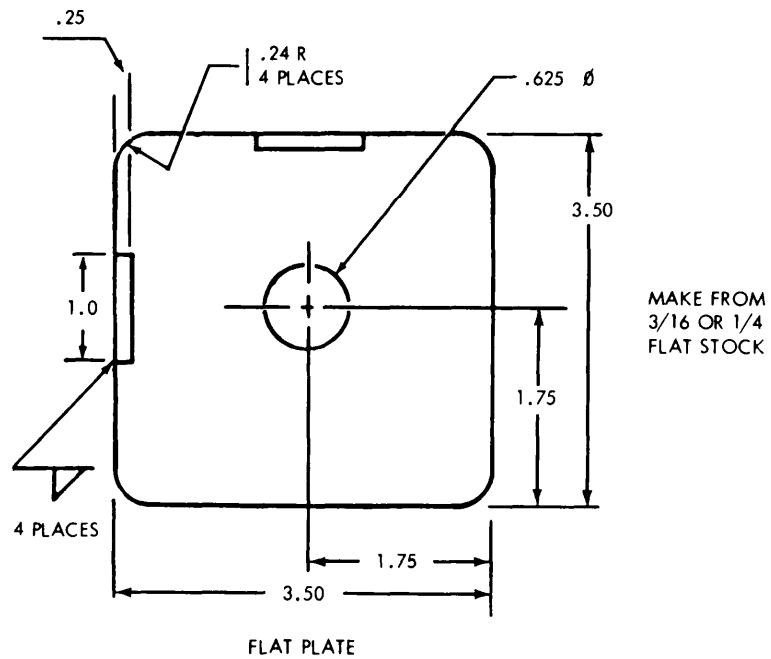
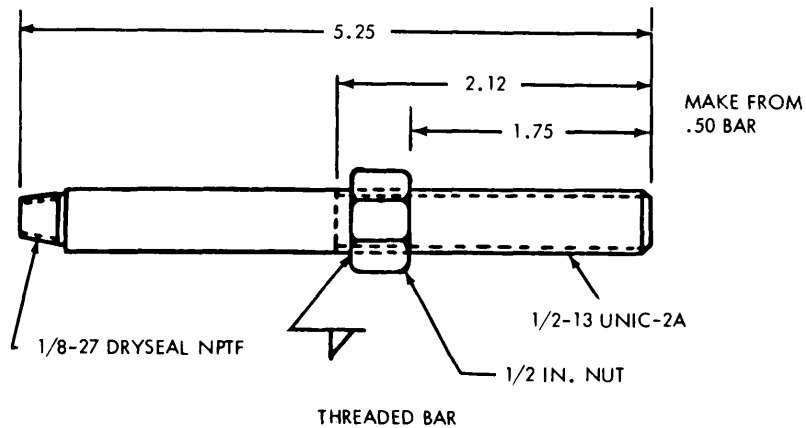


Figure 4-6. Shield holding fixture fabrication.

(2) *Supplies Required:*

- (a) Filter clog indicator (11669717)
- (b) Clean rags
- (c) Thread cutting oil
- (d) Dry cleaning solvent
- (e) Welding electrode MIL-E-13080
- (f) Primer paint TT-P-1757
- (g) Forest green enamel paint MIL-E-798
- (h) Shield and plug assembly, (fabricated by Direct Support Maintenance) (figs. 4-7 and 4-8).

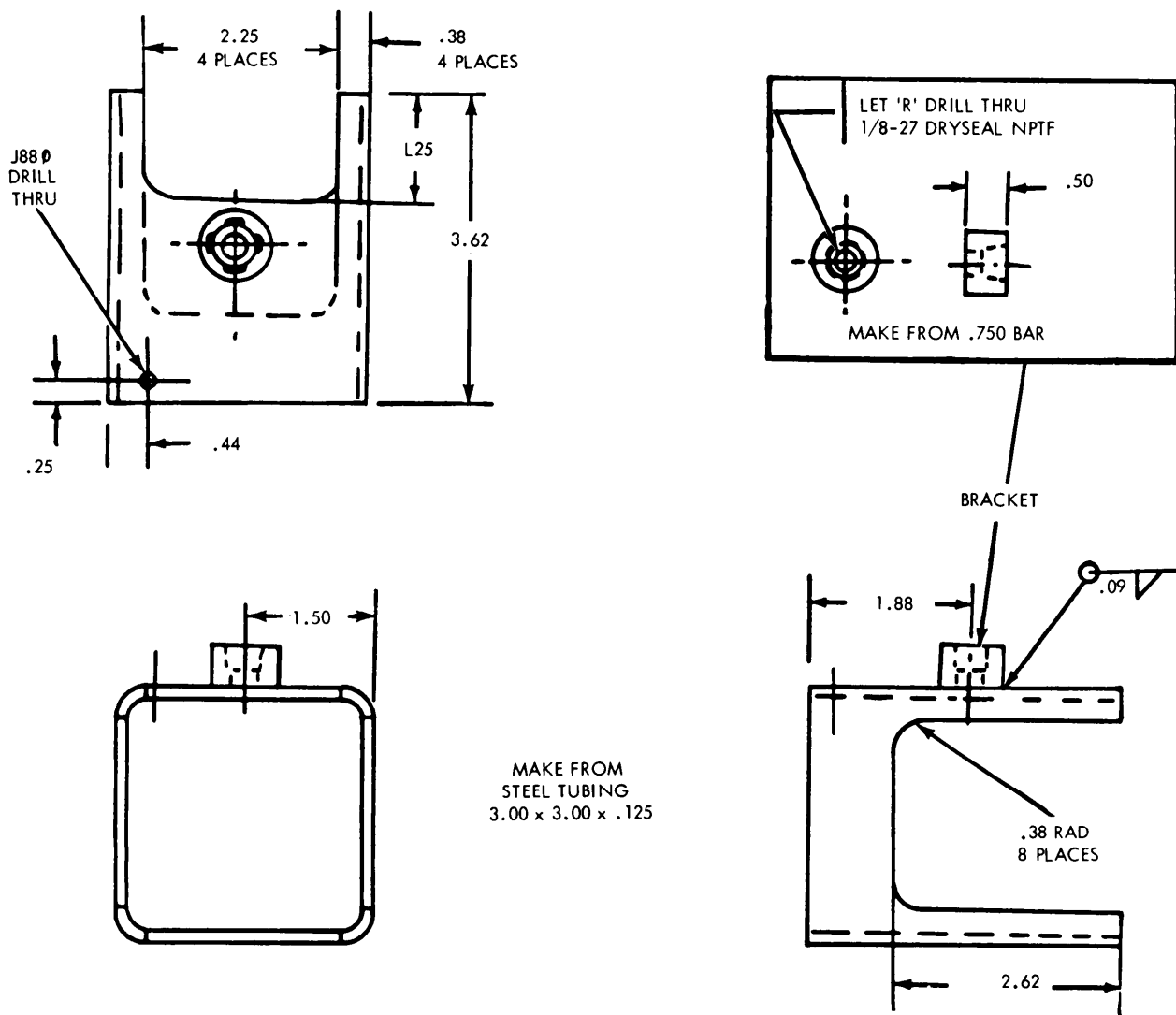


Figure 4-7. Filter clog indicator shield fabrication.

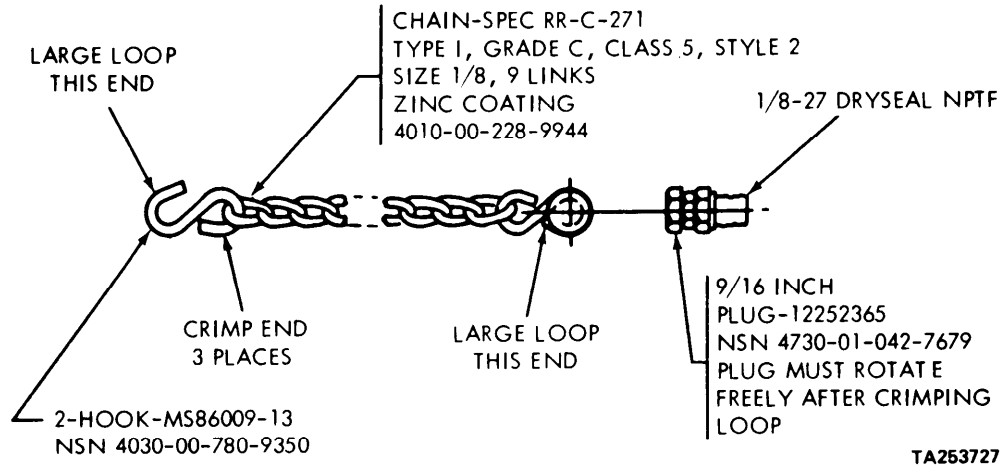


Figure 4-8. Chain and plug assembly fabrication.

(3) Procedure (Fig. 4-9).

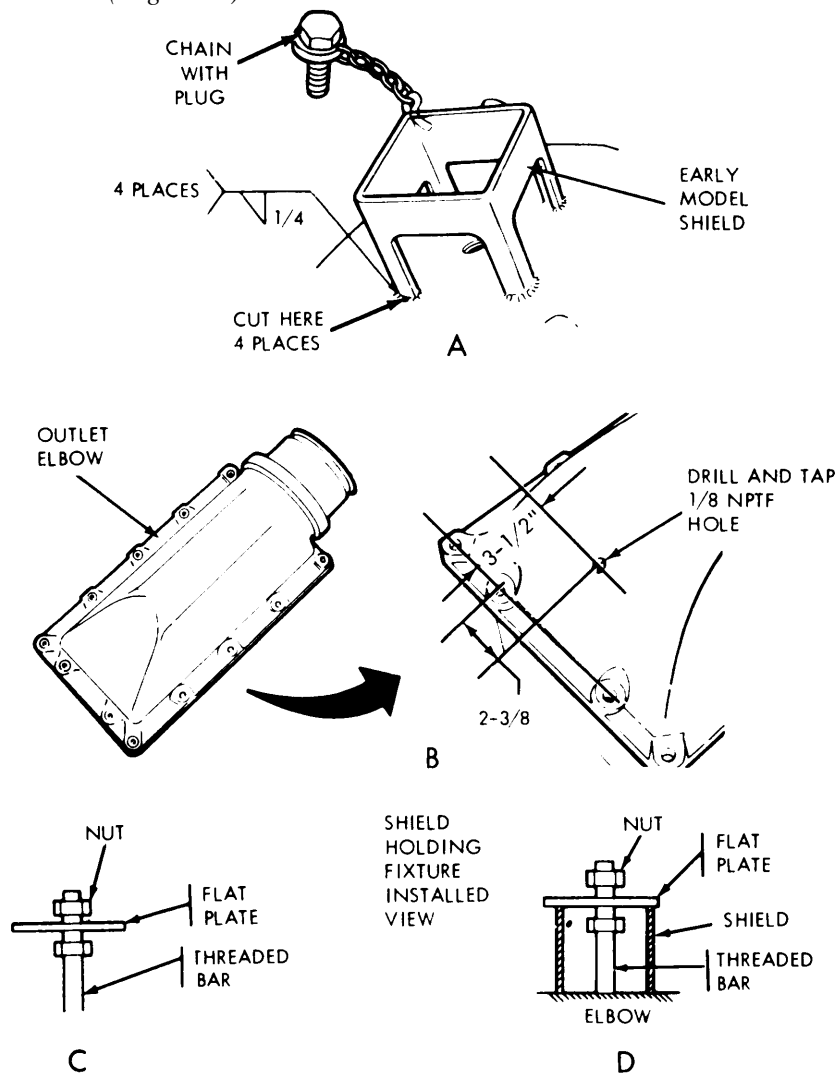
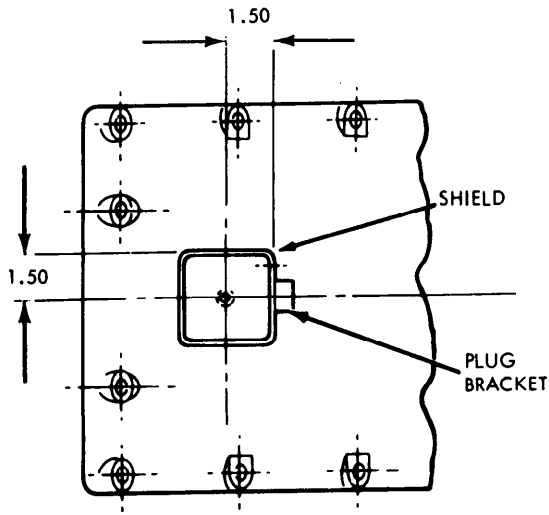
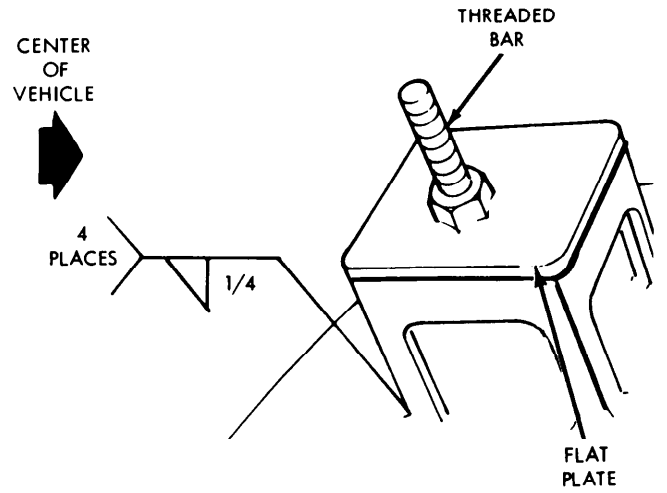


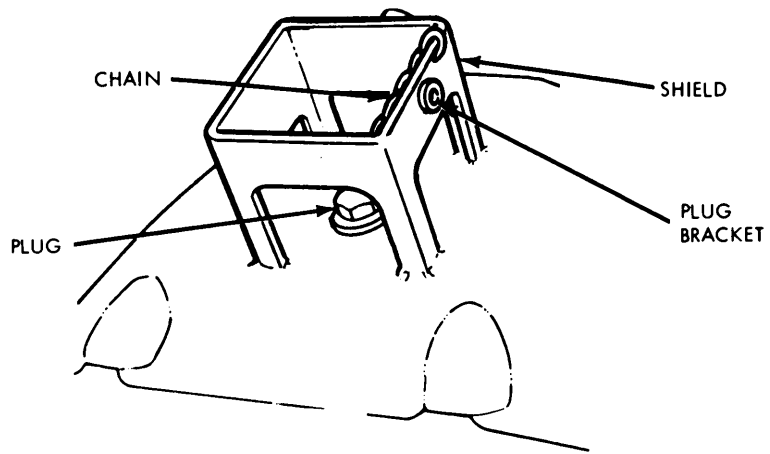
Figure 4-9. Air cleaner filter clog indicator rework (sheet 1 of 2).



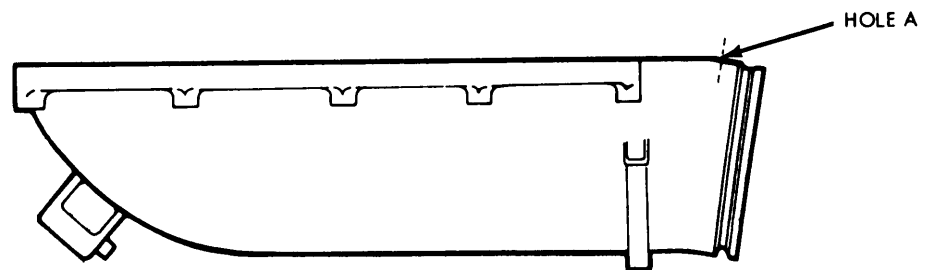
E



F



G



H

Figure 4-9. Air cleaner filter clog indicator rework (sheet 2 of 2).

- (a) Remove air cleaner filter element (para. 3-2).
- (b) Seal elbow outlet with clean rags and close access door.

**NOTE**

If vehicle is not equipped with a filter clog indicator and shield, go to step (g). If the vehicle is equipped with early model restriction indicator and shield, go to step (c).

- (c) Remove restriction indicator (TM-20).
- (d) Using a hacksaw, cut shield from elbow at four joining places (view A).
- (e) Remove chain with plug.

**NOTE**

Retain chain and plug for installation on late model shield.

- (f) Go to step (g).
- (g) Using a scribe and 6 inch steel rule, inscribe lines as shown (view B).
- (h) Using a center punch and ball peen hammer, punch center of two lines.

**NOTE**

Use cutting oil when drilling.

- (i) Using 1/8 inch drill bit, drill pilot hole.
- (j) Using "R" drill bit, drill through outlet elbow.

**NOTE**

Use cutting oil to reduce thread spalling and top breakage.

- (k) Using 1/8 - 27 NPTF tap, thread hole.
- (l) Using rags and dry cleaning solvent, clean oil from surface.
- (m) Go to step (n).
- (n) Assemble shield holding fixture (view C).
- (o) Position shield and holding fixture (view D) on elbow so that shield is centered over hole and bracket points toward the center of vehicle (view E).
- (p) Using a 1/2 inch box or open end wrench, tighten down nut on threaded bar so flat plate will hold shield in place (view F).
- (q) Using arc welding machine with welding electrode, weld shield in place in accordance with TM 9-237.
- (r) Remove shield holding fixture.
- (s) Install plug in elbow hole and crimp chain to hole in shield (view G).



- (t) Line out or X out elbow part number.
- (u) Using hand driven metal stamping die set and hammer:
  - 1. Apply part number 12304178-1 (LT) to elbows with hole A (view H).
  - 2. Elbows with hole A apply part number 12304178-2 (RT).
- (v) Using primer, paint all bare metal areas.
- (w) Using enamel, paint over primed areas.
- (x) Remove plug from tapped hole and install into plug bracket (View G).
- (y) Install filter clog indicator.

**NOTE**

If late model filter clog indicator is not available, install early model restriction indicator.

- (z) Install filter element (para 3-2a).

**4-5. Armored Air Cleaner Mounting Bolt Replacement**

*a. General.*

Recent field reports indicate the 3/8 inch mounting bolts for the armored air cleaner are shearing off, causing unscheduled maintenance and vehicle deadlining. To correct this problem, a 5/8 inch mounting bolt is being released for installation in the field. This procedure is applicable to both the left and right armored air cleaners and provides instructions to the field to accomplish removal of the 3/8 inch mounting bolts and installation of 5/8 inch mounting bolts.

*b. Replacement Procedures (Fig. 4-10).*

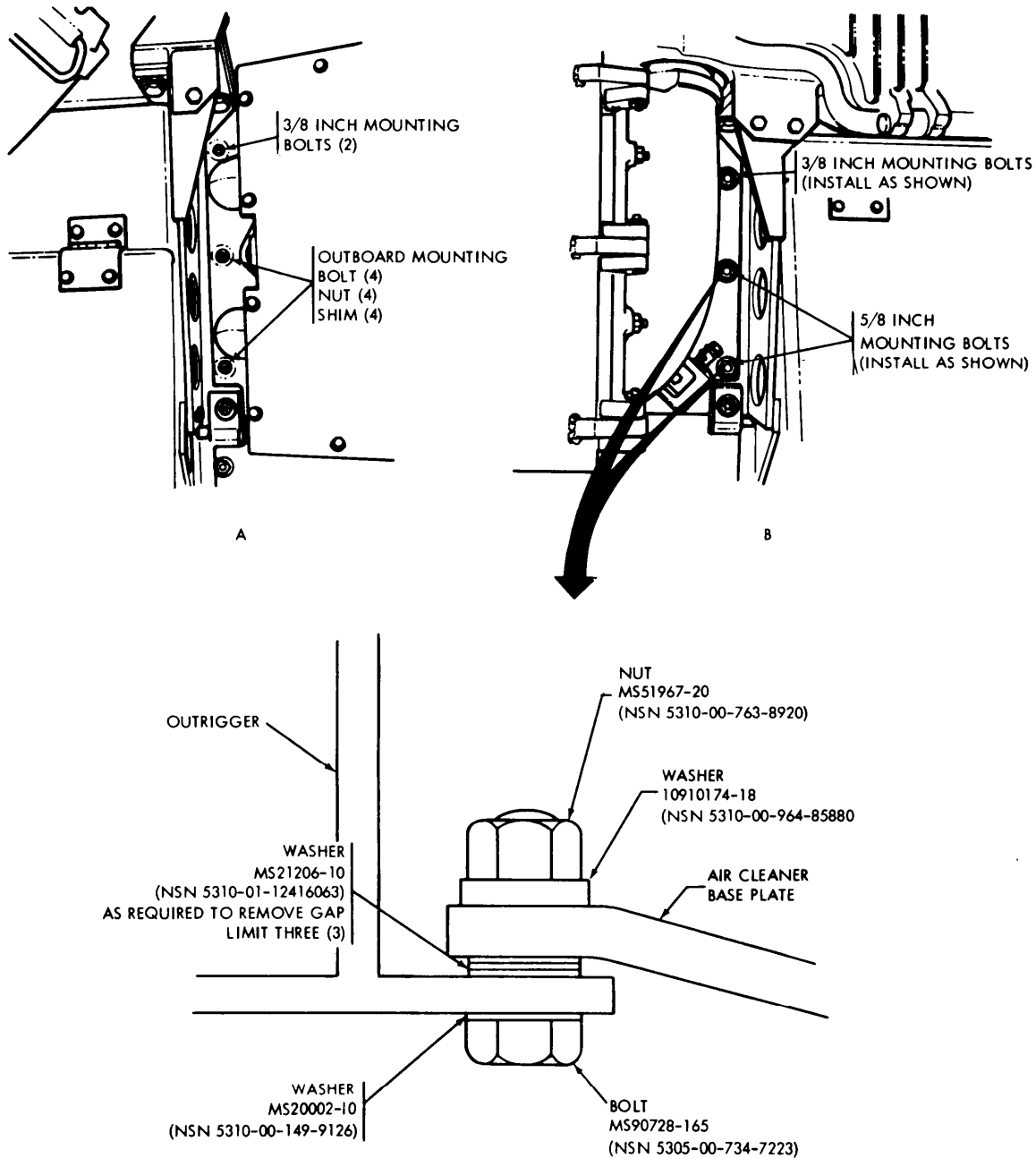


Figure 4-10. Armored air cleaner mounting bolt replacement.

## (1) Tools Required.

(a) Drill Motor 1/2"	5130-00-889-9000
(b) Drill Bit 3/8"	5133-00-227-9666
(c) Drill Bit 5/8"	5133-00-228-1327

## (2) Supplies Required.

(a) Bolt	MS90728-165	5305-00-724-7223	8 required
(b) Nut	MS51967-20	5310-00-763-8920	8 required
(c) Washer	10910174-18	5310-00-964-8588	8 required
(d) Washer	MS21206-10 or MS20002-10 (substitute)	5310-00-149-9126	32 required
(e) Locking Compound Grade L, Type 1	MIL-S-46163	8030-00-148-9833	
(f) Primer Grade F	MIL-S-46163	8030-00-900-2373	

## (3) Procedure.

- (a) Disconnect battery ground cables (TM-20).
- (b) Remove and discard four outboard 3/8 inch armor air cleaner housing mounting bolts, nuts and shims (view A).
- (c) Loosen remaining two 3/8 inch armor air cleaner mounting bolts.
- (d) Loosen fender extension located outboard of air cleaner housing.
- (e) Make sure air cleaner four mounting holes are centered over four outrigger holes. Carefully shift air cleaner as required.
- (f) Tighten two 3/8 inch mounting bolts to secure air cleaner housing in place during drilling operation.
- (g) Drill out four outboard holes in the two outriggers using the following procedure:
  1. With a 1/2 inch drill motor and a 3/8 inch drill bit, drill out four outrigger threaded 3/8 inch holes.
  2. Using 3/8 inch hole as a pilot and a 5/8 inch drill bit, drill a 5/8 inch hole through outboard holes.
  3. Remove burrs as each hole is drilled.

- (h) After each hole is drilled, install bolt, washer and nut to insure air cleaner does not shift during subsequent drilling operation (view B).
- (i) After drilling all four 5/8 inch holes, loosen all mounting bolts and check for gap between air cleaner base plate and outriggers. If a gap exists, use washers (maximum of three per bolt) to shim gap lighten 5/8 inch mounting.
- (j) Apply primer, NSN 8030-00-900-2373 and locking compound, NSN 8030-00-148-9833, to bolt threads and nuts.
- (k) Tighten 5/8 inch bolts to 85-95 lb-ft (115-129) and 3/8 inch bolts to 22-30 lb-ft (30-41 N-m).
- (l) Tighten fender extension mounting bolts.
- (m) Connect battery ground cables (TM-20).

**4-6. V-Band Clamps (Fig. 4-11)**

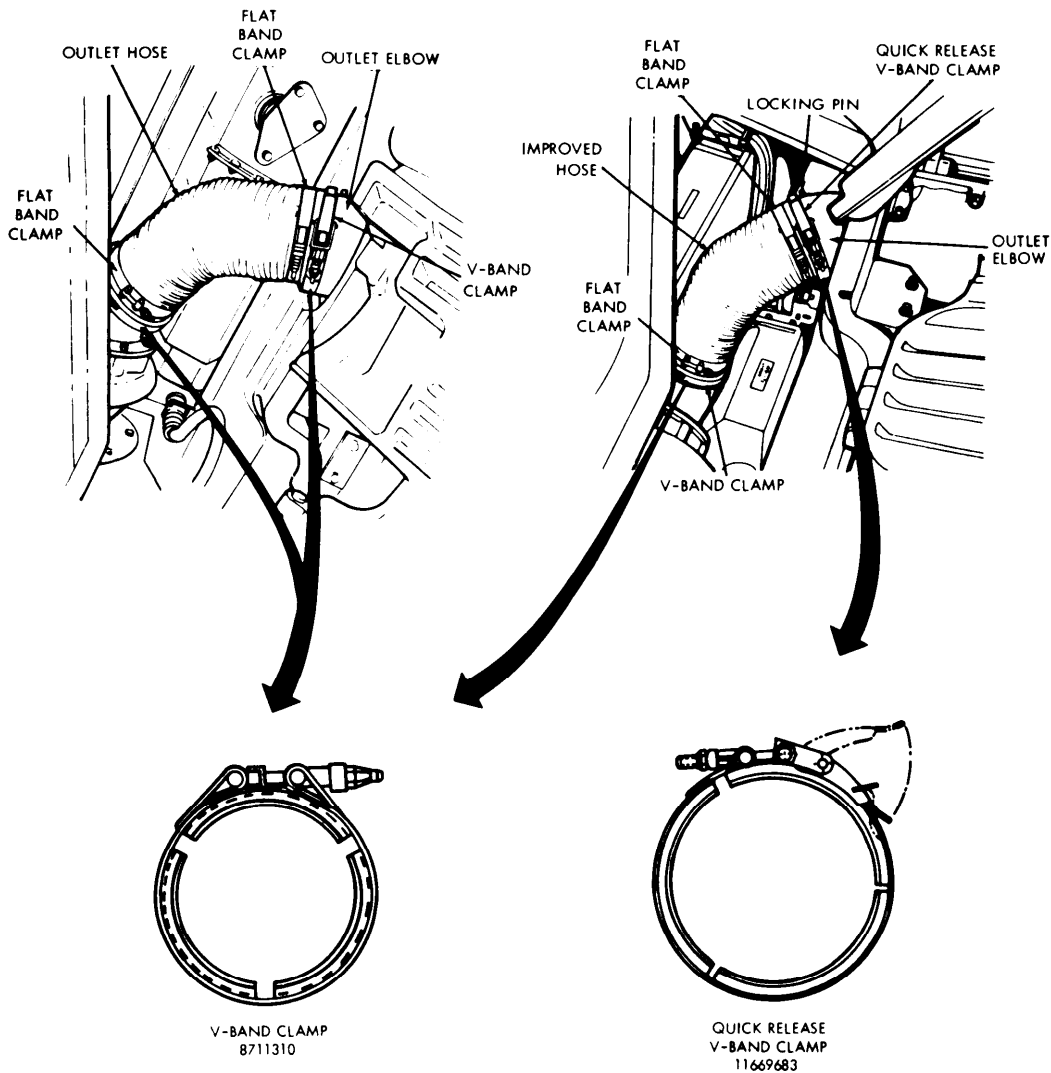


Figure 4-11. V-band clamps.

a. *General.*

Field reports indicate that finger band clamp tips and fingers have a tendency to bend. This creates a loose fitting between the elbow and hose and allows dirt and dust to enter the engine. Late model replacement clamps are available that have been proven to provide a better seal between the elbow and hose.

b. *Description.*

Two type of quick release clamps are being used.

(1) V-band clamps can be used at either end of the outlet.

(2) Quick-release V-band clamp can only be used with the improved hose at the air cleaner outlet elbow.

**4-7. Inlet and Outlet Elbow Torquing Sequence (Fig. 4-12)**

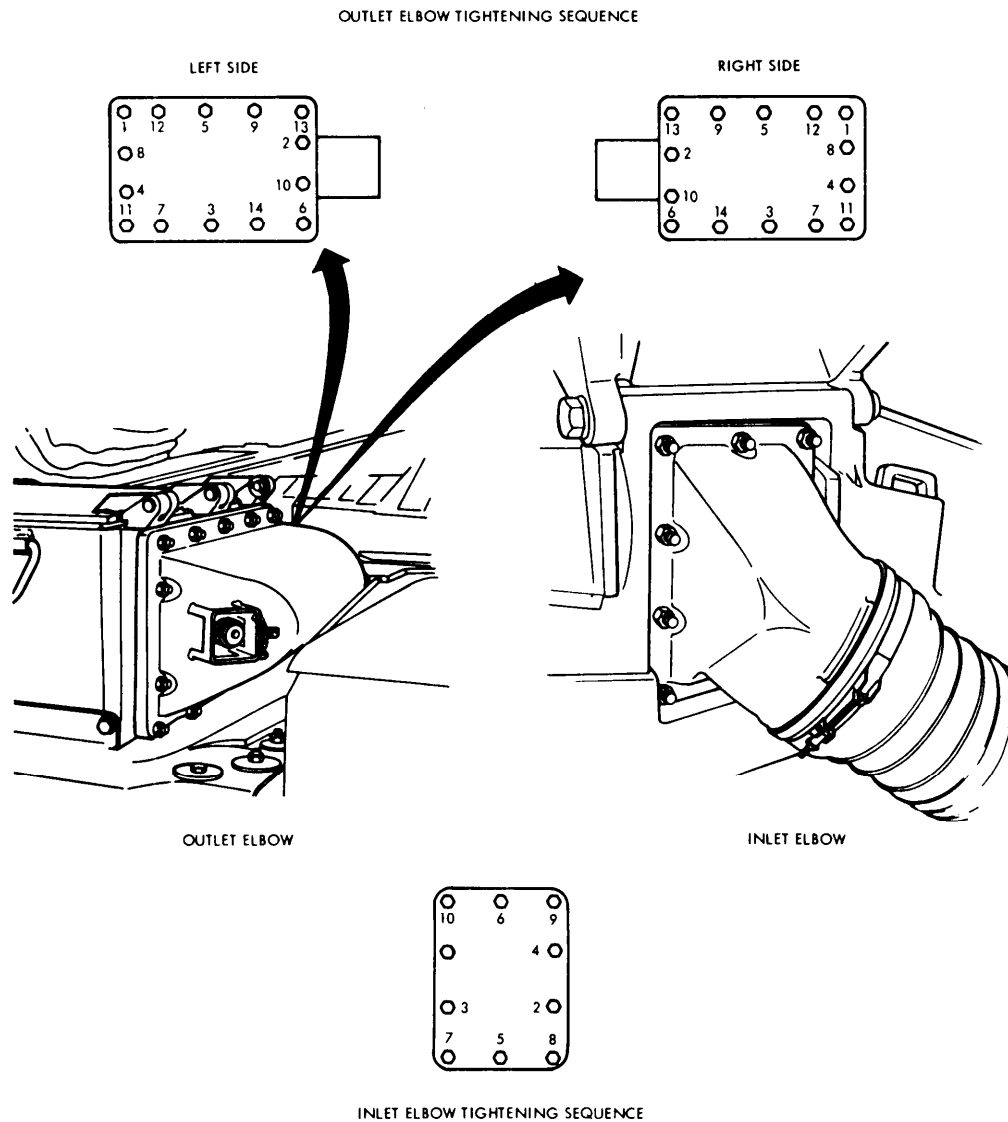


Figure 4-12. Inlet and outlet elbow torquing sequence.

a. *General.*

The nuts securing the inlet or outlet elbow of the air cleaner may loosen thus allowing dust to be drawn into the engine. Check that the securing nuts are properly tightened according to the following procedures.

b. *Torquing Procedures.*

(1) Tools required.

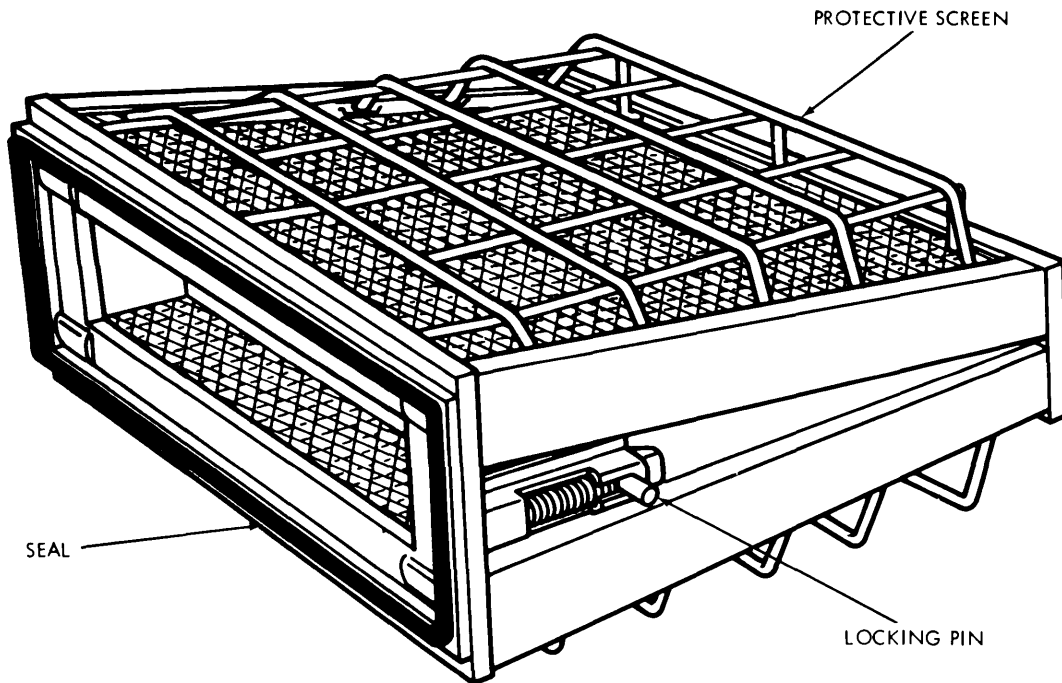
- (a) 9/16 inch socket, 1/2 inch drive
- (b) 6 in. socket extension, 1/2 inch drive
- (c) Torque wrench, 1/2 inch drive, 0-175 ft-lb

(2) Whenever the air cleaner is serviced or replaced, check that the elbow securing nuts are properly tightened.

**NOTE**

On the M60 series tank, the nuts in positions and 2 of the outlet elbow cannot be tightened if the air cleaner is mounted on the tank. Be sure to tighten all nuts whenever the air cleaner is removed.

**4-8. Spring Loaded Air Cleaner Filter Element (Fig. 4-13)**



*Figure 4-13. Spring-loaded air cleaner filter element.*

An improved spring-loaded filter element is available that has increased dust capacity. This greater dust capacity provides greater mileage between cleanings. It also provides a more positive seal, through the use of spring loaded locking pins, that reduces the possibility of dust ingestion.

**4-9. Powerpack Ground Hop Filter (Fig. 4-14).***a. General.*

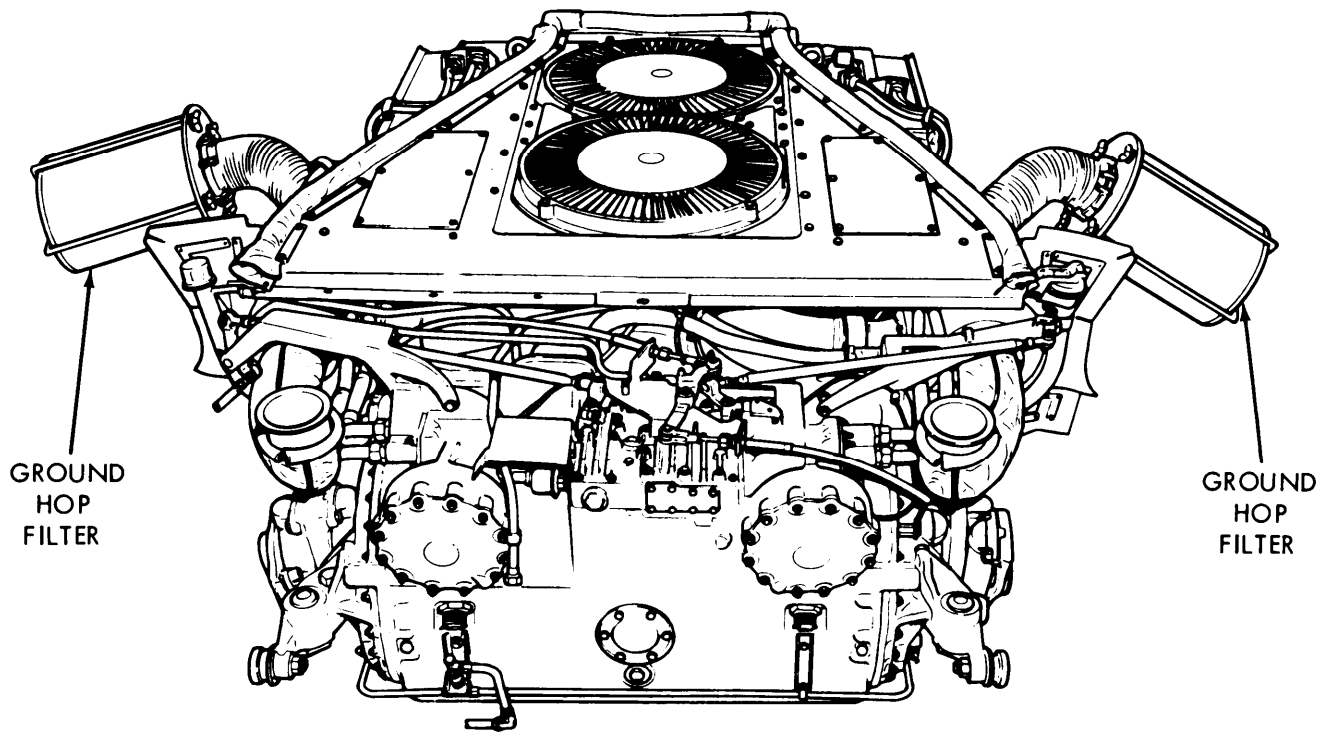
Ground hop filters must be installed during ground hop operations to prevent dust and dirt ingestion. Ground hop filters are available in the ground hop kit 12304135, NSN 2590-01-128-0097 (Table 4-2). If the kit is not available, the filter must be fabricated (para. C).

*b. Powerpack Ground Hop Kit Components.*

Table 4-2 lists the components of the powerpack ground hop kit.

**Table 4-2. Powerpack Ground Hop Kit**

Nomenclature	Part No.	NSN	Qty.
Cable Assembly, Generator	8366463	4910-00-092-9131	1
Cable Assembly, Access	10864166	2590-00-674-8736	1
Cable Assembly, Stanter	10864169	2590-00-674-8737	1
Cable Assembly, Ground	10864170	2590-00-674-8738	1
Tool, Brake, Applicator	10933755	5120-00-570-7486	2
Hose Assembly, Primer	11591102	5130-00-891-7865	1
Hose Assembly, Fuel	11591103	5130-00-891-7864	2
Cable Assembly, Alt	11674344	6150-00-628-1160	1
Hose Assembly, Air	12271067	4720-01-121-1542	2
Ground Hop Filter Assembly	12270979	2940-01-121-1221	2
Bag, Duff, TYPE	M11-B-829		2
Clamp Hose	1669683	4730-01-132-9086	2
Clamp Assembly	8711310	5340-00-678-6178	2



*Figure 4-14. Ground hop filters.*



c. Ground Hop Filter Fabrication (Fig. 4-15).

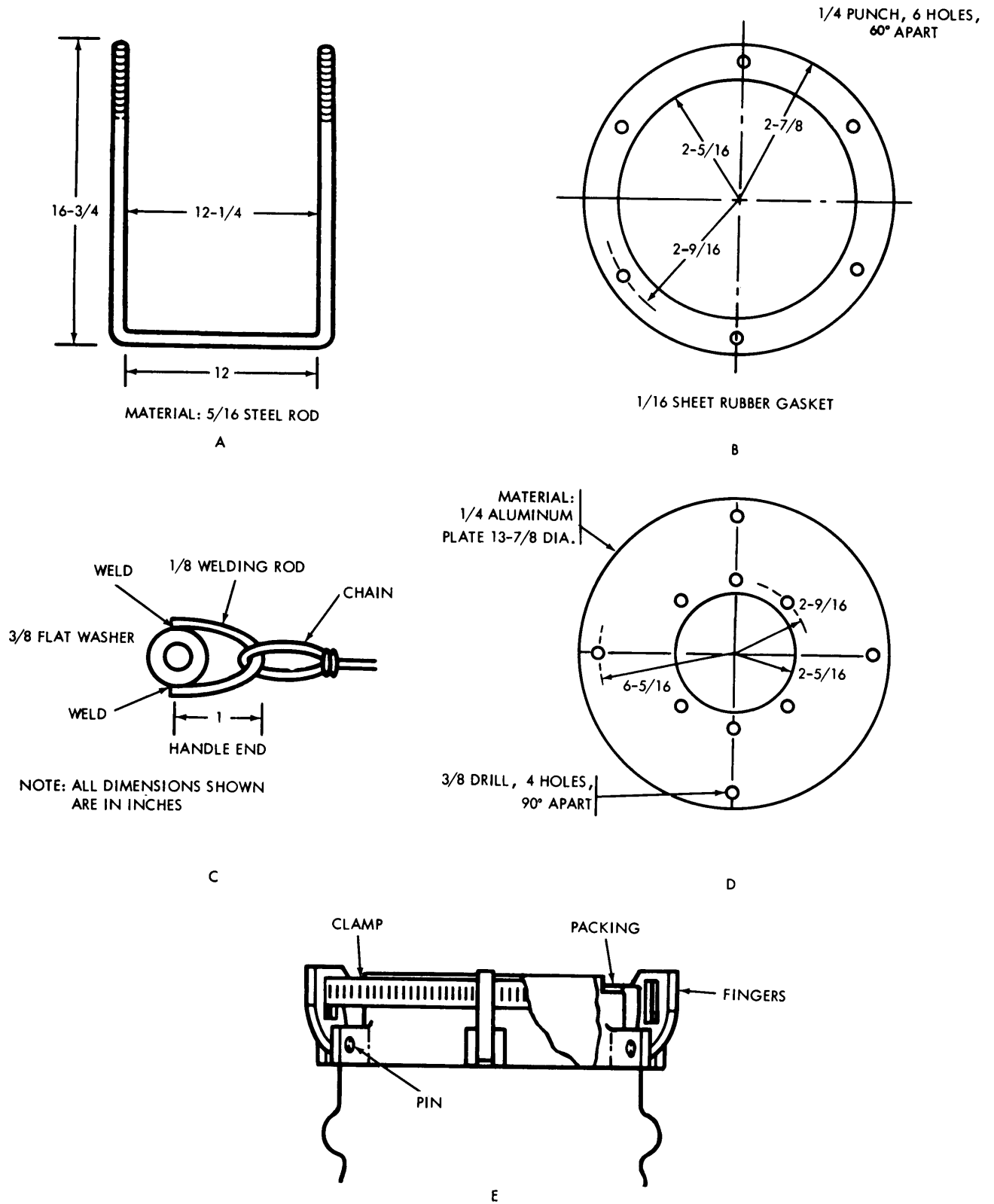


Figure 4-15. Ground hop filter fabrication (sheet 1 of 2).

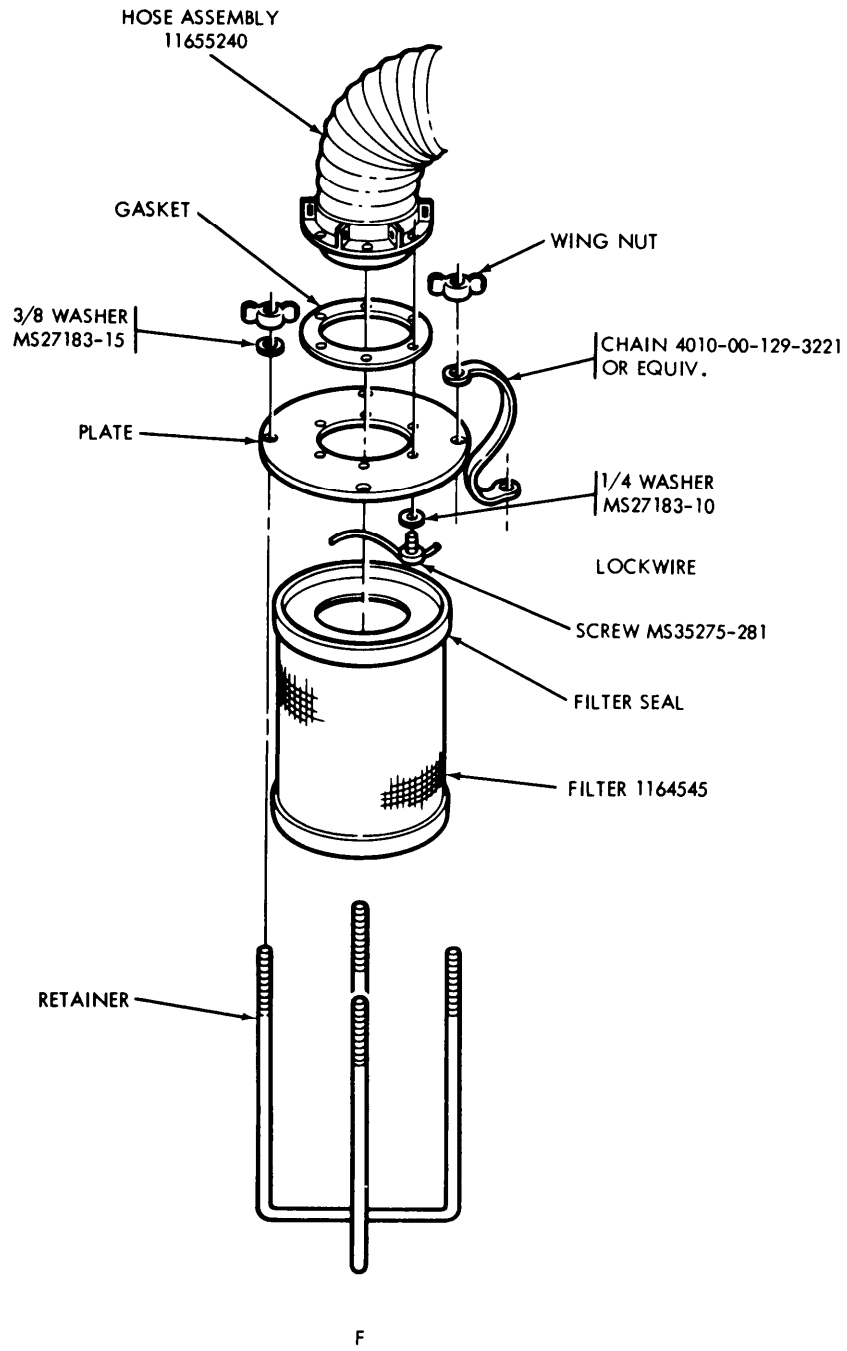


Figure 4-15. Ground hop filter fabrication (sheet 2 of 2).

- (1) Parts Required. Table 4-3 lists the parts required to fabricate the ground hop filter.

**Table 4-3. Ground Hop Filter Parts**

Nomenclature	Part No.	NSN	Qty
Filter element	11604545	2940-00-134-4657	2
Hose assembly (on engine)	11655240	4720-00-614-8390	2
1/4" thick x 13-7/8" dia. aluminum plate			2
5/16" dia. x 45-1/2" long cold rolled steel rod			4
1/16" thick x 5-3/4" dia. rubber sheet			2
3/8" washer, plain	MS27183-15	5310-00-809-4061	12
Chain (11 inches)		4010-00-129-3881	2
1/4" 20 x 3/4 screws	MS35275-281	5305-00-939-9147	12
1/4" washer, plain	MS27183-10	5310-00-809-4058	12
5/16" 18 wing nut	MS35425-39	5310-00-080-8495	8
1/8" welding rod			As Req'd

- (2) Retainer (4 required). Fabricate as follows:

- (a) Using steel rod, bend to dimensions (view A).
- (b) Using 5/16-18 die, thread each rod end a minimum of 2 inches.

- (3) Gasket (2 required). Using 1/16 rubber sheet, fabricate gaskets as described in view B.

- (4) Handle (2 required). Using length of chain welding rod and washer, fabricate chain end as follows:

- (a) Bend 1/8 inch welding rod to shap (view C).
- (b) Weld rod to edge of washer on one side.
- (c) Install chain.

- (d) Weld rod to edge of washer on other side.
- (e) Repeat steps (a) through (d) above for other end of chain.
- (5) Plate. Using aluminum plate, fabricate plate as follows:
  - (a) Cutout aluminum plate and lay out holes (view D).
  - (b) Cutout center hole.
  - (c) Position modified end of hose assembly in center of plate.
  - (d) Use a 13/64 inch drill to bore six holes through plate and positioned hose assembly.
  - (e) Remove hose assembly and tap the newly drilled holes in hose assembly using a 1/4-20 UNC tap.
  - (f) Enlarge six drilled holes in aluminum plate to 17/64 inch diameter.
  - (g) Drill four holes 3/8 inch diameter.
- (6) Hose Assembly Modification.

Modify hose assembly as follows:

**NOTE**

Remove parts from one end of hose assembly only.

- (a) Remove band clamp from end of hose assembly (view E).
  - (b) Use punch to remove six (6) cold rolled pins.
  - (c) Remove clamp fingers.
  - (d) Remove preformed packing.
- (7) Assembly.

Assemble the ground hop filter as follows:

- (a) Attach modified hose assembly to plate using rubber gasket, six 1/4-20 screws and six flat washers.
- (b) Lockwire six screws.

**WARNING**

Screws must be lockwired to prevent loosening. Loose screws could fall out and be drawn into the turbocharger, causing damage to equipment and injury to personnel.

- (c) Center seal end of filter against aluminum plate.

- (d) Insert one retainer into opposite holes in aluminum plate so that retainer will hold filter assembly in place against plate.
  - (e) Install washer (MS27183-15) and wing nut on threaded ends of retainer. Place one end of chain handle assembly and wing nut on other threaded end of retainer.
  - (f) Repeat steps (d) and (e) to install second retainer.
  - (g) Tighten wing nuts evenly until filter seal is uniformly compressed along entire circumference.
- (8) Installation of Ground Hop Filter.

**NOTE**

Prior to removal of air cleaner-to-turbosupercharger hose assembly, mark it with chalk or grease pencil. This will index the hose for easy installation and ensure proper alinement.

- (a) Remove air cleaner-to-turbosupercharger hose assembly from engine.
- (b) Install filter on turbosupercharger elbow.

**NOTE**

Engine intake openings must be plugged or taped when filter units are not attached.

- (9) Maintenance of Ground Hop Filter.
- (a) Inspect filter unit prior to use. Clean filter element as necessary. Never ground hop using a dirty filter.
  - (b) Keep modified hose assembly on ground hop air filter plugged when unit is not in use to prevent dirt from entering clean air inside of filter unit.
  - (c) Remove unit when ground hopping operations are discontinued to prevent filter from being exposed to elements.

- (10) Stowage. Upon completion of ground operations, perform the following:

- (a) Clean ground hop filter:

**WARNING**

Compressed air used for cleaning purposes must not exceed 90 psi. Use only with effective chip guarding and personal protective equipment (goggles/shield, gloves, etc.).

1. Direct compressed air (not to exceed 90psi) against inside of filter element.
2. Place each filter in duffel bag with flat end facing duffel bag bottom.
3. Place each air hose, with clamps into duffel bag on top filter. Close duffel bag using snap fastener.

**4-10. Aluminum Side or Top Loading Air Cleaner Replacement**

*a. General.*

When an aluminum air cleaner becomes unserviceable, it should be replaced with the armored air cleaner. Currently, the M60 series tanks may be furnished with one of the following listed air cleaners:

Aluminum Side Loading Air Cleaners (ALSLAC)

- P/N 10863539- (Left) earlier model
- P/N 10863540- (Right) earlier model
- P/N 10940233-1, NSN 2940-00-067-7922- (Left)
- P/N 10940233-2, NSN 2940-00-067-7926- (Right)

Aluminum Top Loading Air Cleaner (ALTLAC)

- P/N 11655320-1, NSN 2940-00-621-1427- (Left)
- P/N 11655320-2, NSN 2940-00-621-1428- (Right)
- P/N 11675951-1, NSN 2940-00-455-2427- (Left)
- P/N 11675951-2, NSN 2940-00-455-2511- (Right)

**NOTE**

Only DS/GS personnel are authorized to accomplish the air cleaner replacement.

*b. Parts Required.*

When the aluminum side or top loading air cleaners are being replaced with the armored top loading air cleaners, hardware kits 12290568 and 12290570 are required. The armored air cleaner assembly is not part of these kits and must be requisitioned separately. When replacing aluminum side loading air cleaners with armored top loading air cleaners, the existing fender extensions are not used and must be replaced with new fender extensions. These fender extensions are not part of the armored air cleaner kits and must be requisitioned separately. Fender extensions required are:

- Left Fender Extension - NSN 2510-00-455-1351, P/N 11659711-1
- Right Fender Extension - NSN 2510-00-455-1352, P/N 11659711-2

*c. Tools Required.*

3/8-16 UNC-2B Tap	5136-00-276-1032
Sander Disk	5130-00-857-8526
Torch Outfit	3433-00-357-8116
Welder, Arc	3431-00-903-5647
Drill 5/16	5133-00-227-9662

*d. Procedures.*

Replace aluminum air cleaner as follows:

- (1) Remove aluminum air cleaner (TM20-1)

- (2) Remove No. 3 and No. 4 outriggers as follows:

**NOTE**

Perform steps (a) thru (f) to both left and right sides of tank.

- (a) Remove two bolts MS35673-838 or MS35764-838 or MS35763-31, bolt MS35763-32 and flat washer MS27183-17 securing outer support bracket 11655113-1 (Lt) or 8762504 (Lt) or 11655113-2 (Rt) or 8762503 (Rt) to outrigger number 3 (fig. 4-16, View A). Remove and retain outer support bracket.

**NOTE**

Some outer support brackets 8762504 (Lt) and 8762503 (Rt) removed from left and right outrigger number 3 may need to be reworked to fit the new outrigger supplied in kit. If the outer support brackets removed in step (a) above measured 5-1/2 inches high as shown in figure 4-17 and the distance between the centers of the two 3/8 inch tapped holes in 3 inches as shown in figure 4-17 then these outer support brackets must be reworked according to figure 4-18. The rework will require trimming 1 inch off the top of the bracket and drilling and tapping one new 3/8-16 UNC-2B hole as shown in figure 4-18.

- (b) Remove screw MS90725-112 and nut MS51922-33 securing outrigger number 3 to inner support bracket (fig. 4-16, view A).
- (c) Remove four screws MS90725-183 and lockwashers MS35338-51 securing outrigger number 3 to inner support bracket and remove and discard outrigger 11655110-1 (lt) or 8762417 (lt) or 11655110-2 (rt) (fg. 4-16, view A).
- (d) Remove two bolts MS35763-838 or MS35764-838 or MS35763-31, bolt MS35763-32 and flat washer MS27183-17 securing outer support bracket 8762503 (lt) or 8762504 (rt) to outrigger number 4. Remove and retain outer support bracket (fig. 4-16, view B).

**NOTE**

Do not rework outer support brackets removed from left and right outrigger number 4.

- (e) Remove two screws MS90725-112 and nuts MS51922-33, securing outrigger number 4 to inner support bracket (Fig. 4-16, View B).
- (f) Remove four screws MS90725-183 and lockwashers MS35338-51, securing outrigger number 4 to inner support bracket and remove and discard outrigger 8762387 (Lt) or 8762388 (Rt) (Fig. 4-16, View B).

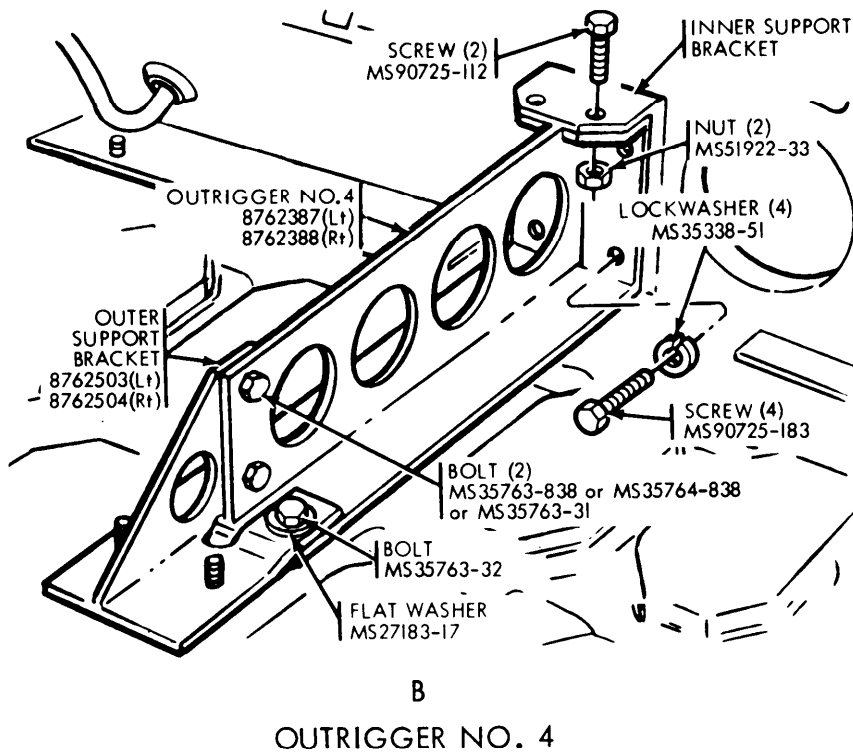
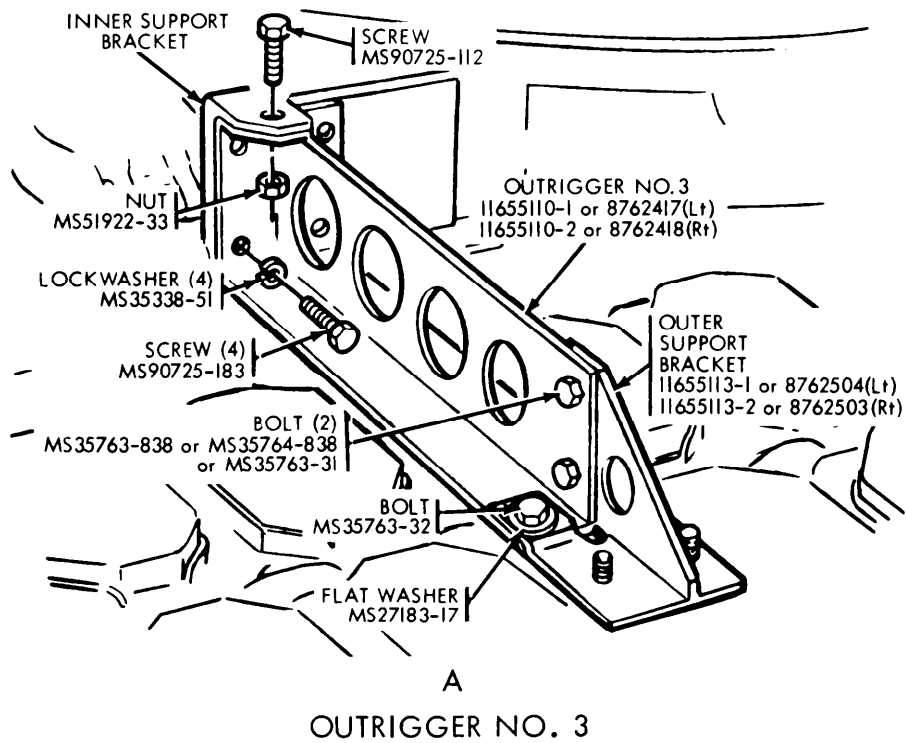
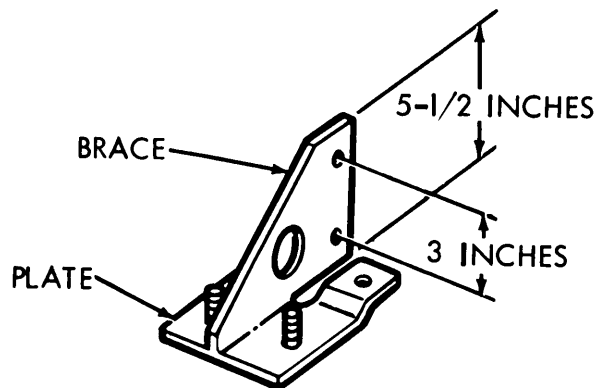
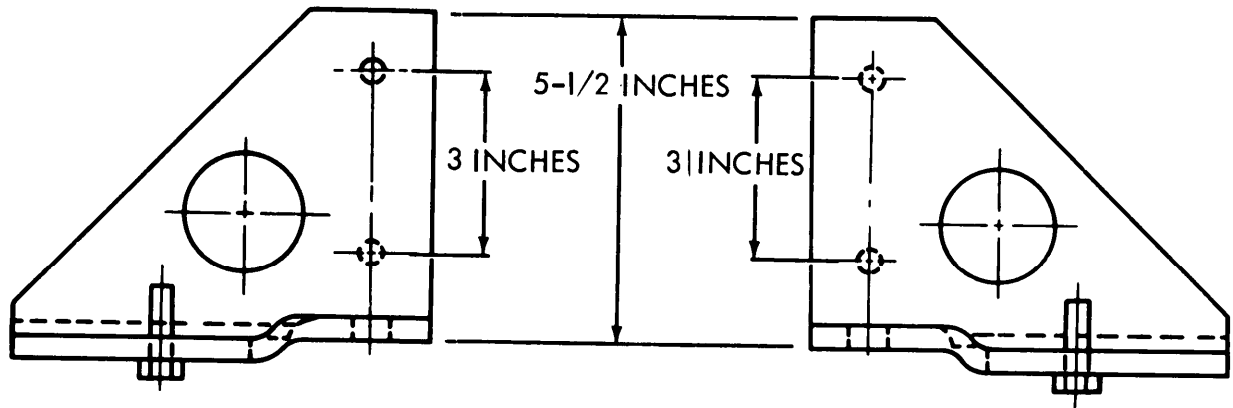
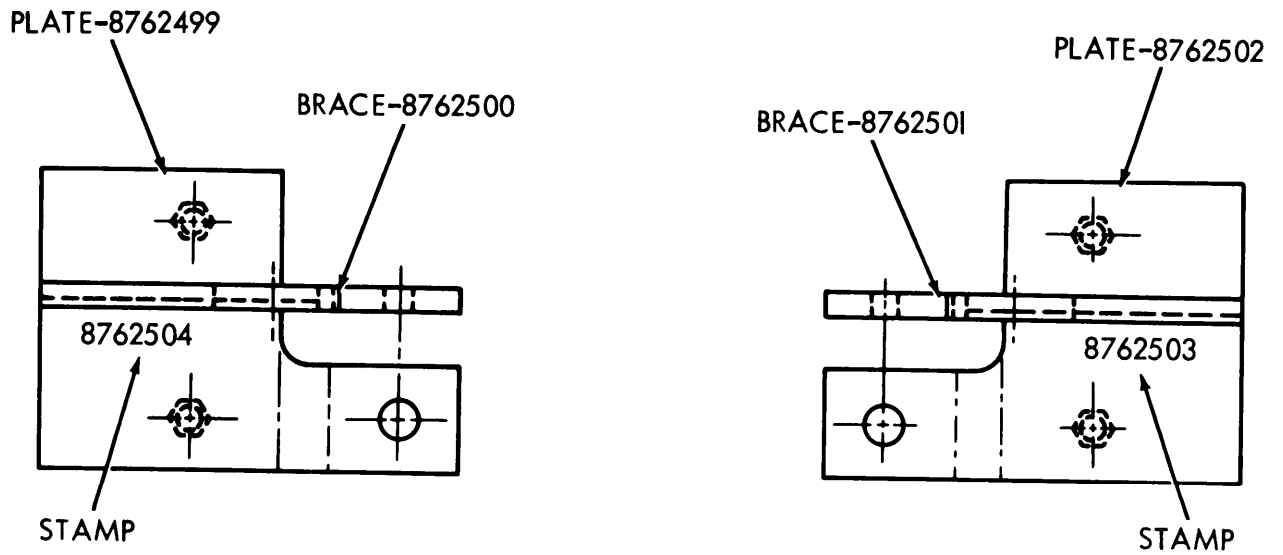


Figure 4-16. No. 3 and No. 4 outrigger removal.





**NOTE**

IF OUTER SUPPORT BRACKETS REMOVED FROM OUTRIGGERS NUMBER 3 MEETS THESE DIMENSIONS, THEN BRACKETS MUST BE REWORKED ACCORDING TO FIGURE 4-18.

Figure 4-17. Outer support bracket measurements.

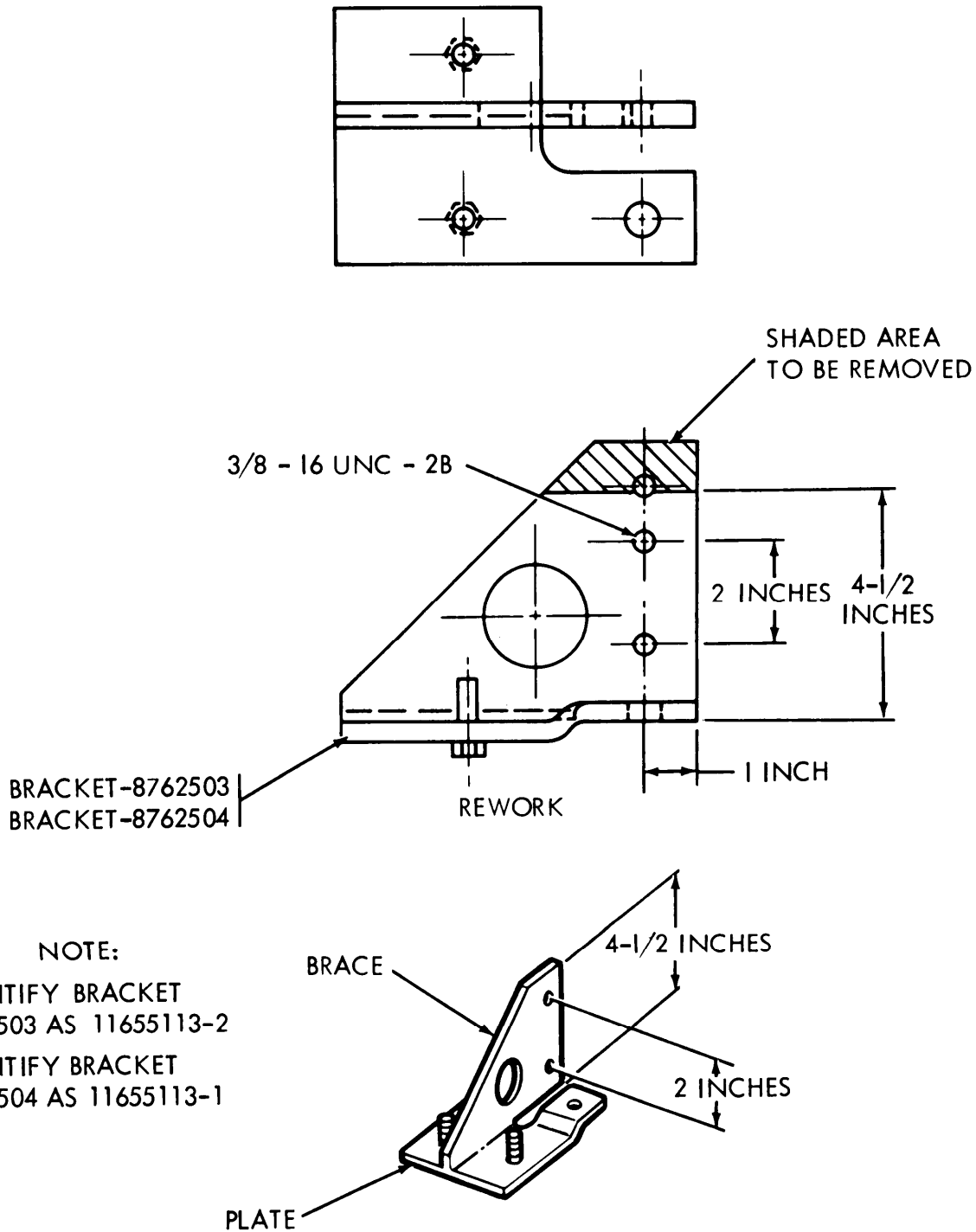


Figure 4-18. Support brackets rework.

- (3) Install outrigger support plate as follows:

**WARNING**

Welding in the vicinity of fuel, oil and hydraulic fluid is dangerous. Place flameproof material between welding area and fuel tanks and surround components with wet rags or canvas to protect against weld spatter. Station a helper in the immediate area with an approved fire extinguisher before beginning welding operations. Failure to adequately protect against fire can cause injury, death or damage to equipment.

**NOTE**

- All welds must be performed to MIL-W-46086 (MR), Method 1. Use austentic electrodes only (308 MOT 16 stainless or equivalent). Refer also to TM 9-237 Welding Theory and Application.
- For left side of tank, proceed as follows:
  - (a) Obtain reinforcement plate 12252268 from kit and weld plate to number 3 outrigger inner support bracket (on left side of tank) and hull as shown in Figure 4-19.
  - (b) Clean, prime, and paint plate and weld area.

**NOTE**

For right side of tank, proceed as follows:

- (c) Using cutting torch, carefully cut the support 8762618 from the hull and grind surface smooth (Figure 4-20).
- (d) Obtain plate 12252276 from kit and trim or shim to obtain a good fit in position shown in figure 4-21. After good fit is obtained, tack weld plate in place. Weld plate flush to hull in areas shown in figure 4-21. Do not weld curved area of plate since of passageway must remain for fuel overflow drainage.
- (e) Clean, prime, and paint plate and weld area.

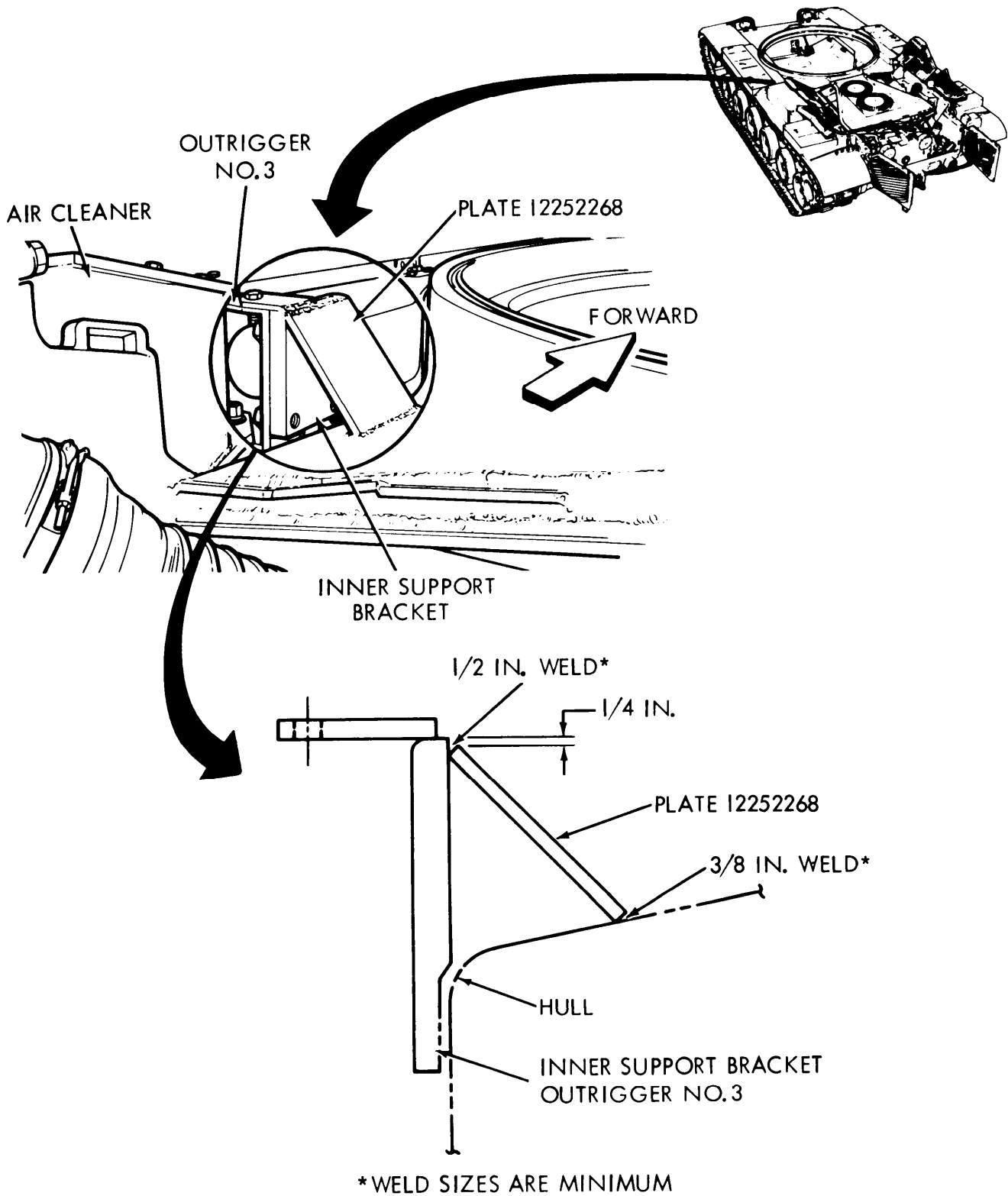


Figure 4-19. Left outrigger support plate installation.

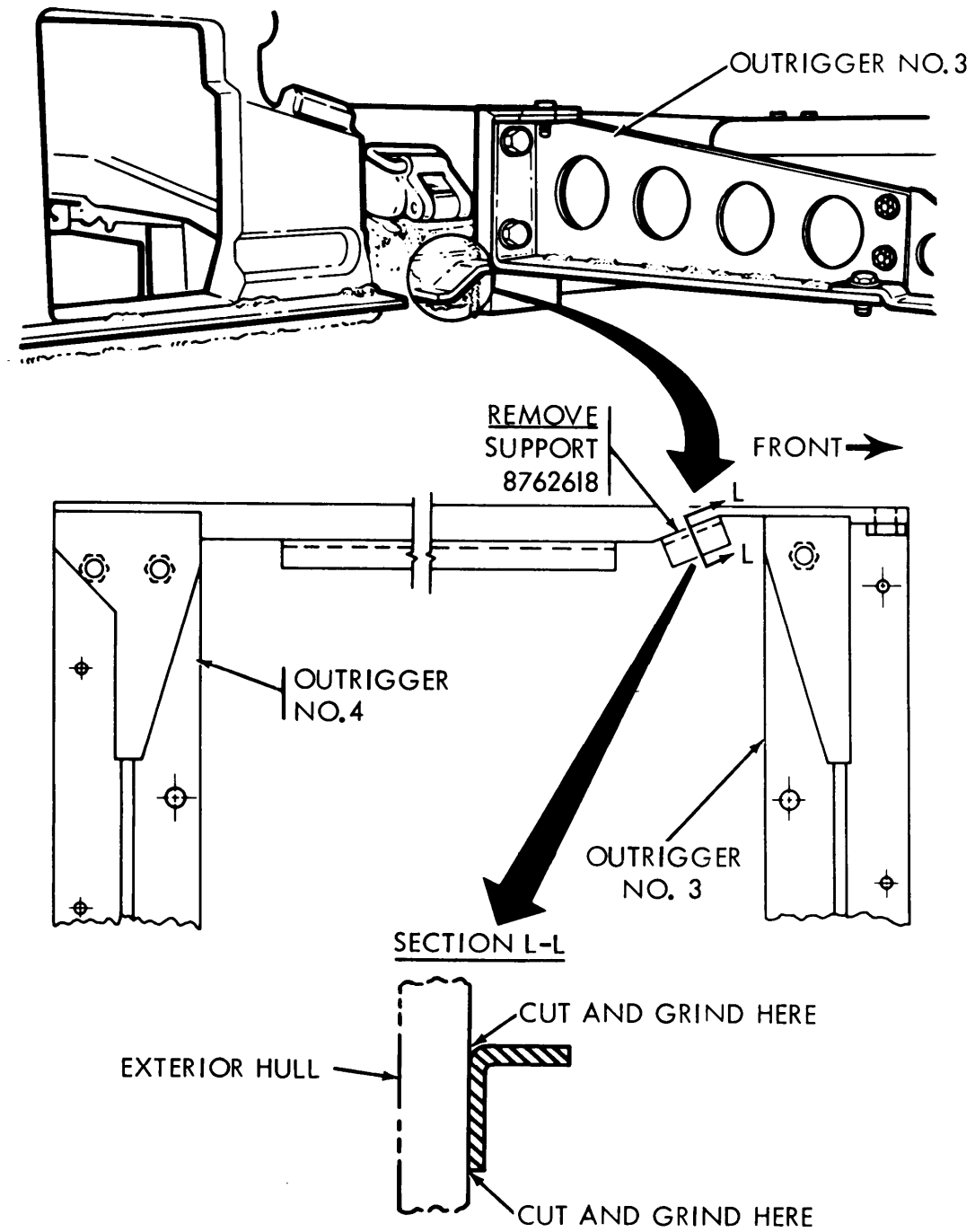


Figure 4-20. Right outrigger support removal.

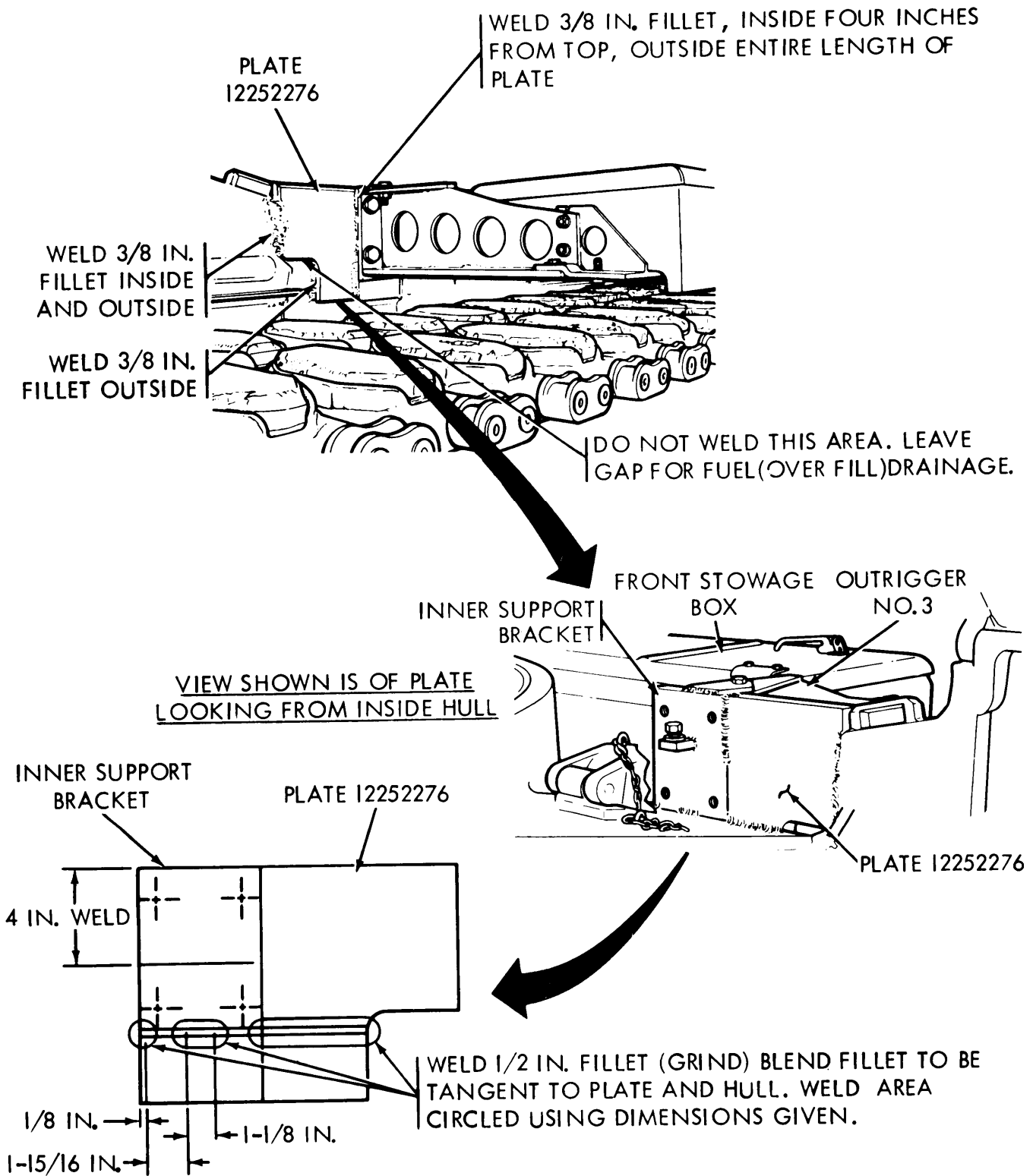
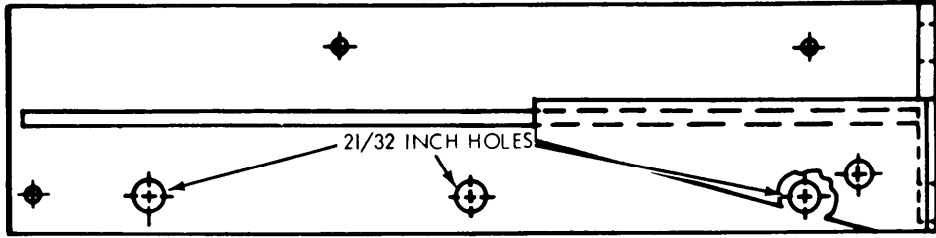


Figure 4-21. Right outrigger support installation.

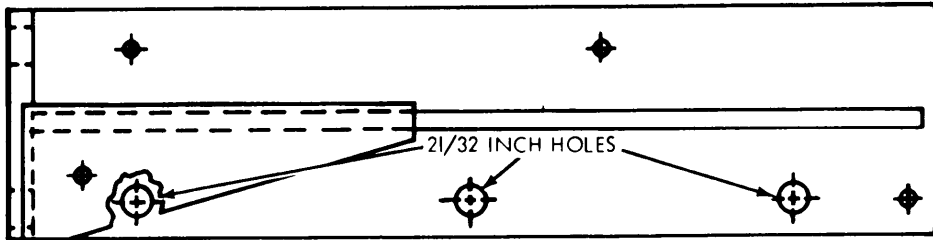
## (4) Install Outriggers No. 3 and No. 4

**NOTE**

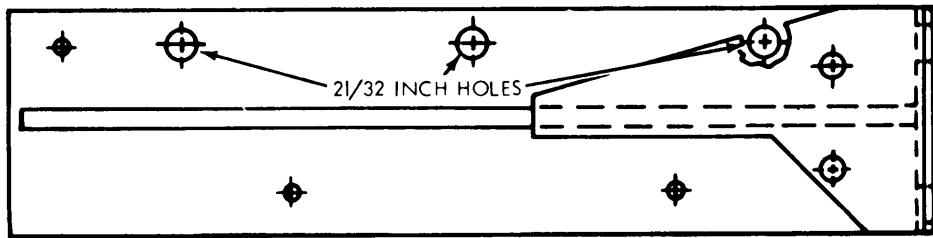
- Check all new outriggers from kit to ensure the holes for air cleaner mounting bolts are drilled to 21/32 inch (.656 inch) in places indicated for each outrigger as shown on figure 4-22. If the holes are to be 21/32 inch are 3/8 inch are 3/8 inch tapped holes, enlarge the three holes on each outrigger to 21/32 inch.
  - Perform steps 1 through 5 to both left and right sides of vehicle.
- (a) Using four new screws MS90725-183 and new lockwashers MS35338-51, install new outrigger 12290526-1 (lt) or 12290526-2 (rt) to number 3 outrigger inner support bracket (fig. 4-23, view A). Torque four screws to 130 lb-ft (172 N·m) lubricated. Secure new outrigger to inner support bracket at top with new screw MS90725-112 and new nut MS51922-33.
- (b) Install outer support bracket 11655113-1 (lt) or 8762504 (lt) or 11655113-2 (lt) or 8762503 (rt) to number 3 outrigger using two new bolts MS35764-1289. Torque to 25 lb-ft (34 N·m) lubricated. Install new bolt MS35764-1291 and new flat washer MS27183-17 attaching outer support bracket to base of outrigger number 3. Torque bolt to 25 lb-ft (34 N·m) lubricated.
- (c) Using four new screws MS90725-183 and new lockwashers MS35338-51, install new outrigger 12290527-1 (lt) or 12290527-2 (rt) to number 4 outrigger inner support bracket (view B). Torque four screws to 130 lb-ft (172 N·m) lubricated. Secure new outrigger to inner support bracket at top with two new screws MS90725-112 and new nuts MS51922-33 (fig, view B).
- (d) Install outer support bracket 8762503 (lt) or 8762504 (rt) to number 4 outrigger using two new bolts MS35764-1289. Torque bolts to 25 lb-ft (34 N·m) lubricated.
- (e) Install new bolt MS35764-1291 and new flat washer MS27183-17 attaching outer support bracket to base of outrigger number 4. Torque bolt to 25 lb-ft (34 N·m) lubricated.



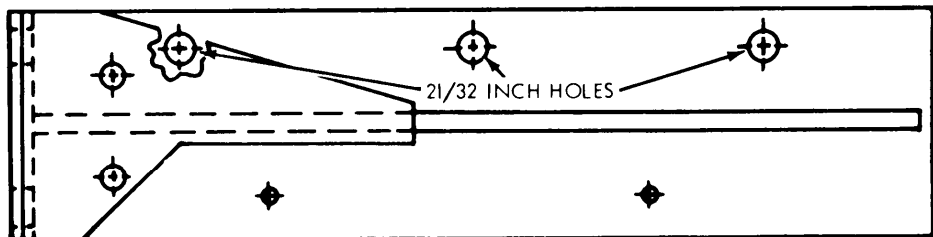
OUTRIGGER NO. 3 (12290526-1) LEFT SIDE



OUTRIGGER NO. 3 (12290526-2) RIGHT SIDE



OUTRIGGER NO. 4 (12290527-1) LEFT SIDE



OUTRIGGER NO. 4 (12290527-2) RIGHT SIDE

Figure 4-22. Outriggers No. 3 and No. 4 21/32 in. hole location.



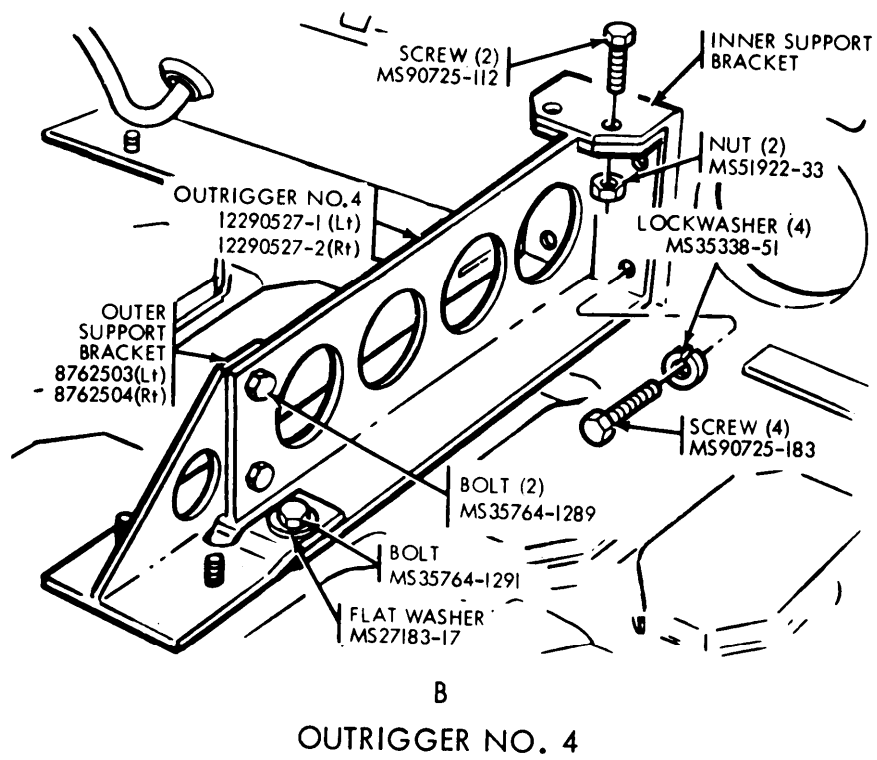
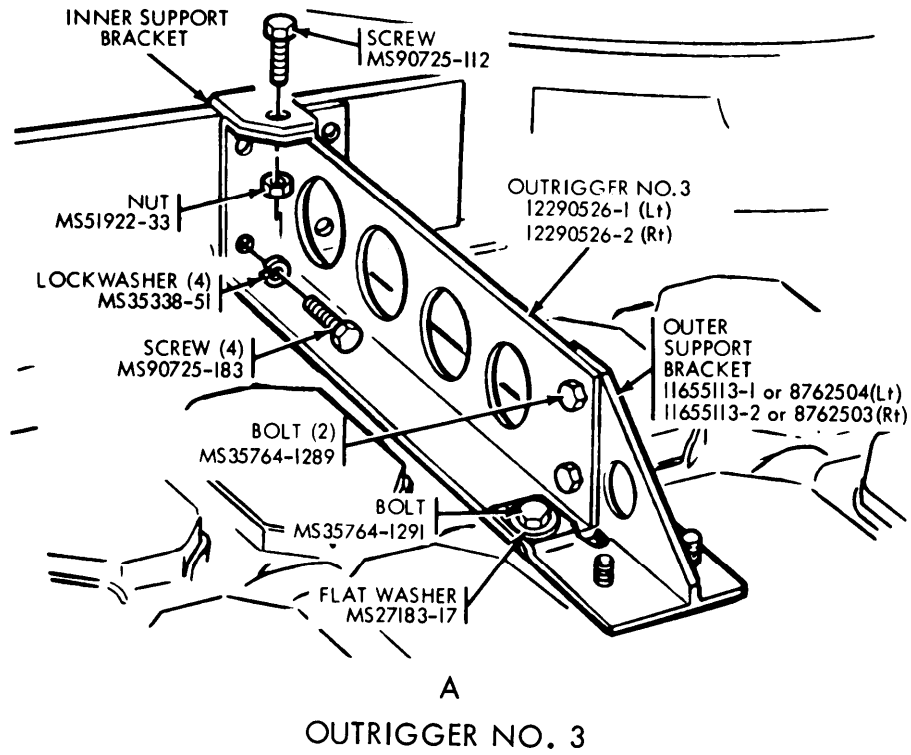


Figure 4-23. No. 3 and No. 4 outrigger installation.

- (5) Install armored air cleaner as follows (fig. 4-24):

**CAUTION**

Armored air cleaner weighs approximately 600 pounds.

**NOTES**

- This procedure is to be used for installation of the armored top loading air cleaner when it is moved from a workbench or skid to its mounting position on tank.
  - Perform steps a thru g to both left and right sides of tank.
- (a) Install new gasket 8762779 and outlet elbow 8762789 (lt) or (rt) or 8762789-1 (rt) on new armored air cleaner (view A). Secure with 14 new locknuts MS21044-N6 following proper tightening sequence (view B) (same for left and right sides). Torque locknuts to 20-25 lb ft (27-34 N-m).
- (b) Install new gasket 8762775 and inlet elbow 10863871 (lt) or 10863874 (rt) on new armored air cleaner (view A). Secure with ten nuts MS21044-N6. Tighten nuts evenly in a cross pattern (view C).
- (c) Attach lifting sling 11658914 to three lifting eyes of armored air cleaner assembly 12251922-1 (lt) or 12231922-2 (rt) (view D).
- (d) Lift and guide air cleaner to vehicle and carefully guide air intake and outlet elbows through hull openings, ensuring that blower motor electrical lead is properly inserted through opening.

**NOTE**

On some tanks it will be difficult to properly position air cleaner on outriggers due to an interference with hull inlet elbow opening. If this occurs, grind away excess metal around hull inlet elbow opening until proper alignment of air cleaner mounting holes and outrigger holes exists.

- (e) Check for gap between air cleaner base plate and the outriggers. If a gap exists between the armored air cleaner base plate and the outriggers, use up to 3 washers MS20002-10 per bolt as shims to eliminate gap (view E).
- (f) Secure air cleaner to outriggers with six new bolts MS90728-165, six new washers MS21206-10, six new washers 10910174-18, and six new nuts MS51967-20 (view E). Before installation, apply primer MIL-S-46163, Grade F, and sealing compound MIL-S-46163 Type 1, Grade L to bolt and nut threads. Use two to three drops of sealing compound per bolt. Torque air cleaner mounting bolts to 195 lb-ft (265 N-m).
- (g) Remove lifting sling 11658914 from armored air cleaner.

**NOTE**

Perform steps h through x to both left and right sides of tank.

- (h) Place fender extension 11659711-1 (lt) or 11659711-2 (rt) in position (view F).
- (i) Secure fender to side of armored air cleaner using four new bolts MS35764-1289 and new flat washers MS27183-14. Before installation apply primer MIL-S-46163, Grade F, and sealing compound MIL-S-46163 Type I, Grade L to bolt threads. Use two to three drops of sealing compound per bolt. Torque the four bolts to 25 lb-ft (34 (N·m) lubricated.
- (j) Secure fender to outer support bracket on outrigger number 3 using new locknut MS51988-7 and new flat washer 11654843.
- (k) Secure fender to outer support bracket on outrigger number 4 and fender reinforcing angle using new locknut MS51988-7, new flat washer 11654843, new screw MS90725-62, new flat washer 11654843, new flat washer MS27183-14, new lockwasher MS35338-46, and new nut MS51967-8.
- (l) Remove tape from intake hose (view G). Connect hose to inlet elbow and secure with clamp MS21920-61R or 8711309 (view H).
- (m) Remove tape from outlet hose (view G). Connect hose to outlet elbow and secure with clamp MS35842-16 or 8711310 (view I). Ensure that clamps are tight.
- (n) Connect electrical connector to blower motor lead (view H).

**NOTE**

Vehicles being retrofitted with top loading armored air cleaners may or may not utilize positive venting systems from the air cleaner to the final drive (left side) or air cleaner to fuel tank (right side).

- (o) If vehicle has fuel tank to air cleaner vent hose and/or final drive to air cleaner vent line then connect fuel tank vent hose to right side air cleaner outlet elbow and check valve (view J). Connect final drive vent line to left side air cleaner inlet elbow (view K).
- (p) Position front stowage box between outriggers 2 and 3.

**NOTE**

If a gap exists between the stowage box base plates and the outriggers, use up to three plates 8705499, as shims, to eliminate gap.

- (q) Install three plates 8705499 and three locknuts MS51988-7 securing front stowage box to outrigger number 2 (view L).
- (r) Install four flat washers MS27183-17 and locknuts MS51988-7 securing front stowage box to tank.
- (s) Install three plates 8705499, two new bolts MS35764-1291 and new locknut MS51988-7 securing front stowage box to outrigger number 3 and outer support bracket. Torque the two bolts to 25 lb-ft (34 N·m) lubricated.
- (t) Position rear fender stowage box between outrigger numbers 4 and 5.
- (u) Install three plates 8705499, new locknut MS51988-7 and two new bolts MS35764-1291 securing rear stowage box to outrigger number 4 and outer support bracket (view M). Torque two bolts to 25 lb-ft (34 N·m) lubricated.
- (v) Install three flat washers MS27183-17 and locknuts MS51988-7 securing rear stowage box to tank.
- (w) Install three flat washers MS27183-17 and locknuts MS51988-17 securing rear stowage box to outrigger number 5.
- (x) Install 6 screws MS90726-60, 12 flat washers MS27183-14, 6 lockwashers MS35338-46 and 6 nuts MS51967-8 securing rear stowage box to fender reinforcing angle.

(14) MS21044-N6  
LOCKNUT

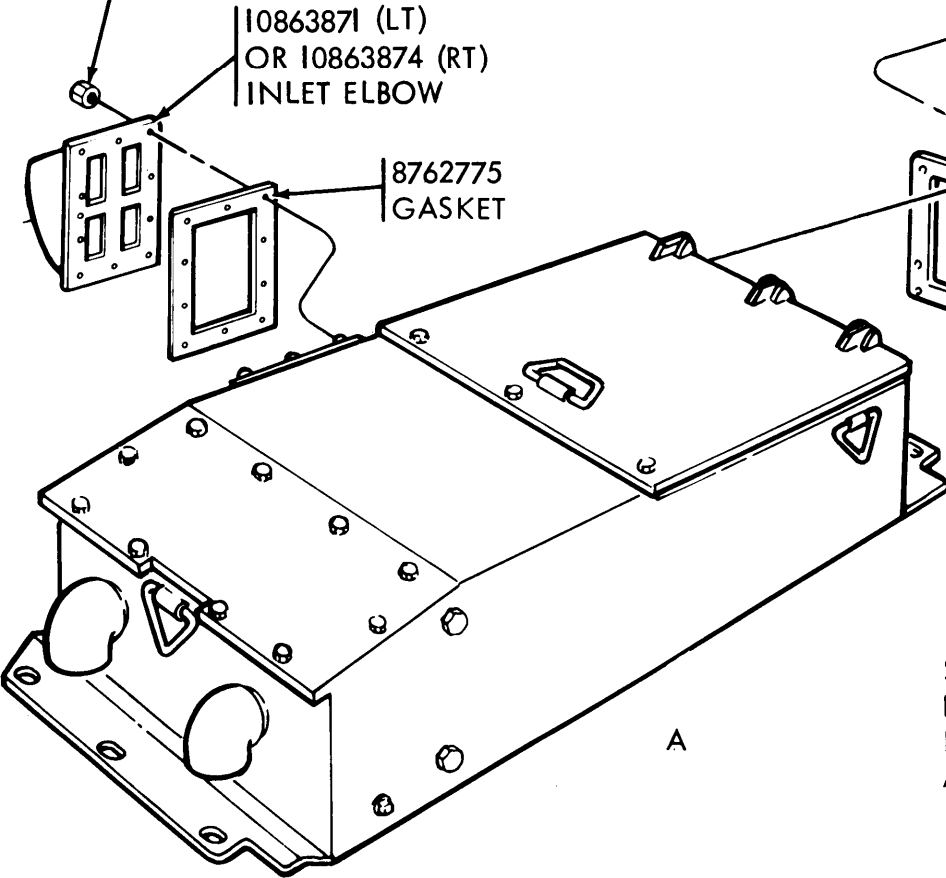
(10) MS21044-N6  
LOCKNUT

8762789 (LT OR RT)  
OR 8762789-1 (RT)  
OUTLET ELBOW

10863871 (LT)  
OR 10863874 (RT)  
INLET ELBOW

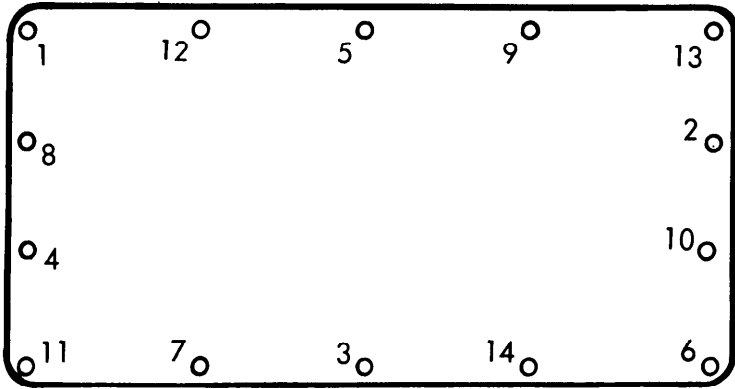
8762775  
GASKET

8762779  
GASKET



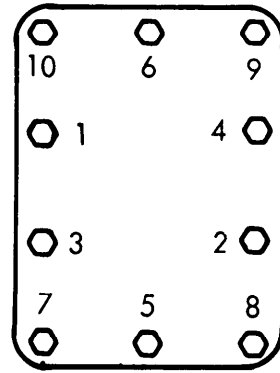
**NOTE**

SOME VEHICLES MAY BE  
EQUIPPED WITH AIR FILTER  
RESTRICTION INDICATOR  
AS SHOWN ABOVE.



B

OUTLET ELBOW TIGHTENING SEQUENCE



C

INLET ELBOW  
TIGHTENING SEQUENCE

Figure 4-24. Armored air cleaner installation (sheet 1 of 5).

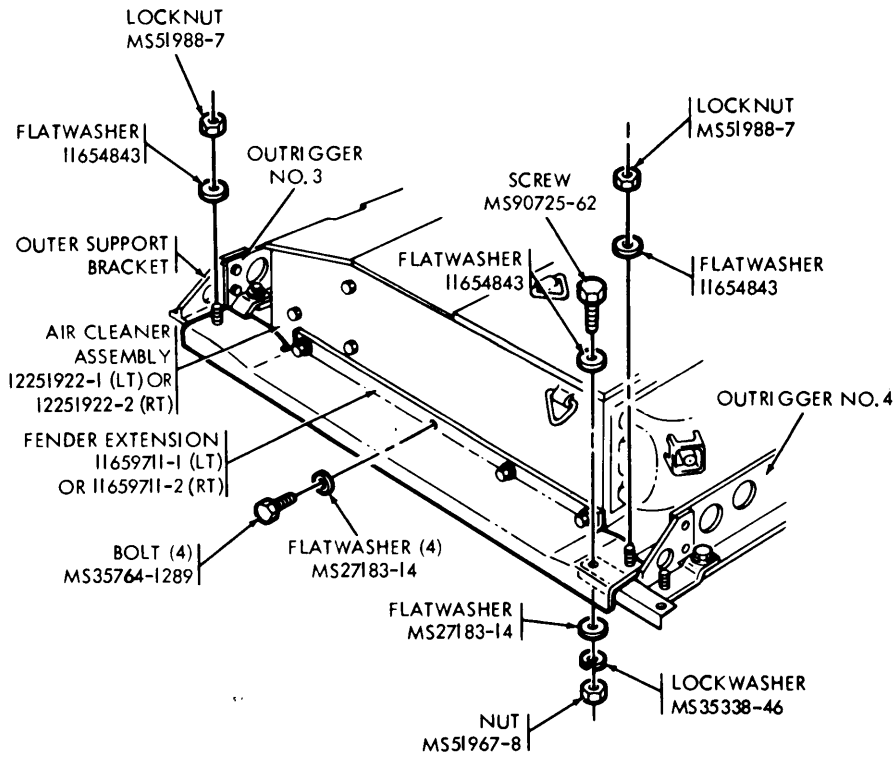
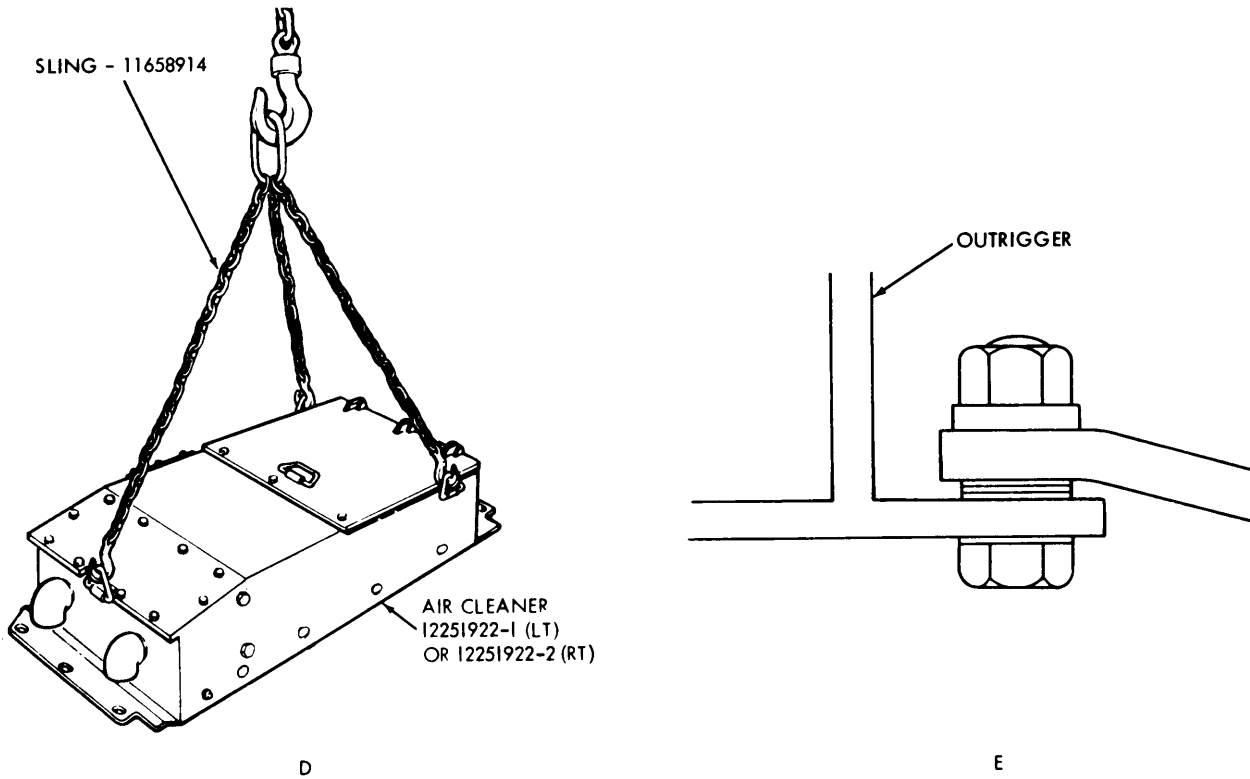
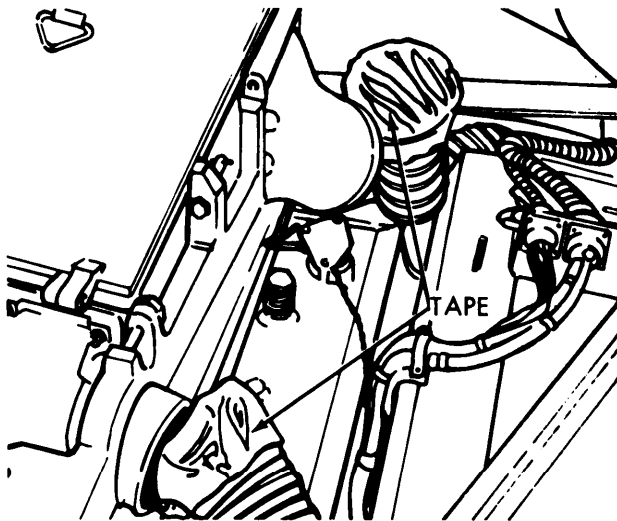
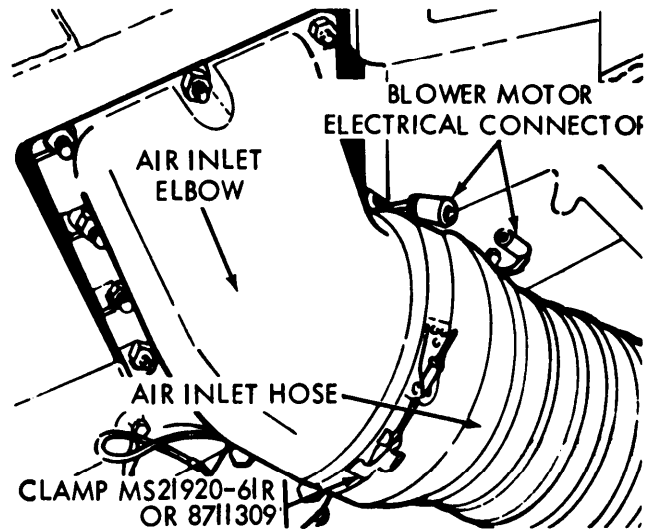


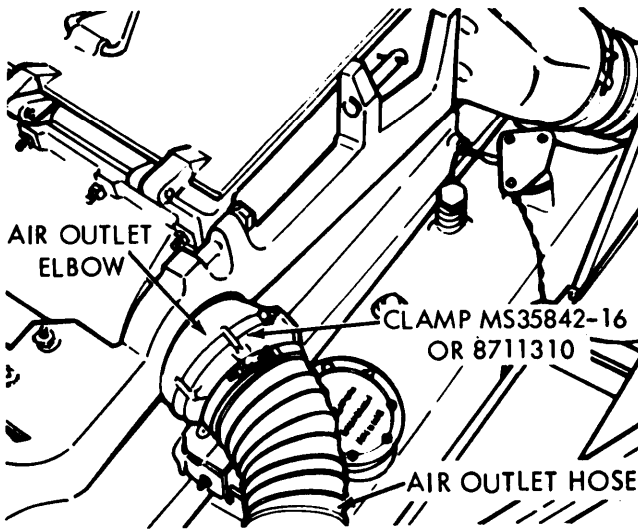
Figure 4-24. Armored air cleaner installation (sheet 2 of 5).



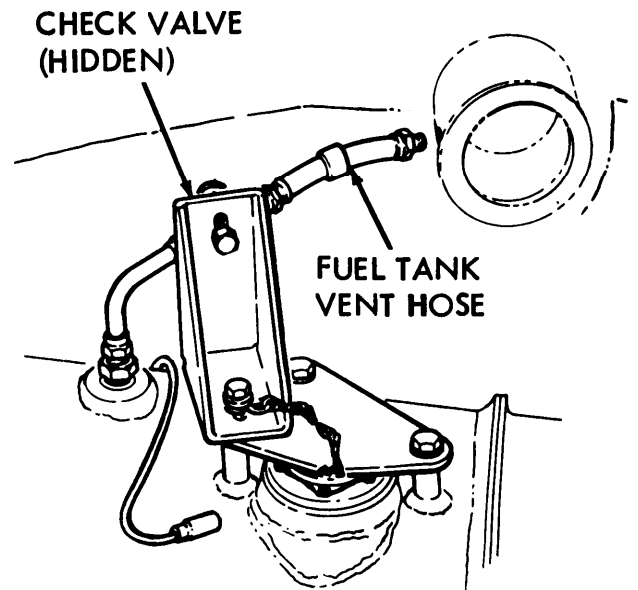
G



H



I



J

Figure 4-24. Armored air cleaner installation (Sheet 3 of 5).

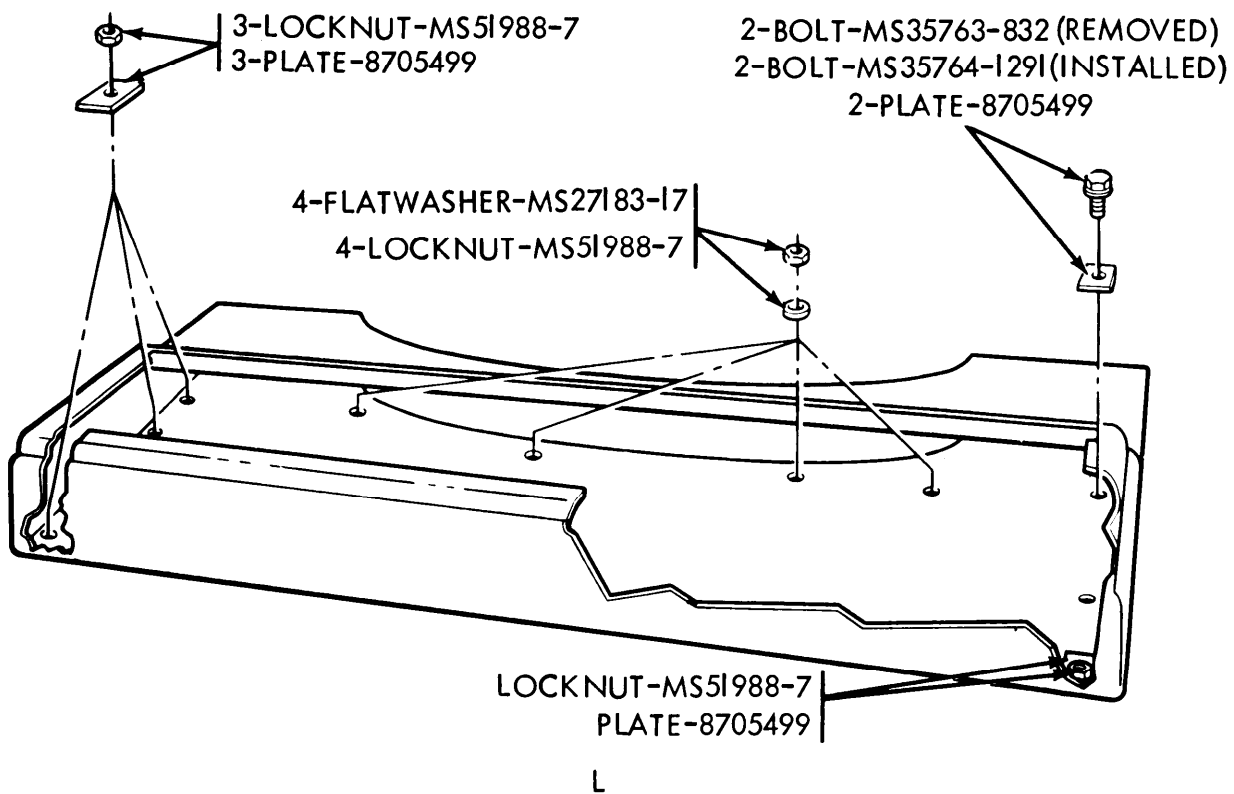
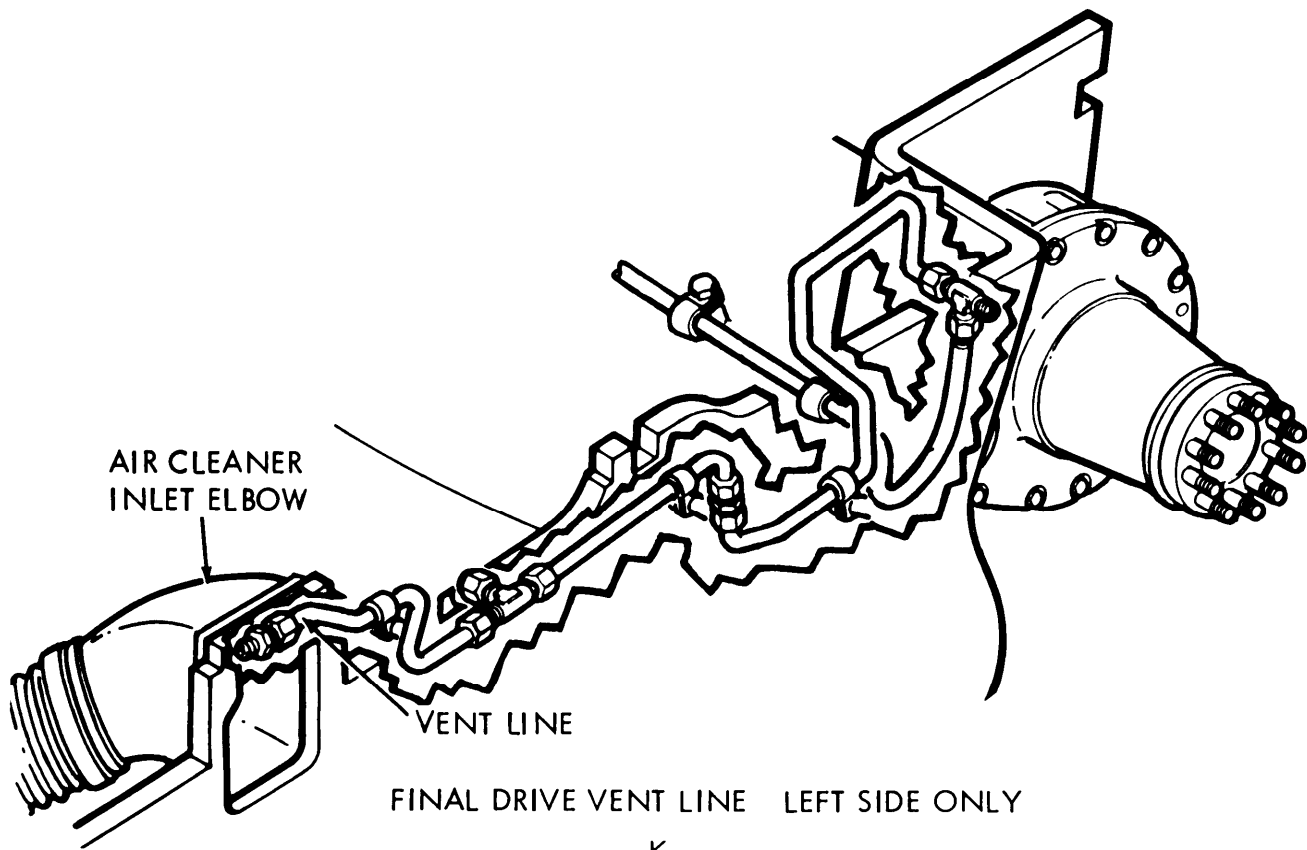


Figure 4-24. Armored air cleaner installation (sheet 4 of 5).



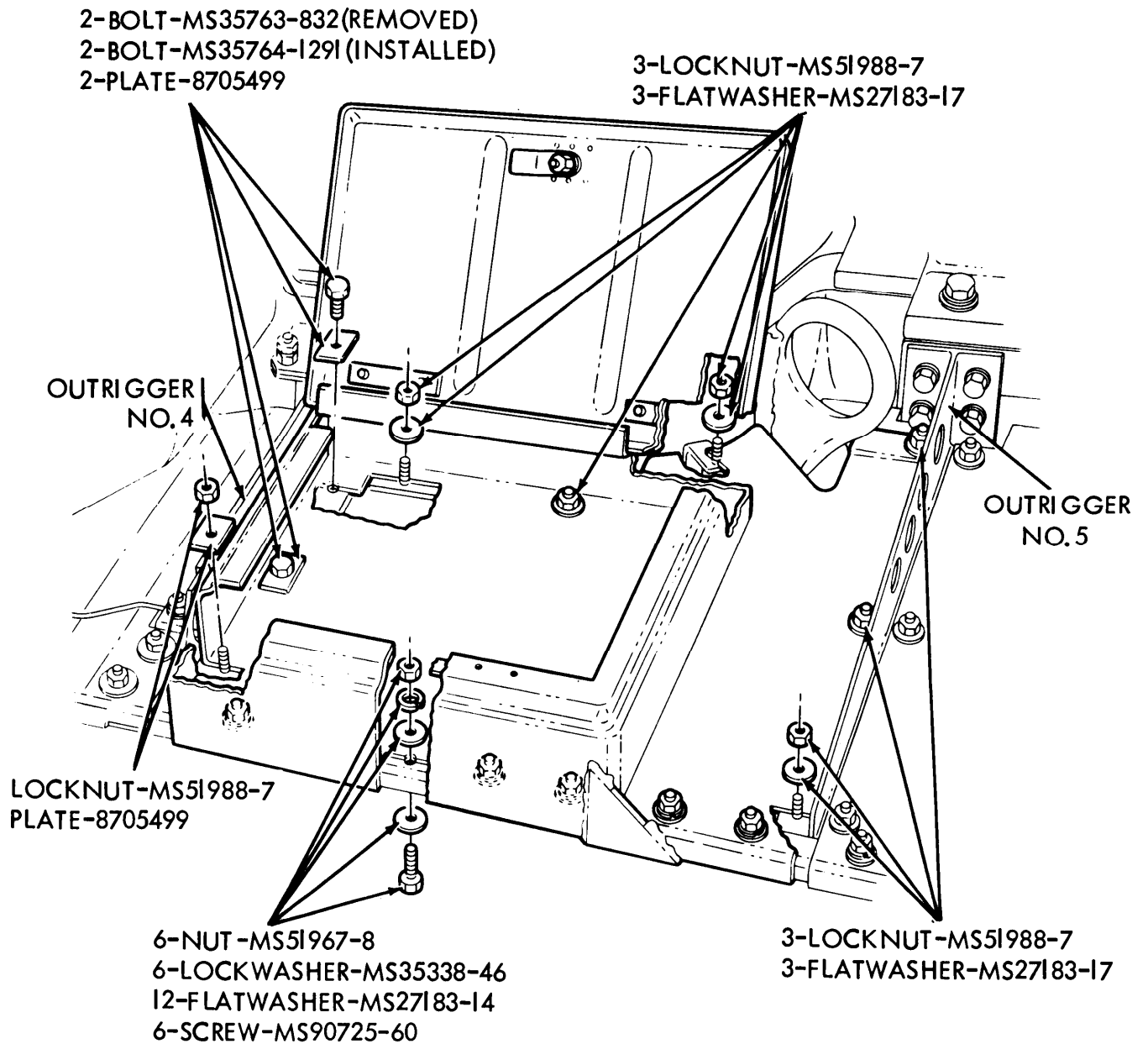


Figure 4-24. Armored air cleaner installation (sheet 5 of 5).

#### 4-11. Top Deck Grille Door Rework.

a. *General*

Field reports indicate that air cleaner boxes are being damaged by top deck grille doors. This condition usually occurs following air cleaner replacement or after vehicle overhaul. These procedures provide inspection and rework instructions for the grille door hinges to prevent this damage to the air cleaner assembly. Corrective action to eliminate this interference condition is to be performed by DS level maintenance personnel.

b. *Procedures (Fig. 4-25).*

**WARNING**

Ensure all ammunition is removed from tank prior to performing modification. Failure to do so can cause death, injury or damage to equipment.

**CAUTION**

Ensure that prior to traversing turret, the top loading air cleaner doors and ammo rack handles are properly secured. Failure to do so can cause damage to doors or handles.

- (1) Disconnect three ground straps (TM-20).
- (2) Manually traverse turret, so main gun is positioned over right or left stowage box, to gain access to top deck grille doors.

**WARNING**

Welding in the vicinity of fuel oil and hydraulic fluid is dangerous. Place flameproof material between welding area and fluid carrying components. Cover adjacent components with wet rags or canvas to protect against weld spatter. Station a helper in the immediate area with an approved fire extinguisher before beginning welding operations. Failure to adequately protect against fire can cause injury, death, or damage to equipment. Extreme caution should be exercised to avoid burning air cleaner gasket.

**CAUTION**

During rework of grille doors, care must be taken to assure the grille door hinges do not strike the air cleaner as the doors are opened.

**NOTE**

Perform steps 3 through 7 to left and right side of vehicle.

**CAUTION**

Take special care to protect air induction system hoses and gaskets from weld spatter.

- (3) Cut a piece of cardboard at a 60° angle and use it to check angle between No. 2, 3, and 4 grille door and air cleaner box (view A). Grind or weld stop as shown to correct angle. Make area of contact as large as possible to prevent stop from deforming and changing angularity.
- (4) Check clearances between No. 4 grille door and air cleaner door hinges. Ensure that a clearance of at least 5/8-inch exists (view B). If specified clearance does not exist, grind area on grille door adjacent to air cleaner hinge to obtain specified dimensions.
- (5) Check No. 3 grille door for 1/8-inch clearance between grille door hinge and air cleaner housing (view C). If incorrect, remove door and adjust clearance by grinding door hinges. Install grille doors.
- (6) Check No. 2 grille door for 1/8-inch clearance between grille door hinge and air cleaner housing (view C). If incorrect, grind as required to obtain clearance.

**NOTE**

Grinding can be accomplished with grille door installed.

- (7) Clean, prime, and paint all bare metal areas.
- (8) Connect three battery ground cables.

**CAUTION**

Prior to starting engine, check the air cleaner hose clamps for proper installation and that the air cleaner door seal has not been burned during grille door hinge rework. Make sure that the air cleaner door bolts are properly secured. Inspect air inlet and outlet hoses for burns from weld spatter.

- (9) Start engine, check air cleaner blower motor and restriction indicator operation (TM-10).

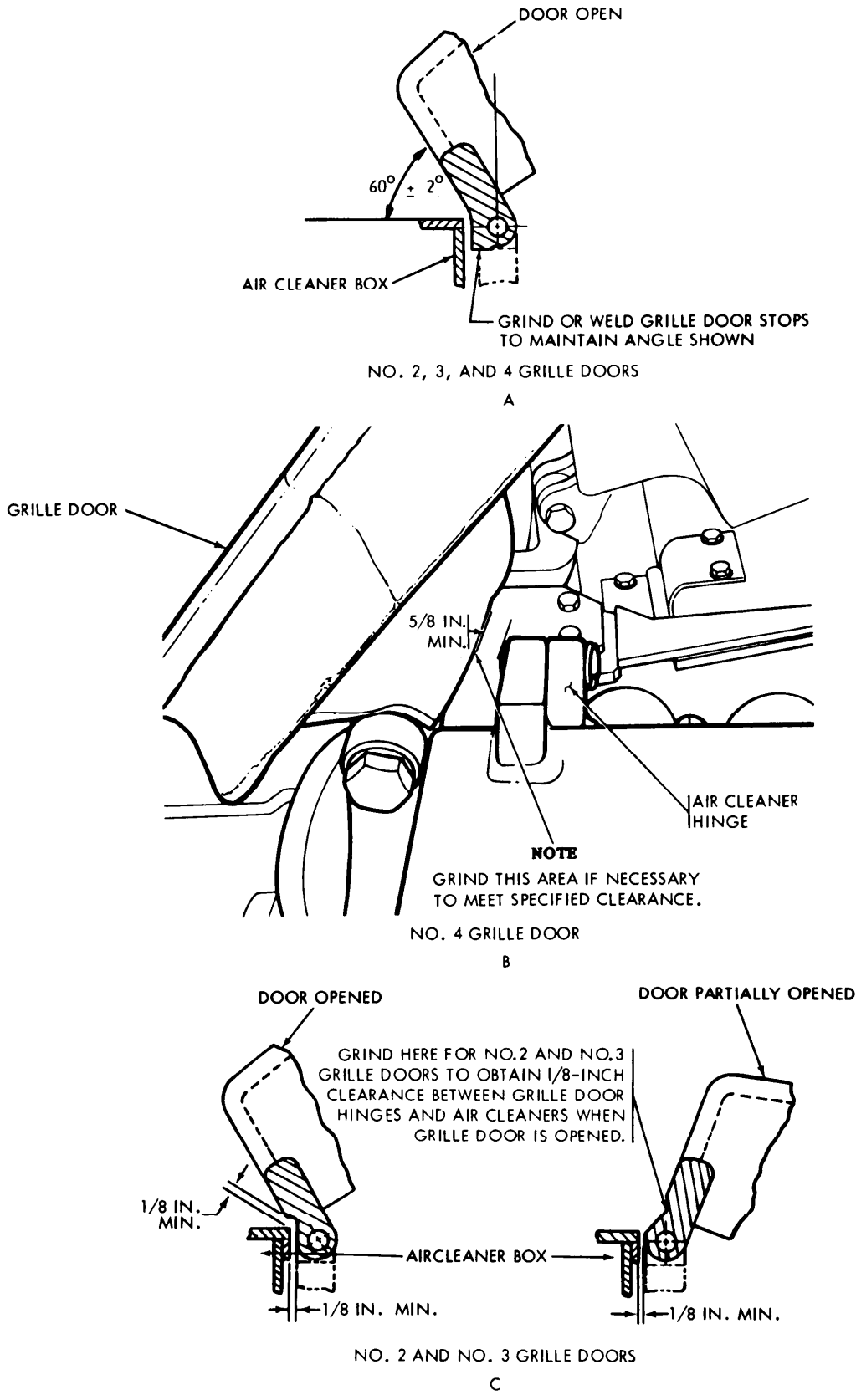


Figure 4-25. Top deck grille door rework.

## 4-12. Air Cleaner Housing Screw Hole Repair

### a. General

Damaged or stripped air cleaner housing screw holes must be repaired to insure proper sealing of the air cleaner door. If damaged or stripped holes occur, perform the following procedure.

### b. Procedure

#### (1) Tools and Equipment Required

- (a) Drill motor
- (b) Drill Bit, letter size "X" (0.397)
- (c) Masking Tape
- (d) Cardboard
- (e) Air-vat Vacuum Tool NSN 7910-00-807-3704
- (f) Rags
- (g) Cutting Oil
- (h) Dry Cleaning Solvent NSN 6850-00-281-1985
- (i) Tool kit, Coil Thread Insert: 3/8-16 UNC NSN 5180-00-935-0734
- (j) Tap and Reamer Wrench
- (k) Approved Eye Protection

#### (2) Repair. Perform the following to repair housing hole (fig. 4-26).

- (a) Wrap masking tape around tap provided in insert kit so that 1-inch of tap is exposed below tape (view A).
- (b) Fabricate drill stop (view B).
- (c) Remove air cleaner filter element (TM-20).
- (d) Tape cardboard over air outlet port to prevent dust or drilling chips from entering engine (view C).

#### **WARNING**

Use approved eye protection during drilling operations to prevent serious eye injury.

- (e) Using drill motor, drill, and fabricated drill stop, drill through stripped screw hole.

#### **CAUTION**

Use cutting oil on tap to prevent thread spalling and to minimize tap breakage.

- (f) Using tap, tap wrench, and cutting oil, turn tap into drilled hole until tape contacts housing surface.
- (g) Using vacuum cleaner, rags, and cleaning solvent, remove chips and cutting oil from housing.

- (h) Install 9/16 inch long insert according to instructions in coil thread insert tool kit.
- (i) Inspect access door screws. Replace defective screws with new flanged screw (12290914) NSN: 5306-01-091-3384.
- (j) Remove cardboard and tape from air outlet port.
- (k) Inspect door seal. Replace if defective (TM-20).
- (l) Install air cleaner element (TM-20).

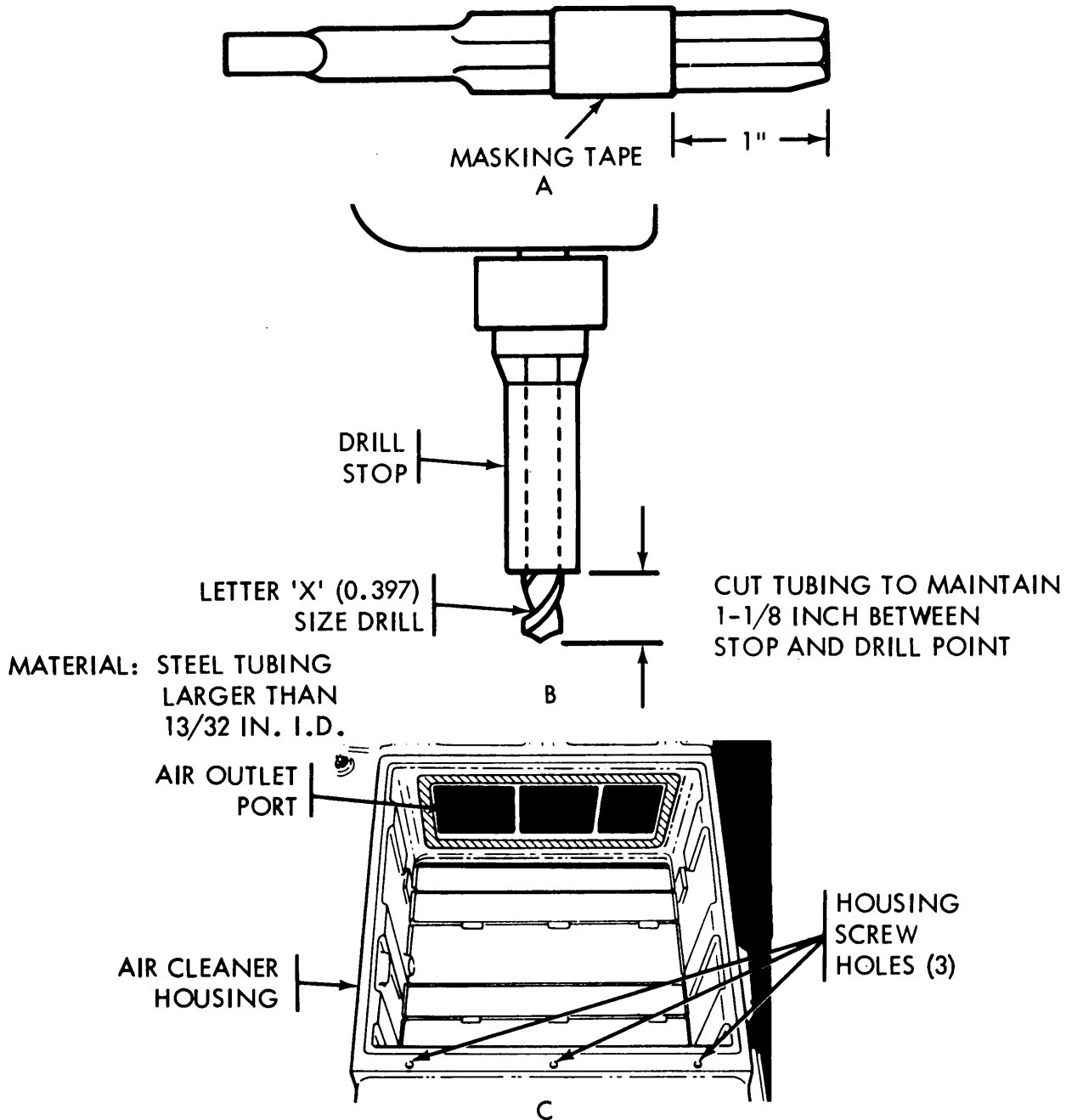


Figure 4-26. Air cleaner housing screw hole repair.

**4-13. Air Cleaner Housing Vertical Guide Rework.***a. General.*

Misalignment between the air cleaner housing vertical guide bar and filter element locating pin causes an improper filter seal. To correct this problem the following procedure must be performed.

*b. Procedure.*

## (1) Tools and Equipment Required:

- (a) Primer - NSN 8010-00-161-7425, Spec-TT-P636
- (b) Paint - NSN 8010-00-111-7937, MIL-E-52798
- (c) Air-Vat Vacuum Tool - NSN 7910-00-807-3704
- (d) Hand Grinder - NSN-5310-00-889-8979
- (e) Grinding Wheel - 2" x 1/2", 18500 RPM min for 3/8" arbor.
- (f) Cut-off Wheel - 2" x 1/8", 18500 RPM min for 3/8" arbor.
- (g) Scribe
- (h) Scale or Ruler
- (i) Masking Tape
- (j) Cardboard
- (k) Rags
- (l) Approved Eye Protection

## (2) Fabricate template (fig. 4-27).

**NOTE**

Template can be fabricated to simplify measurement and scribing of guide bar.

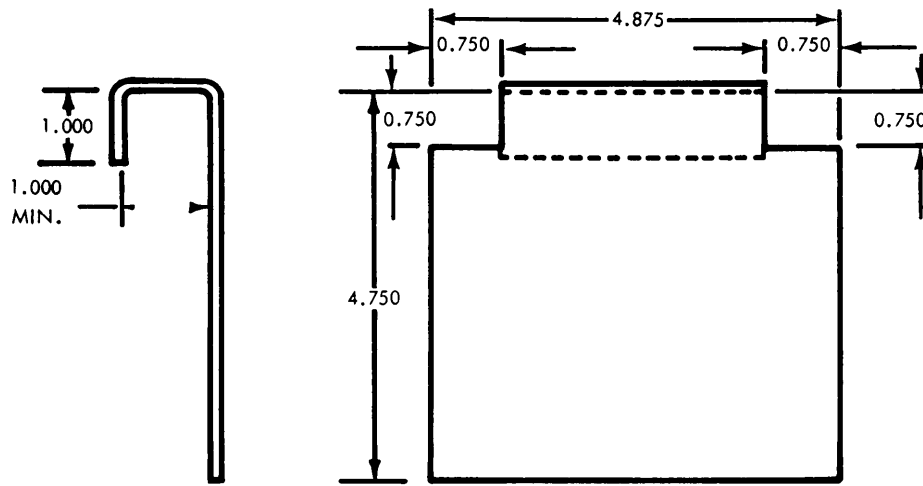
Rework procedure can be accomplished without template by measuring directly on guide bar.

## (3) Remove air cleaner filter element (TM-20).

**NOTE**

If template was fabricated, go to step (4). If template was not fabricated, go to step (5).

## (4) Position template on air cleaner housing and scribe left and right vertical guide bars as indicated (view A). Go to step (6).



**MATERIAL: 0.050 - 0.120 SHEET STOCK**

*Figure 4-27. Template fabrication*

- (5) Using rule and scribe, scribe left and right vertical guide bars as indicated (view B).
- (6) Tape cardboard to air outlet port to prevent cutting and grinding debris from entering engine.

**WARNING**

Use approved eye protection during grinding operations to prevent serious eye injury.

- (7) Using hand grinder with cutting wheel, cut along scribed lines through vertical guide bar.
- (8) Cut through weld on backside of guide bar between cut-off line and lower end of bar.
- (9) Replace cut-off wheel with grinding wheel and remove remaining weld in cut-off area.
- (10) Using rags and vacuum cleaner, remove cutting and grinding operation debris.
- (11) Prime and paint bare metal areas.
- (12) After paint has dried, wipe and vacuum inside of air cleaner housing to remove paint overspray residue.
- (13) Remove cardboard and tape from air outlet port.
- (14) Inspect door seal. Replace if defective (TM-20).
- (15) Install air cleaner filter element (TM-20).



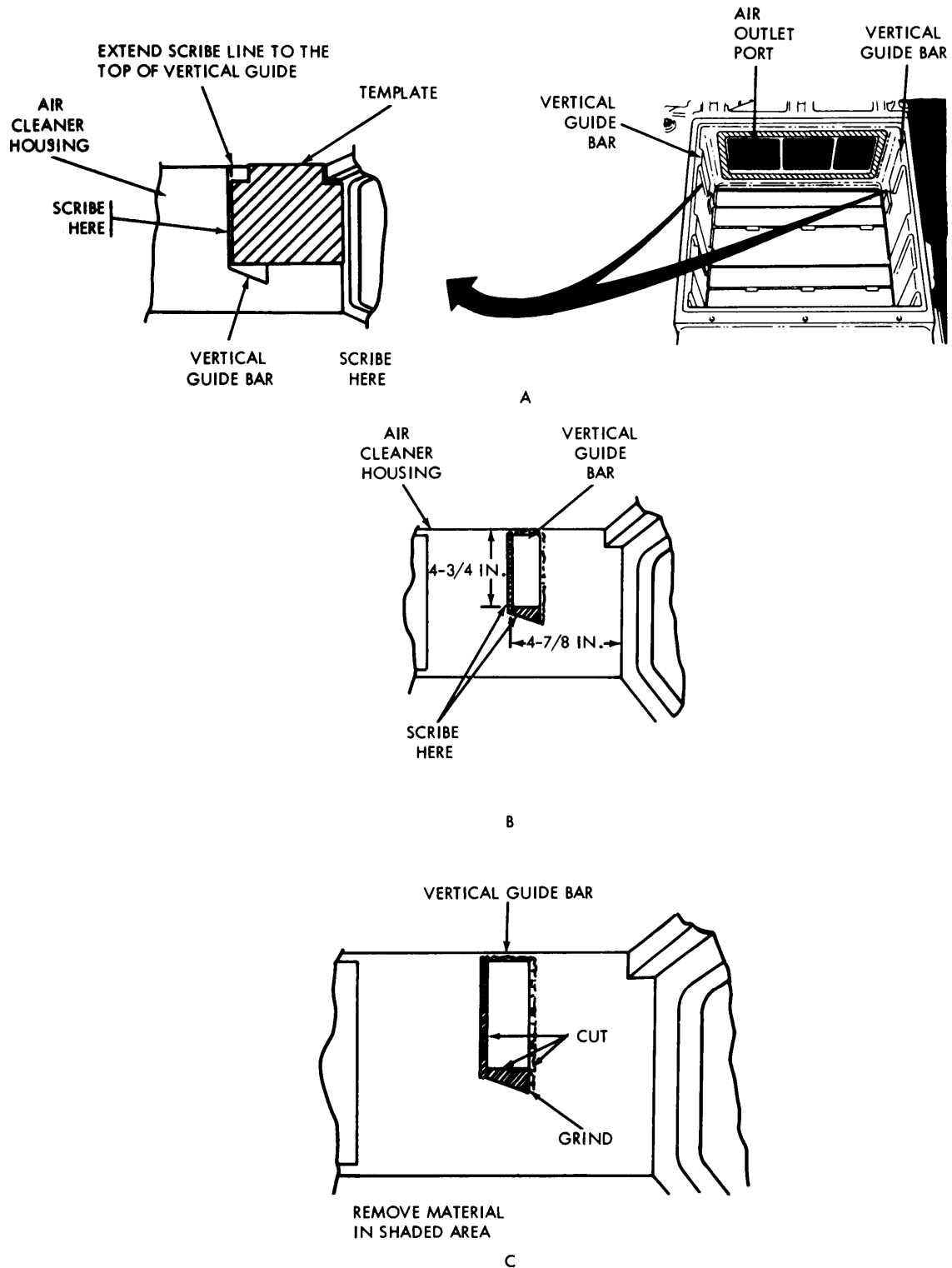


Figure 4-28. Air cleaner housing vertical guide bar network.



**CHAPTER 5**  
**IMPROVED CLEAN AIR INDUCTION SYSTEM**  
**CREW OPERATION/MAINTENANCE**

**5-1. General.**

This chapter contains a description, and inspection and maintenance instructions that the crew is authorized to perform to keep the improved clean, air induction system operational. A large percentage of engines have to be replaced because dust, dirt, and foreign material is drawn into the engine due to a defective air induction system. The crew is responsible for the condition of the vehicle. Crew maintenance, for the improved air induction system, is limited to performance of the daily preventive maintenance, checks, and services PMCS. Report all uncorrected defects to organizational maintenance. The crew may perform other maintenance procedures, but only under the direction of organizational maintenance.

**5-2. Improved Clean Air System.**

- a. *General.* The improved clean air system operates essentially the same way as conventional system, but incorporates improved air induction components, a dust ejector system that takes the place of the air cleaner centrifugal fans, and a dust detector.
- b. *Improved Air Induction Components.* Improved air induction components include reduced restriction inlet and outlet elbows and hoses, improved clamps, improved gaskets and studs, spring loaded filter element, and late model filter clog indicator.
- c. *Vehicle Exhaust Dust Ejector System (VEDES).* The vehicle exhaust dust ejector system (VEDES) (fig. 5-1) replaces the air cleaner centrifugal fans. The air cleaner housing is modified to plug the fan exhaust elbows and to accommodate a tube manifold with its associated hoses, clamps, and mounting bracket installed in place of the fans. A system of dust scavenge tubes, check valves, and exhaust pipes with integral dust ejectors is mounted along each cylinder bank above and parallel to the engine and transmission oil coolers. VEDES scavenges dust from the precleaned section of the air cleaners through suction action of the exhaust ejectors.

Engine exhaust blowing by ejector nozzles at the exhaust outlet causes a pressure drop which creates the air flow for the scavenging action in the precleaners. Dust-laden scavenge air flows from the precleaned chamber through the ejector collector ring and mixes with the exhaust gasses at the nozzle outlet, after which the exhaust/dust mixture is ejected through the exhaust pipe.

- d. *Dust Detector.* The dust detector system (fig. 5-2) uses engine air induction manifold pressure to circulate air through filter strips in the dust detectors mounted in the turbo supercharger compressor housing. When the filter strip(s) become clogged, the resultant change in pressure actuates a pressure switch which illuminates the power plant warning light and the dust detector warning light in the driver's compartment. A dust detector warning light ON indicates a restricted falter strip in either or both engine bank dust detectors.

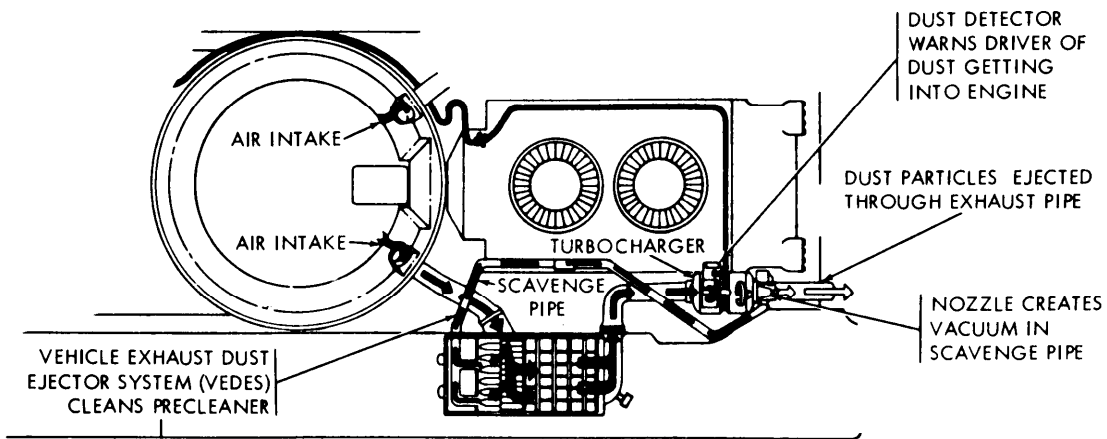


Figure 5-1. Vehicle exhaust dust ejector system (VEDES).

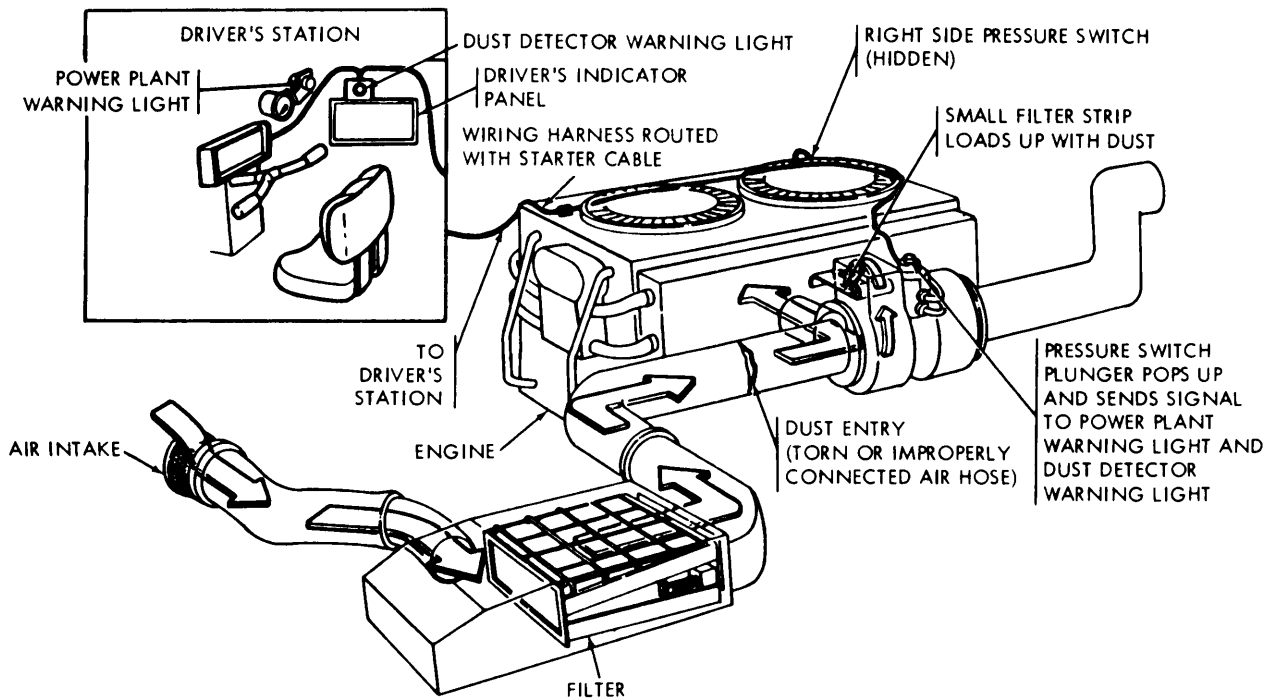


Figure 5-2. Dust detector system.

### 5-3. Air Cleaner Filter Clog Indicator.

#### a. General.

The air cleaner filter clog indicator provides a visual means of determining when the air cleaner filter element must be serviced without actually opening the air cleaner box and inspecting the filter element. Two models of indicators are presently being used (fig. 5-3).

#### b. Checking.

To determine if air filter element needs servicing.  
Check indication on air restriction indicator.

Early Model - If red disk is visible, notify organizational maintenance

Late Model - If reading is more than 25, notify organizational maintenance

### 5-4. Engine Air Intake (fig. 5-4).

#### a. General.

During normal and water fording operations, the engine air intakes (view A) must be positioned to draw air from the crew compartment. During extreme cold or an NBC attack alert, the engine air intakes must be reversed to draw air from the engine compartment (para. 5-4b).

#### b. Reversal Procedure.

- (1) Remove four screws and washers and cover (view A). A gasket is cemented to cover.
- (2) Remove six nuts and washers (view B).
- (3) Remove eight nuts and washers.
- (4) Remove intake from bulkhead.
- (5) Install six nuts and washers on studs (view C).
- (6) Install eight nuts and washers on studs (view D).
- (7) Position cover on intake and install four screws and washers.
- (8) Install eight nuts and washers on studs. (View D).
- (9) Position cover on intake and install four screws and washers.

### 5-5. Preventive Maintenance Checks and Services (PMCS).

The following PMCS table lists checks and services that are to be performed on a daily basis to find, correct, or report problems that are caused by normal wear and tear.

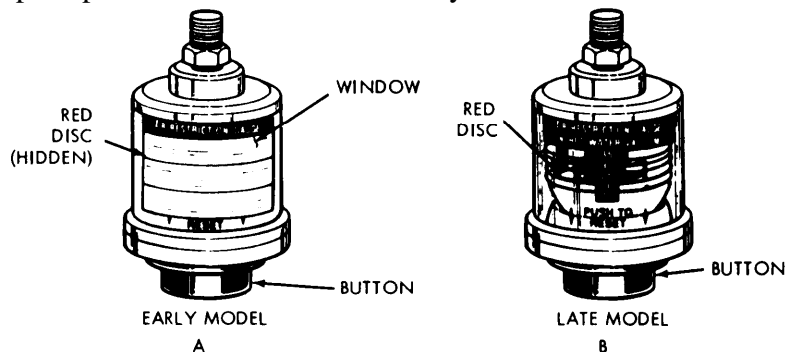


Figure 5-3. Air cleaner filter clog indicator.

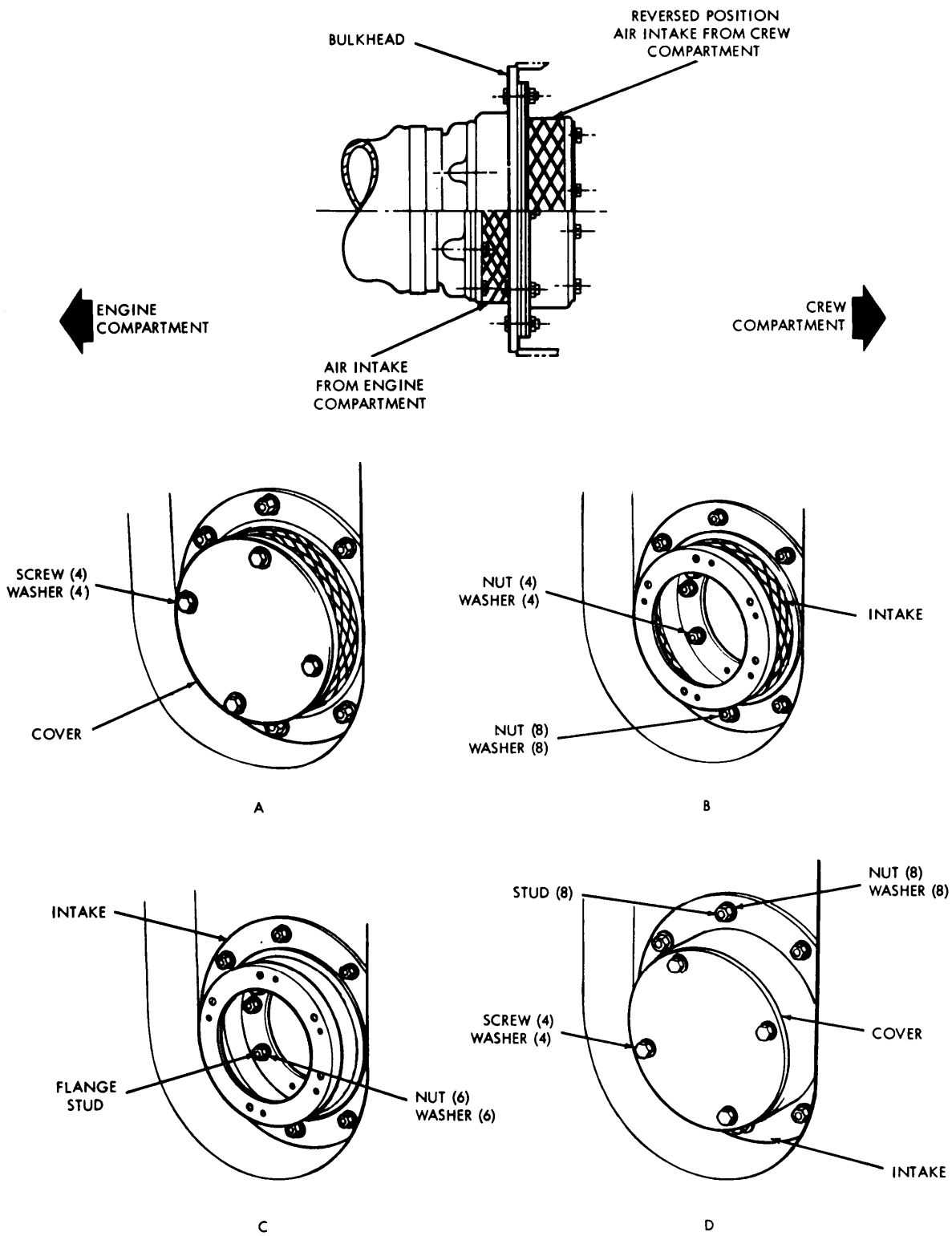
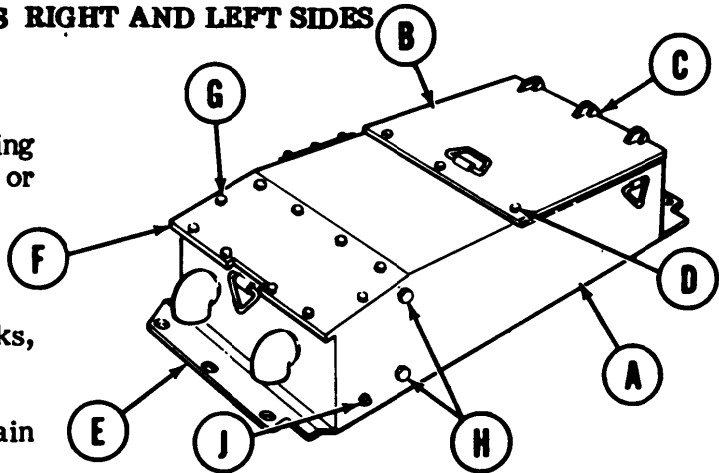


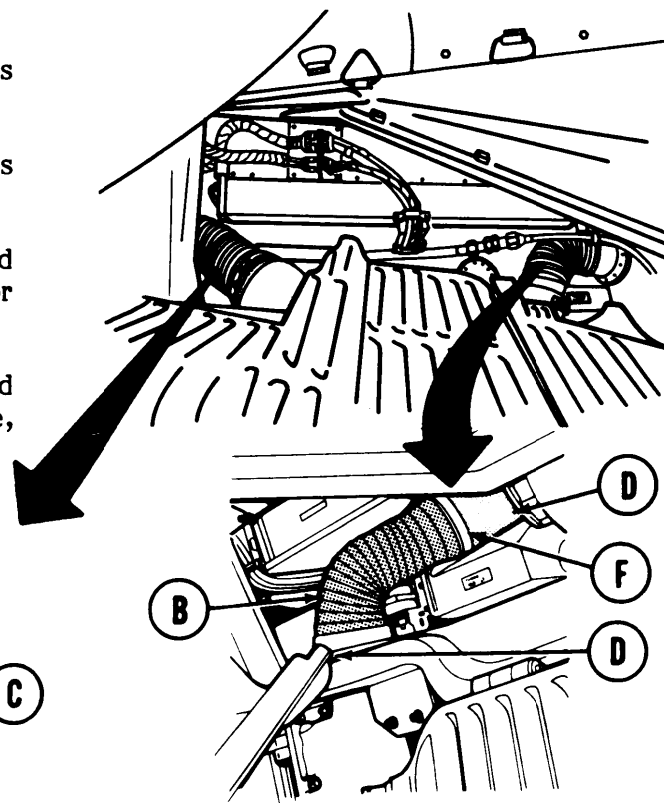
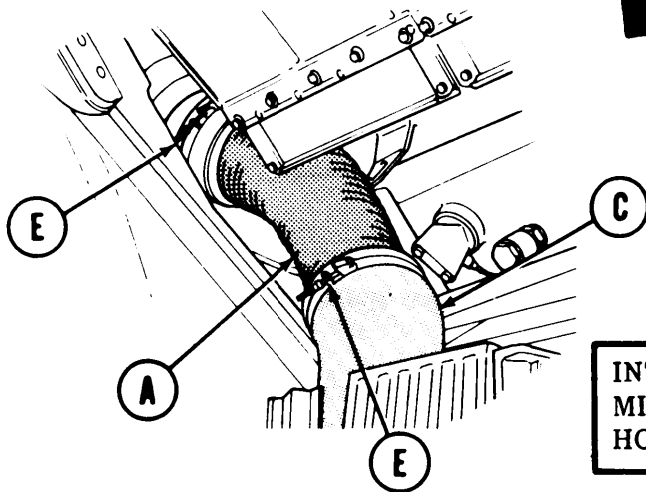
Figure 5-4. Engine air intake reversal.

**Preventive Maintenance Checks and Services**

ITEM	BEFORE	DURING	AFTER	ITEM TO BE INSPECTED Procedure	DAILY (required only if you operate)	EQUIPMENT IS NOT READY/AVAILABLE IF -
1.	•			<b>AIR CLEANER HOUSINGS AND DOORS RIGHT AND LEFT SIDES</b>  Inspect housing (A) for cracks and dents.		
2.	•			Check door (B), hinges (C), door locking bolts or fastener (D) for cracks, broken or missing parts.		
3.	•			Check base plate (E) for cracks.		
4.	•			Check access plate (F) for cracks, looseness or missing mounting bolts (G).		
5.	•			Check that inspection plugs (H) and drain plug (J) are not missing.		
<p><b>CRACKED OR DENTED HOUSING. ANY DAMAGED OR MISSING AIR CLEANER DOOR OR DOOR FASTENERS. ANY MISSING DRAIN OR INSPECTION PLUGS. BROKEN OR BENT DOOR HINGES. ACCESS PLATE MISSING.</b></p>						

**AIR CLEANER ELBOWS, HOSES AND CLAMPS, RIGHT AND LEFT SIDES**

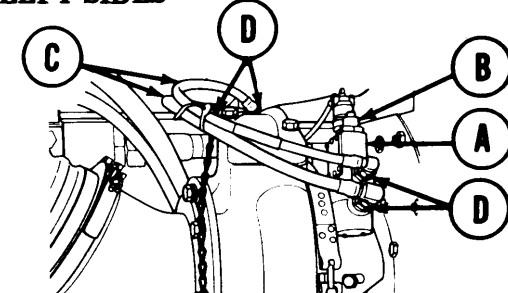
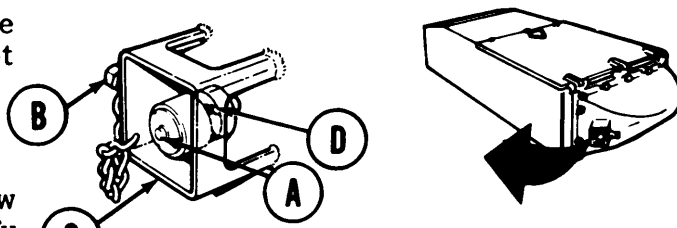
6. • Check that air cleaner intake hose (A) is not damaged or missing.
7. • Check that air cleaner outlet hose (B) is not damaged or missing.
8. • Check that intake hose elbow (C) and outlet hose elbow (D) is not loose or damaged.
9. • Check that intake hose clamps (E) and outlet hose clamps (F) are not loose, broken or missing.



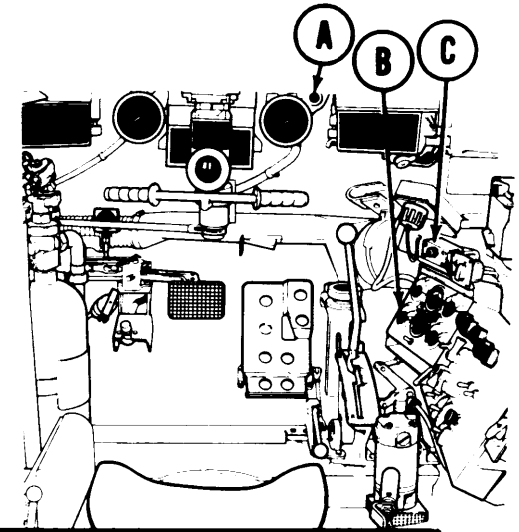
**INTAKE OR OUTLET HOSE DAMAGED OR MISSING. ELBOWS LOOSE OR DAMAGED HOSE CLAMPS LOOSE, BROKEN OR MISSING.**



**Preventive Maintenance Checks and Services**

ITEM	BEFORE	DURING	AFTER	ITEM TO BE INSPECTED	DAILY	EQUIPMENT IS NOT			
				Procedure	(required only if you operate)	READY/AVAILABLE IF -			
10.	•			<p><b>DUST DETECTOR PRESSURE SWITCH - RIGHT AND LEFT SIDES</b></p> <p>Inspect dust detector pressure switch (A) for security of mounting. Check that red plunger is not visible. If red plunger is visible, notify Organizational Maintenance.</p> <p>Check that wiring harness (B) is connected.</p> <p>Check that hoses (C) are not damaged or missing.</p> <p>Check that fittings (D) are secure.</p> <p><b>FILTER CLOG INDICATORS (RIGHT AND LEFT SIDES)</b></p> <p>Check that filter clog indicator (A), pipe plug (B) or clog indicator guard (C) are not damaged or missing.</p> <p>Check indicator reading.</p> <p>Early model - filter clog indicator window (D) should not show red. If red, notify organizational maintenance.</p> <p>Late model - A reading of 30 or more means that the filter element requires cleaning. Notify Organizational Maintenance. A reading of 25 indicates that the elements should be cleaned before any extensive move.</p>		<p><b>SWITCH RED PLUNGER IS VISIBLE</b></p>  <p><b>BOTH FILTER CLOG INDICATOR AND PIPE PLUG ARE MISSING.</b></p> <p><b>EARLY MODEL - FILTER CLOG INDICATOR SHOWS RED.</b></p> <p><b>LATE MODEL - SHOWS 30 OR MORE.</b></p>			
11.	•								
12.	•								
13.	•								
14.	•								
15.	•	•							

16. • **POWER PLANT WARNING LIGHT (ENGINE RUNNING)**  
 Check power plant warning light (A), frequently to make sure it is not lit. If light (A) is lit, immediately check ENGINE OIL PRESSURE, ENGINE OIL TEMPERATURE, TRANSMISSION OIL PRESSURE and TRANSMISSION OIL TEMPERATURE gages on driver's indicator panel (B) and the DUST DETECTOR WARNING LIGHT (C).
17. • **POWER PLANT WARNING LIGHT (ENGINE RUNNING)**  
 Check that DUST DETECTOR WARNING LIGHT (C) is out. Press lens cap in to check. If lamp does not light, replace lamp. If light is on, notify Organizational Maintenance.  
**DURING PERIOD OF OPERATION, LOOK FOR THESE INDICATIONS OF A DIRTY AIR INDUCTION SYSTEM.**
18. • Exhaust smoke is excessively black.
19. • Air restriction indicator shows a red window or a high reading or no reading at all. See restriction indicators (para. 5-3) for detailed instructions.
20. • Noticeable loss of engine power.



DUST DETECTOR WARNING LIGHT IS ON

EARLY MODEL - RESTRICTION INDICATOR INDICATES RED, LATE MODEL - SHOWS 30 INCHES OR MORE

**CHAPTER 6****IMPROVED CLEAN AIR INDUCTION SYSTEM  
ORGANIZATIONAL MAINTENANCE****Section I. Description****6-1. General**

This chapter provides Organizational Maintenance PMCS, troubleshooting and maintenance procedures required to support vehicles equipped with the improved clean air induction system.

**6-2. Description**

Refer to paragraph 5-2 for a description of the improved clean air induction system.

**Section II. Preventive Maintenance checks and Services (PMCS)****6-3. General**

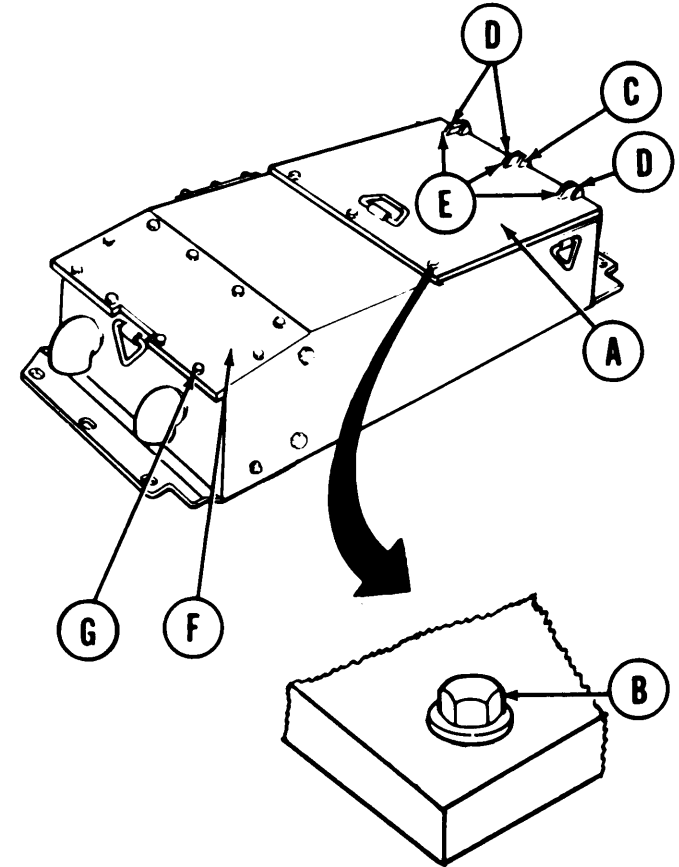
Preventive maintenance is the systematic care, inspection, and service of equipment to maintain a serviceable condition and detect faults and failures before extensive time consuming repairs are required.

**6-4. Procedures**

Table 6-1 provides additional PMCS requirements that must be performed to support vehicles equipped with the improved clean air induction system.

**Table 6-1. Improved Clean Air Induction System - Organizational Maintenance Quarterly Preventive Maintenance Checks and Services**

ITEM NO.	ITEM TO BE INSPECTED	PROCEDURES
1	Air Cleaners (right and left sides)	Check air cleaner door (A) for loose, or missing screws (B)
2		Make sure screw holes are free of dirt.
3		Check that clevis pins (C) and cotter pins (D) are not missing from door hinges (E).
4		Check that door hinges (E) are not cracked.
5		Check that access plate (F) mounting screws (G) are not loose or missing.



**Air Cleaners  
(right and left  
sides)  
(continued)**

6

Remove access plate (H).

Check that four clamps (J) are not loose, damaged, or missing.

7

Check that two hoses (K) are not damaged or loose.

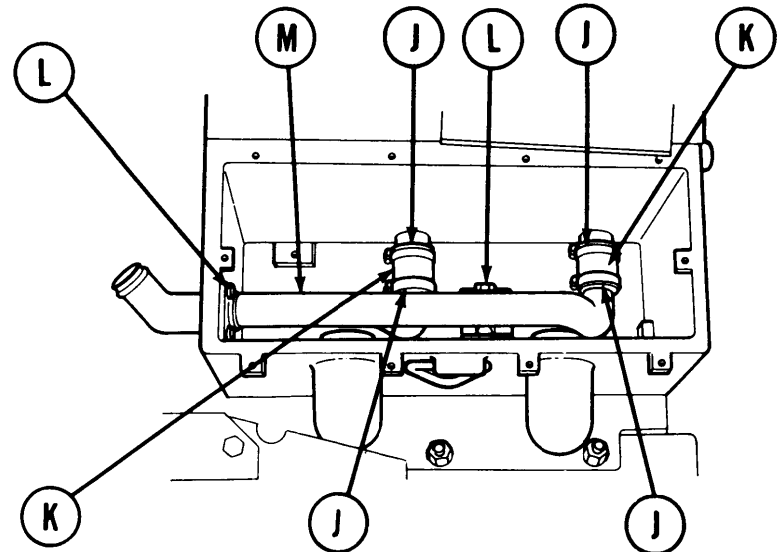
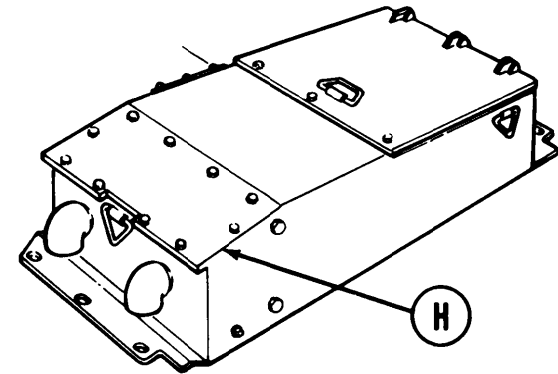
8

Check that six mounting screws (L) are not loose or missing.

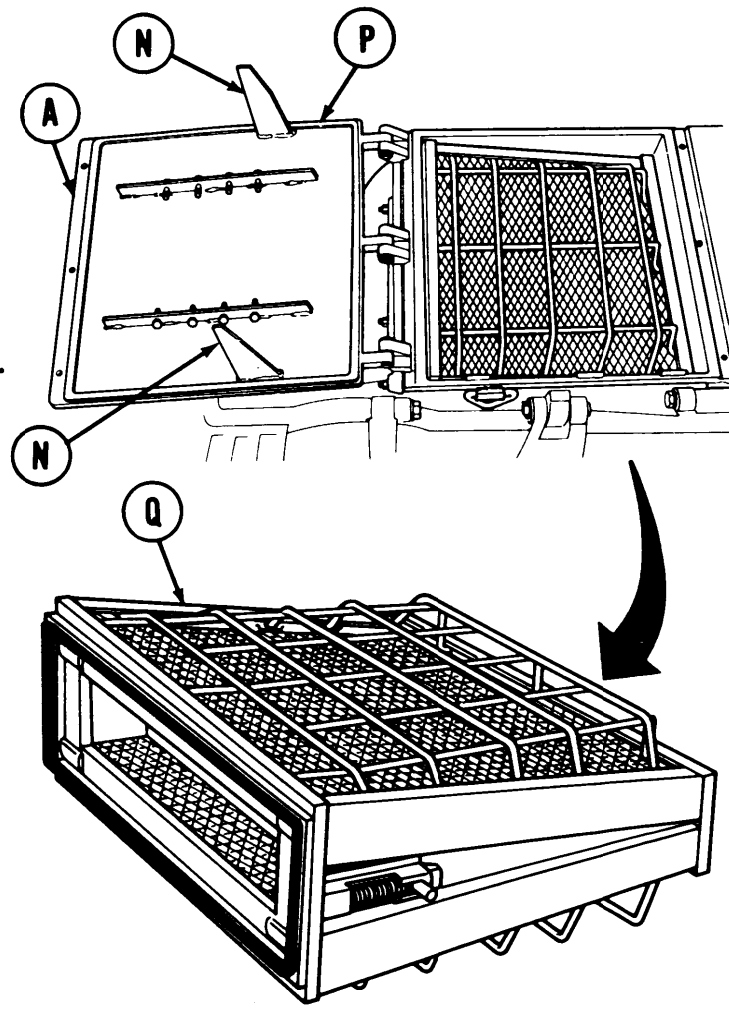
9

Check that manifold tube (M) is not damaged.

Install access plate (H).



**Table 6-1. Improved Clean Air Induction System - Organizational Maintenance Quarterly Preventive Maintenance Checks and Services (Continued)**

ITEM NO.	ITEM TO BE INSPECTED	PROCEDURES
10 11 12 13	Air Cleaners (right and left sides) (continued)	<p>Open air cleaner door (A).</p> <p>Check that door cam arms (N) are not bent or cracked.</p> <p>Check that air cleaner door seal (P) is not hardened, damaged or missing.</p> <p>Check that filter element (Q) is not damaged or missing.</p> <p>Service air cleaner filter (para. 6-15).</p> <p>Remove air cleaner outlet hose (para. 6-11a).</p> 

14 Air Cleaner  
Elbows, Hoses,  
and Clamps  
(left and right  
sides)

Check that outlet hose (A) is not cracked,  
torn, or leaking, and that clamps (B) are  
not loose or missing.

15 Check that V-band clamp (c) and quick  
release V-band clamp (D) are not loose or  
missing.

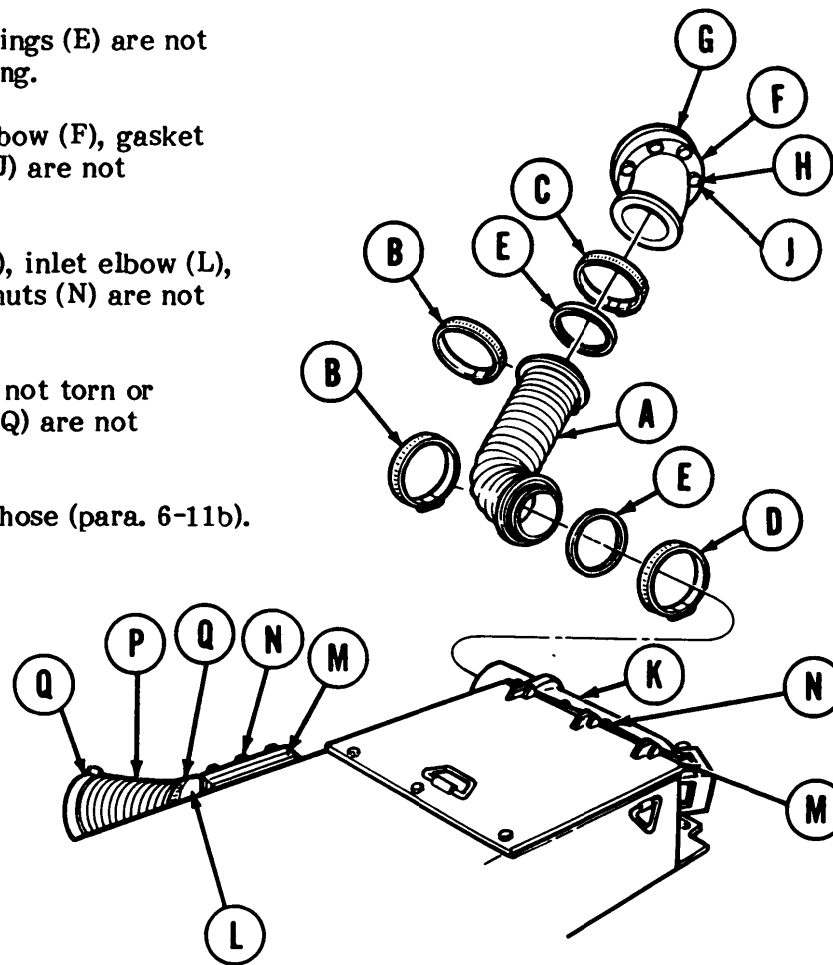
16 Check that preformed packings (E) are not  
hardened, cracked, or missing.

17 Check that turbocharger elbow (F), gasket  
(G), washers (H), and nuts (J) are not  
damaged or missing.

18 Check that outlet elbow (K), inlet elbow (L),  
gaskets (M), and mounting nuts (N) are not  
damaged or missing.

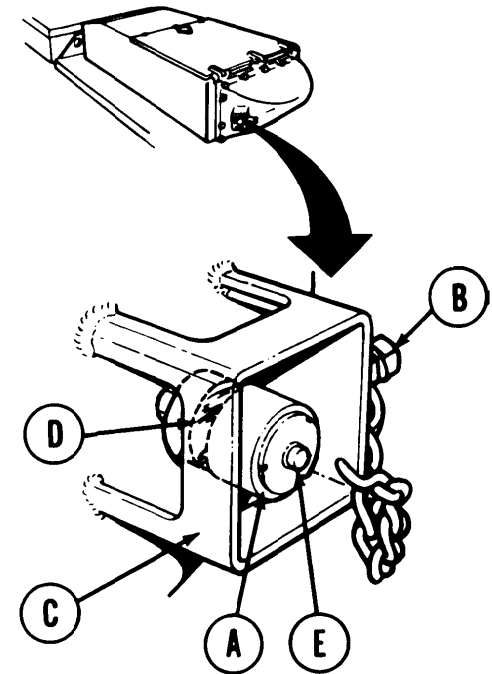
19 Check that inlet hose (P) is not torn or  
damaged, and that clamps (Q) are not  
damaged, loose, or missing.

Install air cleaner outlet hose (para. 6-11b).



**Table 6-1. Improved Clean Air Induction System - Organizational Maintenance Quarterly Preventive Maintenance Checks and Services**

ITEM NO.	ITEM TO BE INSPECTED	PROCEDURES
20	Air Cleaner Filter Clog Indicators (left and right sides)	<p>Using fingers, check if filter clog indicator (A) is loose or missing. If loose tighten finger tight.</p> <p><b>NOTE</b> Filter clog indicator must be present. If indicator is not installed, plug (B) must be installed in place of indicator (A) until indicator (A) is available.</p>
21		<p>Check indicator (A) for cracks. Check that pipe plug (B) is not missing. Check that clog indicator guard (C) is not missing or damaged.</p>
22		<p>Check indicator reading in window (D). Late Model - A reading of 30 or more means that the filters require cleaning. A reading of 25 indicates that the elements should be cleaned before any extensive move.</p> <p><b>WARNING</b> Make sure area around vehicle is clear of personnel and equipment before performing the following step.</p> <p>Early Model - Start engine, apply vehicle brakes, put transmission lever in high gear, accelerate to 1800/1900 rpm for no more than 30 seconds, and check filter clog indicator reading. If window (D) shows red, press reset button (E) and repeat procedure above. If window shows red again, clean or replace filter element. If button (E) won't depress, filter clog indicator (A) is defective and must be replaced (para 6-14d).</p>





Dust Detector  
Filter Strip  
(right and  
left sides)

**NOTE**

Service dust detector filter strip quarterly, or after 750 miles operation, or whenever dust detector indicated ingestion of foreign matter.

23

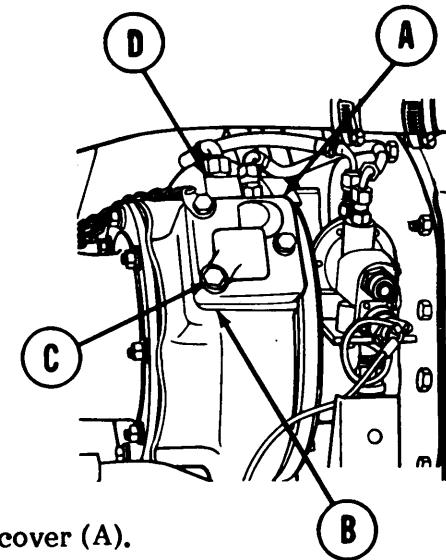
Open top deck grille doors (TM-10).

24

Remove dust and dirt from filter strips cover (A) and compressor housing (B).

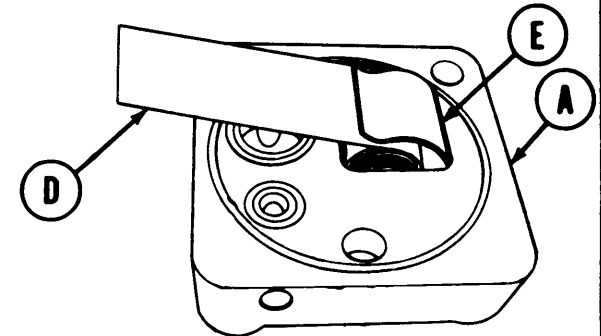
25

Loosen three captive screw (C) securing filter strip cover (A) to compressor housing (B). Remove cover (A).



26

Remove filter strip (D) with retainer (E) from filter strip cover (A) (para. 6-17a).



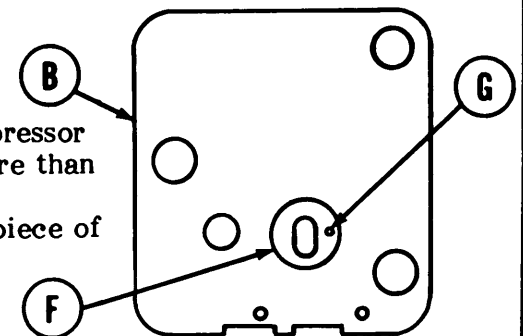
27

Clean cover (A) and mounting face of compressor housing (B).

28

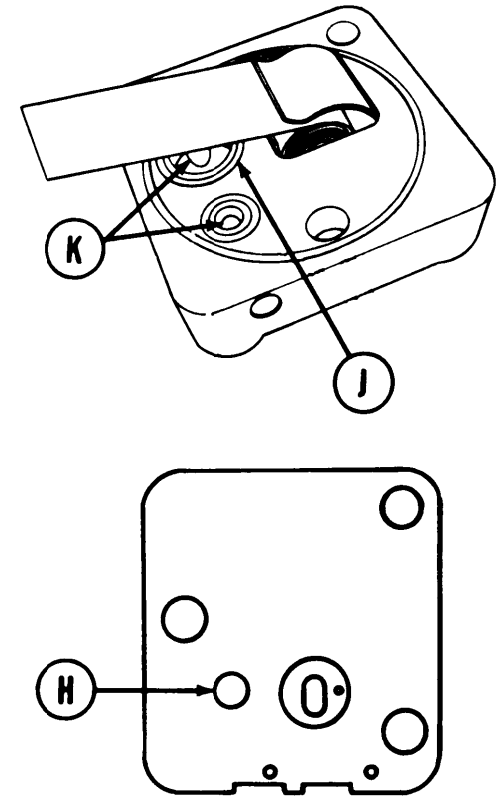
Inspect compressor housing chamber (F) for contamination.

Using pipe cleaner (item 7, appendix C), clean compressor housing chamber and orifice (F). Use small (not more than 0.030 inch dia.) wire to clean orifice (G). Blow out chamber (F) and orifice (G) by mouth using a short piece of tubing.



**Table 6-1. Improved Clean Air Induction System - Organizational Maintenance Quarterly Preventive Maintenance Checks and Services (Continued)**

ITEM NO.	ITEM TO BE INSPECTED	PROCEDURES
29	Dest Detector Filter Strip (right and left sides) (continued)	Blow out (by mouth) compressor housing hole (H)
30		Inspect cover chamber (J) for contamination. Clean chamber (J) as required.
31		Using pipe cleaner (item 7, appendix C, clean drilled holes (K) and blow out (by mouth).



32 Dust Detector  
Filter Strip  
(right and  
left sides)  
(continued)

Replace three preformed packings (L)

33

Service dust detector filter strip (D).

**NOTE**

Make sure all orifices are clean.

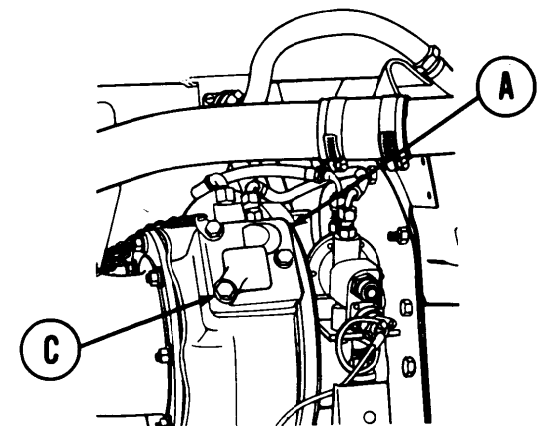
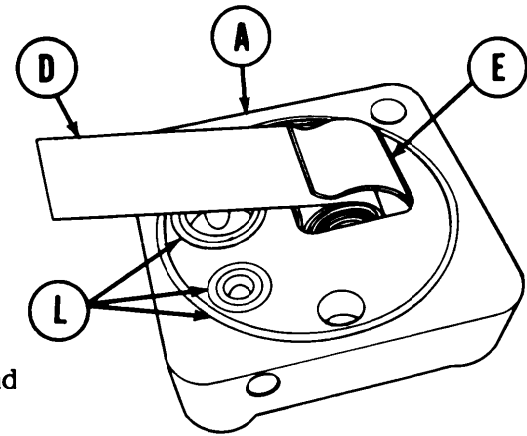
Cut off approximately two inches from end of filter strip (D).

Pull filter strip (D) so that approximately 1/2 inch will extend past edge of cover (A) when filter strip is installed.

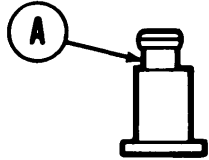
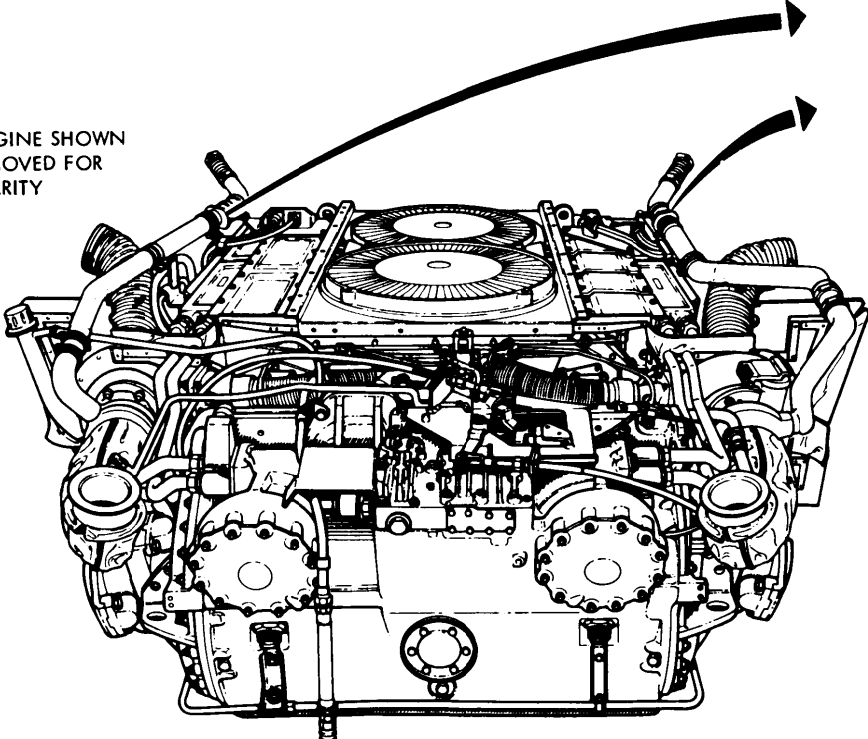
Install filter strip (D) and retainer (E) in cover (A). Filter strip (D) must be approximately 1/2 inch past edge of cover (A).

Install cover (A). Finger tighten three captive screws (C).

Perform dust detector operational test (para. 6-17j).



**Table 6-1. Improved Clean Air Induction System - Organizational Maintenance Quarterly Preventive Maintenance Checks and Services (Continued)**

ITEM NO.	ITEM TO BE INSPECTED	PROCEDURES
34	Vehicle Exhaust Dust Ejector (VEDES)	<p>Remove check valve (A) (para 6-16b).</p> <p>Inspect check valve (A) to make sure flapper is not sticking or broken. If sticking or broken, install new check valve (para. 6-16b).</p> <p>Install check valve (A) (para. 6-16b).</p> <div style="text-align: right; margin-right: 100px;">  </div> <p>ENGINE SHOWN REMOVED FOR CLARITY</p> 

35 Vehicle  
Exhaust  
Dust Ejector  
System  
(VEDES)  
(continued)

Check all hoses and hose clamps (A) for security. Intake hoses (B) may be loosely installed at this time. Check that hoses are not cracked, torn or otherwise damaged or deteriorated.

36

Check all tube support clamps and brackets (C) for security. Check both check valves (D) for missing screws, loose clamps, or bad gaskets.

37

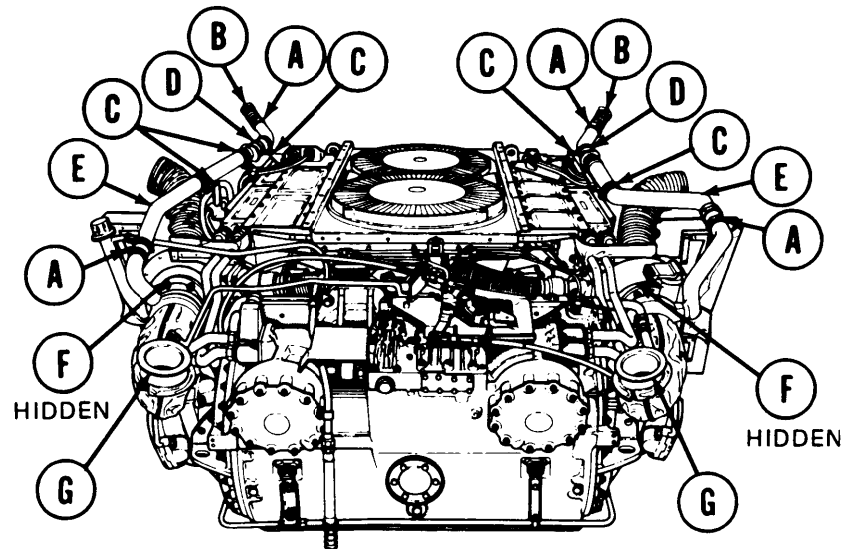
Check tube assemblies (E) for cracks, breaks, or corrosion.

38

Check turbo exhaust gaskets (F) for evidence of exhaust leakage.

39

Check both exhaust ejectors (G) for wear, cracks, breaks, or dust erosion.



### **Section III. Troubleshooting**

#### **6-5 General**

Troubleshooting is a systematic solution of defective components by analysis of trouble symptoms. Table 6-2 lists additional symptoms which could occur in vehicles equipped with the improved clean air induction system.

#### **6-6 Procedures**

Table 6-3 provides step-by-step procedures that isolate the defective component in vehicles equipped with the improved clean air induction system.

**Table 6-2. Improved Clean Air Induction System Malfunction Index**

MALFUNCTION	Page
1. AIR CLEANER FILTER ELEMENTS REQUIRE CLEANING TOO OFTEN, ACCOMPANIED BY:  A. EXCESSIVELY DIRTY ELEMENT  B. LOW POWER AND EXCESSIVE BLACK EXHAUST SMOKE	6-14
2. SOOT AN D/OR MOISTURE ON FILTER ELEMENT AND/OR DARK COLORED WATER OR MUD IN SCAVENGE TUBE OR CHECK VALVE.	6-14
3. HIGH FILTER CLOG INDICATOR READING DURING HEAVY SNOW OPERATION ACCOMPANIED BY LOW POWER AND EXCESSIVE BLACK EXHAUST SMOKE.	6-14
4. NO FILTER CLOG INDICATOR READING ACCOMPANIED BY LOW POWER AND EXCESSIVE BLACK EXHAUST SMOKE.	6-14
5. ENGINE REVERSAL: VEHICLE HAS STALLED AND ROLLED BACKWARD DOWN AN INCLINE WITH TRANSMISSION IN A FORWARD GEAR	6-14
6. POWERPLANT WARNING AND DUST DETECTOR WARNING LIGHTS ON, ONE (OR BOTH) DUST DETECTOR PRESSURE SWITCH(ES) TRIPPED, AND DUST DETECTOR FILTER STRIP INDICATES CONTAMINATION OF INTAKE AIR BY:  A. DUST - (COLOR OF LOCAL SURROUNDINGS) B. FUEL - (CLEAR TO TAN IN COLOR - OILY FEELING) C. SOOT, DRY - (GRAY TO BLACK IN COLOR, DUSTY, AND SMEARS) D. OIL, BLACK, AND WET E. WATER	6-15
7. POWERPLANT WARNING AND DUST DETECTOR WARNING LIGHTS ON, ONE (OR BOTH) DUST DETECTOR PRESSURE SWITCH(ES) TRIPPED, BUT DUST DETECTOR FILTER STRIP DOES NOT INDICATE CONTAMINATION OF INTAKE AIR.	6-16
8. DUST DETECTOR WARNING LIGHT ON, POWER PLANT WARNING LIGHT OFF, DUST DETECTOR PRESSURE SWITCH(ES) TRIPPED.	6-17
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10. DUST DETECTOR PRESSURE SWITCH(ES) TRIPPED, BUT DUST DETECTOR WARNING LIGHT AND POWERPLANT WARNING LIGHT DO NOT COME ON.	6-17
11. POWERPLANT WARNING LIGHT ON, DUST DETECTOR WARNING LIGHT ON, BUT DUST DETECTOR PRESSURE SWITCH(ES) NOT TRIPPED.	6-18
12. POWERPLANT WARNING LIGHT NOT ON, DUST DETECTOR WARNING LIGHT NOT ON, DUST DETECTOR PRESSURE SWITCH(ES) NOT TRIPPED, DUST INGESTION IS APPARENT.	6-19

**Table 6-3. Improved Clean Air Induction System Troubleshooting - Continued**

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
<b>VEHICLE EXHAUST DUST EJECTOR SYSTEM (VEDES)</b>		
1.	AIR CLEANER FILTER ELEMENTS REQUIRE CLEANING TOO OFTEN, ACCOMPANIED BY:	
	A.	EXCESSIVELY DIRTY ELEMENT
	Step 1.	Inspect exhaust protector cap for free action or damage. Repair or replace as necessary.
	Step 2.	Inspect precleaned and dust scavenge sections of air cleaner through inspection holes for plugging from dust, mud, or snow. Clean out as required.
	Step 3.	Inspect scavenge tubes and hoses for loose clamps, holes, or cracks. a. Tighten or replace clamps as required (para. 6-16a). b. Replace tubes or hoses as required (para. 6-16a).
	Step 4.	Inspect check valve for free action. Replace as necessary (para. 6-16 b).
	B.	LOW POWER AND EXCESSIVE BLACK EXHAUST SMOKE
	Step 1.	Inspect air intake at turret bulkhead for clogging or restriction. Clean out as necessary.
	Step 2.	Inspect air cleaner intake hose for collapsed condition. Replace as necessary (para. 6-9).
	Step 3.	Inspect engine intake manifold for leaks. Notify direct support to repair or replace.
2.	SOOT AND/OR MOISTURE ON FILTER ELEMENT AND/OR DARK COLORED WATER OR MUD IN SCAVENGE TUBE OR CHECK VALVE.	
	Step 1.	Inspect exhaust protector cap for free action or damage. Repair or replace as necessary (TM 20-1).
	Step 2.	Inspect check valve for free action. Replace as necessary (para. 6-16b).
3.	HIGH FILTER CLOG INDICATOR READING DURING HEAVY SNOW OPERATION ACCOMPANIED BY LOW POWER AND EXCESSIVE BLACK EXHAUST SMOKE	
	Inspect for heavy snow or ice accumulations in air cleaner filter compartment and precleaned dust scavenge sections.	
4.	NO FILTER CLOG INDICATOR READING ACCOMPANIED BY LOW POWER AND EXCESSIVE BLACK EXHAUST SMOKE.	
	Step 1.	Inspect and clean filter.
	Step 2.	Start engine and look for reduction in exhaust smoke.
	Step 3.	If a reduction in exhaust smoke occurs replace filter clog indicator; if not notify direct support maintenance.
5.	ENGINE REVERSAL: VEHICLE HAS STALLED AND ROLLED BACKWARD DOWN AN INCLINE WITH TRANSMISSION IN A FORWARD GEAR	
	Inspect insides of both air cleaner filter elements. Replace element if charring, soot, fuel, or burn holes are found inside, or if element seals show signs of excessive heat (para. 6-15).	



**Table 6-3. Improved Clean Air Induction System Troubleshooting - Continued**

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
6.	POWERPLANT WARNING AND DUST DEFLECTOR WARNING LIGHTS ON, ONE (OR BOTH) DUST DETECTOR PRESSURE SWITCH(ES) TRIPPED, AND DUST DETECTOR FILTER STRIP INDICATES CONTAMINATION OF INTAKE AIR BY:	
A.	DUST - (Color of local surroundings)	
	Step 1.	Inspect air cleaner outlet hose for holes or loose clamps a. If clamps are loose, tighten them. b. If hose is damaged, replace (para. 6-11), go to step 7. c. If air cleaner outlet hose is OK, go to step 2.
	Step 2.	Inspect air cleaner door gasket for damage. a. If door gasket is damaged, replace it (para. 6-14a), go to step 7. b. If door gasket is OK, go to step 3.
	Step 3.	Inspect air cleaner filter element and seal for damage or leaks. a. If filter is damaged or leaking, replace filter element (para. 6-15), go to step 7. b. If filter seal is OK, go to step 4.
	Step 4.	Inspect air cleaner outlet elbow for leaking gasket, cracks, or breaks. a. If gasket leaks, replace (para. 6-14 b), go to step 7. b. If elbow is damaged, replace (para. 6-14b), go to step 7. c. If air cleaner outlet elbow is OK, go to step 5.
	Step 5.	Inspect turbo supercharger inlet elbow for leaking gasket, cracks, or breaks. If elbow is damaged, replace (para. 6-12), go to step 7.
	Step 6.	Inspect air cleaner filter clog indicator. a. If filter clog indicator indicates a clogged air cleaner filter (a reading of 25 or more), clean or replace air cleaner filter element (para. 6-15). b. If filter clog indicator does not indicate clogged filter, go to step 7. If filter clog indicator is damaged or missing, replace it (para. 6-14d), go to step 7.
	Step 7.	Change engine oil and filter, run engine 10 hours. Take engine oil sample and submit to AOAP laboratory per LO-12.
	Step 8.	Service dust detector filter strip (PMCS, item 23).
B.	FUEL - (Clear to tan in color - Oil feeling)	
	Step 1.	Inspect fuel/water separator bleed cap. If damaged, replace (TM 20-1). If OK, go to step 2.
	Step 2.	Inspect primary fuel filter bleed cap. If damaged, replace (TM 20-1). If OK, go to step 3.
	Step 3.	Inspect fuel tank condensate relief outlet plug assembly. If damaged, replace (TM 20-1). If OK, go to step 4.
	Step 4.	Inspect inside of both air cleaner filter elements. Replace element if evidence of fuel, soot, or charring is found inside element. Go to step 5.
	Step 5.	Service dust detector filter strip (see quarterly PMCS, item 23).
C.	SOOT, DRY - (Gray to black in color, dusty, and smears).	
	Step 1.	Inspect inside and out of both air cleaner filter elements. Replace element if soot, charring, or fuel is found on element. Go step 2.
	Step 2.	Inspect for exhaust recirculation (TM 20-1).
	Step 3.	Service dust detector filter strip (see quarterly PMCS, item 23).

**Table 6-3. Improved Clean Air Induction System Troubleshooting - Continued**

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
6. POWERPLANT WARNING AND DUST DEFLECTOR WARNING LIGHTS ON, ONE (OR BOTH) DUST DETECTOR PRESSURE SWITCH(ES) TRIPPED, AND DUST DETECTOR FILTER STRIP INDICATES CONTAMINATION OF INTAKE AIR BY: - Continued	D. OIL, BLACK, AND WET	Notify support maintenance personnel of defective turbosupercharger compressor shaft seal.
	E. WATER - (Wet, not oil, possible mud color of local surroundings).	<p>Step 1. Inspect air cleaner outlet hose for holes or loose clamps.</p> <ul style="list-style-type: none"> <li>a. If clamps are loose, tighten them.</li> <li>b. If hose is damaged, replace (para 6-11).</li> <li>c. If air cleaner outlet hose is OK, go to step 2.</li> </ul> <p>Step 2. Inspect air cleaner outlet elbow for leaking gasket, cracks, or beaks.</p> <ul style="list-style-type: none"> <li>a. If gasket leaks, replace it (para. 6-14b).</li> <li>b. If elbow is damaged, replace (para 6-14 b).</li> </ul> <p>Step 3. Service dust detector filter strip (see quarterly PMCS, item 23).</p>
7. POWERPLANT WARNING AND DUST DETECTOR WARNING LIGHTS ON, ONE (OR BOTH) DUST DETECTOR PRESSURE SWITCH(ES) TRIPPED, BUT DUST DETECTOR FILTER STRIP DOES NOT INDICATE CONTAMINATION OF INTAKE AIR.		Step 1. Press plastic cap on dust detector pressure switch to reset switch.
		<b><u>WARNING</u></b>
		Make sure area around vehicle is clear of personnel and equipment before performing step 2.
		Step 2. Start engine. Apply vehicle brakes. Put transmission lever in high gear and operate engine at 1800 to 1900 rpm for no more than 30 seconds. If switch trips and warning lights come on again, replace dust detector pressure switch (para 6-17b).

**Table 6-3. Improved Clean Air Induction System Troubleshooting - Continued**

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
8. DUST DETECTOR WARNING LIGHT ON, POWERPLANT WARNING LIGHT OFF, DUST DETECTOR PRESSURE SWITCH(ES) TRIPPED (FIG 3-312.1).	Step 1. Set MASTER BATTERY switch to OFF.	Step 2. Disconnect connector P1 of harness 12325927 from dust detector warning light box.
	Step 3. Set MASTER BATTERY switch to ON. Check for 24 vdc between pins-D (positive) and B (negative) of harness connector P1.	<ul style="list-style-type: none"> <li>a. If 24 vdc exists, replace dust detector warning light box (para. 6-17g, M60A3; 6-17h, M728; 6-17i, M48A5AVLB, M60A1AVLB).</li> <li>b. If 24 vdc does not exist, replace dust detector warning light wiring harness 12325927 (6-17f).</li> </ul>
9. POWERPLANT WARNING LIGHT ON, DUST DETECTOR WARNING LIGHT OFF, DUST DETECTOR PRESSURE SWITCH(ES) TRIPPED (FIG. 6-2).	Step 1. Set MASTER BATTERY switch to ON.	Step 2. Press DUST DETECTOR WARNING LIGHT lamp to test.
		<ul style="list-style-type: none"> <li>a. If light comes on, replace dust detector warning light box (para. 6-17g, M60A3; 6-17h, M728; 6-17i, M48A5AVLB, M60A1AVLB).</li> <li>b. If lamp does not come on, go to step 3.</li> </ul>
	Step 3. Replace DUST DETECTOR WARNING lamp.	<ul style="list-style-type: none"> <li>a. If lamp operates, discard defective bulb.</li> <li>b. If lamp does not operate, go to step 4.</li> </ul>
	Step 4. Set MASTER BATTERY switch to OFF.	Step 5. Disconnect connector P1 of harness 12325927 from dust detector warning light box.
	Step 6. Set MASTER BATTERY switch to ON. Check for 24 vdc between pins A and B of connector P1.	<ul style="list-style-type: none"> <li>a. If 24 vdc exists, replace dust detector warning light box (para. 6-17g, M60A3; 6-17h, M728; 6-17i, M48A5AVLB, M60A1AVLB).</li> <li>b. If 24 vdc does not exist, replace dust detector warning light wiring harness 12325927 (para 6-17f).</li> </ul>
10. DUST DETECTOR PRESSURE SWITCH(ES) TRIPPED, BUT DUST DETECTOR WARNING LIGHT AND POWERPLANT WARNING LIGHT DO NOT COME ON (FIG. 6-2).	Step 1. Set MASTER BATTERY switch to OFF.	Step 2. Disconnect leads of engine wiring harness 12314608 (circuit 509B) from right and left dust detector pressure switches. Check continuity across terminals of each pressure switch connector.
		<ul style="list-style-type: none"> <li>a. If continuity across terminals does not exist, replace pressure switch (para. 6-17b).</li> </ul>
		<ul style="list-style-type: none"> <li>b. If continuity across terminals does exist, check continuity from connector pin B to ground lead of harness 12314608.</li> </ul>
		<ul style="list-style-type: none"> <li>c. If ground lead continuity does not exist, replace harness 12314608 (para. 6-17C).</li> </ul>
		<ul style="list-style-type: none"> <li>d. If ground lead continuity exists, check continuity of engine wiring harness 12314608 (circuit 509B) from pin C of engine connector to pin A of pressure switch connector.</li> </ul>

**Table 6-3. Improved Clean Air Induction System Troubleshooting - Continued**

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
10. DUST DETECTOR PRESSURE SWITCH(ES) TRIPPED, BUT DUST DETECTOR WARNING LIGHT AND POWERPLANT WARNING LIGHT DO NOT COME ON (FIG. 6-2) - Continued		<ul style="list-style-type: none"> <li>e. If continuity does not exist through engine wiring harness 12314608, replace harness (para. 6-17c).</li> <li>f. If continuity exists through engine wiring harness 12314608, check continuity through engine-to-bulkhead lead 12325929 (circuit 509B) from engine connector socket C to bulkhead connector pin C.</li> <li>g. If continuity does not exist, replace engine to bulkhead lead assembly 12325929 (circuit 509B (para. 6-17d).</li> <li>h. If continuity exists through engine-to-bulkhead lead 12325929, disconnect hull intermediate lead assembly 12325928 (circuit 509B) from short lead of dust detector warning light harness at dust detector warning light box. Check continuity through lead 12325928 from pin C at bulkhead to short lead connector.</li> <li>i. If continuity does not exist, replace hull intermediate lead 12325928 (circuit 509B (para. 6-17e).</li> <li>j. If continuity exists through hull intermediate lead, go to step 3.</li> </ul> <p>Step 3. Disconnect connector P1 of harness 12325927 from dust detector warning light box. Check continuity through circuit 509B of harness 12325927.</p> <ul style="list-style-type: none"> <li>a. If continuity exists, replace dust detector warning light box (para. 6-17g, M60A3; 6-17h, M728; 6-17i, M48A5AVLB, M60A1AVLB).</li> <li>b. If continuity does not exist replace dust detector warning light harness 12325927 (para 6-17f).</li> </ul>
11. POWERPLANT WARNING LIGHT ON, DUST DETECTOR WARNING LIGHT ON, BUT DUST DETECTOR PRESSURE SWITCH(ES) NOT TRIPPED (FIG. 6-2).		<p>Step 1. Set MASTER BATTERY switch to OFF.</p> <p>Step 2. Disconnect leads of engine wiring harness 12314608 (circuit 509B) from right and left dust detector pressure switches. Check continuity across terminals of each pressure switch connector.</p> <ul style="list-style-type: none"> <li>a. If continuity across terminals exists, replace pressure switch (para. 6-17b).</li> <li>b. If continuity does not exist, go to step 3.</li> </ul> <p>Step 3. Disconnect connector of engine wiring harness 12314608 (circuit 509B) at engine disconnect. Check harness 12314608 (circuit 509B) at engine disconnect by checking continuity to all other connector pins and to connector shells.</p> <ul style="list-style-type: none"> <li>a. If continuity exists, replace engine wiring harness 12314608 (para. 6-17c).</li> <li>b. If continuity does not exist, go to step 4.</li> </ul>

**Table 6-3. Improved Clean Air Induction System Troubleshooting - Continued**

MALFUNCTION	TEST OR INSPECTION	CORRECTIVE ACTION
11. POWERPLANT WARNING LIGHT ON, DUST DETECTOR WARNING LIGHT ON, BUT DUST DETECTOR PRESSURE SWITCH(ES) NOT TRIPPED (FIG. 6-2) - Continued.	Step 4.	Disconnect connectors of engine to bulkhead lead assembly 12325929 at engine disconnect and at bulkhead disconnect. Check lead assembly circuit 509B by checking continuity to all other connector pins, connector sheels, and groun. a. If continuity exists, replace engine to bulkhead lead assembly 12325929 (para 6-17d). b. If continuity does not exist, go to step 5.
	Step 5.	Disconnect connectors of hull intermediate lead assembly 12325928 at bulkhead disconnect and at short lead (circuit 509B) from dust detector warning light box harness connector. Check for lead assembly 12325928 at bulkhead connector by checking continuity to all other connector pins, connector shells, and ground. a. If continuity exists, replace hull intermediate lead assembly 12325928 (para. 6-17e). b. If continuity does not exist, go to step 6.
	Step 6.	Disconnect connector P1 of dust detector warning light wiring harness from dust detector warning light box. Check for circuit between dust detector warning light box and harness assembly by checking for continuity between connector pins C and B and between connector pin C and connector shell. a. If continuity exists, replace dust detector warning light harness (para. 6-17f). b. If continuity does not exist, replace dust detector warning light box (para. 6-17g, M60A3; 6-17h, M728; 6017i, M48A5AVLB, M60A1AVLB).
12. POWERPLANT WARNING LIGHT NOT ON, DUST DETECTOR WARNING LIGHT NOT ON, DUST DETECTOR PRESSURE SWITCH(ES) NOT TRIPPED, DUST INGESTION IS APPARENT.	Step 1.	Service dust detector filter strip (see quarterly PMCS, item 23).
	Step 2.	Check air pressure hoses for blockage and correct installation (para. 6-17 b).
	Step 3.	Perform dust detector operational test (para. 6-17j). a. If dust detector is operational go to step 6. b. If dust detector is not operational, go to step 4.
	Step 4.	Replace dust detector pressure switch(es) (para. 6-17b).
	Step 5.	Perform dust detector operational test (para. 6-17h). a. If dust detector is operational go to step 6. b. If dust detector is not operational, notify support maintenance.
	Step 6.	Change engine oil and filter. Run engine 10 hours. Take engine oil sample and submit to AOAP laboratory per LO-12.

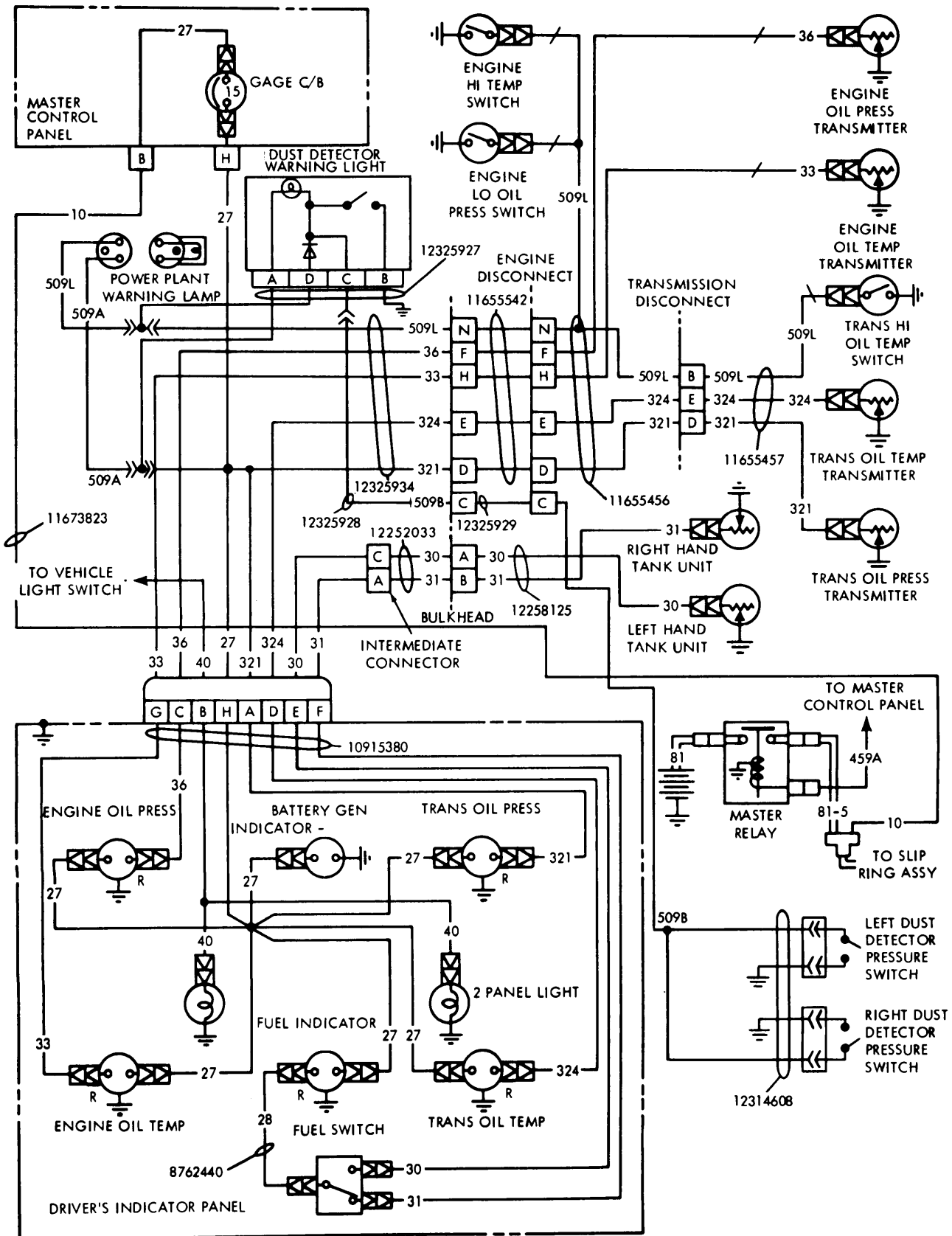


Figure 6-1. Powerplant warning and indicator transmitter circuits - schematic diagram.

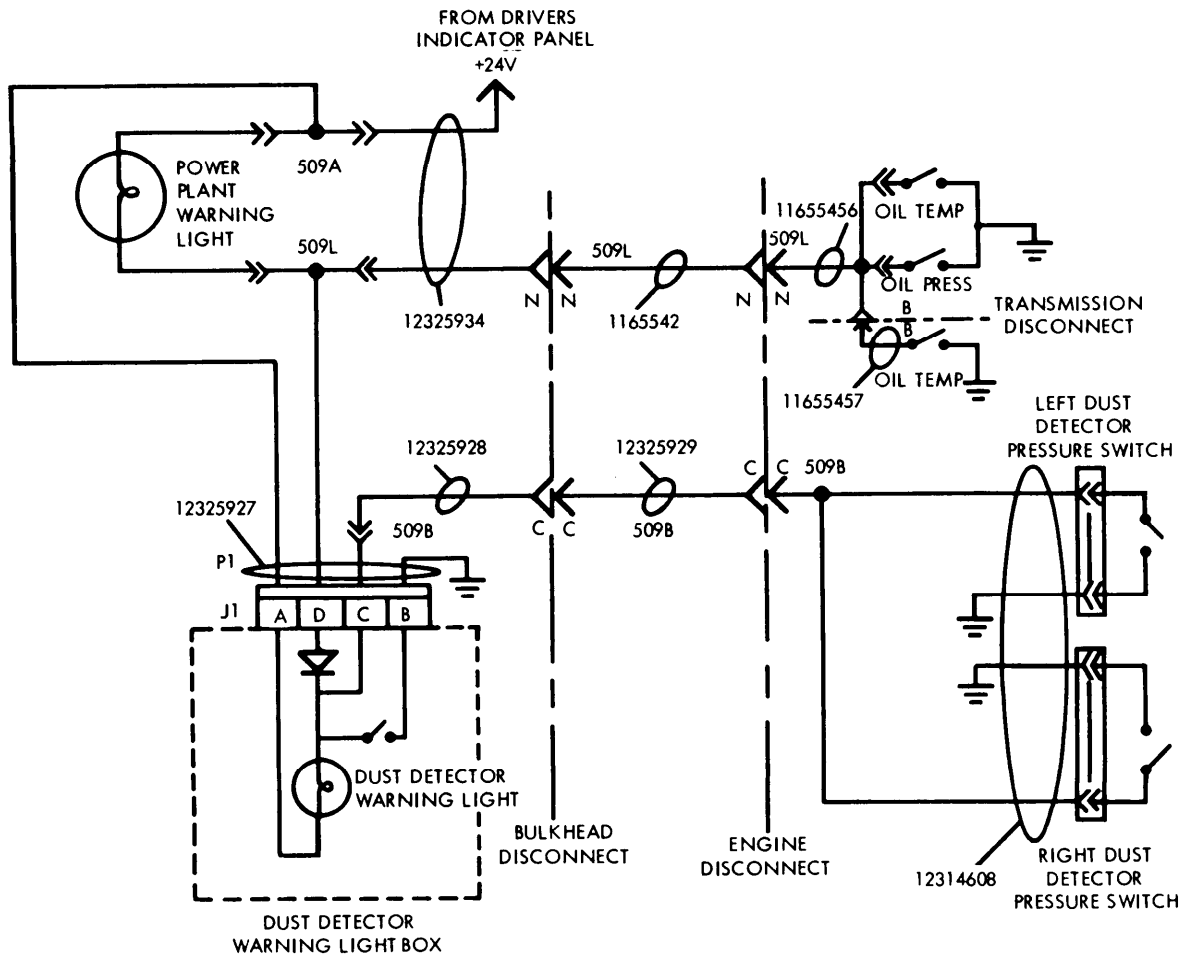


Figure 6-2. Dust detector schematic diagram.

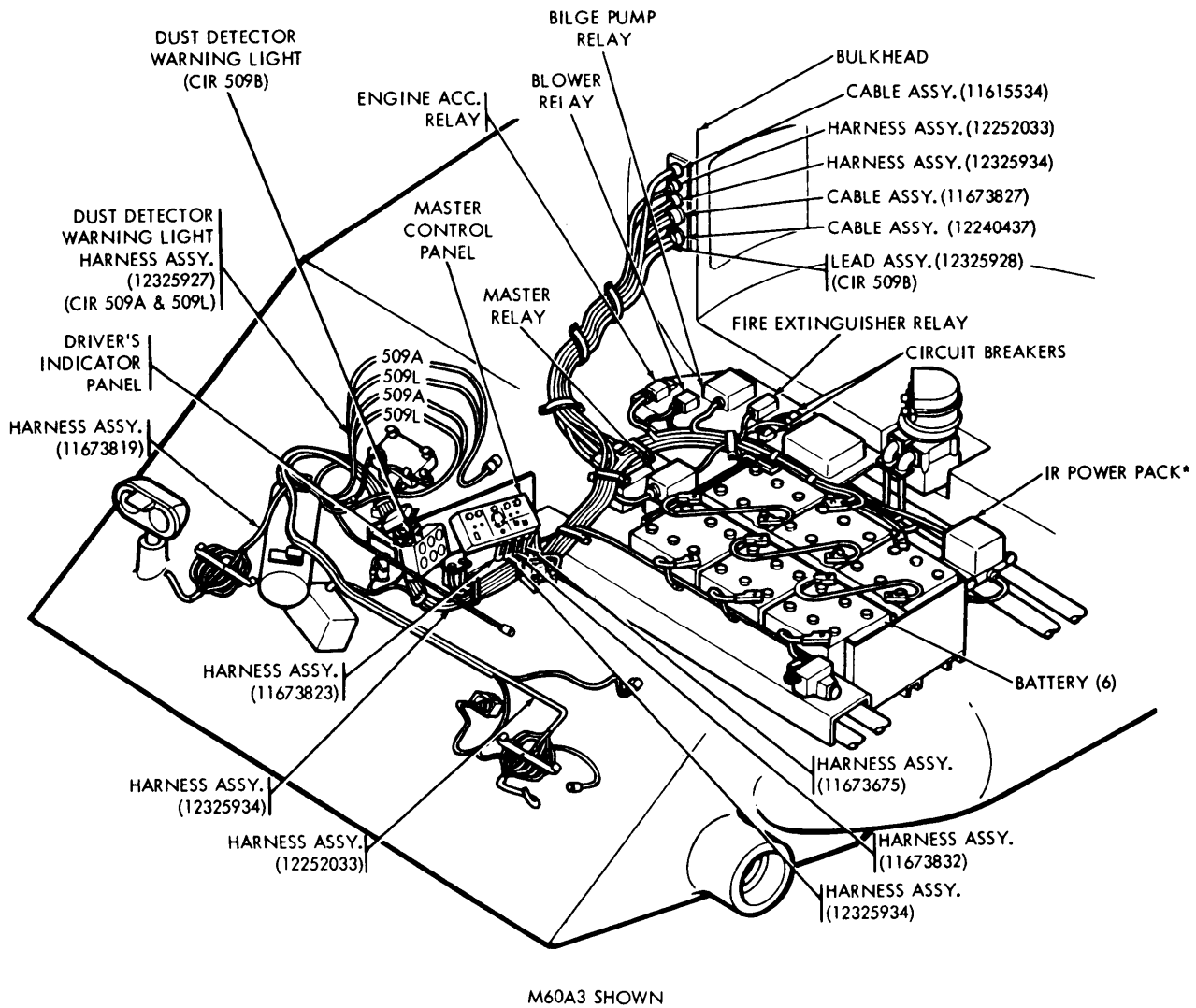
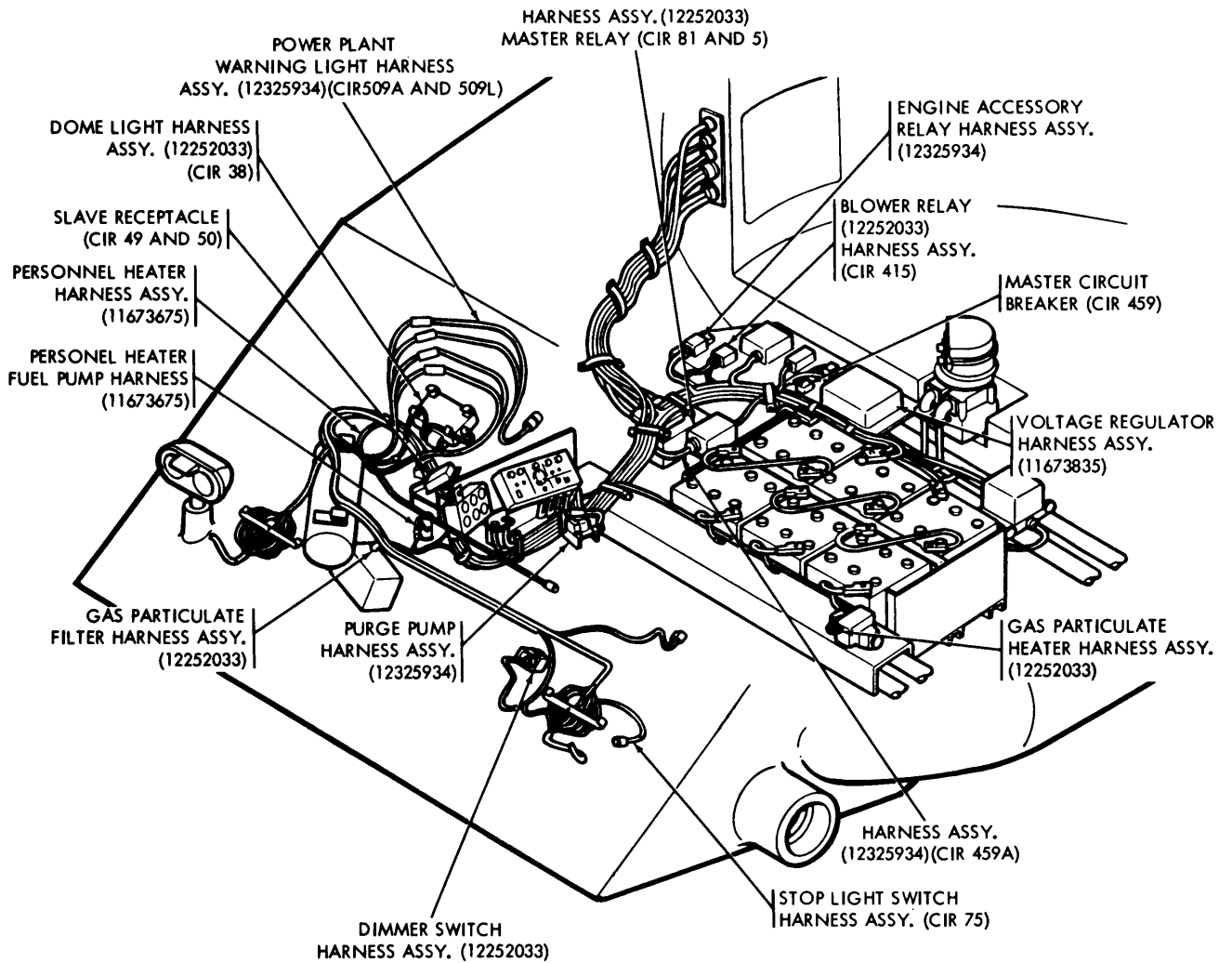


Figure 6-3. Crew compartment wiring harness and components - locational view (sheet 1 of 2).





M60A3 SHOWN

Figure 6-3. Crew compartment wiring harness and components - locational view (sheet 2 of 2).

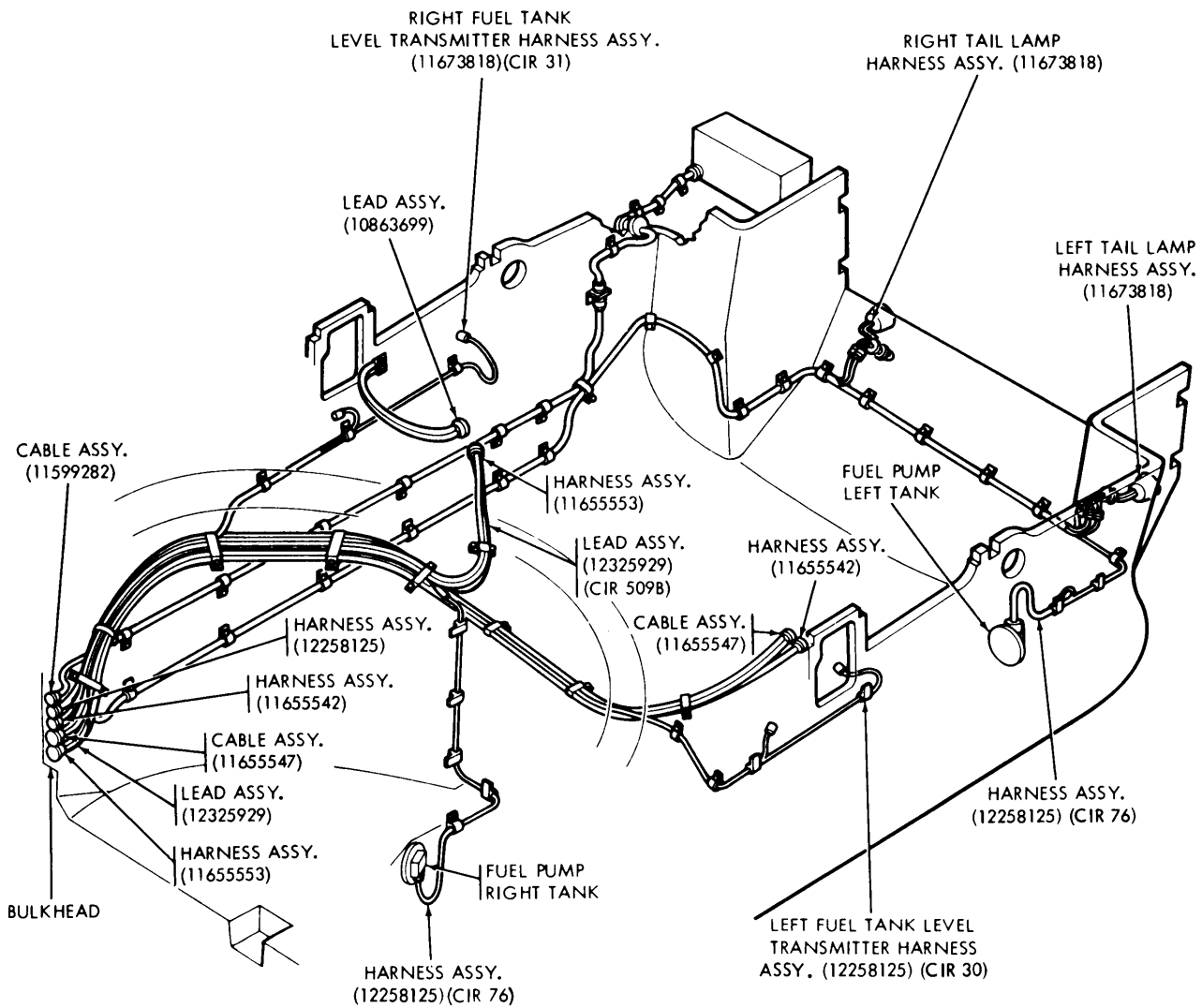


Figure 6-4. Engine compartment wiring harness - locational view.

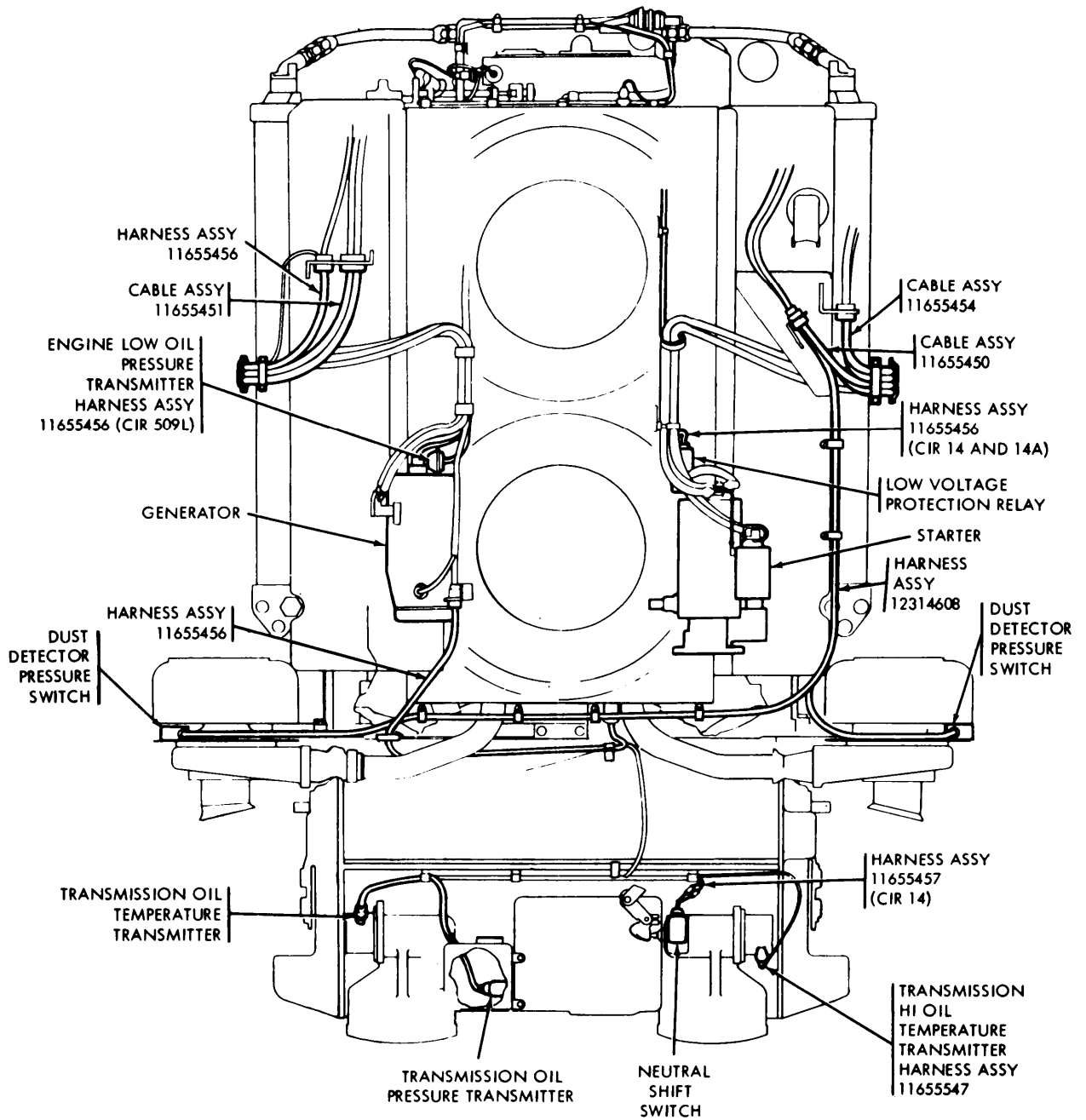


Figure 6-5. Powerplant top - locational view.

## Section IV. Maintenance Procedures

### 6-7. General

This section provides additional maintenance procedures required to support vehicles equipped with the improved clean air induction systems. The procedures are to be used in conjunction with the vehicle organizational maintenance manuals (TM 20-1).

### 6-8. Powerplant Replacement

During powerplant replacement, the following steps must be performed in addition to the procedures described in the TM-20-1.

- a. *Removal. After disconnecting the air cleaner outlet hose:*
  - (1) Loosen two hose clamps (fig. 6-6) securing hose between air cleaner exhaust manifold tube and VEDES intake tube.
  - (2) Slide hose back off air cleaner exhaust manifold tube.
- b. *Installation. After installing the air cleaner outlet hose and clamps:*
  - (1) Install hose between air cleaner exhaust manifold tube and VEDES intake tube (fig. 6-6).
  - (2) Secure hose with two hose clamps.

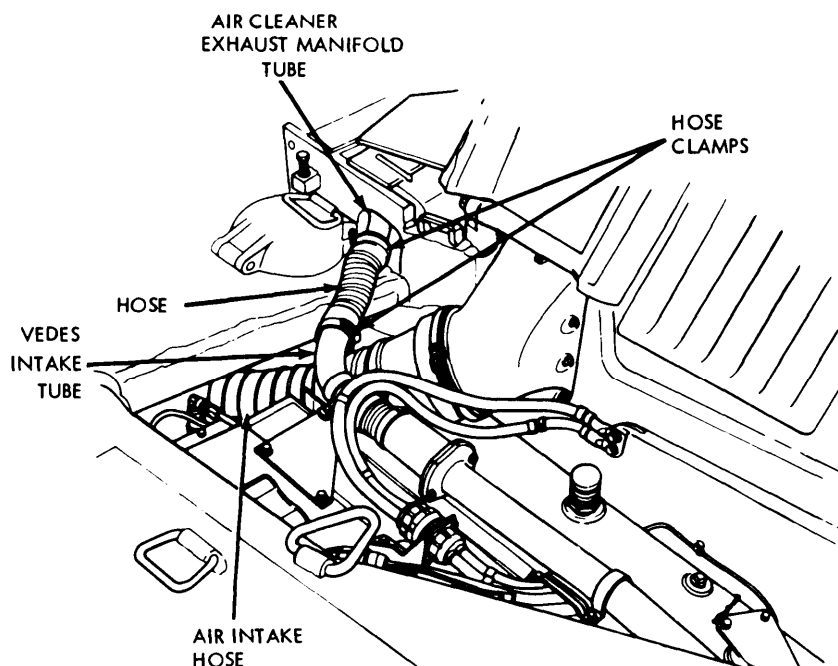


Figure 6-6. VEDES intake tube hose removal/installation (powerplant replacement).

**6-9. Air Intake Hose Assembly Replacement (Fig. 6-7).****NOTE**

Replacement of left and right air cleaner intake hoses is the same. Left side of vehicle shown.

*a. Removal.*

- (1) Open top deck grille doors.
- (2) Remove clamp securing air intake hose to air intake elbow (view A). Remove hose from elbow.
- (3) Inside crew compartment (view B), remove eight nuts and lockwashers securing air intake to bulkhead.
- (4) Pull air intake, with air intake hose attached, into crew compartment.
- (5) Loosen clamp securing hose to air intake flange. Remove hose from flange. Secure hose to flange with clamp.

**NOTE**

If clamp and/or clamp screw is damaged, replace entire clamp assembly. If hose is damaged, replace hose.

*b. Installation.*

- (1) Inside crew compartment, put small amount of silicone compound (item 5, appendix C) inside air intake hose opening (view B). Put air intake hose on air intake flange. Secure hose to flange with clamp.
- (2) Push hose through bulkhead opening and secure air intake to bulkhead with eight nuts and new lockwashers.
- (3) Put air intake hose on air intake hose elbow (view A). Secure hose to elbow with clamp.
- (4) Close top deck grille doors.

**6-10. Air Intake Replacement (Fig. 6-7).****NOTE**

Replacement of left and right air intakes is the same. Left side shown.

*a. Removal.*

- (1) Open top deck grille doors.
- (2) Remove clamp securing air intake hose to hose elbow (view A). Remove hose from elbow.
- (3) Inside crew compartment (view B), remove eight nuts and lockwashers securing air intake to bulkhead. Discard lockwashers.
- (4) Pull air intake, with air in-take hose attached, into crew compartment.
- (5) Loosen clamp securing hose to air intake flange. Remove hose from flange.
- (6) Remove gasket (view C) between air intake and bulkhead. Discard gasket. Clean off old adhesive and gasket material.

- (7) Remove four screws and lockwashers securing air intake cover to air intake. Remove cover and gasket. Discard gasket (view C). Clean off old adhesive and gasket material.
- (8) Remove six nuts and lock-washers (located inside air intake) securing gasket and air intake flange to air intake. Remove gasket and flange. Discard gasket and lockwashers (view C). Clean off old adhesive and gasket material.
- (9) Clean screen if required.

*b. Installation.*

- (1) Using adhesive (item 1, appendix C) cement new gasket on air intake flange (view C). Secure flange to air intake with six nuts and new lockwashers.
- (2) Using adhesive (item 1, appendix C) cement new gasket on air intake cover. Secure cover to intake with four screws and new lockwashers.
- (3) Using adhesive (item 1, appendix C) cement new gasket to bulkhead opening inside crew compartment.
- (4) Put small amount of silicone compound (item 5, appendix C) on inside of hose opening (view B). Put hose on air intake flange. Secure hose to flange with clamp.
- (5) Position air intake flange over bulkhead opening (view B). Secure intake to bulkhead with eight nuts and new lockwashers.
- (6) Put air intake hose on air intake hose elbow (view A). Secure hose to elbow with clamp.
- (7) Close top deck grille doors.

**6-11. Air Cleaner Outlet Hose Assembly Replacement (Fig. 6-7).**

**NOTE**

Replacement of left and right air cleaner outlet hose assemblies is the same. Left side shown.

*a. Removal.*

- (1) Open top deck door assemblies.

**CAUTION**

Do not open top deck doors when air cleaner door assembly is open. Damage to air cleaner door may result.

- (2) Pull pin and release quick release clamp. Remove clamp from hose (views D and E).
- (3) Remove screw clamp.
- (4) Remove hose.
- (5) Cover air cleaner outlet elbow and turbo-supercharger inlet elbow to prevent entrance of foreign matter.
- (6) Remove performed packings (view D). Get rid of packings. Clean old adhesive from packing groove on hose assembly.
- (7) Inspect hose assembly for damage or defective parts. Replace hose assembly if hose or flange is unserviceable.

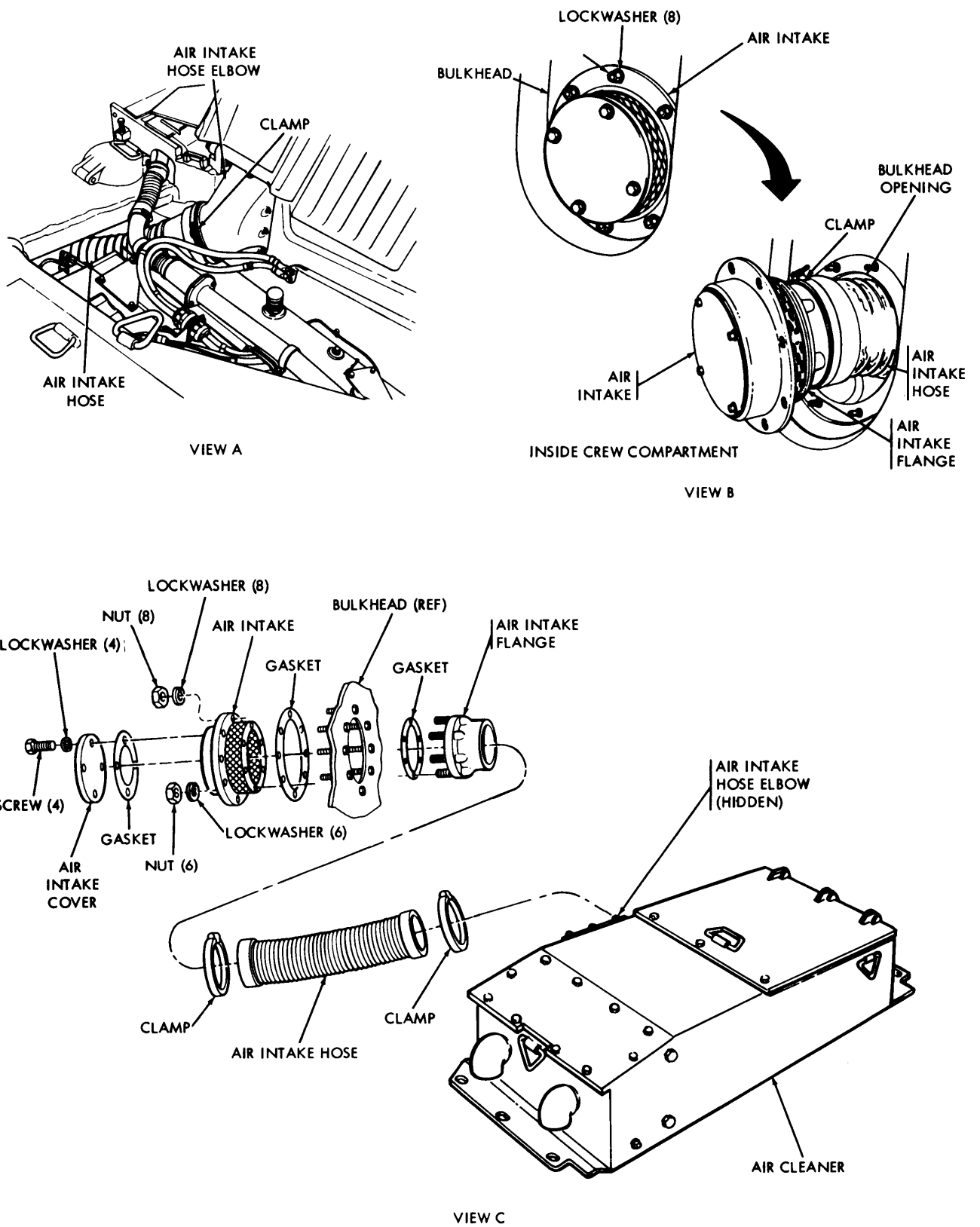


Figure 6-7. Air cleaner hoses, air intake gaskets and screens replacement (sheet 1 of 2).

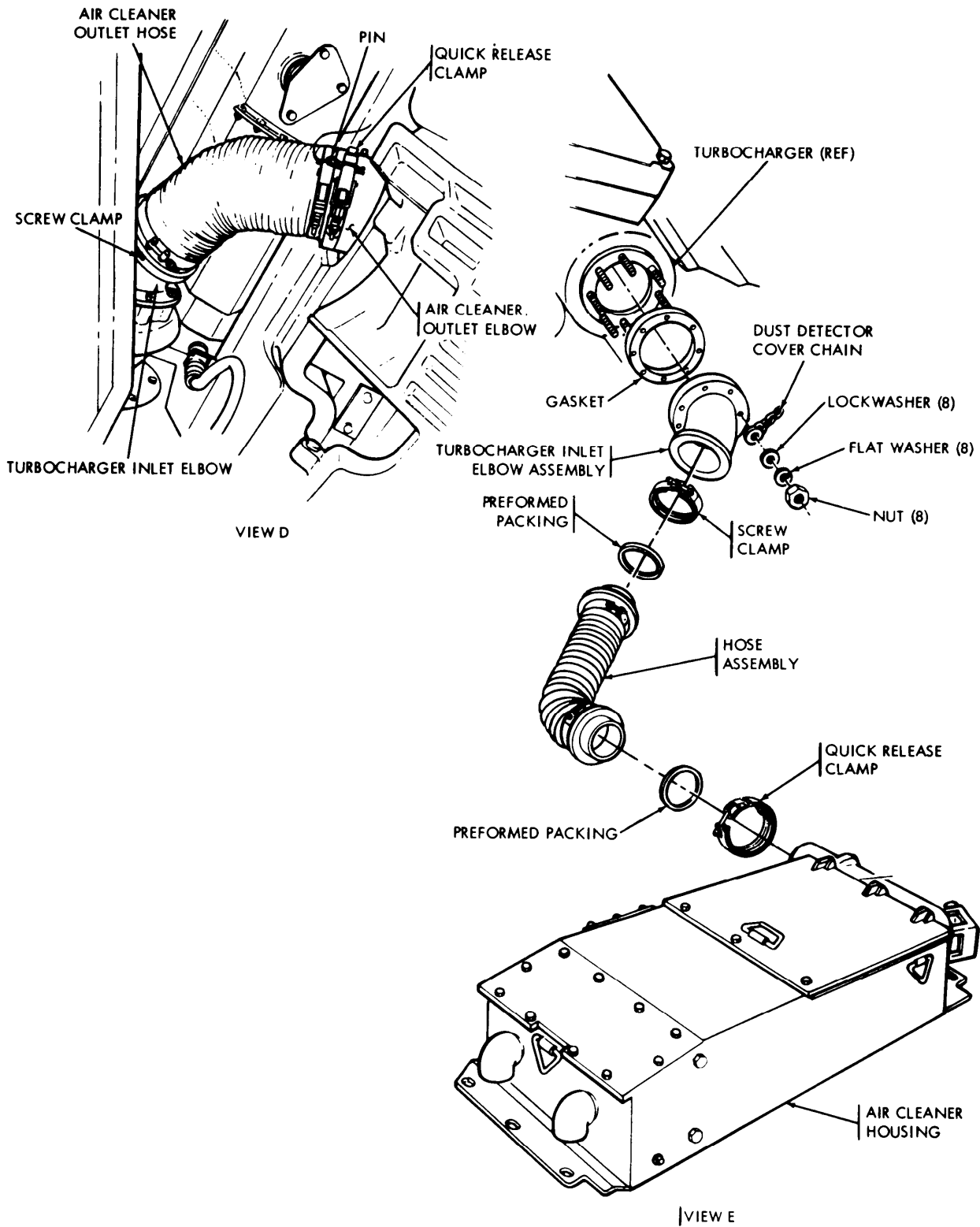


Figure 6-7. Air cleaner hoses, air intake gaskets and screens replacement (sheet 2 of 2).



*b. Installation.*

- (1) Remove covering from air cleaner outlet elbow and turbo-supercharger inlet elbow.
- (2) Apply adhesive (item 4, appendix C) in grooves of hose flanges (view E) and install new preformed packings.
- (3) Install hose assembly between air cleaner outlet elbow and turbocharger inlet elbow (view D).
- (4) Align hose flange to turbo-supercharger elbow flange. position screw clamp on hose and hand tighten screw clamp nut.
- (5) Position quick release clamp on hose. Loosen adjusting nut on "T" bolt of the quick release clamp.
- (6) Align the hose flange and the air cleaner elbow. Engage "T" bolt with hasp and close clamp. Insert safety pin.
- (7) Tighten adjusting nut to eliminate clearance between hasp and "T" bolt. Turn adjusting nut one additional turn. (8-12 lb. in.).
- (8) Tighten screw clamp nut to 25-35 lb.-in. (3-4 N m).
- (9) Close top deck door assemblies.

**6-12. Turbocharger Inlet Elbow Assembly Replacement (Fig. 6-7).****NOTE**

Replacement of left and right turbocharger inlet elbow assemblies is the same. Left side shown.

*a. Removal.***CAUTION**

Do not open top deck door assemblies if air cleaner is open. Damage to air cleaner door may result.

- (1) Open top deck door assemblies.
- (2) Remove intermediate scavenge tube (para. 6-16c).
- (3) Remove air cleaner outlet hose assembly (para. 6-11a).
- (4) Remove eight nuts, lockwashers, and flatwashers securing turbocharger inlet elbow assembly and dust detector cover chain to turbocharger (view E).
- (5) Remove elbow, gasket, and chain.
- (6) Discard gasket. Clean old gasket material off turbocharger.

*b. Installation.*

- (1) Position new gasket and elbow on studs of turbocharger.
- (2) Put dust detector cover chain in position on one stud.
- (3) Secure elbow to turbocharger with eight flatwashers, lockwashers, and nuts.
- (4) Install air cleaner outlet hose assembly (para. 6-11b).
- (5) Install intermediate scavenge tube (para. 6-16c).
- (6) Close top deck door assemblies.

**6-13. Air Cleaner Replacement (Fig. 6-8)****NOTE**

Removal of right and left air cleaners is the same except as noted. Right side shown.

*a. Removal.*

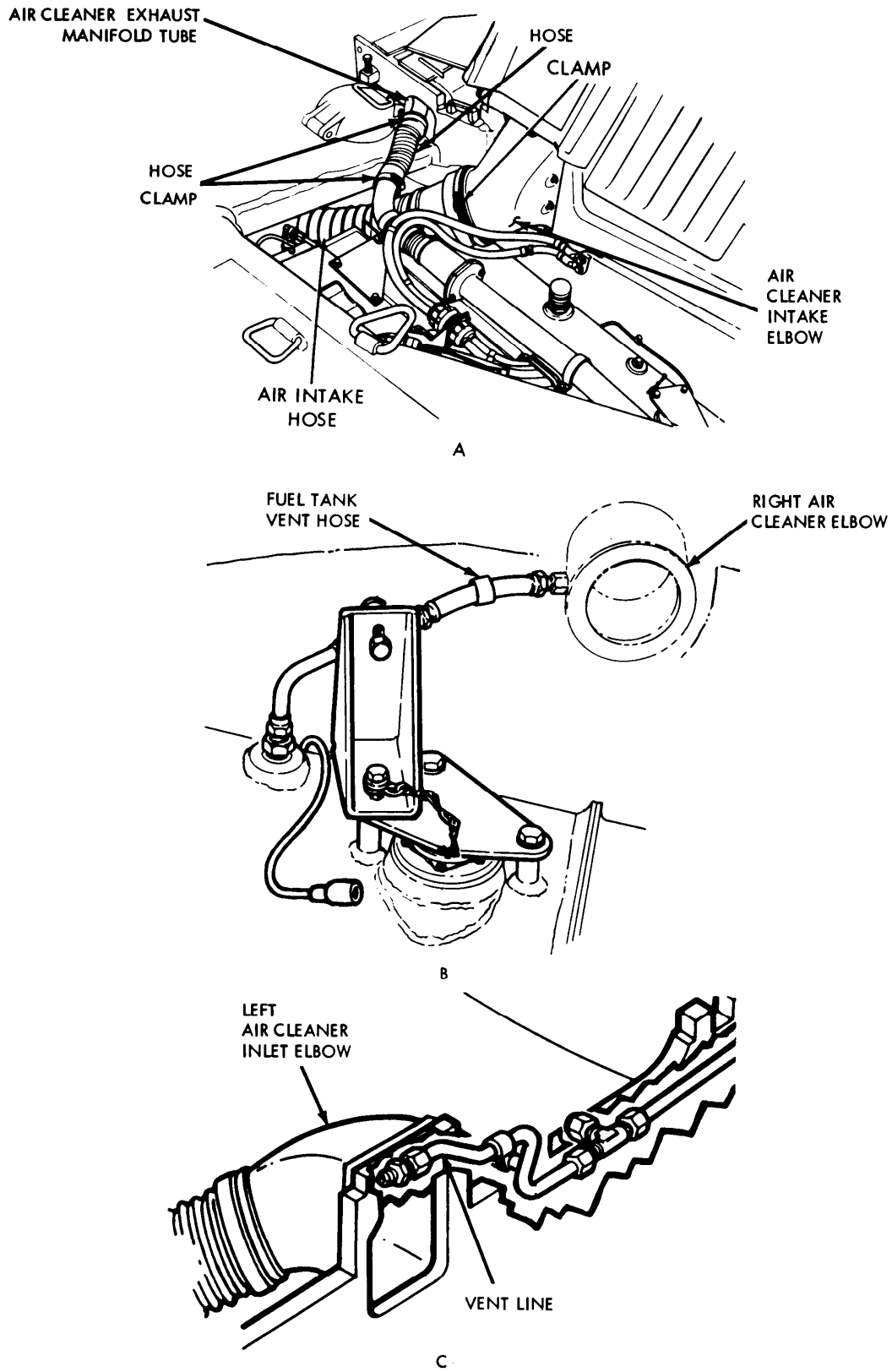


Figure 6-8. Air cleaner replacement (sheet 1 of 2).

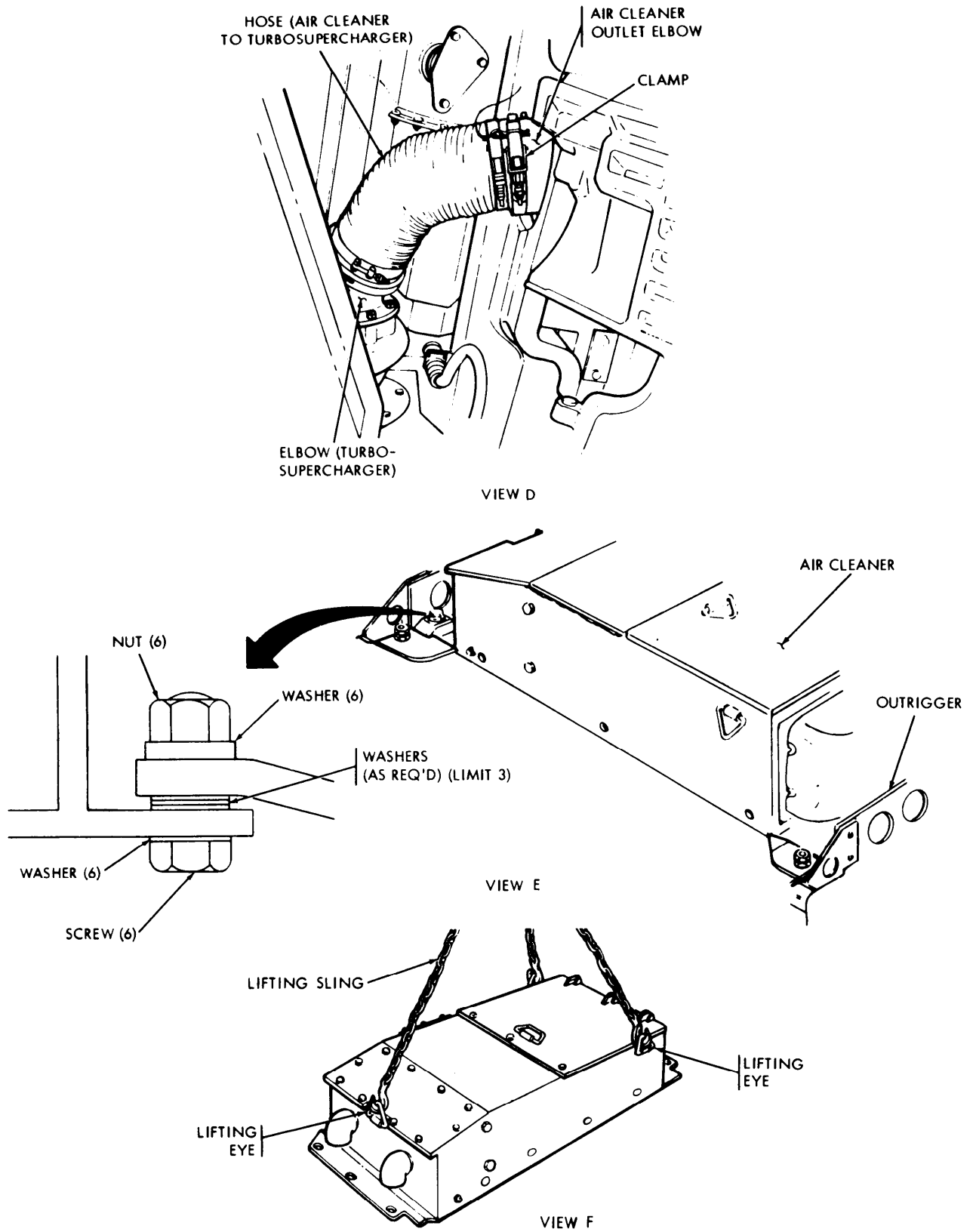


Figure 6-8. Air cleaner replacement (sheet 2 of 2).

**CAUTION**

Do not open top deck door assemblies if air cleaner is open.  
Damage to air cleaner door may result.

- (1) Open top deck door assemblies.
- (2) Loosen two hose clamps and slide hose back off air cleaner exhaust manifold tube (view A). Cover manifold and hose openings to prevent entry of foreign matter.
- (3) Loosen clamp at air cleaner and air intake hose, and remove hose from elbow (view A). Cover elbow and hose openings to prevent entry of foreign matter.

**NOTE**

Steps (4) and (5) apply to right air cleaner. Step (6) applies to left air cleaner.

- (4) Remove air cleaner manifold (para. 6-14e).
- (5) Disconnect fuel tank-to-air cleaner vent hose assembly from right side air cleaner (view B).
- (6) Disconnect final drive vent line from left air cleaner elbow (view C).

**NOTE**

Steps (7) through (12) apply to both sides.

- (7) Loosen clamp at air cleaner outlet elbow and remove hose from elbow (view D). Cover elbow and hose openings to prevent entry of foreign matter.
- (8) Remove air cleaner fender skirt (TM 20-1). Close top deck grille doors.
- (9) Attach lifting sling to three lifting eyes on the sides of the armor air cleaner (view F).
- (10) Remove six screws, 12 washers, and six nuts securing air cleaner housing to outriggers (view E).

**NOTE**

Up to three shim washers may be found between air cleaner housing and outrigger at each mounting screw.

- (11) Take strain on sling and guide air cleaner box away from vehicle until air cleaner air intake and outlet elbows are clear of hull openings (view F).
  - (12) Lift air cleaner housing clear and away from vehicle. Disconnect sling.
- b. Installation.
- (1) Attach lifting sling to the three lifting eyes on the sides of air cleaner (view F).
  - (2) Lift housing and position over edge of track with air cleaner housing centrifugal fan exhaust elbows toward front of vehicle and air intake elbow inboard.
  - (3) Move air cleaner housing into position, guiding air intake and outlet elbows through openings in hull.

**NOTE**

Before tightening nuts, if a gap exists between air cleaner housing and outrigger, use washers MS21200-10 (limit 3 at each mounting bolt) as shims. For air cleaner fit and to maintain clearance between VEDES manifold and hull deck.

- (4) Install six screws, 12 washers, and six nuts to secure air cleaner housing to to outriggers. Prime threaded surfaces with primer (item 8, appendix C) and apply locking compound (item 3, appendix C). Install parts as indicated in view E. Install screws from bottom. Tighten nuts to 85-95 lb.-ft. (115-129 N m).

- (5) Disconnect sling.
- (6) Install air cleaner fender skirt (TM 20-1).
- (7) Remove protective cover from air cleaner air inlet elbow and hose. Install hose on elbow and secure with clamp (view A).
- (8) Remove protective cover from air cleaner exhaust manifold tube and hose. Install hose on tube and secure with clamp (view A).

**NOTE**

If hoses and/or clamp assemblies are damaged, have holes or tears, replace.

**NOTE**

Steps (i) and (j) apply to right air cleaner. Step (k) applies to left air cleaner.

- (9) Install air cleaner manifold (para. e below).
- (10) Connect fuel-tank-to-air cleaner vent hose assembly to right air cleaner only (view B). Connect final drive vent line to left air cleaner elbow (view C).

**NOTE**

Steps (11) and (12) apply to both sides

- (11) Remove protective covers from air cleaner air outlet elbow and hose. Install hose clamp over flange and tighten clamp (view D).
- (12) Close top deck door assemblies.

**6-14. Air Cleaner Repair**

- a. *Door Assembly Gasket Replacement (Fig. 6-9).*
  - (1) Completely remove old gasket and adhesive from gasket recess by scraping or other mechanical means.
  - (2) Apply adhesive (item 1, appendix C) to bottom of gasket recess in door.
  - (3) Install new gasket on door with flat side of rubber gasket toward adhesive.
  - (4) Close door assembly and secure with three screws.
- b. *Air outlet elbow replacement (Fig. 6-9).*
  - (1) Remove air cleaner (para. g(1) above).
  - (2) Remove 14 nuts securing air outlet elbow to air cleaner.
  - (5) Remove air outlet elbow and gasket. Discard gasket. Cover air cleaner opening.

**NOTE**

When outlet elbow is removed from air cleaner, cover the air cleaner opening to prevent entry of foreign material.

- (6) Remove protective cover from air cleaner opening.
- (7) Inspect and clean mating surfaces on air cleaner and outlet elbow.
- (8) Position new gasket and outlet elbow on air cleaner.

- (7) Install 14 nuts securing elbow to air cleaner. Tighten nuts to 35 lb. ft. (47 N.m) using sequence shown in figure 6-9. Repeat sequence tightening nuts to 50 lb. ft. (68 N.m).
  - (8) Install air cleaner on vehicle (para. (g) (2) above).
- c. *Air Intake Elbow Replacement (Fig. 6-9).*
- (1) Remove air cleaner (para. 6-13a above).
  - (2) Remove 10 self-locking nuts securing air intake hose elbow to air cleaner housing.
  - (3) Remove air intake hose elbow and gasket. Discard gasket.

#### NOTE

If air intake elbow is to remain off the air cleaner for a period of time, cover the air cleaner opening to prevent entry of foreign material.

- (4) Remove protective cover from air cleaner air intake hose elbow opening if required.
  - (5) Inspect and clean mating surfaces of air intake hose elbow and air cleaner.
  - (6) Position new gasket and air intake hose elbow on air cleaner.
  - (7) Install 10 self locking nuts securing air intake hose elbow to air cleaner in sequence shown on figure 6-9.
  - (8) Install air cleaner on vehicle (para. (g) (2) above).
- d. *Filter Clog Indicator Replacement (Fig. 6-10).*
- (1) Remove damaged or defective filter clog indicator along with adapter when engine is not operating. If a new filter clog indicator is not installed right away, install plug attached to chain securely into opening in outlet elbow.
  - (2) If plug has been installed into opening (1 above), remove it and install new adapter and filter clog indicator. Install plug in its original position on guard. Push reset button (early model).
- e. *Air Cleaner Manifold Replacement (Fig. 6-11).*

#### NOTE

Replacement of left or right manifold is the same. Left side shown.

- (1) *Removal.*

#### CAUTION

Do not open top deck doors when air cleaner door assembly is open. Damage to air cleaner door may result.

- (a) Open top deck grille doors.
- (b) Loosen two clamps (view A). Remove hose from manifold tube.
- (c) Remove 10 screws and lockwashers securing cover to air cleaner (view A).
- (d) Remove cover and gasket. Discard gasket (view B).
- (e) Loosen four clamps (view C) securing two hoses to manifold and pre-cleaner chamber tubes.
- (f) Remove four screws and lockwashers securing manifold flange to air cleaner. Discard lockwashers.

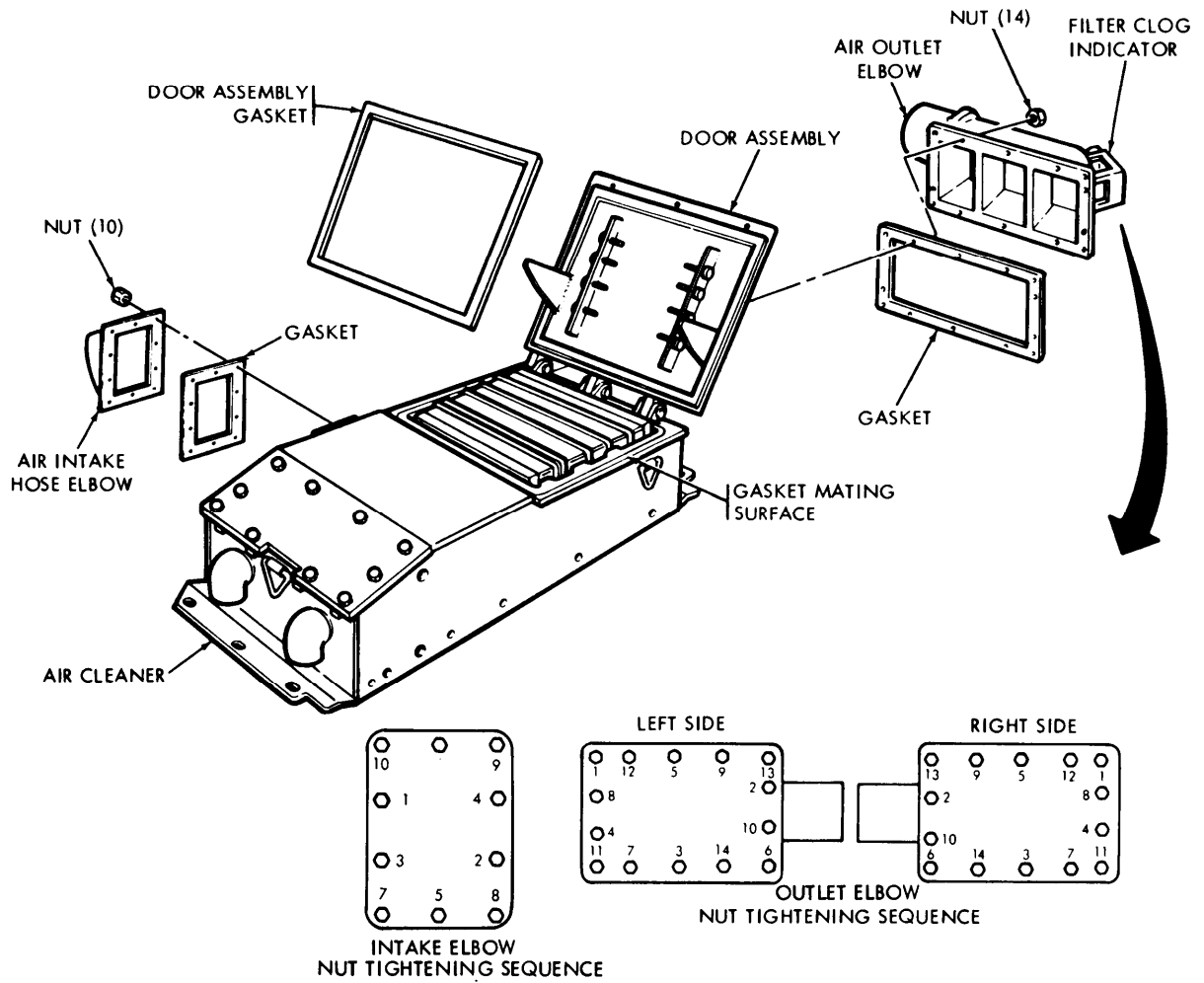


Figure 6-9. Air cleaner repair.

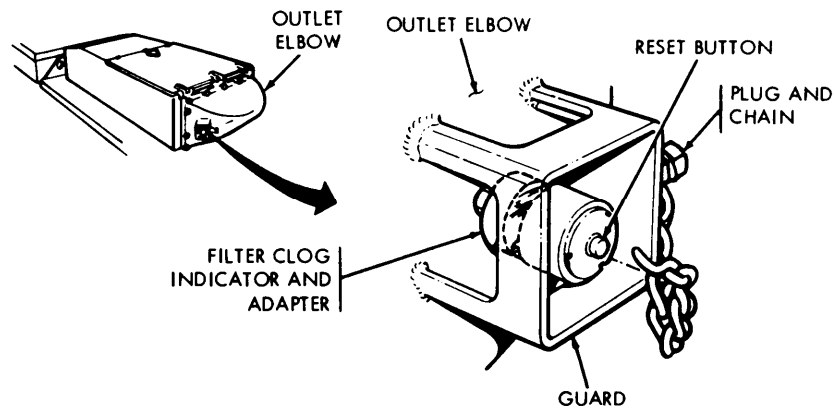


Figure 6-10. Filter clog indicator replacement.

- (g) Remove screw and lockwasher securing manifold secure bracket to air cleaner. Discard lockwasher.
- (h) Slide hose onto manifold until ends of hoses are even with edge of manifold. Turn manifold until both inlet tubes are facing up. Remove manifold.

**NOTE**

It may be necessary to cut manifold hoses to remove the manifold.

- (i) Remove gasket and tubes from manifold. Scrape off any remaining gasket material from manifold and air cleaner.
  - (j) Remove screw and lockwasher securing manifold secure bracket to manifold and remove bracket.
- (2) *Installation.*
- (a) Attach manifold secure bracket to manifold with screw and new lockwasher. Do not tighten.
  - (b) Apply silicone compound (item 5, appendix C) inside three hoses (view A and c). Slide two hoses (view C) on manifold.
  - (c) Put four clamps on two hoses. Leave clamps loose.
  - (d) Put new gasket (view C) on manifold flange.
  - (e) Put manifold in position in air cleaner. Slide two hoses on precleaned tubes.

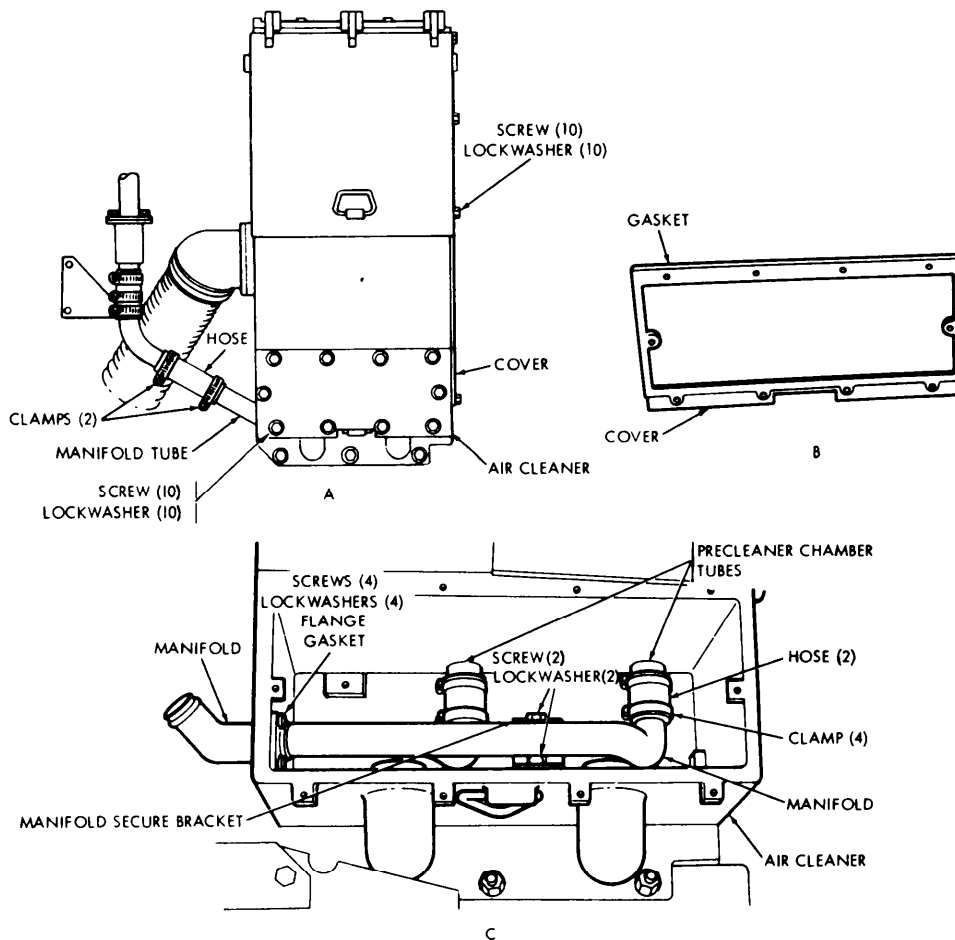


Figure 6-11. Vehicle exhaust dust ejector system (VEDES) air cleaner manifold replacement.



- (f) Coat threads of four screws (view C) with sealing compound (item 15, appendix A). Secure manifold to air cleaner with four coated screws, new lock washers, and new gasket.
- (g) Secure manifold secure bracket to air cleaner with screw and new lockwasher.
- (h) Tighten screw to secure manifold secure bracket to manifold secure bracket to manifold.
- (i) Tighten four clamps to secure two hoses to precleaner tubes and manifold
- (j) Slide hose (view A) on manifold tube. Secure with two clamps.
- (k) Cement new gasket (view B) to housing with adhesive (item 1, appendix C).
- (l) Put cover (view A) in position on air cleaner. Secure with ten screws and new lockwashers.
- (m) Close top deck grille doors.

### 6-15. Air Cleaner Filter Elements.

#### a. *General.*

An air cleaner filter clog indicator has been added to each of the air cleaner outlet elbows to indicate when the filters require servicing (fig. 6-10). When the filters are clogged the window on the indicator shows red (early model) or indicates a reading of 25 or more (late model). Remove filters and clean per para. C. Reset indicator by pressing reset button. Refer to para. 6-14d for replacement of filter clog indicator.

#### **NOTE**

Care should be taken to keep indicator free from dirt, paint, and debris for easy detection of filter condition.

#### b. *Removal (Fig. 6-12).*

- (1) Kneel on air cleaner door assembly and remove three screws securing door assembly to air cleaner.

#### **CAUTION**

Do not stand on door assembly when it is open.

- (2) Open door until it rests on rear fender box.
- (3) Slide filter assembly toward front of vehicle and carefully lift filter assembly from air cleaner (view B). Care must be exercised to prevent dislodging dust from element (view B). When removing filter assembly, filter seal must be kept clear of door air sealing surface lip to avoid seal damage.
- (4) Cover engine air intake opening to deep out dust.
- (5) Wipe out the air filter compartment with a damp cloth.
- (6) Check door gasket and replace if necessary (para 6-14a).

#### **CAUTION**

When storing, handling, or transporting filter element, take care not to damage seal. Do not stand element on seal end.

#### c. *Inspection and Cleaning (Fig. 6-12, View C).*

##### (1) *Inspection. Inspect air filter as follows:*

- (a) Check filter element seal for permanent indentation, excessive harness, cracks, damage, or missing.
- (b) Check filter element frame and both locking pins and springs (if equipped) for damage or missing parts.

- (c) Place light inside of filter element and check for ruptured material. Inspect from outside.
- (d) If inspection reveals any defects, replace filter element.
- (e) If filter is contaminated with dust, clean with compressed air or by washing (para. (2)(b) below).
- (f) If filter is contaminated with carbon, or oil deposits, replace filter element.
- (g) If filter element in the right air cleaner is contaminated with fuel:
  - 1. Replace filter element.
  - 2. Check for proper installation of fuel tank vent valve (para. 3-5).

(2) *Cleaning*

- (a) *Compressed air cleaning (Fig. 6-13).*

**CAUTION**

When shaking filter element, keep dust from inside pockets of element. Ensure that all creases and seams are free of dust, and never hit element against any surface.

- 1. Grasp filter element at sealing end and shake vigorously to shake out excessive dust.
- 2. Compressed air used for cleaning purposes must not exceed 90 psi. Use only with effective chip guarding and personal protective equipment (goggles/shield, gloves, etc.).
- 3. Using V-pack cleaner (12326132) (view A), direct stream of compressed air against inside of filter element (view B).
- 4. Move air stream up and down inside length of pleats or pocket until no dust invisibly being blown out.
- 5. Inspect element before installing.

(b) *Washing*

**CAUTION**

Do not hit the element against a solid object. Damage may occur to the element.

- 1. Shake or blow off dust before wetting filter element.
  - 2. Filter can be immersed in a solution of warm water (80°F to 110°F) and detergent (item 6, appendix C).
  - 3. Soak filter element in cleaning solution for 15 to 20 minutes, then gently agitate it back and forth for 2 to 3 minutes to free dust deposits.
  - 4. If a hose is used to wash or rinse filter element, care must be taken not to rupture filter material with water jet. A maximum line pressure of 40 psi is recommended with cool water (35°F to 80°F). Rinse from inside to outside.
  - 5. Rinse dust filter element until all traces of dust and detergent are removed. Thorough rinsing is very important to service life of dust filter element.
  - 6. Thoroughly dry dust filter element before further use. If circulating air is used; temperature must not exceed 160°F. If circulating air is not used, air dry for approximately 6 hours at 70° to 90° ambient temperature.
- (3) *Emergency cleaning.* If necessary to clean filter element and neither compressor not washing facilities are available, filter can be partially cleaned by gently tapping it with the palm of hand. Care must be taken to avoid damage to filter element. Banging, hitting, or tapping may cause deformation and permanent damage to filter element.

- (4) Inspection. Inspect filter element carefully for damage after cleaning. Check for rupture in filter material or damage to seal. To detect filter material rupture, place a light inside filter element and inspect from outside. If ruptured, replace with new filter element.

d. Installation (Fig. 6-12).

**NOTE**

Care must be taken to avoid damaging or deforming wire filter element basket during handling.

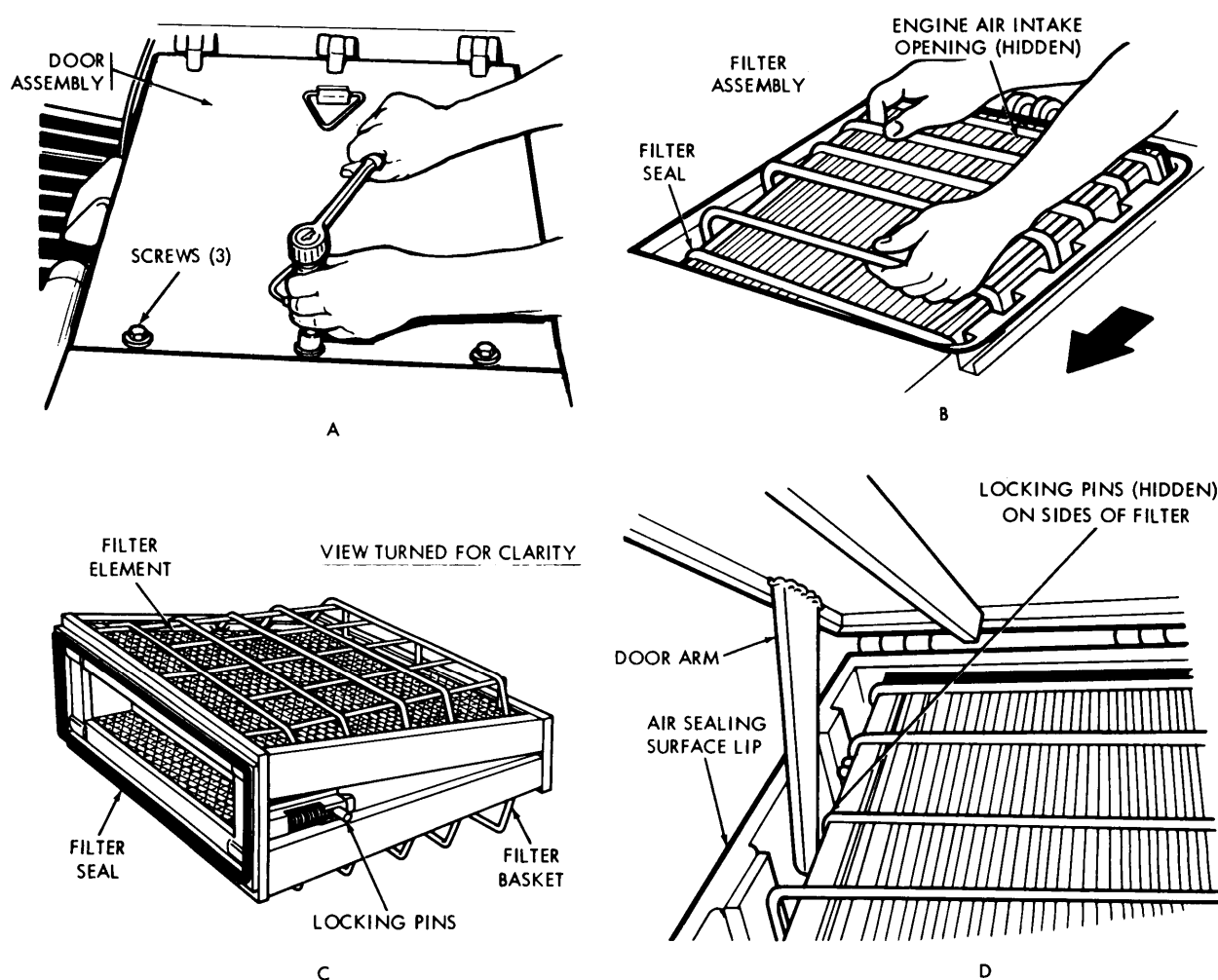


Figure 6-12. Air cleaner filter element replacement and inspection.

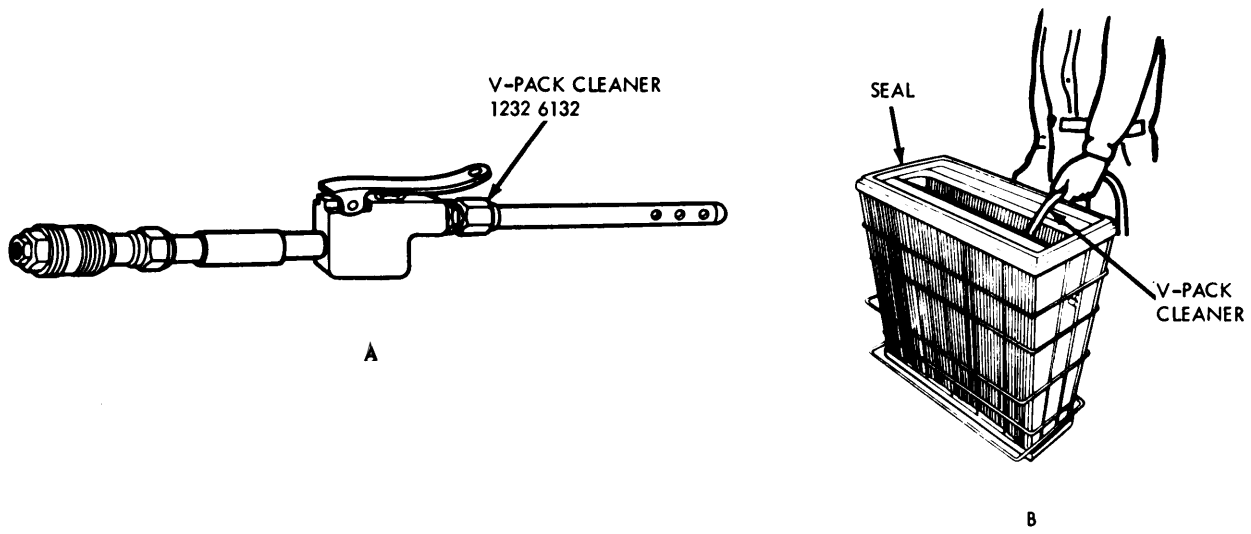


Figure 6-13. Air cleaner filter element compressed air cleaning.

**NOTE**

After cleaning the filter element and before installing it, ensure that the inside of the filter element housing is absolutely clean using a damp cloth.

- (1) Remove cover over engine air intake opening.
- (2) Install filter assembly by lowering it to the bottom of air filter compartment and slide filter assembly rearward to seal surfaces. Keep seal clear of sealing surface lip to avoid damage.
- (3) Close door. The filter assembly must be properly positioned in the air cleaner housing so that the door arms (view D) engage the lacing pins on the sides of the filter element frame (view C).

**CAUTION**

Mechanic must kneel on door to start screws, and all three screws must be tightened before force on door is released. Threads may be ripped from box if screws are not tightened all the way before force is released.

- (4) Secure with three screws (view A).

**6-16. Vehicle Exhaust Dust Ejector System (VEDES).**

- a. VEDES Intake Tube and Hoses Replacement (*Fig. 6-14*).

- (1) *Removal*

**NOTE**

Replacement of left or right VEDES intake tubes and hoses is the same. Left side shown.

**CAUTION**

Do not open top deck doors when air cleaner door assembly is open. Damage to air cleaner door may result.

- (a) Open top deck grille doors.
- (b) Remove tube clamp, screw, and locking nut securing VEDES intake tube to bracket. Discard nut.
- (c) Loosen four hose clamps securing VEDES intake tube and two hoses to manifold tube and check valve. Remove VEDES intake tube and hoses.
- (d) Take hoses and clamps off VEDES intake tube.
- (2) *Installation.*
  - (a) Apply silicone compound (item 5, appendix C) inside two hoses.
  - (b) Put tube clamp in position on VEDES intake tube.
  - (c) Put hoses on VEDES intake tube. Put four hose clamps loosely on hoses.
  - (d) Put VEDES intake tube in position with long hose toward air cleaner manifold tube, and short hose toward check valve.
  - (e) Tighten four hose clamps to secure VEDES intake tube and hose to check valve and air cleaner manifold tube.
  - (f) Secure VEDES intake tube to bracket with tube clamp, screw, and new locking nut.
  - (g) Close top deck grille doors.
- b. Check Valve Replacement (*Fig. 6-15*). **NOTE**

Replacement of left or right check valve is the same. Left side shown.

**CAUTION**

Do not open top deck doors when air cleaner door assembly is open. Damage to air cleaner door may result.

Do not step on VEDES tubes. Damage to tubes may result.

**(1) Removal.**

(a) Open top teck grille doors.

(b) Remove VEDES intake tube and hoses (a, above).

(c) Remove two screws and two lockwashers securing check valve and gasket to intermediate scavenge tube flange. Discard lockwashers.

(d) Remove check valve and gasket from intermediate scavenge tube flange. Discard gasket. Scrape any remaining gasket material off check valve and intermediate scavenge tube flange.

**(2) Installation.**

(a) Put new gasket and check valve in position on intermediate scavenge tube flange. Secure with two screws and two new lockwashers.

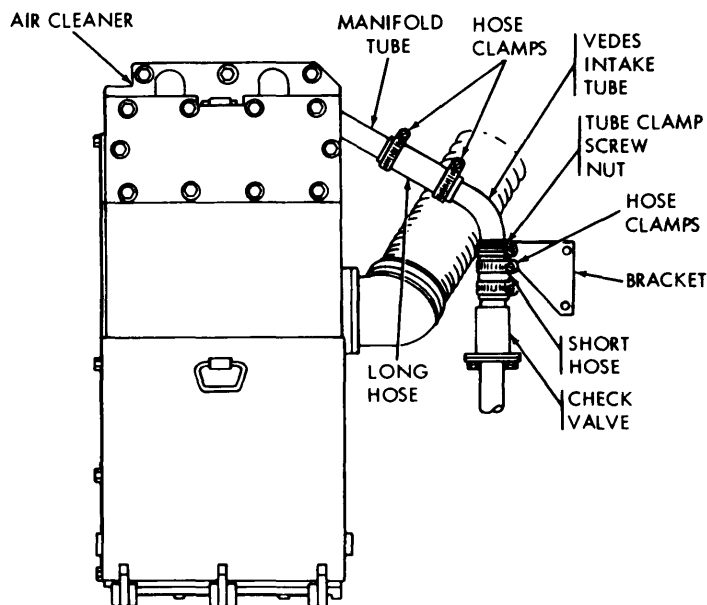
(b) Install VEDES intake tube and hoses (a, above).

(c) Close top deck grille doors.

c. Intermediate Scavenge Tube Replacement - Left or Right Bank (*Fig. 6-16*).

**NOTE**

Replacement procedures are the same for both the left and the right bank intermediate scavenge tubes.



*Figure 6-14. VEDES intake tube and hoses replacement.*

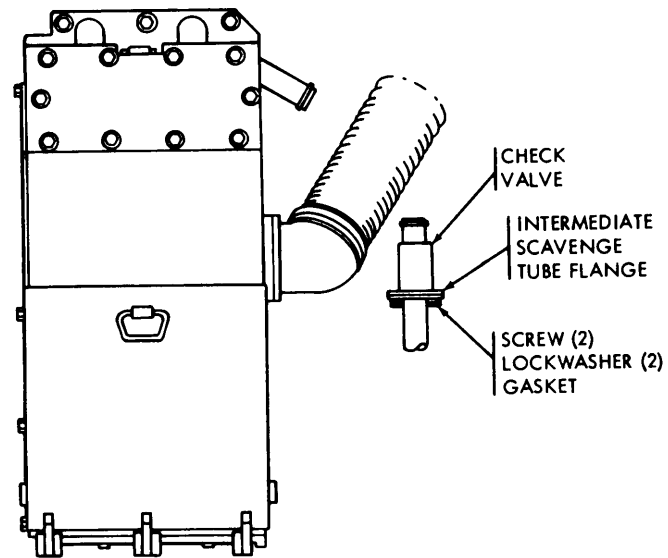


Figure 6-15. Check valve replacement.

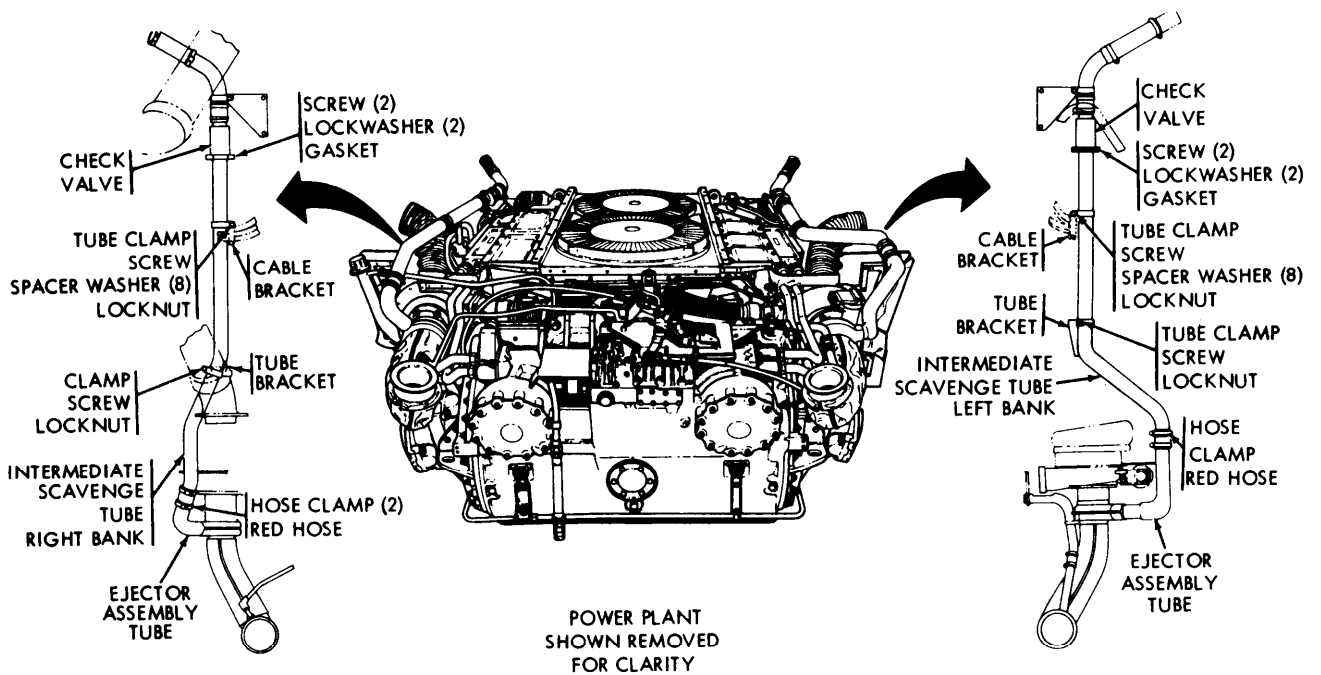


Figure 6-16. Intermediate scavenge tube replacement - left or right bank.

**CAUTION**

Do not open top deck doors when air cleaner door assembly is open. Damage to air cleaner door may result.

*(1) Removal.*

- (a) Open top deck grille doors.
- (b) Loosen two hose clamps on red hose securing intermediate scavenge tube to ejector assembly tube.
- (c) Remove tube clamp, screw, and locking nut securing intermediate scavenge tube to tube bracket. Discard nut.
- (d) Remove tube clamp, screw, eight spacer washers, and locking nut securing scavenge tube to cable bracket. Discard nut.
- (e) Remove two screws and washers, securing scavenge tube to check valve.
- (f) Use twisting motion and separate scavenge tube from check valve and from red hose.
- (g) Remove gasket from between scavenge tube flange and check valve. Discard gasket.
- (h) Scrape any remaining gasket material off mating faces of check valve and scavenge tube.
- (i) Inspect red hose for cracks, drying, or other signs of deterioration or damage. Replace if necessary.

*(2) Installation.*

- (a) Apply silicone compound (item 19, appendix C) inside red hose.
- (b) Put two hose clamps loosely over red hose.
- (c) Put intermediate scavenge tube in position. Join scavenge tube to ejector assembly tube using red hose.
- (d) Align flange and screw holes of scavenge tube with flange and screw holes of check valve.
- (e) Put new gasket between scavenge tube and check valve; secure with two screws and new lockwashers.
- (f) Tighten clamps on red hoses.
- (g) Secure scavenge tube to tube bracket using tube clamp, screw, and new locking nut.
- (h) Secure scavenge tube to cable bracket using tube clamp, screw, eight spacer washers and new locking nut.
- (i) Close top deck grille doors.

*d. Exhaust Ejector Assemblies Replacement (Fig. 6-17).**(1) Removal.*

- (a) Remove transmission shroud (TM 20-1).
- (b) Remove top deck assembly (TM 20-1).
- (c) Remove powerplant (TM 20-1).

**NOTE**

Step (d) applies to vehicle left side (engine right bank) ejector only (view A).

- (d) Loosen nut and disconnect transmission breather tube from ejector assembly (view A).



**NOTE**

Steps (e) through (f) apply to vehicle right side (engine left bank) ejector only (view B).

- (e) Remove clamp, screw, and nut securing engine breather adapter tube to ejector assembly bracket (view B).
- (f) Loosen four clamps and hoses securing ends of engine breather adapter tube to engine breather tube and ejector engine breather extension.
- (g) Remove engine breather adapter tube.

**NOTE**

Steps (h) through (l) apply to both right and left sides.

- (h) Loosen clamps and hose securing ejector assembly to intermediate scavenge tube (views A and B).
  - (i) Remove six nuts securing ejector assembly and gasket to turbosupercharger (view A, B, and C). Remove ejector from turbosupercharger. Discard gasket.
  - (j) Scrape any remaining gasket material from mating surfaces of turbosupercharger and ejector assembly.
  - (k) Loosen clamp and remove clamp and packing from neck of ejector assembly (view C).
  - (l) Remove screw, two flatwashers, lockwasher, and nut (11 places) securing two insulation halves to ejector assembly.
- (2) *Installation.*

**NOTE**

Steps (a) through (c) apply to both right and left sides.

- (a) Install insulation, if serviceable, on replacement ejector assembly (view C). Secure with screw, two washers, lockwasher, and nut at 11 locations. Use new insulation and hardware as necessary.
- (b) Put packing, if serviceable, on neck of ejector. Secure with clamp. Use new packing if necessary.
- (c) Put new gasket and ejector assembly in position on turbosupercharger studs. Secure ejector assembly to intermediate scavenge tube with hose and two clamps (views A and B). Use new hose and clamps as required. Secure ejector assembly to turbosupercharger with six new locknuts.

**NOTE**

Steps (d) and (e) apply to vehicle right side (engine left bank) ejector only (view B).

- (d) Secure engine breather adapter tube between engine breather tube and ejector engine breather extension (view B) with two hoses and four clamps. Use new hoses and clamps as required.
- (e) Secure engine breather adapter tube to ejector assembly bracket with clamp, screw, and nut (view B).

**NOTE**

Step (f) applies to vehicle left side (engine right bank) ejector only (view A).

- (f) Connect transmission breather tube to ejector assembly (view A). Secure with nut.
- (g) Install powerplant (TM 20-1).
- (h) Install top deck assembly (TM 20-1).
- (i) Install transmission shroud (TM 20-1).

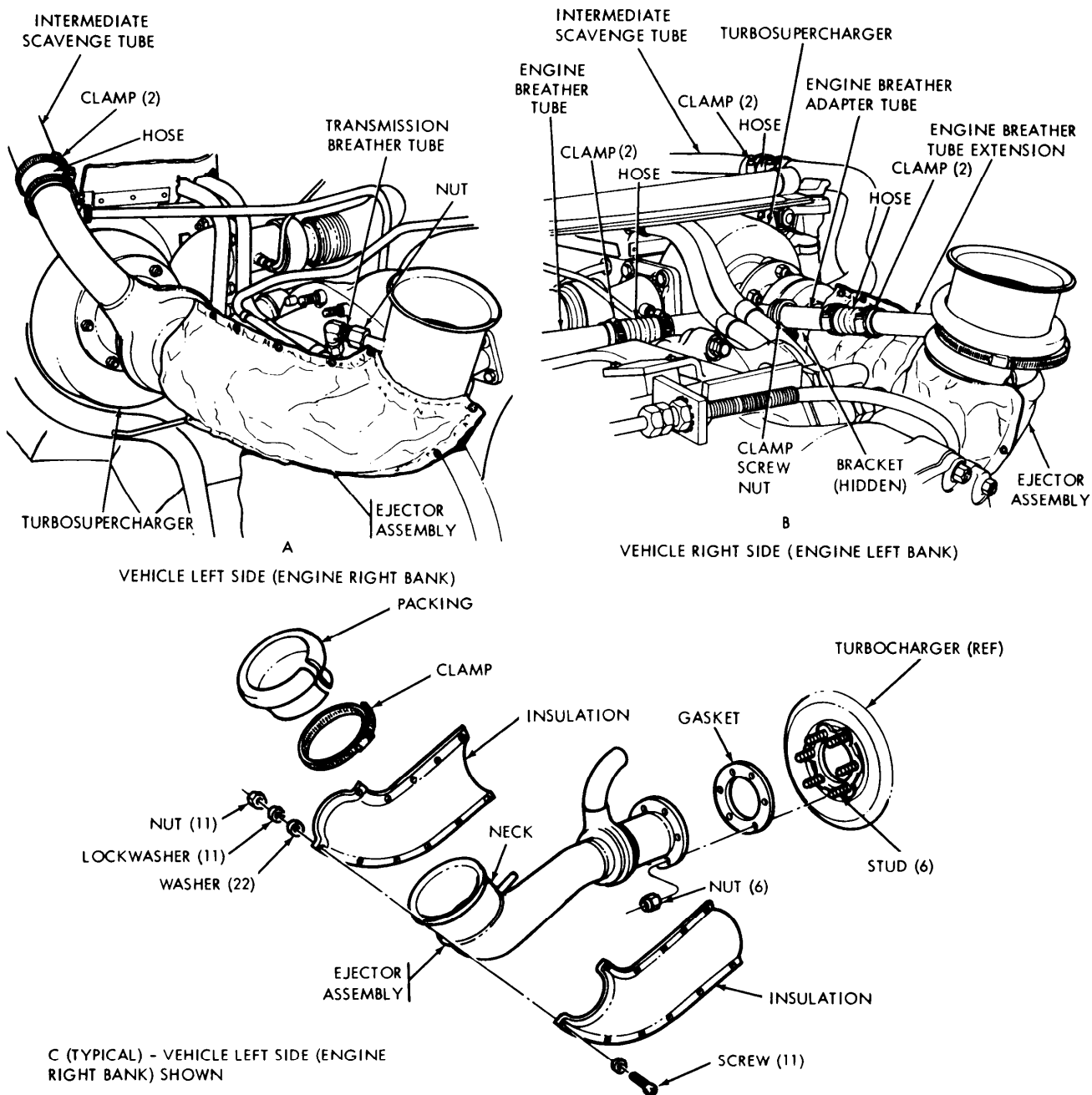


Figure 6-17. Exhaust ejector assemblies replacement.

**6-17. Dust Detector**

- a. *Filter Strip Cover Assembly Replacement (Fig. 6-18).*

**NOTE**

Replacement procedures are the same for both the left and right cover assemblies.

**WARNING**

Engine components are hot after engine has been running. Take precaution to avoid burns.

**(1) Removal.**

- (a) Open top deck grille doors to expose turbosupercharger compressor housing (view A).  
 (b) Clean dust and dirt from filter strip cover.  
 (c) Remove hook and chain from filter strip cover.

**CAUTION**

Take care not to drop filter strip or retainer when servicing dust detector.

- (d) Remove three captive screws securing filter strip cover to turbosupercharger compressor housing. Remove cover.  
 (e) Cover compressor housing mounting surface (view B) with clean rag to keep contaminants out of orifices while filter strip cover is off.

**(2) Installation**

- (a) Make sure compressor housing mounting surface (view B) and orifices are clean and dry. Apply three dabs of adhesive sealer (item 2, appendix C) equally spaced to each of the cover grooves. Wipe off excess adhesive sealer with clean cloth.  
 (b) Install new preformed packings in new filter strip cover grooves (view C).  
 (c) Put new filter strip in cover (view C).  
 (d) Pull out filter strip so that it extends about 1/2 inch past edge of cover.  
 (e) Put cover in position on compressor housing. Secure with three captive screws (view A).  
 (f) Install hook and chain on cover.  
 (g) Close top deck grille doors.

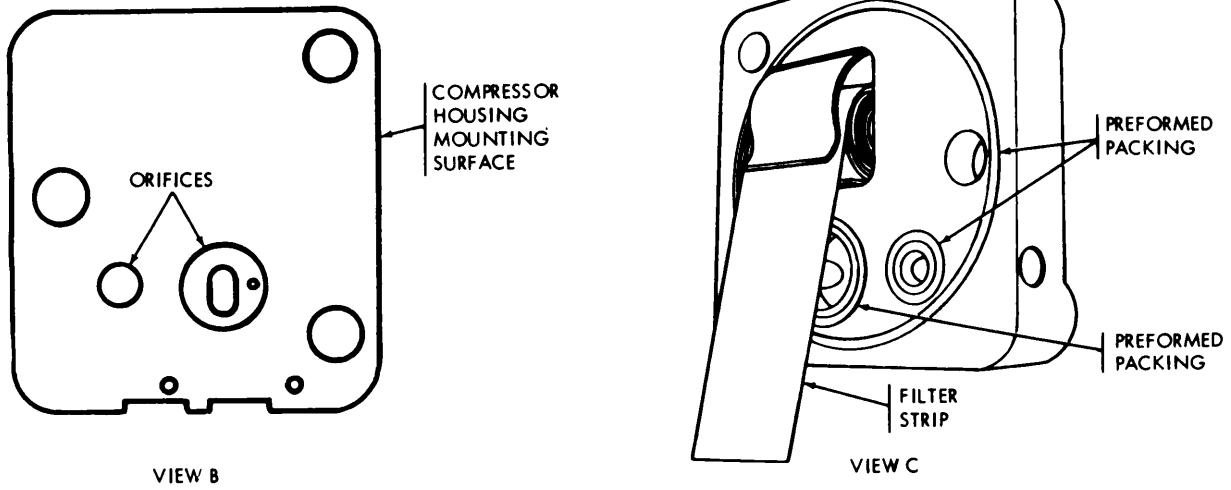
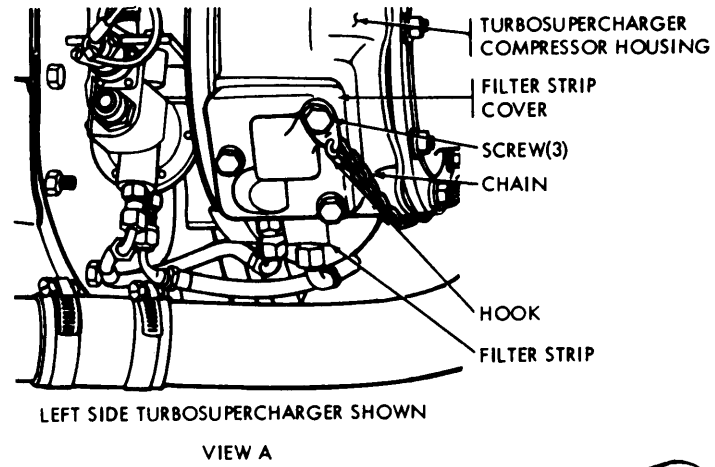


Figure 6-18. Dust detector filter strip cover assembly replacement.

b. *Pressure Switch and Air Hoses Replacement (Fig. 6-19).*

**NOTE**

Replacement procedures are the same for pressure switch and air hoses on left and right sides.

(1) *Removal*

- (a) Open top deck grille doors to expose turbosupercharger and pressure switch (view A).
- (b) Disconnect high and low air pressure hoses from pressure switch and from turbosupercharger compressor housing filter. Remove hoses.
- (c) Remove screw and lockwasher securing pressure switch mounting bracket to turbosupercharger mounting support. Remove pressure switch and mounting bracket.
- (d) Remove screw and lock-washer securing harness assembly ground lead to pressure switch mounting bracket.
- (e) Disconnect harness assembly connector from pressure switch (view B).
- (f) Remove adapters and packings from inlet and outlet (HIGH and LOW) ports of pressure switch. Discard packings.
- (g) Remove two remaining screws and lock washers securing pressure switch to mounting bracket. Separate pressure switch from mounting bracket.

(2) *Installation*

- (a) Put replacement pressure switch on mounting bracket and secure with two bottom screws and lock washers (Top screw and lock washer will be put in when ground lead is installed later).
- (b) Install adapters and new packings in inlet and outlet (HIGH and LOW) ports of replacement pressure switch.
- (c) Connect harness assembly connector to electrical connector on pressure switch.
- (d) Install harness assembly ground lead on pressure switch mounting bracket with screw and lockwasher.
- (e) Position assembled pressure switch and mounting bracket on turbo-supercharger mounting support and secure with screw and lockwasher.

**NOTE**

Long air pressure hoses go on engine right bank pressure switch, short air pressure hoses go on engine left bank pressure switch.

- (f) Install air pressure hoses on adapters in pressure switch and turbosupercharger compressor filter housing.
- (g) Perform dust detector operational test (para. 6-17j).
- (h) Close top deck grille doors.

c. *Engine Wiring Harness Replacement (Fig. 6-20).*

(1) *Removal*

- (a) Disconnect three battery ground cable assemblies from battery terminals.
- (b) Remove top deck transmission shroud and engine shroud (TM 20-1).
- (c) Remove screw and lockwasher securing wiring harness ground lead to right and left bank pressure switch mounting brackets (view A). Disconnect ground lead.

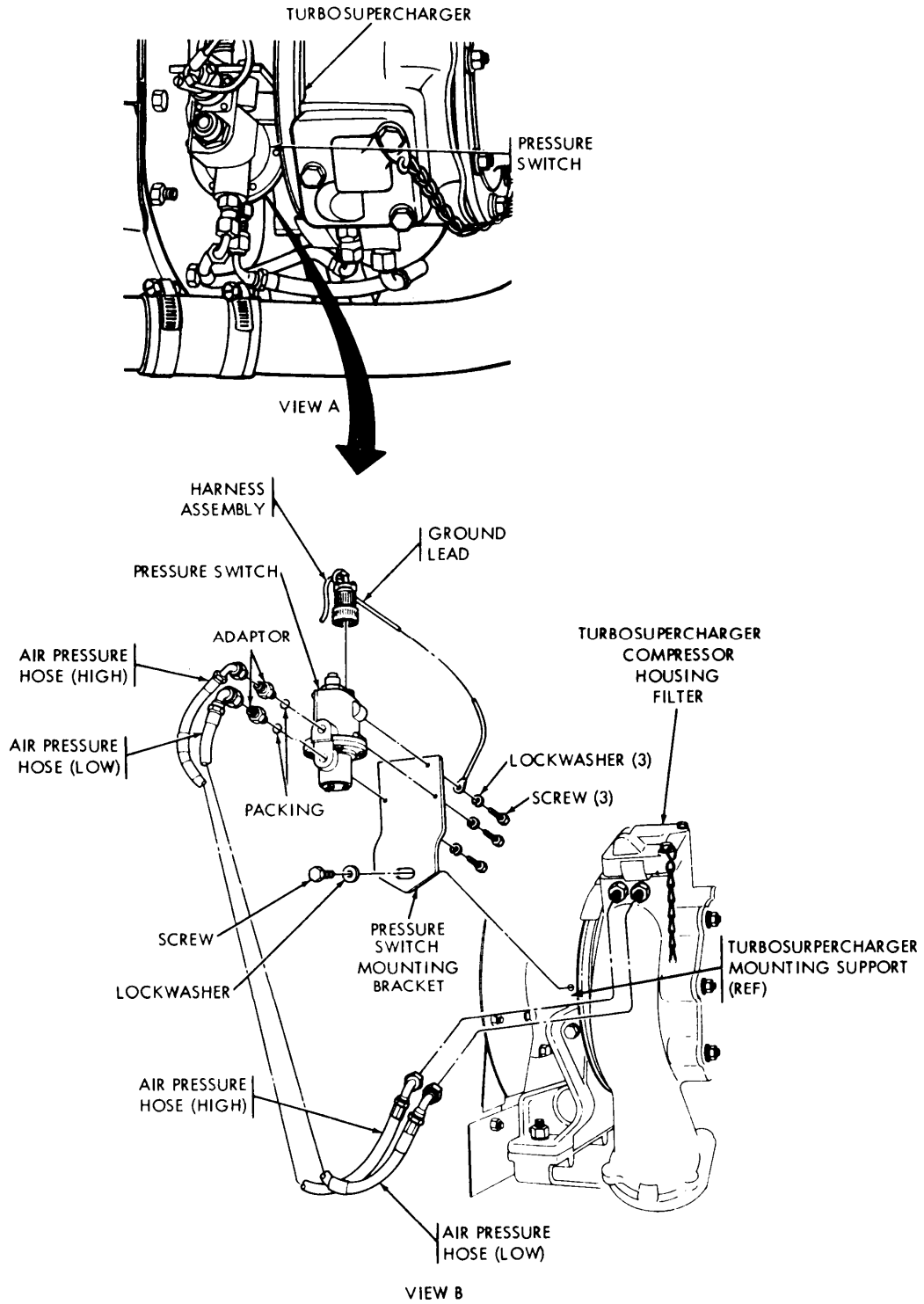


Figure 6-19. Pressure switch and hoses replacement.

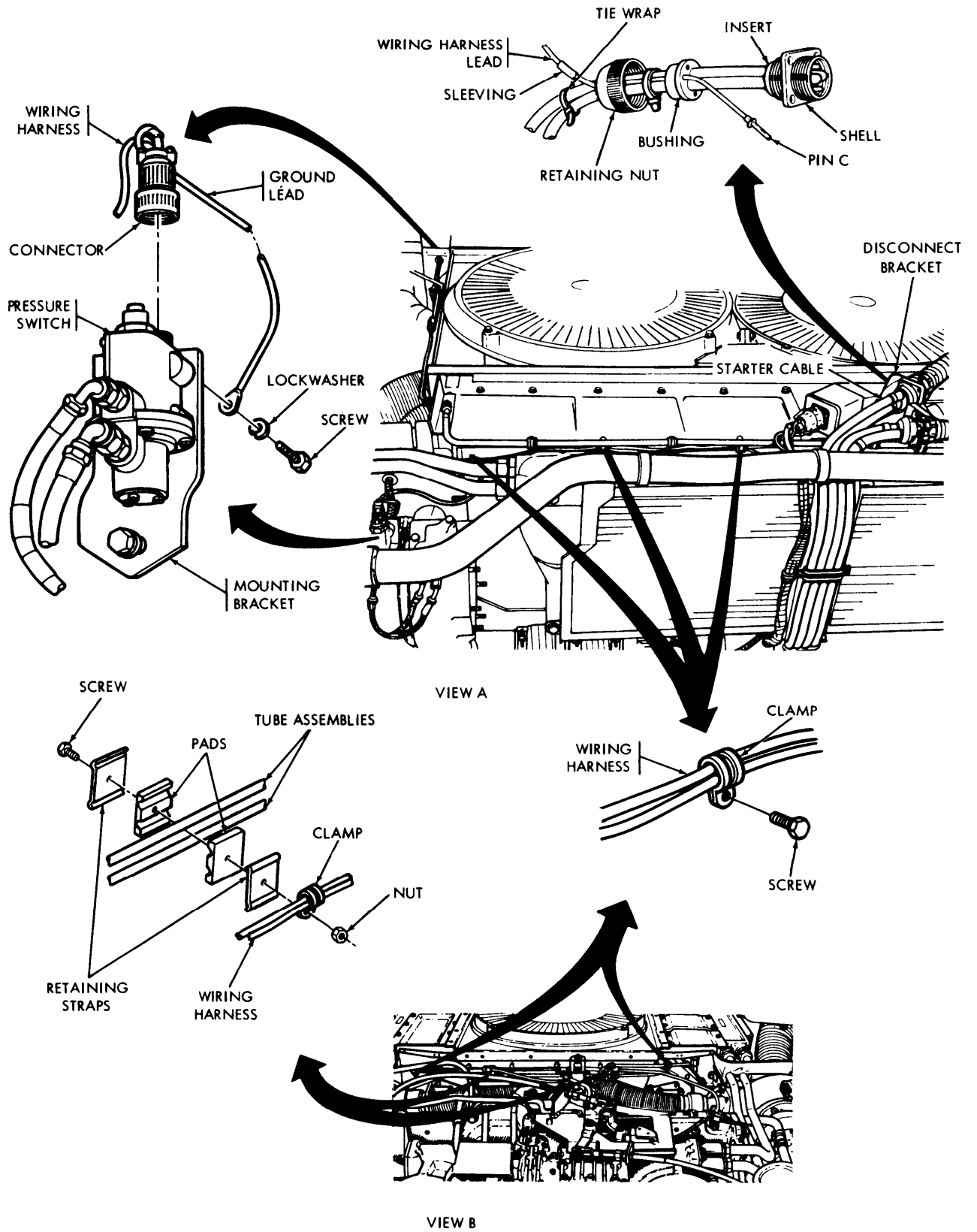


Figure 6-20. Engine wiring harnesses replacement.

- (d) Disconnect wiring harness connector from right and left bank pressure switches.
- (e) Remove screw and nut securing wiring harness and clamp to tube pad retaining straps at two locations at rear of engine (view B). Take clamps off wiring harness.
- (f) Remove screw and clamp securing wiring harness at two locations at rear of engine. (view A). Take clamps off wiring harness.
- (g) Disconnect starter cable at disconnect bracket (view A). Cut tie wraps.
- (h) Remove four screws and nuts securing starting cable connector to disconnect bracket. Remove connector from bracket (view A).
- (i) Unscrew retaining nut from shell. Slide retaining nut back along cable (view A).
- (j) Slide sleeving back along wiring harness lead (view A).
- (k) Slide bushing back along cable (view A).
- (l) Remove pin from position "C" of insert (view A).
- (m) Pull lead from bushing and retaining nut (view A).
- (n) Remove wiring harness from engine.

(2) *Installation*

- (a) Lay wiring harness in position on engine between pressure switches and starter cable disconnect bracket (views A and B).
- (b) Connect wiring harness long lead connector to right bank pressure switch and wiring harness short lead connector to left bank pressure switch (view A).
- (c) Connect ground leads to right and left bank pressure switch mounting brackets (view A). Secure with screws and new lockwashers.
- (d) At two locations at rear of engine (view B), assembly pads and retraining straps around tube assemblies. Pull slack out of wiring harness and secure wiring harness to retaining straps with clamp, screw, and nut.
- (e) At two locations at rear of engine and at three locations along top left side of engine, route wiring harness along with smoke generator wiring harness and secure both harnesses with engine with clamp and screw (views A and B).
- (f) Temporarily place shell in position in bracket (view A).
- (g) Insert pin into position "C" of insert (view A).
- (h) Push insert into position in shell (view A).
- (i) Slide bushing against insert and slide sleeving against bushing (view A).
- (j) Install retaining nut onto shell and tighten (view A).
- (k) Place connector into disconnect bracket and secure with four screws and nuts (view A).
- (l) Connect starter cable at disconnect bracket (view A). Install tie wraps as required.
- (m) Perform dust detector operational test (para. 6-17j).
- (n) Install engine shroud, transmission shroud, and top deck (TM 20-1).

d. *Engine to Bulkhead Lead Assembly Replacement (Fig. 6-21).*

(1) *Removal*

**CAUTION**

Loosen retaining nut (view B) of starter feed harness connector before removing powerplant. Failure to do so may damage connector.

- (a) Disconnect three battery ground cable assemblies from battery terminals.
- (b) Remove powerplant (TM 20-1).
- (c) Remove right side bulkhead access cover (TM 20-1).



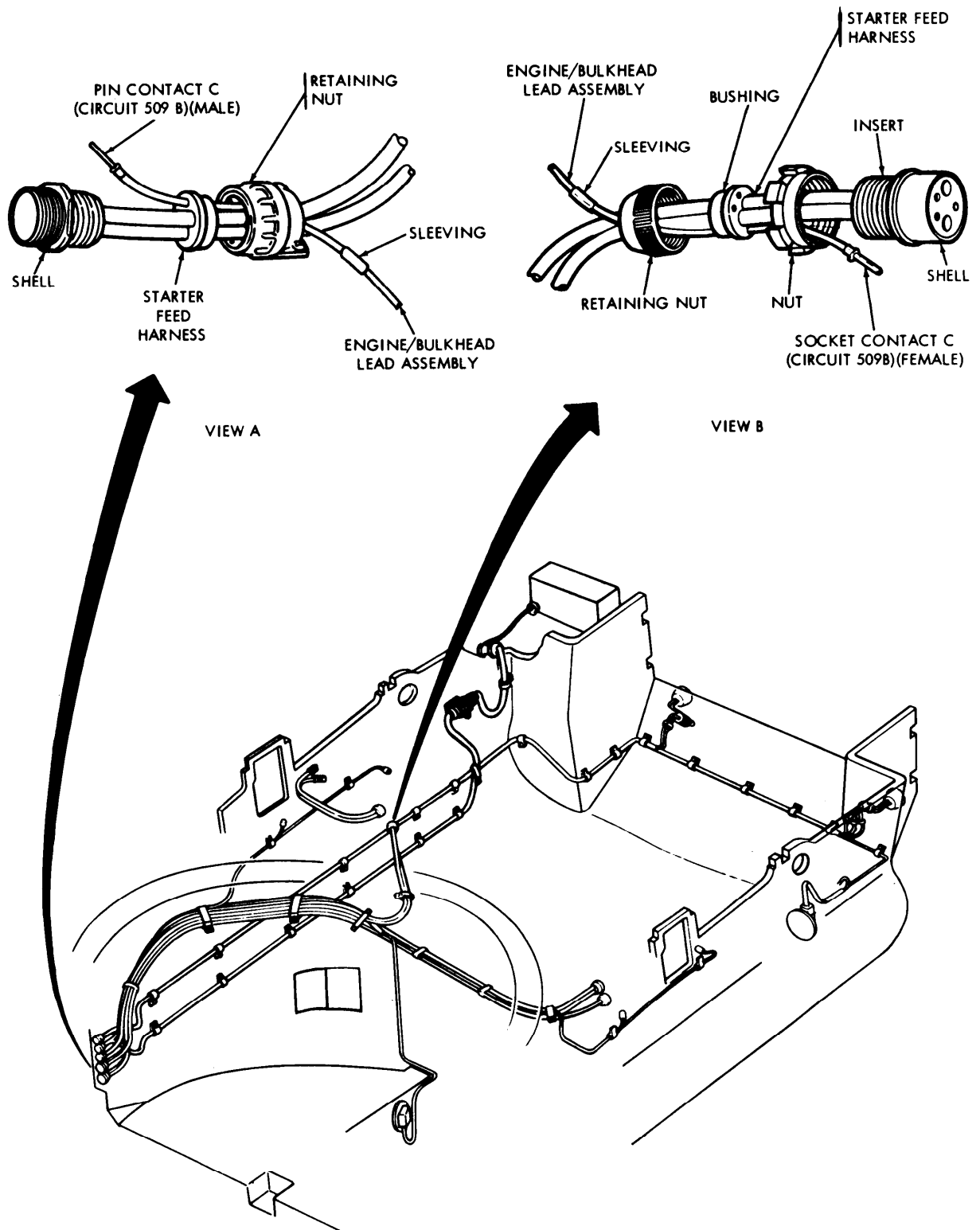


Figure 6-21. Engine to bulkhead lead assembly replacement.

- (d) Disassemble starter feed harness connector at bulkhead end of harness (view A).
  - (e) Remove pin C (Circuit 509B) from position "C" of harness connector shell (view A).
  - (f) Pull lead assembly out of retaining nut (view A).
  - (g) Remove tie wraps securing lead assembly to starter feed harness.
  - (h) Disassemble connector at engine end of starter feed harness (view B).
  - (i) Remove socket contact C (circuit 509B) from harness connector shell (view B).
  - (j) Pull lead assembly from bushing and retaining nut (view B).
  - (k) Remove engine to bulkhead lead assembly from vehicle.
- (2) *Installation.*

### CAUTION

Make sure lead is totally encased in feed harness protective wrap assembly.

- (a) Route engine to bulkhead lead assembly along starter feed harness with male pin contact of lead toward bulkhead end of harness and female socket contact of lead toward engine end of harness.
  - (b) Pass female socket contact C (Circuit 509 B) of lead through retaining nut and bushing and install contact in position "C" of harness connector shell insert (view B).
  - (c) Push bushing into position against insert, slide sleeving against bushing, and tighten retaining nut onto shell.
  - (d) At bulkhead end, push male pin contact C (Circuit 509B) of lead through retaining nut and install contact in position "C" of harness connector shell (view A).
  - (e) Slide sleeving against shell and tighten retaining nut onto shell.
  - (f) Connect starter feed harness connector to bulkhead connector.
  - (g) Secure engine to bulkhead lead assembly to starter feed harness with new tie wraps.
  - (h) Install right side bulkhead access cover (TM 20-1).
  - (i) Install powerplant (TM 20-1).
- e. *Hull Intermediate Lead Assembly Replacement (Fig. 6-22).*
- (1) *Removal.*
    - (a) Disconnect three battery ground cable assemblies from battery terminals.
    - (b) Loosen retaining nut on starter cable at bulkhead connector (view A). Disconnect starter cable at bulkhead connector (view A). Disconnect starter cable at bulkhead connector (view A).
    - (c) Disassemble starter cable connector.
    - (d) Remove hull intermediate lead assembly socket contact 509B from position "C" of plug assembly.
    - (e) Pull lead assembly back through retaining nut.
    - (f) Cut tie wraps securing lead assembly to harness bundle and, working back toward driver's compartment (view B), pull lead assembly from beneath retaining straps.
    - (g) At gage indicator panel in driver's compartment, disconnect lead assembly connector 509B from short lead on dust detector warning light wiring harness.
    - (h) Remove hull intermediate lead assembly from vehicle.

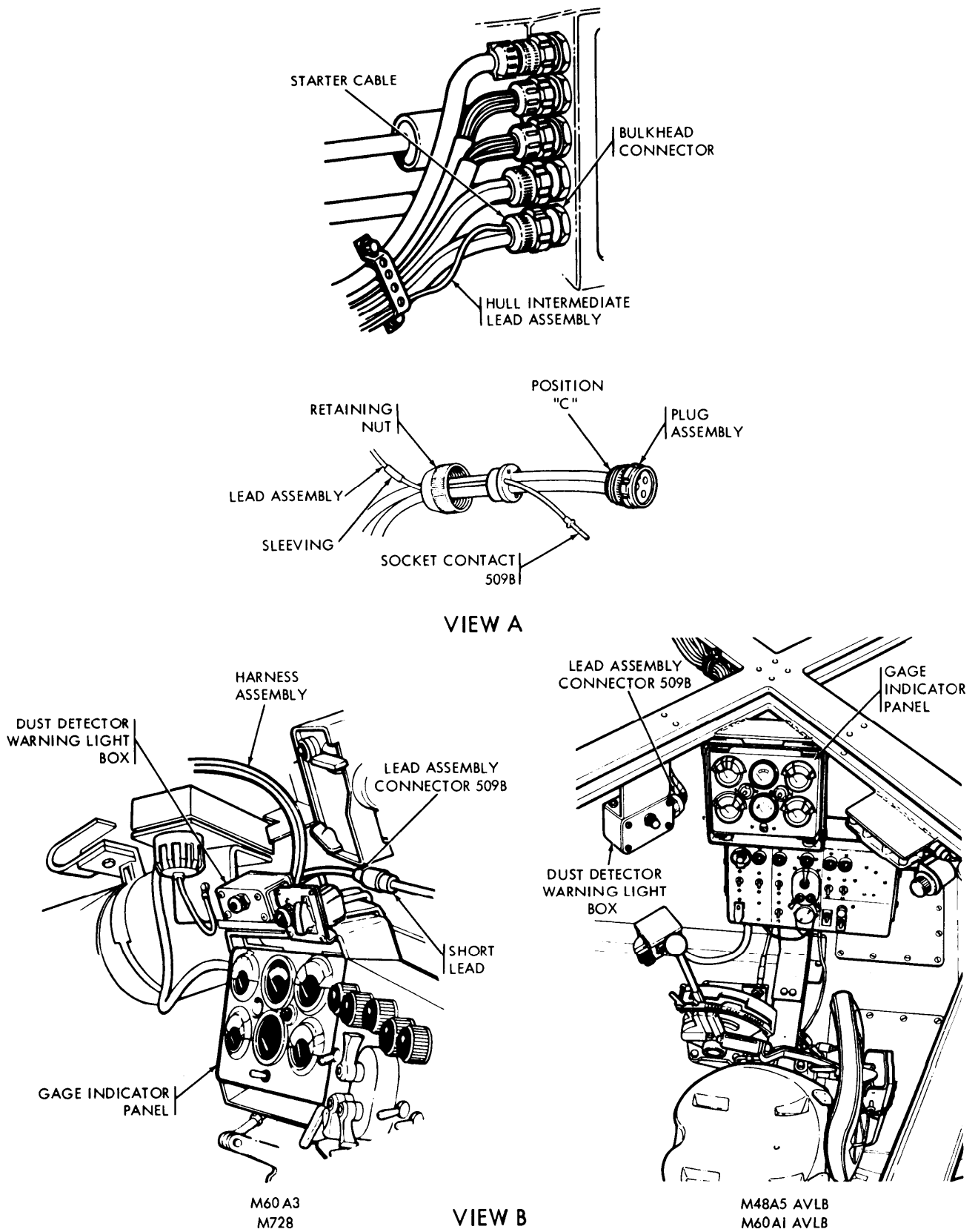


Figure 6-22. Hull intermediate lead assembly replacement.

(2) *Installation*

- (a) Connect connector 509B of replacement hull intermediate lead assembly to short lead of dust detector warning light harness assembly (view B).
- (b) Route socket contact end of replacement hull intermediate lead assembly beneath cable retaining straps from dust detector warning light box (view B) to starter cable bulkhead connector (view A).
- (c) At bulkhead connector (view A) push lead assembly socket contact 509B through retaining nut and install contact in position "C" of starter cable plug assembly (view A).
- (d) Assemble retaining nut to starter cable plug assembly and connect plug assembly to bulkhead connector.
- (e) Secure lead assembly to harness bundle with tie wrap as required.

f. *Dust Detector Warning Light Wiring Harness Assembly Replacement (Fig. 6-23).*

(1) *Removal*

- (a) Disconnect three battery ground cable assemblies from battery terminals.
- (b) Disconnect four lead connectors connecting dust detector warning light wiring harness to front master harness assembly and powerplant warning light harness.
- (c) Remove screw and lockwasher securing dust detector warning light ground lead alongside of gage indicator panel.
- (d) Disconnect dust detector warning light wiring harness short lead 509B from hull intermediate lead assembly 509B.
- (e) Disconnect harness connector from dust detector warning light box.
- (f) Remove dust detector warning light wiring harness from vehicle.

(2) *Installation*

- (a) Connect harness connector to dust detector warning light box.
- (b) Connect dust detector warning light short lead 509B to hull intermediate lead assembly.
- (c) Secure dust detector warning light ground lead with screw and lockwasher alongside driver's gage indicator panel.
- (d) Connect dust detector warning light wiring harness lead connectors 509A and 509L to lead connectors 509A and 509L of powerplant warning light wiring harness and front master harness assembly.
- (e) Connect three ground cables to batteries.
- (f) Press test lamp on dust detector warning light box to insure circuit is functioning.

g. *Dust Detector Warning Light Box Assembly Replacement (M60A3) (Fig. 6-24).*

(1) *Removal*

- (a) Disconnect harness connector from dust detector warning light box (view A).

**CAUTION**

Support gage indicator panel mounting bracket when removing light box mounting screws. Gage indicator panel mounting bracket is secured using the same screws and may fall.

- (b) Remove four screws and lockwashers securing bracket, dust detector warning light box assembly, and spacer to switch bracket on gage indicator panel (view B).
- (c) Remove two screws, nuts, and lockwashers securing dust detector warning light box assembly to bracket. Separate box assembly and bracket.

(2) *Installation*

- (a) Put dust detector warning light box assembly in position on bracket and secure box assembly to bracket with two screws, lockwashers, and nuts. Make sure screws are installed from bottom (view B).
- (b) Put spacer in position on switch bracket on gage indicator panel.
- (c) Put dust detector warning light box assembly and bracket on top of spacer, secure bracket and spacer to switch bracket with four screws and lockwashers.

**CAUTION**

Do not overtighten harness connector (view A) damage to connector may result.

- (d) Tighten harness connector on dust detector warning light box assembly (view A).

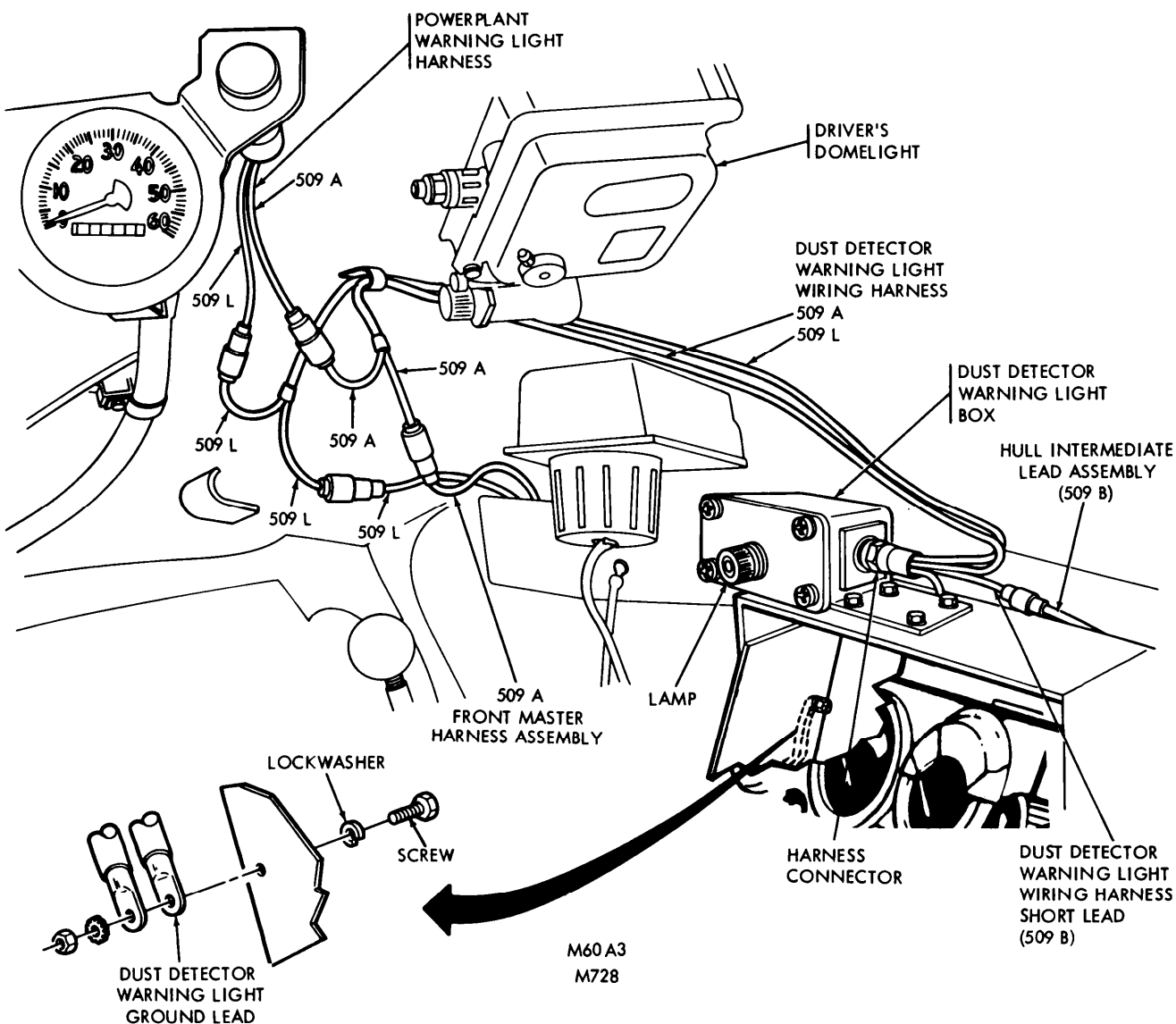


Figure 6-23. Dust detector warning light wiring harness assembly replacement (Sheet 1 of 2).

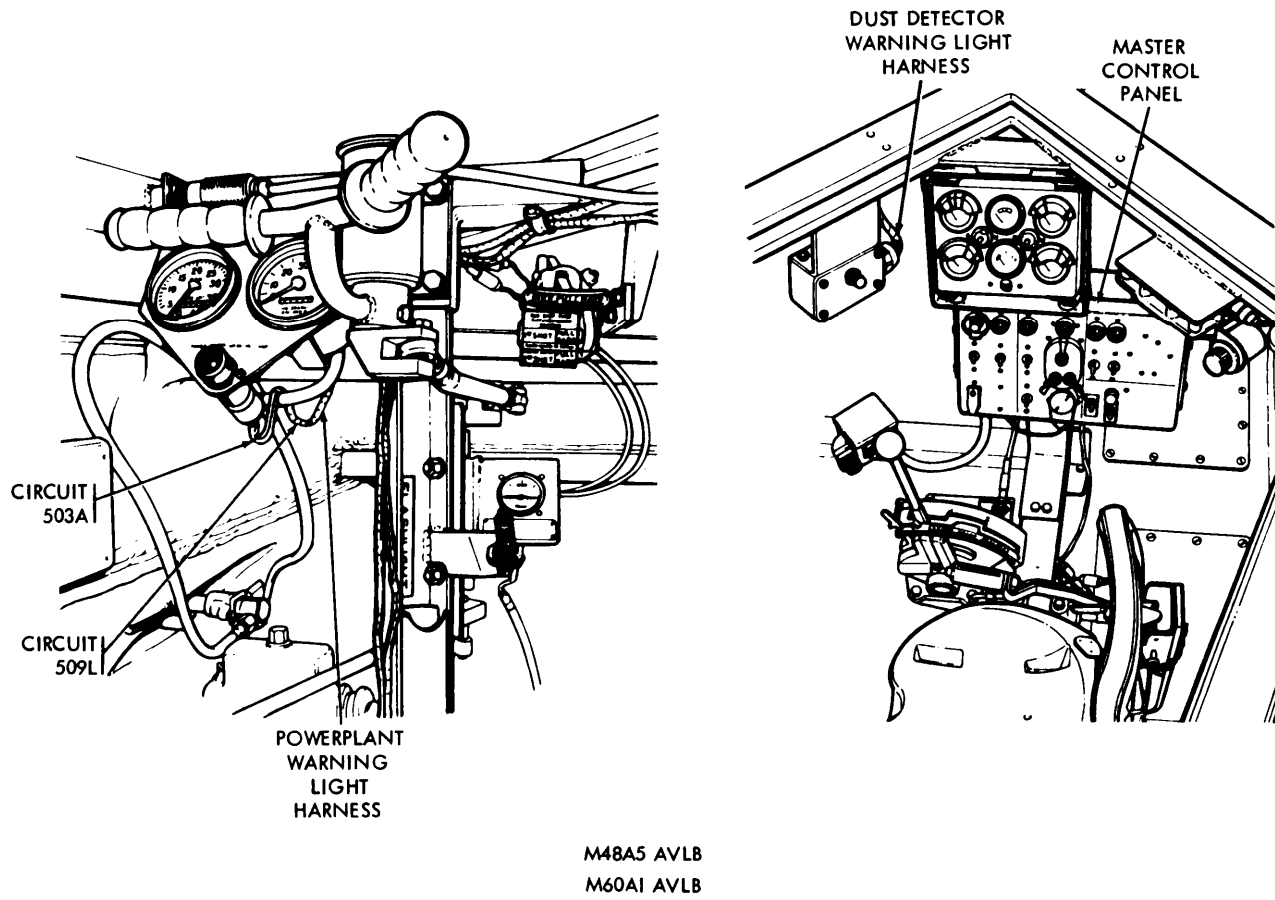


Figure 6-23. Dust detector warning light wiring harness assembly replacement (sheet 2 of 2).

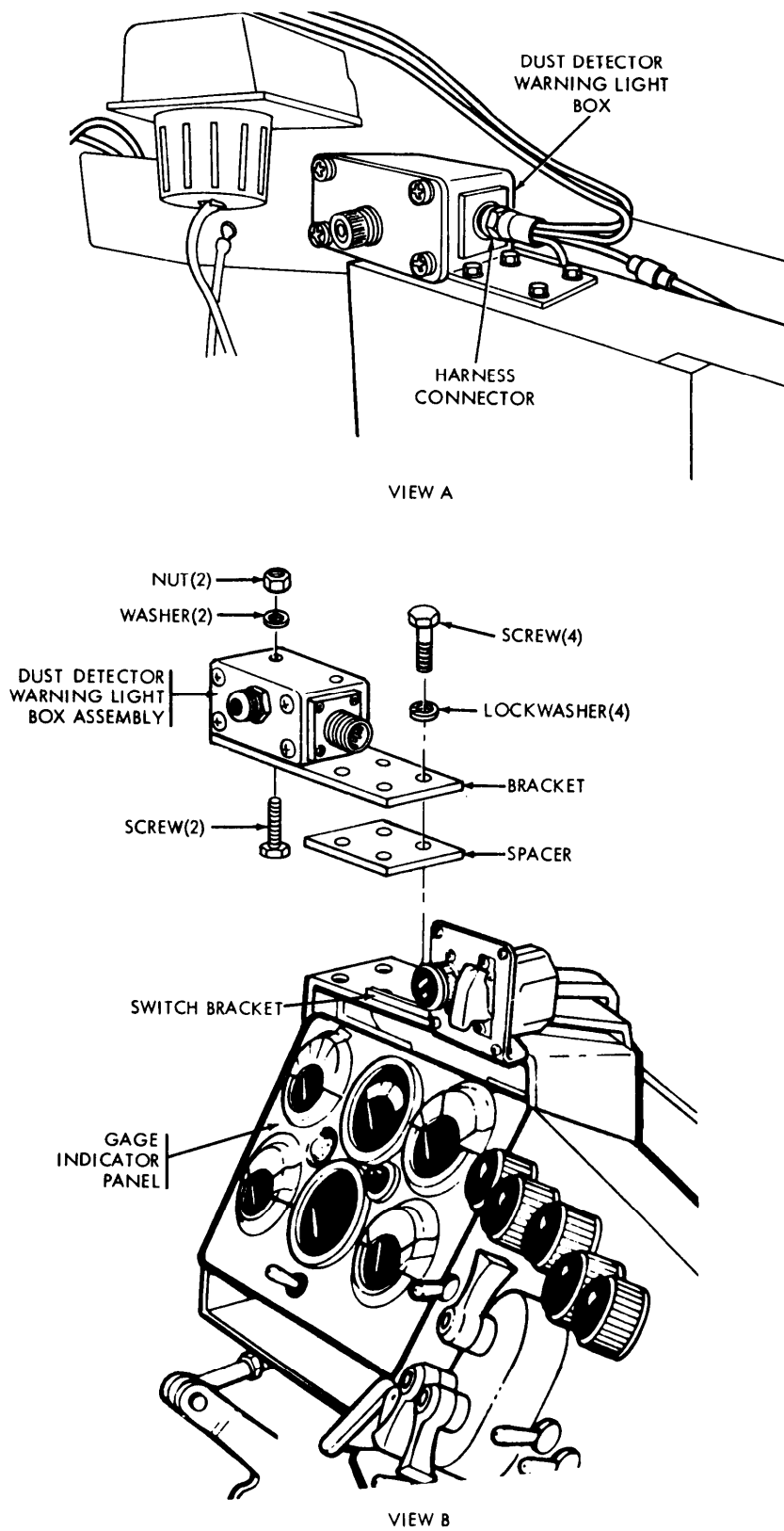


Figure 6-24. Dust detector warning light box assembly replacement (M60A3).

*h. Dust Detector Warning Light Box Assembly Replacement (M728) (Fig. 6-25).*

*(1) Removal.*

- (a)* Disconnect harness connector from dust detector warning light box assembly.
- (b)* Remove two screws, nuts and lockwashers securing bracket and dust detector warning light box assembly to gage indicator panel support bracket.
- (c)* Separate dust detector warning light box assembly from bracket.

*(2) Installation*

- (a)* Position bracket and dust detector warning light box assembly on gage indicator support bracket.
- (b)* Secure dust detector warning light box assembly and bracket to gage indicator support bracket with two screws, lockwashers and nuts.

**CAUTION**

Do not overtighten harness connector. Damage to connector may result, if overtightened.

- (c)* Connect harness connector to dust detector warning light box assembly.



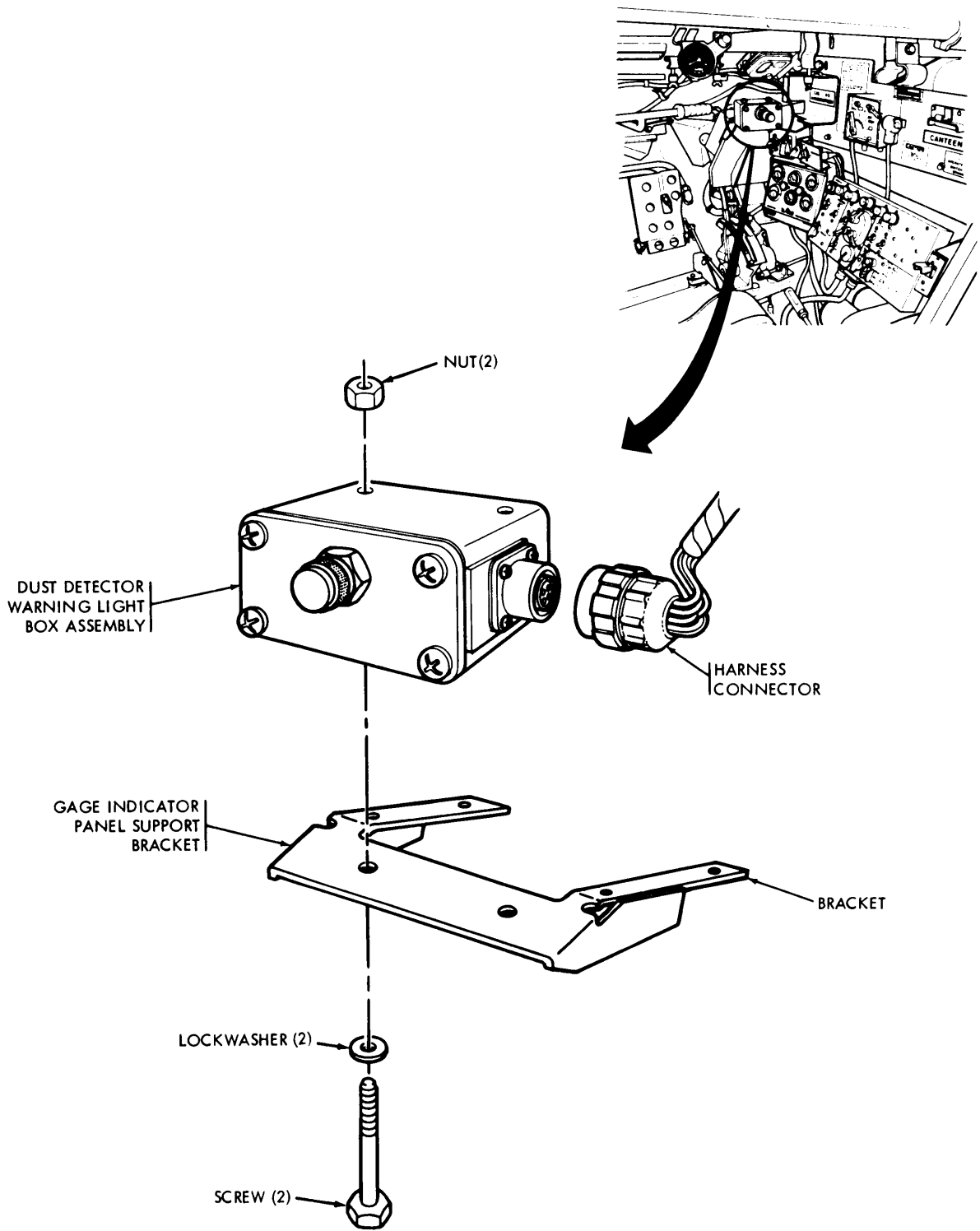


Figure 6-25. Dust detector warning light box assembly replacement (M728).

- i. *Dust Detector Warning Light Box Assembly Replacement (M48A5 AVLB, M60A1 AVLB)*  
(Fig. 6-26).

(1) *Removal*

- (a) Disconnect harness connector from dust detector warning light box assembly.
- (b) Remove two screws, nuts and lockwashers securing bracket and dust detector warning light box assembly to support bracket.
- (c) Remove dust detector warning light box assembly from support bracket.

**NOTE**

If support bracket is to be replaced go to step (d).

- (d) Remove two screws and lockwashers securing support bracket to launcher basket.
- (e) Remove bracket.

(2) *Installation*

**NOTE**

If support bracket was removed go to step (a), if not, go to step (b).

- (a) Position support bracket on launcher basket and secure using two screws and lockwashers.
- (b) Position bracket and dust detector warning light box assembly on support bracket and secure using two screws, lockwashers and nuts.

**CAUTION**

Do not overtighten harness connector. Damage to connector may result if overtightened.

- (c) Connect harness connector to dust detector warning light box assembly.

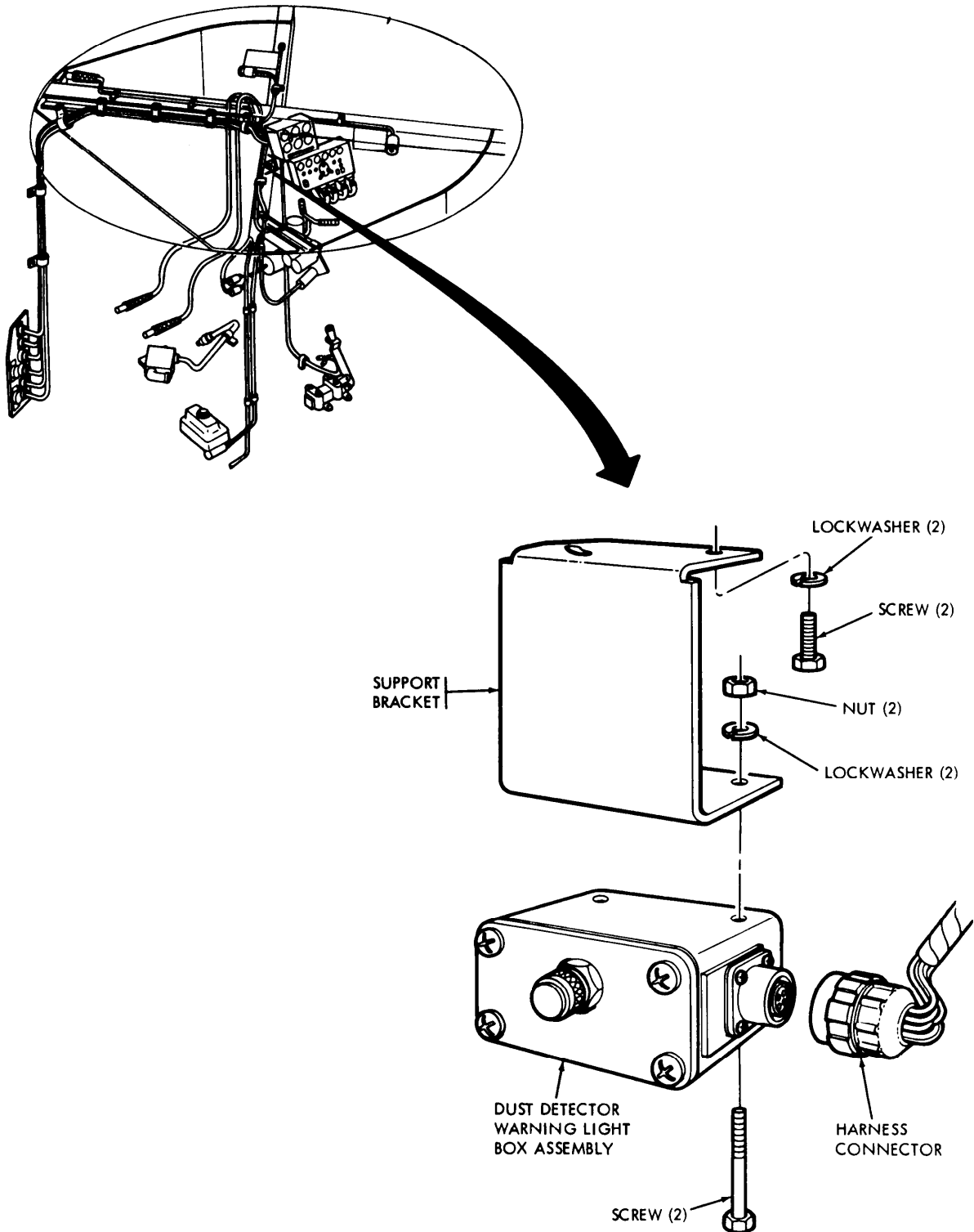


Figure 6-26. Dust detector warning light box assembly replacement (M48A5 AVLB, M60A1 AVLB).

*j. Dust Detector Operational Test (Fig. 6-27).*

**NOTE**

Operational test may be performed with powerplant out of vehicle if ground hop kit has starter cable modified to accommodate improved clean air system. If powerplant is out of vehicle, rig for powerplant test run with engine air cleaner (ground hop kit) (TM 20-1).

**NOTE**

Operational test is the same for both right and left sides.

- (1) Open top deck grille doors.
- (2) Remove dust and dirt from filter strip cover and compressor housing.
- (3) Loosen three captive screws securing filter strip cover to compressor housing, but do not remove cover.
- (4) Insert 1 inch wide strip of non-porous material (plastic, celluloid, etc.) over filter strip.
- (5) Tighten three captive screws.

**WARNING**

Make sure area around vehicle is clear of personnel and equipment before performing step (6).

- (6) Start engine. Apply vehicle brakes. Put transmission lever in high gear. Operate engine at 1800-1900 rpm for no more than 30 seconds. Observe powerplant and dust detector warning lamp.
  - (a) If powerplant and dust detector warning lamps light, system is operational; go to step (7).
  - (b) If powerplant and dust detector warning lamps do not light, check to see if dust detector switch tripped. A red plunger visible through plastic cover on switch indicates switch has tripped. If switch tripped, go to Troubleshooting Malfunction 10. If detector switch did not trip, repeat step 6 to verify. If switch still does not trip, replace dust detector switch (para. 6-17b).
- (7) Stop engine.
- (8) Loosen three captive screws securing filter strip cover to housing and remove non-porous material from filter strip and cover.
- (9) Tighten three captive screws.
- (10) Press plunger to reset pressure switch.
- (11) Close top deck grille doors.

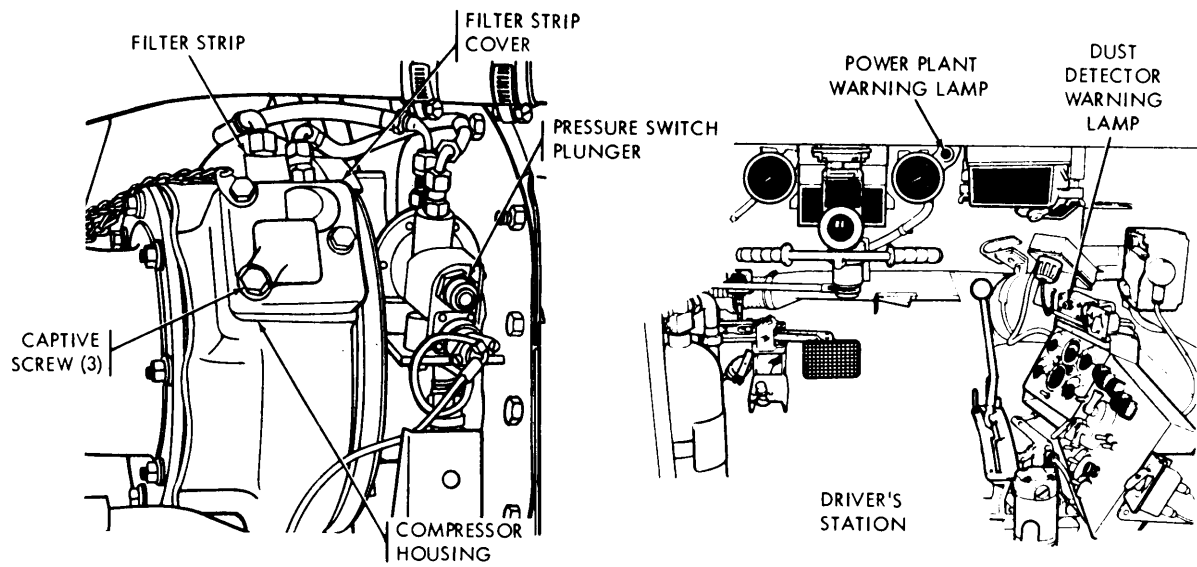


Figure 6-27. Dust detector operational test.



**APPENDIX A**  
**REFERENCES**

**TECHNICAL BULLETIN**

TB 43-0211

Army Oil Analysis Program (AOAP) Users Guide for Nonaeronautical Equipment.

**TECHNICAL MANUALS**

TM 5-5420-200-12

Operator and Organizational Maintenance Manual: Launcher, M48A2 Tank Chassis, Transporting for 63 Ft Bridge, Armored Vehicle Launched, Scissoring Type, Class 60 (Unit Rig and Equipment Model AVL 48A2) (NSN 5420-00-542-3052).

TM 5-5420-200-20P

Organizational Maintenance Repair Parts and Special Tools List: Launcher M48A2 Tank Chassis, Transporting for 63 Ft Bridge, Armored Vehicle Launched, Scissoring Type, Class 60 (Unit Rig and Equipment Model AVL 48A2) (NSN 5420-00-542-3052).

TM 5-5420-200-34

Direct Support and General Support Maintenance Manual: Launcher, M48A2 Tank Chassis, Transporting for 63 Ft Bridge, Armored Vehicle Launched, Scissoring Type, Class 60 (Unit Rig and Equipment Model AVL 48A2) (NSN 5420-00-542-3052).

TM 5-5420-200-34P

Direct Support and General Support Maintenance Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts): Launcher, M48A2 Tank Chassis, Transporting for 63 Ft Bridge, Armored Vehicle Launched, Scissoring Type, Class 60 (Unit Rig and Equipment Model AVL 48A2) (NSN 5420-00-542-3052).

TM 5-5420-202-10

Operator's Manual: Launcher, AVLB, M60A1 Tank Chassis, Transporting for Bridge, Armored Vehicle Launched, Scissoring Type, Class 60 (NSN 5420-00-889-2020).

TM 5-5420-202-20

Organizational Maintenance Manual: Launcher M60A1 Tank Chassis, Transporting: for Bridge, Armored Vehicle Launched, Scissoring Type, Class 60 (NSN 5420-00-889-2020).

TM 5-5420-202-20P

Organizational Maintenance Repair Parts and Special Tools List: Launcher, M60A1 Tank Chassis, Transporting: for Bridge, Armored Vehicle Launched, Scissoring Type, Class 60 (NSN 5420-00-889-2020).

TM 5-5420-202-34

Direct Support and General Support Maintenance Manual: Launcher, M60A1 Tank Chassis, Transporting: for Bridge, Armored Vehicle Launched, Scissoring, Type, Class 60 (NSN 5420-00-889-2020).

TM 5-5420-202-34P

Direct Support and General Support Repair Parts and Special Tools List (Including Depot Maintenance Repair Parts and Special Tools): Launcher, M60A1 Tank Chassis Transporting: for Bridge, Armored Vehicle Launched, Scissoring Type, Class 60 (NSN 5420-00-889-2020).

TM 5-5420-226-10

Operator's Manual for Launcher and 48A5 Tank Chassis, Transporting for Bridge, Armored Vehicle Launched, Scissoring Type, Class 60 (NSN 5420-01-076-6096).

TM 5-5420-226-20 Series

Organizational Maintenance for M48A5 Tank Chassis, Transporting: for Bridge, Armored Vehicle Launched, Scissoring Type, Class 60 (NSN 5420-01-076-6096).

TM 5-5420-226-34

Direct Support and General Support Maintenance M48A5 Tank Chassis, Transporting: for Bridge, Armored Vehicle Launched, Scissoring Type, Class 60 (NSN 5420-01-076-6096).

TM 5-5420-226-20-P

Organizational Maintenance Repair Parts and Special Tools List: M48A5 Tank Chassis, Transporting: for Bridge, Armored Vehicle Launched, Scissoring Type, Class 60 (NSN 5420-01-076-6096).

TM 5-5420-226-34P

Direct Support and General Support Repair Parts and Special Tools List: M48A5 Tank Chassis, Transporting: for Bridge, Armored Vehicle Launched, Scissoring Type, Class 60 (NSN 5420-01-076-6096).

TM 9-2300-378-20P/1

Organizational Maintenance Repair Parts and Special Tools List for Hull: Tank Combat: Full-Tracked, 152-MM Gun/Launcher, M60A2 (M60A1E2) W/E (NSN 2350-00-930-3590), 105-MM Gun, M60A1 W/E (NSN 2350-00-756-8497), M60 W/E (NSN 2350-00-678-5773); 90-MM Gun, M48A3 W/E (NSN 2350-00-895-9154) and Vehicle, Combat Engineer: Full Tracked, M728 W/E (NSN 2350-00-795-1797).

TM 9-2300-378-35/1

Direct Support and General Support Maintenance Manual for Tank, Combat: Full-Tracked, 152-MM Gun Launcher, M60A2 W/E (NSN 2350-00-930-3590) (Hull, Suspension and Final Drive Only) and Direct Support, General Support and Depot Maintenance Manual for 105-MM Gun, M60A1 W/E (NSN 2350-00-756-8497), 105-MM Gun, M60A1 W/E (NSN 2350-00-756-8497), 105-MM Gun, M60 W/E (NSN 2350-00-678-5773) and Vehicle, Combat Engineer: Full-Tracked, M728 W/E (NSN 2350-00-795-1797), Hull, Suspension, Final Drive, Slipping Assembly, Turret, and Miscellaneous Components.

TM 9-2300-378-35P/1-1

Direct Support, General Support and Depot Maintenance Repair Parts and Special Tools List for Hull; Tank, Combat: Full-Tracked, 152-MM Gun Launcher, M60A2 (M60A1E2) W/E (NSN 2350-00-930-3590); 105-MM Gun, M60A1 W/E (NSN 2350-00-795-1797) and 90-MM Gun, M48A3 W/E (NSN 2350-00-895-9154).

TM 9-2300-378-35P/1-2

Direct Support, General Support and Depot Maintenance Repair Parts and Special Tools List for Hull: Tank Combat: Full-Tracked, 152-MM Gun/Launcher, M60A2 (M60A1E2) W/E (NSN 2350-00-930-3590), 105-MM Gun, M60A1 W/E (2350-00-756-8497), M60 W/E (NSN 2350-00-1678-5773) and 90-MM Gun, M48A3 W/E (NSN 2350-00-895-9154) and Vehicle, Combat Engineer: Full-Tracked, M728 W/E (NSN 2350-00-795-1797).

TM 9-2350-215-10 Series

Operators Manual(s): Tank, Combat, Full-Tracked: 105-MM Gun, M60A1 (NSN 2350-00-756-8497) and M60A1/AOS (NSN 2350-01-058-9487).

TM 9-2350-215-20-1 Series

Organizational Maintenance Manual for Tank, Combat, Full-Tracked: 105-MM Gun, M60A1 (NSN 2350-00-756-8497) (Hull) and M60A1/AOS (NSN 2350-01-058-9487) (Hull).

TM 9-2350-215-34-1

Direct Support and General Support Maintenance Manual for Tank, Combat, Full-Tracked: 105-MM Gun, M60A1 (NSN 2350-00-756-8497) Hull and M60A1/AOS (NSN 2350-01-058-9487) Hull.

TM 9-2350-222-20-1 Series

Organizational Maintenance for Combat Engineer Vehicle, Full Tracked: M728, (NSN 2350-00-795-1797) (Hull).

TM 9-2350-222-20P-1

Organizational Maintenance Repair Parts and Special Tools List Combat Engineer Vehicle, Full Tracked: M728, (NSN 2350-00-795-1797) (Hull).

TM 9-2350-222-34-1

Direct Support and General Support Maintenance Manual for Vehicle, Combat Engineer, Full-Tracked: M728 (NSN 2350-00-795-1797) (Hull).

TM 9-2350-222-34P-1

Direct Support and General Support Repair Parts and Special Tools List: Vehicle, Combat Engineer, Full-Tracked: M728 (NSN 2350-00-795-1797) (Hull).

TM 9-2350-253-10

Operator's Manual for Tank, Combat, Full-Tracked, 105-MM Gun, M60A3 (NSN 2350-00-148-6548) and TTS (Tank Thermal Sight) (NSN 2350-01-061-2306).

TM 9-2350-253-20-1

Organizational Maintenance Manual for Tank, Combat, Full-Tracked, 105-MM Gun, M60A3 (NSN 2350-00-148-6548) and (NSN 2350-01-061-2306) TTS (Tank Thermal Sight) Hull.

TM 9-2350-253-20P-1

Organizational Maintenance Repair Parts and Special Tools List for Tank, Combat, Full-Tracked: 105-MM Gun, M60A3 (NSN 2350-00-148-6548) and (NSN 2350-01-061 -2306) TTS (Tank Thermal Sight) Hull.

TM 9-2350-253-34-1

Direct Support and General Support Maintenance Manual for Tank, Combat, Full-Tracked: 105-MM Gun, M60A3 (NSN 2350-00-148-6548) and (NSN 2350-01-061-2306) TTS (Tank Thermal Sight) Hull.

TM 9-2350-253-34P-1

Direct Support and General Support Maintenance Repair Parts and Special Tools (Including Depot Maintenance Repair Parts and Special Tools) for Tank, 105-MM Gun, M60A3 (NSN 2350-00-148-6548) and Full-Tracked (NSN 2350-01-061-2306) TTS (Tank Thermal Sight) Hull.



## TM 9-2350-257-10 Series

Operators Manual(s) for Tank, Combat, Full-Tracked: 105-MM Gun, M60A1 (Rise) (NSN 2350-00-116-9765) and M60A1 (Rise Passive) (NSN 2350-01-059-1503).

## TM 9-2350-257-20-1 Series

Organizational Maintenance Manual(s) for Tank, Combat, Full-Tracked: 105-MM Gun, M60A1 (Rise) (NSN 2350-00-116-9765) and M60A1 (Rise Passive) (NSN 2350-01-059-1503) (Hull).

## TM 9-2350-257-20P-1

Organizational Maintenance Repair Parts and Special Tools List: Tank, Combat, Full-Tracked: 105-MM Gun, M60A1 (Rise) W/E (NSN 2350-00-116-9765) Hull.

## TM 9-2350-257-34-1

Direct Support and General Support Maintenance Manual for Tank, Combat, Full-Tracked: 105-MM Gun, M60A1 Rise (NSN 2350-00-116-9765) and M60A1 (Rise Passive) (NSN 2350-01-059-1503) (Hull).

## TM 9-2350-257-34P-1

Direct Support and General Support Maintenance Repair Parts and Special Tools. List (Including Depot Maintenance Repair Parts and Special Tools) for Tank, Combat, Full-Tracked: 105-MM Gun, M60A1 (Rise) W/E (NSN 2350-00-116-9765) (Hull/Automotive).

## TM 9-2350-258-10

Operators Manual for Tank, Combat, Full-Tracked, 105-MM, M48A5 (NSN 2350-00-582-5595).

## TM 9-2350-258-20-1

Organizational Maintenance Manual for Tank, Combat, Full-Tracked, 105-MM Gun, M48A5 (NSN 2350-00-582-5595).

## TM 9-2350-258-20P-1

Organizational Maintenance Repair Parts and Special Tools Lists for Tank, Combat, Full-Tracked, 105-MM Gun, M48A5, (NSN 2350-00-582-5595) Hull.

## TM 9-2350-258-34-1

Direct Support and General Support Maintenance Manual for Tank, Combat, Full-Tracked: 105-MM Gun, M48A5, (NSN 2350-00-582-5595) Hull.

## TM 9-2350-258-34P-1

Direct Support and General Support Maintenance Repair Parts and Special Tools Lists (Including Depot Maintenance Repair Parts and Special Tools) for Tank, Combat, Full-Track: 105-MM Gun, M48A5 (NSN 2350-00-582-5595) Hull.



**APPENDIX B**  
**ORGANIZATIONAL, DIRECT SUPPORT AND GENERAL**  
**SUPPORT MAINTENANCE REPAIR PARTS AND**  
**SPECIAL TOOLS LIST**

**Section I. Introduction**

**B-1. Scope.**

This manual lists and authorizes spares and repair parts and other special support equipment required for performance of organizational, direct support, and general support maintenance of the M60A1AVLB, M48A5AVLB, M60A3 combat tank and the M728 combat engineer vehicle. It authorizes the requisitioning, issue, and disposition of spares and repair parts as indicated by the Source, Maintenance, and Recoverability (SMR) codes.

**B-2. General.**

This Repair Parts and Special Tools List is divided into the following sections:

*a. Section II. Repair Parts List.* A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materials are listed in NSN sequence.

*b. Section III. Special Tools List.* A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL for the performance of maintenance.

*c. Section IV. National Stock Number and Part Number Index.* list, in National item identification number (NIIN) sequence, of all National stock numbers (NSN) appearing in the listings, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance.

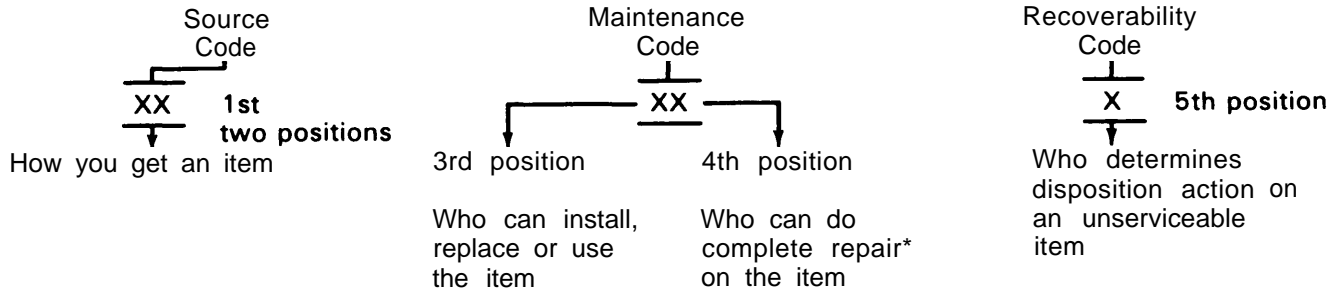
**B-3. Explanation of Columns.**

*a. Illustration (Column (1)).* This column is divided as follows:

(1) *((a) FIG NO.) Figure Number.* Indicates the figure number illustrating an exploded view of a functional group.

(2) *((b) ITEM NO.).* Indicates the number used to identify items called out in the illustration.

b. *SMR CODE (Column (2))*. The Source, Maintenance, and Recoverability (SMR) code is a 5-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instructions, as shown in the following breakout:



\* Complete Repair: Maintenance capacity, capability, and authority to perform all the corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

(1) *Source Code*. The source code tells you how you get an item needed for maintenance, repair, or overhaul of an end item/equipment. Source codes are always the first two positions of the SMR code. Explanations of source codes follow:

Code	Explanation
PA PB PC PD PE PF PG	Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the category indicated by the code entered in the 3rd position of the SMR code.
-----	
KD KF KB	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance category indicated in the 3rd position of the SMR code. The complete kit must be requisitioned and applied.
-----	
MO- (Made at org) MF - (Made at DS) MH- (Made at GS) MD- (Made at Depot)	Items with these codes are not to be requested/requisitioned individually. They must be made from bulk material which is identified by NSN in the Description column and listed in the Bulk Material group in the repair parts list in this manual. If the item is authorized to you by the 3rd position code of the SMR code, but the source code indicates it is made at a higher category, order the item from the higher category of maintenance.

Code	Explanation
<b>AO - (Assembled by org)</b>	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the category of maintenance indicated by the source code. If the 3rd position code of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher category, order the item from the higher category of maintenance.
<b>AF - (Assembled by DS)</b>	
<b>AH - (Assembled by GS)</b>	
<b>AD - (Assembled by Depot)</b>	
XA - Do not requisition an "XA"-coded item. Order its next higher assembly. (Also refer to the NOTE below.)	
XB - If an "XB" item is not available from salvage, order it using the FSCM and part number given.	
XC - Installation drawing, diagram, instruction sheet, field service drawing, that is identified by manufacturer's part number.	
XD - Item is not stocked. Order an "XD"-coded item through normal supply channels using the FSCM and part number given, if no NSN is available.	

NOTE: Cannibalization or controlled exchange, when authorized, may be used as source of supply for items with the above source codes, except for those source coded "XA."

(2) *Maintenance Code.* Maintenance codes tell you the category(s) of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the SMR Code as follows:

(a) The maintenance code entered in the third position tells you the lowest maintenance category authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to one of the following categories of maintenance.

Code	Application/Explanation
C	-Crew or operator maintenance done within organizational maintenance.
O	-Organizational category can remove, replace, and use the item.
F	-Direct support category can remove, replace, and use the item.
H	-General support category can remove, replace, and use the item.
L	-Specialized repair activity can remove, replace, and use the item.
D	-Depot category can remove, replace, and use the item.

(b) The maintenance code entered in the fourth position tells you whether or not the item is to be repaired and identifies the lowest maintenance category with the capability to do complete repair, (i.e., perform all authorized repair functions). (NOTE: Some limited repair may be done on the item at a lower category of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.) This position will contain one of the following maintenance codes.

Code	Application/Explanation
O	-Organizational is the lowest category that can do complete repair of the item.
F	-Direct support is the lowest category that can do complete repair of the item.
H	-General support is the lowest category that can do complete repair of the item.
L	-Specialized repair activity (designate the specialized repair activity) is the lowest category that can do complete repair of the item.
D	-Depot is the lowest category that can do complete repair of the item.
Z	-Nonreparable. No repair is authorized.
B	-No repair is authorized. (No parts or special tools are authorized for the maintenance of a "B" coded item.) However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

(3) *Recoverability Code.* Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the SMR Code as follows:

Recoverability Codes	Definition
Z	-Nonreparable item. When unserviceable, condemn and dispose of the item at the category of maintenance shown in 3rd position of SMR Code.
O	-Reparable item. When uneconomically repairable, condemn and dispose of the item at organizational category.
F	-Reparable item. When uneconomically repairable, condemn and dispose of the item at the direct support category.

## Recoverability

## Definition

- H -Reparable item. When uneconomically reparable, condemn and dispose of the item at the general support category.
- D -Reparable item. When beyond lower category repair capability, return to depot. Condemnation and disposal of item not authorized below depot category.
- L -Reparable item. Condemnation and disposal not authorized below specialized repair activity.
- A -Item requires special handling or condemnation procedures because of specific reasons (i.e., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

*c. National Stock Number (Column (3)).* Lists the National stock number (NSN) assigned to the item. Use the NSN for requests/requisitions.

*d. FSCM (Column (4)).* The Federal Supply Code for Manufacturer (FSCM) is a 5-digit numeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

*e. Part Number (Column (5)).* Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications standards, and inspection requirements to identify an item or range of items.

NOTE: When you use an NSN to requisition an item, the item you receive may have a different part number from the part ordered, but go ahead and use or furnish it as the replacement part.

*f. Description (Column (6)).* This column includes the following information:

- (1) The Federal item name and, when required, a minimum description to identify the item.
- (2) Not Applicable.
- (3) Items that are included in kits and sets are listed below the name of the kit or set.
- (4) Spare/repair parts that make up an assembled item are listed immediately following the assembled item line entry.
- (5) NSN's for bulk materials are referenced in the description column in the line item entry for the item to be manufactured/fabricated.
- (6) Not Applicable.

(7) Not Applicable.

(8) In the Special Tools List section, the basis of issue (BOI) appears as the last line(s) in the entry for each special tool, special TMDE, and other special support equipment. When density of equipments supported exceeds density spread indicated in the basis of issue, the total authorization is increased proportionately.

*g. U/M (Column (7)).* The Unit of Measure (U/M) indicates the measure (e.g., foot, gallon, pound) or count (e.g., each, dozen, gross) of a listed item. A two-character alpha code (e.g., FT, GL, LB, EA, DZ, GR) appears in this column to indicate the measure or count. If the U/M code appearing in this column differs from the Unit of Issue (U/I) code listed in the Army Master Data File (AMDF), request the lowest U/I that will satisfy your needs.

*h. QTY INC IN UNIT (Column (8)).* Quantity Incorporated in Unit (QTY INC IN UNIT) indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column in lieu of a quantity indicates that no specific quantity is applicable (e.g., shims, spacers).

#### **B-4. Special Information.**

*a.* Not Applicable.

*b.* Bulk materials required to manufacture items are listed in the Bulk Material Group of this manual. NSN's for bulk materials are also referenced in the description column of the line entry for the item to be manufactured/fabricated. Detailed manufacturing instructions for items source coded to be manufactured or fabricated are found in TM9-2350-253-20, TM9-2350-253-34, TM9-2350-222-20, TM9-2350-222-34, TM5-5420-226-20, TM5-5420-226-34, TM5-5420-202-20, and TM5-5420-202-34.

*c.* Detailed assembly instructions for items source coded to be assembled from component spare/repair parts are found in TM9-2350-253-20, TM9-2350-253-34, TM9-2350-222-20, TM9-2350-222-34, TM5-5420-226-20, TM5-5420-226-34, TM5-5420-202-20, and TM5-5420-202-34. Items that make up the assembly are listed immediately following the assembled item entry.

*d.* Line item entries for repair kits and sets appear as the last entries in the repair parts listing for the figure in which their parts are listed as repair parts.

*e.* Not Applicable.

*f.* Not Applicable.

*g.* Not Applicable.



**B-5. How to Locate Repair Parts***a. When National Stock Number or Part Number is Not Known:*

(1) *First.* Using the table of contents, determine the functional group or subfunctional group to which the item belongs. This is necessary since figures are prepared for functional groups and subfunctional groups, and listings are divided into the same groups.

(2) *Second.* Find the figure covering the functional group or subfunctional group to which the item belongs.

(3) *Third.* Identify the item on the figure and note the item number of the item.

(4) *Fourth.* Refer to the Repair Parts List for the figure to find the line item entry for the item number noted on the figure.

*b. When National Stock Number or Part Number is Known.*

(1) *First.* Using the Index of National Stock Numbers and Part Numbers, find the pertinent National stock number or part number. The NSN index is in National Item Identification Number (NIIN)\* sequence. The part numbers in the Part Number index are listed in ascending alphanumeric sequence. Both indexes cross-reference you to the illustration figure and item number of the item you are looking for.

\*The NIIN consists of the last 9 digits of the NSN (i.e.,  $\frac{\text{NSN}}{\text{NIIN}}$ ).

(2) *Second.* After finding the figure and item number, verify that the item is the one you are looking for, then locate the item number in the repair parts list for the figure.

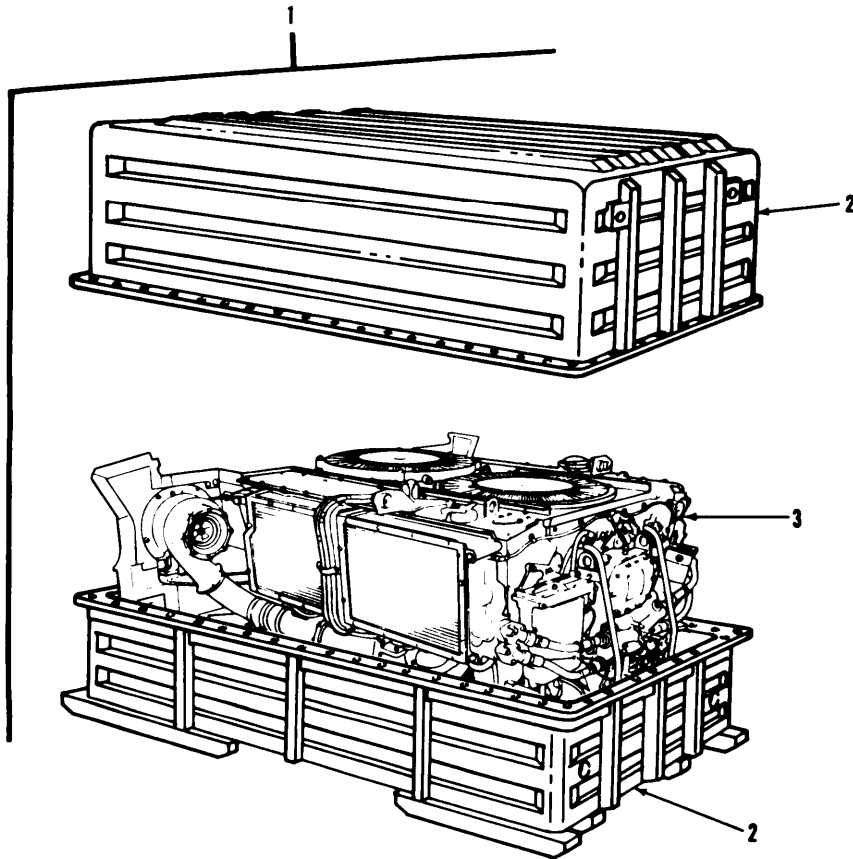


FIGURE B-1. DIESEL ENGINE MODELS 2CA, 2DA, AND SHIPPING CONTAINER.

**Section II. Repair Parts List**

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 01 ENGINE		
						GROUP 0100: ENGINE ASSEMBLY-DIESEL ENGINE MODEL 2CA, MODEL 2DA, AND SHIPPING CONTAINER		
B-1	1	PAFDL	2815-01-149-1313	19207	5705074	ENGINE AND CONTAINER.....	EA	1
B-1	2	PAFDL	8145-00-856-8147	19207	10912269	CONTAINER SHIPPING & STORAGE.....	EA	1
B-1	3	PAFDL	2815-01-149-1353	19207	12314611	ENGINE (2CA ENGINE).....	EA	1
B-1	3	PAFDL		19207	12314641	ENGINE (2DA ENGINE).....	EA	1

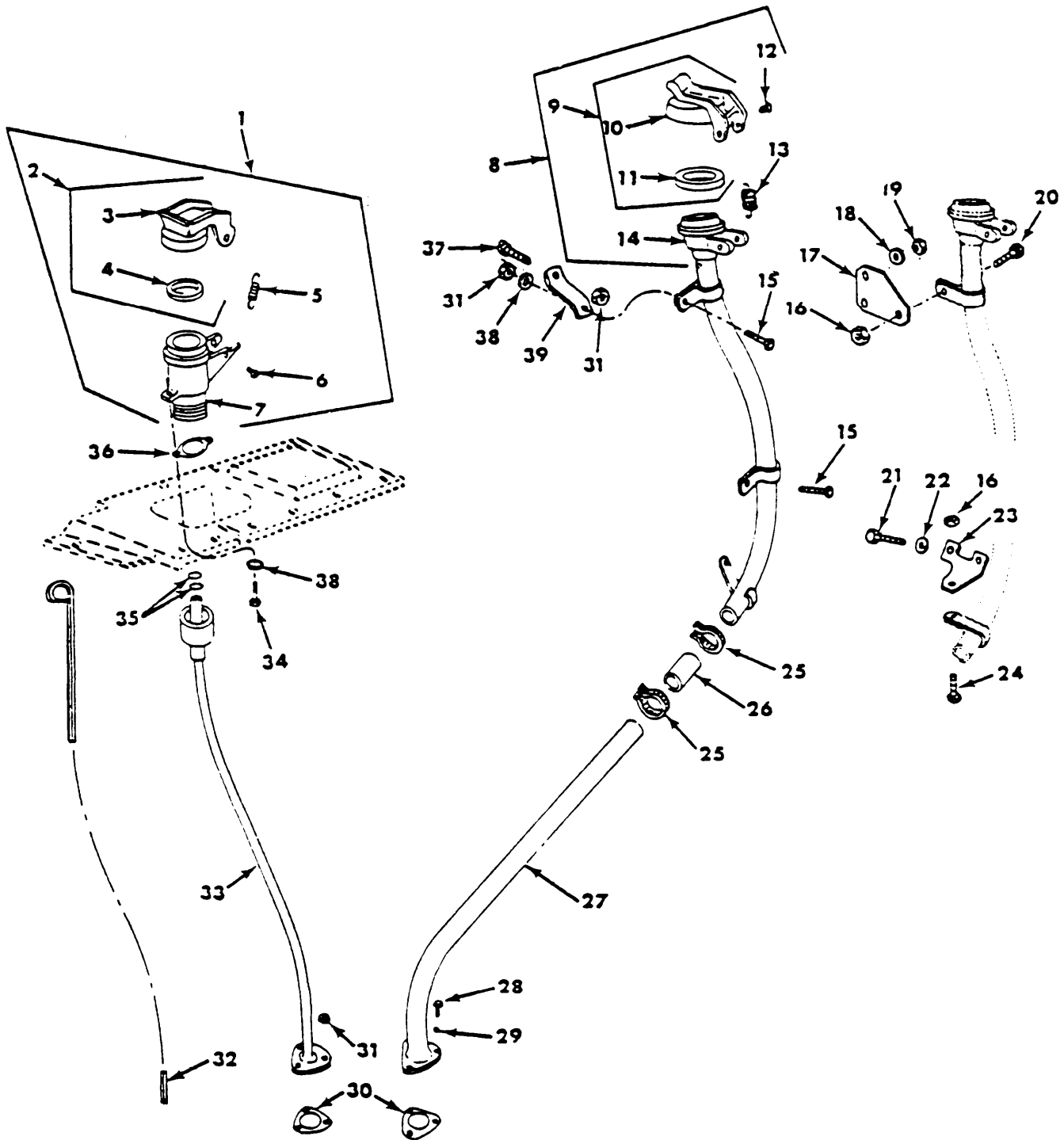


FIGURE B-2. OIL GAGE ROD TUBE, OIL FILLER TUBE, AND RELATED PARTS.

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)	
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 0106: ENGINE LUBRICATION SYSTEM- OIL GAGE ROD TUBE, OIL FILLER TUBE, AND RELATED PARTS			
B-2	1	PFOZZ	2815-00-406-4621	19207	10935623	CAP, FILLER NECK.....		EA	1
B-2	2	PFOZZ	2990-00-897-2849	19207	8761109	CAP ASSEMBLY.....		EA	1
B-2	3	XAOZZ		19207	8717157	CAP.....		EA	1
B-2	4	PAOZZ	5330-00-599-0942	19207	8717158	PACKING, PREFORMED.....		EA	1
B-2	5	PFOZZ	5360-00-410-5836	19207	10935614	SPRING, HELICAL, EXTENSION.....		EA	1
B-2	6	PAOZZ	5305-00-206-3851	02978	550559	SCREW, EXTERNALLY RELIEVED BODY.....		EA	2
B-2	7	XAOZZ		19207	10935619	NECK.....		EA	1
B-2	8	PAOZZ	2815-00-406-4615	19207	11641922	FILLER NECK (USE WITH 2C AND 2D ENGINES).....		EA	1
B-2	8	PAOZZ	2815-01-145-8312	19207	12314593	FILLER NECK (USE WITH 2CA AND 2DA ENGINES).....		EA	1
B-2	9	PFOZZ	2990-00-897-2849	19207	8761109	CAP ASSEMBLY.....		EA	1
B-2	10	XAOZZ		19207	8717157	CAP.....		EA	1
B-2	11	PAOZZ	5330-00-599-0942	19207	8717158	PACKING, PREFORMED.....		EA	1
B-2	12	PAOZZ	5305-00-206-3851	02978	550559	SCREW, EXTERNALLY RELIEVED BODY.....		EA	2
B-2	13	PFOZZ	5360-00-410-5836	19207	10935614	SPRING, HELICAL, EXTENSION.....		EA	1
B-2	14	XAOZZ		19207	11641923	TUBE ASSEMBLY (USE WITH 2C AND 2D ENGINES).....		EA	1
B-2	14	XAOZZ		19207	12314592	TUBE ASSEMBLY (USE WITH 2CA AND 2DA ENGINES).....		EA	1
B-2	15	PAOZZ	5306-00-050-1238	96906	MS90727-32	BOLT, MACHINE.....		EA	2
B-2	25	PAOZZ	4730-00-909-8627	96906	MS35842-13	CLAMP, HOSE.....		EA	2
B-2	26	MOOZZ		19207	8357967-4	HOSE, NONMETALLIC (MAKE FROM NSN 4720-00-278-1110).....		EA	1
B-2	27	PFOZZ	4710-00-192-9436	19207	11641927	TUBE ASSEMBLY, METAL.....		EA	1
B-2	28	PAOZZ	5305-00-051-4076	96906	MS90727-34	SCREW, CAP, HEXAGON.....		EA	3
B-2	29	PAOZZ	5330-00-530-2772	25184	110 5-16	PACKING WITH RETAINER.....		EA	3
B-2	30	PAOZZ	5330-00-679-4961	19207	8682523	GASKET.....		EA	2
B-2	31	PAOZZ	5310-00-088-0553	96906	MS21044N5	NUT, SELF-LOCKING.....		EA	2
B-2	32	PFOZZ	6680-00-423-4051	19207	11684006	GAGE, ROD, LIQUID LEVEL.....		EA	1
B-2	33	PFOZZ	2815-00-399-5302	19207	11684018	TUBE, OIL LEVEL GAGE ROD.....		EA	1
B-2	34	PAOZZ	5306-00-225-9086	96906	MS90726-31	BOLT, MACHINE.....		EA	2
B-2	35	PAOZZ	5330-01-013-7132	96906	MS9388-327	PACKING, PREFORMED.....		EA	2
B-2	36	PAOZZ	5330-00-410-9803	19207	10935621	GASKET.....		EA	1
B-2	37	PAOZZ	5306-00-182-2023	88044	AN5H4A	BOLT, MACHINE.....		EA	1
B-2	38	PAOZZ	5310-00-407-9566	19207	7410218	WASHER, LOCK.....		EA	1
B-2	39	PFOZZ	5340-01-145-8307	19207	12314591	BRACKET, DOUBLE ANGLE (USE WITH 2CA AND 2DA ENGINES).....		EA	1
B-2	39	PFOZZ	5340-00-409-2055	19207	11641928	BRACKET, DOUBLE ANGLE (USE WITH 2C AND 2D ENGINES).....		EA	1

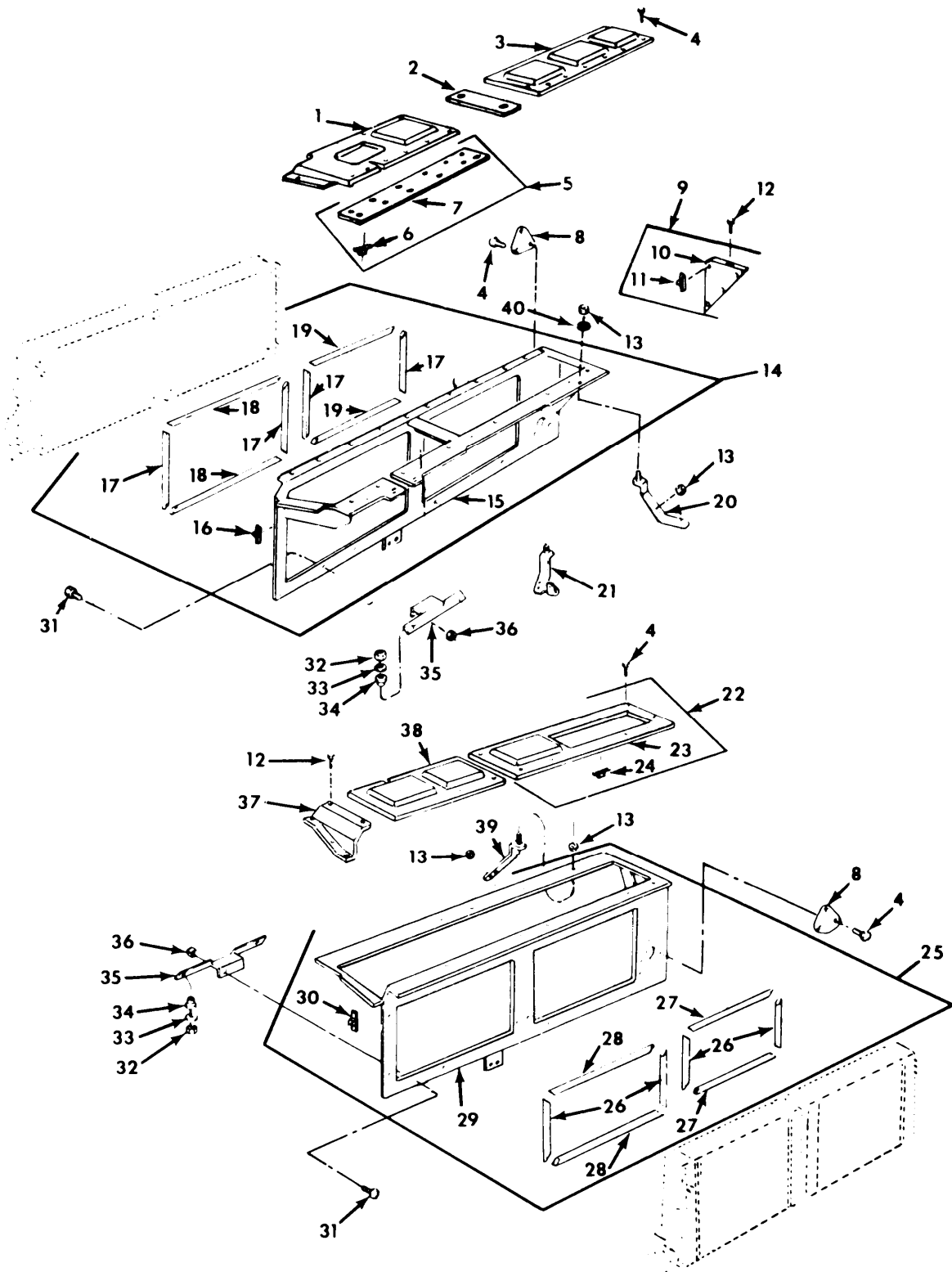


FIGURE B-3. OIL COOLER FRAMES, SHROUDS, AND RELATED PARTS.

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)	
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 0106: ENGINE LUBRICATION SYSTEM-OIL COOLER FRAMES, SHROUDS, AND RELATED PARTS			
B-3	1	PAOZZ	2815-00-394-9706	19207	11684017	COVER, ACCESS (LEFT BANK).....		EA	1
B-3	3	PAOZZ	2815-00-399-5301	19207	11683939	COVER, ACCESS (LEFT BANK).....		EA	1
B-3	4	PAOZZ	5306-00-741-4584	19207	7414584	BOLT, ASSEMBLED WASHER (USE WITH 2C AND 2D ENGINES).....		EA	42
B-3	4	PAOZZ	5306-00-741-4584	19207	7414584	BOLT, ASSEMBLED WASHER (USE WITH 2CA AND 2DA ENGINES)...		EA	39
B-3	8	PFOZZ	2815-00-410-1045	19207	11684132	COVER, ACCESS (LEFT AND RIGHT BANKS).....		EA	2
B-3	9	PAOFF	2815-00-394-9700	19207	11683985	COVER, ACCESS (LEFT BANK).....		EA	1
B-3	10	XAOZZ		19207	11683985-1	COVER.....		EA	1
B-3	11	PAFZZ	5310-00-486-0406	19207	11684093-1	NUT, PLAIN, PLATE (LEFT BANK).....		EA	5
B-3	12	PAOZZ	5305-00-019-2417	21450	192417	BOLT, ASSEMBLED WASHER (LEFT BANK).....		EA	5
B-3	13	PAOZZ	5310-00-088-0553	96906	MS21044N5	NUT, SELF-LOCKING, HEXAGON.....		EA	36
B-3	14	PFOFF	2930-00-392-9515	19207	11684041	FRAME, ENGINE OIL COOLER SUPPORT ASSEMBLY (LEFT BANK)...		EA	1
B-3	15	XAOZZ		19207	11684041-1	FRAME.....		EA	1
B-3	16	PAFZZ	5310-00-486-0406	19207	11684093-1	NUT, PLAIN, PLATE.....		EA	38
B-3	17	MOOZZ		19207	11684079-1	RUBBER, STRIP (MAKE FROM NSN 9320-00-576-4981).....		EA	4
B-3	18	MOOZZ		19207	11684079-3	RUBBER, STRIP (MAKE FROM NSN 9320-00-576-4981).....		EA	2
B-3	19	MOOZZ		19207	11684079-2	RUBBER, STRIP (MAKE FROM NSN 9320-00-576-4981).....		EA	2
B-3	20	PFOZZ	2930-01-005-1550	19207	11684234	BRACKET, COOLING FAN (LEFT AND RIGHT BANKS).....		EA	2
B-3	21	PFOZZ	2930-01-038-8296	19207	12254292	BRACKET, COOLING FAN (LEFT BANK).....		EA	1
B-3	22	PAOFF	5340-01-010-8946	19207	11684246	COVER, ACCESS (RIGHT BANK).....		EA	1
B-3	23	XAOZZ		19207	11684246-1	COVER.....		EA	1
B-3	24	PAFZZ	5310-00-486-0412	19207	11684093-2	NUT, PLAIN, PLATE (RIGHT BANK).....		EA	2
B-3	25	PFOFF	2930-00-392-9547	19207	11684048	FRAME, ENGINE OIL COOLER SUPPORT ASSEMBLY.....		EA	1
B-3	26	MOOZZ		19207	11684079-1	RUBBER, STRIP (MAKE FROM NSN 9320-00-576-4981).....		EA	4
B-3	27	MOOZZ		19207	11684079-2	RUBBER, STRIP (MAKE FROM NSN 9320-00-576-4981).....		EA	2
B-3	28	MOOZZ		19207	11684079-3	RUBBER, STRIP (MAKE FROM NSN 9320-00-576-4981).....		EA	2
B-3	29	XAOZZ		19207	11684048-1	FRAME.....		EA	1
B-3	30	PAFZZ	5310-00-486-0406	19207	11684093-1	NUT, PLAIN, PLATE (RIGHT BANK).....		EA	40
B-3	31	PAOZZ	5305-00-912-5113	96906	MS51096-59	SCREW, CAP, HEXAGON (LEFT AND RIGHT BANKS).....		EA	12
B-3	32	PAOZZ	5310-00-274-9364	96906	MS21045-7	NUT, SELF-LOCKING, (LEFT AND RIGHT BANKS).....		EA	12
B-3	33	PAOZZ	5365-00-486-0405	19207	11684106	SPACER, SLEEVE (LEFT AND RIGHT BANKS).....		EA	12
B-3	34	PAOZZ	5325-00-276-6096	88044	AN931B9-13	GROMMET, NONMETALLI (LEFT AND RIGHT BANKS).....		EA	12
B-3	35	PFOZZ	2520-00-394-9713	19207	11683954	SUPPORT, OIL COOLER (LEFT AND RIGHT BANKS).....		EA	6
B-3	36	PAOZZ	5310-00-982-4908	96906	MS21046-6	NUT, SELF-LOCKING, (LEFT AND RIGHT BANKS).....		EA	12
B-3	37	PAOZZ	2815-00-397-3313	19207	11683984	COVER, ACCESS (RIGHT BANK).....		EA	1
B-3	38	PAOZZ	2815-00-432-0056	19207	11683941	COVER, ACCESS (RIGHT BANK).....		EA	1
B-3	39	PFOZZ	2930-01-005-1549	19207	11682768	BRACKET, COOLING FAN.....		EA	9
B-3	40	PAOZZ	5310-00-081-4219	29201	84001-1	WASHER, FLAT.....		EA	12

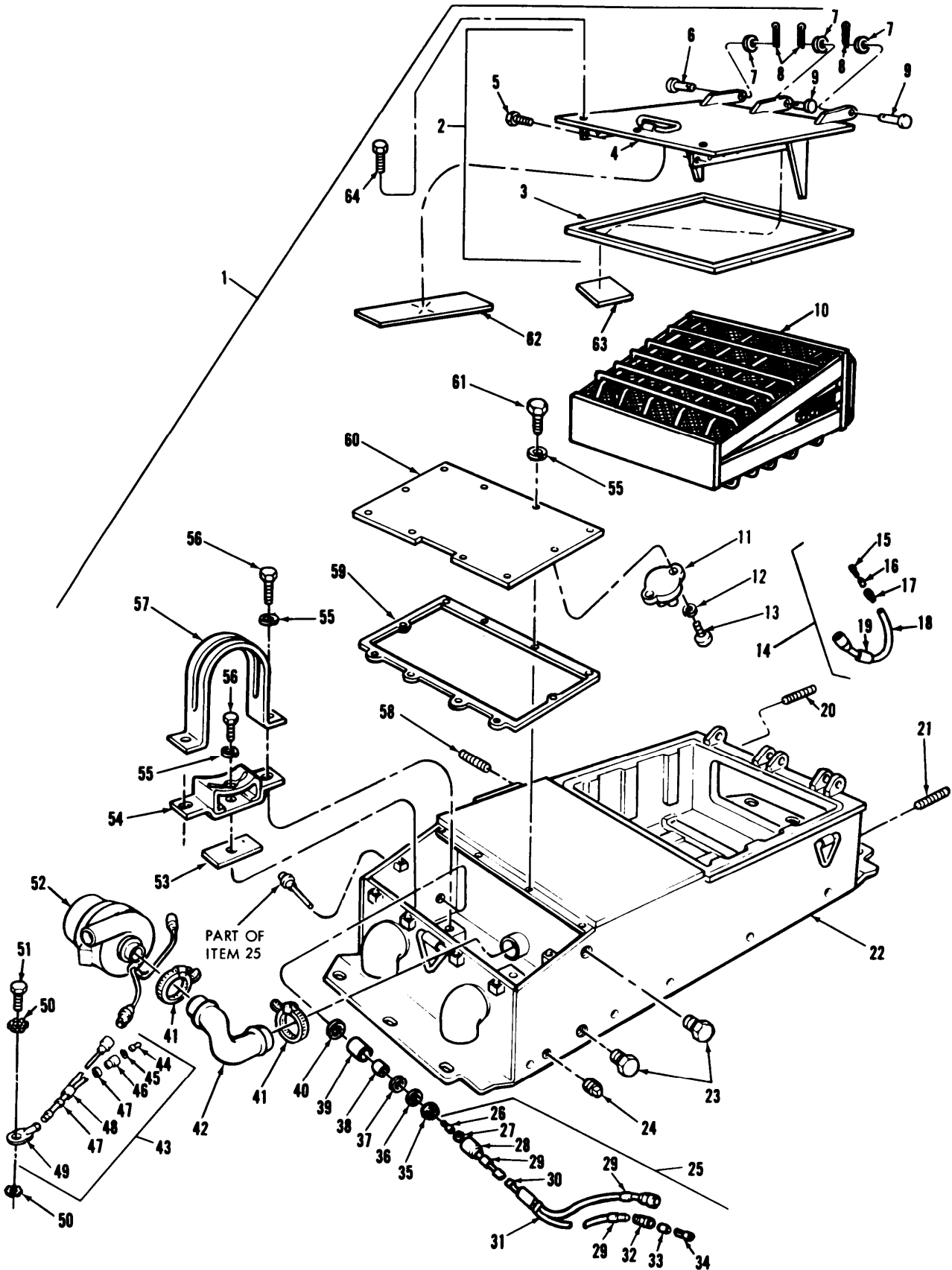


FIGURE B-4. ARMORED TOP LOADING AIR CLEANER AND RELATED PARTS (2C AND 2D ENGINES).



(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 03: FUEL SYSTEM		
						GROUP 0304: AIR CLEANER-ARMORED TOP LOADING AIR CLEANER AND RELATED PARTS (2C AND 2D ENGINES)		
B-4	1	PAODD	2940-01-035-9827	19204	12251922-1	AIR CLEANER, INTAKE ,LEFT.....	EA	1
B-4	1	PAODD	2940-01-035-9826	19204	12251922-2	AIR CLEANER, INTAKE ,RIGHT.....	EA	1
B-4	2	PAODD	5340-01-016-4429	19207	12251910	DOOR, ACCESS.....	EA	1
B-4	3	PCOZZ	5330-01-129-0642	19207	12304136	GASKET.....	EA	1
B-4	4	XADZZ		19207	12251908	DOOR.....	EA	1
B-4	5	PAOZZ	5306-01-091-3384	19207	12290914	BOLT, SELF-LOCKING PART OF KIT P/N 5705149.....	EA	8
B-4	6	PAOZZ	5315-00-903-7885	96906	MS20392-7C55	PIN, STRAIGHT, HEAD.....	EA	1
B-4	7	PAOZZ	5310-00-809-5998	96906	MS27183-18	WASHER, FLAT PART OF KIT P/N 5705149.....	EA	3
B-4	8	PAOZZ	5315-00-816-1794	96906	MS24665-285	PIN, COTTER PART OF KIT P/N 5705149.....	EA	3
B-4	9	PAOZZ	5315-00-778-9646	96906	MS20392-7C81	PIN, STRAIGHT, HEAD PART OF KIT P/N 5705149.....	EA	2
B-4	10	PAOZZ	2940-01-142-8260	19207	11669740	FILTER.....	EA	1
B-4	11	PAOZZ	5925-00-026-4767	81349	M13516/1-1	CIRCUIT BREAKER.....	EA	2
B-4	12	PAOZZ	5310-00-045-4007	96906	MS35338-41	WASHER, LOCK.....	EA	4
B-4	13	PAOZZ	5305-00-889-3001	96906	MS35206-231	SCREW, MACHINE.....	EA	4
B-4	14	PAOOO	2590-00-606-2346	19207	7383632	LEAD ASSEMBLY.....	EA	2
B-4	15	PAOZZ	2520-00-692-4879	19207	8338564	TERMINAL ASSEMBLY.....	EA	2
B-4	16	PAOZZ	5970-00-833-8562	19207	8338562	INSULATOR, BUSHING.....	EA	2
B-4	17	PAOZZ	5935-00-833-8561	19207	8338561	CONNECTOR.....	EA	2
B-4	18	MOOZZ		81349	M13486/1-5	WIRE, ELECTRICAL (MAKE FROM NSN 6145-00-152-6499).....	FT	V
B-4	19	PAOZZ	9905-00-752-4649	81349	M43436/1-1	BAND, MARKER.....	EA	1
B-4	20	PAOZZ	5307-00-678-4760	19207	8762863	STUD, PLAIN.....	EA	2
B-4	21	PAOZZ	5307-00-218-8179	19207	11659652	STUD, PLAIN.....	EA	2
B-4	22	XADDD		19207	12251911-1	HOUSING, LEFT.....	EA	1
B-4	22	XADDD		19207	12251911-2	HOUSING, RIGHT.....	EA	1
B-4	23	PAOZZ	4730-00-678-4749	19207	10863625	PLUG, PIPE PART OF KIT P/N 5705149.....	EA	2
B-4	24	PAOZZ	4730-00-580-6740	96906	MS20913-3J	PLUG, PIPE PART OF KIT P/N 5705149.....	EA	1
B-4	25	PAOOO	2590-00-978-7335	19207	10940163	WIRING HARNESS.....	EA	1
B-4	26	PAOZZ	5999-00-057-2929	96906	MS27148-2	CONTACT, ELECTRICAL.....	EA	1
B-4	27	PAOZZ	5310-00-833-8567	19207	8338567	WASHER, SLOTTED.....	EA	1
B-4	28	PAOZZ	5935-00-572-9180	19207	8338566	CONNECTOR.....	EA	1
B-4	29	PAOZZ	9905-00-752-4649	81349	M43436/1-1	BAND, MARKER.....	EA	4
B-4	30	MOOZZ		80244	1711725-96	INSULATION, SLEEVIN (MAKE FROM NSN 5970-00-284-8640).....	FT	V
B-4	31	MOOZZ		81349	M13486/1-5	WIRE, ELECTRICAL (MAKE FROM NSN 6145-00-152-6499).....	FT	V
B-4	32	PAOZZ	5935-00-833-8561	19207	8338561	CONNECTOR.....	EA	2
B-4	33	PAOZZ	5970-00-833-8562	19207	8338562	INSULATOR, BUSHING.....	EA	2
B-4	34	PAOZZ	5940-00-399-6676	19207	8338564	TERMINAL ASSEMBLY.....	EA	2
B-4	35	PAOZZ	5975-00-644-3682	19207	7056641	NUT, COUPLING, ELEC.....	EA	1
B-4	36	PAOZZ	5310-00-705-7352	19207	7057352	WASHER, SPRING, TENSION.....	EA	1
B-4	37	PAOZZ	5330-00-705-6661	19207	7056661	RETAINER, PACKING.....	EA	1
B-4	38	PAOZZ	5365-00-772-2972	19207	7722972	BUSHING, RUBBER.....	EA	1
B-4	39	PAOZZ	4730-00-678-4750	19207	8762871	REDUCER, TUBE.....	EA	1
B-4	40	PAOZZ	5330-00-078-4714	19207	10933723	GASKET.....	EA	1
B-4	41	PAOZZ	4730-00-908-3193	96906	MS35842-12	CLAMP.....	EA	4
B-4	42	PAOZZ	4720-01-022-6070	19207	12251907	HOSE, PREFORMED.....	EA	2
B-4	43	PAOOO	2590-00-974-9216	19207	10863589	LEAD ASSEMBLY.....	EA	1
B-4	44	PAOZZ	5999-00-057-2929	96906	MS27148-2	CONTACT, ELECTRICAL.....	EA	2
B-4	45	PAOZZ	5310-00-833-8567	19207	8338567	WASHER, SLOTTED.....	EA	2
B-4	46	PAOZZ	5935-00-572-9180	19207	8338566	CONNECTOR.....	EA	2
B-4	47	PAOZZ	9905-00-752-4649	81349	M43436/1-1	BAND, MARKER.....	EA	4

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(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 03: FUEL SYSTEM		
						GROUP 0304: AIR CLEANER-ARMORED TOP LOADING AIR CLEANER AND RELATED PARTS (2C AND 2D ENGINES) -CONTINUED		
B-4	48	MOOZZ		81349	M13486/1-5	WIRE, ELECTRICAL (MAKE FROM NSN 6145-00-152-6499).....		V
B-4	49	PAOZZ	5940-00-705-6709	19207	7056709	TERMINAL, LUG.....	EA	1
B-4	50	PAOZZ	5310-00-209-0786	96906	MS35335-33	WASHER, LOCK.....	EA	1
B-4	51	PAOZZ	5305-00-068-0501	96906	MS90725-5	SCREW, CAP, HEX HEAD.....	EA	1
B-4	52	PAOFF	4140-00-016-2615	19207	10905010	FAN, CENTRIFUGAL (FOR COMPONENT PARTS SEE GROUP 0304: AIR CLEANER CENTRIFUGAL FAN ASSEMBLY).....	EA	2
B-4	53	PAOZZ	9320-01-017-2743	19207	12251898	RUBBER STRIP.....	EA	2
B-4	54	PAOZZ	5340-01-028-5260	19207	12251912	BRACKET, MOUNTING.....	EA	2
B-4	55	PAOZZ	5310-00-407-9566	96906	MS35338-45	WASHER, LOCK.....	EA	16
B-4	56	PAOZZ	5306-00-226-4824	96906	MS90728-31	SCREW, CAP, HEX HEAD.....	EA	6
B-4	57	PAOZZ	5340-01-016-4782	19207	12251905	STRAP, RETAINING.....	EA	2
B-4	58	PAOZZ	5307-00-178-8859	19207	8762863-1	STUD, PLAIN.....	EA	10
B-4	59	PAOZZ	5330-01-035-9825	19207	12251902	GASKET.....	EA	1
B-4	60	PBOZZ	5340-01-031-0420	19207	12251904	COVER, ACCESS.....	EA	1
B-4	61	PAOZZ	5306-00-225-8498	96906	MS90725-33	SCREW, CAP, HEX HEAD.....	EA	10
B-4	62	PAOZZ	7690-01-038-7440	19207	12252675	MARKER, ID.....	EA	1
B-4	63	PAOZZ	9905-01-051-5289	19207	11659642-68	PLATE, IDENT (USE WITH P/N 12251922-2).....	EA	1
B-4	63	PAOZZ	9905-01-051-5290	19207	11659642-67	PLATE, IDENT (USE WITH P/N 12251922-1).....	EA	1
B-4	64	PAOZZ	5306-01-091-3384	19207	12290914	BOLT, SELF-LOCKING.....	EA	3
B-4		PAOZZ	4310-01-134-6587	19207	5705149	KIT, AIR CLEANER.....	EA	1
B-4	5					BOLT, SELF-LOCKING.....	EA	1
B-4	7					WASHER, FLAT.....	EA	1
B-4	8					PIN, COTTER.....	EA	1
B-4	9					PIN, STRAIGHT, HEAD.....	EA	1
B-4	23					PLUG, PIPE.....	EA	1
B-4	24					PLUG, PIPE.....	EA	1



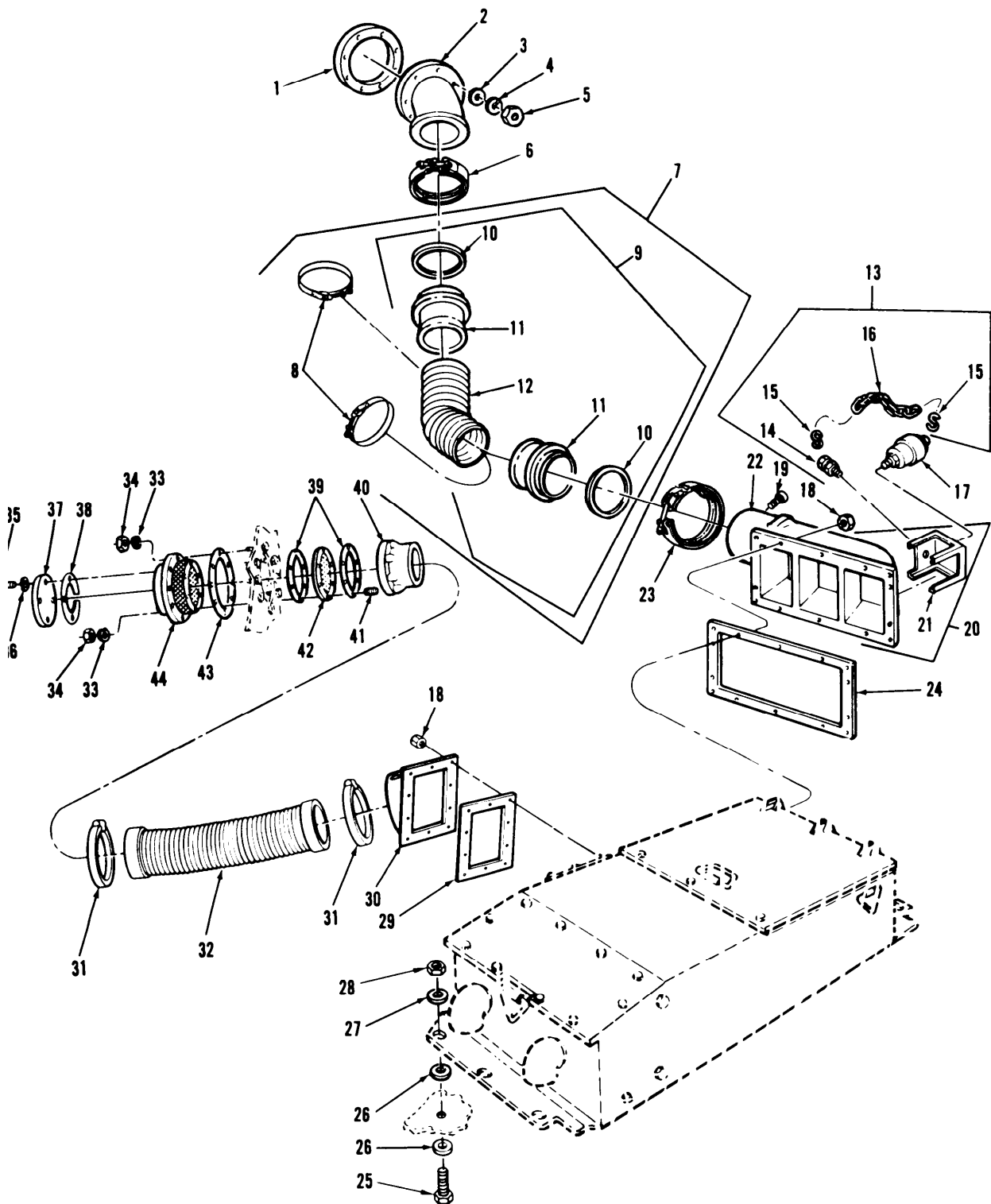


FIGURE B-5. AIR CLEANER HOSE ASSEMBLIES AND RELATED PARTS (2C AND 2D ENGINES).

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)	
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 0304: AIR CLEANER-AIR CLEANER HOSE ASSEMBLY AND RELATED PARTS (2C AND 2D ENGINES)			
B-5	1	PAOZZ	5330-00-678-3488	19207	8762780	GASKET.....		EA	2
B-5	2	PAOZZ	2940-00-105-2805	19207	11608144-2	ELBOW, AIR CLEANER ,RIGHT.....		EA	1
B-5	2	PAOZZ	2940-00-105-2804	19207	11608144-1	ELBOW, AIR CLEANER ,LEFT.....		EA	1
B-5	3	PAOZZ	5310-00-081-4219	96906	MS27183-12	WASHER, FLAT.....		EA	16
B-5	4	PAOZZ	5310-00-407-9566	96906	MS35338-45	WASHER, LOCK.....		EA	16
B-5	5	PAOZZ	5310-00-880-7746	96906	MS51968-5	NUT, PLAIN, HEXAGON.....		EA	16
B-5	6	PAOZZ	5340-00-678-6178	19207	8711310	CLAMP ASSEMBLY.....		EA	2
B-5	7	PAOZZ	4720-01-121-1542	19207	12271067	HOSE, ASSEMBLY.....		EA	2
B-5	8	PAOZZ	4730-00-840-8989	96906	MS21920-43	CLAMP, HOSE.....		EA	2
B-5	9	PAOZZ	4720-01-119-7779	19207	12271066	HOSE, ASSEMBLY.....		EA	1
B-5	10	PCOZZ	5330-00-729-5049	19207	10870861	PACKING, PREFORMED.....		EA	2
B-5	11	XAOZZ		19207	12271064	FLANGE.....		EA	2
B-5	12	XAOZZ		19207	12271066-1	HOSE.....		EA	1
B-5	13	A0000		19207	12304176	PLUG ASSEMBLY (USE WITH P/N 12304178-1 AND 12304178-2).....		EA	2
B-5	13	A0000		19207	12252143	PLUG ASSEMBLY (USE WITH P/N 12252354-1 AND 12252354-2).....		EA	2
B-5	14	PAOZZ	4730-01-043-7679	19207	12252365	PLUG.....		EA	1
B-5	15	PAOZZ	4030-00-780-9350	96906	MS87006-13	HOOK, CHAIN, SAFETY.....		EA	2
B-5	16	MOOZZ		81348	RRC271	CHAIN, WELDED (MAKE FROM NSN 4010-00-165-6064).....		FT	V
B-5	17	PAOZZ	6685-01-055-5116	19207	11669029-1	RESTRICTION INDICAT (USE WITH P/N 12252354-1 AND 12252354-2).....		EA	2
B-5	17	PAOZZ	5895-01-134-8291	19207	11669717	RESTRICTION INDICAT (USE WITH P/N 12304178-1 AND 12304178-2).....		EA	2
B-5	18	PAOZZ	5310-00-950-0039	96906	MS21044N6	NUT, SELF-LOCKING.....		EA	20
B-5	19	PAOZZ	4730-00-221-2136	96906	M220913-1S	PLUG.....		EA	1
B-5	20	PAOZZ	4730-01-134-1957	19207	12304178-1	ELBOW, LEFT.....		EA	1
B-5	20	PAOZZ	4730-01-134-1958	19207	12304178-2	ELBOW, RIGHT.....		EA	1
B-5	20	PAOZZ	2940-01-037-4976	19207	12252354-1	ELBOW, LEFT (REPLACE WITH P/N 12304178-1).....		EA	1
B-5	20	PAOZZ	2940-01-037-4977	19207	12252354-2	ELBOW, RIGHT (REPLACE WITH P/N 12304178-2).....		EA	1
B-5	21	PAOZZ		19207	12304177	SHIELD (USE WITH P/N 12304178-1 AND 12304178-2).....		EA	1
B-5	22	XAOZZ		19207	12252352-1	ELBOW, LEFT (USE WITH P/N 12304178-1).....		EA	1
B-5	22	XAOZZ		19207	12252352-2	ELBOW, RIGHT (USE WITH P/N 12304178-2).....		EA	1
B-5	23	PAOZZ	4730-01-132-9086	19207	11669683	CLAMP, LOOP.....		EA	1
B-5	24	PAOZZ	5330-01-128-5650	19207	12304168	GASKET.....		EA	2
B-5	25	PAOZZ	5305-00-724-7223	96906	MS90728-165	SCREW, CAP, HEX HEAD.....		EA	12
B-5	26	PAOZZ	5310-01-124-6063	96906	MS21206-10	WASHER.....		EA	V
B-5	27	PAOZZ	5310-00-964-8588	19207	10910174-18	WASHER, FLAT.....		EA	12
B-5	28	PAOZZ	5310-00-763-8920	96906	MS51967-20	NUT, PLAIN, HEXAGON.....		EA	12
B-5	29	PAOZZ	5330-00-678-4699	19207	8762775	GASKET, AIR INTAKE.....		EA	2
B-5	30	PAOZZ	2940-00-168-2246	19207	10863874	ELBOW, AIR CLEANER ,RIGHT.....		EA	1
B-5	30	PAOZZ	2940-01-080-8023	19207	12257993	ELBOW, AIR CLEANER ,LEFT.....		EA	1
B-5	31	PAOZZ	4730-00-062-7435	96906	MS21920-61R	CLAMP, HOSE.....		EA	4
B-5	32	PAOZZ	4720-00-678-4700	19207	8762783	HOSE, PREFORMED.....		EA	2
B-5	33	PAOZZ	5310-00-637-9541	96906	MS35338-46	WASHER, LOCK.....		EA	28
B-5	34	PAOZZ	5310-00-732-0559	96906	MS51968-8	NUT, PLAIN, HEXAGON.....		EA	28
B-5	35	PAOZZ	5306-00-225-8497	96906	MS90725-32	BOLT, MACHINE.....		EA	8
B-5	36	PAOZZ	5310-00-167-0721	96906	MS35333-41	WASHER, LOCK.....		EA	8
B-5	37	PAOZZ	2940-00-933-9946	19207	8762777	COVER, AIR CLEANER.....		EA	2
B-5	38	PAOZZ	5330-00-678-3489	19207	10863870	GASKET, AIR CLEANER.....		EA	2
B-5	39	PAOZZ	5330-00-930-1624	19207	11591585	GASKET.....		EA	4
						CONTINUED NEXT PAGE			

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 0304: AIR CLEANER-AIR CLEANER HOSE ASSEMBLY AND RELATED PARTS (2C AND 2D ENGINES) -CONTINUED		
B-5	40	PAOZZ	2940-00-932-3565	19207	8762784	FLANGE, AIR CLEANER.....	EA	2
B-5	41	PAOZZ	5307-01-006-5515	96906	MS51864-104-16	STUD, PLAIN.....	EA	12
B-5	42	PAOZZ	2940-00-045-6873	19207	11591586	SCREEN.....	EA	2
B-5	43	PAOZZ	5330-00-678-1851	19207	8762781	GASKET.....	EA	2
B-5	44	PAOZZ	2940-00-168-2243	19207	8762785	AIR CLEANER, INTAKE.....	EA	2



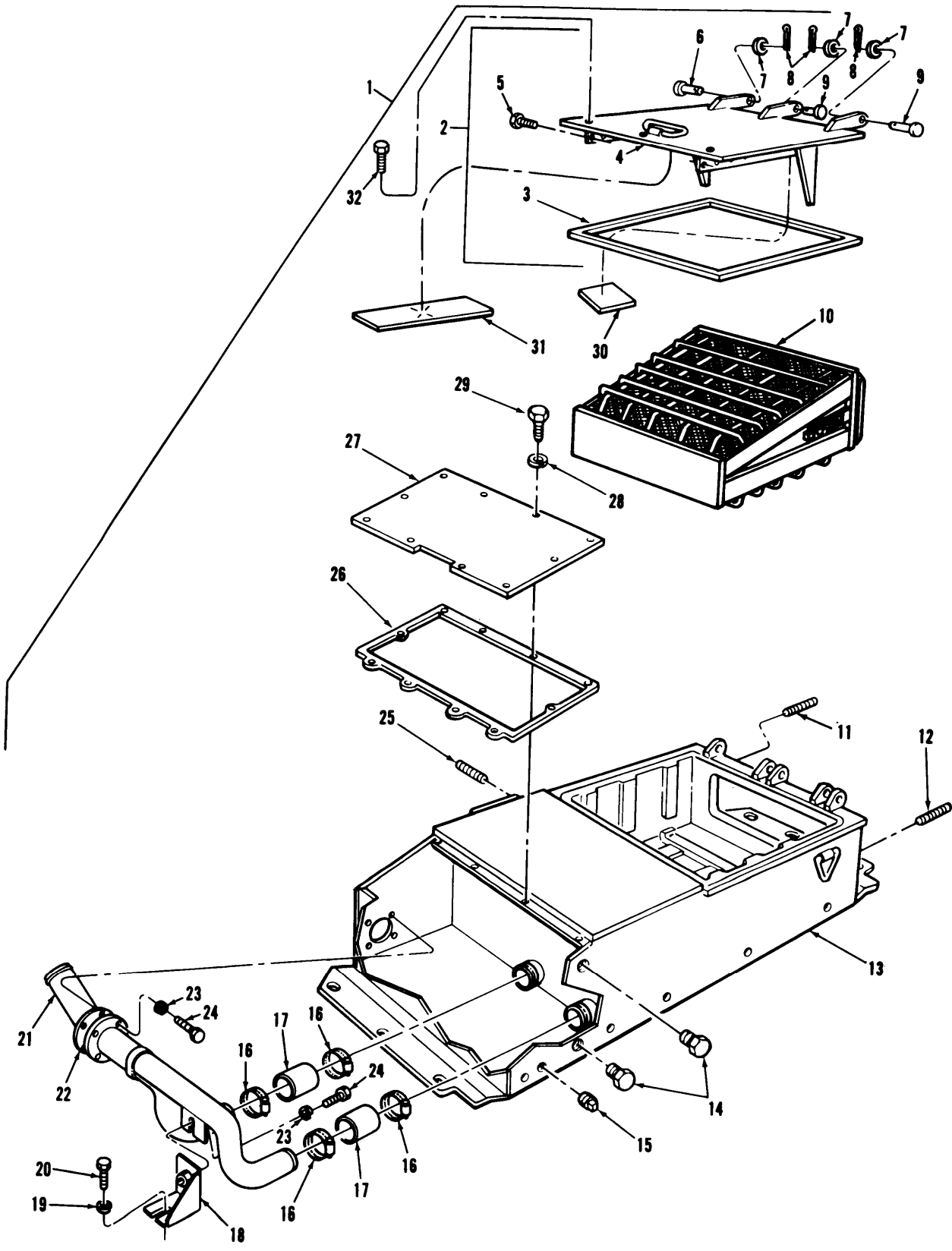


FIGURE B-6. ARMORED TOP LOADING AIR CLEANER AND RELATED PARTS (2CA AND 2DA ENGINES).



(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 0304: AIR CLEANER-ARMORED TOP LOADING AIR CLEANER AND RELATED PARTS (2CA AND 2DA ENGINES)		
B-6	1	PAODD	2940-01-152-2387	19207	12325888-2	AIR CLEANER ASSEMBLY, RIGHT.....	EA	1
B-6	1	PAODD	2940-01-152-2386	19207	12325888-1	AIR CLEANER ASSEMBLY, LEFT.....	EA	1
B-6	2	PAODD	5340-01-016-4429	19207	12251910	DOOR, ACCESS.....	EA	1
B-6	3	PCOZZ	5330-01-129-0642	19207	12304136	GASKET.....	EA	1
B-6	4	XADZZ		19207	12251908	DOOR.....	EA	1
B-6	5	PAOZZ	5306-01-091-3384	19207	12290914	BOLT, SELF-LOCKING.....	EA	8
B-6	6	PAOZZ	5315-00-903-7885	96906	MS20392-7C55	PIN, STRAIGHT, HEAD.....	EA	1
B-6	7	PAOZZ	5310-00-809-5998	96906	MS27183-18	WASHER, FLAT.....	EA	3
B-6	8	PAOZZ	5315-00-816-1794	96906	MS24665-285	PIN, COTTER.....	EA	3
B-6	9	PAOZZ	5315-00-778-9646	96906	MS20392-7C81	PIN, STRAIGHT, HEAD.....	EA	2
B-6	10	PAOZZ	2940-01-142-8260	19207	11669740	FILTER.....	EA	1
B-6	11	PAOZZ	5307-01-128-5681	19207	12304169-1	STUD, PLAIN.....	EA	2
B-6	12	PAOZZ	5307-01-128-5682	19207	12304169-2	STUD, PLAIN.....	EA	12
B-6	13	XADDD		19207	12325885-2	HOUSING, AIR CLEANER (FOR USE WITH AIR CLEANER ASSEMBLY 12325888-2 ONLY).....	EA	1
B-6	13	XADDD		19207	12325885-1	HOUSING, AIR CLEANER (FOR USE WITH AIR CLEANER ASSEMBLY 12325888-1 ONLY).....	EA	1
B-6	14	PAOZZ	4730-00-678-4749	19207	10863625	PLUG, PIPE.....	EA	2
B-6	15	PAOZZ	4730-00-580-6740	96906	MS20913-3J	PLUG, PIPE.....	EA	1
B-6	16	PAOZZ	4730-00-909-8627	96906	MS35842-13	CLAMP, HOSE.....	EA	4
B-6	17	PAOZZ		96906	MS521301A2-12-3	HOSE.....	EA	2
B-6	18	PAOZZ	5340-01-152-2515	19207	12304324	BRACKET.....	EA	1
B-6	19	PAOZZ	5305-00-974-6623	96906	MS35338-140	WASHER, LOCK.....	EA	1
B-6	20	PAOZZ	5306-00-226-4822	96906	MS90728-29	SCREW, CAP, HEX HEAD.....	EA	1
B-6	21	PAOZZ	2815-01-152-2563	19207	12304319	MANIFOLD, RIGHT SIDE (FOR USE WITH AIR CLEANER ASSEMBLY 12325888-2 ONLY).....	EA	1
B-6	21	PAOZZ	2815-01-154-1396	19207	12304329	MANIFOLD, SCAVENGE (FOR USE WITH AIR CLEANER ASSEMBLY 12325888-1 ONLY).....	EA	1
B-6	22	PAOZZ	5330-01-152-2486	19207	12304318	GASKET (FOR USE WITH AIR CLEANER ASSEMBLY 12325888-2 ONLY).....	EA	1
B-6	22	PAOZZ	5330-01-152-2487	19207	12304325	GASKET (FOR USE WITH AIR CLEANER ASSEMBLY 12325888-1 ONLY).....	EA	1
B-6	23	PAOZZ	5310-00-933-8121	96906	MS35338-139	WASHER, LOCK.....	EA	5
B-6	24	PAOZZ	5305-00-068-0508	96906	MS90728-6	SCREW, CAP, HEX HEAD.....	EA	5
B-6	25	PAOZZ	5307-00-178-8859	19207	8762863-1	STUD, PLAIN.....	EA	10
B-6	26	PAOZZ	5330-01-035-9825	19207	12251902	GASKET.....	EA	1
B-6	27	PBOZZ	5340-01-152-2543	19207	12325889	COVER.....	EA	1
B-6	28	PAOZZ	5310-00-407-9566	96906	MS35338-45	WASHER, LOCK.....	EA	10
B-6	29	PAOZZ	5306-00-225-8498	96906	MS90725-33	SCREW, CAP, HEX HEAD.....	EA	10
B-6	30	PAOZZ		19207	11659642-74	PLATE, I.D. (FOR USE WITH AIR CLEANER ASSEMBLY 12325888-2 ONLY).....	EA	1
B-6	30	PAOZZ		19207	11659642-73	PLATE, I.D. (FOR USE WITH AIR CLEANER ASSEMBLY 12325888-1 ONLY).....	EA	1
B-6	31	PAOZZ	7690-01-038-7440	19207	12252675	MARKER, I.D.....	EA	1
B-6	32	PAOZZ	5306-01-091-3384	19207	12290914	BOLT, SELF-LOCKING.....	EA	3

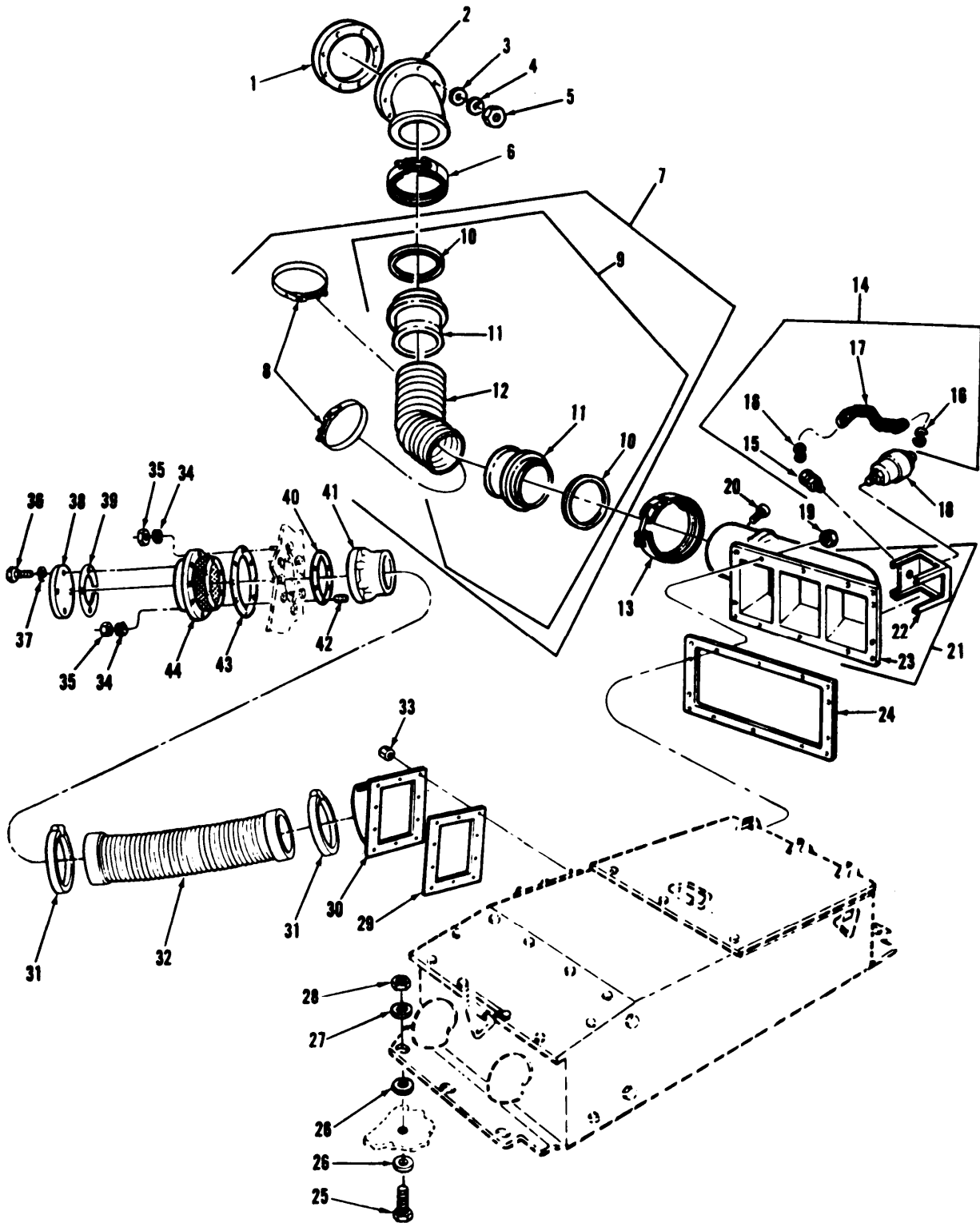


FIGURE B-7. AIR CLEANER HOSE ASSEMBLIES AND RELATED PARTS (2CA AND 2DA ENGINES).

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 0304: AIR CLEANER-AIR CLEANER HOSE ASSEMBLIES AND RELATED PARTS (2CA AND 2DA ENGINES)		
B-7	1	PAOZZ	5330-00-678-3488	19207	8762780	GASKET.....	EA	2
B-7	2	PAOZZ	4730-01-144-4889	19207	12304341-1	ELBOW, LEFT.....	EA	1
B-7	2	PAOZZ	4730-01-144-4890	19207	12304341-2	ELBOW, RIGHT.....	EA	1
B-7	3	PAOZZ	5310-00-081-4219	96906	MS27183-12	WASHER, FLAT.....	EA	16
B-7	4	PAOZZ	5310-00-407-9566	96906	MS35338-45	WASHER, LOCK.....	EA	16
B-7	5	PAOZZ	5310-00-880-7746	96906	MS51968-5	NUT, PLAIN, HEXAGON.....	EA	16
B-7	6	PAOZZ	5340-00-678-6178	19207	8711310	CLAMP ASSEMBLY.....	EA	1
B-7	7	PAOZZ	4720-01-121-1542	19207	12271067	HOSE, ASSEMBLY.....	EA	2
B-7	8	PAOZZ	4730-00-840-8989	96906	MS21920-43	CLAMP, HOSE.....	EA	2
B-7	9	PAOZZ	4720-01-119-7779	19207	12271066	HOSE, ASSEMBLY.....	EA	1
B-7	10	PCOZZ	5330-00-729-5049	19207	10870861	PACKING, PREFORMED.....	EA	2
B-7	11	XAOZZ		19207	12271064	FLANGE.....	EA	2
B-7	12	XAOZZ		19207	12271066-1	HOSE.....	EA	1
B-7	13	PAOZZ	4730-01-132-9086	19207	11669683	CLAMP.....	EA	2
B-7	14	AOOOO		19207	12304176	PLUG RSTR IND ELBOW.....	EA	1
B-7	15	PAOZZ	4730-01-043-7679	19207	12252365	PLUG.....	EA	2
B-7	16	PAOZZ	4030-00-780-9350	96906	MS87006-13	HOOK, CHAIN, SAFETY.....	EA	2
B-7	17	MOOZZ		81348	RRC271	CHAIN, WELDED (MAKE FROM NSN 4010-00-165-6064).....	FT	V
B-7	18	PAOZZ	5895-01-134-8291	19207	11669717	RESTRICTION INDICAT.....	EA	2
B-7	19	PAOZZ	5310-00-814-0672	96906	MS51943-36	NUT, PLAIN, HEXAGON.....	EA	28
B-7	20	PAOZZ	4730-00-221-2136	96906	MS20913-1S	PLUG.....	EA	1
B-7	21	PAOZZ	4730-01-134-1957	19207	12304178-1	ELBOW, LEFT.....	EA	1
B-7	21	PAOZZ	4730-01-134-1958	19207	12304178-2	ELBOW, RIGHT.....	EA	1
B-7	22	PAOZZ		19207	12304177	SHIELD.....	EA	1
B-7	23	XAOZZ		19207	12252352-1	ELBOW, LEFT.....	EA	1
B-7	23	XAOZZ		19207	12252352-2	ELBOW, RIGHT.....	EA	1
B-7	24	PAOZZ	5330-01-128-5650	19207	12304168	GASKET.....	EA	2
B-7	25	PAOZZ	5305-00-724-7223	96906	MS90728-165	SCREW, CAP, HEX HEAD.....	EA	12
B-7	26	PAOZZ	5310-01-124-6063	96906	MS21206-10	WASHER.....	EA	V
B-7	27	PAOZZ	5310-00-964-8588	19207	10910174-18	WASHER, FLAT.....	EA	12
B-7	28	PAOZZ	5310-00-763-8920	96906	MS51967-20	NUT, PLAIN, HEXAGON.....	EA	12
B-7	29	PAOZZ	5330-00-678-4699	19207	8762775	GASKET, AIR INTAKE.....	EA	2
B-7	30	PAOZZ	4730-01-144-4887	19207	12304306	ELBOW, LEFT.....	EA	1
B-7	30	PAOZZ	4730-01-144-4888	19207	12304309	ELBOW, RIGHT.....	EA	1
B-7	31	PAOZZ	4730-00-062-7435	96906	MS21920-61R	CLAMP, HOSE.....	EA	4
B-7	32	PAOZZ	4720-00-678-4700	19207	8762783	HOSE, PREFORMED.....	EA	2
B-7	33	PAOZZ	5310-00-950-0039	96906	MS21044N6	NUT, SELF-LOCKING.....	EA	20
B-7	34	PAOZZ	5310-00-637-9541	96906	MS35338-46	WASHER, LOCK.....	EA	28
B-7	35	PAOZZ	5310-00-732-0559	96906	MS51968-8	NUT, PLAIN, HEXAGON.....	EA	28
B-7	36	PAOZZ	5306-00-225-8497	96906	MS90725-32	BOLT, MACHINE.....	EA	8
B-7	37	PAOZZ	5310-00-167-0721	96906	MS35333-41	WASHER, LOCK.....	EA	8
B-7	38	PAOZZ	2940-00-933-9946	19207	8762777	COVER, AIR CLEANER.....	EA	2
B-7	39	PAOZZ	5330-00-678-3489	19207	10863870	GASKET, AIR CLEANER.....	EA	2
B-7	40	PAOZZ	5330-01-158-2069	19207	12304299	GASKET.....	EA	2
B-7	41	PAOZZ	2940-00-932-3565	19207	8762784	FLANGE, AIR CLEANER.....	EA	2
B-7	42	PAOZZ	5307-01-006-5515	96906	MS51864-104-16	STUD, PLAIN.....	EA	12
B-7	43	PAOZZ	5330-00-678-1851	19207	8762781	GASKET.....	EA	2
B-7	44	PAOZZ	2940-01-144-4872	19207	12304307	INTAKE, AIR.....	EA	2

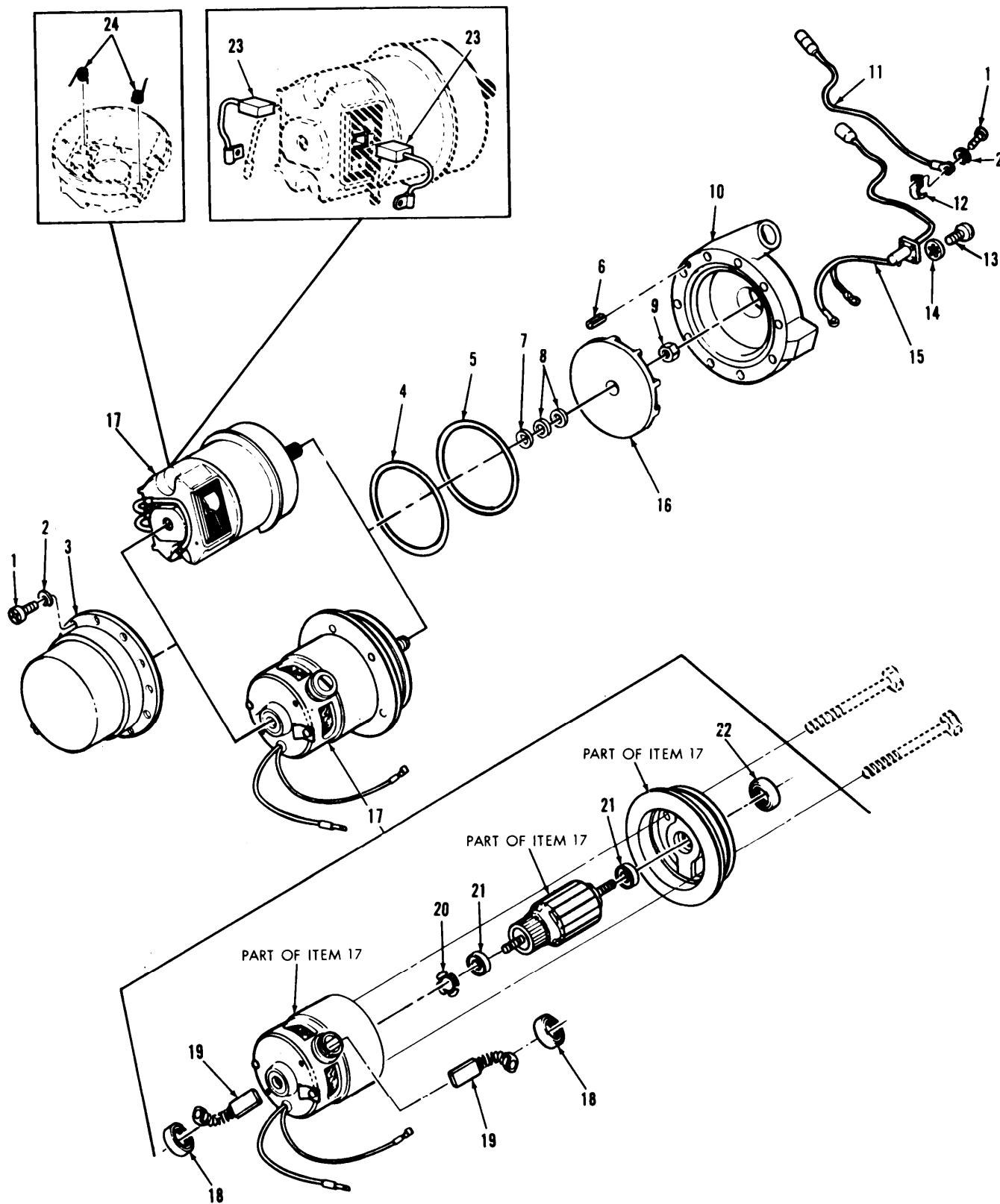


FIGURE B-8. AIR CLEANER CENTRIFUGAL FAN ASSEMBLY.

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 0304: AIR CLEANER-AIR CLEANER CENTRIFUGAL FAN ASSEMBLY		
B-8	1	PAFZZ	5305-00-984-6191	96906	MS35206-243	SCREW, MACHINE.....	EA	11
B-8	2	PAFZZ	5310-00-559-0070	96906	MS35333-38	WASHER, LOCK.....	EA	11
B-8	3	PAFZZ	2920-00-103-9397	19207	10870920	COVER, ELEC MOTOR.....	EA	1
B-8	4	KFFZZ		19207	10934405	PACKING, PREFORMED PART OF KIT P/N 5703549 AND 5705125..	EA	1
B-8	5	KFFZZ		96906	MS9021-154	PACKING, PREFORMED PART OF KIT P/N 5703549 AND 5705125..	EA	1
B-8	6	PAFZZ	5315-00-882-1438	96906	MS16562-193	PIN, SPRING.....	EA	1
B-8	7	KFFZZ		19207	10933966	WASHER, FLAT PART OF KIT P/N 5703549 AND 5705125.....	EA	1
B-8	8	KFFZZ		19207	10933967	WASHER, FLAT PART OF KIT P/N 5703549 AND 5705125.....	EA	V
B-8	9	KFFZZ		96906	MS21042-5	NUT, SELF-LOCKING PART OF KIT P/N 5703549 AND 5705125...	EA	1
B-8	10	PAFZZ	2940-00-930-8765	19207	10905009	HOUSING, IMPELLER.....	EA	1
B-8	11	PAFZZ	2940-00-886-5841	19207	10870919	LEAD, ELECTRICAL.....	EA	1
B-8	12	PAFZZ	5340-00-900-2347	19207	8728293	STRAP, RETAINING.....	EA	1
B-8	13	PAFZZ	5305-00-984-4984	96906	MS35206-227	SCREW, MACHINE.....	EA	4
B-8	14	PAFZZ	5310-00-579-0079	96906	MS35333-37	WASHER, LOCK.....	EA	4
B-8	15	PAFZZ	2920-00-770-1642	19207	8728292	LEAD AND CAPACITOR.....	EA	1
B-8	16	PAFZZ	2940-00-043-0279	19207	10933968	IMPELLER, FAN, CENTER.....	EA	1
B-8	17	PAOFF	6105-01-092-1484	19207	12270348	MOTOR, DIRECT CURRENT PART OF KIT P/N 5703549 (OPTIONAL WITH P/N 10905006).....	EA	1
B-8	17	PAOFF	6105-00-801-8716	19207	10905006	MOTOR, DIRECT CURRENT (OPTIONAL WITH P/N 12270348).....	EA	1
B-8	18	KFFZZ		19207	11669724	BRUSH CAP PART OF KIT P/N 5705125.....	EA	2
B-8	19	KFFZZ		19207	10898844	BRUSH, ELECTRICAL PART OF KIT P/N 5705125.....	EA	2
B-8	20	KFFZZ		19207	7759648-2	WASHER, SPRING PART OF KIT P/N 5705125.....	EA	1
B-8	21	KFFZZ		19207	11669704	BEARING PART OF KIT P/N 5705125.....	EA	2
B-8	22	KFFZZ		19207	12304190	SPACER PART OF KIT P/N 5705125.....	EA	1
B-8	23	KFFZZ		19207	8728295	BRUSH, ELECTRICAL PART OF KIT P/N 5702404.....	EA	1
B-8	24	KFFZZ		19207	8728294	SPRING, HELICAL PART OF KIT P/N 5702404.....	EA	1
B-8		PAFZZ	2940-00-900-8554	19207	5703549	PARTS KIT, AIR CLEANER.....	EA	1
B-8	4					PACKING, PREFORMED.....	EA	1
B-8	5					PACKING, PREFORMED.....	EA	1
B-8	7					WASHER, FLAT.....	EA	1
B-8	8					WASHER, FLAT.....	EA	2
B-8	9					NUT, SELF-LOCKING.....	EA	1
B-8	17					MOTOR, DIR CURRENT.....	EA	1
B-8		PAFZZ	6105-01-147-5170	19207	5705125	KIT, REPAIR PARTS.....	EA	1
B-8	4					PACKING, PREFORMED.....	EA	1
B-8	5					PACKING, PREFORMED.....	EA	1
B-8	7					WASHER, FLAT.....	EA	1
B-8	8					WASHER, FLAT.....	EA	V
B-8	9					NUT, SELF-LOCKING.....	EA	1
B-8	18					BRUSH CAP.....	EA	2
B-8	19					BRUSH, ELECTRICAL.....	EA	2
B-8	20					WASHER, SPRING.....	EA	1
B-8	21					BEARING.....	EA	2
B-8	22					SPACER.....	EA	1
B-8		PAFZZ	6105-00-084-7618	19207	5702404	PARTS KIT, MOTOR ELECTRICAL.....	EA	1
B-8	23					BRUSH, ELECTRICAL.....	EA	1
B-8	24					SPRING, HELICAL.....	EA	1

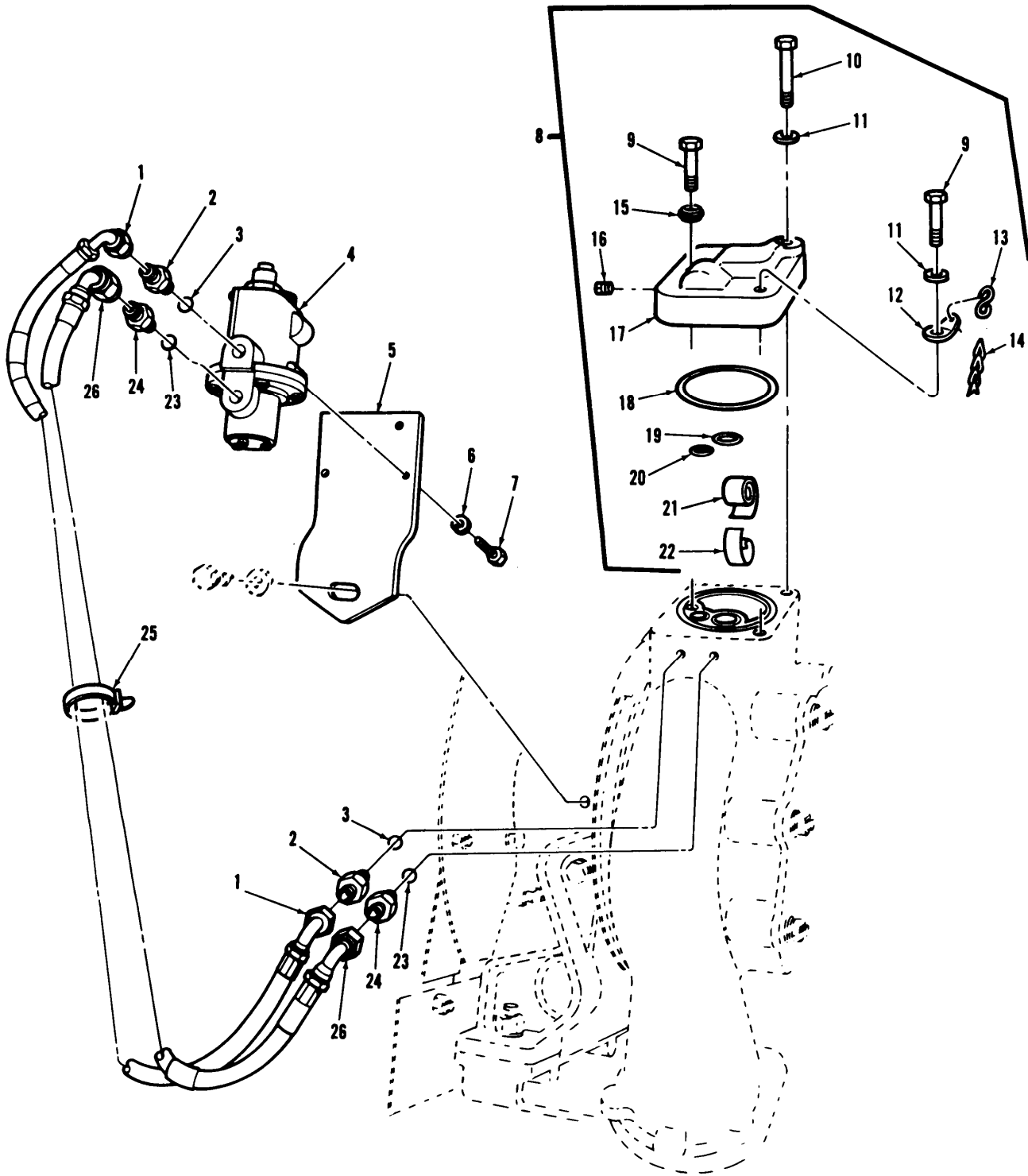


FIGURE B-9. TURBOCHARGER DUST DETECTOR SYSTEM (2CA AND 2DA ENGINES).

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 0305: TURBOCHARGER-TURBOCHARGER DUST DETECTOR SYSTEM (2CA AND 2DA ENGINES)		
B-9	1	PAOZZ		00624	AE6040F0092-020	ADAPTER, STRAIGHT, LEFT.....		EA 1
B-9	1	PAOZZ		00624	AE6040F0145-000	ADAPTER, STRAIGHT, RIGHT.....		EA 1
B-9	2	PAOZZ	4730-01-007-5232	96906	MS51525A4	ADAPTER, STRAIGHT.....		EA 2
B-9	3	PAOZZ	5330-00-805-2966	96906	MS28778-4	PACKING, PREFORMED.....		EA 2
B-9	4	PAOZZ	5930-01-147-7912	14314	D52S-13	SWITCH, PRESSURE.....		EA 2
B-9	5	PFOZZ	5340-01-145-8262	19207	12275870	BRACKET, MOUNTING.....		EA 2
B-9	6	PAOZZ	5310-00-582-5965	19207	11657469-3	WASHER, LOCK.....		EA 6
B-9	7	PAOZZ	5305-00-068-0512	96906	MS90727-4	SCREW, CAP, HEXAGON.....		EA 6
B-9	8	A0000		19207	12275864	COVER, ASSEMBLY, DUST.....		EA 1
B-9	9	PAOZZ	5305-01-145-8286	19207	12275866-1	SCREW, EXTERNAL.....		EA 2
B-9	10	PAOZZ	5305-01-145-8287	19207	12275866-2	SCREW, EXTERNAL.....		EA 1
B-9	11	PAOZZ	5310-00-194-0636	96906	MS9320-11	WASHER, FLAT.....		EA 1
B-9	12	PAOZZ	4030-01-145-8293	19207	12275867	CHAIN, FASTENER.....		EA 2
B-9	13	PAOZZ	4030-00-270-5436	96906	MS87006-3	HOOK, CHAIN S.....		EA 2
B-9	14	PAOZZ	4010-01-157-1343	19207	12275841	CHAIN, WELDLESS.....		EA 1
B-9	15	PAOZZ	5330-01-082-3761	19207	7033684-1	SEAL, PLAIN ENCASED.....		EA 1
B-9	16	PAOZZ	4730-00-277-6352	96906	MS27769-1	PLUG, PIPE.....		EA 1
B-9	17	PFOZZ	5340-01-145-8310	19207	12275869	COVER, ACCESS.....		EA 1
B-9	18	PAOZZ	5330-00-180-9951	96906	MS9068-038	PACKING, PREFORMED.....		EA 1
B-9	19	PAOZZ	5330-00-724-5541	96906	MS9068-018	PACKING, PREFORMED.....		EA 1
B-9	20	PAOZZ	5330-00-724-7902	96906	MS9068-013	PACKING, PREFORMED.....		EA 1
B-9	21	PAOZZ	4460-01-145-8299	19207	12275840	FILTER, AIR.....		EA 1
B-9	22	PAOZZ	5340-01-145-8291	19207	12275868	STRAP, RETAINING.....		EA 1
B-9	23	PAOZZ	5330-00-803-7491	96906	MS28778-5	PACKING, PREFORMED.....		EA 2
B-9	24	PAOZZ	4730-00-431-9307	96906	MS51525A5	ADAPTER, STRAIGHT.....		EA 2
B-9	25	PAOZZ	5975-00-074-2072	96906	MS3367-1-9	STRAP, TIE-DOWN.....		EA 1
B-9	26	PAOZZ		00624	AE6040ED112-020	ADAPTER, STRAIGHT, LEFT.....		EA 1
B-9	26	PAOZZ		00624	AE6040ED145-000	ADAPTER, STRAIGHT, RIGHT.....		EA 1

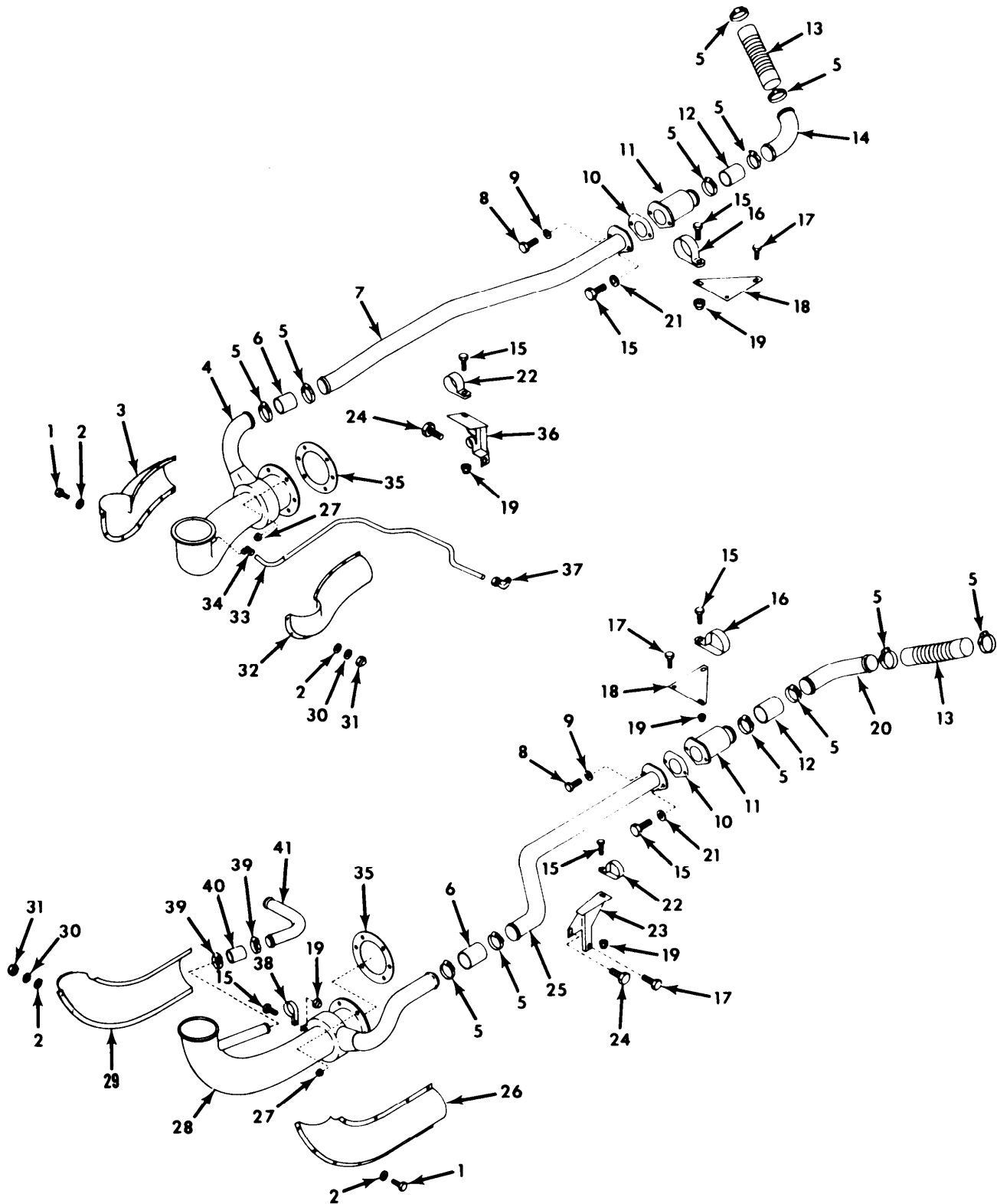


FIGURE B-10. DUST EJECTOR SYSTEM (2CA AND 2DA ENGINES).



(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 04: EXHAUST SYSTEM		
						GROUP 0401: MUFFLERS AND PIPES-DUST EJECTOR SYSTEM (2CA AND 2DA ENGINES)		
B-10	1	PAOZZ	5305-00-054-6652	96906	MS51957-28	SCREW, MACHINE.....	EA	22
B-10	2	PAOZZ	5310-00-880-5976	96906	MS15795-806	WASHER, FLAT.....	EA	44
B-10	3	PAOZZ	5640-01-146-1898	19207	12275889	INSULATION.....	EA	1
B-10	4	PFOZZ	2815-01-146-1877	02978	699772	TUBE EJECTOR, RIGHT.....	EA	1
B-10	5	PAOZZ	4730-00-909-8627	96906	MS35842-13	CLAMP, HOSE.....	EA	1
B-10	6	PAOZZ	4720-01-095-2429	19207	10935282-2	HOSE, NONMETALLIC.....	EA	2
B-10	7	PAOZZ	4710-01-146-1901	19207	12314569	TUBE ASSEMBLY, RIGHT.....	EA	1
B-10	8	PAOZZ	5305-00-068-0506	96906	MS90726-6	SCREW, CAP, HEXAGON.....	EA	4
B-10	9	PAOZZ	5310-00-582-5965	19207	11657469-3	WASHER, LOCK.....	EA	2
B-10	10	PAOZZ	5330-01-145-8290	19207	12275824	GASKET.....	EA	2
B-10	11	PAOZZ	2990-01-156-6225	19207	12275844	CAP ASSEMBLY.....	EA	2
B-10	12	PAOZZ	4720-01-146-1887	19207	12275883	HOSE, AIR DUCT, RUBBER.....	EA	2
B-10	13	PAOZZ	4720-01-146-1888	19207	12314574	HOSE, AIR DUCT.....	EA	2
B-10	14	PFOZZ	4710-01-146-1910	19207	12314568	TUBE, BENT, METALLIC, FRONT.....	EA	1
B-10	15	PAOZZ	5306-00-050-1238	96906	MS90727-32	BOLT, MACHINE.....	EA	7
B-10	16	PAOZZ		19207	12314637	CLAMP, LOOP.....	EA	2
B-10	17	PAOZZ	5305-00-019-2417	21450	192417	SCREW, ASSEMBLED, WASHER.....	EA	4
B-10	18	PFOZZ	5340-01-145-8301	19207	12275822	BRACKET, MOUNTING.....	EA	2
B-10	19	PAOZZ	5310-00-982-4912	96906	MS21045-5	NUT, SELF-LOCKING HEXAGON.....	EA	2
B-10	20	PFOZZ	4710-01-146-1909	19207	12314564	TUBE, BENT, METALLIC, FRONT.....	EA	1
B-10	21	PAOZZ	5310-00-407-9566	19207	7410218	WASHER, LOCK.....	EA	2
B-10	22	PAOZZ	5350-01-145-8303	19207	12275861	CLAMP, LOOP.....	EA	2
B-10	23	PFOZZ	5340-01-146-1895	19207	12314561	BRACKET, DOUBLE ANGLE, LEFT.....	EA	1
B-10	24	PAOZZ	5306-00-069-3019	88044	AN8C56A	BOLT, MACHINE.....	EA	2
B-10	25	PFOZZ	4710-01-146-1900	19207	12314565	TUBE ASSEMBLY, REAR.....	EA	1
B-10	26	PAOZZ	5640-01-146-1890	19207	12275891	INSULATION SLEEVEING.....	EA	1
B-10	27	PAOZZ	5310-01-151-2732	19207	12275894	NUT, SELF LOCKING HEXAGON.....	EA	12
B-10	28	PFOZZ	2815-01-146-1878	02978	699883	TUBE EJECTOR, LEFT.....	EA	1
B-10	29	PAOZZ	5640-01-146-1891	19207	12275892	INSULATION SLEEVEING.....	EA	1
B-10	30	PAOZZ	5310-00-209-1366	96906	MS35335-58	WASHER, LOCK.....	EA	22
B-10	31	PAOZZ	5310-00-934-9761	96906	MS35649-264	NUT, PLAIN.....	EA	22
B-10	32	PAOZZ	5640-01-146-1889	19207	12275890	INSULATION SLEEVEING.....	EA	1
B-10	33	PAOZZ	4710-01-145-8311	19207	12275831	TUBE, STEEL.....	EA	1
B-10	34	PAOZZ	4730-00-993-5002	96906	MS51820-6P	ELBOW, TUBE.....	EA	1
B-10	35	PAOZZ	5330-00-678-4712	19207	10864007	GASKET.....	EA	2
B-10	36	PFOZZ	5340-01-145-8302	19207	12275823	BRACKET, MOUNTING RIGHT.....	EA	1
B-10	37	PAOZZ	4730-01-003-6044	96906	MS51815-8	ELBOW, PIPE TO TUBE.....	EA	1
B-10	38	PAOZZ	5340-00-282-7548	96906	MS21333-52	CLAMP, LOOP.....	EA	1
B-10	39	PAOZZ	4730-00-908-3193	19207	11630499-1	CLAMP, HOSE.....	EA	2
B-10	40	PAOZZ	4720-00-896-6166	19207	10898794	HOSE, AIR DUCT.....	EA	1
B-10	41	PFOZZ	4710-01-150-4822	19207	12275880	TUBE, BENT, METALLIC.....	EA	1

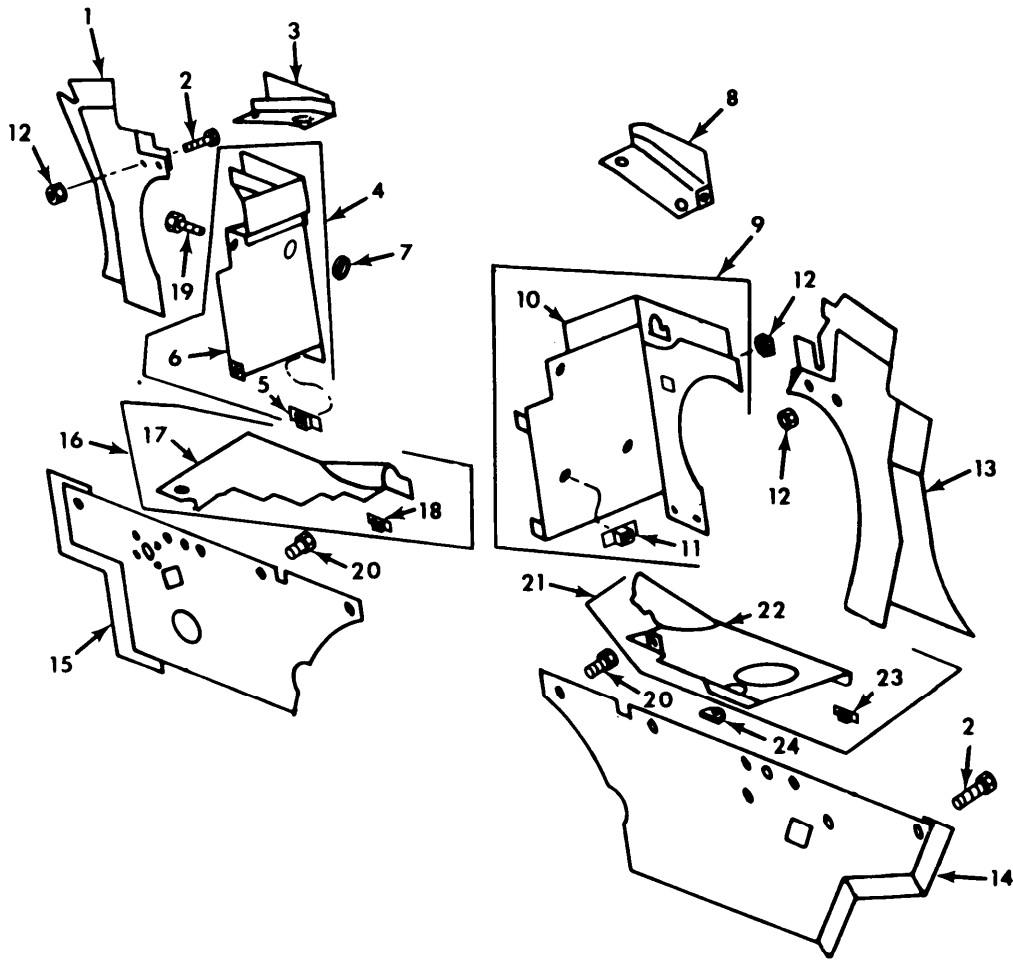


FIGURE B-11. ENGINE SHROUDS.

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 05: COOLING SYSTEM		
						GROUP 0502: SHROUDS-ENGINE SHROUDS		
B-11	1	PFOZZ	2815-00-446-1757	19207	10865272	SHROUD, AIR FLOW (USE WITH 2C AND 2D ENGINES).....	EA	1
B-11	1	PFOZZ	2590-01-152-7118	19207	12314599	PLATE, TURBOSUPERCHARGER (USE WITH 2CA AND 2DA ENGINES)..	EA	1
B-11	2	PAOZZ	5306-00-182-2023	88044	AN5-4A	BOLT, MACHINE.....	EA	7
B-11	3	PFOZZ	2520-01-073-4085	19207	12275727	SHIELD, TRANSMISSION.....	EA	1
B-11	4	PAOFF	2930-00-107-1221	19207	10865268	SHROUD, PLATE, TURBOSUPERCHARGER, LEFT BANK.....	EA	1
B-11	5	PAFZZ	5310-00-486-0406	19207	11684093-1	NUT, PLAIN, PLATE.....	EA	4
B-11	6	XAOZZ		19207	11683977	SHROUD.....	EA	1
B-11	7	PAOZZ	5325-00-276-6089	88044	AN931-9-13	GROMMET, NONMETALLIC.....	EA	2
B-11	8	PFOZZ	2815-00-410-1131	19207	11683977	SHROUD, DIESEL ENGINE.....	EA	1
B-11	9	PAOFF	2815-00-177-8216	19207	10865267	PLATE, SHROUD, TURBOSUPERCHARGER, RIGHT BANK.....	EA	1
B-11	10	XAFZZ		19207	10882760	PLATE.....	EA	1
B-11	11	PAFZZ	5310-00-486-0406	19207	11684093-1	NUT, PLAIN, PLATE.....	EA	4
B-11	12	PAOZZ	5310-00-088-0553	96906	MS21044N5	NUT, SELF-LOCKING.....	EA	7
B-11	13	PFOZZ	2930-00-998-4724	19207	10865277	PLATE, ENGINE SHROUD (USE WITH 2C AND 2D ENGINES).....	EA	1
B-11	13	PFOZZ	2590-01-152-8806	19207	12314598	PLATE, ENGINE SHROUD (USE WITH 2CA AND 2DA ENGINES).....	EA	1
B-11	14	PFOZZ	2930-00-453-5376	19207	10865247	PLATE, SHROUD, TRANSMISSION.....	EA	1
B-11	15	PFOZZ	2990-00-193-8211	19207	11641919	PLATE, TRANSMISSION.....	EA	1
B-11	16	PFOFF	2930-00-436-3208	19207	10865250	SHROUD, COOLING, ENGINE, LEFT BANK.....	EA	1
B-11	17	XAFZZ		19207	10865251	SHROUD.....	EA	1
B-11	18	PAFZZ	5310-00-486-0406	19207	11684093-1	NUT, PLAIN, PLATE.....	EA	3
B-11	19	PAOZZ	5305-00-019-2417	21450	192417	SCREW, ASSEMBLED WASHER.....	EA	10
B-11	20	PAOZZ	5306-00-741-4584	19207	7414584	BOLT, ASSEMBLED WASHER.....	EA	16
B-11	21	PFOFF	2815-00-398-6726	19207	11683942	SHROUD, DIESEL ENGINE (USE WITH 2C AND 2D ENGINES).....	EA	1
B-11	21	PFOFF	2930-00-436-3197	19207	10865252	SHROUD, COOLING ENGINE, (USE WITH 2CA AND 2DA ENGINES)..	EA	1
B-11	22	XAFZZ		19207	11683942-1	SHROUD (USE WITH 2C AND 2D ENGINES).....	EA	1
B-11	22	XAFZZ		19207	10865252	SHROUD (USE WITH 2CA AND 2DA ENGINE).....	EA	1
B-11	23	PAFZZ	5310-00-486-0406	19207	11684093-1	NUT, PLAIN, PLATE.....	EA	3
B-11	24	PAOZZ	5325-00-182-4707	19207	10935447	GROMMET, NONMETALLIC.....	EA	2

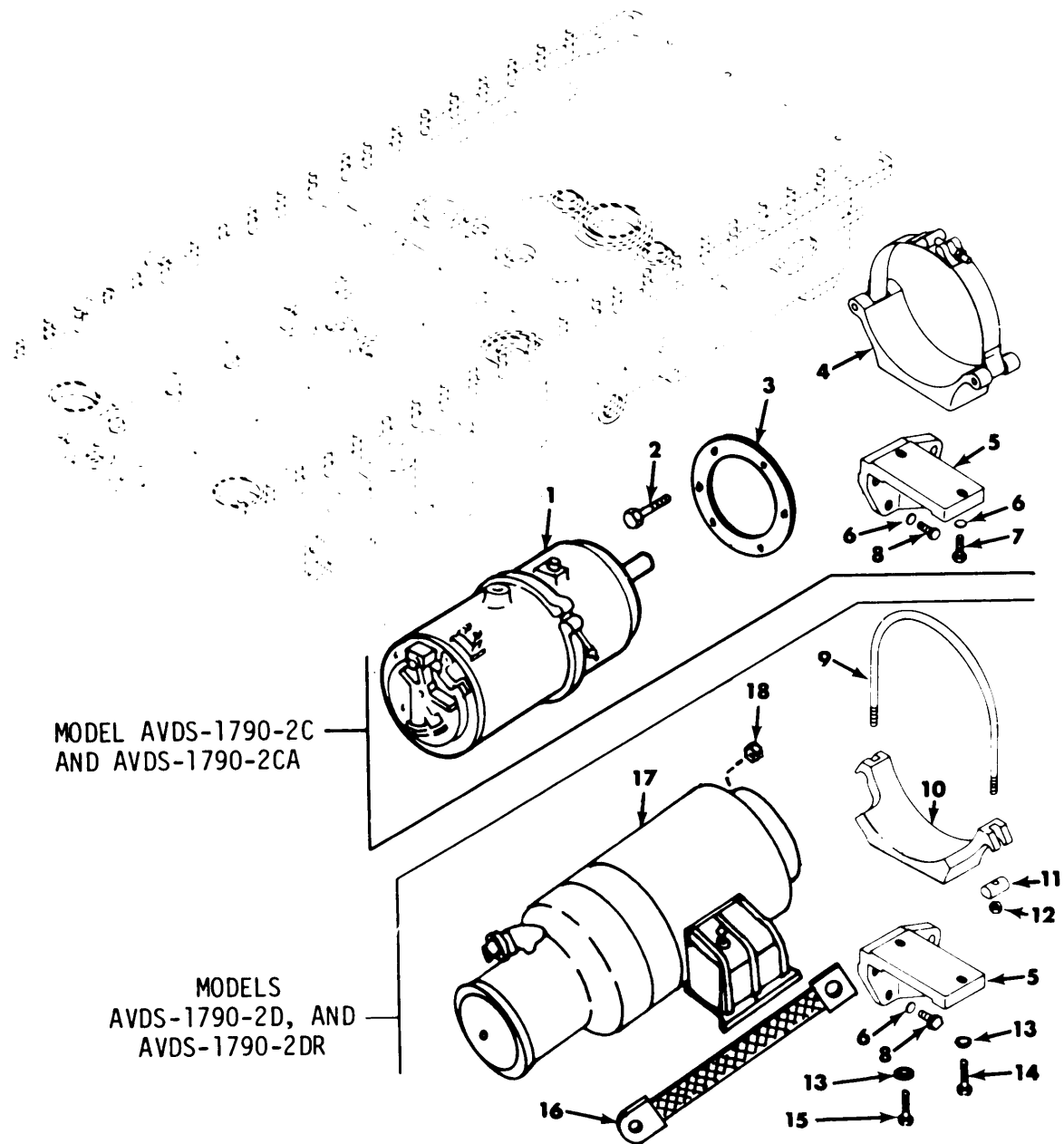


FIGURE B-12. ENGINE GENERATOR, CRADLE, BRACKET, AND ASSOCIATED PARTS.

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)	
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 06: ELECTRICAL SYSTEM			
						GROUP 0601: GENERATOR-ENGINE GENERATOR, CRADLE, BRACKET, AND ASSOCIATED PARTS			
B-12	1	PAOFD	2920-00-441-8137	19207	11655469	GENERATOR, ENGINE ACCESSORY.....		EA	1
B-12	2	PAOZZ	5306-00-145-0876	96906	MS35763-833	BOLT, SELF-LOCKING.....		EA	6
B-12	3	PAOZZ	5330-00-318-4127	19207	8666738	GASKET.....		EA	1
B-12	4	PFOZZ	5340-01-048-6052	19207	11684162	CLAMP, LOOP.....		EA	1
B-12	5	PFOZZ	2920-00-398-6540	19207	11685057	BRACKET, ENGINE ACCESSORY GENERATOR.....		EA	1
B-12	6	PAOZZ	5310-00-776-7318	19207	7767318	WASHER, FLAT (USE WITH 2C ENGINE).....		EA	4
B-12	7	XDOZZ		96906	MS90727-65	SCREW, CAP, HEXAGON.....		EA	2
B-12	8	PAOZZ	5305-00-269-2806	96906	MS90726-63	SCREW, CAP, HEXAGON.....		EA	2
B-12	9	PAOZZ	5306-00-413-4373	19207	10882750	BOLT, U.....		EA	1
B-12	10	PFOZZ	2590-01-145-4316	19207	12275797	CRADLE, GENERATOR.....		EA	1
B-12	11	PAOZZ	2920-00-455-5835	19207	10882765	BAR, CLAMPING, GENERATOR.....		EA	2
B-12	12	PAOZZ	5310-00-088-0553	96906	MS21044N5	NUT, SELF-LOCKING.....		EA	2
B-12	13	PAOZZ	5310-00-776-7318	19207	7767318	WASHER, FLAT.....		EA	2
B-12	14	PAOZZ	5305-00-269-3242	96906	MS90727-66	SCREW, CAP, HEXAGON.....		EA	1
B-12	15	PAOZZ	5305-00-914-6131	96906	MS90727-65	SCREW, CAP, HEXAGON.....		EA	1
B-12	16	PFOZZ	2590-00-499-1782	19207	11682595	LEAD, ELECTRICAL.....		EA	1
B-12	17	PAOFD	2920-00-830-6660	19207	10889713	GENERATOR, ENGINE.....		EA	1
B-12	18	PAOZZ	5310-00-950-0039	96906	MS21044N6	NUT, SELF-LOCKING, HEXAGON.....		EA	6

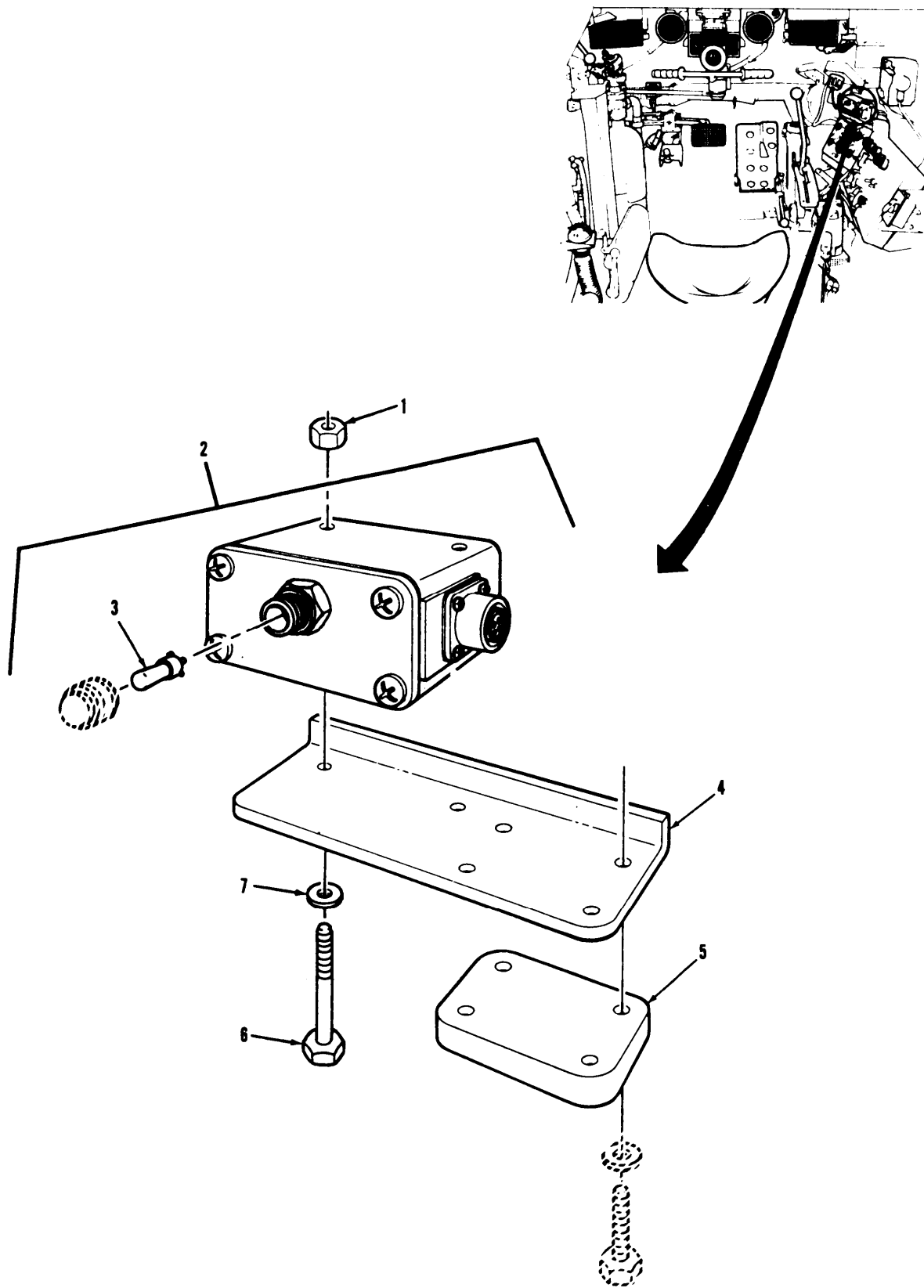


FIGURE B-13. ENGINE AIR CLEANER DUST DETECTOR BOX ASSEMBLY AND RELATED PARTS (M60A3).

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)	
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 0608: MISCELLANEOUS ITEMS-ENGINE AIR CLEANER DUST DETECTOR BOX ASSEMBLY AND RELATED PARTS (M60A3)			
B-13	1	PAOZZ	5310-00-761-6882	96906	MS51967-2	NUT, PLAIN, HEXAGON.....		EA	2
B-13	2	PA000	2920-01-152-2385	19207	12325931	BOX ASSEMBLY.....		EA	1
B-13	3	PACZZ	6240-00-155-8707	96906	MS25231-1819	LAMP, INCAND.....		EA	1
B-13	4	PAOZZ	5340-01-152-2514	19207	12325914	BRACKET.....		EA	1
B-13	5	PAOZZ	5365-01-152-2538	19207	12325915	SPACER.....		EA	1
B-13	6	PAOZZ	5305-00-071-2513	96906	MS90728-16	SCREW.....		EA	2
B-13	7	PAOZZ	5310-00-550-1130	96906	MS35333-40	WASHER, LOCK.....		EA	2

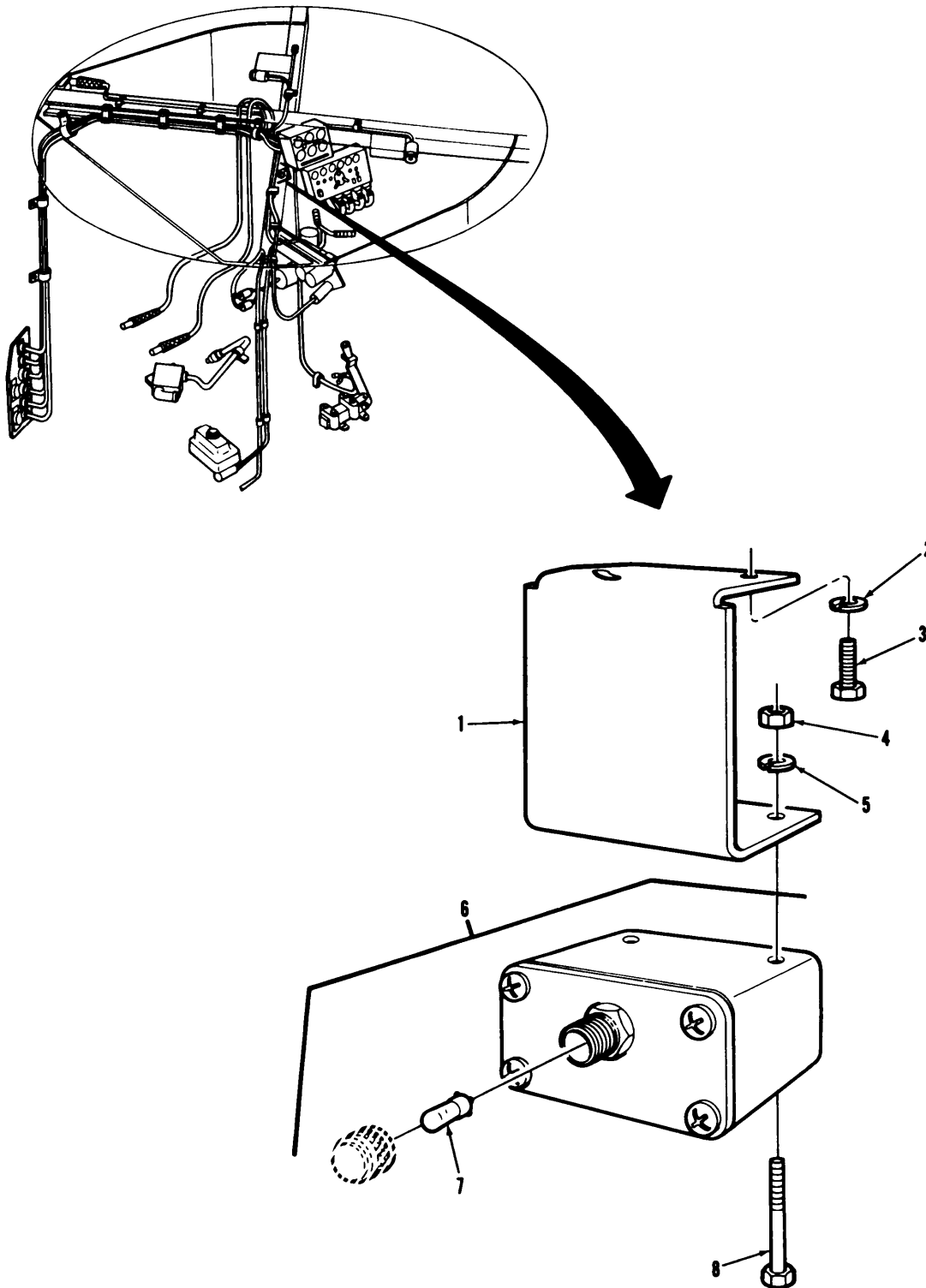


FIGURE B-14. ENGINE AIR CLEANER DUST DETECTOR BOX ASSEMBLY AND RELATED PARTS (M48A5AVLB AND M60A1AVLB).



(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 0608: MISCELLANEOUS ITEMS-ENGINE AIR CLEANER DUST DETECTOR BOX ASSEMBLY AND RELATED PARTS (M48A5AVLB AND M60A1AVLB)		
B-14	1	PAOZZ		19207	12326097	BRACKET.....	EA	1
B-14	2	PAOZZ	5310-00-550-1130	96906	MS35333-40	WASHER, LOCK.....	EA	2
B-14	3	PAOZZ	5305-00-068-7837	96906	MS90728-5	SCREW, CAP, HEXAGON.....	EA	2
B-14	4	PAOZZ	5310-00-761-6882	96906	MS51967-2	NUT, PLAIN, HEXAGON.....	EA	2
B-14	5	PAOZZ	5310-00-582-5965	96906	MS35338-44	WASHER, LOCK.....	EA	2
B-14	6	PAOOO	2920-01-152-2385	19207	12325931	BOX ASSEMBLY.....	EA	1
B-14	7	PACZZ	6240-00-155-8707	96906	MS25231-1819	LAMP, INCAND.....	EA	1
B-14	8	PAOZZ	5305-00-071-2234	96906	MS90725-17	SCREW, CAP, HEXAGON.....	EA	2

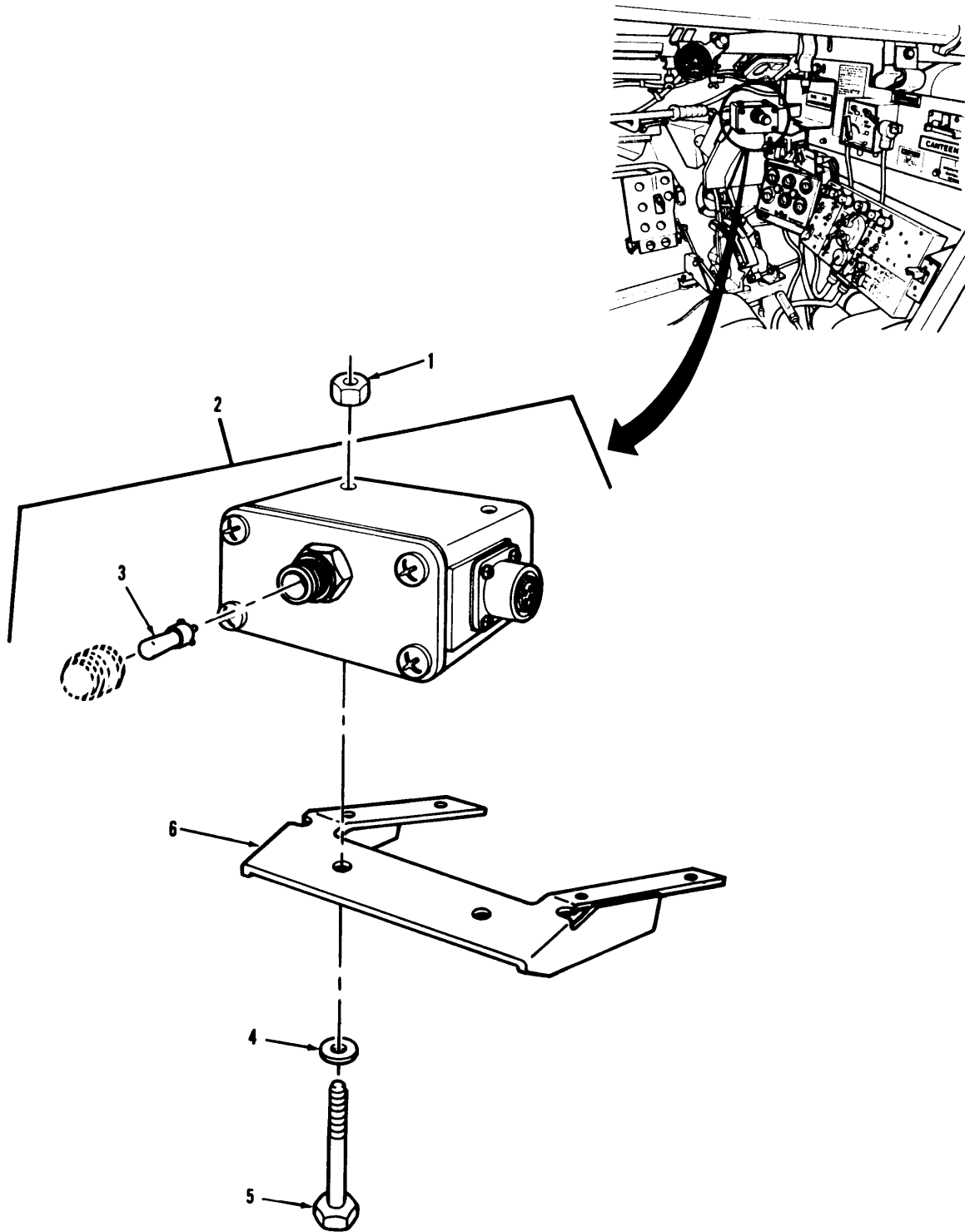


FIGURE B-15. ENGINE AIR CLEANER DUST DETECTOR BOX ASSEMBLY AND RELATED PARTS (M728).

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)	
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 0608: MISCELLANEOUS ITEMS-ENGINE AIR CLEANER DUST DETECTOR BOX ASSEMBLY AND RELATED PARTS (M728)			
B-15	1	PAOZZ	5310-00-761-6882	96906	MS51967-2	NUT, PLAIN, HEXAGON.....		EA	2
B-15	2	PAO00	2920-01-152-2385	19207	12325931	BOX ASSEMBLY.....		EA	1
B-15	3	PACZZ	6240-00-155-8707	96906	MS25231-1819	LAMP, INCAND.....		EA	1
B-15	4	PAOZZ	5310-00-550-1130	96906	MS35333-40	WASHER, LOCK.....		EA	2
B-15	5	PAOZZ	5303-00-071-2513	96906	MS90728-16	SCREW.....		EA	2
B-15	6	PAOZZ		19207	12326174	BRACKET.....		EA	1

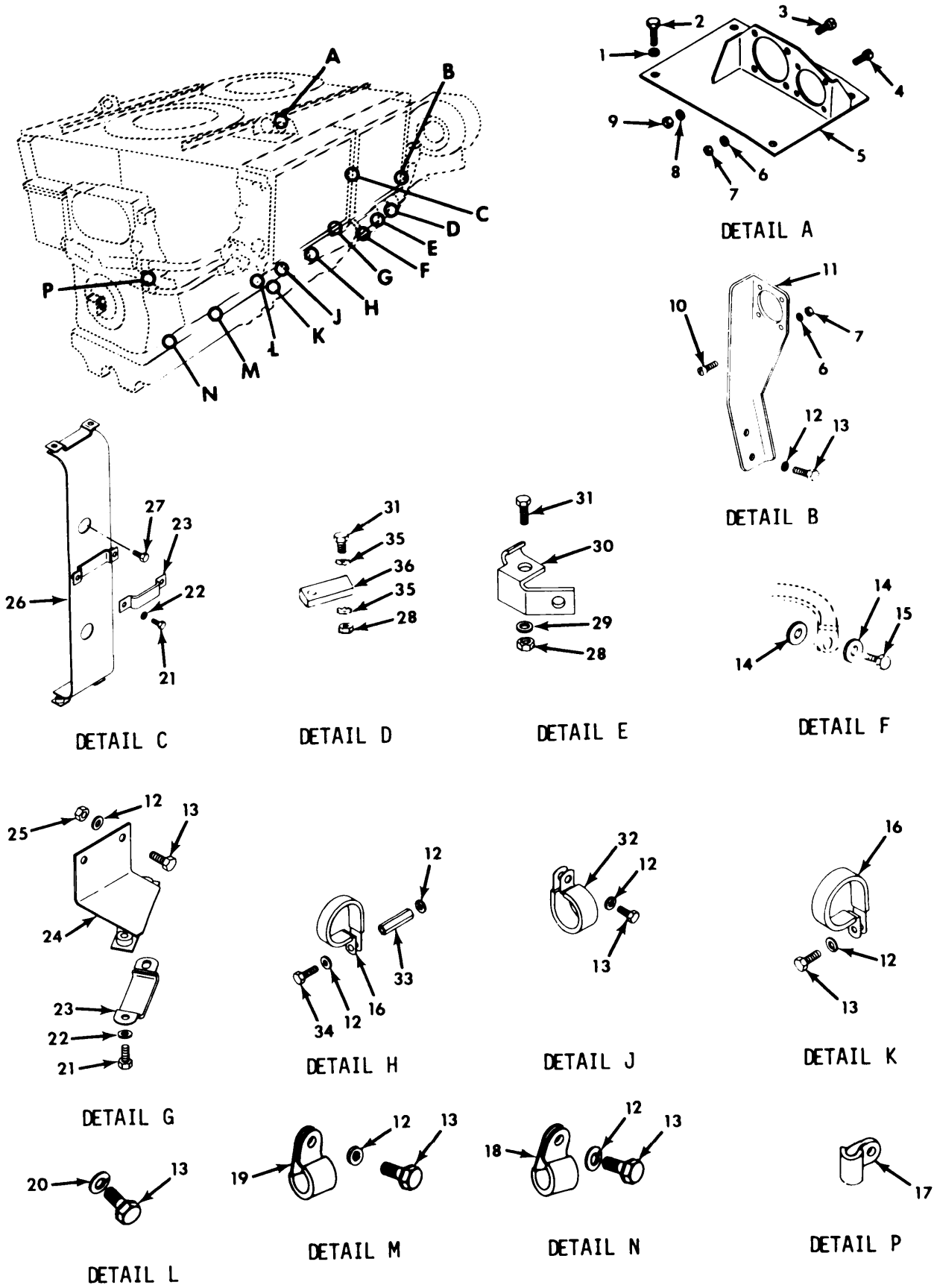


FIGURE B-16. ENGINE WIRING HARNESS BRACKETS AND CLAMPS (FIGURE 1 OF 3).

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)	
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 0613: HULL WIRING HARNESS-ENGINE WIRING HARNESS BRACKETS AND CLAMPS (FIGURE 1 OF 3)			
B-16	1	PAOZZ	5310-00-514-6674	96906	MS35335-34	WASHER, LOCK (USE WITH 2C AND 2D ENGINES).....		EA	4
B-16	1	PAOZZ	5310-00-550-3503	96906	MS35335-36	WASHER, LOCK (USE WITH 2CA AND 2DA ENGINES).....		EA	3
B-16	2	PAOZZ	5305-00-225-9091	96906	MS90726-36	SCREW, CAP, HEXAGON (USE WITH 2C AND 2D ENGINES).....		EA	4
B-16	2	PAOZZ	5305-00-225-9091	96906	MS90726-36	SCREW, CAP, HEXAGON (USE WITH 2CA AND 2DA ENGINES).....		EA	3
B-16	3	PAOZZ	5305-00-614-0274	96906	MS35265-63	SCREW, MACHINE (USE WITH 2C AND 2CA ENGINES).....		EA	4
B-16	4	PAOZZ	5305-00-543-2752	96906	MS35265-45	SCREW, MACHINE (USE WITH 2C AND 2CA ENGINES).....		EA	4
B-16	4	PAOZZ	5305-00-543-2752	96906	MS35265-45	SCREW, MACHINE (USE WITH 2D AND 2DA ENGINES).....		EA	8
B-16	5	PFOZZ	2920-00-398-7097	19207	11673848	SUPPORT, WIRING, GE (USE WITH 2C AND 2CA ENGINES).....		EA	1
B-16	5	PFOZZ	2815-00-410-1150	19207	11682725	BRACKET, MOUNTING (USE WITH 2D AND 2DA ENGINES).....		EA	1
B-16	6	PAOZZ	5310-00-045-3299	19207	7347734	WASHER, LOCK (USE WITH 2C AND 2CA ENGINES).....		EA	8
B-16	6	PAOZZ	5310-00-045-3299	19207	7347734	WASHER, LOCK (USE WITH 2D AND 2DA ENGINES).....		EA	12
B-16	7	PAOZZ	5310-00-934-9757	96906	MS35649-282	NUT, PLAIN, HEXAGON (USE WITH 2C AND 2CA ENGINES).....		EA	8
B-16	7	PAOZZ	5310-00-934-9757	96906	MS35649-282	NUT, PLAIN, HEXAGON (USE WITH 2D AND 2DA ENGINES).....		EA	12
B-16	8	PAOZZ	5310-00-045-3296	96906	MS35338-43	WASHER, LOCK (USE WITH 2C AND 2CA ENGINES).....		EA	4
B-16	9	PAOZZ	5310-00-934-9758	96906	MS35648-202	NUT, PLAIN, HEXAGON (USE WITH 2C AND 2CA ENGINES).....		EA	4
B-16	10	PAOZZ	5305-00-984-6193	96906	MS35206-245	SCREW, MACHINE.....		EA	4
B-16	11	PFOZZ	2920-00-466-7464	19207	11673851	BRACKET, MOUNTING.....		EA	1
B-16	12	PAOZZ	5310-00-407-9566	19207	7410218	WASHER, LOCK.....		EA	10
B-16	13	PAOZZ	5306-00-050-1238	96906	MS90727-32	BOLT, MACHINE.....		EA	10
B-16	14	PAOZZ	5310-00-776-7318	19207	7767318	WASHER, FLAT (USE WITH 2C AND 2CA ENGINES).....		EA	4
B-16	14	PAOZZ	5310-00-776-7318	19207	7767318	WASHER, FLAT (USE WITH 2D AND 2DA ENGINES).....		EA	2
B-16	15	PAOZZ	5305-00-269-2808	96906	MS90726-65	SCREW, CAP, HEXAGON (USE WITH 2C AND 2CA ENGINES).....		EA	2
B-16	15	PAOZZ	5305-00-269-2808	96906	MS90726-65	SCREW, CAP, HEXAGON (USE WITH 2D AND 2DA ENGINES).....		EA	1
B-16	16	PAOZZ	5340-00-178-6077	19207	7057332-3	CLAMP, LOOP.....		EA	2
B-16	17	PAOZZ	5340-00-057-3034	96906	MS21333-110	CLAMP, LOOP.....		EA	1
B-16	18	PAOZZ	5340-00-057-3043	96906	MS21333-112	CLAMP, LOOP.....		EA	1
B-16	19	PAOZZ	5340-00-988-1162	96906	MS21333-113	CLAMP, LOOP (USE WITH 2C AND 2CA ENGINES).....		EA	1
B-16	19	PAOZZ	5340-00-988-1162	96906	MS21333-113	CLAMP, LOOP (USE WITH 2D AND 2DA ENGINES).....		EA	2
B-16	20	PAOZZ	5310-00-167-0721	96906	MS35333-41	WASHER, LOCK.....		EA	2
B-16	21	PAOZZ	5305-00-068-0500	96906	MS90725-3	SCREW, CAP, HEXAGON.....		EA	8
B-16	22	PAOZZ	5310-00-582-5965	19207	11657469-3	WASHER, LOCK.....		EA	8
B-16	23	PAOZZ	5340-01-030-8726	19207	11684276-1	STRAP, RETAINING.....		EA	4
B-16	24	PFOZZ	2815-00-394-9701	19207	11673853	BRACKET, MOUNTING.....		EA	1
B-16	25	PAOZZ	5310-00-088-0553	96906	MS21044N5	NUT, SELF-LOCKING.....		EA	2
B-16	26	PAOZZ	2815-00-397-3283	19207	11673852	BRACKET, MOUNTING.....		EA	1
B-16	27	PAOZZ	5305-00-042-5592	24617	425592	SCREW, ASSEMBLED WASHER.....		EA	2
B-16	28	PAOZZ	5310-00-732-0558	96906	MS51967-8	NUT, PLAIN, HEXAGON (USE WITH 2C AND 2CA ENGINES).....		EA	2
B-16	29	PAOZZ	5310-00-637-9541	12603	23E06	WASHER, LOCK (USE WITH 2C AND 2CA ENGINES).....		EA	1
B-16	30	PAOZZ	6150-00-476-0381	19207	11673850	BUS, CONDUCTOR (USE WITH 2C AND 2CA ENGINES).....		EA	1
B-16	31	PAOZZ	5305-00-269-3213	96906	MS90725-62	SCREW, CAP, HEXAGON (USE WITH 2C AND 2CA ENGINES).....		EA	2
B-16	32	PAOZZ	5340-00-959-8422	19207	10863816	CLAMP, LOOP.....		EA	2
B-16	33	PAOZZ	5340-01-081-1686	19207	12254369	POST, ELECTRICAL-ME.....		EA	1
B-16	34	PAOZZ	5306-00-225-9088	96906	MS90726-33	BOLT, MACHINE.....		EA	1
B-16	35	PAOZZ	5310-00-061-1258	96906	MS45904-76	WASHER, LOCK (USE WITH 2C AND 2CA ENGINES).....		EA	2
B-16	36	PAOZZ	6150-00-476-0371	19207	11673856	BUS, CONDUCTOR (USE WITH 2C AND 2CA ENGINES).....		EA	1

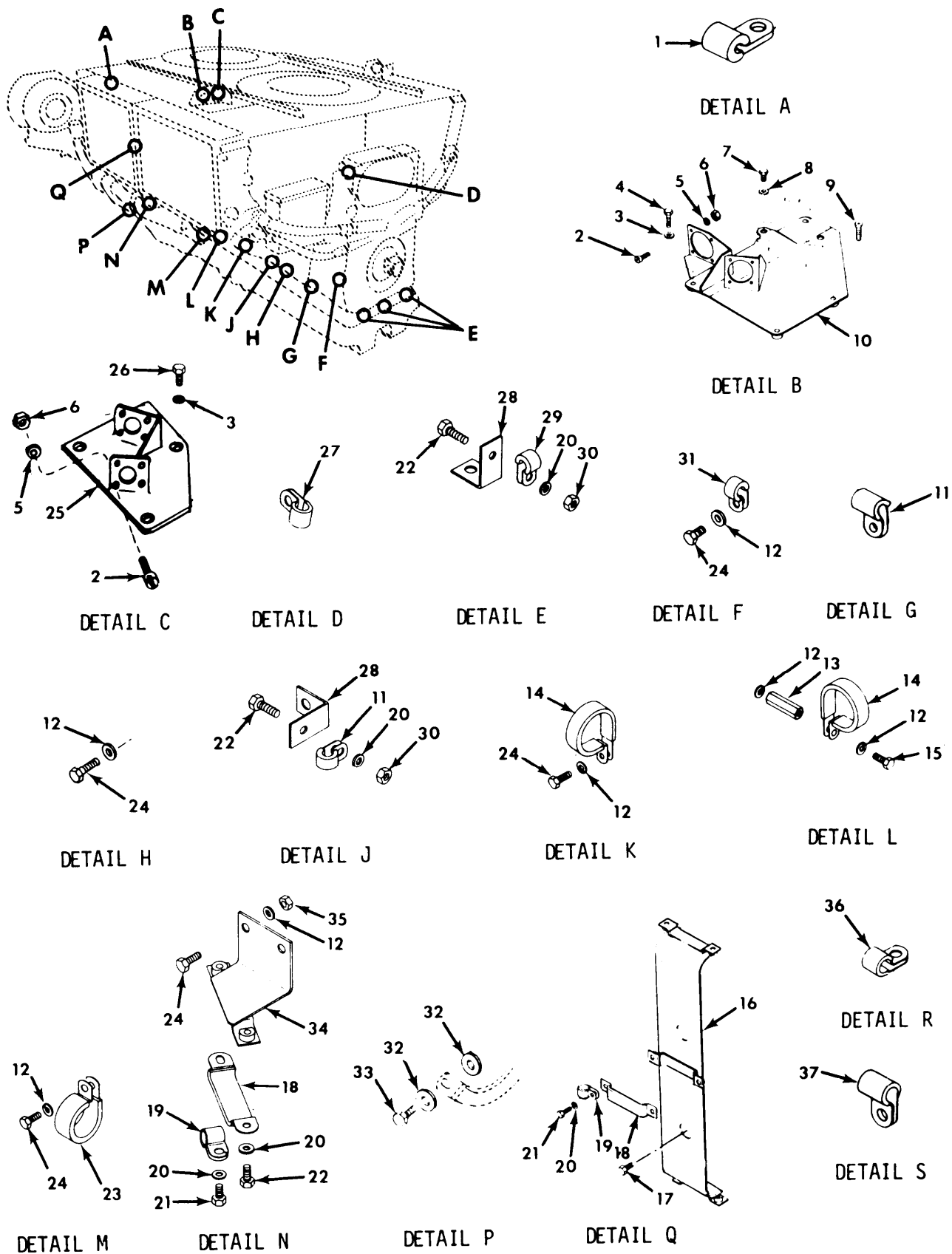
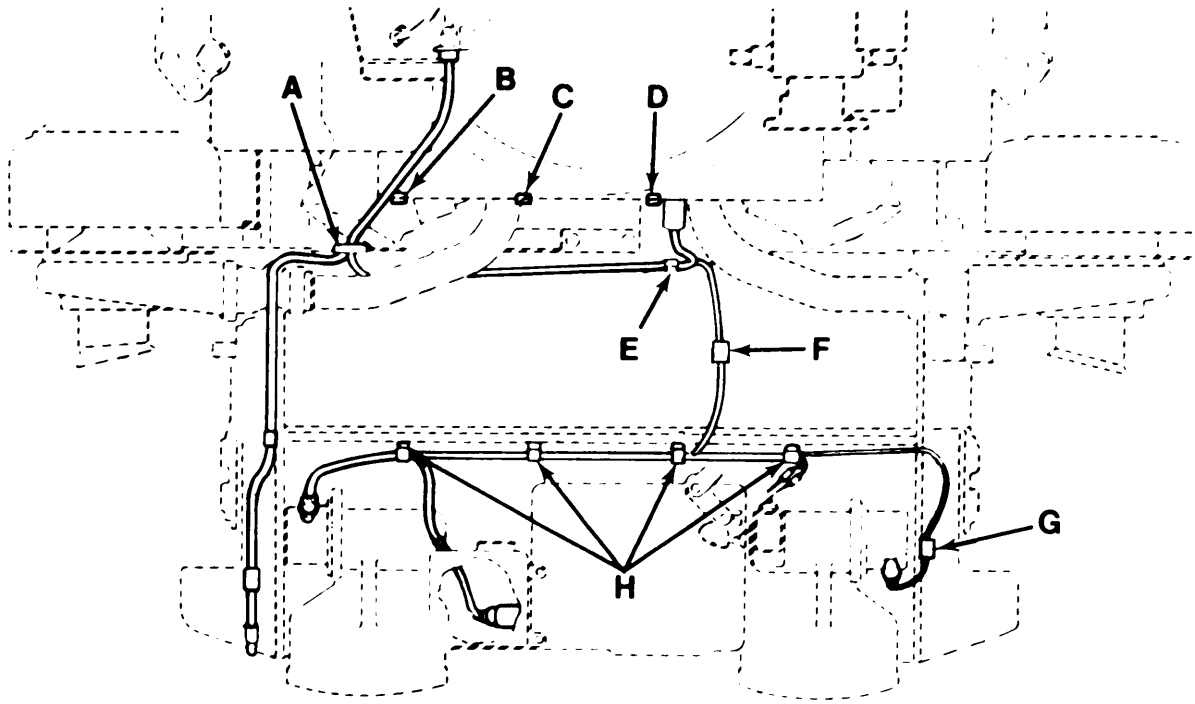


FIGURE B-17. ENGINE WIRING HARNESS BRACKETS AND CLAMPS (FIGURE 2 OF 3).

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 0613: HULL WIRING HARNESS-ENGINE WIRING HARNESS BRACKETS AND CLAMPS (FIGURE 2 OF 3)		
B-17	1	PAOZZ	5340-00-057-3025	96906	MS21333-108	CLAMP, LOOP (USE WITH 2C AND 2D ENGINES).....	EA	5
B-17	2	PAOZZ	5305-00-614-0274	96906	MS35265-63	SCREW, MACHINE.....	EA	8
B-17	3	PAOZZ	5310-00-514-6674	96906	MS35335-34	WASHER, LOCK.....	EA	4
B-17	4	PAOZZ	5306-00-051-4077	96906	MS90727-35	BOLT, MACHINE.....	EA	3
B-17	5	PAOZZ	5310-00-045-3296	96906	MS35338-43	WASHER, LOCK.....	EA	8
B-17	6	PAOZZ	5310-00-934-9758	96906	MS35649-202	NUT, PLAIN, HEXAGON.....	EA	8
B-17	7	PAOZZ	5305-00-267-8953	96906	MS90727-5	SCREW, CAP, HEXAGON.....	EA	2
B-17	8	PAOZZ	5310-00-550-1130	96906	MS35333-40	WASHER, LOCK.....	EA	2
B-17	9	PAOZZ	5305-00-993-1206	96906	MS24668-22	SCREW, CAP, SOCKET.....	EA	2
B-17	10	PFOZZ	2920-01-065-2016	19207	12254374	BRACKET, MOUNTING.....	EA	1
B-17	11	PAOZZ	5340-00-057-3037	96906	MS21333-111	CLAMP, LOOP.....	EA	2
B-17	12	PAOZZ	5310-00-407-9566	19207	7410218	WASHER, LOCK.....	EA	9
B-17	13	PAOZZ	5340-01-081-1686	19207	12254369	POST, ELECTRICAL-ME.....	EA	1
B-17	14	PAOZZ	5340-01-077-1501	19207	8338503	CLAMP, LOOP.....	EA	2
B-17	15	PAOZZ	5306-00-225-9088	96906	MS90726-33	BOLT, MACHINE.....	EA	1
B-17	16	PFOZZ	2815-00-475-8216	19207	11673855	BRACKET, MOUNTING.....	EA	1
B-17	17	PAOZZ	5305-00-042-5592	24617	425592	SCREW, ASSEMBLED WASHER.....	EA	2
B-17	18	PAOZZ	5340-01-030-6928	19207	11684276-2	STRAP, RETAINING.....	EA	4
B-17	19	PAOZZ	5340-00-088-1254	96906	MS21333-104	CLAMP, LOOP.....	EA	4
B-17	20	PAOZZ	5310-00-582-5965	19207	11657469-3	WASHER, LOCK.....	EA	8
B-17	21	PAOZZ	5305-00-225-3838	96906	MS90725-4	SCREW, CAP, HEXAGON.....	EA	4
B-17	22	PAOZZ	5305-00-068-0500	96906	MS90725-3	SCREW, CAP, HEXAGON.....	EA	8
B-17	23	PAOZZ	5340-00-959-8422	19207	10863816	CLAMP, LOOP.....	EA	2
B-17	24	PAOZZ	5306-00-050-1238	96906	MS90727-32	BOLT, MACHINE.....	EA	7
B-17	25	PAOZZ	2815-00-397-3311	19207	11673847	BRACKET, MOUNTING, (USE WITH 2C AND 2D ENGINES).....	EA	1
B-17	26	PAOZZ	5305-00-225-9091	96906	MS90726-36	SCREW, CAP, HEXAGON (USE WITH 2C AND 2D ENGINES).....	EA	4
B-17	27	PAOZZ	5340-00-057-3029	96906	MS21333-118	CLAMP, LOOP.....	EA	1
B-17	28	PAOZZ	5340-00-107-4286	19207	10863598	BRACKET, ANGLE.....	EA	4
B-17	29	PAOZZ	5340-00-984-8540	96906	MS21333-102	CLAMP, LOOP.....	EA	3
B-17	30	XDOZZ		96906	MS51967-2	NUT, PLAIN, HEXAGON.....	EA	4
B-17	31	PAOZZ	5340-00-057-3043	96906	MS21333-112	CLAMP, LOOP.....	EA	1
B-17	32	PAOZZ	5310-00-776-7318	19207	7767318	WASHER, FLAT.....	EA	2
B-17	33	PAOZZ	5305-00-269-2808	96906	MS90726-65	SCREW, CAP, HEXAGON.....	EA	1
B-17	34	PAOZZ	2815-00-394-9690	19207	11673854	BRACKET, MOUNTING.....	EA	1
B-17	35	PAOZZ	5310-00-088-0553	96906	MS21044-N5	NUT, SELF-LOCKING.....	EA	2
B-17	36	PAOZZ	5340-00-057-3034	96906	MS21333-3034	CLAMP, LOOP (USE WITH 2CA AND 2DA ENGINES).....	EA	1
B-17	37	PAOZZ	5340-00-067-3868	96906	MS21333-109	CLAMP, LOOP (USE WITH 2CA AND 2DA ENGINES).....	EA	3



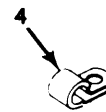
DETAIL A



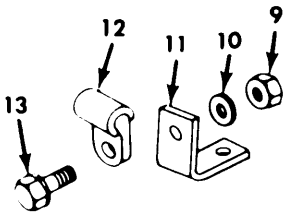
DETAIL B



DETAIL C



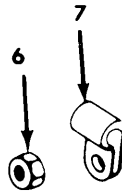
DETAIL D



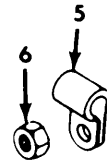
DETAIL E



DETAIL F



DETAIL G



DETAIL H

FIGURE B-18. ENGINE WIRING HARNESS BRACKETS AND CLAMPS (FIGURE 3 OF 3).



(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)	
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 0613: HULL WIRING HARNESS-ENGINE WIRING HARNESS BRACKETS AND CLAMPS (FIGURE 3 OF 3)			
B-18	1	PAOZZ	5325-00-290-1960	96906	MS35489-27	GROMMET, NONMETALLI .....		EA	1
B-18	2	PAOZZ	5340-00-833-8476	96906	MS21333-122	CLAMP, LOOP .....		EA	1
B-18	3	PAOZZ	5340-00-735-1617	19207	7351617	CLAMP, LOOP .....		EA	2
B-18	4	PAOZZ	5340-00-057-3025	96906	MS21333-108	CLAMP, LOOP (USE WITH 2CA AND 2DA ENGINES) .....		EA	1
B-18	5	PAOZZ	5340-00-281-4425	19207	7351807	CLAMP, LOOP .....		EA	4
B-18	6	XDOZZ		96906	MS51967-2	NUT, PLAIN, HEXAGON .....		EA	1
B-18	7	PAOZZ	5340-00-088-1255	96906	MS21333-96	CLAMP, LOOP (USE WITH 2CA AND 2DA ENGINES) .....		EA	1
B-18	8	PAOZZ	5340-00-809-1490	96906	MS21333-98	CLAMP, LOOP (USE WITH 2CA AND 2DA ENGINES) .....		EA	1
B-18	9	PAOZZ	5310-00-489-5663	96906	MS27151-24	NUT, STAMPED .....		EA	6
B-18	10	PAOZZ	5310-00-582-5965	19207	11657469-3	WASHER, LOCK .....		EA	1
B-18	11	PAOZZ	5340-00-107-4286	19207	10863598	BRACKET, ANGLE .....		EA	1
B-18	12	PAOZZ	5340-00-984-8540	96906	MS21333-102	CLAMP, LOOP .....		EA	1
B-18	13	PAOZZ	5305-00-068-0500	96906	MS90725-3	SCREW, CAP, HEXAGON .....		EA	1

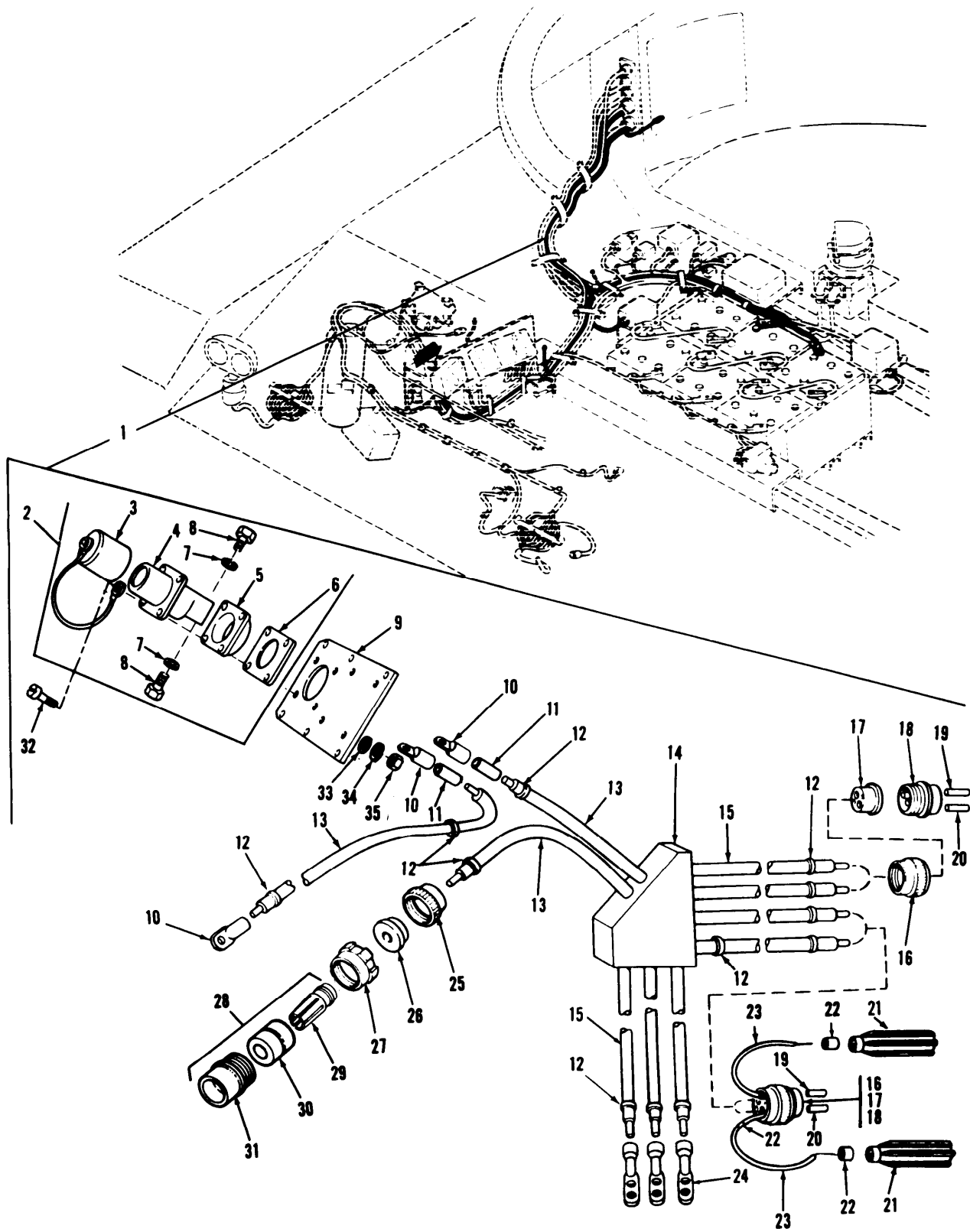


FIGURE B-19. BATTERY SLAVE AND STARTER RELAY CABLE ASSEMBLY  
(2CA ENGINE).

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 0613: HULL WIRING HARNESS-BATTERY SLAVE AND STARTER RELAY CABLE ASSEMBLY (2CA ENGINE)		
B-19	1	PA000	2920-01-152-2560	19207	12325932	CABLE ASSEMBLY.....	EA	1
B-19	2	PA000	5935-01-059-0117	19207	11674728	RECEPTACLE ASSEMBLY.....	EA	1
B-19	3	PAOZZ	5340-01-059-0114	19207	11675004	COVER.....	EA	1
B-19	4	XAOZZ		19207	11682345	RECEPTACLE.....	EA	1
B-19	5	PAOZZ	5330-01-059-4286	19207	11674729	GASKET.....	EA	1
B-19	6	PAOZZ	5970-01-044-8391	19207	11674730	INSULATOR.....	EA	1
B-19	7	PAOZZ	5310-00-637-9541	96906	MS35338-46	WASHER, LOCK.....	EA	2
B-19	8	PAOZZ	5305-00-269-2800	96906	MS90726-57	SCREW, CAP, HEX HEAD.....	EA	2
B-19	9	PAOZZ	5935-01-062-5653	19207	12257999	PLATE, RECEPTACLE.....	EA	1
B-19	10	PAOZZ	5940-00-808-9212	96906	MS35446-7	TERMINAL, LUG.....	EA	3
B-19	11	MOOZZ		81349	MILR46846-TYPE5- 1.50ID-BLACK	INSULATION SLEEVING (MAKE FROM MILR46846-5-1.50).....	FT	V
B-19	12	PAOZZ	9905-00-893-3570	81349	M43436/1-3	BAND MARKER.....	EA	12
B-19	13	MOOZZ		81349	M13486/1-15	CABLE, ELECTRICAL (MAKE FROM NSN 6145-00-254-6117).....	FT	V
B-19	14	XAOZZ		19207	12257172	BUS BAR ASSEMBLY.....	EA	1
B-19	15	MOOZZ		81349	M13486/1-14	CABLE, ELECTRICAL (MAKE FROM NSN 6145-00-705-6674).....	FT	V
B-19	16	PAOZZ	5975-00-752-2746	19207	8395482	NUT, COUPLING, ELEC.....	EA	2
B-19	17	PAOZZ	5365-00-678-4258	19207	8395483	BUSHING, RUBBER.....	EA	2
B-19	18	PAOZZ	5935-00-107-1275	19207	11602731	CONNECTOR, PLUG.....	EA	2
B-19	19	PAOZZ	9510-01-104-8931	19207	8724768	ROD.....	EA	V
B-19	20	PAOZZ	9390-00-180-7289	19207	8724763	ROD, NONMETALLIC.....	EA	V
B-19	21	PAOZZ	5935-00-115-2307	96906	MS27144-2	CONNECTOR, PLUG, EL.....	EA	2
B-19	22	PAOZZ	9905-00-752-4649	81349	M13436/1-1	BAND MARKER.....	EA	3
B-19	23	MOOZZ		81349	M13486/1-5	WIRE, ELECTRICAL (MAKE FROM NSN 6145-00-152-6499).....	FT	V
B-19	24	PAOZZ	5940-00-030-7275	19207	11676228	TERMINAL, LUG.....	EA	3
B-19	25	PAOZZ	5935-00-333-9414	19207	7723308	CONNECTOR.....	EA	1
B-19	26	PAOZZ	5365-00-318-8184	19207	8376776	GROMMET.....	EA	1
B-19	27	PAOZZ	5310-00-655-9860	19207	8701325	NUT, SLEEVE.....	EA	1
B-19	28	PA000	5935-00-686-9374	77820	60-42722-7S	CONNECTOR.....	EA	1
B-19	29	XAOZZ		19207	8701309	SHELL, PLUG.....	EA	1
B-19	30	PAOZZ	5999-00-771-6523	19207	7716523	CONNECTOR.....	EA	1
B-19	31	PAOZZ	5935-00-089-7917	19207	7716669	INSERT, ELECTRICAL.....	EA	1
B-19	32	PAOZZ	5305-00-240-6668	96906	MS51849-78	SCREW, MACHINE.....	EA	4
B-19	33	PAOZZ	5310-00-014-5850	96906	MS27183-42	WASHER, FLAT.....	EA	4
B-19	34	PAOZZ	5310-00-045-3296	96906	MS35338-43	WASHER, LOCK.....	EA	4
B-19	35	PAOZZ	5310-00-934-9758	96906	MS35649-202	NUT, PLAIN.....	EA	4

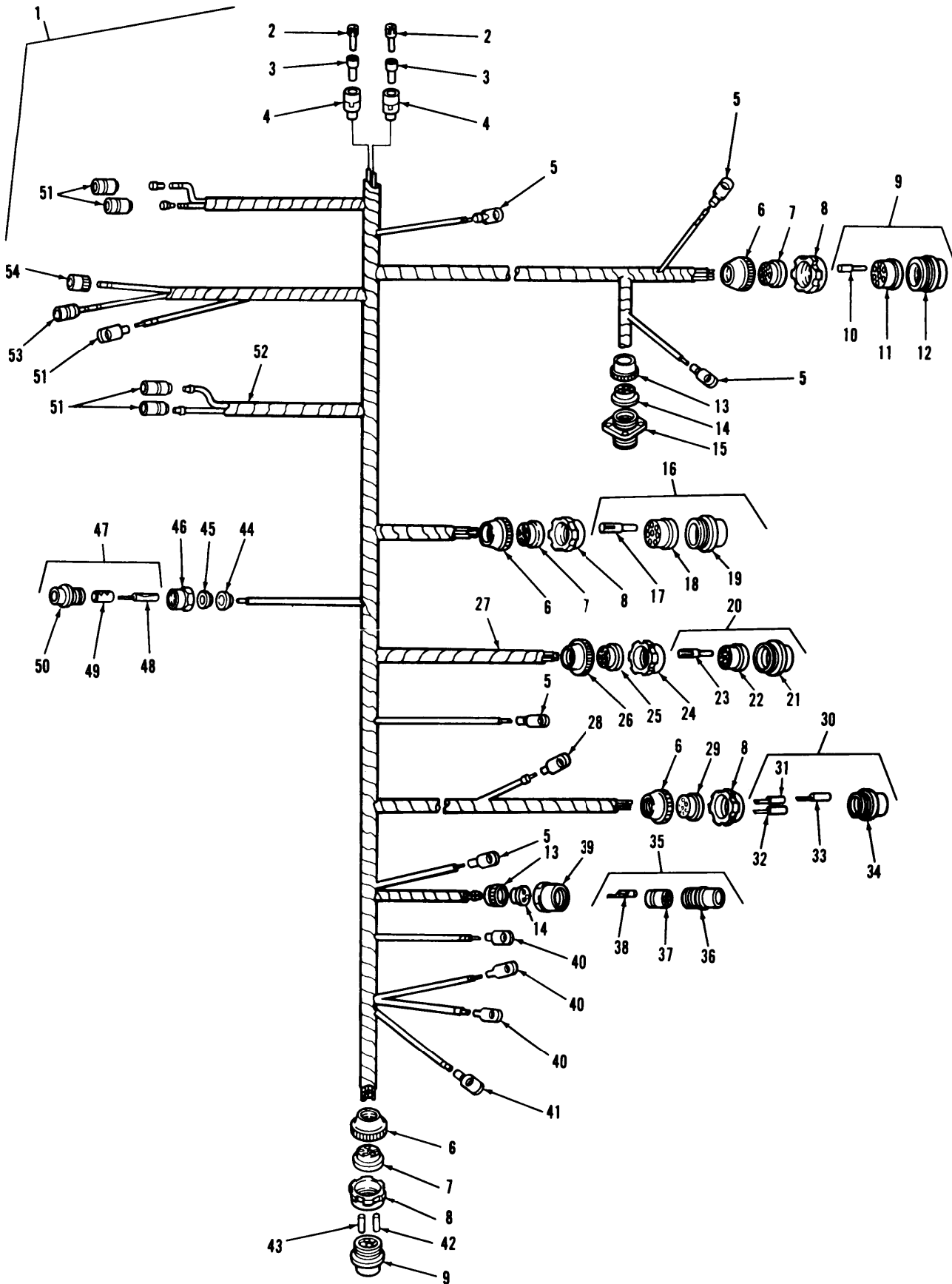


FIGURE B-20. FRONT MASTER CONTROL HARNESS ASSEMBLY (2CA ENGINE).

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M QTY INC IN UNIT
						GROUP 0613: HULL WIRING HARNESS-FRONT MASTER CONTROL HARNESS ASSEMBLY (2CA ENGINE)		
B-20	1	PA000	2920-01-152-2559	19207	12325926	WIRING HARNESS ASSEMBLY.....	EA	1
B-20	2	PAOZZ	1015-00-798-2997	19207	7982997	TERMINAL (OPTIONAL WITH P/N 8338564).....	EA	2
B-20	2	PAOZZ	5940-00-399-6676	19207	8338564	TERMINAL (OPTIONAL WITH 7982997).....	EA	2
B-20	3	PAOZZ	5970-00-833-8562	19207	8338562	INSULATOR,BUSHING.....	EA	2
B-20	4	PAOZZ	5935-00-677-4444	19207	7064586	INSERT,PLUG,ELEC.....	EA	1
B-20	5	PAOZZ	5940-00-705-6709	19207	7056709	TERMINAL,LUG.....	EA	5
B-20	6	PAOZZ	5935-00-333-9414	19207	7723308	CONNECTOR.....	EA	4
B-20	7	PAOZZ	5365-00-772-2322	19207	7722322	BUSHING,RUBBER.....	EA	3
B-20	8	PAOZZ	5310-00-655-9860	19207	8701325	NUT,SLEEVE.....	EA	4
B-20	9	PA000	5935-00-686-2608	19207	8724244	CONNECTOR ASSEMBLY.....	EA	2
B-20	10	PAOZZ	5999-00-485-8954	19207	7716520	CONTACT,ELECTRICAL.....	EA	8
B-20	11	PAOZZ	5935-00-771-8192	19207	7723475	BUSHING,RUBBER.....	EA	1
B-20	12	XAOZZ		19207	8701309	SHELL,PLUG.....	EA	1
B-20	13	PAOZZ	5935-00-772-3307	19207	7723307	CONNECTOR.....	EA	2
B-20	14	PAOZZ	5935-00-772-2344	19207	7722344	GROMMET.....	EA	2
B-20	15	PAOZZ	5935-00-772-0484	19207	7720484	CONNECTOR,RCPT.....	EA	1
B-20	16	PA000	5935-00-686-2606	19207	8724243	CONNECTOR.....	EA	1
B-20	17	PAOZZ	5999-00-485-8955	19207	7716521	CONNECTOR.....	EA	8
B-20	18	XAOZZ		19207	7723474	INSERT,ELECTRICAL.....	EA	1
B-20	19	XAOZZ		19207	8701309	SHELL,PLUG.....	EA	1
B-20	20	PA000	5935-00-754-9083	19207	8724257	CONNECTOR ASSEMBLY.....	EA	1
B-20	21	XAOZZ		19207	8344537	SHELL,ELECTRICAL.....	EA	1
B-20	22	PAOZZ	5935-00-257-1024	19207	7716683	INSERT,ELECTRICAL.....	EA	1
B-20	23	PAOZZ	5999-00-485-8955	19207	7716521	CONNECTOR.....	EA	12
B-20	24	PAOZZ	5975-00-771-6634	19207	7716634	NUT.....	EA	1
B-20	25	PAOZZ	5365-00-090-5426	19207	7722333	BUSHING,RUBBER.....	EA	1
B-20	26	PAOZZ	5310-00-393-6685	19207	7723309	NUT,PLAIN,KNURLED.....	EA	1
B-20	27	MOOZZ		19207	M13486/1-3	CABLE,ELECTRICAL (MAKE FROM NSN 6145-00-161-1609).....	FT	V
B-20	28	PAOZZ	5935-00-462-6603	96906	MS27142-2	CONNECTOR,PLUG,ELEC.....	EA	1
B-20	29	PAOZZ	5365-00-772-2323	19207	7722323	BUSHING,RUBBER.....	EA	1
B-20	30	PA000	5935-00-811-0942	19207	8724246	CONNECTOR,PLUG.....	EA	1
B-20	31	PAOZZ	5999-00-485-8954	19207	7716520	CONTACT,ELECTRICAL.....	EA	5
B-20	32	PAOZZ	5999-00-113-2954	19207	7716658	CONTACT,ELECTRICAL.....	EA	1
B-20	33	PAOZZ	5935-01-026-5900	19207	7716675	INSERT.....	EA	1
B-20	34	XAOZZ		19207	8701309	SHELL PLUG.....	EA	1
B-20	35	PA000	5935-00-686-2605	19207	8724231	SHELL ASSEMBLY.....	EA	1
B-20	36	PAOZZ	5935-00-462-2913	19207	8344527	SHELL,ELECTRICAL.....	EA	1
B-20	37	PAOZZ	5970-00-615-8884	19207	8344324	INSULATOR,BUSHING.....	EA	1
B-20	38	PAOZZ	5999-00-485-8954	19207	7716520	CONTACT,ELECTRICAL.....	EA	3
B-20	39	PAOZZ	5975-00-697-7769	19207	7527645	NUT.....	EA	1
B-20	40	PAOZZ	5940-00-705-6707	19207	7056707	TERMINAL,LUG.....	EA	3
B-20	41	PAOZZ	5940-00-705-6706	19207	7056706	TERMINAL,LUG.....	EA	1
B-20	42	PAOZZ	9390-00-180-7289	19207	8724763	NONMETALLIC ROD.....	EA	V
B-20	43	PAOZZ	9905-00-893-3570	81349	M43436/1-3	BAND MARKER.....	EA	72
B-20	44	PAOZZ	5935-00-333-3088	19207	7723306	CONNECTOR.....	EA	1
B-20	45	PAOZZ	5365-00-772-2343	19207	7722343	BUSHING,RUBBER.....	EA	1
B-20	46	PAOZZ	5975-00-697-6991	19207	7527643	NUT.....	EA	1
B-20	47	PA000	5935-00-686-2610	19207	8724199	CONNECTOR ASSEMBLY.....	EA	1
B-20	48	PAOZZ	5999-00-485-8954	19207	7716520	CONTACT,ELECTRICAL.....	EA	1
B-20	49	PAOZZ	5935-00-614-9136	19207	8720680	INSERT,ELECTRICAL.....	EA	1
B-20	50	PAOZZ	5935-01-013-7520	19207	8344522	SHELL,ELECTRICAL.....	EA	1
						CONTINUED NEXT PAGE		

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 0613: HULL WIRING HARNESS-FRONT MASTER CONTROL HARNESS ASSEMBLY (2CA ENGINE) -CONTINUED		
B-20	51	PAOZZ	5935-00-167-7775	96906	MS27144-1	CONNECTOR, PLUG.....	EA	5
B-20	52	MOOZZ		81349	M13486/1-5	WIRE, ELECTRICAL (MAKE FROM NSN 6145-00-152-6499).....	FT	V
B-20	53	PAOZZ	5940-00-113-8184	96906	MS25036-150	TERMINAL, LUG.....	EA	1
B-20	54	PAOZZ	5935-00-813-4717	96906	MS3106R-14S-2S	CONNECTOR, PLUG, EL.....	EA	1



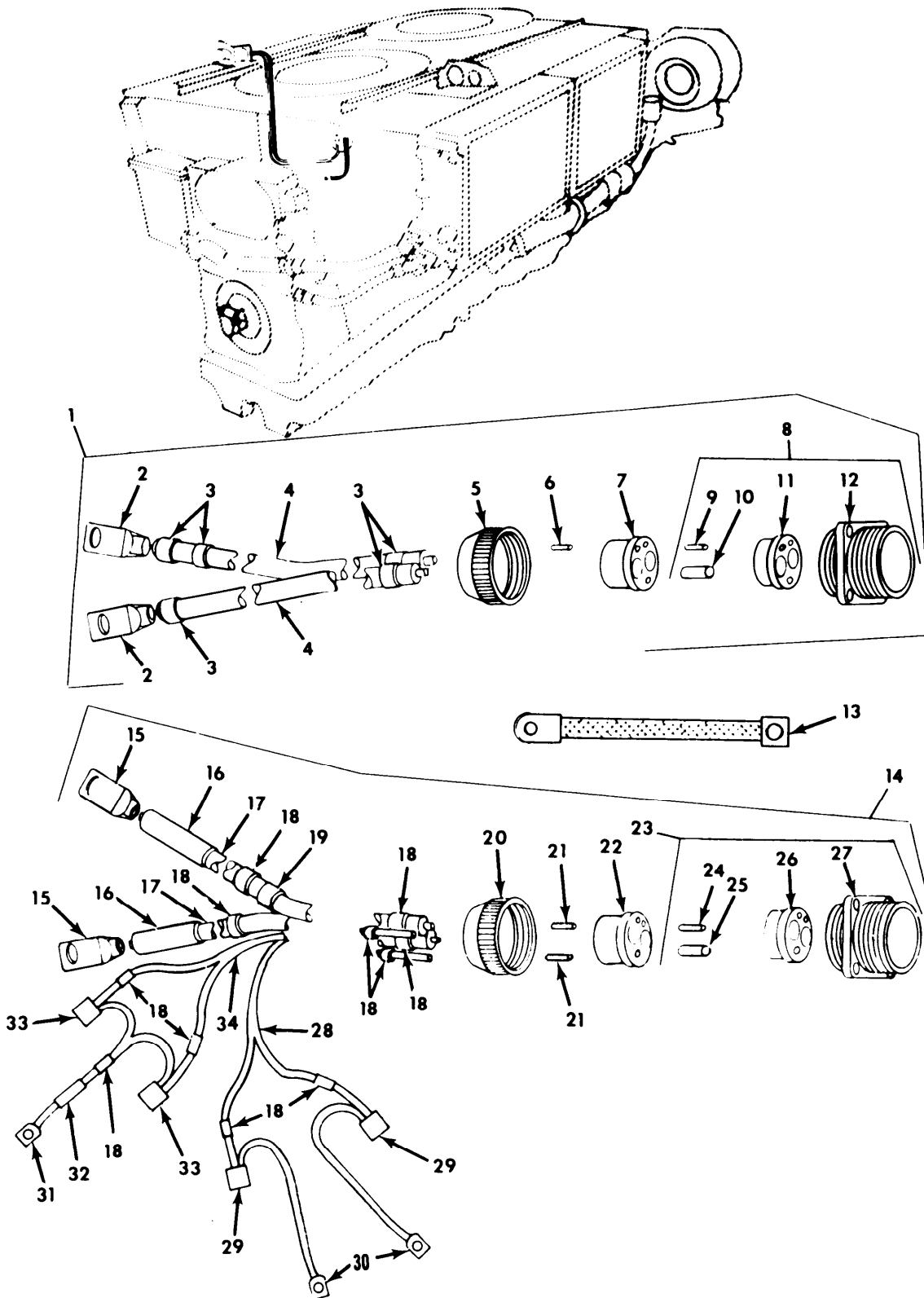


FIGURE B-21. STARTER WIRING HARNESS ASSEMBLY.



(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)	
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 0613: HULL WIRING HARNESS-STARTER WIRING HARNESS ASSEMBLY			
B-21	1	PF000	2590-00-423-3622	19207	11655454	WIRING HARNESS.....		EA	1
B-21	2	PAOZZ	5940-00-735-5520	19207	7355520	TERMINAL LUG.....		EA	2
B-21	3	PAOZZ	9905-00-893-3570	81349	M43436/1-3	BAND, MARKER.....		EA	5
B-21	4	PAOZZ	6145-00-705-6674	19207	7056674	WIRE, ELECTRICAL.....		FT	V
B-21	5	PAOZZ	5935-00-729-8217	77820	60-37005-321	NUT, BUSHING RETAINING.....		EA	1
B-21	6	PFOZZ	9390-00-180-7289	19207	8724763	NONMETALLIC ROD.....		EA	3
B-21	7	PAOZZ	5365-00-682-2043	19207	7388356	BUSHING, RUBBER.....		EA	1
B-21	8	PA000	5935-00-754-9078	19207	7971717	CONNECTOR, RECEPTACLE.....		EA	1
B-21	9	PAOZZ	5999-00-771-6523	19207	7716523	CONTACT, ELECTRICAL.....		EA	2
B-21	10	PAOZZ	5999-00-485-8954	19204	7716520	CONTACT, ELECTRICAL.....		EA	3
B-21	11	PAOZZ	5935-01-104-6333	19207	8701344	INSERT, ELECTRICAL.....		EA	1
B-21	12	XAOZZ		19207	8701346	SHELL.....		EA	1
B-21	13	PFOZZ	2590-01-008-1441	19207	11682595-2	LEAD, ELECTRICAL (USE WITH 2C AND 2CA ENGINES).....		EA	2
B-21	13	PFOZZ	2590-01-008-1441	19207	11682595-2	LEAD, ELECTRICAL (USE WITH 2D AND 2DA ENGINES).....		EA	1
B-21	14	PF000	2920-01-073-4328	19207	12275732	CABLE ASSEMBLY (USE WITH 2C AND 2D ENGINES).....		EA	1
B-21	14	PF000	6150-01-150-9771	19207	12314619	CABLE ASSEMBLY (USE WITH 2CA AND 2DA ENGINES).....		EA	1
B-21	15	PAOZZ	5940-00-735-5520	19207	7355520	TERMINAL LUG.....		EA	2
B-21	16	PAOZZ	5970-00-221-5301	81349	MIL1631	INSULATION SLEEVEING.....		FT	V
B-21	17	PAOZZ	6145-00-705-6674	19207	7056674	WIRE, ELECTRICAL.....		FT	V
B-21	18	PAOZZ	9905-00-752-4649	81349	M43436/1-1	BAND, MARKER (USE WITH 2C AND 2D ENGINES).....		EA	8
B-21	18	PAOZZ	9905-00-752-4649	81349	M43436/1-1	BAND, MARKER (USE WITH 2CA AND 2DA ENGINES).....		EA	10
B-21	19	PAOZZ	9905-00-893-3570	81349	M43436/1-3	BAND, MARKER.....		EA	1
B-21	20	PAOZZ	5935-00-729-8217	77820	60-37005-321	NUT, BUSHING RETAINER.....		EA	1
B-21	21	PFOZZ	9390-00-180-7289	19207	8724763	NONMETALLIC ROD (USE WITH 2C AND 2D ENGINES).....		EA	2
B-21	21	PFOZZ	9390-00-180-7289	19207	8724763	NONMETALLIC ROD (USE WITH 2CA AND 2DA ENGINES).....		EA	1
B-21	22	PAOZZ	5365-00-682-2043	19207	7388356	BUSHING, RUBBER.....		EA	1
B-21	23	PA000	5935-00-754-9080	19207	7388353	CONNECTOR, RECEPTACLE.....		EA	1
B-21	24	PAOZZ	5999-00-485-8955	19207	7716521	CONTACT, ELECTRICAL.....		EA	3
B-21	25	PAOZZ	5999-00-368-4852	19207	7716522	CONTACT, ELECTRICAL.....		EA	2
B-21	26	XAOZZ		19207	8701345	INSERT.....		EA	1
B-21	27	XAOZZ		19207	8701346	SHELL.....		EA	1
B-21	28	PAOZZ	6145-00-772-2804	19207	7722204	WIRE, ELECTRICAL (USE WITH 2CA AND 2DA ENGINES).....		FT	V
B-21	29	PAOZZ	5935-00-432-8967	96906	MS3106R10SLSC	CONNECTOR, PLUG (USE WITH 2CA AND 2DA ENGINES).....		EA	4
B-21	30	PAOZZ	5940-00-314-0479	19207	7728778	TERMINAL LUG (USE WITH 2CA AND 2DA ENGINES).....		EA	2
B-21	31	PAOZZ	5940-01-091-1520	96906	MS21003-19	TERMINAL LUG.....		EA	1
B-21	32	PAOZZ	5970-00-705-6634	19207	7056634	INSULATION SLEEVEING.....		EA	1
B-21	33	PAOZZ	5935-00-432-8967	96906	MS3106R10SL4SC	CONNECTOR, PLUG (USE WITH 2C AND 2D ENGINES).....		EA	2
B-21	34	PAOZZ	6145-00-162-6499	19207	7720853	WIRE, ELECTRICAL.....		FT	V

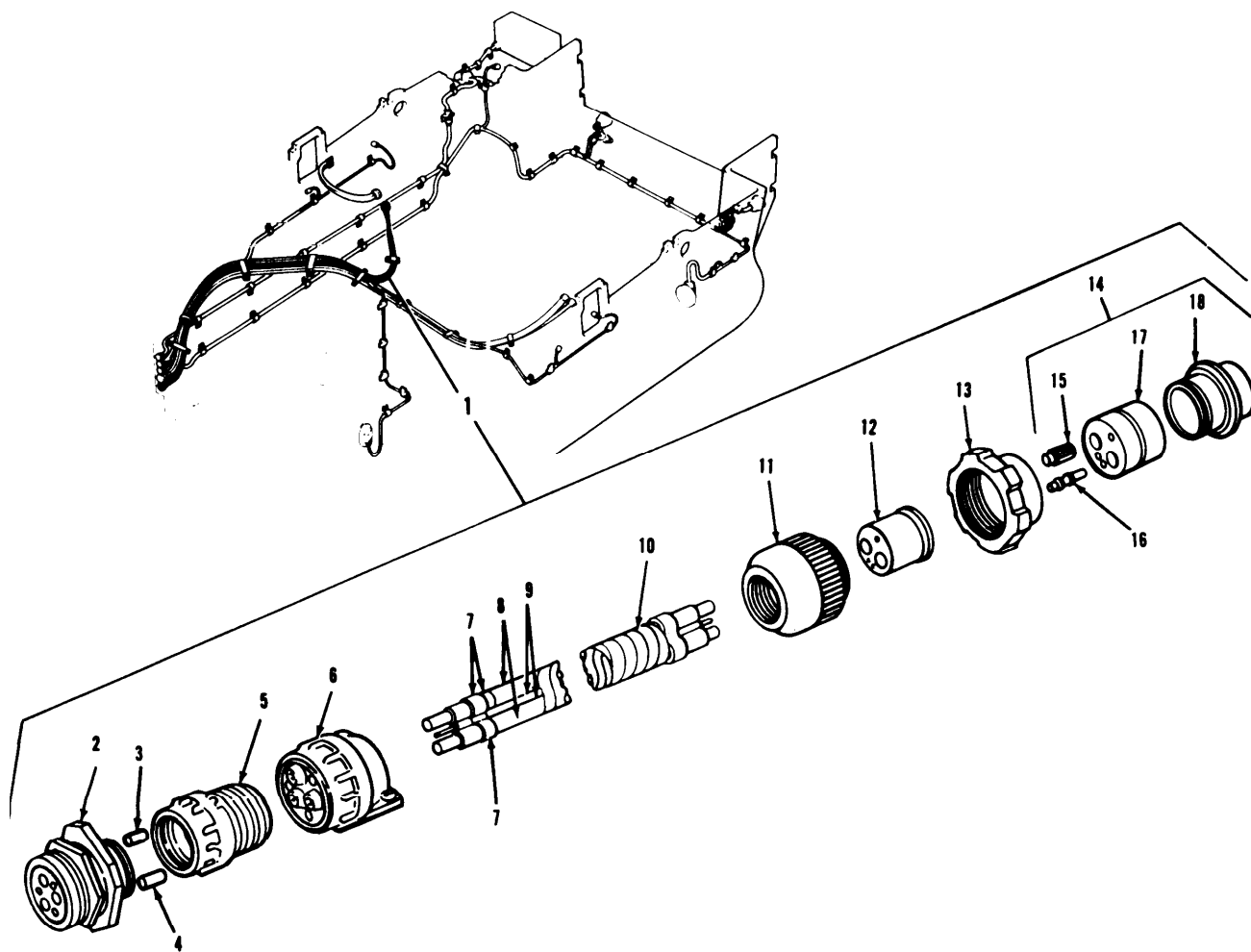


FIGURE B-22. STARTER FEED HARNESS ASSEMBLY (2CA ENGINE).

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 0613: HULL WIRING HARNESS-STARTER FEED HARNESS ASSEMBLY (2CA ENGINE)		
B-22	1	PA000	2920-01-152-2412	19207	12325933	WIRING HARNESS.....	EA	1
B-22	2	PAOZZ	5935-00-134-0373	19207	11602737	CONNECTOR, RECEPTACLE.....	EA	1
B-22	3	PAOZZ	9390-00-464-4756	19207	8724769	ROD, NONMETALLIC.....	EA	V
B-22	4	PAOZZ	9390-00-180-7289	19207	8724763	ROD, NONMETALLIC.....	EA	V
B-22	5	PAOZZ	5935-00-987-2942	19207	8089700	ADAPTER, CABLE CLAMP.....	EA	1
B-22	6	PAOZZ	5935-00-107-1273	77820	10-74936-3	CONNECTOR, PLUG.....	EA	1
B-22	7	PAOZZ	9905-00-893-3570	81349	M43436/1-3	BAND MARKER.....	EA	9
B-22	8	MOOZZ		81349	M13486/1-14	CABLE, ELECTRICAL (MAKE FROM NSN 6145-00-705-6674).....	FT	V
B-22	9	MOOZZ		81349	M13486/1-5	WIRE, ELECTRICAL (MAKE FROM NSN 6145-00-152-6499).....	FT	V
B-22	10	MOOZZ		19207	11644992-1	CABLE WRAP (MAKE FROM NSN 9330-01-047-4313).....	FT	V
B-22	11	PAOZZ	5935-00-729-8217	19207	7388355	CONNECTOR.....	EA	1
B-22	12	PAOZZ	5365-00-682-2043	19207	7388356	BUSHING, RUBBER.....	EA	1
B-22	13	PAOZZ	5310-00-678-4228	19207	8701249	NUT, PLAIN ROUND.....	EA	1
B-22	14	PAO00	5935-00-685-9979	19207	8724404	CONNECTOR, PLUG.....	EA	1
B-22	15	PAOZZ	5999-00-771-6523	19207	7716523	CONNECTOR.....	EA	2
B-22	16	PAOZZ	5999-00-485-8954	19207	7716520	CONTACT ELECTRICAL.....	EA	3
B-22	17	XAOZZ		19207	8701344	INSERT, ELECTRICAL.....	EA	1
B-22	18	XAOZZ		19207	8701310	SHELL, ELECTRIC.....	EA	1

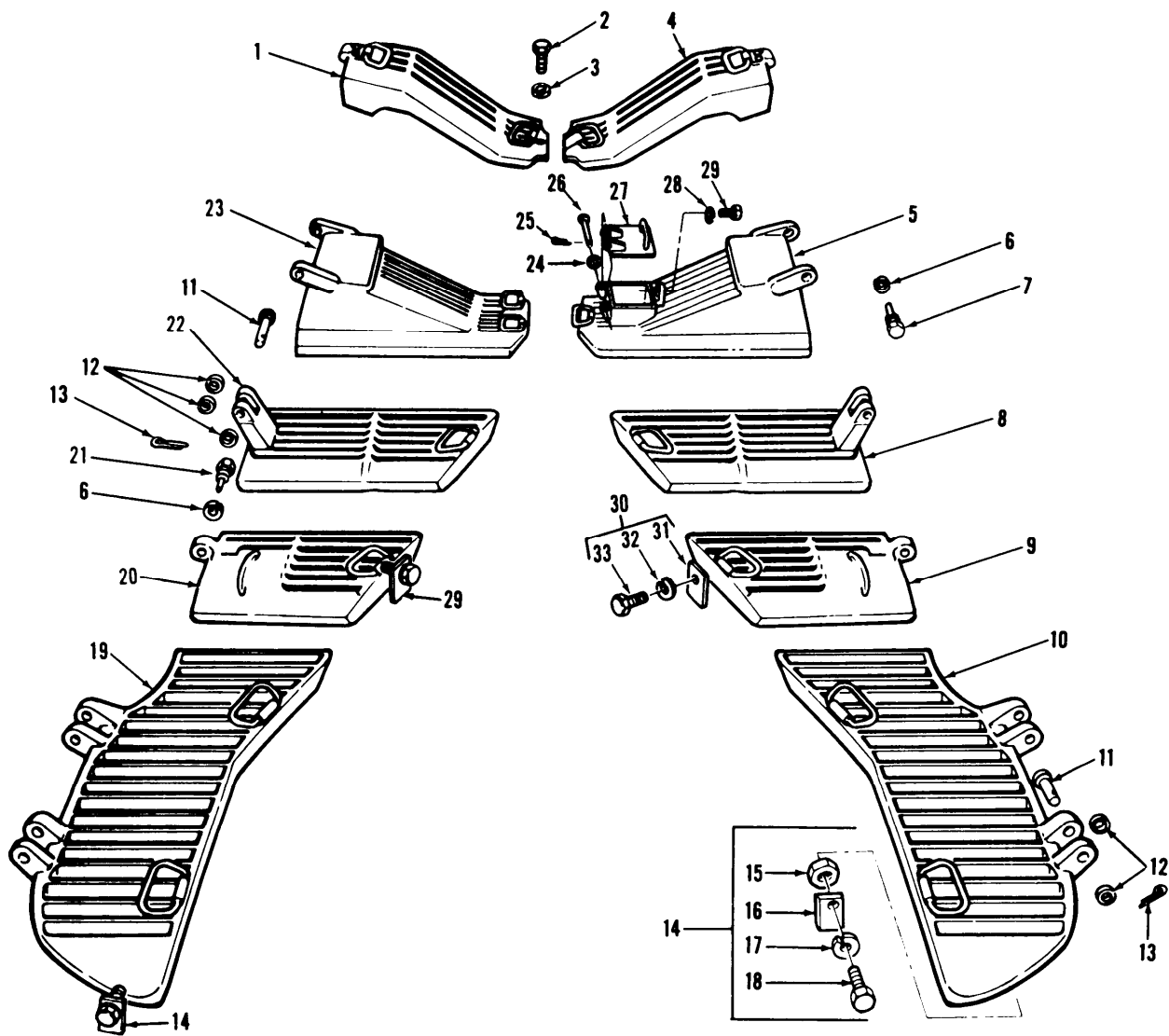


FIGURE B-23. GRILLE DOOR ASSEMBLIES AND RELATED PARTS.

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP18: BODY AND HULL		
						GROUP1801: HULL ASSEMBLIES-GRILLE DOOR ASSEMBLIES AND RELATED PARTS		
B-23	1	PB000	2510-00-927-3305	19207	10864043	DOOR ASSEMBLY, INTAKE GRILLE, NO. 1,LEFT (USE WITH 2C AND 2D ENGINES).....	EA	1
B-23	1	PB000		19207	12326091	DOOR ASSEMBLY, INTAKE GRILLE, NO. 1,LEFT (USE WITH 2DA ENGINE).....	EA	1
B-23	1	PB000	5340-01-152-2542	19207	12325890	DOOR ASSEMBLY, INTAKE GRILLE, NO. 1,LEFT (USE WITH 2CA ENGINE).....	EA	1
B-23	2	PAOZZ	5305-00-071-2069	96906	MS90728-113	SCREW,CAP,HEXAGON H.....	EA	2
B-23	3	PAOZZ	5310-00-011-6121	96906	MS35338-67	WASHER,LOCK.....	EA	2
B-23	4	PB000	2510-00-014-2483	19207	10924454	DOOR ASSEMBLY, INTAKE GRILLE, NO. 1,RIGHT (USE WITH 2C AND 2D ENGINES).....	EA	1
B-23	4	PB000		19207	12326087	DOOR ASSEMBLY, INTAKE GRILLE, NO. 1,RIGHT (USE WITH 2DA ENGINE).....	EA	1
B-23	4	PB000	5340-01-152-2541	19207	12325884	DOOR ASSEMBLY, INTAKE GRILLE, NO. 1,RIGHT (USE WITH 2CA ENGINE).....	EA	1
B-23	5	PB000	2510-01-082-3809	19207	11654555	DOOR,ACCESS, NO.2, RIGHT.....	EA	1
B-23	6	PAOZZ	5310-00-011-6124	96906	MS35338-70	WASHER,LOCK.....	EA	6
B-23	7	PAOZZ	5305-00-678-6195	19207	10863629	SETSCREW.....	EA	4
B-23	8	PB000	2510-00-080-7552	19207	10863965	DOOR,ACCESS, INTAKE GRILLE, NO. 3, RIGHT.....	EA	1
B-23	9	PB000	2510-01-082-3811	19207	12257502-2	DOOR,ACCESS, NO. 4, RIGHT (M48A5AVLB ONLY).....	EA	1
B-23	9	PB000	2510-00-115-4327	19207	10864147	DOOR, ACCESS, NO. 3, RIGHT.....	EA	1
B-23	10	PB000	2510-01-082-3813	19207	12257503-2	DOOR,ACCESS, NO. 5, RIGHT (M48A5AVLB ONLY).....	EA	1
B-23	10	PB000	2510-00-105-6154	19207	10864206	DOOR,ACCESS, NO. 5, RIGHT.....	EA	1
B-23	11	PAOZZ	5315-00-699-7760	19200	8671869	PIN,STRAIGHT,HEADED.....	EA	6
B-23	12	PAOZZ	5310-00-809-8533	96906	MS27183-23	WASHER,FLAT.....	EA	7
B-23	13	PAOZZ	5315-00-059-0491	96906	MS24665-372	PIN,COTTER (M48A5AVLB ONLY).....	EA	6
B-23	13	PAOZZ	5315-00-012-0123	96906	MS24665-355	PIN,COTTER.....	EA	6
B-23	14	XDO00		19207	7970529	BLOCK ASSY (OPTIONAL WITH BLOCK ASSEMBLY 10916563).....	EA	2
B-23	14	XDO00		19207	10916563	BLOCK ASSY (OPTIONAL WITH BLOCK ASSEMBLY 7970529).....	EA	2
B-23	15	PAOZZ	5310-00-957-0022	96906	MS35690-1004	NUT,PLAIN,HEXAGON.....	EA	1
B-23	16	XDOZZ		19207	7970528	BLOCK.....	EA	1
B-23	17	PAOZZ	5310-00-820-6653	80045	23MS35338-50	WASHER,LOCK.....	EA	1
B-23	18	PAOZZ	5305-01-102-5513	19207	8734585	SCREW,CAP,HEXAGON H (USE WITH BLOCK ASSEMBLY 7970529 ONLY).....	EA	1
B-23	18	PAOZZ	5303-01-115-1847	19207	10916561	SCREW,MACHINE (USE WITH BLOCK ASSEMBLY 10916563 ONLY).....	EA	1
B-23	19	PB000	2510-01-082-3812	19207	12257503-1	DOOR ASSEMBLY, NO. 5, LEFT (M48A5AVLB ONLY).....	EA	1
B-23	19	PB000	2510-00-105-6155	19207	10864205	DOOR ASSEMBLY, NO. 5, LEFT.....	EA	1
B-23	20	PB000	2510-01-082-3810	19207	12257502-1	DOOR ASSEMBLY, NO. 4, LEFT (M48A5AVLB ONLY).....	EA	1
B-23	20	PB000	2510-00-226-2131	19207	10864146	DOOR ASSEMBLY, NO. 4, LEFT.....	EA	1
B-23	21	PAOZZ	5303-00-678-6196	19207	10863630	SETSCREW.....	EA	2
B-23	22	PB000	2510-00-997-4524	19207	10863964	DOOR ASSY,GRILL TOP,NO. 3, LEFT.....	EA	1
B-23	23	PB000	2510-00-487-9469	19207	11654554-1	DOOR,HATCH,VEHICLE,NO. 2, LEFT.....	EA	1
B-23	24	PAOZZ	5310-00-809-5998	96906	MS27183-18	WASHER,FLAT (M48A5AVLB AND M60A1AVLB ONLY).....	EA	1
B-23	25	PAOZZ	5315-00-839-5821	96906	MS24665-351	PIN,COTTER (M48A5AVLB AND M60A1AVLB ONLY).....	EA	1
B-23	26	PAOZZ	5315-00-456-5948	19207	11626375	PIN,STRAIGHT,HEADED (M48A5AVLB AND M60A1AVLB ONLY).....	EA	1
B-23	27	PB000	5420-01-085-7003	19207	11626427	COVER (M48A5AVLB AND M60A1AVLB ONLY).....	EA	1
B-23	28	PAOZZ	5310-00-820-6653	80045	MS35338-50	WASHER,LOCK (M48A5AVLB AND M60A1AVLB ONLY).....	EA	1
B-23	29	PAOZZ	5303-00-724-5911	96906	MS90725-163	SCREW,CAP,HEXAGON H (M48A5AVLB AND M60A1AVLB ONLY).....	EA	1
B-23	30	XDO00		19207	12257511	BLOCK (M48A5AVLB ONLY).....	EA	2
B-23	31	XDOZZ		19207	12257511-1	BLOCK (M48A5AVLB ONLY).....	EA	1
B-23	32	PAOZZ	5310-00-820-6653	80045	23MS35338-50	WASHER,LOCK (M48A5AVLB ONLY).....	EA	1
						CONTINUED NEXT PAGE		

(1) ILLUS- TRATION		(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION  USABLE ON CODE	(7) U/M	(8) QTY INC IN UNIT
(a) FIG. NO.	(b) ITEM NO.							
B-23	33	PAOZZ	5303-00-724-5911	96906	MS90725-163	<p>GROUP: 18 BODY, CAB, HOOD, AND HULL</p> <p>GROUP1801: HULL ASSEMBLIES-GRILLE DOOR ASSEMBLIES AND RELATED PARTS -CONTINUED</p> <p>SCREW,CAP,HEXAGON H (M48A5AVLB ONLY).....</p>	EA	1



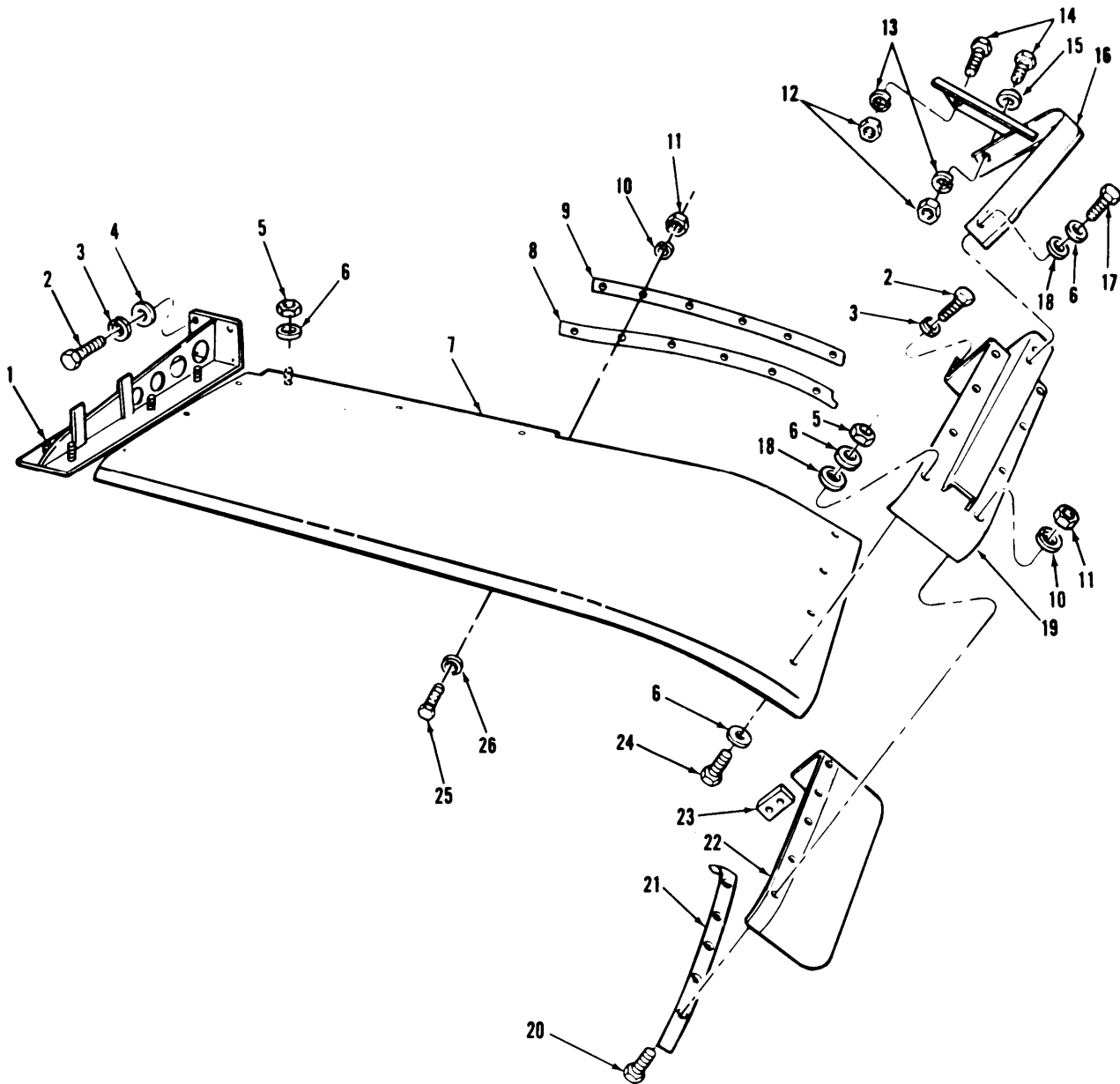


FIGURE B-24. FRONT FENDER AND RELATED PARTS.



(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)	
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 1802-FENDERS-FRONT FENDER AND RELATED PARTS			
B-24	1	PAOZZ	2510-00-930-3226	19207	10952209	SUPPORT, FENDER, NO. 2, RIGHT.....		EA	1
B-24	1	PAOZZ	2510-00-930-3229	11920	10952213	SUPPORT, FENDER, NO. 2, LEFT.....		EA	1
B-24	2	PAOZZ	5305-00-947-4352	96906	MS90728-183	SCREW, CAP, HEX HEAD.....		EA	16
B-24	3	PAOZZ	5310-00-584-7888	96906	MS35338-51	WASHER, LOCK.....		EA	16
B-24	4	PAOZZ	5310-00-809-8533	96906	MS27183-23	WASHER, FLAT.....		EA	8
B-24	5	PAOZZ	5310-00-930-8214	96906	MS51988-7	NUT, SELF-LOCKING.....		EA	20
B-24	6	PAOZZ	5310-00-809-5997	96906	MS27183-17	WASHER, FLAT.....		EA	32
B-24	7	PAOZZ	2510-00-930-2035	19207	10940272-2	FENDER, VEHICULAR, FRONT RIGHT.....		EA	1
B-24	7	PAOZZ	2510-00-930-2034	19207	10940272-1	FENDER, VEHICULAR, FRONT LEFT.....		EA	1
B-24	8	PAOZZ	2590-01-016-2024	19207	10940267	ANTISQUEAK, FENDER.....		EA	2
B-24	9	PAOZZ	2510-00-105-9917	19207	10940271	STRIP, FENDER FILLER.....		EA	2
B-24	10	PAOZZ	5310-00-582-5965	96906	MS35338-44	WASHER, LOCK.....		EA	26
B-24	11	PAOZZ	5310-00-768-0319	96906	MS51968-2	NUT, PLAIN-HEXAGON.....		EA	26
B-24	12	PAOZZ	5310-00-768-0318	96906	MS51967-14	NUT, PLAIN, HEXAGON.....		EA	4
B-24	13	PAOZZ	5310-00-584-5272	96906	MS35338-48	WASHER, LOCK.....		EA	4
B-24	14	PAOZZ	5305-00-071-1770	96906	MS90725-116	SCREW, CAP, HEX HEAD.....		EA	4
B-24	15	PAOZZ	5310-00-809-3079	96906	MS27183-19	WASHER, FLAT.....		EA	2
B-24	16	PAOZZ	2510-00-119-3907	19207	10940260-2	GUARD, HEADLAMP, RIGHT.....		EA	1
B-24	16	PAOZZ	2510-00-105-6144	19207	10940260-1	GUARD, HEADLAMP, LEFT.....		EA	1
B-24	17	PAOZZ	5306-00-145-0876	96906	MS35763-833	BOLT, SELF-LOCKING.....		EA	4
B-24	18	PAOZZ	5310-00-087-7493	96906	MS27183-13	WASHER, FLAT.....		EA	12
B-24	19	PAOZZ	2510-00-256-5531	19207	11637698-2	SUPPORT, FENDER, RIGHT FRONT.....		EA	1
B-24	19	PAOZZ	2510-00-256-5530	19207	11637698-1	SUPPORT, FENDER, LEFT FRONT.....		EA	1
B-24	20	PAOZZ	5305-00-267-8974	96906	MS90726-8	SCREW, CAP, HEX HEAD.....		EA	14
B-24	21	PAOZZ	2590-00-839-0156	19207	10887138	RETAINER, EXTENSION.....		EA	2
B-24	22	PAOZZ	2510-00-757-2750	19207	10940256-2	EXTENSION, FENDER, RIGHT FRONT.....		EA	1
B-24	22	PAOZZ	2510-00-757-2749	19207	10940256-1	EXTENSION, FENDER, LEFT FRONT.....		EA	1
B-24	23	PAOZZ	5365-00-105-6138	19207	10940255	SPACER, PLATE.....		EA	2
B-24	24	PAOZZ	5305-00-269-3213	96906	MS90725-62	SCREW, CAP, HEX HEAD.....		EA	8
B-24	25	PAOZZ	5305-00-068-0507	96906	MS90726-7	SCREW, CAP, HEX HEAD.....		EA	12
B-24	26	PAOZZ	5310-00-809-4058	96906	MS27183-10	WASHER, FLAT.....		EA	12

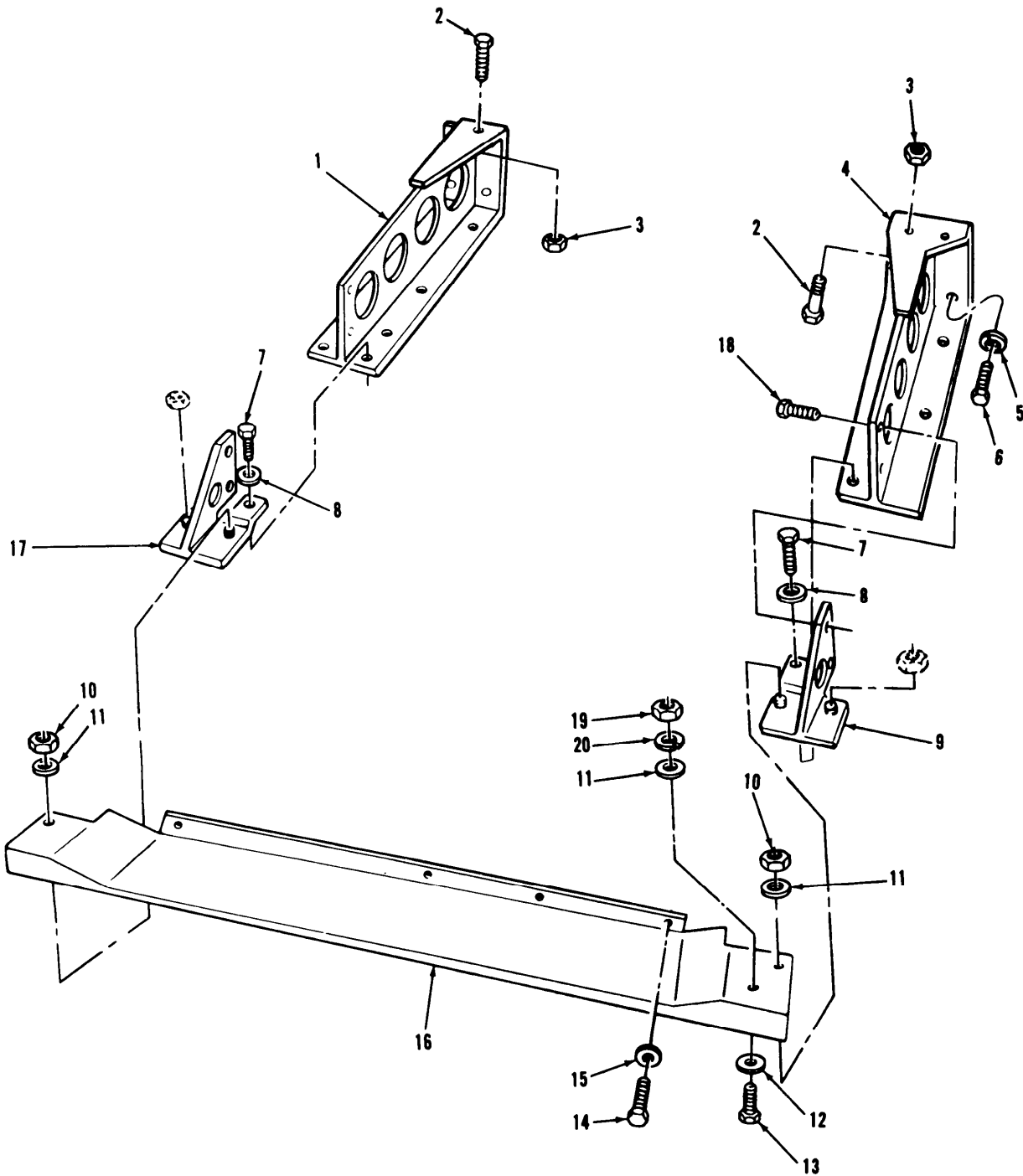


FIGURE B-25. FENDER SUPPORTS AND RELATED PARTS.

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M INC IN UNIT
						GROUP 1802: FENDERS-FENDER SUPPORTS AND RELATED PARTS		
B-25	1	PAOZZ	2510-01-077-1650	19207	12290526-2	SUPPORT, FENDER, NO. 3, RIGHT		EA 1
B-25	1	PAOZZ	2510-00-074-8285	19207	12290526-1	SUPPORT, FENDER, NO. 3, LEFT		EA 1
B-25	2	PAOZZ	5305-00-071-2068	96906	MS90728-112	SCREW, CAP, HEX HEAD		EA 6
B-25	3	PAOZZ	5310-00-225-6993	96906	MS51922-33	NUT, SELF-LOCKING		EA 6
B-25	4	PAOZZ	2510-01-174-9585	19207	12290527-1	SUPPORT, FENDER, NO. 4, LEFT		EA 1
B-25	4	PAOZZ	2510-01-074-9586	19207	12290527-2	SUPPORT, FENDER, NO. 4, RIGHT		EA 1
B-25	5	PAOZZ	5310-00-584-7888	96906	MS35338-51	WASHER, LOCK		EA 16
B-25	6	PAOZZ	5305-00-947-4352	96906	MS90728-183	SCREW, CAP, HEX HEAD		EA 16
B-25	7	PAOZZ	5305-00-068-0510	96906	MS90728-60	SCREW, CAP, HEXAGON		EA 4
B-25	8	PAOZZ	5310-00-987-1294	19207	10910174-16	WASHER, FLAT		EA 4
B-25	9	PAOZZ	2510-00-105-2756	19207	8762504	BRACKET, EXTENSION, RIGHT		EA 1
B-25	9	PAOZZ	2510-00-105-2755	19207	8762503	BRACKET, EXTENSION, LEFT		EA 1
B-25	10	PAOZZ	5310-00-930-8214	96906	MS51988-7	NUT, SELF-LOCKING		EA 4
B-25	11	PAOZZ	5310-00-625-3115	19207	11654843	WASHER, FLAT		EA 6
B-25	12	PAOZZ	5310-00-080-6004	96906	MS27183-14	WASHER, FLAT		EA 2
B-25	13	PAOZZ	5303-00-269-3213	96906	MS90725-62	SCREW, CAP, HEX HEAD		EA 2
B-25	14	PAOZZ	5305-00-115-9526	96906	MS18154-58	SCREW, CAP, HEX HEAD		EA 8
B-25	15	PAOZZ	5310-00-728-9957	19207	10910174-22	WASHER, FLAT		EA 8
B-25	16	PAOZZ	2510-00-455-1352	19207	11659711-2	EXTENSION, FENDER, RIGHT		EA 1
B-25	16	PAOZZ	2510-00-455-1351	19207	116597-11-1	EXTENSION, FENDER, LEFT		EA 1
B-25	17	PAOZZ	5340-00-571-7067	19207	11655113-2	BRACKET, MOUNTING, RIGHT		EA 1
B-25	17	PAOZZ	5340-01-006-4586	19207	11655113-1	BRACKET, MOUNTING, LEFT		EA 1
B-25	18	PAOZZ	5306-01-017-2566	96906	MS35764-1289	BOLT, SELF-LOCKING		EA 8
B-25	19	PAOZZ	5310-00-732-0558	96906	MS51967-8	NUT, PLAIN, HEXAGON		EA 2
B-25	20	PAOZZ	5310-00-637-9541	96906	MS35338-46	WASHER, LOCK		EA 2

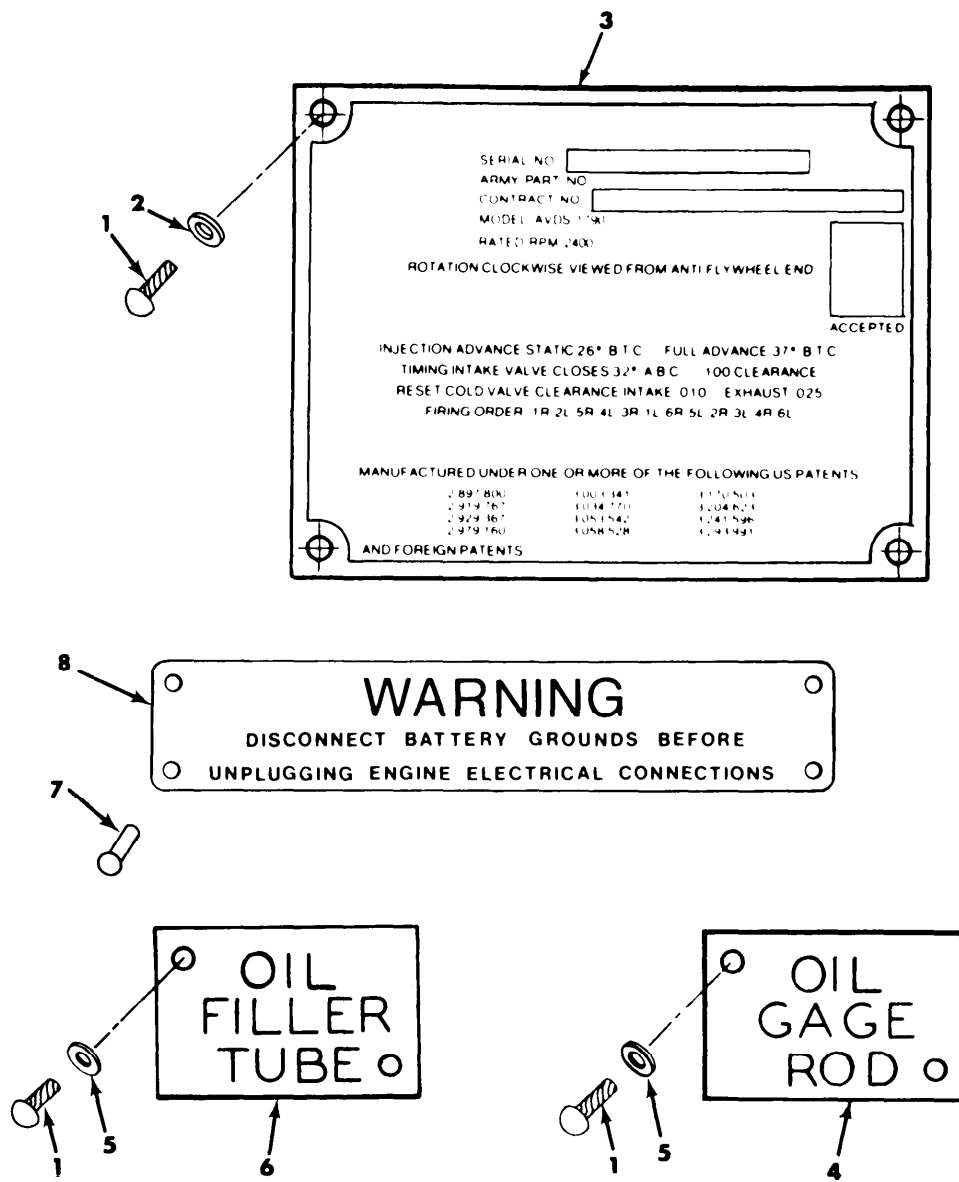


FIGURE B-26. DATA PLATE AND INSTRUCTION HOLDERS.

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M INC IN UNIT
						GROUP 22: BODY CHASSIS AND HULL ACCESSORY ITEMS		
						GROUP 2210: IDENTIFICATION PLATES AND ASSOCIATED PARTS-DATA PLATE AND INSTRUCTION HOLDERS		
B-26	1	PAHZZ	5305-00-253-5618	96906	MS21318-27	SCREW DRIVE, ENGINE IDENTIFICATION PLATE TO CRANKCASE...	EA	4
B-26	1	PAOZZ	5305-00-253-5618	96906	MS21318-27	SCREW DRIVE, IDENTIFICATION PLATE TO OIL FILLER TUBE....	EA	4
B-26	2	PAHZZ	5310-00-167-0816	89954	11382363P6	WASHER, FLAT.....	EA	4
B-26	3	PAHZZ	9905-01-021-2825	19207	11683967	PLATE, IDENTIFICATION (USE WITH 2C ENGINE).....	EA	1
B-26	3	PAHZZ	9905-01-160-2693	19207	12314617	PLATE, IDENTIFICATION (USE WITH 2CA ENGINE).....	EA	1
B-26	3	PAHZZ	9905-01-026-9951	19207	11684134	PLATE, IDENTIFICATION (USE WITH 2D ENGINE).....	EA	1
B-26	3	PAHZZ		19207	12314646	PLATE, IDENTIFICATION (USE WITH 2DA ENGINE).....	EA	1
B-26	5	PAOZZ	5310-00-656-0111	96906	MS15795-703	WASHER, FLAT.....	EA	4
B-26	6	PAOZZ	9905-00-407-5099	19207	10882826	PLATE, IDENTIFICATION.....	EA	1
B-26	7	PAOZZ	5320-00-753-3830	96906	MS20613-4P5	RIVET, SOLID.....	EA	8
B-26	8	XAOZZ		19207	1684297	PLATE, WARNING.....	EA	2

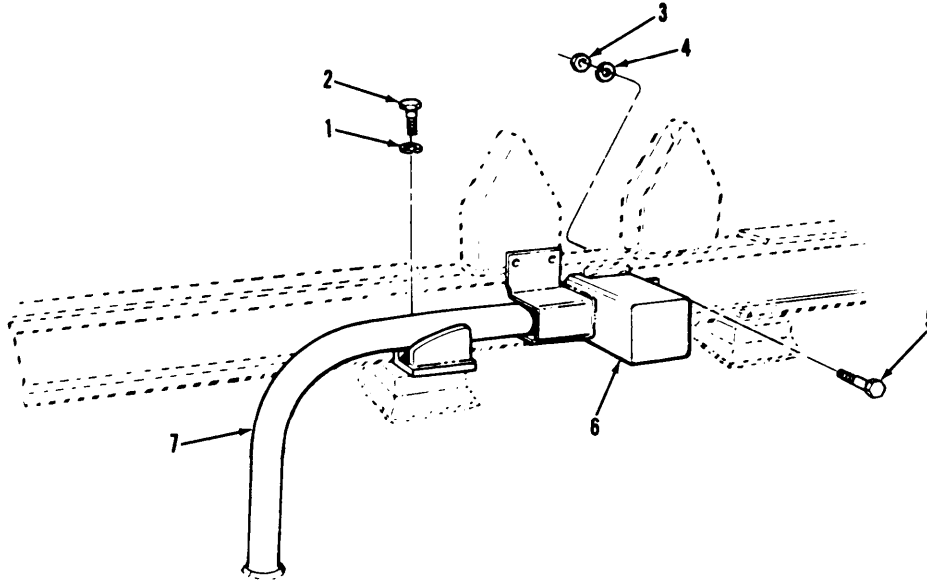


FIGURE B-27. HOLDDOWN CYLINDER ARMOR AND RELATED PARTS (M48A5AVLB AND M60A1AVLB).

(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	QTY INC IN UNIT
						GROUP 2407: HYDRAULIC CYLINDERS-HOLDDOWN CYLINDER ARMOR AND RELATED PARTS (M48A5AVLB AND M60A1AVLB)		
B-27	1	PAOZZ	5310-00-584-7889	96906	MS35338-53	WASHER, LOCK.....	EA	2
B-27	2	PAOZZ	5305-00-958-8475	96906	MS90726-235	SCREW, CAP, HEXAGON.....	EA	2
B-27	3	PAOZZ	5310-00-768-0318	96906	MS51967-14	NUT, PLAIN, HEXAGON.....	EA	3
B-27	4	PAOZZ	5310-00-584-5272	96906	MS35338-48	WASHER, LOCK.....	EA	3
B-27	5	PAOZZ	5305-00-915-8087	96906	MS18154-113	SCREW, CAP, HEXAGON H.....	EA	3
B-27	6	PAOZZ	2590-01-136-5252	97403	13211E3011	COVER, ARMORED (USE WITH 2D ENGINE).....	EA	1
B-27	6	PAOZZ		19207	12326119	COVER, ARMORED (USE WITH 2DA ENGINE).....	EA	1
B-27	7	PAOZZ	5420-01-121-1232	97403	13211E3231	PIPE AND CLAMP ASSE.....	EA	1



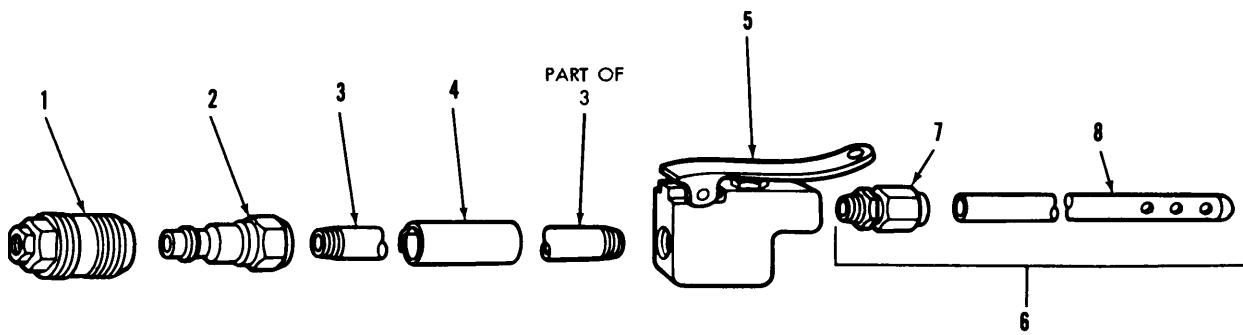


FIGURE B-28. V-PACK CLEANER ASSEMBLY COMPONENTS.



(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)	
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 26: TOOLS AND TEST EQUIPMENT			
						GROUP 2604: SPECIAL TOOLS-V-PACK CLEANER ASSEMBLY COMPONENTS			
B-28	1	PAOZZ		81349	M4109-60800C	COUPLING HALF.....		EA	1
B-28	2	PAOZZ		81349	M4109-140800C	COUPLING HALF.....		EA	1
B-28	3	PAOZZ		19207	12301743	NIPPLE.....		EA	1
B-28	4	PAOZZ	9905-01-056-8812	81349	M43436/5-1	BAND MARKER.....		EA	1
B-28	5	PAOZZ		19207	12301778	VALVE.....		EA	1
B-28	6	PA000		19207	12326131	TUBE ASSEMBLY.....		EA	1
B-28	7	PAOZZ	4730-00-020-9973	96906	MS51500A5-4S	ADAPTER.....		EA	1
B-28	8	PAOZZ		19207	12326130	TUBE.....		EA	1



(1) ILLUS- TRATION		(2)	(3)	(4)	(5)	(6)	(7)	(8)	
(a) FIG. NO.	(b) ITEM NO.	SMR CODE	NATIONAL STOCK NUMBER	FSCM	PART NUMBER	DESCRIPTION	USABLE ON CODE	U/M	QTY INC IN UNIT
						GROUP 95: GENERAL USE STANDARDIZED PARTS			
						GROUP 9501: HARDWARE SUPPLIES AND BULK MATERIAL, COMMON-BULK MATERIAL			
BULK		PAOZZ	4010-00-165-6064	21450	RRC271-1-5C2-13	CHAIN, WELDED, TYPE 1, CLASS 5, STYLE 2, 23 LINKS PER FT, .125 THICK, STEEL.....		FT	
BULK		PAOZZ	4720-00-278-1110	81348	M1LH6000	HOSE, NONMETALLIC.....		FT	
BULK		PAOZZ	5970-00-284-8640	80244	1711725-96	INSULATION SLEEVING MILI631, TYPEF, GRADE B, FORM U, CLASS 1, TRANSPARENT, .182 ID.....		FT	
BULK		PAOZZ	6145-00-152-6499	81349	M13486/1-5	WIRE, ELECTRICAL.....		FT	
BULK		PAOZZ	6145-00-161-1609	81349	M13486/1-3	WIRE, ELECTRICAL.....		FT	
BULK		PAOZZ	6145-00-254-6117	81349	M13486/1-15	CABLE, ELECTRICAL.....		FT	
BULK		PAOZZ	6145-00-705-6674	81349	M13486/1-14	CABLE, ELECTRICAL.....		FT	
BULK		PAOZZ	9320-00-576-4981	81349	M1LC3133	RUBBER SHEET, CELLULAR.....		FT	
BULK		PAOZZ	9330-01-047-4313	19207	11644992-1	CABLE WRAP, .38 DIA, .035 THICK, .44 WIDE.....		FT	
BULK		PAOZZ		81349	M1LR46846-5-1.50	INSULATION SLEEVING HEAT SHRINKABLE, CLASS 1, .187 ID, WHITE.....		FT	

SECTION III. SPECIAL TOOLS LIST

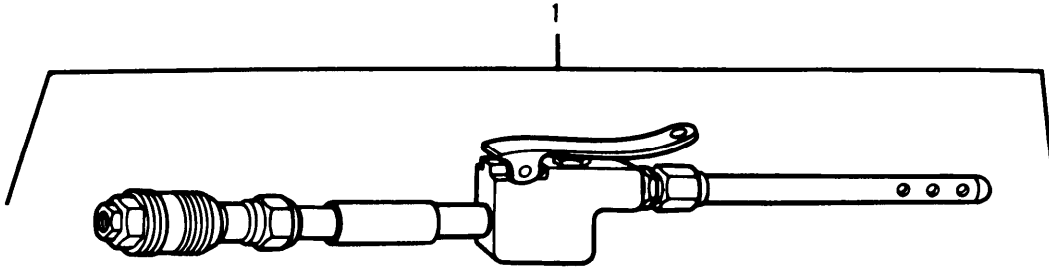


FIGURE B-29. V-PACK CLEANER ASSEMBLY.

(1) ILLUS- TRATION		(2) SMR CODE	(3) NATIONAL STOCK NUMBER	(4) FSCM	(5) PART NUMBER	(6) DESCRIPTION	(7) U/M	(8) QTY INC IN UNIT
(a) FIG. NO.	(b) ITEM NO.					USABLE ON CODE		
B-29	1	A0 000		19207	12326132	GROUP 26: TOOLS AND TEST EQUIPMENT  GROUP 2604: SPECIAL TOOLS -V-PACK CLEANER ASSEMBLY  CLEANER, V-PACK (FOR COMPONENT PARTS SEE GROUP 2604: V-PACK CLEANER) B01-----1 AUTH PER LETTERED COMPANY...	EA	1

## SECTION IV. NATIONAL STOCK NUMBER AND PART NUMBER INDEX

NATIONAL STOCK NUMBER CROSS-REFERENCE TO FIGURE NUMBER AND ITEM NUMBER

NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
5310-00-011-6121	B-23	3	5305-00-071-2513	B-13	6
5310-00-011-6124	B-23	6	5975-00-074-2072	B-9	25
5315-00-012-0123	B-23	13	2510-00-074-8285	B-25	1
2510-00-014-2483	B-23	4	5330-00-078-4714	B-4	40
5310-00-014-5850	B-19	33	5310-00-080-6004	B-25	12
4140-00-016-2615	B-4	52	2510-00-080-7552	B-23	8
5305-00-019-2417	B-3	12	5310-00-081-4219	B-3	40
5305-00-019-2417	B-10	17	5310-00-081-4219	B-5	3
5305-00-019-2417	B-11	19	5310-00-081-4219	B-7	3
4730-00-020-9973	B-28	7	6105-00-084-7618	B-8	
5925-00-026-4767	B-4	11	5310-00-087-7493	B-24	18
5940-00-030-7275	B-19	24	5310-00-088-0553	B-2	31
5305-00-042-5592	B-16	27	5310-00-088-0553	B-3	13
5305-00-042-5592	B-17	17	5310-00-088-0553	B-11	12
2940-00-043-0279	B-8	16	5310-00-088-0553	B-12	12
5310-00-045-3296	B-16	8	5310-00-088-0553	B-16	25
5310-00-045-3296	B-17	5	5310-00-088-0553	B-17	35
5310-00-045-3296	B-19	34	5340-00-088-1254	B-17	19
5310-00-045-3299	B-16	6	5340-00-088-1255	B-18	7
5310-00-045-3299	B-16	6	5935-00-089-7917	B-19	31
5310-00-045-4007	B-4	12	5365-00-090-5426	B-20	25
2940-00-045-6873	B-5	42	2920-00-103-9397	B-8	3
5306-00-050-1238	B-2	15	2510-00-105-2755	B-25	9
5306-00-050-1238	B-10	15	2510-00-105-2756	B-25	9
5306-00-050-1238	B-16	13	2940-00-105-2804	B-5	2
5306-00-050-1238	B-17	24	2940-00-105-2805	B-5	2
5305-00-051-4076	B-2	28	5365-00-105-6138	B-24	23
5306-00-051-4077	B-17	4	2510-00-105-6144	B-24	16
5305-00-054-6652	B-10	1	2510-00-105-6154	B-23	10
5999-00-057-2929	B-4	26	2510-00-105-6155	B-23	19
5999-00-057-2929	B-4	44	2510-00-105-9917	B-24	9
5340-00-057-3025	B-17	1	2930-00-107-1221	B-11	4
5340-00-057-3025	B-18	4	5935-00-107-1273	B-22	6
5340-00-057-3029	B-17	27	5935-00-107-1275	B-19	18
5340-00-057-3034	B-16	17	5340-00-107-4286	B-17	28
5340-00-057-3034	B-17	36	5340-00-107-4286	B-18	11
5340-00-057-3037	B-17	11	5999-00-113-2954	B-20	32
5340-00-057-3043	B-16	18	5940-00-113-8184	B-20	53
5340-00-057-3043	B-17	31	5935-00-115-2307	B-19	21
5315-00-059-0491	B-23	13	2510-00-115-4327	B-23	9
5310-00-061-1258	B-16	35	5305-00-115-9526	B-25	14
4730-00-062-7435	B-5	31	2510-00-119-3907	B-24	16
4730-00-062-7435	B-7	31	5935-00-134-0373	B-22	2
5340-00-067-3868	B-17	37	5306-00-145-0876	B-12	2
5305-00-068-0500	B-16	21	5306-00-145-0876	B-24	17
5305-00-068-0500	B-17	22	6145-00-152-6499	BULK	
5305-00-068-0500	B-18	13	6240-00-155-8707	B-13	3
5305-00-068-0501	B-4	51	6240-00-155-8707	B-14	7
5305-00-068-0506	B-10	8	6240-00-155-8707	B-15	3
5305-00-068-0507	B-24	25	6145-00-161-1609	BULK	
5305-00-068-0508	B-6	24	6145-00-162-6499	B-21	34
5305-00-068-0510	B-25	7	4010-00-165-6064	BULK	
5305-00-068-0512	B-9	7	5310-00-167-0721	B-5	36
5305-00-068-7837	B-14	3	5310-00-167-0721	B-7	37
5306-00-069-3019	B-10	24	5310-00-167-0721	B-16	20
5305-00-071-1770	B-24	14	5310-00-167-0816	B-26	2
5305-00-071-2068	B-25	2	5935-00-167-7775	B-20	51
5305-00-071-2069	B-23	2	2940-00-168-2243	B-5	44
5305-00-071-2234	B-14	8	2940-00-168-2246	B-5	30
5303-00-071-2513	B-15	5	2815-00-177-8216	B-11	9

## NATIONAL STOCK NUMBER CROSS-REFERENCE TO FIGURE NUMBER AND ITEM NUMBER - CONTINUED

NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
5340-00-178-6077	B-16	16	4720-00-278-1110	BULK	
5307-00-178-8859	B-4	58	5340-00-281-4425	B-18	5
5307-00-178-8859	B-6	25	5340-00-282-7548	B-10	38
9390-00-180-7289	B-19	20	5970-00-284-8640	BULK	
9390-00-180-7289	B-20	42	5325-00-290-1960	B-18	1
9390-00-180-7289	B-21	6	5940-00-314-0479	B-21	30
9390-00-180-7289	B-21	21	5330-00-318-4127	B-12	3
9390-00-180-7289	B-21	21	5365-00-318-8184	B-19	26
9390-00-180-7289	B-22	4	5935-00-333-3088	B-20	44
5330-00-180-9951	B-9	18	5935-00-333-9414	B-19	25
5306-00-182-2023	B-2	37	5935-00-333-9414	B-20	6
5306-00-182-2023	B-11	2	5999-00-368-4852	B-21	25
5325-00-182-4707	B-11	24	2930-00-392-9515	B-3	14
4710-00-192-9436	B-2	27	2930-00-392-9547	B-3	25
2990-00-193-8211	B-11	15	5310-00-393-6685	B-20	26
5310-00-194-0636	B-9	11	2815-00-394-9690	B-17	34
5305-00-206-3851	B-2	6	2815-00-394-9700	B-3	9
5305-00-206-3851	B-2	12	2815-00-394-9701	B-16	24
5310-00-209-0786	B-4	50	2815-00-394-9706	B-3	1
5310-00-209-1366	B-10	30	2520-00-394-9713	B-3	35
5307-00-218-8179	B-4	21	2815-00-397-3283	B-16	26
4730-00-221-2136	B-5	19	2815-00-397-3311	B-17	25
4730-00-221-2136	B-7	20	2815-00-397-3313	B-3	37
5970-00-221-5301	B-21	16	2920-00-398-6540	B-12	5
5305-00-225-3838	B-17	21	2815-00-398-6726	B-11	21
5310-00-225-6993	B-25	3	2920-00-398-7097	B-16	5
5306-00-225-8497	B-5	35	2815-00-399-5301	B-3	3
5306-00-225-8497	B-7	36	2815-00-399-5302	B-2	33
5306-00-225-8498	B-4	61	5940-00-399-6676	B-4	34
5306-00-225-8498	B-6	29	5940-00-399-6676	B-20	2
5306-00-225-9086	B-2	34	2815-00-406-4615	B-2	8
5306-00-225-9088	B-16	34	2815-00-406-4621	B-2	1
5306-00-225-9088	B-17	15	9905-00-407-5099	B-26	6
5305-00-225-9091	B-16	2	5310-00-407-9566	B-2	38
5305-00-225-9091	B-16	2	5310-00-407-9566	B-4	55
5305-00-225-9091	B-17	26	5310-00-407-9566	B-5	4
2510-00-226-2131	B-23	20	5310-00-407-9566	B-6	28
5306-00-226-4822	B-6	20	5310-00-407-9566	B-7	4
5306-00-226-4824	B-4	56	5310-00-407-9566	B-10	21
5305-00-240-6668	B-19	32	5310-00-407-9566	B-16	12
5305-00-253-5618	B-26	1	5310-00-407-9566	B-17	12
5305-00-253-5618	B-26	1	5340-00-409-2055	B-2	39
6145-00-254-6117	BULK		2815-00-410-1045	B-3	8
2510-00-256-5530	B-24	19	2815-00-410-1131	B-11	8
2510-00-256-5531	B-24	19	2815-00-410-1150	B-16	5
5305-00-267-8953	B-17	7	5360-00-410-5836	B-2	5
5305-00-267-8974	B-24	20	5360-00-410-5836	B-2	13
5305-00-269-2800	B-19	8	5330-00-410-9803	B-2	36
5305-00-269-2806	B-12	8	5306-00-413-4373	B-12	9
5305-00-269-2808	B-16	15	2590-00-423-3622	B-21	1
5305-00-269-2808	B-16	15	6680-00-423-4051	B-2	32
5305-00-269-2808	B-17	33	4730-00-431-9307	B-9	24
5303-00-269-3213	B-25	13	2815-00-432-0056	B-3	38
5305-00-269-3213	B-16	31	5935-00-432-8967	B-21	29
5305-00-269-3213	B-24	24	5935-00-432-8967	B-21	33
5305-00-269-3242	B-12	14	2930-00-436-3197	B-11	21
4030-00-270-5436	B-9	13	2930-00-436-3208	B-11	16
5310-00-274-9364	B-3	32	2920-00-441-8137	B-12	1
5325-00-276-6089	B-11	7	2815-00-446-1757	B-11	1
5325-00-276-6096	B-3	34	2930-00-453-5376	B-11	14
4730-00-277-6352	B-9	16			

## NATIONAL STOCK NUMBER CROSS-REFERENCE TO FIGURE NUMBER AND ITEM NUMBER - CONTINUED

NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
2510-00-455-1351	B-25	16	5310-00-584-7889	B-27	1
2510-00-455-1352	B-25	16	5330-00-599-0942	B-2	4
2920-00-455-5835	B-12	11	5330-00-599-0942	B-2	11
5315-00-456-5948	B-23	26	2590-00-606-2346	B-4	14
5935-00-462-2913	B-20	36	5305-00-614-0274	B-16	3
5935-00-462-6603	B-20	28	5305-00-614-0274	B-17	2
9390-00-464-4756	B-22	3	5935-00-614-9136	B-20	49
2920-00-466-7464	B-16	11	5970-00-615-8884	B-20	37
2815-00-475-8216	B-17	16	5310-00-625-3115	B-25	11
6150-00-476-0371	B-16	36	5310-00-637-9541	B-5	33
6150-00-476-0381	B-16	30	5310-00-637-9541	B-7	34
5999-00-485-8954	B-20	10	5310-00-637-9541	B-16	29
5999-00-485-8954	B-20	31	5310-00-637-9541	B-19	7
5999-00-485-8954	B-20	38	5310-00-637-9541	B-25	20
5999-00-485-8954	B-20	48	5975-00-644-3682	B-4	35
5999-00-485-8954	B-21	10	5310-00-655-9860	B-19	27
5999-00-485-8954	B-22	16	5310-00-655-9860	B-20	8
5999-00-485-8955	B-20	17	5310-00-656-0111	B-26	5
5999-00-485-8955	B-20	23	5935-00-677-4444	B-20	4
5999-00-485-8955	B-21	24	5330-00-678-1851	B-5	43
5365-00-486-0405	B-3	33	5330-00-678-1851	B-7	43
5310-00-486-0406	B-3	11	5330-00-678-3488	B-5	1
5310-00-486-0406	B-3	16	5330-00-678-3488	B-7	1
5310-00-486-0406	B-3	30	5330-00-678-3489	B-5	38
5310-00-486-0406	B-11	5	5330-00-678-3489	B-7	39
5310-00-486-0406	B-11	11	5310-00-678-4228	B-22	13
5310-00-486-0406	B-11	18	5365-00-678-4258	B-19	17
5310-00-486-0406	B-11	23	5330-00-678-4699	B-5	29
5310-00-486-0412	B-3	24	5330-00-678-4699	B-7	29
2510-00-487-9469	B-23	23	4720-00-678-4700	B-5	32
5310-00-489-5663	B-18	9	4720-00-678-4700	B-7	32
2590-00-499-1782	B-12	16	5330-00-678-4712	B-10	35
5310-00-514-6674	B-16	1	4730-00-678-4749	B-6	14
5310-00-514-6674	B-17	3	4730-00-678-4750	B-4	39
5330-00-530-2772	B-2	29	5307-00-678-4760	B-4	20
5305-00-543-2752	B-16	4	5340-00-678-6178	B-5	6
5305-00-543-2752	B-16	4	5340-00-678-6178	B-7	6
5310-00-550-1130	B-13	7	5305-00-678-6195	B-23	7
5310-00-550-1130	B-14	2	5303-00-678-6196	B-23	21
5310-00-550-1130	B-15	4	5330-00-679-4961	B-2	30
5310-00-550-1130	B-17	8	5365-00-682-2043	B-21	7
5310-00-550-3503	B-16	1	5365-00-682-2043	B-21	22
5935-00-257-1024	B-20	22	5365-00-682-2043	B-22	12
5310-00-559-0070	B-8	2	5935-00-685-9979	B-22	14
5340-00-571-7067	B-25	17	5935-00-686-2605	B-20	35
5935-00-572-9180	B-4	28	5935-00-686-2606	B-20	16
5935-00-572-9180	B-4	46	5935-00-686-2608	B-20	9
9320-00-576-4981	BULK		5935-00-686-2610	B-20	47
5310-00-579-0079	B-8	14	5935-00-686-9374	B-19	28
4730-00-580-6740	B-6	15	2520-00-692-1024	B-4	15
5310-00-582-5965	B-9	6	5975-00-697-6991	B-20	46
5310-00-582-5965	B-10	9	5975-00-697-7769	B-20	39
5310-00-582-5965	B-14	5	5315-00-699-7760	B-23	11
5310-00-582-5965	B-16	22	5970-00-705-6634	B-21	32
5310-00-582-5965	B-17	20	5330-00-705-6661	B-4	37
5310-00-582-5965	B-18	10	6145-00-705-6674	B-21	4
5310-00-582-5965	B-24	10	6145-00-705-6674	B-21	17
5310-00-584-5272	B-24	13	6145-00-705-6674	BULK	
5310-00-584-5272	B-27	4	5940-00-705-6706	B-20	41
5310-00-584-7888	B-24	3	5940-00-705-6707	B-20	40
5310-00-584-7888	B-25	5	5940-00-705-6709	B-4	49

## NATIONAL STOCK NUMBER CROSS REFERENCE TO FIGURE NUMBER AND ITEM NUMBER - CONTINUED

NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
5940-00-705-6709	B-20	5	5310-00-776-7318	B-12	13
5310-00-705-7352	B-4	36	5310-00-776-7318	B-16	14
5330-00-724-5541	B-9	19	5310-00-776-7318	B-16	14
5303-00-724-5911	B-23	29	5310-00-776-7318	B-17	32
5303-00-724-5911	B-23	33	5315-00-778-9646	B-6	9
5305-00-724-7223	B-5	25	4030-00-780-9350	B-5	15
5305-00-724-7223	B-7	25	4030-00-780-9350	B-7	16
5330-00-724-7902	B-9	20	1015-00-798-2997	B-20	2
5310-00-728-9957	B-25	15	6105-00-801-8716	B-8	17
5330-00-729-5049	B-5	10	5330-00-803-7491	B-9	23
5330-00-729-5049	B-7	10	5330-00-805-2966	B-9	3
5935-00-729-8217	B-21	5	5940-00-808-9212	B-19	10
5935-00-729-8217	B-21	20	5340-00-809-1490	B-18	8
5935-00-729-8217	B-22	11	5310-00-809-3079	B-24	15
5310-00-732-0558	B-16	28	5310-00-809-4058	B-24	26
5310-00-732-0558	B-25	19	5310-00-809-5997	B-24	6
5310-00-732-0559	B-5	34	5310-00-809-5998	B-6	7
5310-00-732-0559	B-7	35	5310-00-809-5998	B-23	24
5340-00-735-1617	B-18	3	5310-00-809-8533	B-23	12
5940-00-735-5520	B-21	2	5310-00-809-8533	B-24	4
5940-00-735-5520	B-21	15	5935-00-811-0942	B-20	30
5306-00-741-4584	B-3	4	5935-00-813-4717	B-20	54
5306-00-741-4584	B-3	4	5310-00-814-0672	B-7	19
5306-00-741-4584	B-11	20	5315-00-816-1794	B-6	8
5975-00-752-2746	B-19	16	5310-00-820-6653	B-23	17
9905-00-752-4649	B-4	19	5310-00-820-6653	B-23	28
9905-00-752-4649	B-4	29	5310-00-820-6653	B-23	32
9905-00-752-4649	B-4	47	2920-00-830-6660	B-12	17
9905-00-752-4649	B-19	22	5340-00-833-8476	B-18	2
9905-00-752-4649	B-21	18	5935-00-833-8561	B-4	17
9905-00-752-4649	B-21	18	5935-00-833-8561	B-4	32
5320-00-753-3830	B-26	7	5970-00-833-8562	B-4	16
5935-00-754-9078	B-21	8	5970-00-833-8562	B-4	33
5935-00-754-9080	B-21	23	5970-00-833-8562	B-20	3
5935-00-754-9083	B-20	20	5310-00-833-8567	B-4	27
2510-00-757-2749	B-24	22	5310-00-833-8567	B-4	45
2510-00-757-2750	B-24	22	2590-00-839-0156	B-24	21
5310-00-761-6882	B-13	1	5315-00-839-5821	B-23	25
5310-00-761-6882	B-14	4	4730-00-840-8989	B-5	8
5310-00-761-6882	B-15	1	4730-00-840-8989	B-7	8
5310-00-763-8920	B-5	28	8145-00-856-8147	B-1	2
5310-00-763-8920	B-7	28	5310-00-880-5976	B-10	2
5310-00-768-0318	B-24	12	5310-00-880-7746	B-5	5
5310-00-768-0318	B-27	3	5310-00-880-7746	B-7	5
5310-00-768-0319	B-24	11	5315-00-882-1438	B-8	6
2920-00-770-1642	B-8	15	2940-00-886-5841	B-8	11
5999-00-771-6523	B-19	30	5305-00-889-3001	B-4	13
5999-00-771-6523	B-21	9	9905-00-893-3570	B-19	12
5999-00-771-6523	B-22	15	9905-00-893-3570	B-20	43
5975-00-771-6634	B-20	24	9905-00-893-3570	B-21	3
5935-00-771-8192	B-20	11	9905-00-893-3570	B-21	19
5935-00-772-0484	B-20	15	9905-00-893-3570	B-22	7
5365-00-772-2322	B-20	7	4720-00-896-6166	B-10	40
5365-00-772-2323	B-20	29	2990-00-897-2849	B-2	2
5365-00-772-2343	B-20	45	2990-00-897-2849	B-2	9
5935-00-772-2344	B-20	14	5340-00-900-2347	B-8	12
6145-00-772-2804	B-21	28	2940-00-900-8554	B-8	
5365-00-772-2972	B-4	38	5315-00-903-7885	B-4	6
5935-00-772-3307	B-20	13	5315-00-903-7885	B-6	6
5310-00-776-7318	B-12	6	4730-00-908-3193	B-4	41
			4730-00-908-3193	B-10	39



## NATIONAL STOCK NUMBER CROSS-REFERENCE TO FIGURE NUMBER AND ITEM NUMBER - CONTINUED

NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
4730-00-909-8627	B-2	25	2590-01-008-1441	B-21	13
4730-00-909-8627	B-6	16	2590-01-008-1441	B-21	13
4730-00-909-8627	B-10	5	5340-01-010-8946	B-3	22
5305-00-912-5113	B-3	31	5330-01-013-7132	B-2	35
5305-00-914-6131	B-12	15	5935-01-013-7520	B-20	50
5305-00-915-8087	B-27	5	2590-01-016-2024	B-24	8
2510-00-927-3305	B-23	1	5340-01-016-4429	B-4	2
5330-00-930-1624	B-5	39	5340-01-016-4429	B-6	2
2510-00-930-2035	B-24	7	5340-01-016-4782	B-4	57
2510-00-930-3226	B-24	1	5306-01-017-2566	B-25	18
2510-00-930-3229	B-24	1	9320-01-017-2743	B-4	53
5310-00-930-8214	B-24	5	9905-01-021-2825	B-26	3
5310-00-930-8214	B-25	10	4720-01-022-6070	B-4	42
2940-00-930-8765	B-8	10	5935-01-026-5900	B-20	33
2940-00-932-3565	B-5	40	9905-01-026-9951	B-26	3
2940-00-932-3565	B-7	41	5340-01-028-5260	B-4	54
5310-00-933-8121	B-6	23	5340-01-030-6928	B-17	18
2940-00-933-9946	B-5	37	5340-01-030-8726	B-16	23
2940-00-933-9946	B-7	38	5340-01-031-0420	B-4	60
5310-00-934-9757	B-16	7	5330-01-035-9825	B-4	59
5310-00-934-9757	B-16	7	5330-01-035-9825	B-6	26
5310-00-934-9758	B-16	9	2940-01-035-9826	B-4	1
5310-00-934-9758	B-17	6	2940-01-035-9827	B-4	1
5310-00-934-9758	B-19	35	2940-01-037-4976	B-5	20
5310-00-934-9761	B-10	31	2940-01-037-4977	B-5	20
5305-00-947-4352	B-24	2	7690-01-038-7440	B-4	62
5305-00-947-4352	B-25	6	7690-01-038-7440	B-6	31
5310-00-950-0039	B-5	18	2930-01-038-8296	B-3	21
5310-00-950-0039	B-7	33	4730-01-043-7679	B-5	14
5310-00-950-0039	B-12	18	4730-01-043-7679	B-7	15
5310-00-957-0022	B-23	15	5970-01-044-8391	B-19	6
5305-00-958-8475	B-27	2	9330-01-047-4313	BULK	
5340-00-959-8422	B-16	32	5340-01-048-6052	B-12	4
5340-00-959-8422	B-17	23	9905-01-051-5289	B-4	63
5310-00-964-8588	B-5	27	9905-01-051-5290	B-4	63
5310-00-964-8588	B-7	27	6685-01-055-5116	B-5	17
5305-00-974-6623	B-6	19	9905-01-056-8812	B-28	4
2590-00-974-9216	B-4	43	5340-01-059-0114	B-19	3
2590-00-978-7335	B-4	25	5935-01-059-0117	B-19	2
5310-00-982-4908	B-3	36	5330-01-059-4286	B-19	5
5310-00-982-4912	B-10	19	5935-01-062-5653	B-19	9
5305-00-984-4984	B-8	13	2920-01-065-2016	B-17	10
5305-00-984-6191	B-8	1	2520-01-073-4085	B-11	3
5305-00-984-6193	B-16	10	2920-01-073-4328	B-21	14
5340-00-984-8540	B-17	29	2510-01-074-9586	B-25	4
5340-00-984-8540	B-18	12	5340-01-077-1501	B-17	14
5310-00-987-1294	B-25	8	2510-01-077-1650	B-25	1
5935-00-987-2942	B-22	5	2940-01-080-8023	B-5	30
5340-00-988-1162	B-16	19	5340-01-081-1686	B-16	33
5340-00-988-1162	B-16	19	5340-01-081-1686	B-17	13
5305-00-993-1206	B-17	9	5330-01-082-3761	B-9	15
4730-00-993-5002	B-10	34	2510-01-082-3809	B-23	5
2510-00-997-4524	B-23	22	2510-01-082-3810	B-23	20
2930-00-998-4724	B-11	13	2510-01-082-3811	B-23	9
4730-01-003-6044	B-10	37	2510-01-082-3812	B-23	19
2930-01-005-1549	B-3	39	2510-01-082-3813	B-23	10
2930-01-005-1550	B-3	20	5420-01-085-7003	B-23	27
5340-01-006-4586	B-25	17	5940-01-091-1520	B-21	31
5307-01-006-5515	B-5	41	5306-01-091-3384	B-4	64
5307-01-006-5515	B-7	42	5306-01-091-3384	B-6	5
4730-01-007-5232	B-9	2			

## NATIONAL STOCK NUMBER CROSS-REFERENCE TO FIGURE NUMBER AND ITEM NUMBER - CONTINUED

NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
5306-01-091-3384	B-6	32	5640-01-146-1898	B-10	3
6105-01-092-1484	B-8	17	4710-01-146-1900	B-10	25
4720-01-095-2429	B-10	6	4710-01-146-1901	B-10	7
5305-01-102-5513	B-23	18	4710-01-146-1909	B-10	20
5935-01-104-6333	B-21	11	4710-01-146-1910	B-10	14
9510-01-104-8931	B-19	19	6105-01-147-5170	B-8	
5303-01-115-1847	B-23	18	5930-01-147-7912	B-9	4
4720-01-119-7779	B-5	9	4710-01-150-4822	B-10	41
4720-01-119-7779	B-7	9	6150-01-150-9771	B-21	14
5420-01-121-1232	B-27	7	5310-01-151-2732	B-10	27
4720-01-121-1542	B-5	7	5330-01-152-2486	B-6	22
4720-01-121-1542	B-7	7	5330-01-152-2487	B-6	22
5310-01-124-6063	B-5	26	5340-01-152-2515	B-6	18
5310-01-124-6063	B-7	26	2920-01-152-2559	B-20	1
5330-01-128-5650	B-5	24	2815-01-152-2563	B-6	21
5330-01-128-5650	B-7	24	2590-01-152-7118	B-11	1
5307-01-128-5681	B-6	11	2815-01-154-1396	B-6	22
5307-01-128-5682	B-6	12	2990-01-156-6225	B-10	11
5330-01-129-0642	B-4	3	4010-01-157-1343	B-9	14
5330-01-129-0642	B-6	3	5330-01-158-2069	B-7	40
4730-01-132-9086	B-5	23	2510-01-174-9585	B-25	4
4730-01-132-9086	B-7	13			
4730-01-134-1957	B-5	20			
4730-01-134-1957	B-7	21			
4730-01-134-1958	B-5	20			
4730-01-134-1958	B-7	21			
4310-01-134-6587	B-4				
5895-01-134-8291	B-5	17			
5895-01-134-8291	B-7	18			
2590-01-136-5252	B-27	6			
2940-01-144-4872	B-7	44			
4730-01-144-4887	B-7	30			
4730-01-144-4888	B-7	30			
4730-01-144-4889	B-7	2			
4730-01-144-4890	B-7	2			
2590-01-145-4316	B-12	10			
5340-01-145-8262	B-9	5			
5305-01-145-8286	B-9	9			
5305-01-145-8287	B-9	10			
5330-01-145-8290	B-10	10			
5340-01-145-8291	B-9	22			
4030-01-145-8293	B-9	12			
4460-01-145-8299	B-9	21			
5340-01-145-8301	B-10	18			
5340-01-145-8302	B-10	36			
5350-01-145-8303	B-10	22			
5340-01-145-8307	B-2	39			
5340-01-145-8310	B-9	17			
4710-01-145-8311	B-10	33			
2815-01-145-8312	B-2	8			
2815-01-146-1877	B-10	4			
2815-01-146-1878	B-10	28			
4720-01-146-1887	B-10	12			
4720-01-146-1888	B-10	13			
5640-01-146-1889	B-10	32			
5640-01-146-1890	B-10	26			
5640-01-146-1891	B-10	29			
5340-01-146-1895	B-10	23			

## PART NUMBER CROSS-REFERENCE TO FIGURE NUMBER AND ITEM NUMBER

FSCM	PART NUMBER	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.	FSCM	PART NUMBER	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
00624	AE6040ED112-020		B-9	26	96906	MS21333-122	5340-00-833-8476	B-18	2
00624	AE6040ED145-000		B-9	26	96906	MS21333-3034	5340-00-057-3034	B-17	36
00624	AE6040F0092-020		B-9	1	96906	MS21333-52	5340-00-282-7548	B-10	38
00624	AE6040F0145-000		B-9	1	96906	MS21333-96	5340-00-088-1255	B-18	7
88044	AN5-4A	5306-00-182-2023	B-11	2	96906	MS21333-98	5340-00-809-1490	B-18	8
88044	AN5H4A	5306-00-182-2023	B-2	37	96906	MS21920-43	4730-00-840-8989	B-5	8
88044	AN8C56A	5306-00-069-3019	B-10	24	96906	MS21920-43	4730-00-840-8989	B-7	8
88044	AN931-9-13	5325-00-276-6089	B-11	7	96906	MS21920-61R	4730-00-062-7435	B-5	31
88044	AN931B9-13	5325-00-276-6096	B-3	34	96906	MS21920-61R	4730-00-062-7435	B-7	31
14314	D52S-13	5930-01-147-7912	B-9	4	96906	MS24665-285		B-4	8
81349	MILC3133	9320-00-576-4981	BULK		96906	MS24665-285	5315-00-816-1794	B-6	8
81348	MILH6000	4720-00-278-1110	BULK		96906	MS24665-351	5315-00-839-5821	B-23	25
81349	MILR46846-TYPE5-1.501D-BLACK		B-19	11	96906	MS24665-355	5315-00-012-0123	B-23	13
81349	MILR46846-5-1.50		BULK		96906	MS24665-372	5315-00-059-0491	B-23	13
81349	MIL1631	5970-00-221-5301	B-21	16	96906	MS24668-22	5305-00-993-1206	B-17	9
96906	MS15795-703	5310-00-656-0111	B-26	5	96906	MS25036-150	5940-00-113-8184	B-20	53
96906	MS15795-806	5310-00-880-5976	B-10	2	96906	MS25231-1819	6240-00-155-8707	B-13	3
96906	MS16562-193	5315-00-882-1438	B-8	6	96906	MS25231-1819	6240-00-155-8707	B-14	7
96906	MS18154-113	5305-00-915-8087	B-27	5	96906	MS25231-1819	6240-00-155-8707	B-15	3
96906	MS18154-58	5305-00-115-9526	B-25	14	96906	MS27142-2	5935-00-462-6603	B-20	28
96906	MS20392-7C55	5315-00-903-7885	B-4	6	96906	MS27144-1	5935-00-167-7775	B-20	51
96906	MS20392-7C55	5315-00-903-7885	B-6	6	96906	MS27144-2	5935-00-115-2307	B-19	21
96906	MS20392-7C81		B-4	9	96906	MS27148-2	5999-00-057-2929	B-4	26
96906	MS20392-7C81	5315-00-778-9646	B-6	9	96906	MS27148-2	5999-00-057-2929	B-4	44
96906	MS20613-4P5	5320-00-753-3830	B-26	7	96906	MS27151-24	5310-00-489-5663	B-18	9
96906	MS20913-1S	4730-00-221-2136	B-7	20	96906	MS27183-10	5310-00-809-4058	B-24	26
96906	MS20913-3J		B-4	24	96906	MS27183-12	5310-00-081-4219	B-5	3
96906	MS20913-3J	4730-00-580-6740	B-6	15	96906	MS27183-12	5310-00-081-4219	B-7	3
96906	MS21003-19	5940-01-091-1520	B-21	31	96906	MS27183-13	5310-00-087-7493	B-24	18
96906	MS21042-5		B-8	9	96906	MS27183-14	5310-00-080-6004	B-25	12
96906	MS21044-N5	5310-00-088-0553	B-17	35	96906	MS27183-17	5310-00-809-5997	B-24	6
96906	MS21044N5	5310-00-088-0553	B-2	31	96906	MS27183-18		B-4	7
96906	MS21044N5	5310-00-088-0553	B-3	13	96906	MS27183-18	5310-00-809-5998	B-6	7
96906	MS21044N5	5310-00-088-0553	B-11	12	96906	MS27183-18	5310-00-809-5998	B-23	24
96906	MS21044N5	5310-00-088-0553	B-12	12	96906	MS27183-19	5310-00-809-3079	B-24	15
96906	MS21044N5	5310-00-088-0553	B-16	25	96906	MS27183-23	5310-00-809-8533	B-23	12
96906	MS21044N6	5310-00-950-0039	B-5	18	96906	MS27183-23	5310-00-809-8533	B-24	4
96906	MS21044N6	5310-00-950-0039	B-7	33	96906	MS27183-42	5310-00-014-5850	B-19	33
96906	MS21044N6	5310-00-950-0039	B-12	18	96906	MS27769-1	4730-00-277-6352	B-9	16
96906	MS21045-5	5310-00-982-4912	B-10	19	96906	MS28778-4	5330-00-805-2966	B-9	3
96906	MS21045-7	5310-00-274-9364	B-3	32	96906	MS28778-5	5330-00-803-7491	B-9	23
96906	MS21046-6	5310-00-982-4908	B-3	36	96906	MS3106R-14S-2S	5935-00-813-4717	B-20	54
96906	MS21206-10	5310-01-124-6063	B-5	26	96906	MS3106R10SLSC	5935-00-432-8967	B-21	29
96906	MS21206-10	5310-01-124-6063	B-7	26	96906	MS3106R10SL4SC	5935-00-432-8967	B-21	33
96906	MS21318-27	5305-00-253-5618	B-26	1	96906	MS3367-1-9	5975-00-074-2072	B-9	25
96906	MS21318-27	5305-00-253-5618	B-26	1	96906	MS35206-227	5305-00-984-4984	B-8	13
96906	MS21333-102	5340-00-984-8540	B-17	29	96906	MS35206-231	5305-00-889-3001	B-4	13
96906	MS21333-102	5340-00-984-8540	B-18	12	96906	MS35206-243	5305-00-984-6191	B-8	1
96906	MS21333-104	5340-00-088-1254	B-17	19	96906	MS35206-245	5305-00-984-6193	B-16	10
96906	MS21333-108	5340-00-057-3025	B-17	1	96906	MS35265-45	5305-00-543-2752	B-16	4
96906	MS21333-108	5340-00-057-3025	B-18	4	96906	MS35265-45	5305-00-543-2752	B-16	4
96906	MS21333-109	5340-00-067-3868	B-17	37	96906	MS35265-63	5305-00-614-0274	B-16	3
96906	MS21333-110	5340-00-057-3034	B-16	17	96906	MS35265-63	5305-00-614-0274	B-17	2
96906	MS21333-111	5340-00-057-3037	B-17	11	96906	MS35333-37	5310-00-579-0079	B-8	14
96906	MS21333-112	5340-00-057-3043	B-16	18	96906	MS35333-38	5310-00-559-0070	B-8	2
96906	MS21333-112	5340-00-057-3043	B-17	31	96906	MS35333-40	5310-00-550-1130	B-13	7
96906	MS21333-113	5340-00-988-1162	B-16	19	96906	MS35333-40	5310-00-550-1130	B-14	2
96906	MS21333-113	5340-00-988-1162	B-16	19	96906	MS35333-40	5310-00-550-1130	B-15	4
96906	MS21333-118	5340-00-057-3029	B-17	27	96906	MS35333-40	5310-00-550-1130	B-17	8
96906	MS21333-118	5340-00-057-3029	B-17	27	96906	MS35333-41	5310-00-167-0721	B-5	36

## PART NUMBER CROSS-REFERENCE TO FIGURE NUMBER AND ITEM NUMBER - CONTINUED

FSCM	PART NUMBER	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.	FSCM	PART NUMBER	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
96906	MS35333-41	5310-00-167-0721	B-7	37	96906	MS51967-14	5310-00-768-0318	B-24	12
96906	MS35333-41	5310-00-167-0721	B-16	20	96906	MS51967-14	5310-00-768-0318	B-27	3
96906	MS35335-33	5310-00-209-0786	B-4	50	96906	MS51967-2	5310-00-761-6882	B-13	1
96906	MS35335-34	5310-00-514-6674	B-16	1	96906	MS51967-2	5310-00-761-6882	B-14	4
96906	MS35335-34	5310-00-514-6674	B-17	3	96906	MS51967-2	5310-00-761-6882	B-15	1
96906	MS35335-36	5310-00-550-3503	B-16	1	96906	MS51967-2		B-17	30
96906	MS35335-58	5310-00-209-1366	B-10	30	96906	MS51967-2		B-18	6
96906	MS35338-139	5310-00-933-8121	B-6	23	96906	MS51967-20	5310-00-763-8920	B-5	28
96906	MS35338-140	5305-00-974-6623	B-6	19	96906	MS51967-20	5310-00-763-8920	B-7	28
96906	MS35338-41	5310-00-045-4007	B-4	12	96906	MS51967-8	5310-00-732-0558	B-16	28
96906	MS35338-43	5310-00-045-3296	B-16	8	96906	MS51968-8	5310-00-732-0558	B-25	19
96906	MS35338-43	5310-00-045-3296	B-17	5	96906	MS51968-2	5310-00-768-0319	B-24	11
96906	MS35338-43	5310-00-045-3296	B-19	34	96906	MS51968-5	5310-00-880-7746	B-5	5
96906	MS35338-44	5310-00-582-5965	B-14	5	96906	MS51968-5	5310-00-880-7746	B-7	5
96906	MS35338-44	5310-00-582-5965	B-24	10	96906	MS51968-8	5310-00-732-0559	B-5	34
96906	MS35338-45	5310-00-407-9566	B-4	55	96906	MS51968-8	5310-00-732-0559	B-7	35
96906	MS35338-45	5310-00-407-9566	B-5	4	96906	MS51988-7	5310-00-930-8214	B-24	5
96906	MS35338-45	5310-00-407-9566	B-6	28	96906	MS51988-7	5310-00-930-8214	B-25	10
96906	MS35338-45	5310-00-407-9566	B-7	4	96906	MS521301A2-12-3		B-6	17
96906	MS35338-46	5310-00-637-9541	B-5	33	96906	MS87006-13	4030-00-780-9350	B-5	15
96906	MS35338-46	5310-00-637-9541	B-7	34	96906	MS87006-13	4030-00-780-9350	B-7	16
96906	MS35338-46	5310-00-637-9541	B-19	7	96906	MS87006-3	4030-00-270-5436	B-9	13
96906	MS35338-46	5310-00-637-9541	B-25	20	96906	MS9021-154		B-8	5
96906	MS35338-48	5310-00-584-5272	B-24	13	96906	MS9068-013	5330-00-724-7902	B-9	20
96906	MS35338-48	5310-00-584-5272	B-27	4	96906	MS9068-018	5330-00-724-5541	B-9	19
80045	MS35338-50	5310-00-820-6653	B-23	28	96906	MS9068-038	5330-00-180-9951	B-9	18
96906	MS35338-51	5310-00-584-7888	B-24	3	96906	MS90725-116	5305-00-071-1770	B-24	14
96906	MS35338-51	5310-00-584-7888	B-25	5	96906	MS90725-163	5303-00-724-5911	B-23	29
96906	MS35338-53	5310-00-584-7888	B-27	1	96906	MS90725-163	5303-00-724-5911	B-23	33
96906	MS35338-67	5310-00-011-6121	B-23	3	96906	MS90725-17	5305-00-071-2234	B-14	8
96906	MS35338-70	5310-00-011-6124	B-23	6	96906	MS90725-3	5305-00-068-0500	B-16	21
96906	MS35446-7	5940-00-808-9212	B-19	10	96906	MS90725-3	5305-00-068-0500	B-17	22
96906	MS35489-27	5325-00-290-1960	B-18	1	96906	MS90725-3	5305-00-068-0500	B-18	13
96906	MS35648-202	5310-00-934-9758	B-16	9	96906	MS90725-32	5306-00-225-8497	B-5	35
96906	MS35649-202	5310-00-934-9758	B-17	6	96906	MS90725-32	5306-00-225-8497	B-7	36
96906	MS35649-202	5310-00-934-9758	B-19	35	96906	MS90725-33	5306-00-225-8498	B-4	61
96906	MS35649-264	5310-00-934-9761	B-10	31	96906	MS90725-33	5306-00-225-8498	B-6	29
96906	MS35649-282	5310-00-934-9757	B-16	7	96906	MS90725-4	5305-00-225-3838	B-17	21
96906	MS35649-282	5310-00-934-9757	B-16	7	96906	MS90725-5	5305-00-068-0501	B-4	51
96906	MS35690-1004	5310-00-957-0022	B-23	15	96906	MS90725-62	5305-00-269-3213	B-16	31
96906	MS35763-833	5306-00-145-0876	B-12	2	96906	MS90725-62	5305-00-269-3213	B-24	24
96906	MS35763-833	5306-00-145-0876	B-24	17	96906	MS90725-62	5303-00-269-3213	B-25	13
96906	MS35764-1289	5306-01-017-2566	B-25	18	96906	MS90726-235	5305-00-958-8475	B-27	2
96906	MS35842-12	4730-00-908-3193	B-4	41	96906	MS90726-31	5306-00-225-9086	B-2	34
96906	MS35842-13	4730-00-909-8627	B-2	25	96906	MS90726-33	5306-00-225-9088	B-16	34
96906	MS35842-13	4730-00-909-8627	B-6	16	96906	MS90726-33	5306-00-225-9088	B-17	15
96906	MS35842-13	4730-00-909-8627	B-10	5	96906	MS90726-36	5305-00-225-9091	B-16	2
96906	MS45904-76	5310-00-061-1258	B-16	35	96906	MS90726-36	5305-00-225-9091	B-16	2
96906	MS51096-59	5305-00-912-5113	B-3	31	96906	MS90726-36	5305-00-225-9091	B-17	26
96906	MS51500A5-4S	4730-00-020-9973	B-28	7	96906	MS90726-57	5305-00-269-2800	B-19	8
96906	MS51525A4	4730-01-007-5232	B-9	2	96906	MS90726-6	5305-00-068-0506	B-10	8
96906	MS51525A5	4730-00-431-9307	B-9	24	96906	MS90726-63	5305-00-269-2806	B-12	8
96906	MS51815-8	4730-01-003-6044	B-10	37	96906	MS90726-65	5305-00-269-2808	B-16	15
96906	MS51820-6P	4730-00-993-5002	B-10	34	96906	MS90726-65	5305-00-269-2808	B-16	15
96906	MS51849-78	5305-00-240-6668	B-19	32	96906	MS90726-65	5305-00-269-2808	B-17	33
96906	MS51864-104-16	5307-01-006-5515	B-5	41	96906	MS90726-7	5305-00-068-0507	B-24	25
96906	MS51864-104-16	5307-01-006-5515	B-7	42	96906	MS90726-8	5305-00-267-8974	B-24	20
96906	MS51922-33	5310-00-225-6993	B-25	3	96906	MS90727-32	5306-00-050-1238	B-2	15
96906	MS51943-36	5310-00-814-0672	B-7	19	96906	MS90727-32	5306-00-050-1238	B-10	15
96906	MS51957-28	5305-00-054-6652	B-10	1	96906	MS90727-32	5306-00-050-1238	B-16	13

## PART NUMBER CROSS-REFERENCE TO FIGURE NUMBER AND ITEM NUMBER - CONTINUED

FSCM	PART NUMBER	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.	FSCM	PART NUMBER	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
96906	MS90727-32	5306-00-050-1238	B-17	24	19207	10863625		B-4	23
96906	MS90727-34	5305-00-051-4076	B-2	28	19207	10863625	4730-00-678-4749	B-6	14
96906	MS90727-35	5306-00-051-4077	B-17	4	19207	10863629	5305-00-678-6195	B-23	7
96906	MS90727-4	5305-00-068-0512	B-9	7	19207	10863630	5303-00-678-6196	B-23	21
96906	MS90727-5	5305-00-267-8953	B-17	7	19207	10863816	5340-00-959-8422	B-16	32
96906	MS90727-65		B-12	7	19207	10863816	5340-00-959-8422	B-17	23
96906	MS90727-65	5305-00-914-6131	B-12	15	19207	10863870	5330-00-678-3489	B-5	38
96906	MS90727-66	5305-00-269-3242	B-12	14	19207	10863870	5330-00-678-3489	B-7	39
96906	MS90728-112	5305-00-071-2068	B-25	2	19207	10863874	2940-00-168-2246	B-5	30
96906	MS90728-113	5305-00-071-2069	B-23	2	19207	10863964	2510-00-997-4524	B-23	22
96906	MS90728-16	5305-00-071-2513	B-13	6	19207	10863965	2510-00-080-7552	B-23	8
96906	MS90728-16	5303-00-071-2513	B-15	5	19207	10864007	5330-00-678-4712	B-10	35
96906	MS90728-165	5305-00-724-7223	B-5	25	19207	10864043	2510-00-927-3305	B-23	1
96906	MS90728-165	5305-00-724-7223	B-7	25	19207	10864146	2510-00-226-2131	B-23	20
96906	MS90728-183	5305-00-947-4352	B-24	2	19207	10864147	2510-00-115-4327	B-23	9
96906	MS90728-183	5305-00-947-4352	B-25	6	19207	10864205	2510-00-105-6155	B-23	19
96906	MS90728-29	5306-00-226-4822	B-6	20	19207	10864206	2510-00-105-6154	B-23	10
96906	MS90728-31	5306-00-226-4824	B-4	56	19207	10865247	2930-00-453-5376	B-11	14
96906	MS90728-5	5305-00-068-7837	B-14	3	19207	10865250	2930-00-436-3208	B-11	16
96906	MS90728-6	5305-00-068-0508	B-6	24	19207	10865251		B-11	17
96906	MS90728-60	5305-00-068-0510	B-25	7	19207	10865252	2930-00-436-3197	B-11	21
96906	MS9320-11	5310-00-194-0636	B-9	11	19207	10865252		B-11	22
96906	MS9388-327	5330-01-013-7132	B-2	35	19207	10865267	2815-00-177-8216	B-11	9
81349	M13436/1-1	9905-00-752-4649	B-19	22	19207	10865268	2930-00-107-1221	B-11	4
81349	M13486/1-14		B-19	15	19207	10865272	2815-00-446-1757	B-11	1
81349	M13486/1-14		B-22	8	19207	10865277	2930-00-998-4724	B-11	13
81349	M13486/1-14	6145-00-705-6674BULK			19207	10870861	5330-00-729-5049	B-5	10
81349	M13486/1-15		B-19	13	19207	10870861	5330-00-729-5049	B-7	10
81349	M13486/1-15	6145-00-254-6117BULK			19207	10870919	2940-00-886-5841	B-8	11
19207	M13486/1-3		B-20	27	19207	10870920	2920-00-103-9397	B-8	3
81349	M13486/1-3	6145-00-161-1609BULK			19207	10882750	5306-00-413-4373	B-12	9
81349	M13486/1-5		B-4	18	19207	10882760		B-11	10
81349	M13486/1-5		B-4	31	19207	10882765	2920-00-455-5835	B-12	11
81349	M13486/1-5		B-4	48	19207	10882826	9905-00-407-5099	B-26	6
81349	M13486/1-5		B-19	23	19207	10887138	2590-00-839-0156	B-24	21
81349	M13486/1-5		B-20	52	19207	10889713	2920-00-830-6660	B-12	17
81349	M13486/1-5		B-22	9	19207	10898794	4720-00-896-6166	B-10	40
81349	M13486/1-5	6145-00-152-6499BULK			19207	10898844		B-8	19
81349	M13516/1-1	5925-00-026-4767	B-4	11	19207	10905006	6105-00-801-8716	B-8	17
96906	M220913-1S	4730-00-221-2136	B-5	19	19207	10905009	2940-00-930-8765	B-8	10
81349	M4109-140800C		B-28	2	19207	10905010	4140-00-016-2615	B-4	52
81349	M4109-60800C		B-28	1	19207	10910174-16	5310-00-987-1294	B-25	8
81349	M43436/1-1	9905-00-752-4649	B-4	19	19207	10910174-18	5310-00-964-8588	B-5	27
81349	M43436/1-1	9905-00-752-4649	B-4	29	19207	10910174-18	5310-00-964-8588	B-7	27
81349	M43436/1-1	9905-00-752-4649	B-4	47	19207	10910174-22	5310-00-728-9957	B-25	15
81349	M43436/1-1	9905-00-752-4649	B-21	18	19207	10912269	8145-00-856-8147	B-1	2
81349	M43436/1-1	9905-00-752-4649	B-21	18	19207	10916561	5303-01-115-1847	B-23	18
81349	M43436/1-3	9905-00-893-3570	B-19	12	19207	10916563		B-23	14
81349	M43436/1-3	9905-00-893-3570	B-20	43	19207	10924454	2510-00-014-2483	B-23	4
81349	M43436/1-3	9905-00-893-3570	B-21	3	19207	10933723	5330-00-078-4714	B-4	40
81349	M43436/1-3	9905-00-893-3570	B-21	19	19207	10933966		B-8	7
81349	M43436/1-3	9905-00-893-3570	B-22	7	19207	10933967		B-8	8
81349	M43436/5-1	9905-01-056-8812	B-28	4	19207	10933968	2940-00-043-0279	B-8	16
81348	RRC271		B-5	16	19207	10934405		B-8	4
81348	RRC271		B-7	17	19207	10935282-2	4720-01-095-2429	B-10	6
21450	RRC271-1-5C2-13	4010-00-165-6064BULK			19207	10935447	5325-00-182-4707	B-11	24
77820	10-74936-3	5935-00-107-1273	B-22	6	19207	10935614	5360-00-410-5836	B-2	5
19207	10863589	2590-00-974-9216	B-4	43	19207	10935614	5360-00-410-5836	B-2	13
19207	10863598	5340-00-107-4286	B-17	28	19207	10935619		B-2	7
19207	10863598	5340-00-107-4286	B-18	11	19207	10935621	5330-00-410-9803	B-2	36

## PART NUMBER CROSS-REFERENCE TO FIGURE NUMBER AND ITEM NUMBER - CONTINUED

FSCM	PART NUMBER	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.	FSCM	PART NUMBER	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
19207	10935623	2815-00-406-4621	B-2	1	19207	11669740	2940-01-142-8260	B-6	10
19207	10940163	2590-00-978-7335	B-4	25	19207	11673847	2815-00-397-3311	B-17	25
19207	10940255	5365-00-105-6138	B-24	23	19207	11673848	2920-00-398-7097	B-16	5
19207	10940256-1	2510-00-757-2749	B-24	22	19207	11673850	6150-00-476-0381	B-16	30
19207	10940256-2	2510-00-757-2750	B-24	22	19207	11673851	2920-00-466-7464	B-16	11
19207	10940260-1	2510-00-105-6144	B-24	16	19207	11673852	2815-00-397-3283	B-16	26
19207	10940260-2	2510-00-119-3907	B-24	16	19207	11673853	2815-00-394-9701	B-16	24
19207	10940267	2590-01-016-2024	B-24	8	19207	11673854	2815-00-394-9690	B-17	34
19207	10940271	2510-00-105-9917	B-24	9	19207	11673855	2815-00-475-8216	B-17	16
19207	10940272-1	2510-00-930-2034	B-24	7	19207	11673856	6150-00-476-0371	B-16	36
19207	10940272-2	2510-00-930-2035	B-24	7	19207	11674728	5935-01-059-0117	B-19	2
19207	10952209	2510-00-930-3226	B-24	1	19207	11674729	5330-01-059-4286	B-19	5
11920	10952213	2510-00-930-3229	B-24	1	19207	11674730	5970-01-044-8391	B-19	6
25184	110 5-16	5330-00-530-2772	B-2	29	19207	11675004	5340-01-059-0114	B-19	3
89954	11382363P6	5310-00-167-0816	B-26	2	19207	11676228	5940-00-030-7275	B-19	24
19207	11591585	5330-00-930-1624	B-5	39	19207	11682345		B-19	4
19207	11591586	2940-00-045-6873	B-5	42	19207	11682595	2590-00-499-1782	B-12	16
19207	11602731	5935-00-107-1275	B-19	18	19207	11682595-2	2590-01-008-1441	B-21	13
19207	11602737	5935-00-134-0373	B-22	2	19207	11682595-2	2590-01-008-1441	B-21	13
19207	11608144-1	2940-00-105-2804	B-5	2	19207	11682725	2815-00-410-1150	B-16	5
19207	11608144-2	2940-00-105-2805	B-5	2	19207	11682768	2930-01-005-1549	B-3	39
19207	11626375	5315-00-456-5948	B-23	26	19207	11683939	2815-00-399-5301	B-3	3
19207	11626427	5420-01-085-7003	B-23	27	19207	11683941	2815-00-432-0056	B-3	38
19207	11630499-1	4730-00-908-3193	B-10	39	19207	11683942	2815-00-398-6726	B-11	21
19207	11637698-1	2510-00-256-5530	B-24	19	19207	11683942-1		B-11	22
19207	11637698-2	2510-00-256-5531	B-24	19	19207	11683954	2520-00-394-9713	B-3	35
19207	11641919	2990-00-193-8211	B-11	15	19207	11683967	9905-01-021-2825	B-26	3
19207	11641922	2815-00-406-4615	B-2	8	19207	11683977		B-11	6
19207	11641923		B-2	14	19207	11683977	2815-00-410-1131	B-11	8
19207	11641927	4710-00-192-9436	B-2	27	19207	11683984	2815-00-397-3313	B-3	37
19207	11641928	5340-00-409-2055	B-2	39	19207	11683985	2815-00-394-9700	B-3	9
19207	11644992-1		B-22	10	19207	11683985-1		B-3	10
19207	11644992-1	9330-01-047-4313	BULK		19207	11684006	6680-00-423-4051	B-2	32
19207	11654554-1	2510-00-487-9469	B-23	23	19207	11684017	2815-00-394-9706	B-3	1
19207	11654555	2510-01-082-3809	B-23	5	19207	11684018	2815-00-399-5302	B-2	33
19207	11654843	5310-00-625-3115	B-25	11	19207	11684041	2930-00-392-9515	B-3	14
19207	11655113-1	5340-01-006-4586	B-25	17	19207	11684041-1		B-3	15
19207	11655113-2	5340-00-571-7067	B-25	17	19207	11684048	2930-00-392-9547	B-3	25
19207	11655454	2590-00-423-3622	B-21	1	19207	11684048-1		B-3	29
19207	11655469	2920-00-441-8137	B-12	1	19207	11684079-1		B-3	17
19207	11657469-3	5310-00-582-5965	B-9	6	19207	11684079-1		B-3	26
19207	11657469-3	5310-00-582-5965	B-10	9	19207	11684079-2		B-3	19
19207	11657469-3	5310-00-582-5965	B-16	22	19207	11684079-2		B-3	27
19207	11657469-3	5310-00-582-5965	B-17	20	19207	11684079-3		B-3	18
19207	11657469-3	5310-00-582-5965	B-18	10	19207	11684079-3		B-3	28
19207	11659642-67	9905-01-051-5290	B-4	63	19207	11684093-1	5310-00-486-0406	B-3	11
19207	11659642-68	9905-01-051-5289	B-4	63	19207	11684093-1	5310-00-486-0406	B-3	16
19207	11659642-73		B-6	30	19207	11684093-1	5310-00-486-0406	B-3	30
19207	11659642-74		B-6	30	19207	11684093-1	5310-00-486-0406	B-11	5
19207	11659652	5307-00-218-8179	B-4	21	19207	11684093-1	5310-00-486-0406	B-11	11
19207	116597-11-1	2510-00-455-1351	B-25	16	19207	11684093-1	5310-00-486-0406	B-11	18
19207	11659711-2	2510-00-455-1352	B-25	16	19207	11684093-1	5310-00-486-0406	B-11	23
19207	11669029-1	6685-01-055-5116	B-5	17	19207	11684093-2	5310-00-486-0412	B-3	24
19207	11669683	4730-01-132-9086	B-5	23	19207	11684106	5365-00-486-0405	B-3	33
19207	11669683	4730-01-132-9086	B-7	13	19207	11684132	2815-00-410-1045	B-3	8
19207	11669704		B-8	21	19207	11684134	9905-01-026-9951	B-26	3
19207	11669717	5895-01-134-8291	B-5	17	19207	11684162	5340-01-048-6052	B-12	4
19207	11669717	5895-01-134-8291	B-7	18	19207	11684234	2930-01-005-1550	B-3	20
19207	11669724		B-8	18	19207	11684246	5340-01-010-8946	B-3	22
19207	11669740		B-4	10	19207	11684246-1		B-3	23

## PART NUMBER CROSS-REFERENCE TO FIGURE NUMBER AND ITEM NUMBER - CONTINUED

FSCM	PART NUMBER	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.	FSCM	PART NUMBER	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
19207	11684276-1	5340-01-030-8726	B-16	23	19207	12275844	2990-01-156-6225	B-10	11
19207	11684276-2	5340-01-030-6928	B-17	18	19207	12275861	5350-01-145-8303	B-10	22
19207	11685057	2920-00-398-6540	B-12	5	19207	12275864		B-9	8
19207	12251898	9320-01-017-2743	B-4	53	19207	12275866-1	5305-01-145-8286	B-9	9
19207	12251902	5330-01-035-9825	B-4	59	19207	12275866-2	5305-01-145-8287	B-9	10
19207	12251902	5330-01-035-9825	B-6	26	19207	12275867	4030-01-145-8293	B-9	12
19207	12251904	5340-01-031-0420	B-4	60	19207	12275868	5340-01-145-8291	B-9	22
19207	12251905	5340-01-016-4782	B-4	57	19207	12275869	5340-01-145-8310	B-9	17
19207	12251907	4720-01-022-6070	B-4	42	19207	12275870	5340-01-145-8262	B-9	5
19207	12251908		B-4	4	19207	12275880	4710-01-150-4822	B-10	41
19207	12251908		B-6	4	19207	12275883	4720-01-146-1887	B-10	12
19207	12251910	5340-01-016-4429	B-4	2	19207	12275889	5640-01-146-1898	B-10	3
19207	12251910	5340-01-016-4429	B-6	2	19207	12275890	5640-01-146-1889	B-10	32
19207	12251911-1		B-4	22	19207	12275891	5640-01-146-1890	B-10	26
19207	12251911-2		B-4	22	19207	12275892	5640-01-146-1891	B-10	29
19207	12251912	5340-01-028-5260	B-4	54	19207	12275894	5310-01-151-2732	B-10	27
19204	12251922-1	2940-01-035-9827	B-4	1	19207	12290526-1	2510-00-074-8285	B-25	1
19204	12251922-2	2940-01-035-9826	B-4	1	19207	12290526-2	2510-01-077-1650	B-25	1
19207	12252143		B-5	13	19207	12290527-1	2510-01-174-9585	B-25	4
19207	12252352-1		B-5	22	19207	12290527-2	2510-01-074-9586	B-25	4
19207	12252352-1		B-7	23	19207	12290914		B-4	5
19207	12252352-2		B-5	22	19207	12290914	5306-01-091-3384	B-4	64
19207	12252352-2		B-7	23	19207	12290914	5306-01-091-3384	B-6	5
19207	12252354-1	2940-01-037-4976	B-5	20	19207	12290914	5306-01-091-3384	B-6	32
19207	12252354-2	2940-01-037-4977	B-5	20	19207	12301743		B-28	3
19207	12252365	4730-01-043-7679	B-5	14	19207	12301778		B-28	5
19207	12252365	4730-01-043-7679	B-7	15	19207	12304136	5330-01-129-0642	B-4	3
19207	12252675	7690-01-038-7440	B-4	62	19207	12304136	5330-01-129-0642	B-6	3
19207	12252675	7690-01-038-7440	B-6	31	19207	12304168	5330-01-128-5650	B-5	24
19207	12254292	2930-01-038-8296	B-3	21	19207	12304168	5330-01-128-5650	B-7	24
19207	12254369	5340-01-081-1686	B-16	33	19207	12304169-1	5307-01-128-5681	B-6	11
19207	12254369	5340-01-081-1686	B-17	13	19207	12304169-2	5307-01-128-5682	B-6	12
19207	12254374	2920-01-065-2016	B-17	10	19207	12304176		B-5	13
19207	12257172		B-19	14	19207	12304176		B-7	14
19207	12257502-1	2510-01-082-3810	B-23	20	19207	12304177		B-5	21
19207	12257502-2	2510-01-082-3811	B-23	9	19207	12304177		B-7	22
19207	12257503-1	2510-01-082-3812	B-23	19	19207	12304178-1	4730-01-134-1957	B-5	20
19207	12257503-2	2510-01-082-3813	B-23	10	19207	12304178-1	4730-01-134-1957	B-7	21
19207	12257511		B-23	30	19207	12304178-2	4730-01-134-1958	B-5	20
19207	12257511-1		B-23	31	19207	12304178-2	4730-01-134-1958	B-7	21
19207	12257993	2940-01-080-8023	B-5	30	19207	12304190		B-8	22
19207	12257999	5935-01-062-5653	B-19	9	19207	12304299	5330-01-158-2069	B-7	40
19207	12270348	6105-01-092-1484	B-8	17	19207	12304306	4730-01-144-4887	B-7	30
19207	12271064		B-5	11	19207	12304307	2940-01-144-4872	B-7	44
19207	12271064		B-7	11	19207	12304309	4730-01-144-4888	B-7	30
19207	12271066	4720-01-119-7779	B-5	9	19207	12304318	5330-01-152-2486	B-6	22
19207	12271066	4720-01-119-7779	B-7	9	19207	12304319	2815-01-137-3895	B-6	21
19207	12271066-1		B-5	12	19207	12304324	5340-01-152-2515	B-6	18
19207	12271066-1		B-7	12	19207	12304325	5330-01-152-2487	B-6	22
19207	12271067	4720-01-121-1542	B-5	7	19207	12304329	2815-01-154-1396	B-6	21
19207	12271067	4720-01-121-1542	B-7	7	19207	12304341-1	4730-01-144-4889	B-7	2
19207	12275727	2520-01-073-4085	B-11	3	19207	12304341-2	4730-01-144-4890	B-7	2
19207	12275732	2920-01-073-4328	B-21	14	19207	12314561	5340-01-146-1895	B-10	23
19207	12275797	2590-01-145-4316	B-12	10	19207	12314564	4710-01-146-1909	B-10	20
19207	12275822	5340-01-145-8301	B-10	18	19207	12314565	4710-01-146-1900	B-10	25
19207	12275823	5340-01-145-8302	B-10	36	19207	12314568	4710-01-146-1910	B-10	14
19207	12275824	5330-01-145-8290	B-10	10	19207	12314569	4710-01-146-1901	B-10	7
19207	12275831	4710-01-145-8311	B-10	33	19207	12314574	4720-01-146-1888	B-10	13
19207	12275840	4460-01-145-8299	B-9	21	19207	12314591	5340-01-145-8307	B-2	39
19207	12275841	4010-01-157-1343	B-9	14	19207	12314592		B-2	14

## PART NUMBER CROSS-REFERENCE TO FIGURE NUMBER AND ITEM NUMBER - CONTINUED

FSCM	PART NUMBER	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.	FSCM	PART NUMBER	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
19207	12314593	2815-01-145-8312	B-2	8	19207	7056661	5330-00-705-6661	B-4	37
19207	12314598	2590-01-152-8806	B-11	13	19207	7056674	6145-00-705-6674	B-21	4
19207	12314599	2590-01-152-7118	B-11	1	19207	7056674	6145-00-705-6674	B-21	17
19207	12314611	2815-01-149-1353	B-1	3	19207	7056706	5940-00-705-6706	B-20	41
19207	12314617	9905-01-160-2693	B-26	3	19207	7056707	5940-00-705-6707	B-20	40
19207	12314619	6150-01-150-9771	B-21	14	19207	7056709	5940-00-705-6709	B-4	49
19207	12314637		B-10	16	19207	7056709	5940-00-705-6709	B-20	5
19207	12314641		B-1	3	19207	7057332-3	5340-00-178-6077	B-16	16
19207	12314646		B-26	3	19207	7057352	5310-00-705-7352	B-4	36
19207	12325884	5340-01-152-2541	B-23	4	19207	7064586	5935-00-677-4444	B-20	4
19207	12325885-1		B-6	13	19207	7347734	5310-00-045-3299	B-16	6
19207	12325885-2		B-6	13	19207	7347734	5310-00-045-3299	B-16	6
19207	12325888-1	2940-01-152-2386	B-6	1	19207	7351617	5340-00-735-1617	B-18	3
19207	12325888-2	2940-01-152-2387	B-6	1	19207	7351807	5340-00-281-4425	B-18	5
19207	12325889	5340-01-152-2543	B-6	27	19207	7355520	5940-00-735-5520	B-21	2
19207	12325890	5340-01-152-2542	B-23	1	19207	7355520	5940-00-735-5520	B-21	15
19207	12325914	5340-01-152-2514	B-13	4	19207	7383632	2590-00-606-2346	B-4	14
19207	12325915	5365-01-152-2538	B-13	5	19207	7388353	5935-00-754-9080	B-21	23
19207	12325926	2920-01-152-2559	B-20	1	19207	7388355	5935-00-729-8217	B-22	11
19207	12325931	2920-01-152-2385	B-13	2	19207	7388356	5365-00-682-2043	B-21	7
19207	12325931	2920-01-152-2385	B-14	6	19207	7388356	5365-00-682-2043	B-21	22
19207	12325931	2920-01-152-2385	B-15	2	19207	7388356	5365-00-682-2043	B-22	12
19207	12325932	2920-01-152-2560	B-19	1	19207	7410218	5310-00-407-9566	B-2	38
19207	12325933	2920-01-152-2412	B-22	1	19207	7410218	5310-00-407-9566	B-10	21
19207	12326087		B-23	4	19207	7410218	5310-00-407-9566	B-16	12
19207	12326091		B-23	1	19207	7410218	5310-00-407-9566	B-17	12
19207	12326097		B-14	1	19207	7414584	5306-00-741-4584	B-3	4
19207	12326119		B-27	6	19207	7414584	5306-00-741-4584	B-3	4
19207	12326130		B-28	8	19207	7414584	5306-00-741-4584	B-11	20
19207	12326131		B-28	6	19207	7527643	5975-00-697-6991	B-20	46
1207	12326132		B-29	1	19207	7527645	5975-00-697-7769	B-20	39
19207	12326174		B-15	6	19207	7716520	5999-00-485-8954	B-20	10
97403	13211E3011	2590-01-136-5252	B-27	6	19207	7716520	5999-00-485-8954	B-20	31
97403	13211E3231	5420-01-121-1232	B-27	7	19207	7716520	5999-00-485-8954	B-20	38
19207	1684297		B-26	8	19207	7716520	5999-00-485-8954	B-20	48
80244	1711725-96	5970-00-284-8640	BULK		19204	7716520	5999-00-485-8954	B-21	10
80244	1711725-96		B-4	30	19207	7716520	5999-00-485-8954	B-22	16
21450	192417	5305-00-019-2417	B-3	12	19207	7716521	5999-00-485-8955	B-20	17
21450	192417	5305-00-019-2417	B-10	17	19207	7716521	5999-00-485-8955	B-20	23
21450	192417	5305-00-019-2417	B-11	19	19207	7716521	5999-00-485-8955	B-21	24
12603	23E06	5310-00-637-9541	B-16	29	19207	7716522	5999-00-368-4852	B-21	25
80045	23MS35338-50	5310-00-820-6653	B-23	17	19207	7716523	5999-00-771-6523	B-19	30
80045	23MS35338-50	5310-00-820-6653	B-23	32	19207	7716523	5999-00-771-6523	B-21	9
24617	425592	5305-00-042-5592	B-16	27	19207	7716523	5999-00-771-6523	B-22	15
24617	425592	5305-00-042-5592	B-17	17	19207	7716634	5975-00-771-6634	B-20	24
02978	550559	5305-00-206-3851	B-2	6	19207	7716658	5999-00-113-2954	B-20	32
02978	550559	5305-00-206-3851	B-2	12	19207	7716669	5935-00-089-7917	B-19	31
19207	5702404	6105-00-084-7618	B-8		19207	7716675	5935-01-026-5900	B-20	33
19207	5703549	2940-00-900-8554	B-8		19207	7716683	5935-00-257-1024	B-20	22
19207	5705074	2815-01-149-1313	B-1	1	19207	7720484	5935-00-772-0484	B-20	15
19207	5705125	6105-01-147-5170	B-8		19207	7720853	6145-00-162-6499	B-21	34
19207	5705149	4310-01-134-6587	B-4		19207	7722204	6145-00-772-2804	B-21	28
77820	60-37005-321	5935-00-729-8217	B-21	5	19207	7722322	5365-00-772-2322	B-20	7
77820	60-37005-321	5935-00-729-8217	B-21	20	19207	7722323	5365-00-772-2323	B-20	29
77820	60-42722-7S	5935-00-686-9374	B-19	28	19207	7722333	5365-00-090-5426	B-20	25
02978	699772	2815-01-146-1877	B-10	4	19207	7722343	5365-00-772-2343	B-20	45
02978	699883	2815-01-146-1878	B-10	28	19207	7722344	5935-00-772-2344	B-20	14
19207	7033684-1	5330-01-082-3761	B-9	15	19207	7722972	5365-00-772-2972	B-4	38
19207	7056634	5970-00-705-6634	B-21	32	19207	7723306	5935-00-333-3088	B-20	44
19207	7056641	5975-00-644-3682	B-4	35	19207	7723307	5935-00-772-3307	B-20	13



## PART NUMBER CROSS-REFERENCE TO FIGURE NUMBER AND ITEM NUMBER - CONTINUED

FSCM	PART NUMBER	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.	FSCM	PART NUMBER	NATIONAL STOCK NUMBER	FIGURE NO.	ITEM NO.
19207	7723308	5935-00-333-9414	B-19	25	19207	8717158	5330-00-599-0942	B-2	11
19207	7723308	5935-00-333-9414	B-20	6	19207	8720680	5935-00-614-9136	B-20	49
19207	7723309	5310-00-393-6685	B-20	26	19207	8724199	5935-00-686-2610	B-20	47
19207	7723474		B-20	18	19207	8724231	5935-00-686-2605	B-20	35
19207	7723475	5935-00-771-8192	B-20	11	19207	8724243	5935-00-686-2606	B-20	16
19207	7728778	5940-00-314-0479	B-21	30	19207	8724244	5935-00-686-2608	B-20	9
19207	7759648-2		B-8	20	19207	8724246	5935-00-811-0942	B-20	30
19207	7767318	5310-00-776-7318	B-12	6	19207	8724257	5935-00-754-9083	B-20	20
19207	7767318	5310-00-776-7318	B-12	13	19207	8724404	5935-00-685-9979	B-22	14
19207	7767318	5310-00-776-7318	B-16	14	19207	8724763	9390-00-180-7289	B-19	20
19207	7767318	5310-00-776-7318	B-16	14	19207	8724763	9390-00-180-7289	B-20	42
19207	7767318	5310-00-776-7318	B-17	32	19207	8724763	9390-00-180-7289	B-21	6
19207	7970528		B-23	16	19207	8724763	9390-00-180-7289	B-21	21
19207	7970529		B-23	14	19207	8724763	9390-00-180-7289	B-21	21
19207	7971717	5935-00-754-9078	B-21	8	19207	8724763	9390-00-180-7289	B-22	4
19207	7982997	1015-00-798-2997	B-20	2	19207	8724768	9510-01-104-8931	B-19	19
19207	8089700	5935-00-987-2942	B-22	5	19207	8724769	9390-00-464-4756	B-22	3
19207	8338503	5340-01-077-1501	B-17	14	19207	8728292	2920-00-770-1642	B-8	15
19207	8338561	5935-00-833-8561	B-4	17	19207	8728293	5340-00-900-2347	B-8	12
19207	8338561	5935-00-833-8561	B-4	32	19207	8728294		B-8	24
19207	8338562	5970-00-833-8562	B-4	16	19207	8728295		B-8	23
19207	8338562	5970-00-833-8562	B-4	33	19207	8734585	5305-01-102-5513	B-23	18
19207	8338562	5970-00-833-8562	B-20	3	19207	8761109	2990-00-897-2849	B-2	2
19207	8338564	2520-00-692-4879	B-4	15	19207	8761109	2990-00-897-2849	B-2	9
19207	8338564	5940-00-399-6676	B-4	34	19207	8762503	2510-00-105-2755	B-25	9
19207	8338564	5940-00-399-6676	B-20	2	19207	8762504	2510-00-105-2756	B-25	9
19207	8338566	5935-00-572-9180	B-4	28	19207	8762775	5330-00-678-4699	B-5	29
19207	8338566	5935-00-572-9180	B-4	46	19207	8762775	5330-00-678-4699	B-7	29
19207	8338567	5310-00-833-8567	B-4	27	19207	8762777	2940-00-933-9946	B-5	37
19207	8338567	5310-00-833-8567	B-4	45	19207	8762777	2940-00-933-9946	B-7	38
19207	8344324	5970-00-615-8884	B-20	37	19207	8762780	5330-00-678-3488	B-5	1
19207	8344522	5935-01-013-7520	B-20	50	19207	8762780	5330-00-678-3488	B-7	1
19207	8344527	5935-00-462-2913	B-20	36	19207	8762781	5330-00-678-1851	B-5	43
19207	8344537		B-20	21	19207	8762781	5330-00-678-1851	B-7	43
19207	8357967-4		B-2	26	19207	8762783	4720-00-678-4700	B-5	32
19207	8376776	5365-00-318-8184	B-19	26	19207	8762783	4720-00-678-4700	B-7	32
19207	8395482	5975-00-752-2746	B-19	16	19207	8762784	2940-00-932-3565	B-5	40
19207	8395483	5365-00-678-4258	B-19	17	19207	8762784	2940-00-932-3565	B-7	41
29201	84001-1	5310-00-081-4219	B-3	40	19207	8762785	2940-00-168-2243	B-5	44
19207	8666738	5330-00-318-4127	B-12	3	19207	8762863	5307-00-678-4760	B-4	20
19200	8671869	5315-00-699-7760	B-23	11	19207	8762863-1	5307-00-178-8859	B-4	58
19207	8682523	5330-00-679-4961	B-2	30	19207	8762863-1	5307-00-178-8859	B-6	25
19207	8701249	5310-00-678-4228	B-22	13	19207	8762871	4730-00-678-4750	B-4	39
19207	8701309		B-19	29					
19207	8701309		B-20	12					
19207	8701309		B-20	19					
19207	8701309		B-20	34					
19207	8701310		B-22	18					
19207	8701325	5310-00-655-9860	B-19	27					
19207	8701325	5310-00-655-9860	B-20	8					
19207	8701344	5935-01-104-6333	B-21	11					
19207	8701344		B-22	17					
19207	8701345		B-21	26					
19207	8701346		B-21	12					
19207	8701346		B-21	27					
19207	8711310	5340-00-678-6178	B-5	6					
19207	8711310	5340-00-678-6178	B-7	6					
19207	8717157		B-2	3					
19207	8717157		B-2	10					
19207	8717158	5330-00-599-0942	B-2	4					



**APPENDIX C  
EXPENDABLE SUPPLIES AND MATERIAL LIST**

**Section I. INTRODUCTION**

**C-1. Scope.**

This appendix lists expendable supplies and materials you will need to operate and maintain the improved clean air induction system. These items are authorized to you by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

**C-2. Explanation of Columns.**

*a. Column 1 - Item Number.* This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., Use sealer compound, item 4, appendix C).

*b. Column 2- Level.* This column identifies the lowest level of maintenance that requires the listed item.

- C - Operator/Crew
- O - Organizational Maintenance
- F - Direct Support Maintenance
- H - General Support Maintenance

*c. Column 3 - National Stock Number.* This is the National stock number assigned to the item; use it to request or requisition the item.

*d. Column 4- Description.* Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the part number followed by the Federal Supply Code for Manufacturer (FSCM) in parentheses if applicable.

*e. Column 5- Unit of Measure (U/M).* Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea., in., pr.). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

**Section II. EXPENDABLE SUPPLIES AND MATERIALS LIST**

ITEM	LEVEL	NATIONAL STOCK NUMBER	DESCRIPTION	U/M
1	O	8040-00-664-4318	Adhesive, Rubber (MMM-A-1617, Type II)	PT
2	O	8040-00-902-3871	Adhesive, Sealer (MIL-A-46106A)	OZ
3	O		Compound Locking (MIL-A-46163, Type I Grade L)	
4	O	8030-00-275-8110	Compound, Sealer (MIL-S-11031/ MMM-A-1617, Type II)	OZ
5	C	6850-00-880-7616	Compound, Silicone (MIL-S-8660)	OZ
6	O	7390-00-990-7391	Detergent, Liquid	DR
7	O	9920-00-292-9946	Pipe Cleaners	PG
8	O		Primer, Grade F	



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Official:

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*Chief of Staff*

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*Brigadier General, United States Army*  
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Distribution:

To be distributed in accordance with DA Form 12-37, Operator's and Organizational Maintenance and Direct support and General Support Maintenance requirements for Tank, Combat, Full Track, 105-MM, M60A1 Hull and M60A1 AOS; Vehicle, Combat Engineer, Full Tracked, M728; Tank, Combat, Full Tracked, 105-MM, M60A1 RISE and M60A1 RISE PASSIVE; Tank, Combat, Full Tracked, 105-MM, M48A5 and Tank, Combat, Full Tracked, 105-MM, M60A3 and TTS.

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PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO
3		2	
09		51	
2-8			2-1
12	1-6a		

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

Item 10. Change illustration. Reason: Tube end shown assembled on wrong side of lever cam.

Item 3. The NSN and P/N are not listed on the AMDF nor the MCRL. Request correct NSN and P/N be furnished.

Preventive Maintenance Checks and Services. Item 7 under "Items to be inspected" should be changed to read as follows: Firing linkage and firing mechanism pawl.

Since there are both 20- and 30- round magazines for this rifle, data on both should be listed.

SAMPLE

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US Army Tank-Automotive Command  
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Warren, Michigan 48397-5000





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IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

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## THE METRIC SYSTEM AND EQUIVALENTS

### LINEAR MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches  
 1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches  
 1 Kilometer = 1000 Meters = 0.621 Miles

### WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces  
 1 Kilogram = 1000 Grams = 2.2 Lb  
 1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

### LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces  
 1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

### SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches  
 1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet  
 1 Sq. Kilometer = 1,000,000 Sq. Meters = 0.386 Sq. Miles

### CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches  
 1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

### TEMPERATURE

$\frac{5}{9}(^{\circ}\text{F} - 32) = ^{\circ}\text{C}$   
 212° Fahrenheit is equivalent to 100° Celsius  
 90° Fahrenheit is equivalent to 32.2° Celsius  
 32° Fahrenheit is equivalent to 0° Celsius  
 $\frac{9}{5}^{\circ}\text{C} + 32 = ^{\circ}\text{F}$

## APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	Miles per Hour	0.621

