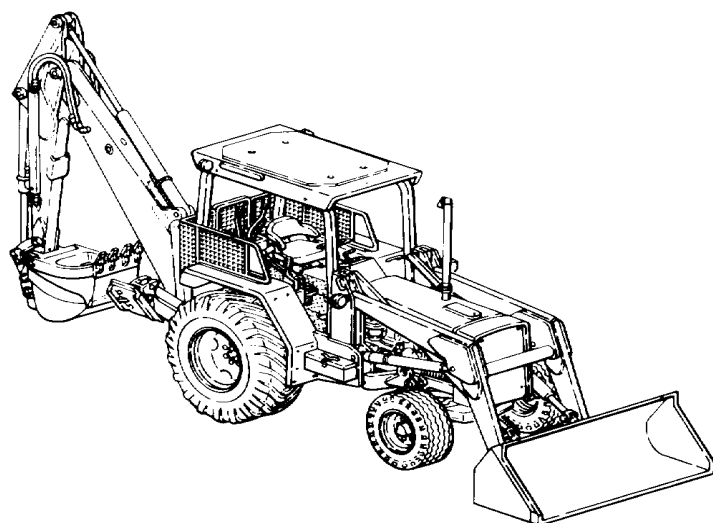


This copy is a reprint which includes current pages from Change 1.

**TECHNICAL MANUAL
ORGANIZATIONAL MAINTENANCE MANUAL
VOLUME 2 OF 3**



**MAINTENANCE
INSTRUCTIONS -
CONTINUED
PAGE 2-435**

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PAGE Index-1**

**TRACTOR, WHEELED,
DED, LOADER BACKHOE:
WITH HYDRAULIC IMPACT TOOL AND
WITH HYDRAULIC EARTH AUGER ATTACHMENT
JOHN DEERE MODEL JD410 (CCE)
WITH BUCKET, IMPACTOR,
AND EARTH DRILL
(NSN 2420-00-567-0135)**

1 SEPTEMBER 1987

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED

HEADQUARTERS, DEPARTMENT OF THE ARMY

CHANGE
NO. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington D.C., 8 April 1992

ORGANIZATIONAL MAINTENANCE MANUAL

**TRACTOR, WHEELED,
DED, LOADER BACKHOE:
WITH HYDRAULIC IMPACT TOOL AND
WITH HYDRAULIC EARTH AUGER ATTACHMENT
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TM 5-2420-222-20-2, 1 September 1987, is changed as follows:

1. Cover. The manual title is changed to read as shown above.
2. Remove old pages and insert new pages.
3. New or changed material is indicated by a vertical bar in the margin or by a vertical bar adjacent to the TA number.

Remove Pages

a and b
i/(ii blank)
2-899 through 2-902
2-907 and 2-908

Insert Pages

a and b
i/(ii blank)
2-899 through 2-902
2-907 and 2-908

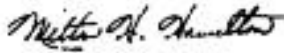
4. File this change sheet in front of the publication for reference purposes.

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By Order of the Secretary of the Army:

GORDON R. SULLIVAN
General, United States Army
Official: Chief of Staff

Official:



MILTON H. HAMILTON
Administrative Assistant to the
Secretary of the Army
00770

Distribution:

To be distributed in accordance with DA Form 12-25-E (Block 3692) Unit maintenance requirements for TM 5-2420-222-20-2.

WARNING

Drycleaning solvent P-D680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

WARNING

Cleaning compound, trichlorotrifluoroethane, for electrical parts is toxic and flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, sodium, and potassium. Always wear protective goggles and rubber gloves, and use only in a well-ventilated area. DO NOT wear jewelry while using cleaning compound. Avoid contact with skin, eyes, and clothes, and DO NOT breathe vapors. Cleaning compound fumes or vapors can take the place of air and may become a cancer producing agent. DO NOT use near open flame or excessive heat. The compound's boiling point is 114°F (46°C). If you become dizzy while using cleaning compound, immediately get fresh air and medical help. If compound contacts eyes, immediately wash your eyes with water and get medical aid.

WARNING

Properly installed neutral safety switch prevents loader backhoe engine from starting unless gearshift lever is in neutral. During installation, begin with one aluminum shim regardless of quantity removed. Switch must be tightened to proper torque each time a shim is added or removed to insure proper adjustment and prevent possible injury during engine starting.

WARNING

Make sure that loader bucket and backhoe bucket are lowered to ground, or wheels are blocked, to keep loader backhoe from rolling before performing maintenance on parking brake.

WARNING

Water soluble cleaning compound solvent is flammable and fumes are toxic. Flashpoint is 220°F (104°C). Boiling point is 212°F (100°C). Do not store in temperatures above 150°F (65°C) or below 35°F (2°C). Do not use near open flame or excessive heat. Do not wear jewelry. Wear rubber gloves and goggles, and use only in well ventilated area. Avoid contact with skin, eyes, and clothes, and don't breathe vapors. Avoid contact with acids, aluminium, or zinc; chemical reaction may result. If you become dizzy while using cleaning compound solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

WARNING

If loader backhoe is to be driven on public roads at night, front lights must be adjusted so they do not shine into eyes of drivers of oncoming vehicles.

WARNING

No open flames, welding, grinding, smoking, or use of heat producing devices permitted near fuel tank and fuel lines during maintenance unless the fuel tank has been cleaned and purged of all flammable liquids and vapors. Fuel burns easily and fumes are explosive. Keep battery disconnected. Failure to observe these precautions could cause serious injury.

WARNING

Do not smoke, use open flame, or allow sparks near batteries. The mixture of oxygen and hydrogen gases released from batteries is highly flammable and can explode causing serious injury or death.

WARNING

Electrolyte and battery corrosion can cause injury. Wear safety goggles and gloves. If for any reason electrolyte or battery corrosion contacts the eyes, skin, or clothing, flush immediately with large amounts of cool water and seek medical attention immediately.

WARNING

Be careful when draining hot fluids. Wear gloves to protect your hands from hot parts and fluids or severe burns could result.

WARNING

Lift loader backhoe on level ground or it may become unstable. Place wood blocks in front of and behind rear tires to keep loader backhoe from rolling in either direction. Do not get under loader backhoe or place feet or hands under wheels when wheels are off ground unless loader backhoe is securely in place on trestles or severe injury may result. Do not support more than two wheels off ground at one time or loader backhoe may become unstable.

WARNING

Lift loader backhoe on level ground or it may become unstable. Place wood blocks in front of and behind front tires to keep loader backhoe from rolling in either direction. Do not get under loader backhoe or place feet or hands under wheels when wheels are off ground unless loader backhoe is securely in place on trestles or severe injury may result. Do not support more than two wheels off ground at one time or loader backhoe may become unstable.

WARNING

Some parts are heavy. Be careful when handling them. Lifting equipment is needed when parts weigh over 50 pounds (23 kg) for a single person lift, over 100 pounds (45 kg) for a two person lift, and over 150 pounds (68 kg) for a three or more person lift. Do not try to handle heavy parts without lifting equipment. Keep clear of heavy parts supported only by lifting equipment. Failure to observe this precaution could cause serious injury or death of personnel.

WARNING

Do not attempt to disconnect hydraulic lines and fittings while engine is running or before hydraulic system pressure has been released. When engine is running, hydraulic system is under pressure. Hydraulic system pressure should be 0 psi (0 kPa) before lines are disconnected. A line or fitting disconnected under pressure will blow off with a lot of force and could cause serious injury to personnel.

WARNING

Be careful when removing radiator cap. If engine is hot, escaping steam could burn you. Use a rag to cover radiator cap to protect your hand. Unscrew cap just enough to allow any built-up steam to escape. When all pressure has been relieved, unscrew cap the rest of the way, and take it off of radiator.

WARNING

Shock absorber is under strong spring tension. Release tension slowly to avoid injury.

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TECHNICAL MANUAL

NO. 5-2420-222-20-2

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC 1 September 1987

ORGANIZATIONAL MAINTENANCE MANUAL

TRACTOR, WHEELED,
DED, LOADER BACKHOE:
WITH HYDRAULIC IMPACT TOOL AND
WITH HYDRAULIC EARTH AUGER ATTACHMENT
JOHN DEERE MODEL JD410 (CCE)
WITH BUCKET, IMPACTOR,
AND EARTH DRILL
(NSN 2420-00-567-0135)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

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

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*This manual supersedes Organizational portion of TM 5-2420-222-14&P1 and TM 5-2420-222-14&P2 dated October 1982, including all changes.

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AC GENERATOR

This task covers:

- a. Removal (page 2-436)
 - b. Disassembly (page 2-439)
 - c. Cleaning (page 2-439)
 - d. Inspection/Replacement (page 2-440)
 - e. Assembly (page 2-441)
 - f. Installation (page 2-441)
-

INITIAL SETUP:

Tools

Handle, ratchet, 3/8-inch drive
 Screwdriver, flat-tip, 3/16-inch
 Socket, 3/8-inch drive, 1/2-inch
 Socket, 3/8-inch drive, 9/16-inch
 Wrench, open-end, 7/16-inch
 (two required)
 Wrench, box, 9/16-inch

Materials/Parts

Lockwasher, ac generator adjusting
 strap screw
 Lockwasher, ac generator plate
 terminal nut
 Lockwasher, ac generator mounting
 screw nut

Materials/Parts - Continued

Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)
 Tags, marking (item 30, Appendix C)

Personnel Required

One

Equipment Condition

1. Battery ground cable disconnected
 (page 2-696)
2. Hood removed (page 1025)

LOCATION	ITEM	ACTION	REMARKS
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NOTE

Loader backhoes have two configurations of ac generators. Both are maintained the same way. Ac generator for loader backhoes with Serial Numbers 319995 thru 342573 shown.

REMOVAL

- | | | | |
|----|-------------------------------|--|--|
| 1. | Connector (1) | Connector (2) | <ul style="list-style-type: none"> a. Tag (page 2-137). b. Using 3/16-inch flat-tip screwdriver, lift up lock tab. c. Unplug. |
| 2. | Terminal (3) and terminal (4) | Nut (5), lockwashers (6), and insulator washer (7) | <ul style="list-style-type: none"> a. Using two 7/16-inch open-end wrenches, unscrew and take off. b. Get rid of lockwasher (6). |

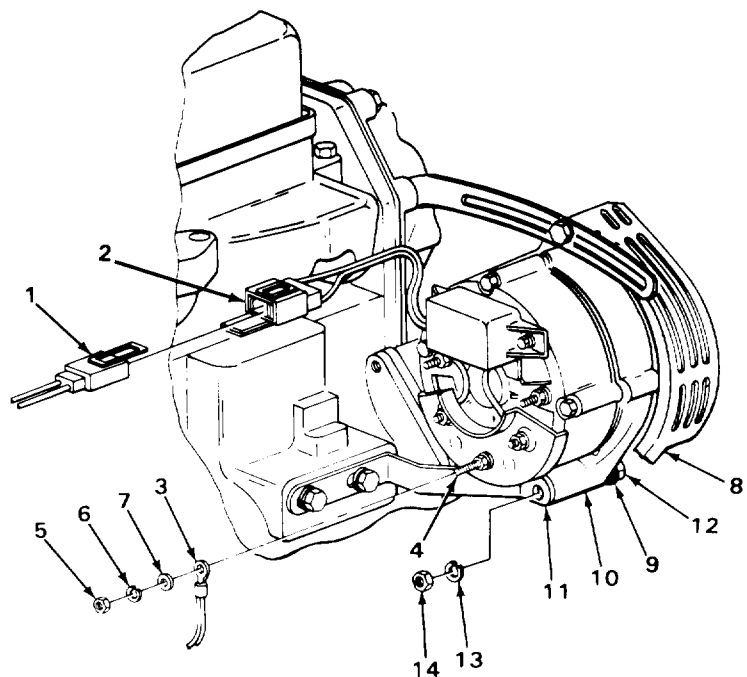
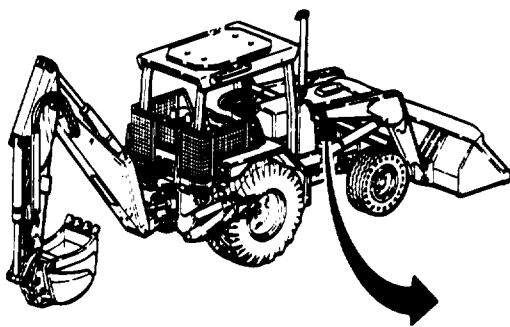
AC GENERATOR - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
3. Terminal (4)	Terminal (3)	a. Tag (page 2-137). b. Take off.	

NOTE

Some loader backhoes have ac generator fan and belt guard, some do not.

4. Belt guard (8) if present, engine accessory bracket (9), ac generator (10) and double angle bracket (11)	Screw (12), lock-washer (13), and nut (14)	Using 9/16-inch box wrench, 9/16-inch, 3/8-inch drive socket, and ratchet handle, loosen.	
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TA242923

AC GENERATOR - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
5.	Ac generator adjusting strap (1), belt guard (2), if present, and ac generator (3)	Screw (4), lockwasher (5), and washer (6)	<ol style="list-style-type: none"> a. Using 1/2-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out. b. Get rid of lockwasher (5).
6.	Ac generator adjusting strap (1) and water pump (7)	Screw (8)	Using 9/16-inch, 3/8-inch drive socket and ratchet handle, loosen.
7.	Ac generator (3) and water pump (7)	Ac generator adjusting strap (1)	Push up out of the way.
8.	Engine accessory bracket (9) and double angle bracket (10)	Ac generator (3)	Push toward engine.
9.	Ac generator pulley (11)	V-belt (12)	Take off.
10.	Belt guard (2) if present, engine accessory bracket (9), ac generator (3), and double angle bracket (10)	Screw (13), nut (14), and lockwasher (15)	<ol style="list-style-type: none"> a. Unscrew and take out. b. Get rid of lockwasher (15).
11.	Ac generator (3) and engine accessory bracket (9)	Belt guard (2)	If present, take off.
12.	Engine accessory bracket (9) and double angle bracket (10)	Ac generator (3)	Take off.

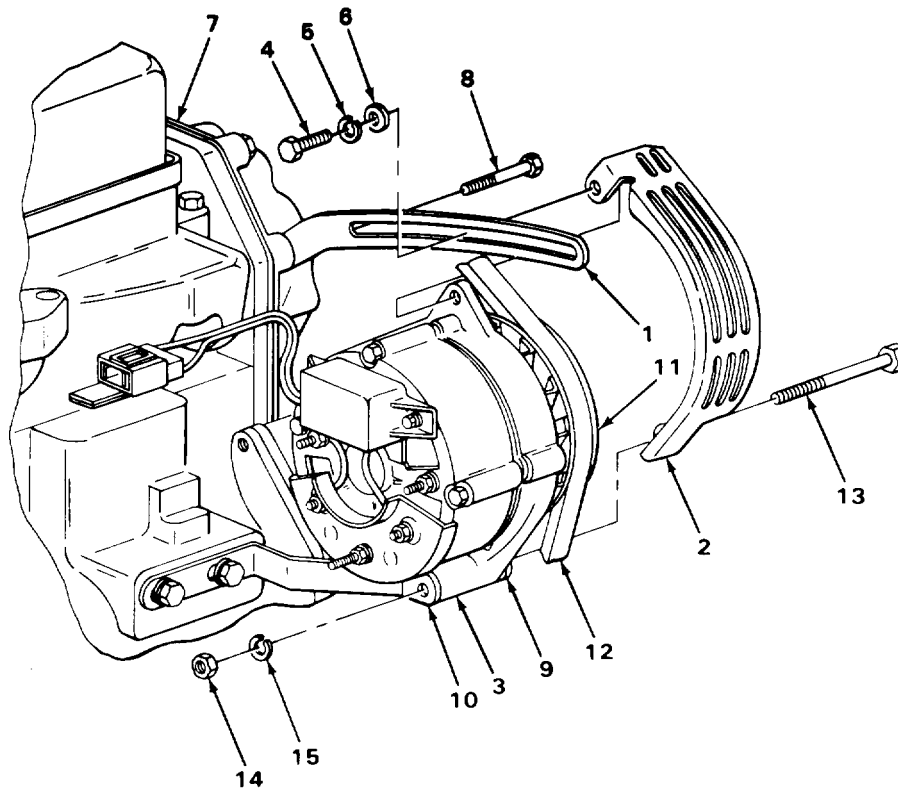
AC GENERATOR - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
DISASSEMBLY			
13.	Ac generator	Remove (page 2-452).	
14.	Ac generator pulley	Remove (page 2-448).	

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).



TA242924

AC GENERATOR - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CLEANING - CONTINUED

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 138°F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

15.	Ac generator (1)	a. Using clean rag dampened in dry-cleaning solvent, wipe outside clean. b. Using clean, dry rags, wipe dry.	
16.	All other metal parts	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.	

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-VI-1).

Replace defective parts as needed.

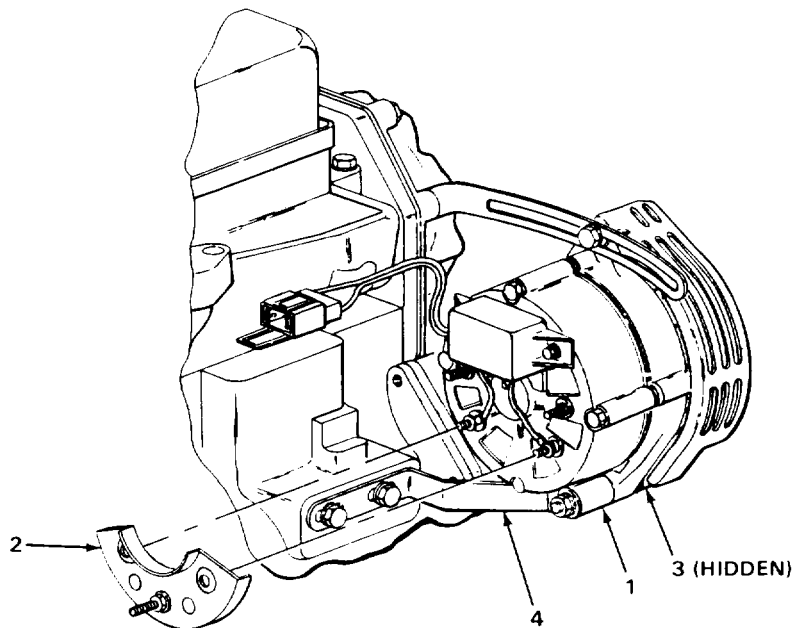
17.	Ac generator (1)	a. Look for cracks and breaks in housing. b. Look for broken terminals. c. Turn rotor shaft. Rotor should turn freely with some drag from brushes, but no binding.	
18.	Ac generator plate assembly (2)	a. Look for cracks, breaks, and abnormal bends. b. Look for corroded terminal. c. Look for burned diode.	
19.	All other metal parts	Look for cracks, breaks, and abnormal bends.	
20.	All threaded parts	Look for damaged threads.	

AC GENERATOR - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
ASSEMBLY			
21. Ac generator	Ac generator pulley	Install (page 2-448).	
22.	Voltage regulator	Install (page 2-452).	
INSTALLATION			
23. Engine accessory bracket (3) and double angle bracket (4)	Ac generator (1)	Put in place and support.	

NOTE

Some loader backhoes may not have belt guard.

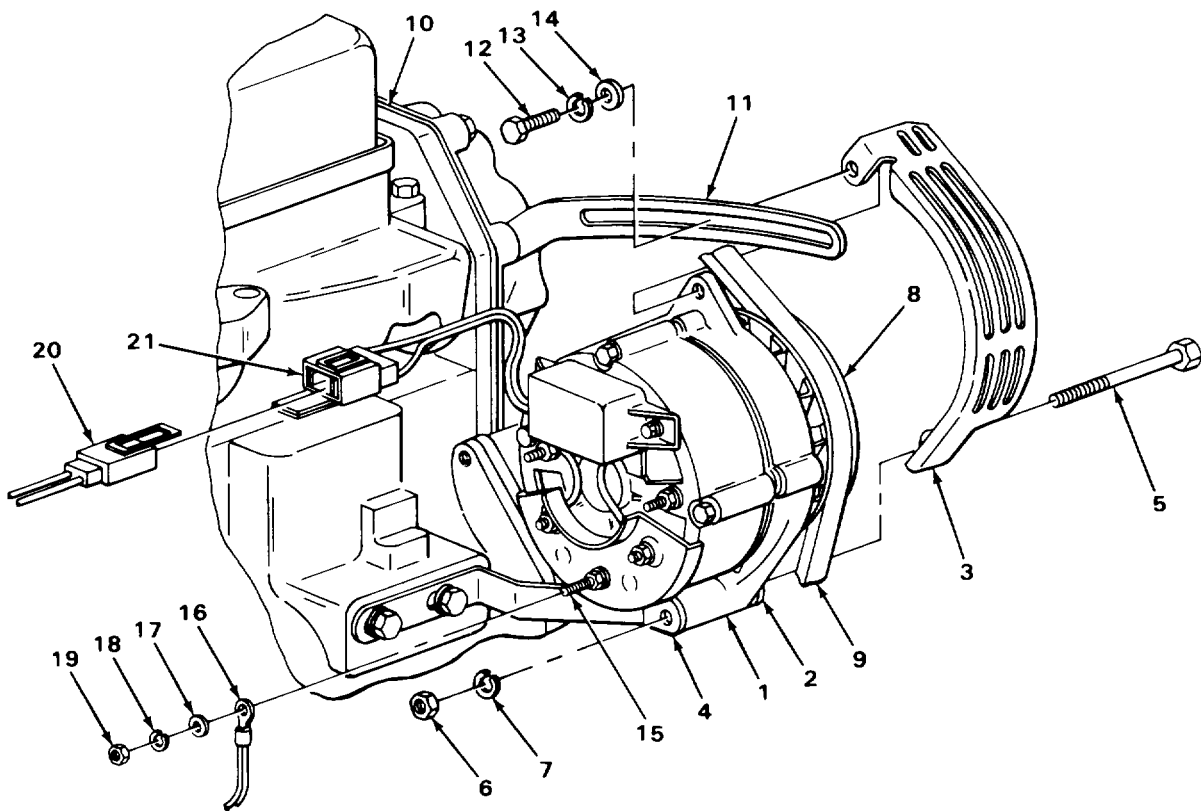


TA242925

AC GENERATOR - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
24.	Ac generator (1) and engine accessory bracket (2)	Belt guard (3)	If present, put in place and support.
25.	Belt guard (3) if present, engine accessory bracket (2), ac generator (1), and double angle bracket (4)	Screw (5), nut (6) and new lock-washer (7)	Screw together until snug.
26.	Ac generator pulley (8)	V-belt (9)	Put on.
27.	Water pump (10) and ac generator (1)	Ac generator adjusting strap (11)	Move down into place.
28.	Ac generator adjusting strap (11), belt guard (3) if present, and ac generator (1)	Screw (12), new lockwasher (13), and washer (14)	Screw in until snug.
29.	Terminal (15)	Terminal (16)	a. Put on. b. Take off tags.
30.	Terminal (15) and terminal (16)	Insulator washer (17), new lockwasher (18), and nut (19)	Screw on and tighten, using two 7/16-inch open-end wrenches.
31.	Connector(20)	Connector (21)	a. Plug in. b. Take off tags.

AC GENERATOR - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Adjust V-belt (page 2-427).
2. Install hood (page 2-1025).
3. Connect battery ground cable (page 2-696).

TASK ENDS HERE

TA242926

AC GENERATOR MOUNTING BRACKETS

This task covers:

- a. Removal (page 2-444)
- b. Cleaning (page 2-445)
- c. Inspection/Replacement (page 2-446)
- d. Installation (page 2-446)

INITIAL SETUP:

Tools

Wrench, box, 9/16-inch

Materials/Parts

Solvent, drycleaning (item 28, Appendix C)

Materials/Parts

Lockwasher, adjusting strap
 Lockwasher, double angle bracket screw
 (two required)
 Lockwasher, engine accessory bracket
 screw (two required)
 Rags, wiping (item 21, Appendix C)

Personnel Required

One

Equipment Condition

Ac generator removed (page 2-436)

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Ac generator adjusting strap (1) and water pump (2)	Screw (3), lockwasher (4) and washer (5)	a. Unscrew and take out. b. Get rid of lockwasher (4).
2. Water pump (2)	Ac generator adjusting strap (1)	Take off.
3. Engine accessory bracket (6), two spacers (7), timing gear cover (8) and engine block (9)	Two screws (10) lockwashers (11), and washers (12)	a. Using 9/16-inch box wrench, unscrew and take out. b. Get rid of lockwashers (11).
4. Timing gear cover (8)	Engine accessory bracket (6) and two spacers (7)	Take off.

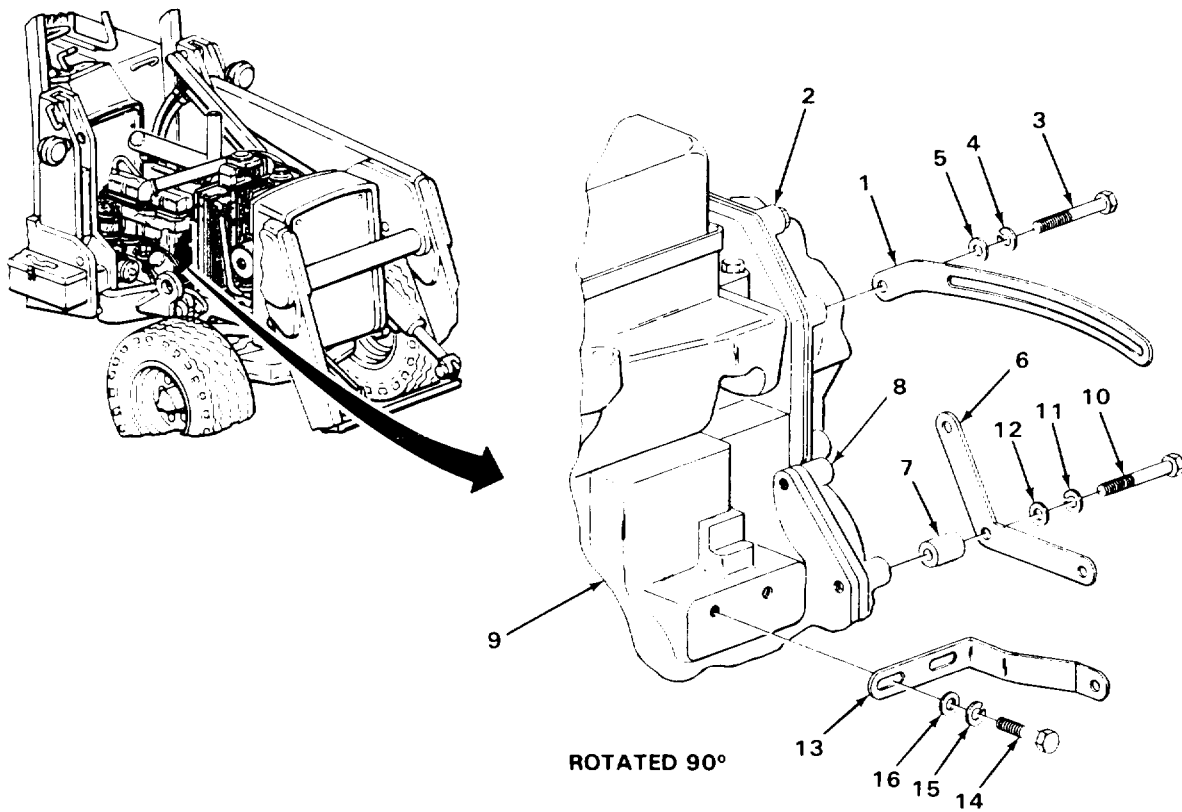
AC GENERATOR MOUNTING BRACKETS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
5.	Double angle bracket (13) and engine block (9)	a. Using 9/16-inch box wrench, unscrew and take off. b. Get rid of lockwashers (15) and washers (16).	
6.	Engine block (9)	Take off.	

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).



TA242927

AC GENERATOR MOUNTING BRACKETS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|----|-----------------|----------------------------------|-------------------------------------|
| 7. | All metal parts | a. Clean in drycleaning solvent. | b. Using clean, dry rags, wipe dry. |
|----|-----------------|----------------------------------|-------------------------------------|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

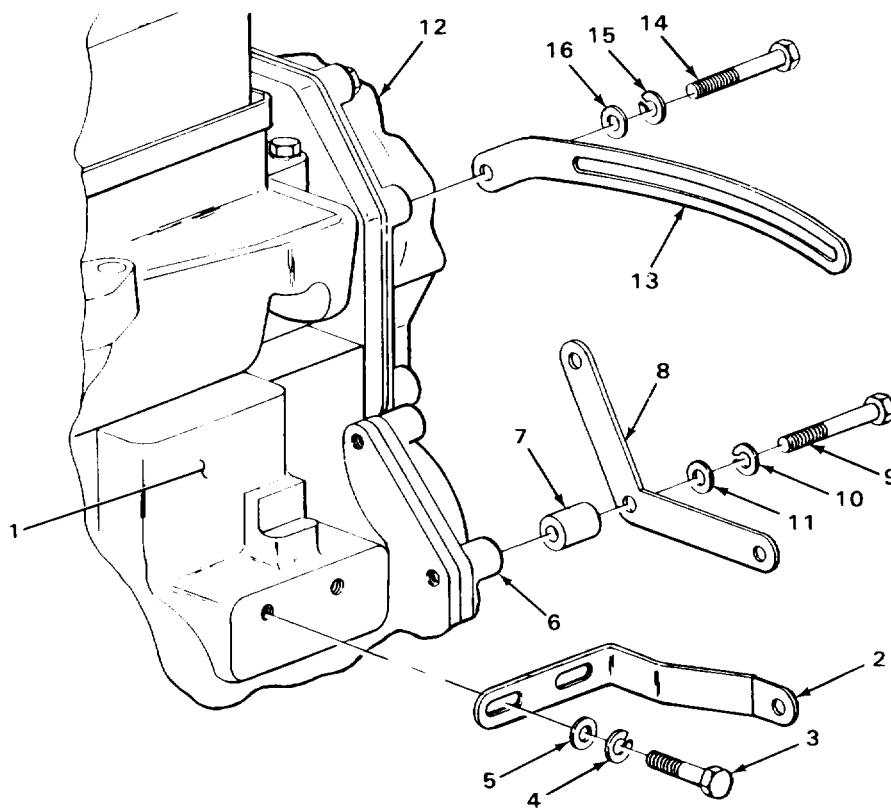
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|----|--------------------|---|
| 8. | All metal parts | Look for cracks, abnormal bends and breaks. |
| 9. | All threaded parts | Look for damaged threads. |

INSTALLATION

- | | | |
|---|---|---|
| 10. Engine block (1) | Double angle bracket (2) | Put in place. |
| 11. Double angle bracket (2) and engine block (1) | Two screws (3), new lockwashers (4) and washers (5) | Screw in and alternately tighten, using 9/16-inch box wrench. |
| 12. Timing gear cover (6) bracket (8) | Two spacers (7) and engine accessory | Put in place. |

AC GENERATOR MOUNTING BRACKETS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
13.	Engine accessory bracket (8), two spacers (7), timing gear cover (6) and engine block (1)	Two screws (9), new lockwashers (10), and washers (11)	Screw in and alternately tighten, using 9/16-inch box wrench.
14.	Water pump (12)	Ac generator adjusting strap (13)	Put in place.
15.	Ac generator adjusting strap (13) and water pump (12)	Screw (14), new lockwasher (15), and washer (16)	Screw in until snug.
16.	Water pump (12) and ac generator adjusting strap (13)	Ac generator adjusting strap (13)	Push up out of the way for ac generator installation.



NOTE

FOLLOW-ON MAINTENANCE: Install ac generator (alternator) (page 2-436).

TASK ENDS HERE

TA242928

AC GENERATOR PULLEY

This task covers:

- a. Removal (page 2-448)
 - b. Cleaning (page 2-450)
 - c. Inspection/Replacement (page 2-450)
 - d. Installation (page 2-450)
-

INITIAL SETUP:

Tools

- Caps, vise jaw
- Extension, 1/2-inch drive, 5-inch
- Handle, ratchet, 1/2-inch drive
- Hammer, ball-peen, 1-pound head
- Puller, mechanical, gear and bearing, 5 1/2-inch reach
- Punch, drive-pin, straight, 1/8-inch
- Socket, 1/2-inch drive, 15/16-inch
- Vise, machinist's
- Wrench, torque, 1/2-inch drive, 0 to 150 foot-pound capacity

Materials/Parts

- Lockwasher, pulley
- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)
- Tape, pressure sensitive (item 34, Appendix C)

Personnel Required

One

Equipment Condition

Ac generator removed (page 2-436)

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

CAUTION

Make sure machinist's vise grips both flanges of pulley to prevent bending it.

1.	Pulley (1) and rotor shaft (2)	Nut (3) and lockwasher (4)	<ul style="list-style-type: none"> a. Secure pulley (1) in machinist's vise with vise jaw caps and support ac generator (5). b. Using 15/16-inch, 1/2-inch drive socket, 5-inch extension, and ratchet handle, unscrew and take off. c. Take pulley (1) out of machinist's vise with vise jaw caps. d. Get rid of lockwasher (4).
2.	Rotor shaft (2) and woodruff key (6)	Pulley (1)	Using 5 1/2-inch reach mechanical gear and bearing puller, pull off.

AC GENERATOR PULLEY - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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NOTE

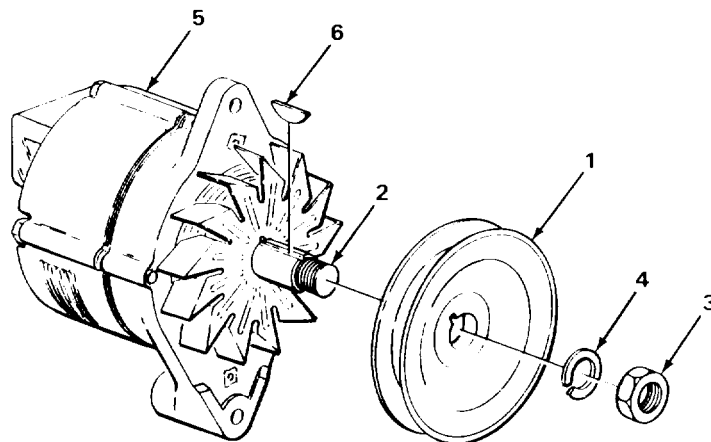
Do not remove woodruff key unless inspection shows need for replacement.

3.	Rotor shaft (2)	Woodruff key (6)	Using 1/8-inch straight drive-pin punch, and 1-pound head ball-peen hammer, tap out.
----	-----------------	------------------	--

NOTE

Steps 4 and 5 apply only if you are preparing ac generator for exchange.

4.	Rotor shaft (2)	Woodruff key (6)	If not removed, wrap shaft (2) and key (6) with pressure sensitive tape.
5.		Nut (3)	Screw on but do not tighten.



TA242929

AC GENERATOR PULLEY - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
CLEANING			
NOTE			
For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).			
WARNING			
Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.			
6.	All metal parts	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.	
INSPECTION/REPLACEMENT			
NOTE			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).			
Replace defective parts as needed.			
7.	All metal parts	Look for cracks, breaks, and abnormal bends.	
8.	All threaded parts	Look for damaged threads.	
INSTALLATION			
NOTE			
Steps 9 and 10 apply only if preparing exchange ac generator for installation.			
9.	Rotor shaft (1)	Nut (2)	Unscrew and take off.
10.	Woodruff key (3)		Take off pressure sensitive tape.
11.	Woodruff key (3) hammer, tap into place.		If removed, using 1-pound head ball-peen

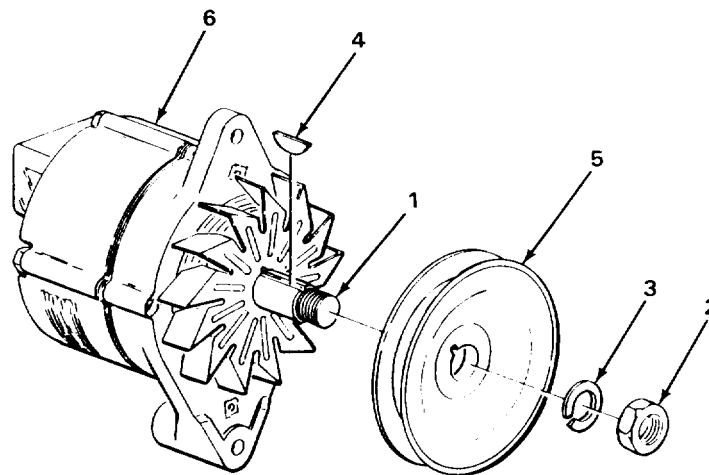
AC GENERATOR PULLEY - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
12. Rotor shaft (1) and woodruff key (3)	Pulley (4)	a. Aline with keyway. b. Put on.	

CAUTION

Make sure machinist's vise grips both flanges of pulley to prevent bending it.

13. Pulley (4) and rotor shaft (1)	New lockwasher (5) and nut (2)	a. Secure pulley (4) in machinist's vise with vise jaw caps and support ac generator (6). b. Using 15/16-inch, 1/2-inch drive socket, 5-inch extension, and ratchet handle, screw on until snug. c. Using 15/16-inch, 1/2-inch drive socket, 5-inch extension, and 0 to 150 foot-pound capacity torque wrench, tighten to 40 to 50 foot pounds (55 to 67 N.m) torque. d. Remove pulley (4) from machinist's vise with jaw caps.	
---------------------------------------	-----------------------------------	---	--



NOTE

FOLLOW-ON MAINTENANCE: Install ac generator (page 2-436).

TASK ENDS HERE

TA242930

VOLTAGE REGULATOR

This task covers:

- a. Removal (page 2-452)
- b. Cleaning (page 2-454)
- c. Inspection/Replacement (page 2-456)
- d. Installation (page 2-457)

INITIAL SETUP:

Tools

Handle, screwdriver grip spin, 1/4-inch drive
 Handle, ratchet, 3/8-inch drive
 Screwdriver, flat-tip, 3/16-inch
 Socket, 1/4-inch drive, 5/16-inch
 Socket, 3/8-inch drive, 3/8-inch
 Wrench, open-end, 7/16-inch (two required)

Materials/Parts

Cleaning compound, solvent (item 4, Appendix C)
 Lockwasher, ac generator plate terminal nut

Materials/Parts - Continued

Nut, assembled washer, ac generator terminal (two required)
 Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning, (item 28, Appendix C)
 Tags, marking (item 30, Appendix C)

Personnel Required

One

Equipment Condition

Battery ground cable disconnected (page 2-696)

LOCATION	ITEM	ACTION	REMARKS
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NOTE

Loader backhoe voltage regulators are available in two different configurations. Both configurations are maintained the same way. One configuration is shown.

REMOVAL

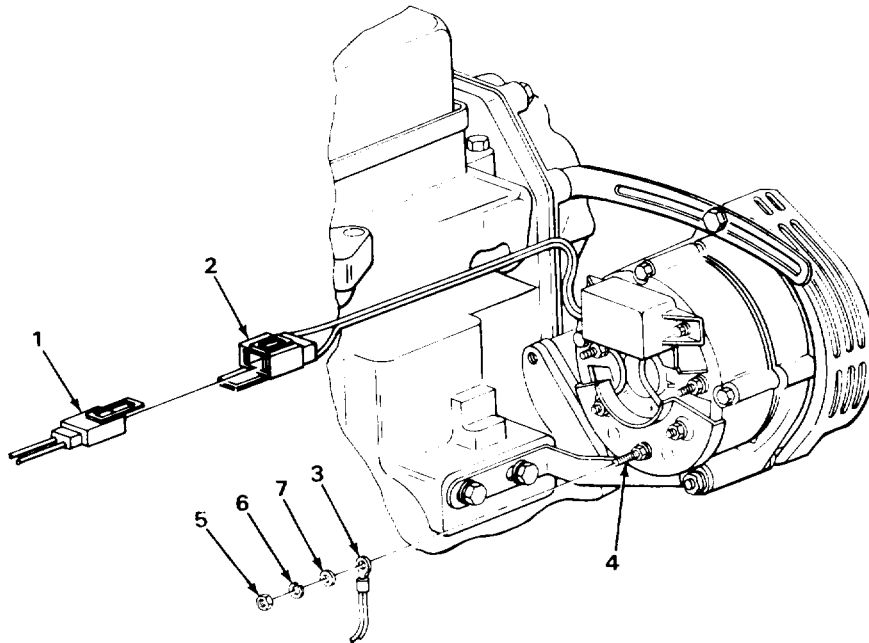
NOTE

Steps 1 thru 3 do not apply if ac generator has been removed.

- | | | |
|------------------|---------------|--|
| 1. Connector (1) | Connector (2) | <ul style="list-style-type: none"> a. Tag (page 2-137). b. Using 3/16-inch flat-tip screwdriver, lift up lock tab. c. Unplug. |
|------------------|---------------|--|

VOLTAGE REGULATOR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
2. Terminal (3) and terminal (4)	Nut (5), lock-washer (6), and insulator washer (7)	a. Using two 7/16-inch open-end wrenches, unscrew and take off. b. Get rid of lockwasher (6).
3. Terminal (4)	Terminal (3)	a. Tag (page 2-137). b. Take off.



TA242931

VOLTAGE REGULATOR - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
4.	Ac generator plate assembly (1) and terminal (2)	Assembled washer nut (3), and washer (4)	a. Using 3/8-inch, 3/8-inch drive socket and ratchet handle, unscrew and take off. b. Get rid of assembled washer nut (3).
5.	Ac generator plate assembly (1) and terminal (5)	Assembled washer nut (6) and insulator washer (7)	a. Using 3/8-inch, 3/8-inch drive socket and ratchet handle, unscrew and take off. b. Get rid of assembled washer nut (6).
6.	Terminal (2), terminal (8), insulator sleeve (9) and insulator washer (10)	Ac generator plate assembly (1)	Take off.
7.	Terminal (5) (9), insulator washer (10)	Insulator sleeve	Take off.
8.		Terminal (11)	a. Tag (page 2-137). b. Take off.
9.	Terminal (2)	Terminal (8)	a. Tag (page 2-137). b. Take off.
10.	Voltage regulator (12) and ac generator (13)	Two screws (14) and screw (15)	Using 5/16-inch, 1/4-inch drive socket and screwdriver spin grip handle, unscrew and take out.
11.	Ac generator (13)	Voltage regulator (12)	Take off.
12.	Terminal (16)	Connector (17)	a. Tag (page 2-137). b. Unplug.

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

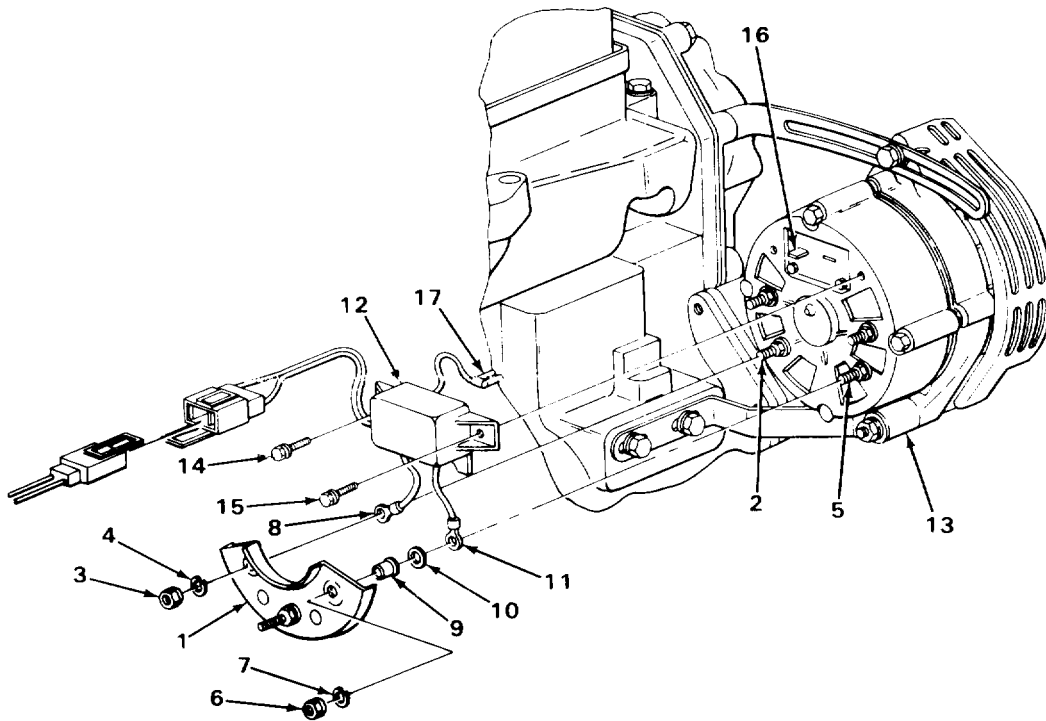
VOLTAGE REGULATOR - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 1140F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|------------------------|--|
| 13. | Voltage regulator (12) | a. Using clean rag dampened with solvent cleaning compound, wipe clean.
b. Using clean, dry rags, wipe dry. |
|-----|------------------------|--|



TA242932

VOLTAGE REGULATOR - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 1140F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|---------------|---|
| 14. | Connector (1) | <ul style="list-style-type: none"> a. Dip in cleaning compound. b. Using clean, dry rags, wipe dry. |
|-----|---------------|---|

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 1380F (38 to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|-----------------------|---|
| 15. | All other metal parts | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. |
|-----|-----------------------|---|

INSPECTION/REPLACEMENT

NOTE

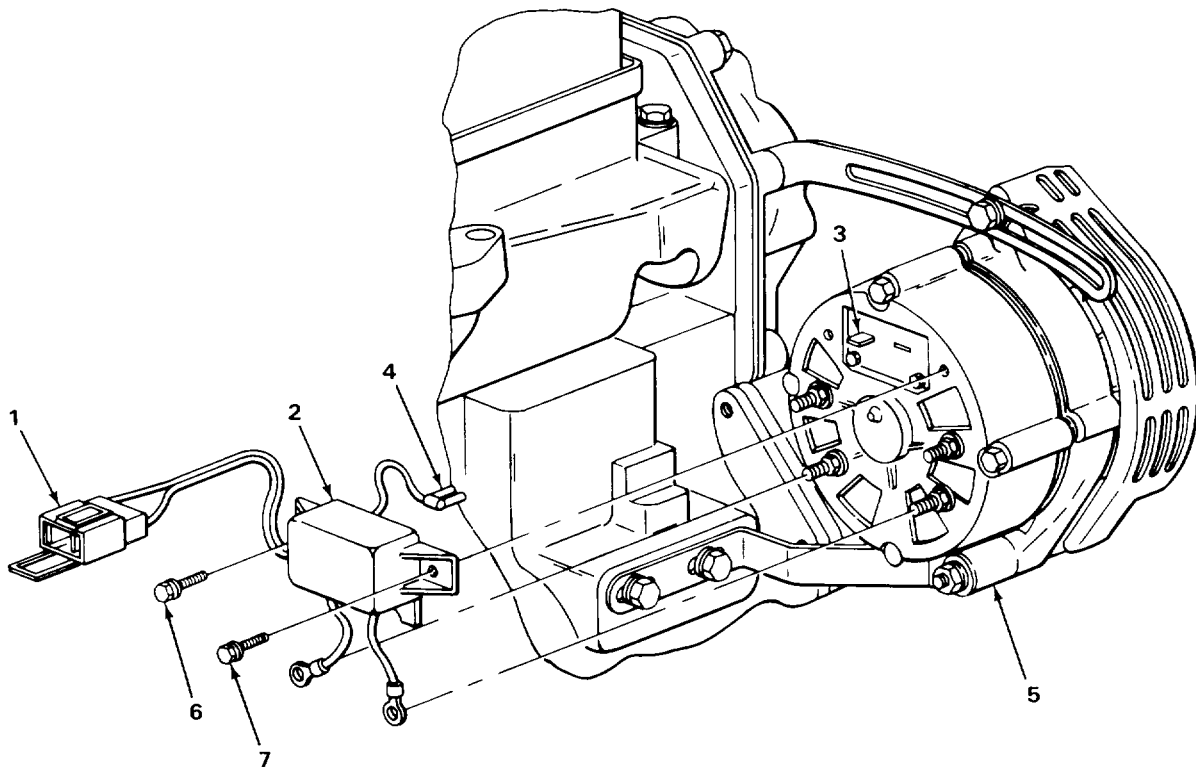
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

- | | | |
|-----|-----------------------------------|--|
| 16. | Voltage regulator (2) insulation. | <ul style="list-style-type: none"> a. Look for cracks and breaks. b. Look for cracked, burned, or worn c. Look for loose or corroded terminals. |
|-----|-----------------------------------|--|

VOLTAGE REGULATOR - CONTINUED

LOCATION	ITEM	ACTION REMARKS
17.	All other metal parts	Look for cracks, breaks, and bends.
18.	All threaded parts	Look for damaged threads.
INSTALLATION		
19. Terminal (3)	Connector (4)	a. Push on. b. Take off tag.
20. Ac generator (5)	Voltage regulator (2)	Put on.
21. Voltage regulator (2) and ac generator (5)	Two screws (6) and screw (7)	Screw in and alternately tighten, using 5/16-inch, 1/4-inch drive socket and screwdriver grip spin handle.



TA242933

VOLTAGE REGULATOR - CONTINUED

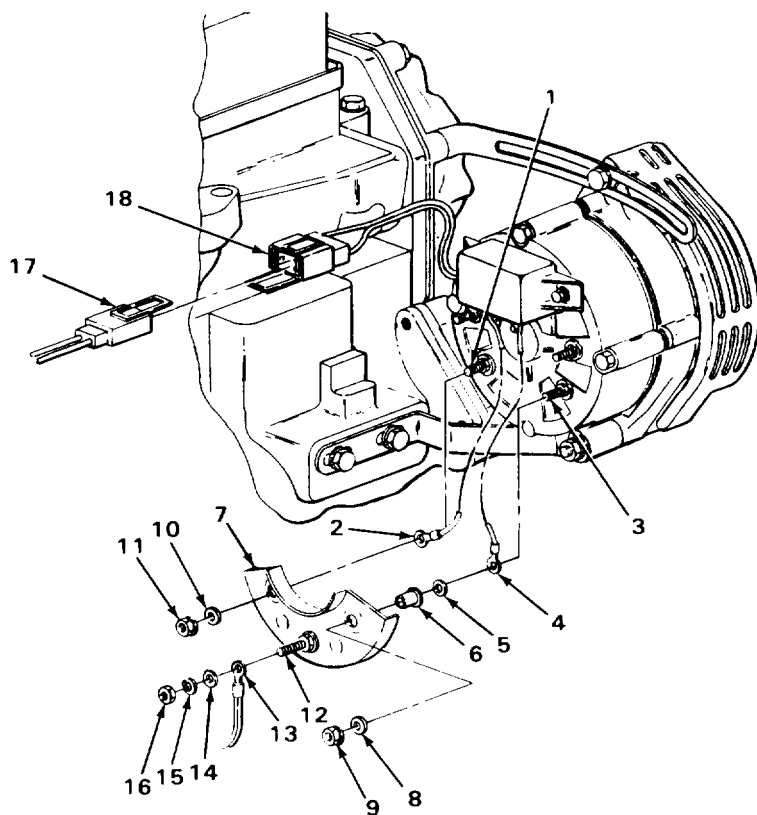
LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
22.	Terminal (1)	Terminal (2)	a. Put on. b. Take off tag.
23.	Terminal (3)	Terminal (4)	a. Put on. b. Take off tag.
24.		Insulator washer (5) and insulator sleeve (6)	Put on.
25.	Terminal (1), terminal (2), insulator sleeve (6) and insulator washer (5)	Ac generator plate assembly (7)	Put on.
26.	Terminal (3) and ac generator plate assembly (7)	Insulator washer (8) and new assembled washer nut (9)	Screw on until snug.
27.	Terminal (1) and ac generator plate assembly (7)	Washer (10) and new assembled washer nut (11)	Screw on until snug.
28.	Ac generator plate assembly (7) and two terminals (1 and 3)	Two assembled washer nuts (9 and 10)	Using 3/8-inch, 3/8-inch drive socket and ratchet handle, alternately tighten.

NOTE

Steps 29 thru 31 do not apply if ac generator has been removed.

29.	Terminal (12)	Terminal (13)	a. Put on. b. Take off tag.
30.	Terminal (12) and terminal (13)	Insulator washer (14), new lock-washer (15) and nut (16)	Screw on and tighten, using two 7/16-inch open-end wrenches.
31.	Connector (17)	Connector (18)	a. Plug in. b. Take off tag.

VOLTAGE REGULATOR - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE: Connect battery ground cable (page 2-696).

TASK ENDS HERE

TA242934

STARTER

This task covers:

- | | |
|--------------------------|--|
| a. Removal (page 2-460) | d. Inspection/Replacement (page 2-464) |
| b. Cleaning (page 2-462) | e. Installation (page 2-465) |
-

INITIAL SETUP

Tools

- Crowfoot attachment, 3/8-inch drive, 9/16-inch
- Extension, 3/8-inch drive, 5-inch
- Handle, hinged, 3/8-inch drive
- Handle, ratchet, 1/2-inch drive
- Remover and setter, stud, 1/2-inch drive
- Tachometer, mechanical, hand held
- Test set, generator and voltage One regulator
- Wrench, box, 11/32-inch
- Wrench, box, 9/16-inch
- Wrench, box and open-end 9/16-inch

Materials/Parts

- Cleaning compound, solvent (item 4, Appendix C)
- Lockwasher, battery cable solenoid terminal nut

Materials/Parts - Continued

- Lockwasher, solenoid starting terminal
- Lockwasher, starter mounting (two required)
- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)
- Tags, marking (item 30, Appendix C)

Personnel Required

Equipment Condition

- Battery ground cable disconnected (page 2-696)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

- | | | | |
|----|--|--|--|
| 1. | Battery cable terminal (1), terminal (2), and terminal (3) | Nut (4) and lockwasher (5) and take off. | <ul style="list-style-type: none"> a. Using 9/16-inch box wrench, unscrew b. Get rid of lockwasher (5). |
| 2. | Terminal (3) Battery cable terminal (1) and terminal (2) | | <ul style="list-style-type: none"> a. Tag (page 2-137). b. Take off. |
| 3. | Terminal (6) and terminal (7) | Nut (8) and lockwasher (9) and take off. | <ul style="list-style-type: none"> a. Using 11/32-inch box wrench, unscrew b. Get rid of lockwasher (9). |

STARTER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL - CONTINUED

CAUTION

Do not pull starter straight out of flywheel housing. Angle front of starter toward engine during removal to clear flywheel teeth. Damage to gear teeth will cause rapid wear.

7. Flywheel housing (1) and stud (2)	Starter (3)	Take out.	
--------------------------------------	-------------	-----------	--

CAUTION

Do not remove stud unless inspection shows need for replacement. Removal will damage threads.

8. Flywheel housing (1)	Stud (2)	Using stud remover and setter and 1/2-inch drive ratchet handle, unscrew and take out.	
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CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

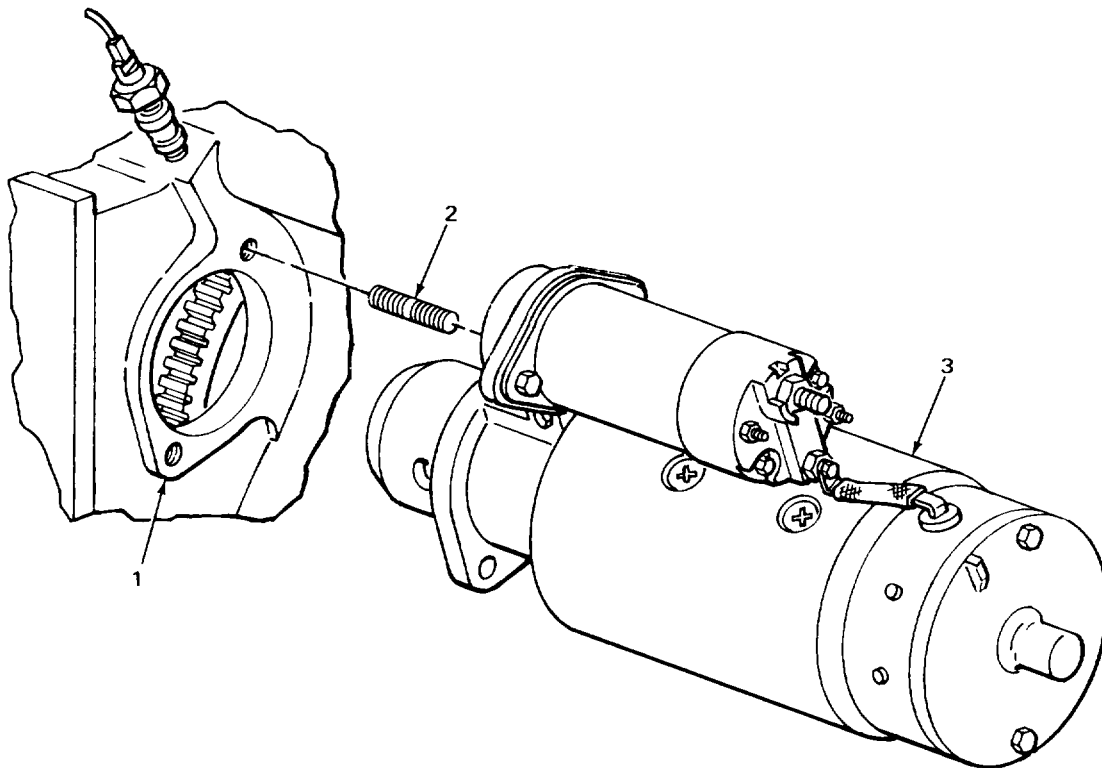
STARTER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 1140F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|-----|-------------|--|--|
| 10. | Starter (3) | <ul style="list-style-type: none"> a. Using clean rag dampened with solvent cleaning compound, wipe clean. b. Using clean, dry rags, wipe dry. | |
|-----|-------------|--|--|



STARTER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CLEANING - CONTINUED

WARNING

Drycleaning solvent PD680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|-----|-----------------------|---|--|
| 11. | All other metal parts | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. | |
|-----|-----------------------|---|--|

INSPECTION REPLACEMENT

NOTE

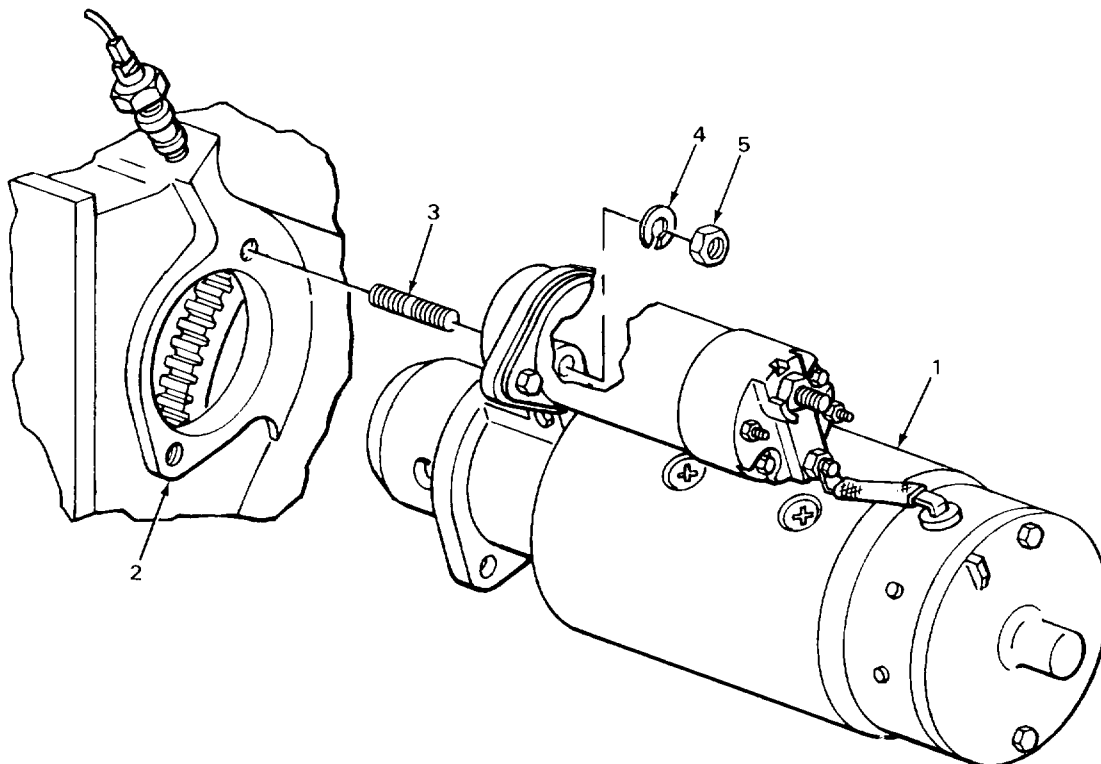
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

- | | | | |
|-----|-----------------------|--|--|
| 12. | Starter (1) | <ul style="list-style-type: none"> a. Look for cracks and breaks in housing. b. Look for broken terminals. c. Look for chipped or worn motor drive gear. d. Turn motor drive gear in both directions.
Motor drive gear should engage when turned in one direction, but turn freely in other direction. Armature shaft should turn freely with some drag from brushes, but no binding. | |
| 13. | All other metal parts | Look for cracks, breaks, and bends. | |
| 14. | All threaded parts | Look for damaged threads. | |

STARTER - CONTINUED

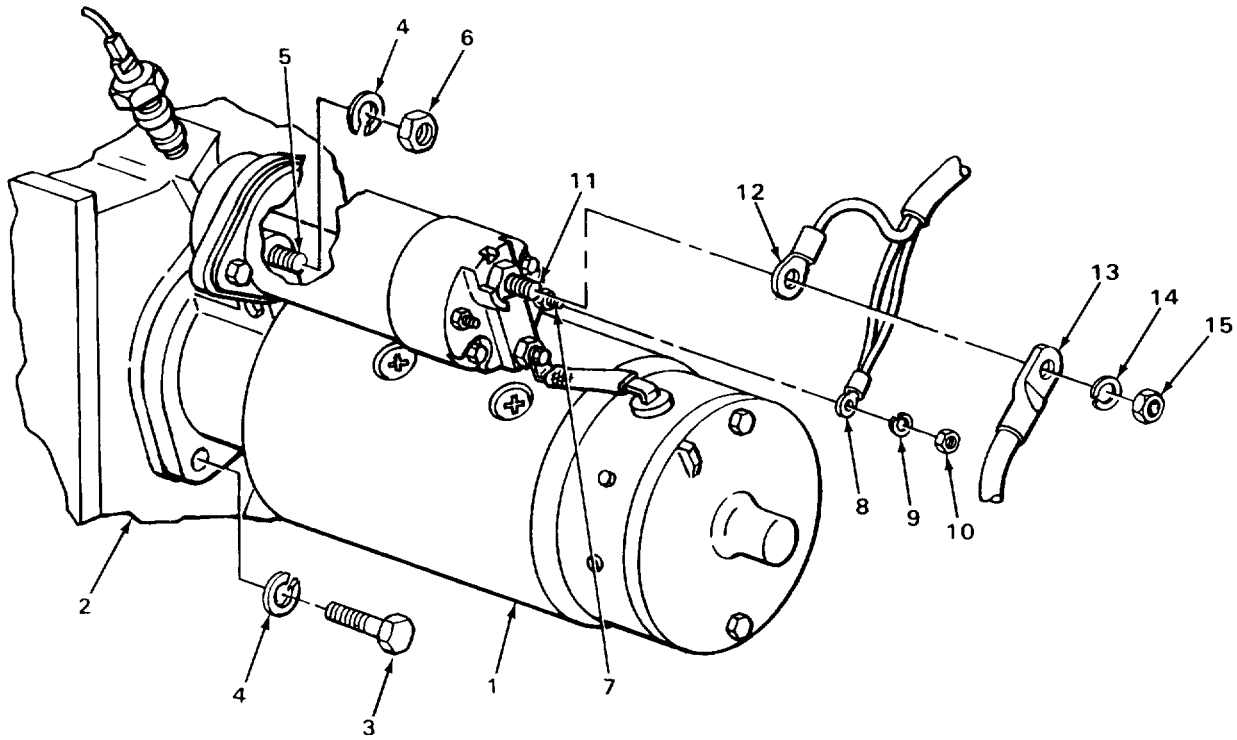
LOCATION	ITEM	ACTION	REMARKS
INSTALLATION			
15. Flywheel	Stud (3) housing (2)	If removed, screw in and tighten using stud remover and setter and 1/2-inch drive ratchet handle.	
CAUTION			
Do not push starter straight into flywheel housing. Angle front of starter toward engine during installation to clear flywheel teeth. Damage to flywheel teeth will cause rapid wear.			
16. Flywheel housing (2) and stud (3)	Starter (1)	Put into place.	
17. Stud (3) and starter (1)	New lockwasher (4) and nut (5)	Screw on until snug.	



STARTER - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
18. Starter (1) and flywheel housing (2)	Screw (3), nut (6) and new lock- washers (4)	Screw in until snug.
19. Starter (1) and stud (5)	Nut (6) and screw (3)	Using 9/16-inch box and open-end combination wrench, 9 1/16-inch, 3/8-inch drive crowfoot attachment, 5-inch extension, and hinged handle, alternately tighten.
20. Terminal (7)	Terminal (8)	a. Put on. b. Take off tags.
21. Terminal (7) and terminal (8)	New lockwasher (9) and nut (10)	Screw on and tighten using 1 1/32-inch box wrench.
22. Terminal (11)	Terminal (12) and battery cable terminal (13)	a. Put on. b. Take off tags.
23. Battery cable terminal (13), terminal (12) and terminal (11)	New lockwasher (14) and nut (15)	Screw on and tighten using 9/16-inch box wrench.

STARTER - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE: Connect battery ground cable (page 2-696).

TASK ENDS HERE

ENGINE OIL PRESSURE SWITCH

This task covers:

- | | |
|--------------------------|--|
| a. Removal (page 2-468) | c. Inspection/Replacement (page 2-469) |
| b. Cleaning (page 2-468) | d. Installation (page 2-469) |

INITIAL SETUP

Tools

Handle, ratchet, 112-inch drive
 Socket, deep, 12-point, 1/2-inch
 drive, 1-inch
 Socket, 1/2-inch drive

Materials/Parts

Cleaning compound, solvent
 (item 4, Appendix C)
 Rags, wiping (item 21, Appendix C)

Materials/Parts - Continued

Tags, marking (item 30, Appendix C)

Personnel Required

One

Equipment Condition

Battery ground cable disconnected
 (page 2-696)
 Fuel filter assembly removed (page 2-277)

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Terminal (1)	Connector (2)	a. Tag (page 2-137). b. Unplug.
2.	Flywheel housing (3)	Pressure switch (4)	Using oil pressure switch, 1/2-inch drive socket and ratchet handle, unscrew and take out.

CLEANING

NOTE

For more information on how to clean parts, go to **General Maintenance Instructions (page 2-137)**.

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

ENGINE OIL PRESSURE SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
3. INSPECTION/REPLACEMENT	Pressure switch (4)	a. Clean in solvent cleaning compound. b. Using clean, dry rags, wipe dry.	

NOTE

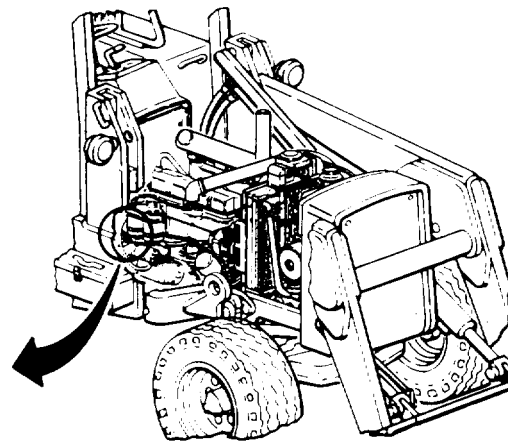
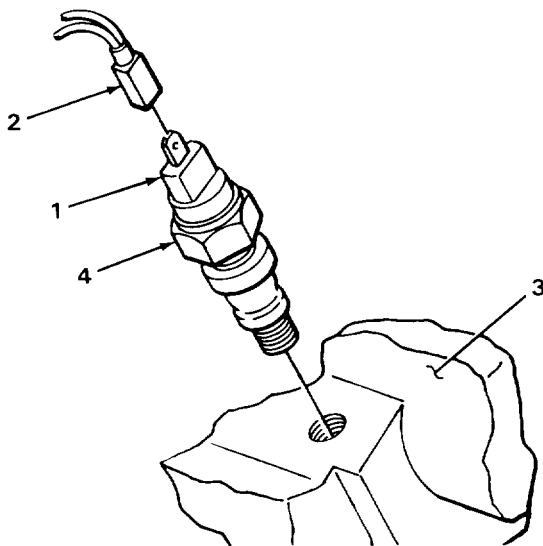
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

4.	Pressure switch (4)	a. Look for cracks, breaks, and abnormal bends. b. Look for damaged threads.	
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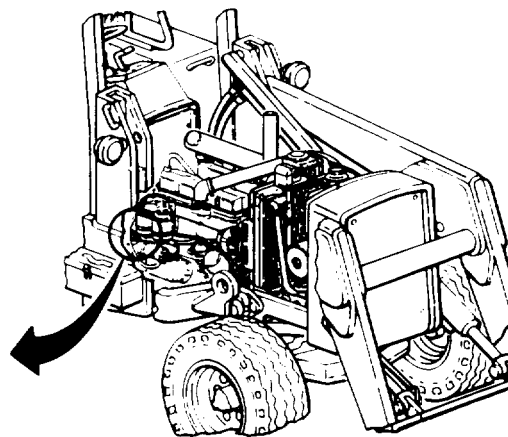
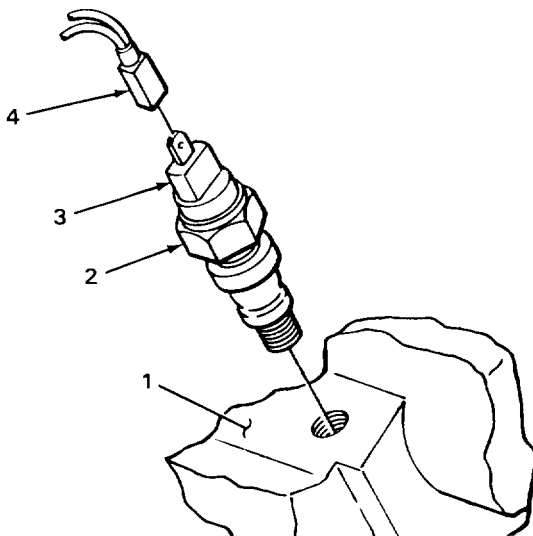
INSTALLATION

5. Flywheel housing (3)	Pressure switch (4)	Screw in and tighten oil pressure switch using 11/2-inch drive socket and ratchet handle.	
6. Terminal (1)	Connector (2)	a. Push on. b. Take off tag.	
7. Loader backhoe	Battery ground cable	Connect (page 2-696).	



ENGINE OIL PRESSURE SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
8.	Engine	Start and run at high idle (TM 5-2420-222-10).	
9. Flywheel housing (1)	Pressure switch (2)	Check for leaks. If it is not leaking, skip steps 10 thru 11.	
10. Terminal (3)	Connector (4)	a. Shut off engine (TM 5-2420-222-10). b. Tag (page 2-137). c. Unplug.	
11. Flywheel housing (1)	Pressure switch (2)	a. Using 1/2-inch drive socket and ratchet handle, tighten. b. Start engine (TM 5-2420-222-10). c. Check for leaks. d. If leaking has not stopped, shut down engine (TM 5-2420-222-10) and replace as outlined in this task.	
12. Loader backhoe	Engine	If not already off, shut down (TM 5-2420-222-10).	
13. Terminal (3)	Connector (4)	a. If not already installed, push on. b. If present, take off tag.	



TASK ENDS HERE

STARTER NEUTRAL SAFETY SWITCH

This task covers:

- a. Removal (page 2-472)
- b. Cleaning (page 2-472)
- c. Inspection/Replacement (page 2-473)
- d. Repair (page 2-474)
- e. Installation (page 2-474)

INITIAL SETUP

Tools

- File, thread restorer
- Handle, ratchet, 1/2-inch drive
- Multimeter
- Socket, deep, 12-point, 1/2-inch drive, 7/8-inch
- Wrench, torque, 112-inch drive 0 to 150 foot-pound capacity

Materials/Parts

- Cleaning compound, solvent (item 4, Appendix C)
- Rags, wiping (item 21, Appendix C)
- Shim aluminum (as required)

Materials/Parts - Continued

- Solvent, drycleaning (item 28, Appendix C)
- Tags, marking (item 30, Appendix C)

Personnel Required

One

Equipment Condition

Battery ground cable disconnected (page 2-696)

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

- | | | | |
|----|-------------------|---------------|--|
| 1. | Two terminals (1) | Connector (2) | <ul style="list-style-type: none"> a. Tag (page 2-137). b. Unplug. |
|----|-------------------|---------------|--|

NOTE

Number of aluminum shims may vary.

- | | | | |
|----|----------------------------|--|---|
| 2. | Transmission top cover (3) | Neutral safety switch (4) and aluminum shim or shims (5) | Using 7/8-inch, 1/2-inch drive 12-point deep socket and ratchet handle, unscrew and take out. |
|----|----------------------------|--|---|

STARTER NEUTRAL SAFETY SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 1140F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|---------------------------|---|
| 3. | Neutral safety switch (4) | <ul style="list-style-type: none"> a. Clean in solvent cleaning compound. b. Using clean, dry rags, wipe dry. |
|----|---------------------------|---|

WARNING

Drycleaning solvent PD680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|--------------------|---|
| 4. | Aluminum shims (5) | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. |
|----|--------------------|---|

INSPECTION/REPLACEMENT

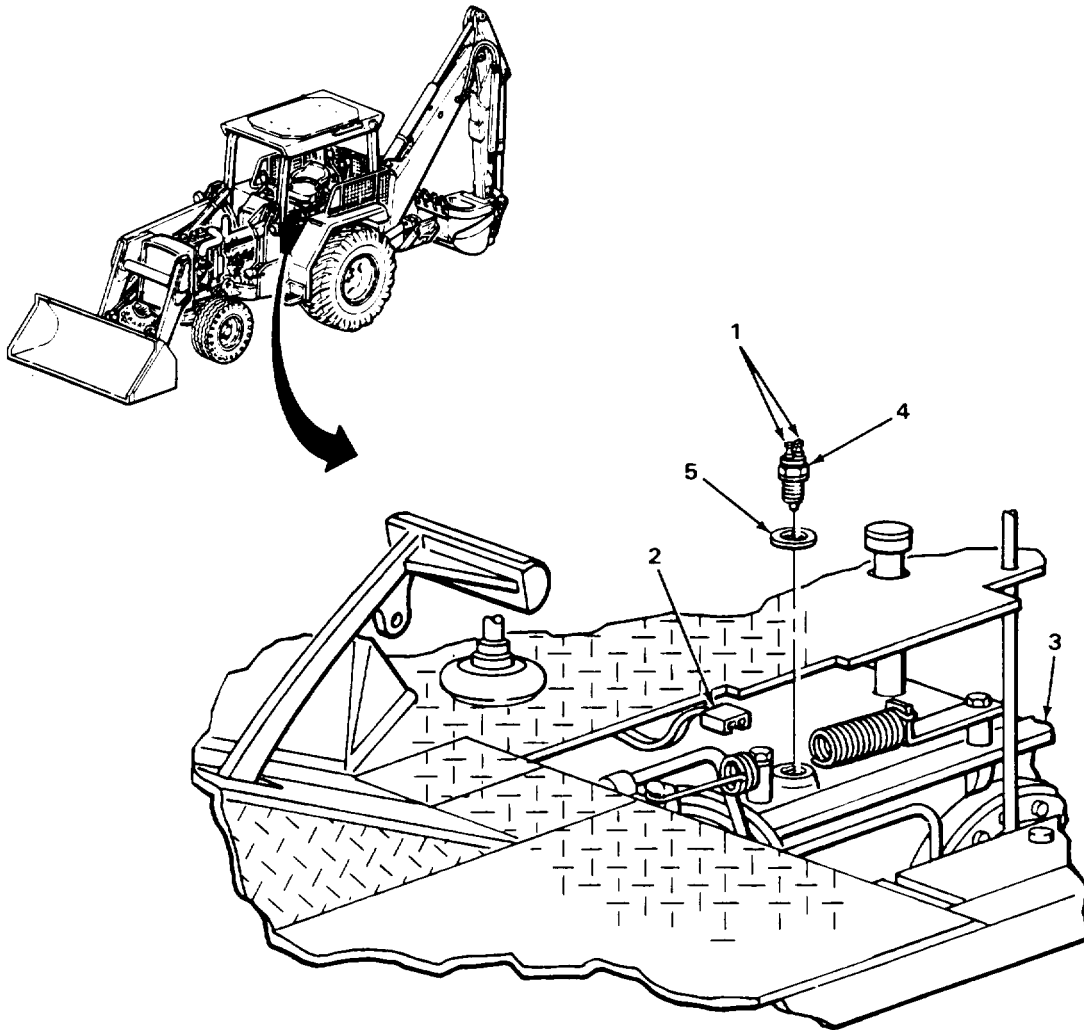
NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

- | | | |
|----|---------------------------|---|
| 5. | Neutral safety switch (4) | Look for cracks, breaks, abnormal bends, and damaged threads. |
| 6. | Aluminum shims (5) | Look for cracks, breaks, and abnormal bends. |

STARTER NEUTRAL SAFETY SWITCH - CONTINUED



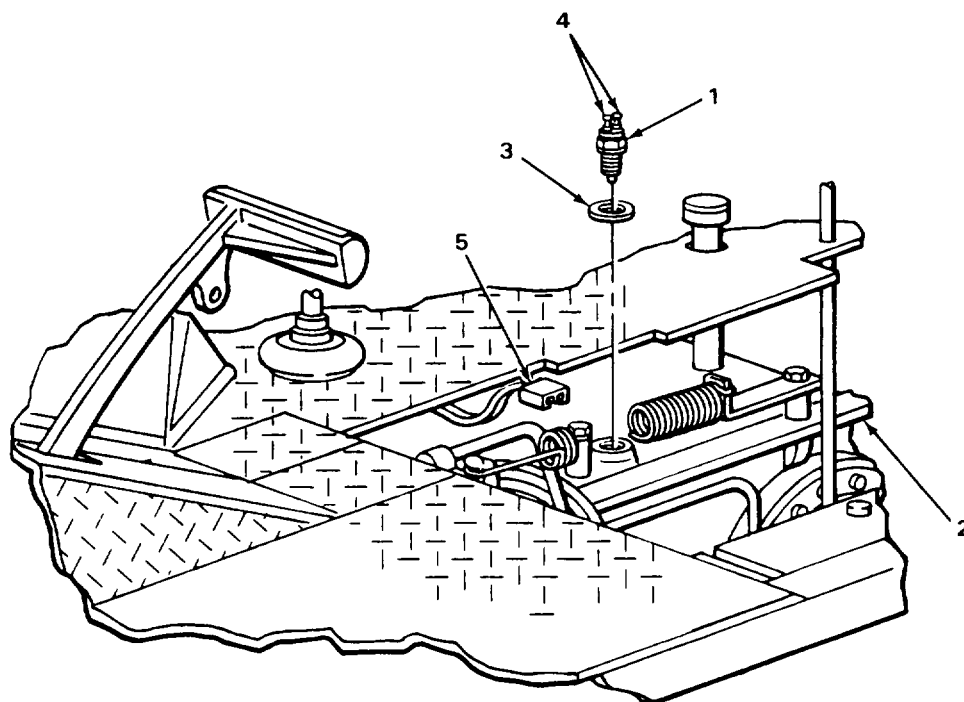
TA 242941

STARTER NEUTRAL SAFETY SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REPAIR			
7.	Neutral safety switch (1)		If threads are damaged, using thread restorer file, restore threads.
INSTALLATION			
8.	Operator's compartment	Range shift lever and gearshift lever	Make sure they are in neutral (TM 5-2420-222-10).
<u>WARNING</u>			
Properly installed neutral safety switch prevents loader backhoe engine from starting unless gearshift lever is in neutral. During installation, begin with one aluminum shim regardless of quantity removed. Switch must be tightened to proper torque each time a shim is added or removed to insure proper adjustment and prevent possible injury during engine starting.			
9.	Transmission top cover (2)	Aluminum shim or shims (3) and neutral safety switch (1)	<ol style="list-style-type: none"> a. Screw in and tighten until snug using 7/8-inch, 1/2-inch drive 12-point deep socket and ratchet handle. b. Using 7/8-inch, 1/2-inch drive 12-point deep socket and 0 to 150 foot-pound capacity torque wrench, tighten to 20 to 25 foot-pounds (27 to 34 N.m) of torque.
10.	Neutral safety switch (1)	Two terminals (4)	Using multimeter, check for continuity.
11.	Transmission cover (2)	Neutral safety switch (1) and aluminum shim or shims (3)	<ol style="list-style-type: none"> a. Using 7/8-inch, 1/2-inch drive 12-point deep socket and ratchet handle, unscrew and take out. b. If multimeter reading in step 10 shows continuity, add one more shim. c. Repeat steps 9 thru 11. d. If multimeter reading in step 10 shows open circuit, take off one shim and repeat steps 9 and 10. <p style="text-align: center;">Multimeter reading after shim removal should show continuity only when gearshift lever is in neutral.</p>
12.	Two terminals (4)	Connector (5)	<ol style="list-style-type: none"> a. Push on. b. Take off tags.

STARTER NEUTRAL SAFETY SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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NOTE

FOLLOW-ON MAINTENANCE:

1. Install fuel filter assembly (page 2-277)
2. Connect battery ground cable (page 2-696).

TASK ENDS HERE

TA242942

BRAKE LIGHT PRESSURE SWITCHES

This task covers:

- a. Removal (page 2-476)
- b. Cleaning (page 2-477)
- c. Inspection/Replacement (page 2-478)
- d. Installation (page 2-478)

INITIAL SETUP

Tools

Handle, ratchet, 1/2-inch drive
 Knife, pocket
 Socket, deep, 12-point,
 1/2-inch drive, 15/16-inch
 Vise, machinist's
 Wrench, open-end, 9/16-inch

Materials/Parts

Cleaning compound, solvent
 (item 4, Appendix C)
 Packing, brake light switch
 coupling

Materials/Parts - Continued

Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)
 Tags, marking (item 30, Appendix C)

Personnel Required

Two

Equipment Condition

Battery ground cable disconnected
 (page 2-696)

LOCATION	ITEM	ACTION	REMARKS
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NOTE

Loader backhoe is equipped with two brake light pressure switches. Both pressure switches are maintained the same way. Left side is shown. Repeat procedures for the right side as needed.

REMOVAL

1.	Two terminals (1)	Connector (2)	<ul style="list-style-type: none"> a. Pull off. b. Tag (page 2-137).
2.	Rear axle housing (3)	Coupling (4) with assembled packing (5) and pressure switch (6)	<ul style="list-style-type: none"> a. Place drain pan underneath. b. Using 9/16-inch open-end wrench on coupling (4), unscrew and take out. c. Plug housing (3) (page 2-137). d. Get rid of drained fluid (page 2-137).

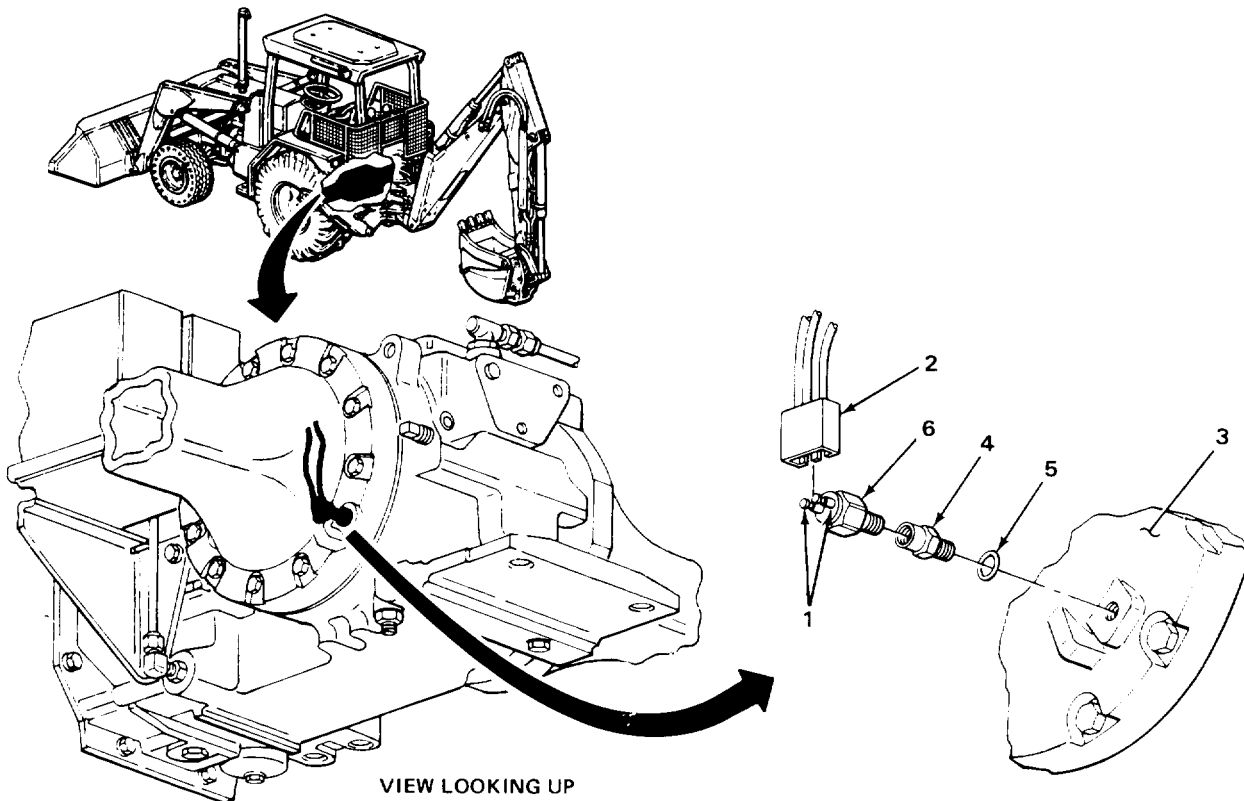
BRAKE LIGHT PRESSURE SWITCHES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
3. Coupling (4)	Packing (5)	a. Using pocket knife, take off. b. Get rid of.
4. Coupling (4)	Pressure switch (6)	a. Secure coupling (4) in machinist's vise. b. Using 15/16-inch, 1/2-inch drive 12-point deep socket and ratchet handle, unscrew and take out. c. Take coupling (4) out of machinist's vise.

CLEANING

NOTE

For more information on how to clean parts, go to **General Maintenance Instructions (page 2-137)**.



TA242943

BRAKE LIGHT PRESSURE SWITCHES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 1140F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|---------------------|---|
| 5. | Pressure switch (1) | a. Clean in solvent cleaning compound.
b. Using clean, dry rags, wipe dry. |
|----|---------------------|---|

WARNING

Drycleaning solvent PD680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|--------------|---|
| 6. | Coupling (2) | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. |
|----|--------------|---|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

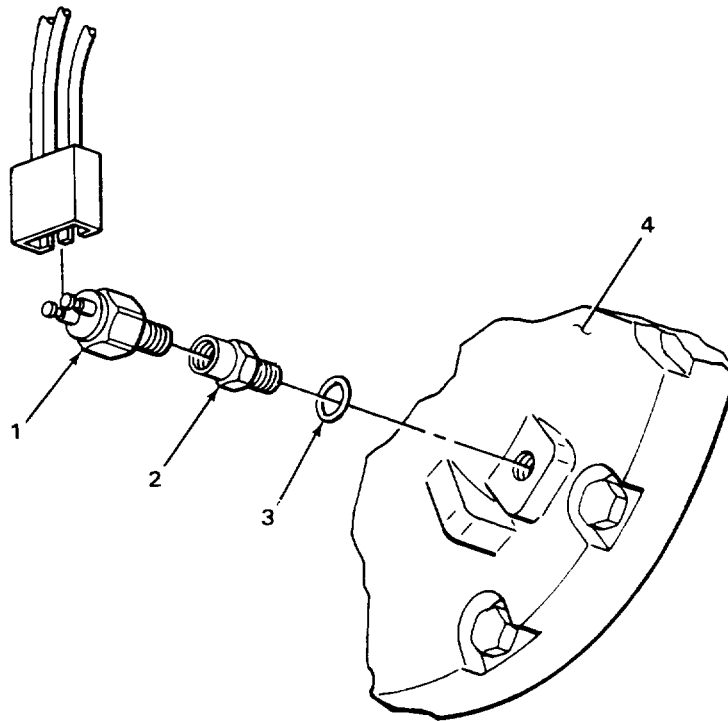
- | | | |
|----|---|--|
| 7. | Pressure switch (1)
and coupling (2) | Look for cracks, breaks, abnormal bends,
and damaged threads. |
|----|---|--|

INSTALLATION

- | | | | |
|----|--------------|-----------------|---------------|
| 8. | Coupling (2) | New packing (3) | Put in place. |
|----|--------------|-----------------|---------------|

BRAKE LIGHT PRESSURE SWITCHES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
9. Rear axle housing (4)	Coupling (2) with assembled packing (3)	a. Unplug housing (4).	b. Screw in and tighten using 9/16-inch open-end wrench.
10. Coupling (2)	Pressure switch (1)	Screw in and tighten using 7/8-inch, 112-inch drive 12-point deep socket, ratchet handle, and 9/16-inch open-end wrench.	
11. Loader backhoe	Battery ground cable	Connect (page 2-696).	
12.	Hydraulic brake System	Bleed (page 2-870).	



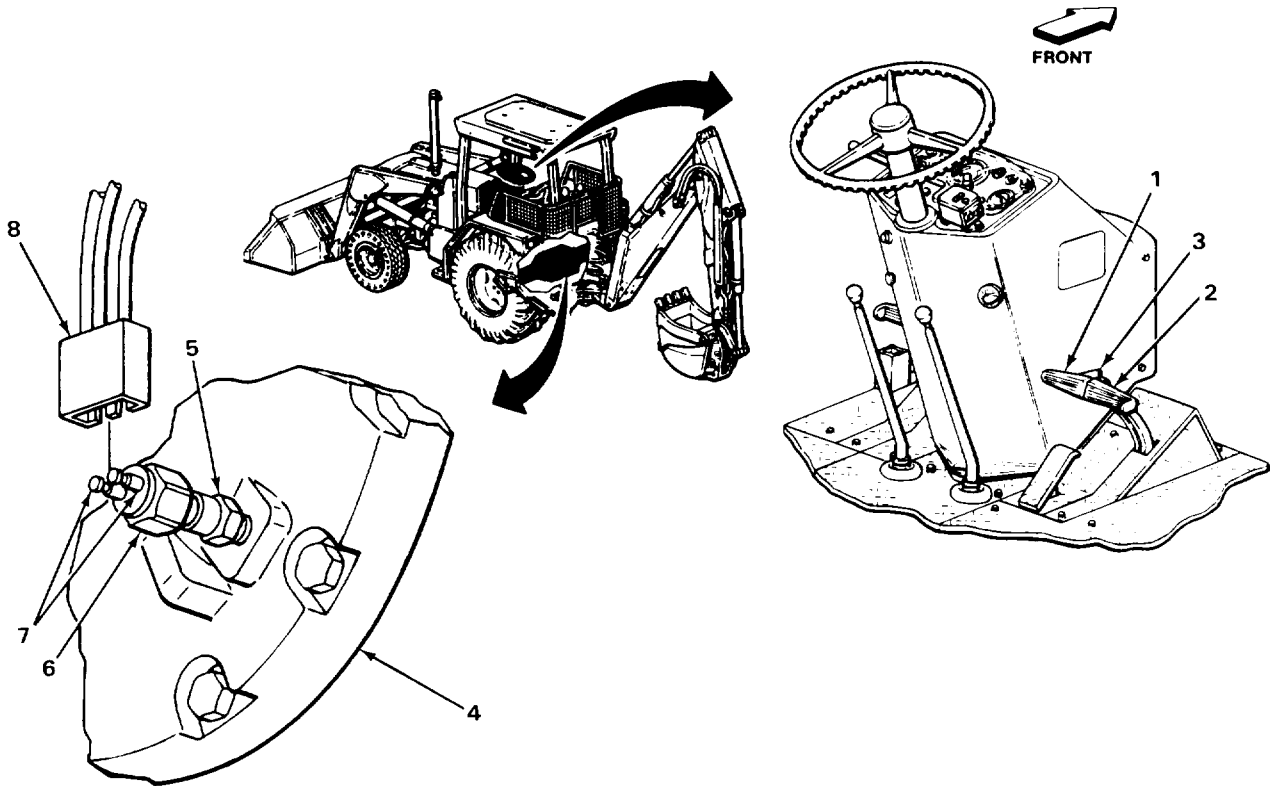
2-479

TA242944

BRAKE LIGHT PRESSURE SWITCHES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
13. Left brake pedal (1) and right brake pedal (2)	Brake pedal lock (3)	Have assistant push up to unlock.
14. Rear axle housing (4)	Coupling (5) and pressure switch (6)	a. Have assistant press left brake pedal (1). b. Check for leaks. c. If leaking, using 15/16-inch, 1/2-inch drive 12-point deep socket, ratchet handle, and 9/16-inch open-end wrench, tighten. d. If leaking does not stop, replace defective parts. e. Have assistant release left brake pedal (1).
15. Left brake pedal (1) and right brake pedal (2)	Brake pedal lock (3)	Have assistant push down to lock.
16. Two terminals (7)	Connector (8)	a. Push on. b. Take off tag.

BRAKE LIGHT PRESSURE SWITCHES - CONTINUED



TASK ENDS HERE

PARKING BRAKE WARNING SWITCH (SERIAL NUMBERS 319995 THRU 342573 ONLY)

This task covers:

- | | |
|--|------------------------------|
| a. Removal (page 2-482) | d. Repair (page 2-484) |
| b. Cleaning (page 2-483) | e. Installation (page 2-484) |
| c. Inspection/Replacement (page 2-484) | f. Adjustment (page 2-486) |

INITIAL SETUP

Tools

File, thread restoring
Wrench, open-end, 7/8-inch

Materials/Parts

Cleaning compound, solvent
(item 4, Appendix C) Equipment Condition
Detergent, GP (item 7, Appendix C)
Rags, wiping (item 21, Appendix C)
Solvent, drycleaning (item 28,
Appendix C)

Materials/Parts - Continued

Tags, marking (item 30, Appendix C)

Personnel Required

One

Battery ground cable disconnected
(page 2-696)

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Two terminals (1)	Connector (2)	a. Tag (page 2-137). b. Unplug.
2. Warning switch (3)	Boot (4)	Take off.
3. Support (5) and warning switch (3)	Nut (6)	a. Hold switch (3) to keep it from turning. b. Using 7/8-inch open-end wrench, unscrew and take off.
4. Support (5)	Warning switch (3) with assembled nut (7)	Take out.
5. Warning switch (3)	Nut (7)	a. Note position for proper placement during installation. b. Unscrew and take off.

PARKING BRAKE WARNING SWITCH (SERIAL NUMBERS 31995 THRU 34253 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

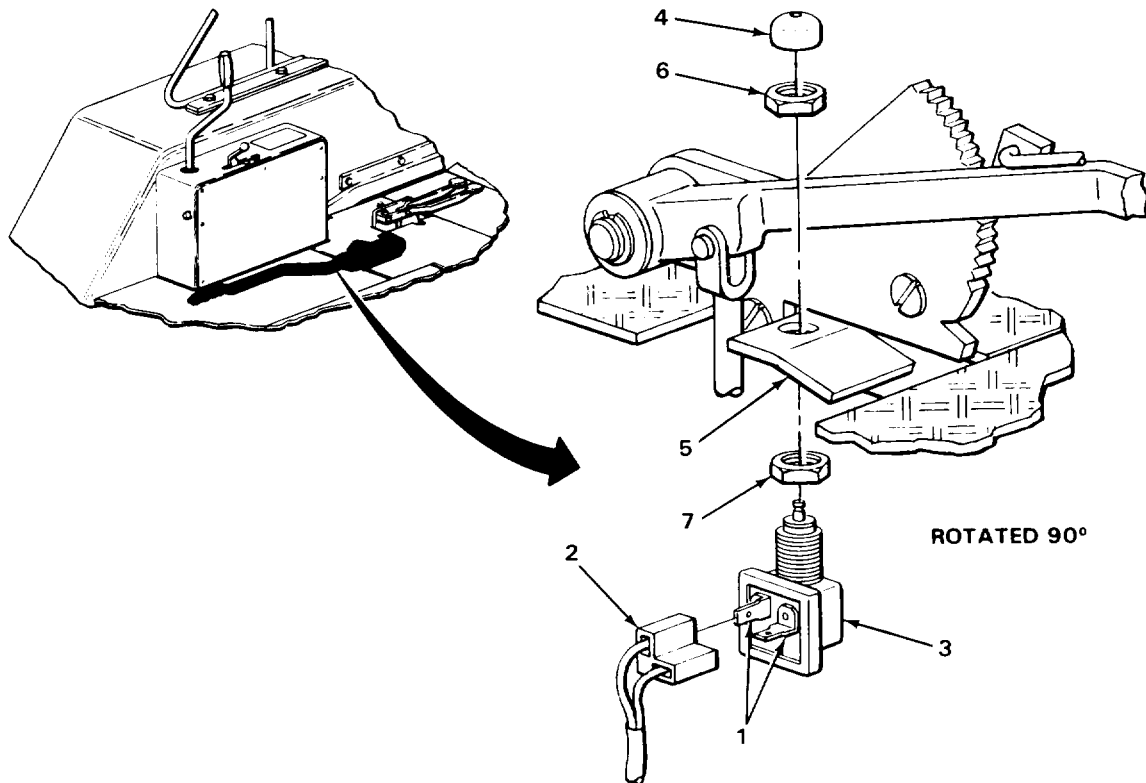
NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 1140F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|--------------------|--|
| 6. | Warning switch (3) | a. Clean in solvent cleaning compound.
b. Using clean, dry rag, wipe dry. |
|----|--------------------|--|



PARKING BRAKE WARNING SWITCH (SERIAL NUMBERS 31995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CLEANING - CONTINUED

WARNING

Drycleaning solvent PD680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 138°F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|----|--------------------|--|--|
| 7. | Two nuts (1 and 2) | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. | |
| 8. | Boot (3) | a. Clean in solution of detergent and water.
b. Rinse in clean water.
c. Using clean, dry rag, wipe dry. | |

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

- | | | | |
|-----|--------------------|---|--|
| 9. | Warning switch (4) | Look for cracks, breaks, dents, and abnormal bends. | |
| 10. | All threaded parts | Look for damaged threads. | |
| 11. | Boot (3) | Look for cracks, tears, and crumbling. | |

REPAIR

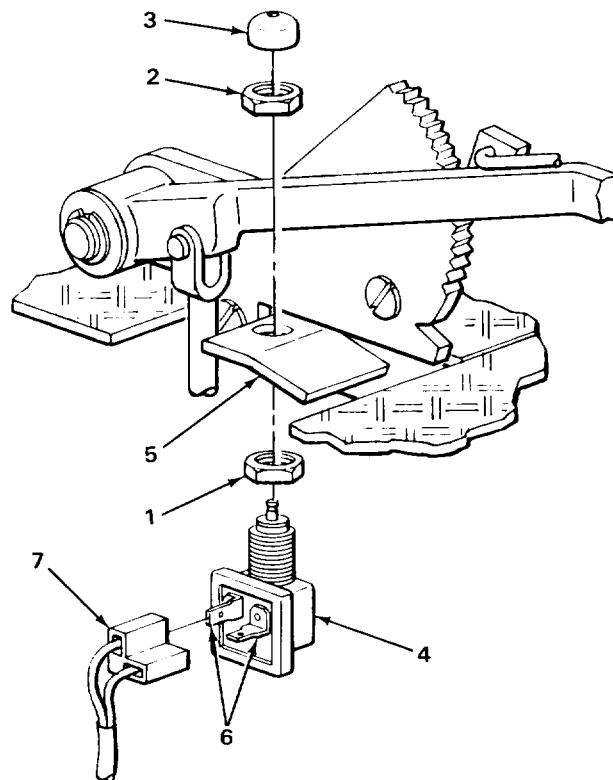
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|-----|--------------------|---|--|
| 12. | Warning switch (4) | If threads are damaged, using thread restoring file, restore threads. | |
|-----|--------------------|---|--|

INSTALLATION

- | | | | |
|-----|--------------------|---------|--|
| 13. | Warning switch (4) | Nut (1) | Screw on to position noted during removal. |
|-----|--------------------|---------|--|

PARKING BRAKE WARNING SWITCH (SERIAL NUMBERS 31995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION REMARKS
14. Support (5)	Warning switch (4) with assembled nut (1)	Put in place.
15. Support (5) and warning switch (4)	Nut (2)	a. Hold switch to keep it from turning. b. Screw on and tighten using 7/8-inch open-end wrench.
16. Warning switch (4)	Boot (3)	Snap into groove.
17. Two terminals (6)	Connector (7)	a. Plug in. b. Take off tag.
18. Loader backhoe	Battery ground cable	Connect (page 2-696).



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PARKING BRAKE WARNING SWITCH (SERIAL NUMBERS 31995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
ADJUSTMENT			
<u>WARNING</u>			
Make sure that loader bucket and backhoe bucket are lowered to ground, or wheels are blocked, to keep loader backhoe from rolling before performing maintenance on parking brake.			
19.	Operator's compartment	Ignition lock switch	Turn on (TM 5-2420-222-10).
20.	Dash (1)	Parking brake light (2)	Look to see if on. Light should be on when parking brake lever is engaged and Ignition lock switch is on.
21.	Operator's compartment	Parking brake lever	Release (TM 5-2420-22-10).
22.	Parking brake lever (3)	Warning switch (4)	Check for contact between lever (3) and switch plunger. Fully released, lever should push plunger down far enough to turn parking brake light off without plunger reaching end of travel.
23.	Dash (1)	Parking brake light (2)	Look to see if off. Light should be off when parking brake lever is fully released.
24.	Operator's compartment	Parking brake lever (3)	Engage (TM 5-2420-222-10).

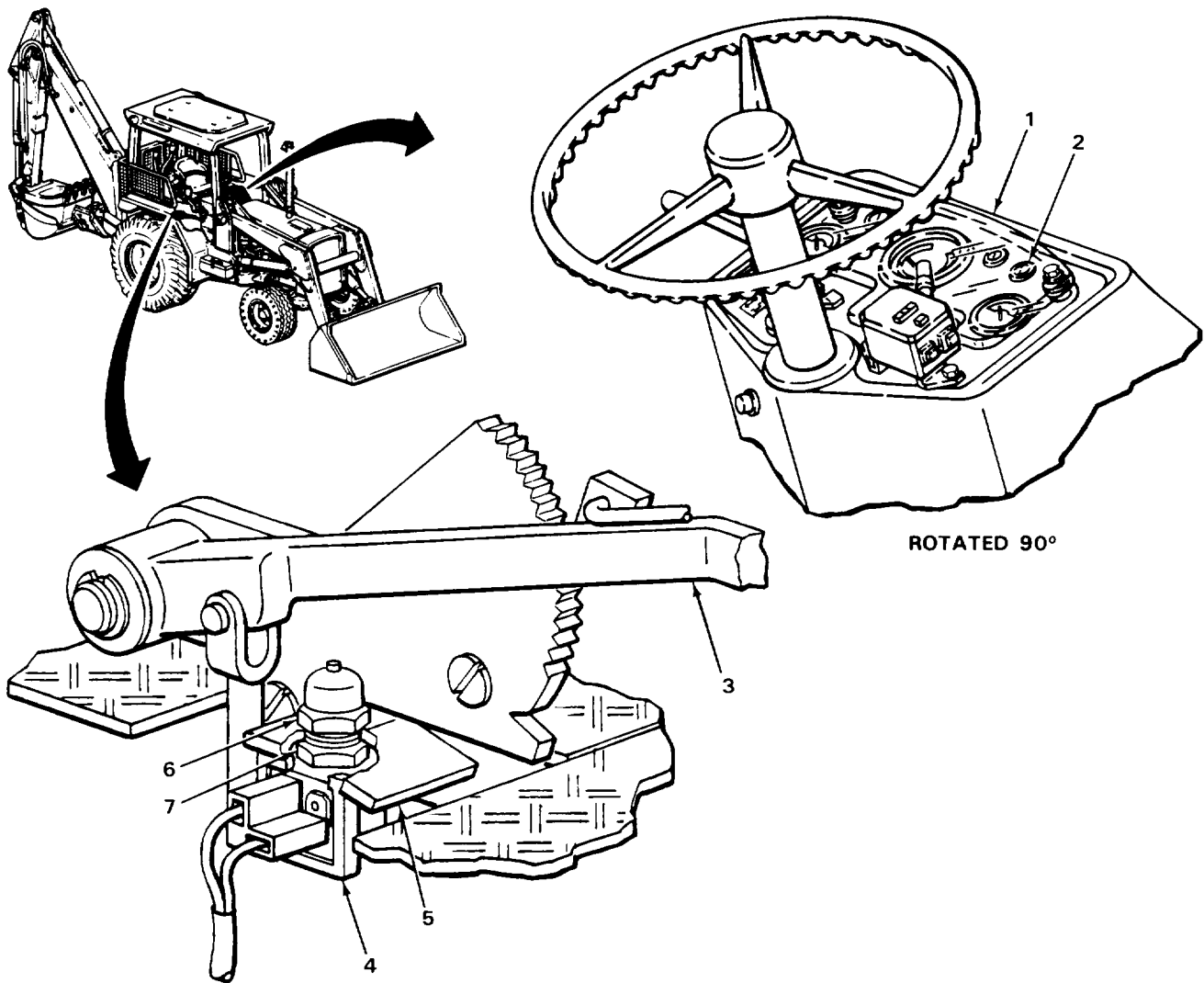
NOTE

If parking brake light operates properly and fully released parking brake lever does not push warning switch plunger to end of travel, adjustment is correct. Skip steps 25 thru 27.

- | | | | |
|-----|------------------------------------|---------|---|
| 25. | Support (5) and warning switch (4) | Nut (6) | a. Hold switch to keep it from turning.
b. Using 7/8-inch open-end wrench, loosen. |
|-----|------------------------------------|---------|---|

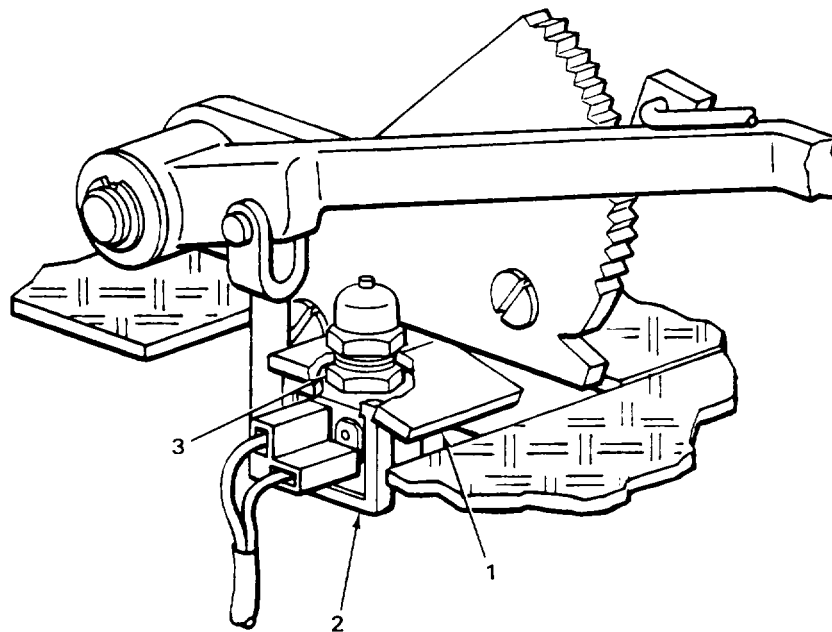
PARKING BRAKE WARNING SWITCH (SERIAL NUMBERS 31995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
26. Support (5) and warning switch (4)	Nut (7)	a. If switch plunger reaches end of travel when parking brake lever (3) is fully released, turn counterclockwise to lower switch. b. If parking brake light (2) does not go off when parking brake lever (3) is fully released, turn clockwise to raise switch.	



PARKING BRAKE WARNING SWITCH (SERIAL NUMBERS 31995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
ADJUSTMENT - CONTINUED			
27. Support (1) Nut (3) and warning switch (2)		a. Hold switch (2) to keep it from turning. b. Using 7/8-inch open-end wrench, tighten. c. Repeat steps 20 thru 27.	
28. Operator's compartment	Ignition lock switch	Turn off (TM 5-2420-222-10).	



TASK ENDS HERE

PARKING BRAKE WARNING LIGHT (SERIAL NUMBERS 319995 THRU 342573 ONLY)

This task covers:

Maintenance (page 2-489)

MAINTENANCE

NOTE

For parking brake warning light maintenance, go to Indicator Lights (page 2-550).

TASK ENDS HERE**PARKING BRAKE HORN RELAY (SERIAL NUMBERS 319995 THRU 342573 ONLY)**

This task covers:

- | | |
|--------------------------|--|
| a. Removal (page 2-490) | c. Inspection/Replacement (page 2-491) |
| b. Cleaning (page 2-490) | d. Installation (page 2-492) |
-

INITIAL SETUP

Tools

Screwdriver, flat-tip, 1/4-inch
Wrench, box, 11/32-inch

Personnel Required

One

Equipment Condition

Materials/Parts

Cleaning compound, solvent
(item 4, Appendix C)
Lockwasher, relay mounting screw nut
(two required)
Rags, wiping (item 21, Appendix C)
Solvent, drycleaning
(item 28, Appendix C)
Tags, marking (item 30, Appendix C)

1. Battery ground cable disconnected
(page 2-696)
2. Cowl front cover removed (page 2-1020)

PARKING BRAKE HORN RELAY (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Terminal (1)	Connector (2)	a. Tag (page 2-137). b. Unplug.
2. Three terminals (3)	Connector (4)	a. Tag (page 2-137). b. Unplug.
3. Relay (5), cowl support (6), and two terminals (7 and 8)	Two screws (9), nuts (10), and lock-washer (11)	a. Using 1/4-inch flat-tip screwdriver and 11132-inch box wrench, unscrew and take apart. b. Get rid of lockwashers (11).
4. Relay (5) (7 and 8)	Two terminals b. Take off.	a. Tag (page 2-137).
5. Cowl support (6)	Relay (5)	Take off.

CLEANING

NOTE

For more information on how to clean parts, go to **General Maintenance Instructions (page 2-137)**.

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | |
|--------------|--|
| 6. Relay (5) | a. Using clean rag dampened with solvent compound, wipe clean. |
| | b. Using clean, dry rags, wipe dry. |

PARKING BRAKE HORN RELAY (SERIAL NUMBERS 31995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

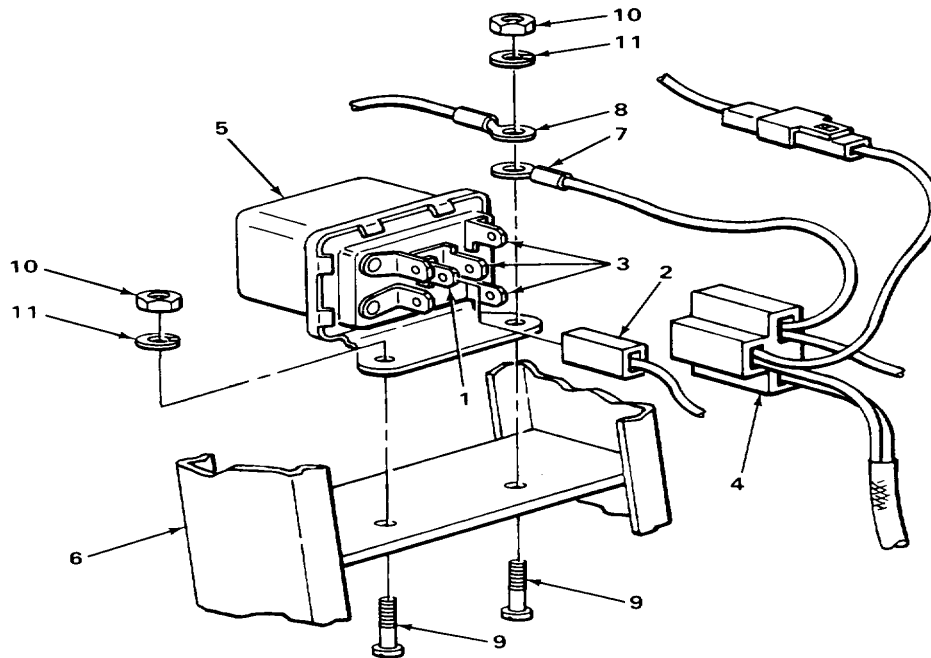
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|--------------------------|---|
| 7. All other metal parts | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. |
|--------------------------|---|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

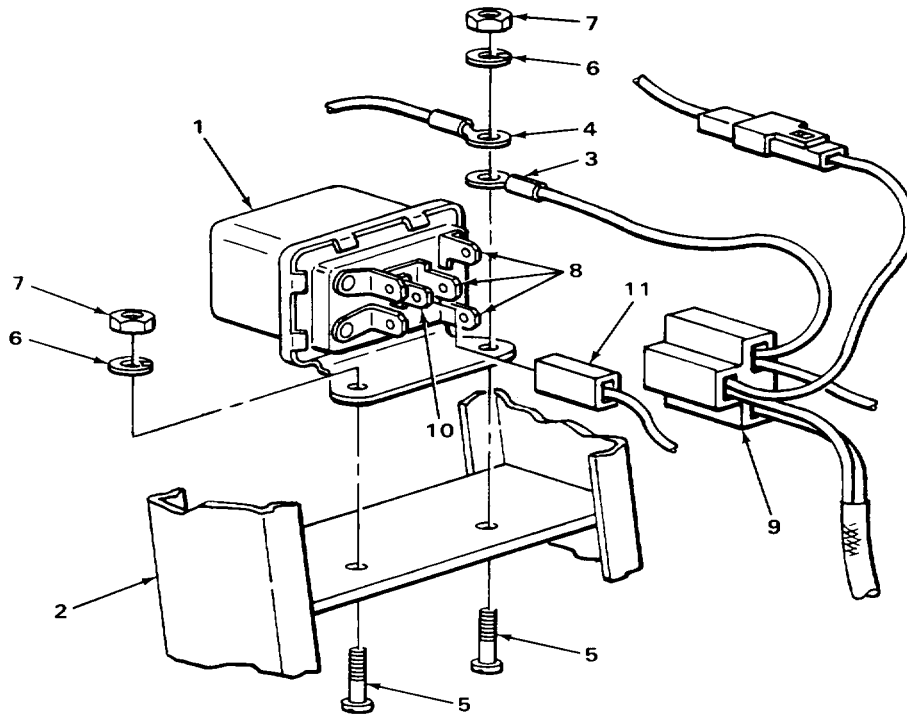


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PARKING BRAKE HORN RELAY (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT - CONTINUED			
8. Relay (1)	Look for deep dents in cover.		
9. All metal parts	Look for cracks, breaks, and abnormal bends.		
10. All threaded parts	Look for damaged threads.		
INSTALLATION			
11. Cowl support (2)	Relay (1)	Put in place.	
12. Relay (1)	Terminals (3 and 4) b.	a. Put in place. b. Take off tags.	
13. Two terminals (3 and 4), relay (1), and cowl support (2)	Two screws (5), new lockwashers (6), and nuts (7)	Screw together and tighten using 1/4-inch flat-tip screwdriver and 11/32-inch box wrench.	
14. Three terminals (8)	Connector (9)	a. Push on. b. Take off tag.	
15. Terminal (10)	Connector (11) b.	a. Push on. b. Take off tag.	

PARKING BRAKE HORN RELAY (SERIAL NUMBERS 31995 THRU 342573 ONLY) - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Install cowl front cover (page 2-1020).
2. Connect battery ground cable (page 2-696).

TASK ENDS HERE

PARKING BRAKE WIRING HARNESS (SERIAL NUMBERS 319995 THRU 342573 ONLY)

This task covers:

- a. Removal (page 2-494)
- b. Cleaning (page 2-496)
- c. Inspection/Replacement (page 2-497)
- d. Repair (page 2-497)
- e. Installation (page 2-498)

INITIAL SETUP

Tools

- Pliers, diagonal-cutting
- Pliers, slip-joint
- Screwdriver, flat-tip, 114-inch
- Wrench, box, 11/32-inch
- Wrench, box, 3/8-inch

Materials/Parts

- Band, plastic, electrical tiedown (as required)
- Cleaning compound, solvent (item 4, Appendix C)
- Lockwasher, ignition switch terminal nut
- Lockwasher, relay mounting nut
- Rags, wiping (item 21, Appendix C)
- Tags, marking (item 30, Appendix C)

Personnel Required

One

Equipment Condition

1. Battery ground cable disconnected (page 2-696)
2. Loader control box door removed (page 2-1167)
3. Right platform removed (page 2-1079)
4. Right rear platform removed (page 2-1110)
5. Cowl front cover removed (page 2-1020)

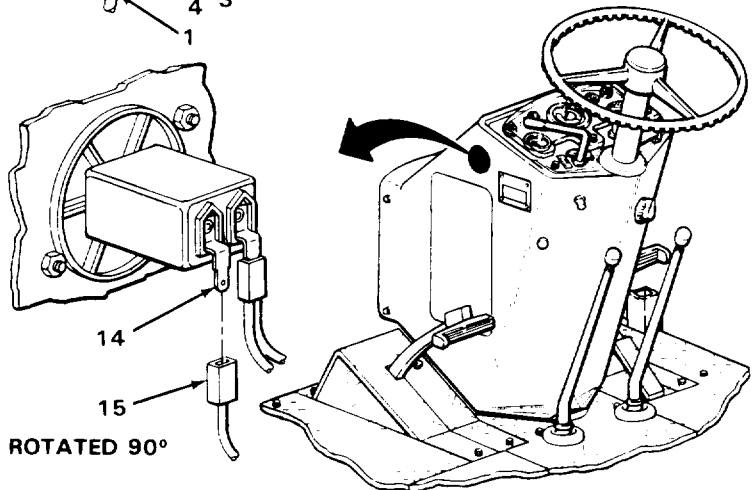
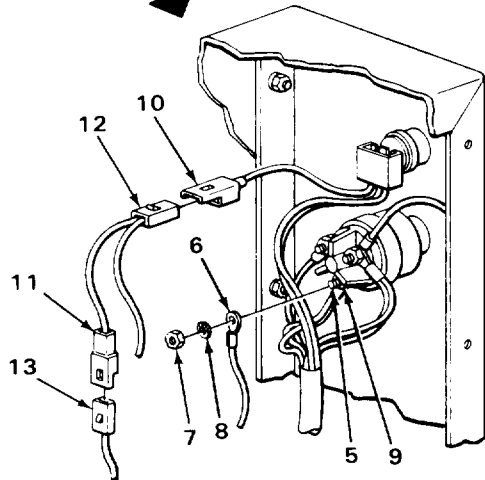
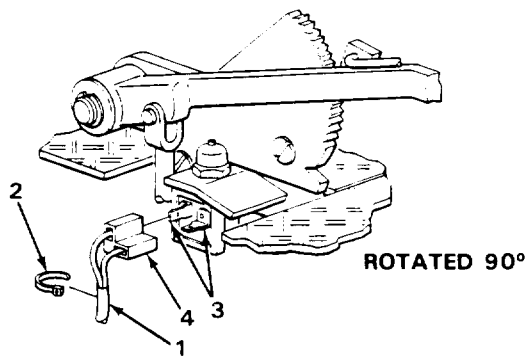
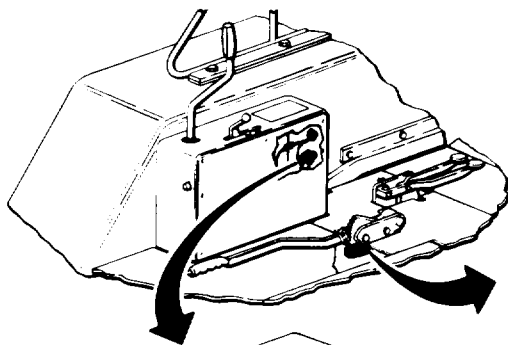
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

1. Parking brake harness (1) on loader backhoe	Plastic bands (2)	a. Note number and location for proper placement during installation. b. Using diagonal-cutting pliers, cut off. c. Get rid of.	
2. Two warning switch terminals (3)	Connector (4)	a. Tag (page 2-137). b. Unplug.	
3. Ignition switch bottom terminal (5) and terminal (6)	Nut (7) and lockwasher (8)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (8).	

PARKING BRAKE WIRING HARNESS (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
4. Ignition switch bottom terminal (5) and nut (9)	Terminal (6)	a. Tag (page 2-137). b. Take off.	
5. Two connectors (10 and 11)	Two connectors (12 and 13)	a. Tag (page 2-137). b. Using 1/4-inch flat-tip screwdriver, lift lock tab on connectors (10 and 11) and unplug.	
6. Time total meter terminal (14)	Connector (15)	a. Tag (page 2-137). b. Unplug.	



TA242952

PARKING BRAKE WIRING HARNESS (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
7.	Light lead connector (1)	Connector (2)	a. Tag (page 2-137). b. Using 1/8-inch flat-tip screwdriver, lift lock tab on connector (1) and unplug.
8.	Three relay terminals (3)	Connector (4)	a. Tag (page 2-137). b. Unplug.
9.	Cowl support (5), relay (6), and two terminals (7 and 8)	Screw (9), nut (10), and lockwasher (11)	a. Using 1/4-inch flat-tip screwdriver, and 11/32-inch box wrench, unscrew and take out. b. Get rid of lockwasher (11).
10.	Relay (6) (7 and 8)	Two terminals b. Take off.	a. Tag (page 2-137).
11.	Loader backhoe harness (12)	Parking brake installation and take out.	Note routing for proper placement during

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|--------------------------------|---|--|
| 12. Parking brake harness (12) | a. Using rag dampened with solvent cleaning compound, wipe clean. | |
| | b. | Dip connectors in solvent cleaning compound. |
| | c. | Using clean, dry rags, wipe dry. |

PARKING BRAKE WIRING HARNESS (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

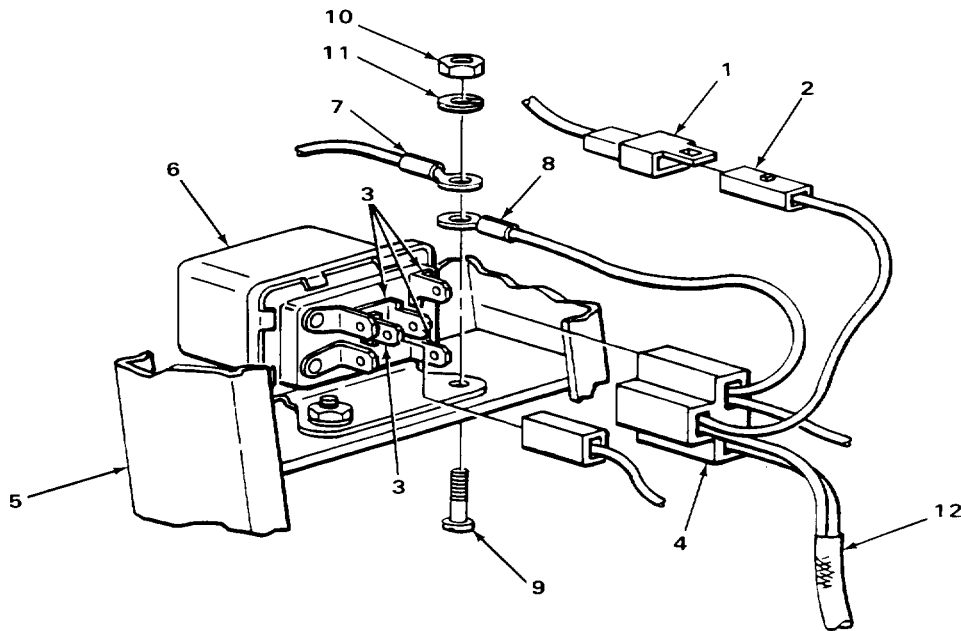
Replace defective parts which cannot be repaired.

13. Parking brake harness (12)	a. Look for cracked, burned, and worn insulation.	Look for broken wires. Look for loose and corroded terminals.
	b.	
	c.	

REPAIR

NOTE

For more information on how to repair wiring, go to General Maintenance Instructions (page 2-137).

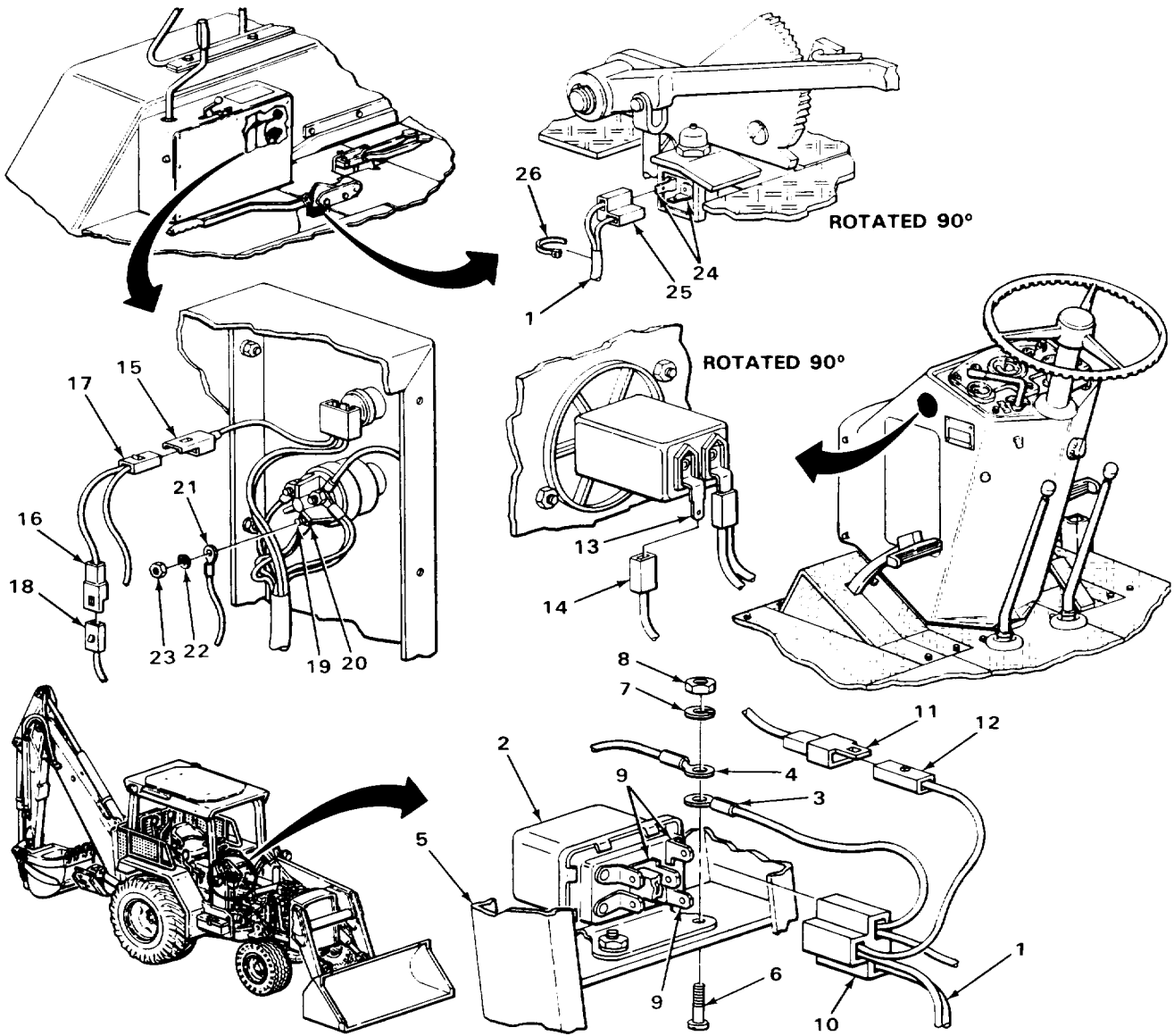


TA242953

PARKING BRAKE WIRING HARNESS (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
14. Loader backhoe harness (1)	Parking brake	Route into place as noted during removal.
15. Relay (2) (3 and 4)	Two terminals b. Take off tags.	a. Put in place.
16. Cowl support (5), relay (2), and two terminals (3 and 4)	Screw (6), new lockwasher (7), and nut (8)	Screw together and tighten using 1/4-inch flat-tip screwdriver and 11/32-inch box wrench.
17. Three relay terminals (9)	Connector (10)	a. Push on. b. Take off tag.
18. Light lead connector (11)	Connector (12)	a. Plug in. b. Take off tag.
19. Time total meter terminal (13)	Connector (14)	a. Push on. b. Take off tag.
20. Two connectors (15 and 16)	Two connectors (17 and 18)	a. Plug in. b. Take off tags.
21. Ignition switch bottom terminal (19) and nut (20)	Terminal (21)	a. Put on. b. Take off tag.
22. Ignition switch bottom terminal (19) and terminal (21)	New lockwasher (22) and nut 23)	Screw on and tighten using 3/8-inch box wrench.
23. Two warning switch terminals (24)	Connector (25)	a. Push on. b. Take off tag.
24. Parking brake harness (1) and loader backhoe	New plastic bands (26)	a. Put on same number in same location as noted in removal. b. Using slip-joint pliers, pull tight.

PARKING BRAKE WIRING HARNESS (SERIAL NUMBERS 31995 THRU 342573 ONLY) - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Install cowl front cover (page 2-1020).
2. Install right rear platform (page 2-1110).
3. Install right platform (page 2-1079).
4. Install loader control box door (page 2-1167).
5. Connect battery ground cable (page 2-696).

TASK ENDS HERE

TA242954

PARKING BRAKE WARNING LIGHT GROUND WIRE (SERIAL NUMBERS 319995 THRU 342573 ONLY)

This task covers:

- a. Removal (page 2-500)
- b. Cleaning (page 2-501)
- c. Inspection/Replacement (page 2-502)
- d. Repair (page 2-502)
- e. Installation (page 2-503)

INITIAL SETUP

Tools

- Screwdriver, flat-tip, 1/4-inch, 1-inch blade
- Wrench, box 11/32-inch

Personnel Required

One

Equipment Condition

Materials/Parts

- Cleaning compound, solvent (item 4, Appendix C)
- Lockwasher, relay mounting nut
- Rags, wiping (item 21, Appendix C)
- Tags, marking (item 30, Appendix C)

- 1. Battery ground cable disconnected (page 2-696)
- 2. Cowl front cover removed (page 2-1020)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

1. Parking brake warning light terminal (1)	Connector (2)	a. Tag (page 2-137). b. Unplug.	
2. Three relay terminals (3)	Connector (4)	a. Tag (page 2-137). b. Unplug.	
3. Two terminals (5 and 6), relay (7), and cowl support (8)	Screw (9), nut (10), and lockwasher (11),	a. Using 1-inch blade, 1/4-inch flat-tip screwdriver and 11/32-inch box wrench, unscrew and take apart. b. Get rid of lockwasher (11).	
4. Relay (7) (5 and 6)	Two terminals	Take off.	
5. Loader backhoe	Ground wire (12) installation and take out.	Note routing for proper placement during	

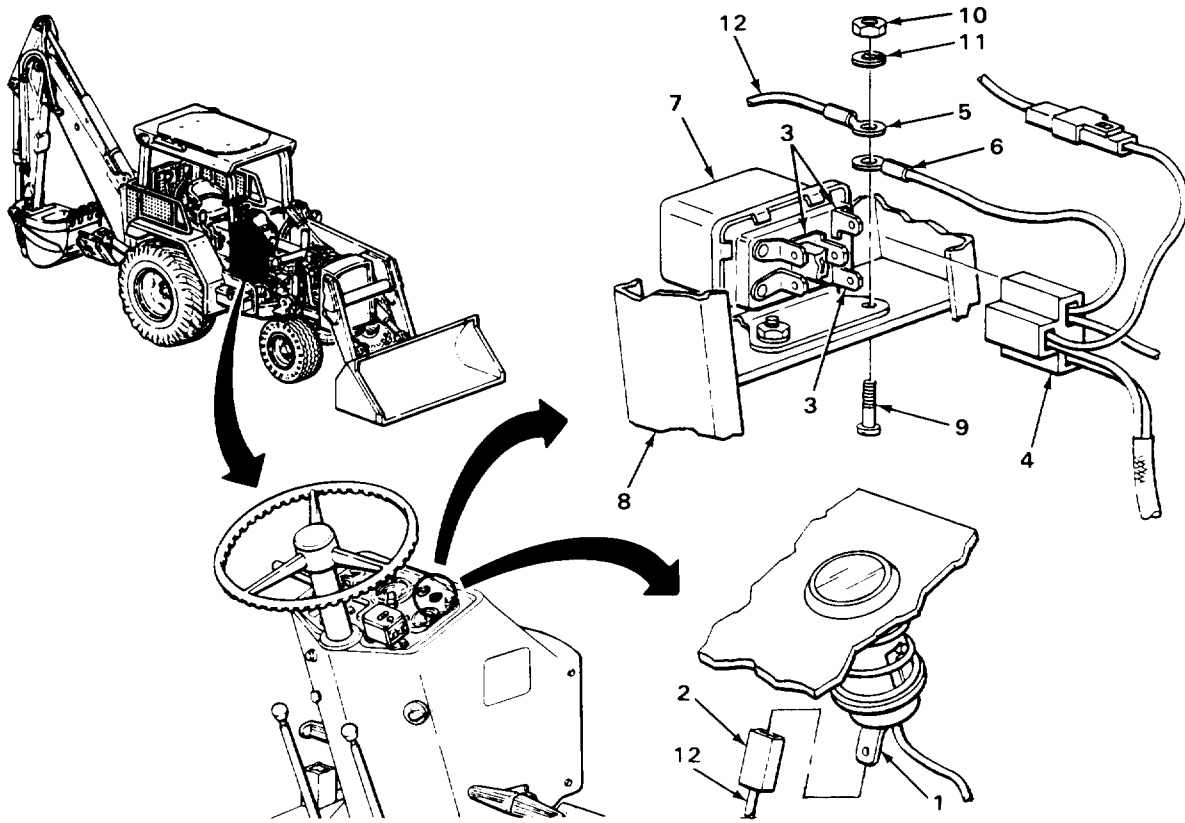
PARKING BRAKE WARNING LIGHT GROUND WIRE (SERIAL NUMBERS 31995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).



TA242955

PARKING BRAKE WARNING LIGHT GROUND WIRE (SERIAL NUMBERS 31995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 1140F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | |
|--------------------|---|
| 6. Ground wire (1) | <ul style="list-style-type: none"> a. Using rag dampened with solvent cleaning compound, wipe clean. b. Dip connectors in solvent cleaning compound. c. Using clean, dry rags, wipe dry. |
|--------------------|---|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

- | | |
|--------------------|---|
| 7. Ground wire (1) | <ul style="list-style-type: none"> a. Look for cracked, burned, and worn insulation. b. Look for broken wires. c. Look for loose and corroded terminals. |
|--------------------|---|

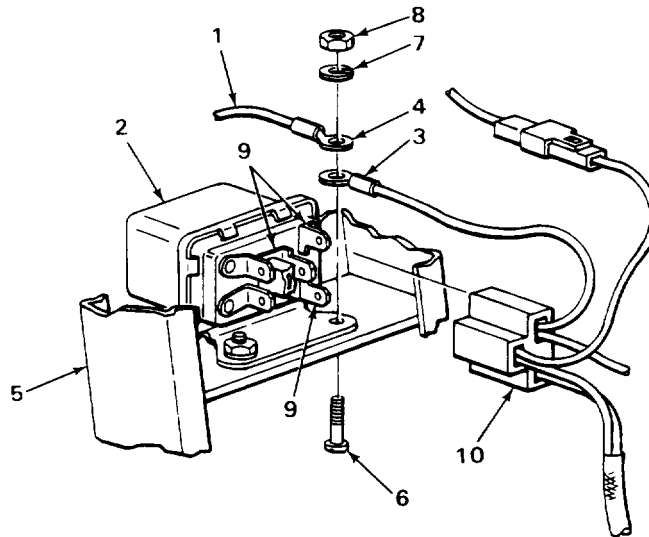
REPAIR

NOTE

For more information on how to repair wiring, go to General Maintenance Instructions (page 2-137).

PARKING BRAKE WARNING LIGHT GROUND WIRE (SERIAL NUMBERS 31995 THRU 342573 ONLY) - CONTINUED

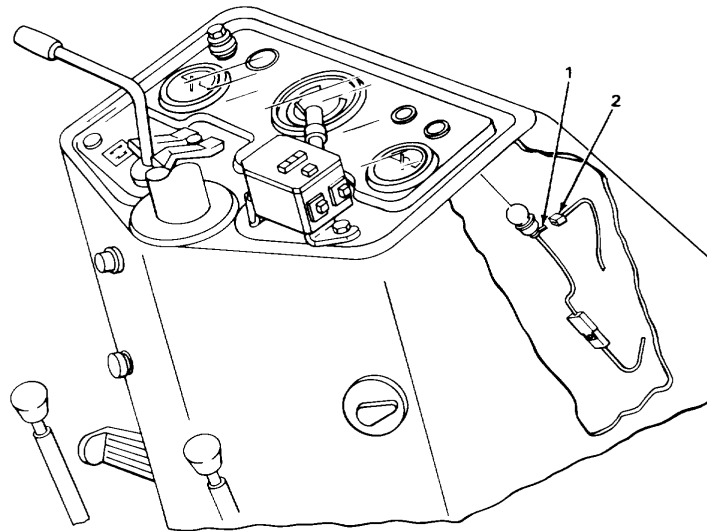
LOCATION	ITEM	ACTION	REMARKS
INSTALLATION			
8. Loader backhoe	Ground wire (1)	Route into place as not during removal.	
9. Relay (2) (3 and 4)	Two terminals b. Takeoff tags.	a. Put in place.	
10. Two terminals (3 and 4), relay (2) and cowl support (5)	Screw (6), new lockwasher (7), and nut (8)	Screw together and tighten using 1-inch blade, 1/4-inch flat-tip screwdriver and 11132-incn box wrench.	
11. Three relay terminals (9)	Connector (10)	a. Push on. b. Take off tag.	



TA242956

PARKING BRAKE WARNING LIGHT GROUND WIRE (SERIAL NUMBERS 31995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
12. Parking brake warning light terminal (1)	Connector (2)	a. Push on. b. takeoff tag.	



NOTE

FOLLOW-ON MAINTENANCE:

1. Install cowl front cover (page 2-1020).
2. Connect battery ground cable (page 2-696).

TASK ENDS HERE

PARKING BRAKE HORN-TO-RELAY LEAD (SERIAL NUMBERS 319995 THRU 342573 ONLY)

This task covers:

- a. Removal (page 2-505)
- b. Cleaning (page 2-506)
- c. Inspection/Replacement (page 2-507)
- d. Repair (page 2-508)
- e. Installation (page 2-508)

INITIAL SETUP

Tools

- Pliers, diagonal-cutting
- Pliers, slip-joint
- Screwdriver, flat-tip, 114-inch

Materials/Parts

- Band, plastic, electrical tiedown (as required)
- Cleaning compound, solvent (item 4, appendix C)
- Rags, wiping (item 21, Appendix C)
- Tags, marking (item 30, Appendix C)

Personnel Required

One

Equipment Condition

1. Battery ground cable disconnected (page 2-696)
2. Cowl front cover removed (page 2-1020)

LOCATION	ITEM	ACTION	REMARKS
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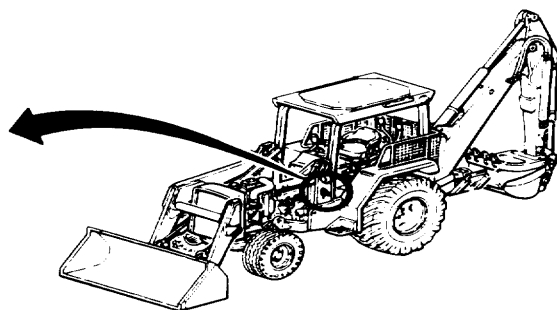
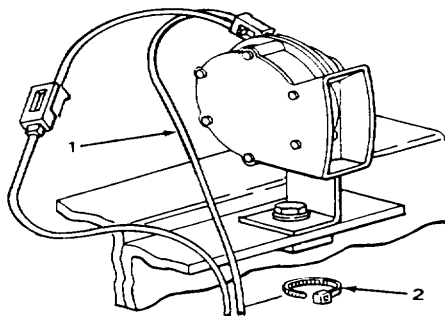
REMOVAL

1. Horn-to-relay lead (1) and loader backhoe

Plastic bands (2)

c.

- a. Note number and location for proper placement during installation.
- b. Using diagonal-cutting pliers, cut off. Get rid of.



TA242958

PARKING BRAKE HORN-TO-RELAY LEAD (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
2. Relay terminal (1)	Connector (2) b.	a. Tag (page 2-137). Unplug.
3. Horn terminal (3)	Connector (4) b.	a. Tag (page 2-137). Unplug.
4. Harness connector (5)	Connector (6)	Using 1/4-inch flat-tip screwdriver, pry up tab on connector (7) and unplug.
5. Loader backhoe lead (7)	Horn-to-relay installation and take out.	Note routing for proper placement during

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | |
|---------------------------|---|
| 6. Horn-to-relay lead (1) | <ul style="list-style-type: none"> a. Using rag dampened with solvent cleaning compound, wipe clean. b. Dip connectors in solvent cleaning compound. c. Using clean, dry rags, wipe dry. |
|---------------------------|---|

PARKING BRAKE HORN-TO-RELAY LEAD (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

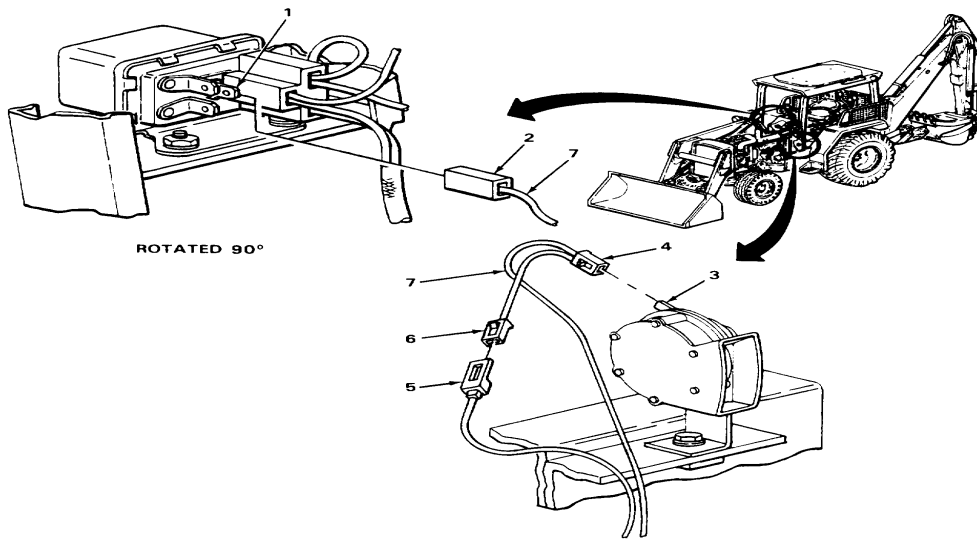
LOCATION	ITEM	ACTION	REMARKS
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INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.



TA242959

**PARKING BRAKE HORN-TO-RELAY LEAD (SERIAL NUMBERS 319995 THRU 342573 ONLY) -
CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT - CONTINUED			
7. Horn-to-relay lead (1)	a. Look for cracked, burned, and worn insulation. b. c.		Look for broken wires. Look for loose and corroded terminals.

REPAIR

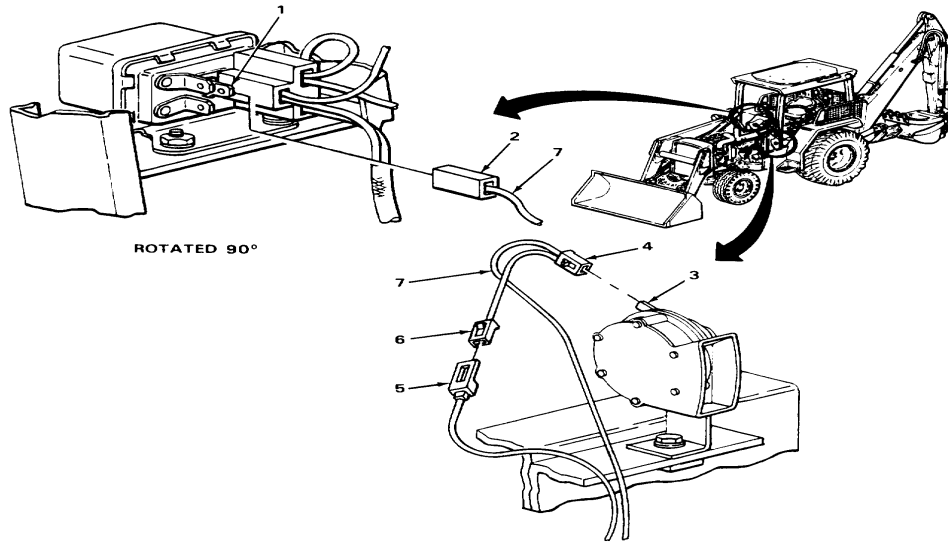
NOTE

For more information on how to repair wiring, go to General Maintenance Instructions (page 2-137).

INSTALLATION

8. Loader backhoe lead (1)	Horn-to-relay		Route into place as noted during removal.
9. Harness connector (2)	Connector (3)	a. Plug in. b. Take off tag.	
10. Horn terminal (4)	Connector (5) b.	a. Plug in. Take off tag.	
11. Relay terminal (6)	Connector (7) b.	a. Plug in. Take off tag.	
12. Horn-to-relay lead (1) and loader backhoe	New plastic bands (8)	a. Put on same number in same location as noted during removal. b. Using slip-joint pliers, pull tight.	

PARKING BRAKE HORN-TO-RELAY LEAD (SERIAL NUMBERS 31995 THRU 342573 ONLY) - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Install cowl front cover (page 2-1020).
2. Connect battery ground cable (page 2-696).

TASK ENDS HERE

TA242960

TIME TOTAL METER AND LEAD

This task covers:

- a. Removal (page 2-510)
 - b. Cleaning (page 2-512)
 - c. Inspection/Replacement (2-513)
 - d. Repair (page 2-514)
 - e. Installation (page 2-514)
-

INITIAL SETUP

Tools

Extension, 1/4-inch drive, 2-inch
 Handle, ratchet, 1/4-inch drive
 Screwdriver, flat-tip, 3/16-inch
 Socket, 1/4-inch drive, 5/16-inch

Materials/Parts - Continued

Solvent, drycleaning (item 28, Appendix C)
 Tags, marking (item 30, Appendix C)

Personnel Required

Two

Materials/Parts

Cleaning compound, solvent
 (item 4, Appendix C)
 Lockwasher, time total meter nut
 (three required)
 Rags, wiping (item 21, Appendix C)

Equipment Condition

- 1. Battery ground cable disconnected
 (page 2-696)
 - 2. Cowl front cover removed (page 2-1020).
-

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

- 1. Meter Connector (2)
 terminal (1)
 - a. Tag (page 2-137).
 - b. Unplug.

NOTE

Time total meters on loader backhoes with Serial Number 235786 thru 235999 are grounded differently from those on Serial Numbers 319995 thru 342573.

- 2. Meter Connector (4 and 5)
 terminal (3)
 - a. Tag (page 2-137).
 - b. Unplug.
- 3. Time total meter (6) and cowl (7)
 washers (11)
 - a. With help of assistant, using 3/16-inch flat-tip screwdriver, 5/16-inch, 1/4-inch drive socket, 2-inch extension, and ratchet handle, unscrew and take out.
 - b. Get rid of lockwashers(11).

TIME TOTAL METER AND LEAD - CONTINUED

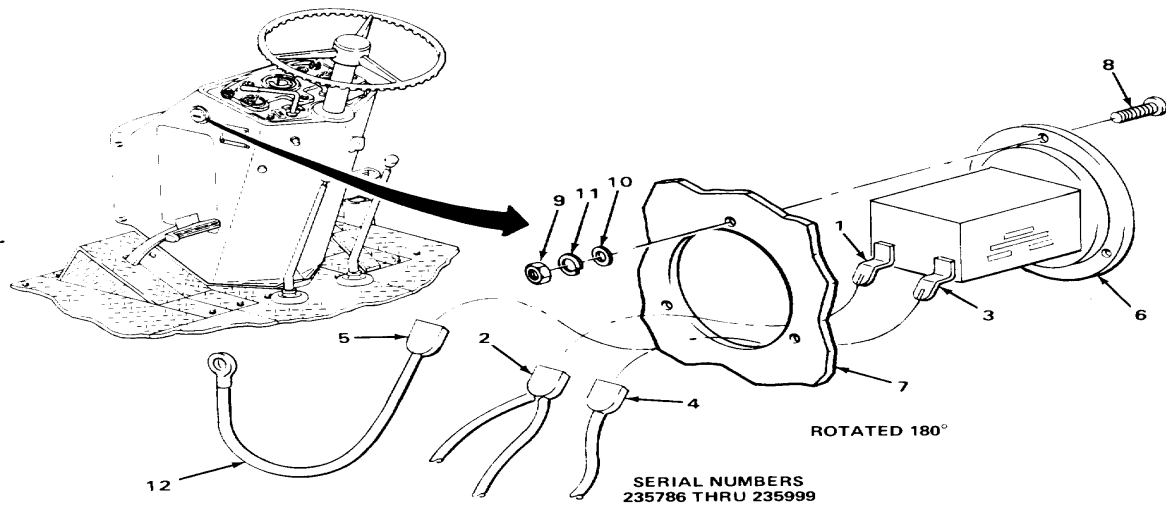
LOCATION	ITEM	ACTION	REMARKS
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4. Cowl (7) meter (6)	Time total	Take out.	
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NOTE

Steps 5 and 6 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

5. Cowl support flasher and bracket	Warning light	Remove (page 2-657).	
6. Cowl (7)	Lead (12) installation and take out.	Note routing for proper placement during	



TA242961

TIME TOTAL METER AND LEAD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

NOTE

Step 7 only applies to loader backhoes with Serial Numbers 235786 thru 235999.

- | | |
|-------------------------|---|
| 7. Lead (1) | <ul style="list-style-type: none"> a. Using rag dampened with solvent cleaning compound, wipe clean. b. Dip connectors in solvent cleaning compound. c. Using clean, dry rags, wipe dry. |
| 8. Time total meter (2) | <ul style="list-style-type: none"> a. Using clean rag, dampened with solvent cleaning compound, wipe clean. b. Using clean, dry rags, wipe dry. |

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | |
|---------------------------|--|
| 9. All attaching hardware | <ul style="list-style-type: none"> a. Clean in drycleaning solvent b. Using clean, dry rags, wipe dry. |
|---------------------------|--|

TIME TOTAL METER AND LEAD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSPECTION/REPLACEMENT

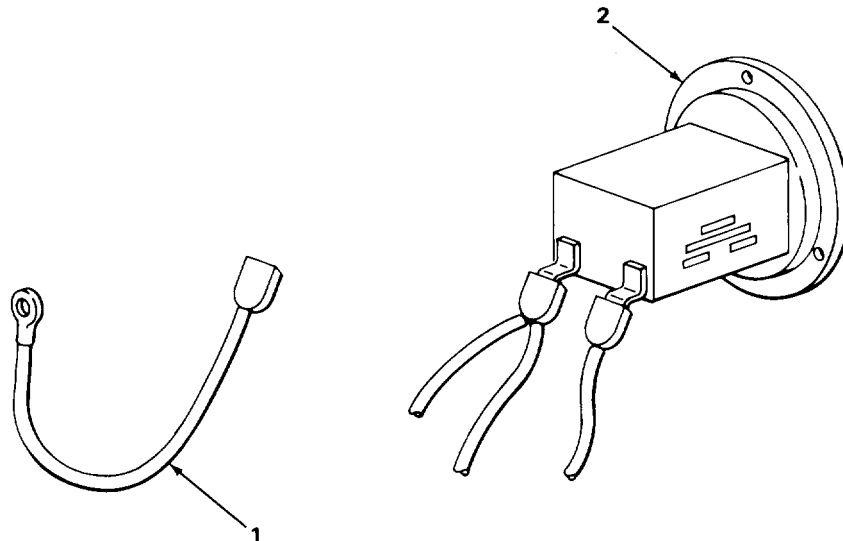
NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

Step 10 only applies to loader backhoes with Serial Numbers 235786 thru 235999.

- | | |
|----------------------------|---|
| 10. Lead (1) | <ul style="list-style-type: none"> a. Look for cracked, burned, and worn insulation. b. Look for broken wires. c. Look for loose and corroded terminals. |
| 11. Time total meter (2) | <ul style="list-style-type: none"> a. Look for cracks, breaks, and dents. b. Look for unreadable dial. |
| 12. All attaching hardware | Look for cracks, breaks, and abnormal bends. |
| 13. All threaded parts | Look for damaged threads. |



TA242962

TIME TOTAL METER AND LEAD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REPAIR

NOTE

For more information on how to repair wiring, go to General Maintenance instructions (page 2-137).

INSTALLATION

14. Cowl (1) meter (2)	Time total	Put in place.
15. Time total meter (2) and cowl (1) and nuts (6)	Three screws (3), washers (4), new lockwashers (5), 2-inch extension, and ratchet handle.	With help of assistant, screw in and tighten using 3/16-inch flat-tip screw- driver, 5/16-inch, 1/4-inch drive socket,
16. Meter terminal (7)	Connector (8)	a. Push on. b. Take off tag.

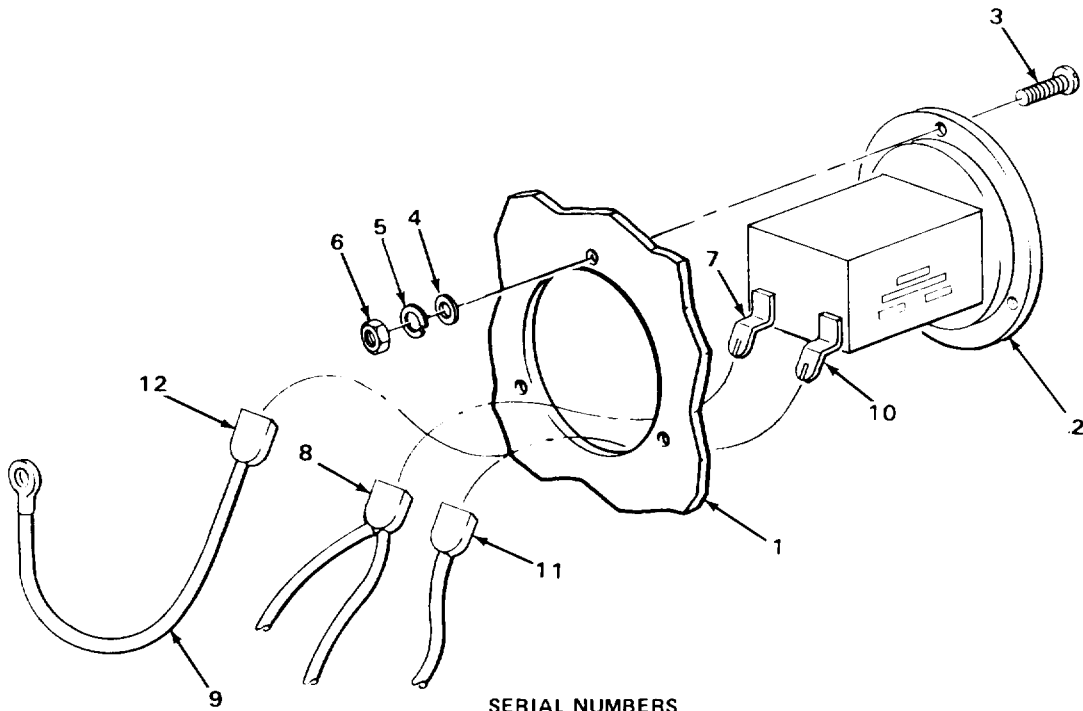
NOTE

Time total meters on loader backhoes with Serial Numbers 235786 thru 235999 are grounded differently from those on Serial Numbers 319995 thru 342573.

Steps 17 and 18 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

17. Cowl (1)	Lead (9)	Route into place as noted during removal.
18. Cowl support flasher and bracket	Warning light	Install (page 2-657).
19. Meter terminal (10)	Connector (11 or 12)	a. Push on. b. Take off tag.

TIME TOTAL METER AND LEAD - CONTINUED



SERIAL NUMBERS
235786 THRU 235999

NOTE

FOLLOW-ON MAINTENANCE:

1. Install cowl front cover (page 2-1020).
2. Connect battery ground cable (page 2-696).

TASK ENDS HERE

TA242963

CIRCUIT BREAKERS

This task covers:

- a. Removal (page 2-516)
 - b. Cleaning (page 2-521)
 - c. Inspection/Replacement (page 2-522)
 - d. Repair (page 2-523)
 - e. Installation (page 2-523)
-

INITIAL SETUP

Tools

- Handle, screwdriver grip spin, 1/4-inch drive
- Socket, 1/4-inch drive, 318-inch
- Threading set, screw
- Wrench, box, 3/8-inch

Materials/Parts

- Cleaning compound, solvent (item 4, Appendix C)
- Nut, assembled washer, circuit breaker mounting (two required)
- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)
- Tags, marking (item 30, Appendix C)

NOTE

The following part only applies to loader backhoes with Serial Numbers 235786 thru 235999.

- Lockwasher, circuit breaker terminal (eight required)

Materials/Parts - Continued

NOTE

The following part only applies to loader backhoes with Serial Numbers 319995 thru 342573

- Lockwasher, circuit breaker terminal (six required)

Personnel Required

One

Equipment Condition

1. Battery ground cable disconnected (page 2-696)
2. Cowl front cover removed (page 2-1020)

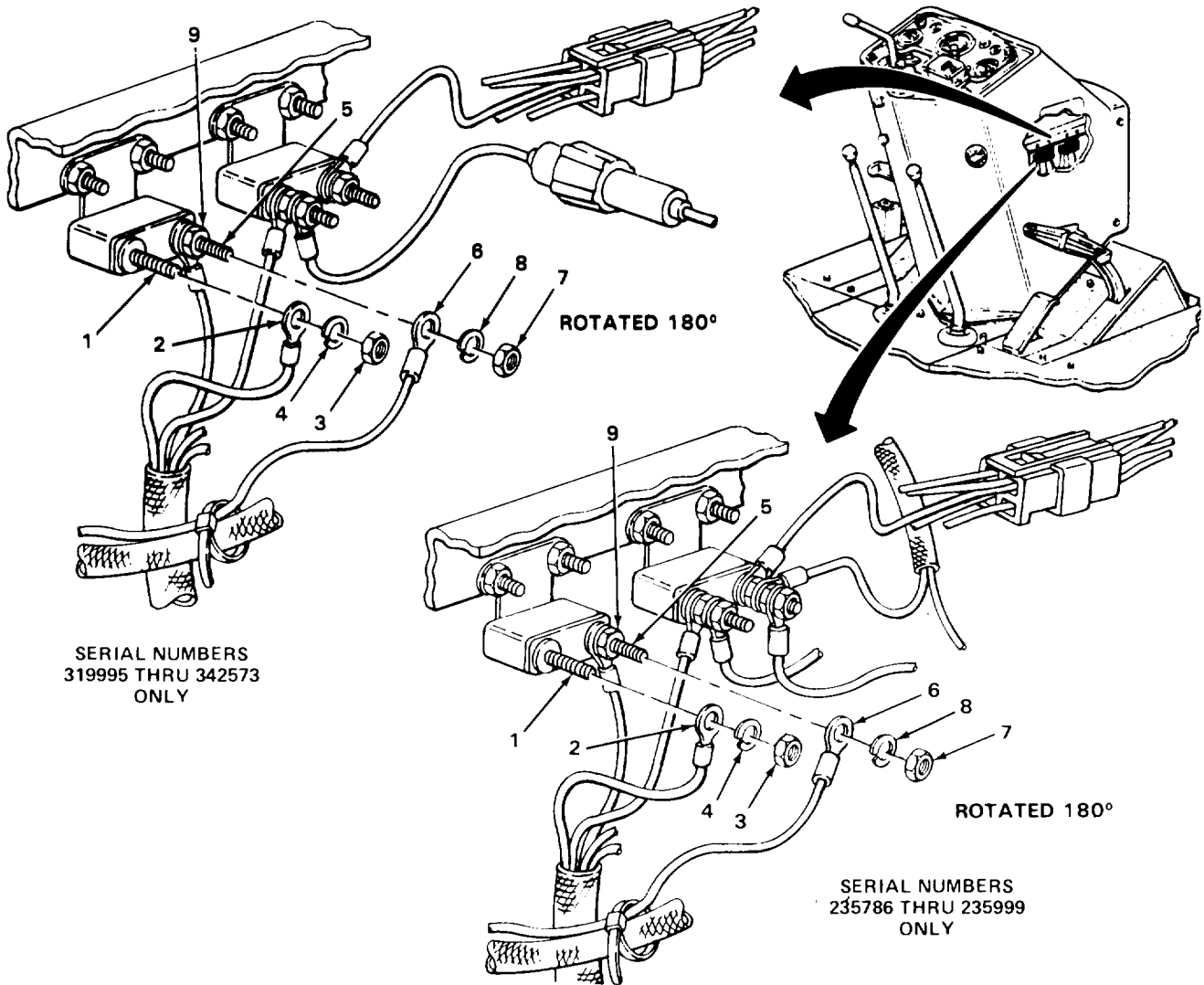
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

- | | | | |
|----------------------------------|----------------------------------|---|--|
| 1. Terminal (1) and terminal (2) | Nut (3) and lockwasher (4)
b. | a. Using 3/8-inch box wrench, unscrew and take off.
Get rid of lockwasher (4). | |
| 2. Terminal (1) | Terminal (2)
b. | a. Tag (page 2-137).
Take off. | |

CIRCUIT BREAKERS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
3. Terminal (5) and terminal (6)	Nut (7) and lockwasher (8) b.	a. Using 3/8-inch box wrench, unscrew and take off. Get rid of lockwasher (8).
4. Terminal (5) and nut (9)	Terminal (6)	a. Tag (page 2-137). b. Take off.



TA242964

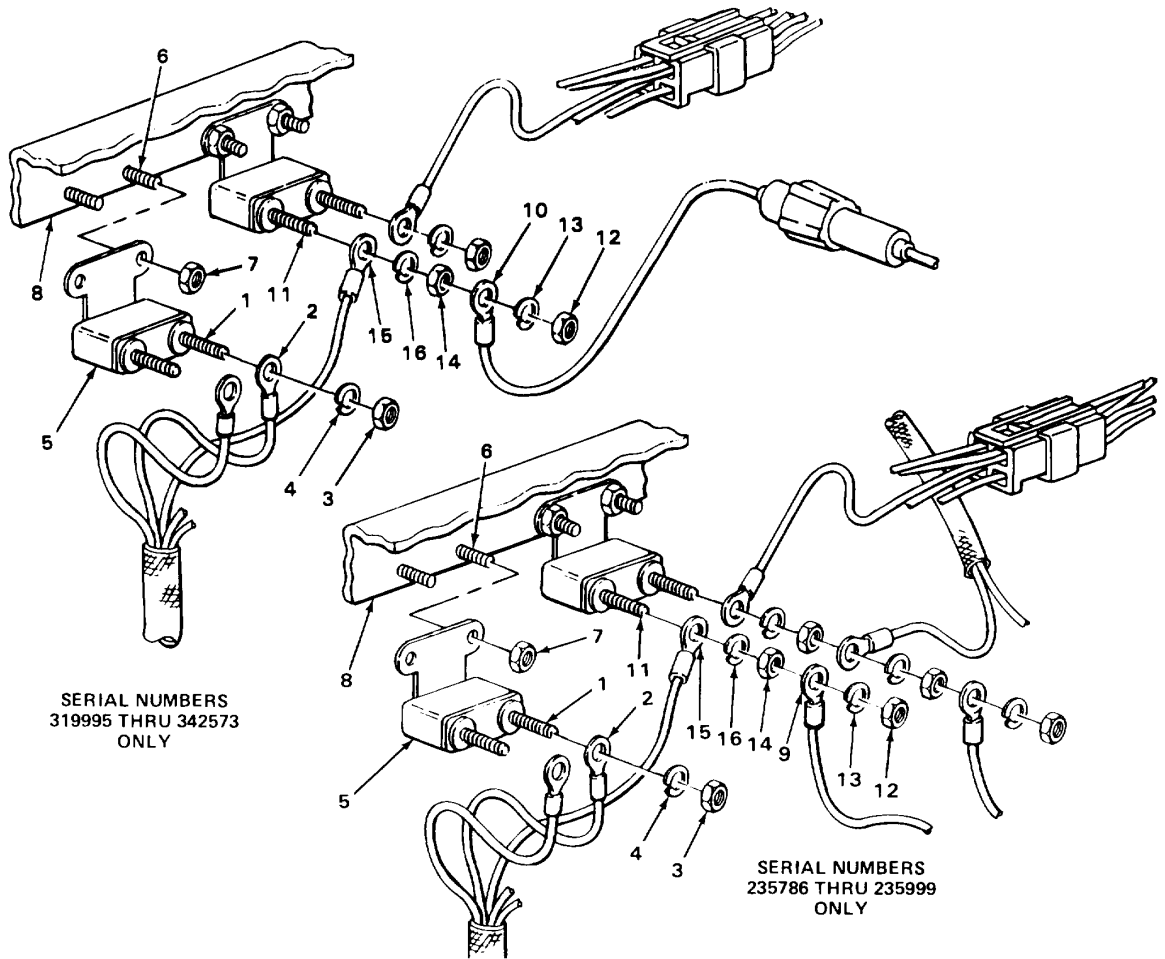
CIRCUIT BREAKERS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
5. Terminal (1) and terminal (2)	Nut (3) and lockwasher (4) b.	a. Using 3/8-inch box wrench, unscrew and take off. Get rid of lockwasher (4).
6. Terminal (2)	Terminal (1) b.	a. Tag (page 2-137). Take off.
7. 40 ampere circuit breakers (5) and two weld screws (6)	Two assembled washer nuts (7) b.	a. Using 3/8-inch, 1/4-inch drive socket and screwdriver grip spin handle, unscrew and take off. Get rid of.
8. Cowl support (8) breaker (5)	40 ampere circuit breaker (5)	Take off.

NOTE

On loader backhoes with Serial Numbers 235786 thru 235999, cigar lighter lead terminal connects to 20 ampere circuit breaker front terminal. On loader backhoes with Serial Numbers 319995 thru 342573, warning light flasher lead terminal connects to 20 ampere circuit breaker front terminal.

9. Cigar lighter lead terminal (9) or warning lights flasher lead terminal (10) and terminal (11)	Nut (12) and lockwasher (13)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (13).
10. Terminal (11) and nut (14) warning flasher lead terminal (10)	Cigar lighter lead terminal (9) or	a. Tag (page 2-137). b. Take off.
11. Terminal (11) and terminal (15)	Nut (14) and lockwasher (16) b.	a. Using 3/8-inch box wrench, unscrew and take off. Get rid of lockwasher (16).
12. Terminal (10)	Terminal (15) b.	a. Tag (page 2-137). Take off.



CIRCUIT BREAKERS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
NOTE			
Steps 13 thru 16 only apply to loader backhoes with Serial Numbers 235786 thru 235999.			
On loader backhoes with Serial Numbers 235786 thru 235999, warning light flasher lead terminal connects to 20 ampere circuit breaker rear terminal.			
13.	Warning light flasher lead terminal (1) and terminal (2)	Nut (3) and lockwasher (4)	<ul style="list-style-type: none"> a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (4).
14.	Terminal (2) and nut (5) terminal (1)	Warning light flasher lead	<ul style="list-style-type: none"> a. Tag (page 2-137). b. Take off.
15.	Terminal (2) and terminal (6)	Nut (5) and lockwasher (7)	<ul style="list-style-type: none"> a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (7).
16.	Terminal (2) and nut (8)	Terminal (6)	<ul style="list-style-type: none"> a. Tag (page 2-137). b. Take off.
17.	Terminal (9) and terminal (2)	Nut (8) and lockwasher (10)	<ul style="list-style-type: none"> a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (10).
18.	Terminal (2)	Terminal (9)	<ul style="list-style-type: none"> a. Tag (page 2-137). b. Take off.
19.	20 ampere circuit breaker (11) and two weld screws (12)	Two assembled washer nuts (13)	<ul style="list-style-type: none"> a. Using 3/8-inch, 1/4-inch drive socket and screwdriver grip spin handle, unscrew and take off. b. Get rid of.
20.	Cowl support (14) and two weld screw (12)	20 ampere circuit breaker (11)	Take off.

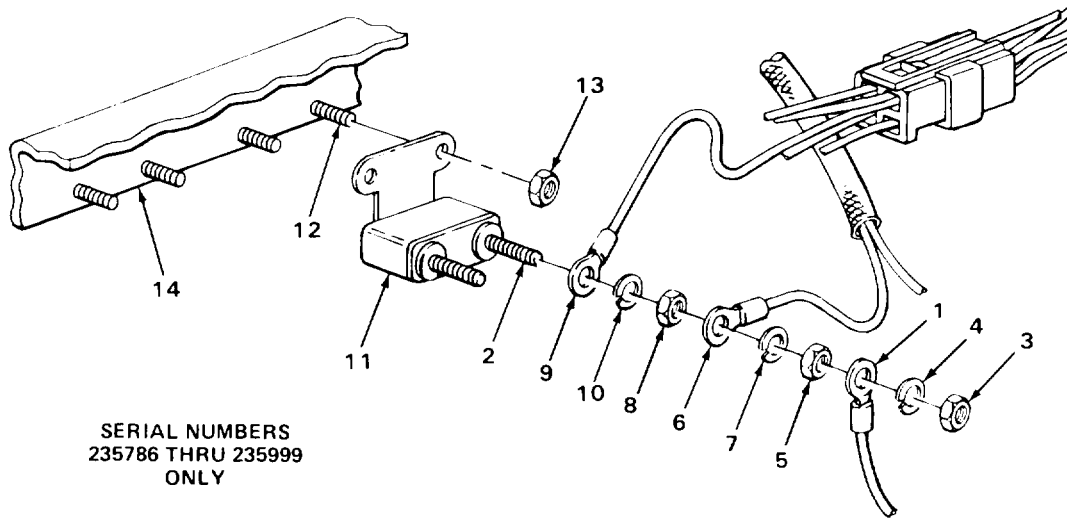
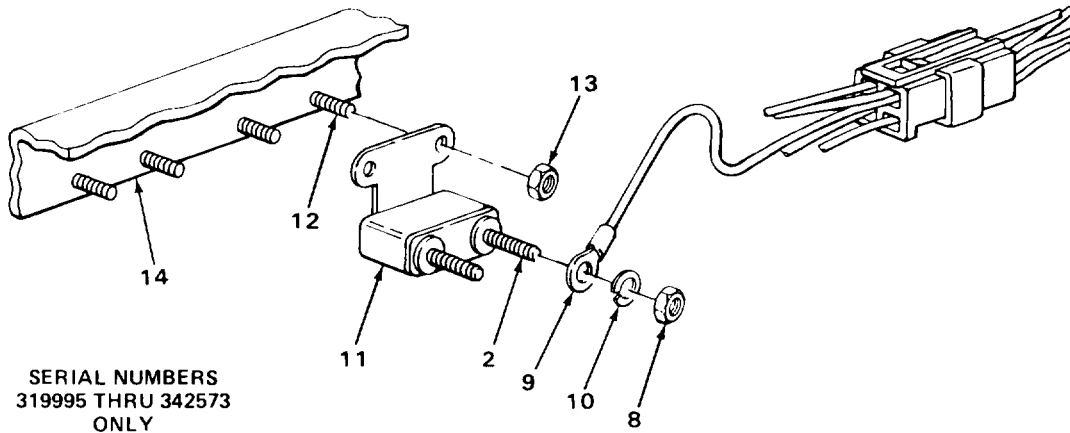
CIRCUIT BREAKERS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).



CIRCUIT BREAKERS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (46°C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|---|--|
| 21. | 40 ampere circuit breaker (1) and 20 ampere circuit breaker (2) | <ul style="list-style-type: none"> a. Using rag dampened with solvent cleaning compound, wipe clean. b. Using clean, dry rags, wipe dry. |
|-----|---|--|

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|-----------------------|---|
| 22. | All other metal parts | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. |
|-----|-----------------------|---|

INSPECTION/REPLACEMENT

NOTE

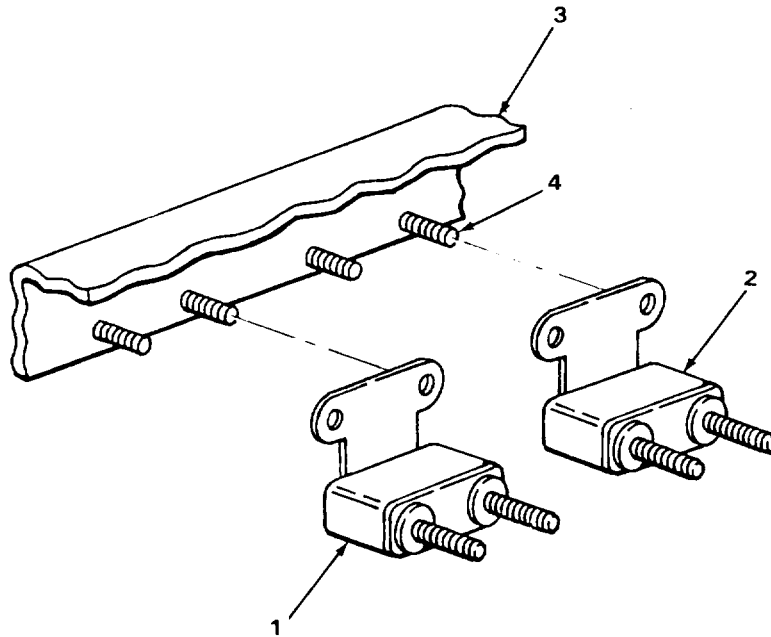
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

- | | | |
|-----|---|---|
| 23. | 40 ampere circuit breaker (1) and 20 ampere circuit breaker (2) | <ul style="list-style-type: none"> a. Look for signs of overheating, cracks, breaks, abnormal bends, and dents. b. Look for loose and corroded terminals. |
|-----|---|---|

CIRCUIT BREAKERS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
24.	All other metal parts	Look for cracks, breaks, and abnormal bends.	
25.	All threaded parts	Look for damaged threads.	
REPAIR			
26.	40 ampere circuit breaker (1) and 20 ampere circuit breaker (2)	If threads are damaged, using screw threading set, restore threads.	
INSTALLATION			
27. Cowl support (3) and two weld screws (4)	20 ampere circuit breaker (2)	Put in place.	



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CIRCUIT BREAKERS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
28.	20 ampere circuit breaker (1) and two weld screws (2)	Two new assembled washer nuts (3)	Screw on and tighten using 3/8-inch, 1/4-inch drive socket and screwdriver grip spin handle.
29.	Terminal (4)	Terminal (5)	a. Put on. b. Take off tag.
30.	Terminal (4) and terminal (5)	New lockwasher (6) and nut (7)	Screw on and tighten using 3/8-inch box wrench.

NOTE

Steps 31 thru 34 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

31.	Terminal (4) and nut (7)	Terminal (8)	a. Put on. b. Takeoff tag.
32.	Terminal (4) and terminal (8)	New lockwasher (9) and nut (10)	Screw on and tighten using 3/8-inch box wrench.

NOTE

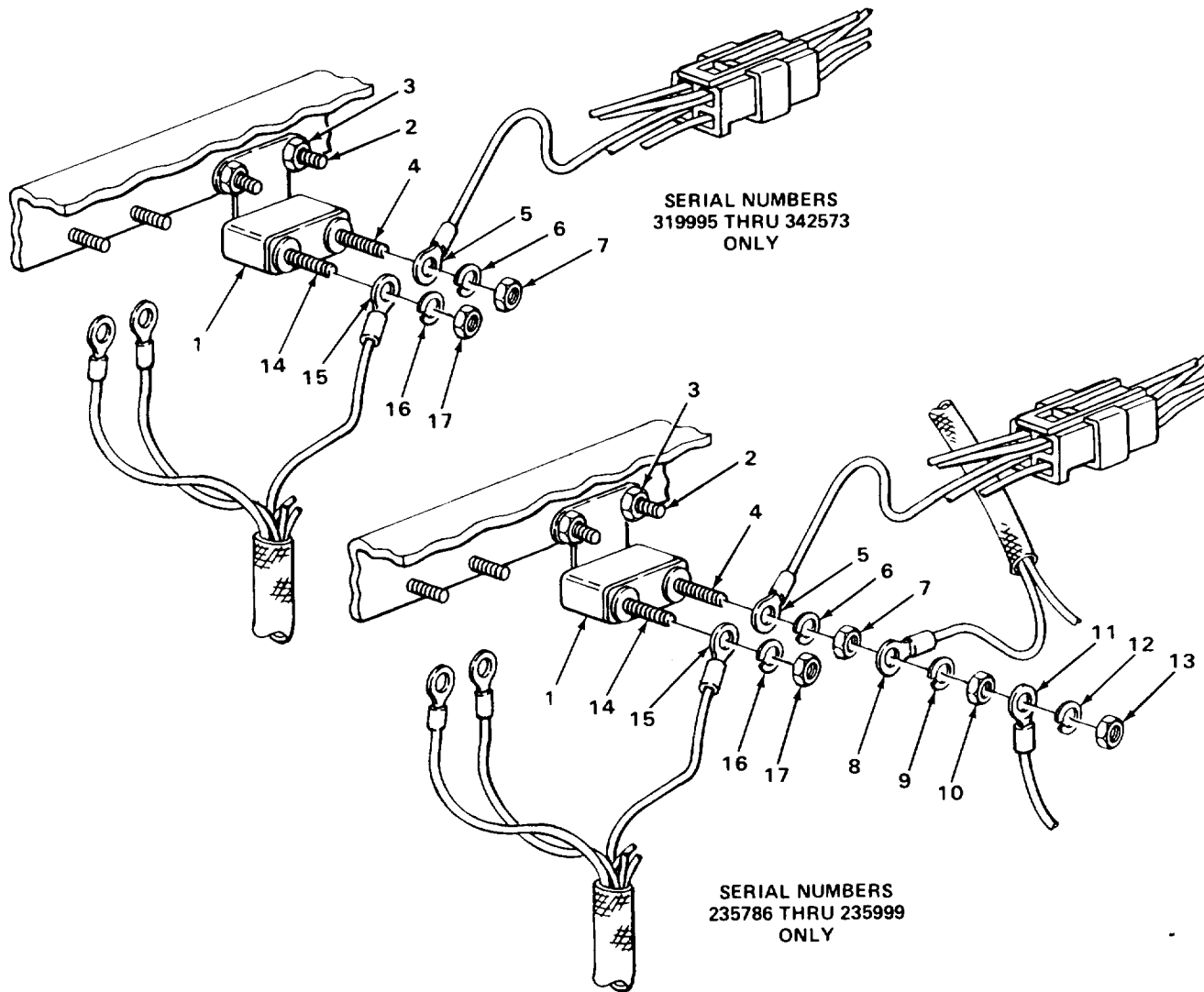
On loader backhoes with Serial Numbers 235786 thru 235999, warning light flasher lead terminal connects to 20 ampere circuit breaker rear terminal.

33.	Terminal (4) and nut (10)	Warning light flasher lead terminal (11)	a. Put on. b. Take off tag.
34.	Warning light flasher lead terminal (11) and terminal (4)	New lockwasher (12) and nut (13)	Screw on and tighten using 3/8-inch box wrench.
35.	Terminal (14)	Terminal (15)	a. Put on. b. Take off tag.
36.	Terminal (14) and terminal (15)	New lockwasher (16) and nut (17)	Screw on and tighten using 3/8-inch box wrench.

LOCATION	ITEM	ACTION	REMARKS
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NOTE

On loader backhoes with Serial Numbers 235786 thru 235999, cigar lighter lead terminal connects to 20 ampere circuit breaker front terminal. On loader backhoes with Serial Numbers 319995 thru 342573, warning light flasher lead terminal connects to 20 ampere circuit breaker front terminal.

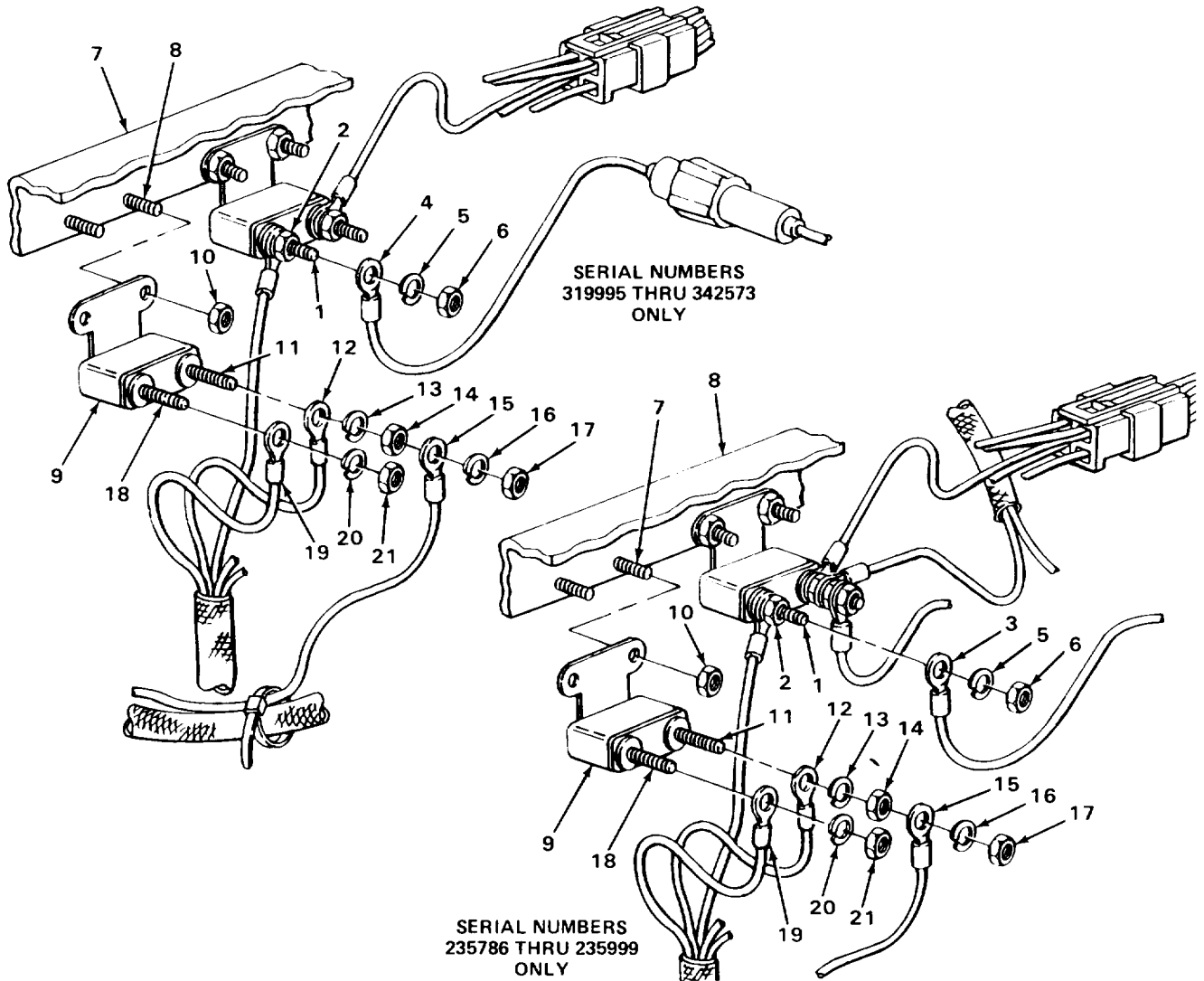


TA242968

CIRCUIT BREAKERS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
37. Terminal (1) and nut (2)	Cigar lighter lead terminal (3) or warning flasher lead terminal (4)	a. Put on. b. Take off tag.	
38. Cigar lighter lead terminal (3) or warning flasher lead terminal (4) and terminal (1)	New lockwasher (5) and nut (6)		Screw on and tighten using 3/8-inch box wrench.
39. Cowl support (7) and two weld screws (8)	40 ampere circuit breaker (9)		Put onto weld screws.
40. 40 ampere circuit breaker (9) and two weld screws (8)	Two new assembled washer nuts (10)		Screw on and tighten using 3/8-inch, 1/4-inch drive screwdriver grip spin handle.
41. Terminal (11)	Terminal (12)	a. Put on. b. Take off tag.	
42. Terminal (11) and terminal (12)	New lockwasher (13) and nut (14)		Screw on and tighten using 3/8-inch box wrench.
43. Terminal (11) and nut (14)	Terminal (15)	a. Put on. b. Take off tag.	
44. Terminal (11) and terminal (15)	New lockwasher (16) and nut (17)		Screw on and tighten using 3/8-inch box wrench.
45. Terminal (18)	Terminal (19)	a. Put on. b. Take off tag.	
46. Terminal (18) and terminal (19)	New lockwasher (20) and nut (21)		Screw on and tighten using 3/8-inch box wrench.

CIRCUIT BREAKERS - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Install cowl front cover (page 2-1020).
2. Connect battery ground cable (page 2-696).

TASK ENDS HERE

TA242969

CIGAR LIGHTER LEAD WIRE ASSEMBLY (SERIAL NUMBERS 235786 THRU 235999 ONLY)

This task covers:

- a. Removal (page 2-528)
- b. Cleaning (page 2-529)
- c. Inspection/Replacement (page 2-530)
- d. Repair (page 2-530)
- e. Installation (page 2-530)

INITIAL SETUP

Tools

Wrench, box, 3/8-inch

Materials/Parts - Continued

Tags, marking (item 30, Appendix C)

Materials/Parts

Cleaning compound, solvent
(item 4, Appendix C)

Lockwasher, cigar lighter
terminal nut

Lockwasher, circuit breaker
terminal nut

Rags, wiping (item 21, Appendix C)

Personnel Required

One

Equipment Condition

- 1. Battery ground cable disconnected
(page 2-696)
- 2. Cowl front cover removed (page 2-1020)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

1.	Circuit breaker terminal (1) and terminal (2)	Nut (3) and lockwasher (4)	<ul style="list-style-type: none"> a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (4).
2.	Circuit breaker terminal (1) and nut (5)	Terminal (2)	<ul style="list-style-type: none"> a. Tag (page 2-137). b. Take off.
3.	Cigar lighter terminal (6) and terminal (7)	Nut (8) and lockwasher (9)	<ul style="list-style-type: none"> a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (8).
4.	Cigar lighter terminal (6)	Terminal (7)	<ul style="list-style-type: none"> a. Tag (page 2-137). b. Take off.
5.	Cowl (10)	Cigar lighter lead wire assembly (11)	Note routing for proper placement during installation and take out.

CIGAR LIGHTER LEAD WIRE ASSEMBLY (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

NOTE

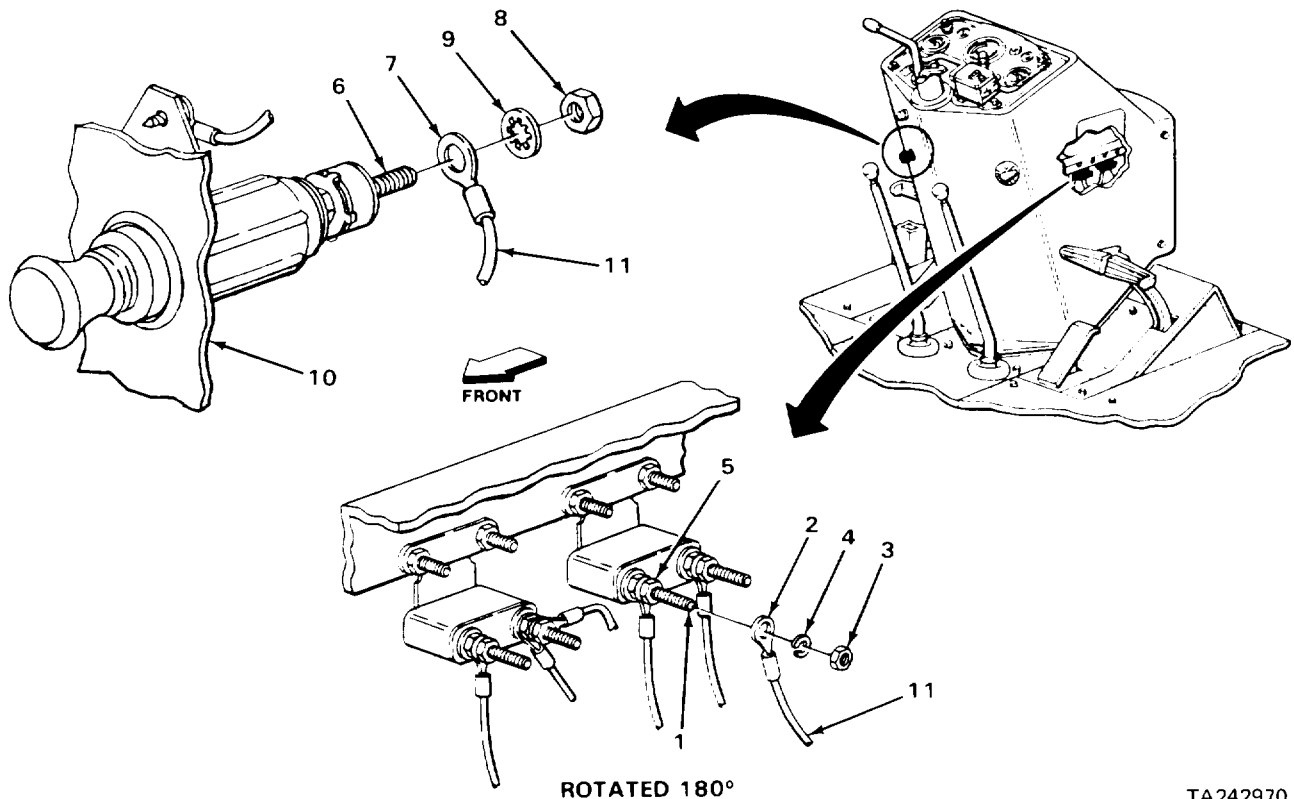
For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (46°C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|---------------------------|---------------------------|--|
| <p>6.

clean.</p> | <p>Cigar lighter lead</p> | <p>a. Using rag dampened with solvent clean-wire assembly (11) ing compound, wipe</p> <p>b. Using clean, dry rags, wipe dry.</p> |
|---------------------------|---------------------------|--|



TA242970

**CIGAR LIGHTER LEAD WIRE ASSEMBLY (SERIAL NUMBERS 235786 THRU 235999 ONLY) -
CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

- | | | | |
|----|--------------------------------------|---|--|
| 7. | Cigar lighter lead wire assembly (1) | a. Look for cracked, burned, and worn insulation.
b. Look for broken wires.
c. Look for loose and corroded terminals. | |
|----|--------------------------------------|---|--|

REPAIR

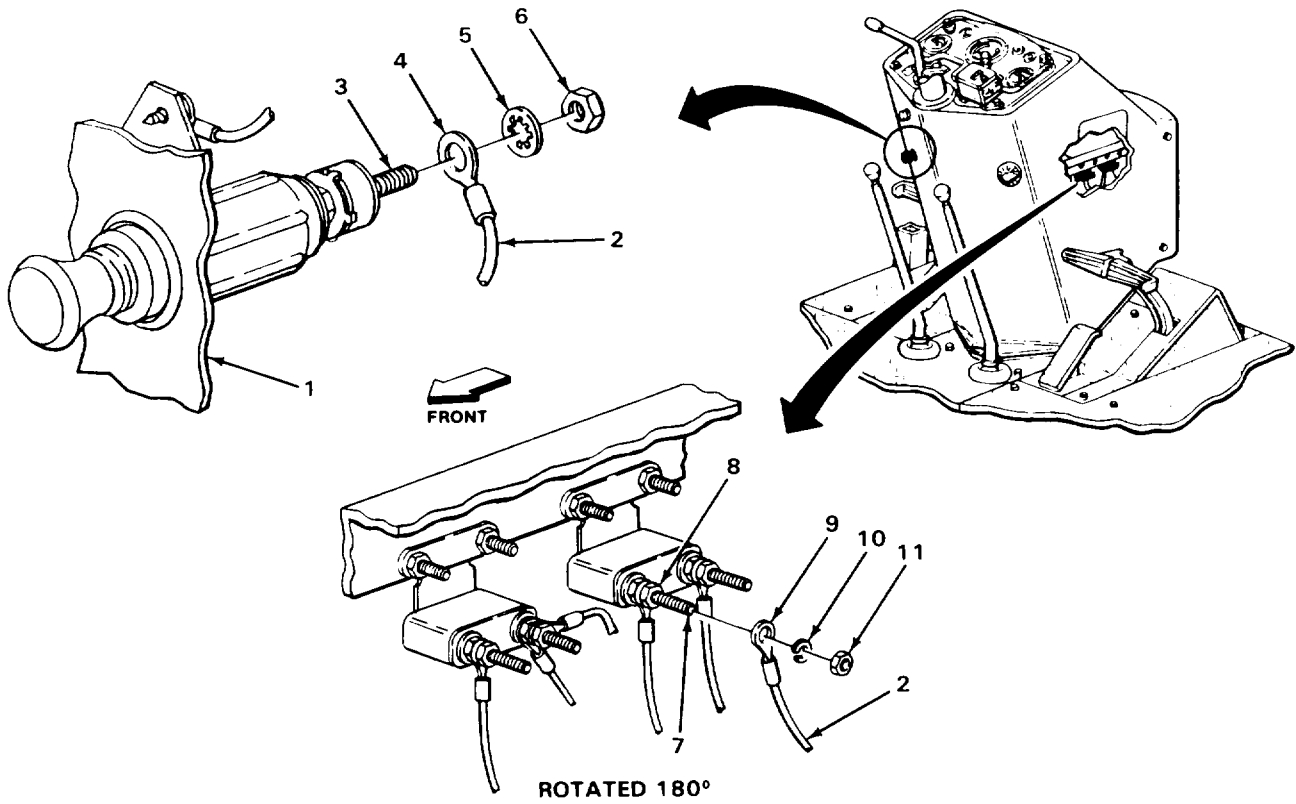
NOTE

For more information on how to repair wiring, go to General Maintenance Instructions (page 2-137).

INSTALLATION

- | | | | |
|-----|---|--------------------------------------|---|
| 8. | Cowl (1) | Cigar lighter lead wire assembly (2) | Routing as noted during removal, put in place. |
| 9. | Cigar lighter terminal (3) | Terminal (4)
b. Take off tag. | a. Put on. |
| 10. | Terminal (4) and cigar lighter terminal (3) | New lockwasher (5) and nut (6) | Screw on and tighten using 3/8-inch box wrench. |
| 11. | Circuit breaker terminal (7) and nut (8) | Terminal (9) | a. Put on.
b. Take off tag. |
| 12. | Circuit breaker terminal (7) and terminal (9) | New lockwasher (10) and nut (11) | Screw on and tighten using 3/8-inch box wrench. |

CIGAR LIGHTER LEAD WIRE ASSEMBLY (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Install cowl front cover (page 2-1020).
2. Install battery ground cable (page 2-696).

TASK ENDS HERE

TA242971

CIGAR LIGHTER GROUND WIRE ASSEMBLY (SERIAL NUMBERS 235786 THRU 235999 ONLY)

This task covers:

- | | |
|--|------------------------------|
| a. Removal (page 2-532) | d. Repair (page 2-534) |
| b. Cleaning (page 2-533) | e. Assembly (page 2-534) |
| c. Inspection/Replacement (page 2-530) | f. Installation (page 2-534) |

INITIAL SETUP

Tools

Screwdriver, flat-tip, 1/4-inch

Personnel Required

One

Materials/Parts

Cleaning compound, solvent
(item 4, Appendix C)
Rags, wiping (item 21, Appendix C)
Screw, Number 8, self tapping, cigar
lighter ground wire assembly

Equipment Condition

1. Warning light flasher and bracket removed (page 2-657)
2. Cigar lighter removed (page 2-619)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

CAUTION

Do not remove cigar lighter ground wire assembly unless inspection shows need for replacement. Removal may damage parts.

- | | | |
|--|------------------------|---|
| 1. Cigar lighter terminal (1) and terminal (2) | Self tapping Screw (3) | <ol style="list-style-type: none"> a. Using 1/4-inch flat-tip screwdriver, unscrew and take out. b. Get rid of. |
|--|------------------------|---|

CIGAR LIGHTER GROUND WIRE ASSEMBLY (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
2. Cigar lighter terminal (1)	Cigar lighter ground wire assembly (4)	Take off.	

CLEANING

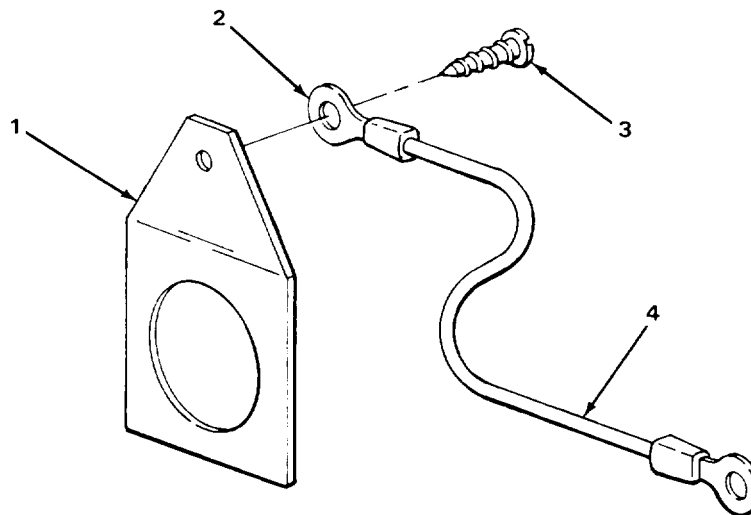
NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (46°C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|--|--|
| 3. | Cigar lighter ground wire assembly (4) | <ul style="list-style-type: none"> a. Using rag dampened with solvent cleaning compound, wipe clean. b. Using clean, dry rags, wipe dry. |
|----|--|--|



TA242972

CIGAR LIGHTER GROUND WIRE ASSEMBLY (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

4.	Cigar lighter ground wire assembly (1)	a. Look for cracked, burned, and worn insulation. b. Look for broken wires. c. Look for loose and corroded terminals.	
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REPAIR

NOTE

For more information on how to repair wiring, go to General Maintenance Instructions (page 2-137).

ASSEMBLY

NOTE

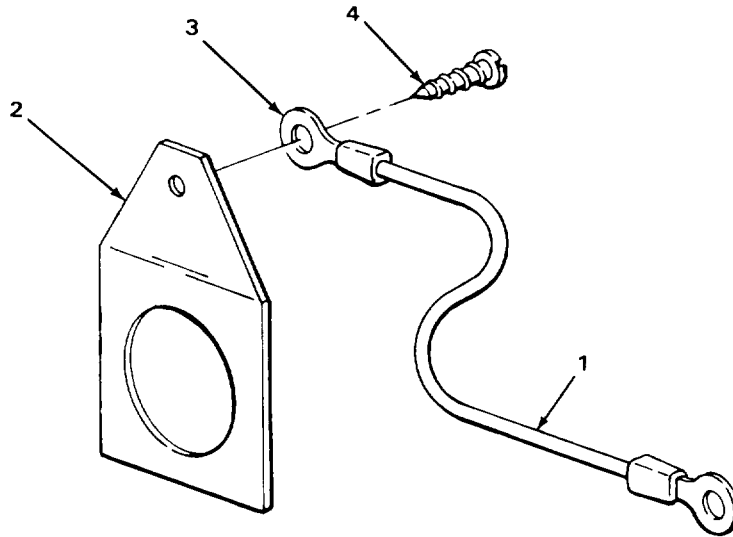
New cigar lighter ground wire assembly is manufactured from bulk items. For more information on manufacturing new wire assembly, go to Appendix D.

INSTALLATION

5.	Cigar lighter terminal (2)	Cigar lighter ground wire assembly (1)	Put in place.
6.	Cigar lighter ground wire terminal (3) and terminal (2)	New self tapping screw (4)	Screw in and tighten using 1/4-inch flat-tip screwdriver.

CIGAR LIGHTER GROUND WIRE ASSEMBLY (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------



NOTE

FOLLOW-ON MAINTENANCE:

1. Install cigar lighter (page 2-619).
2. Install warning light flasher and bracket (page 2-657).

TASK ENDS HERE

TA242973

CIGAR LIGHTER GROUND WIRE ASSEMBLY (SERIAL NUMBERS 319995 THRU 342573 ONLY)

This task covers:

- | | |
|--|------------------------------|
| a. Removal (page 2-536) | d. Repair (page 2-538) |
| b. Cleaning (page 2-536) | e. Assembly (page 2-538) |
| c. Inspection/Replacement (page 2-537) | f. Installation (page 2-538) |

INITIAL SETUP

Materials/Parts

Cleaning compound, solvent,
(item 4, Appendix C)
Rags, wiping (item 21, Appendix C)
Tags, marking (item 30, Appendix C)

Personnel Required

One

Equipment Condition

Warning light flasher and bracket removed
(page 2-657)

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1. Cigar lighter terminal (1)	Connector (2)	a. Tag (page 2-137). b. Unplug.	
2. Loader backhoe	Cigar lighter ground wire assembly (3)		Note routing for proper placement during installation and take out.

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (46°C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

CIGAR LIGHTER GROUND WIRE ASSEMBLY (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
3.	Cigar lighter ground wire assembly (3)	<ul style="list-style-type: none"> a. Using rag dampened with solvent cleaning compound, wipe clean. b. Dip connector in solvent cleaning compound. c. Using clean, dry rags, wipe dry. 	

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

4.	Cigar lighter ground wire assembly (3)	<ul style="list-style-type: none"> a. Look for cracked, burned, and worn insulation. b. Look for broken wires. c. Look for loose and corroded terminals. 	
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TA242974

CIGAR LIGHTER GROUND WIRE ASSEMBLY (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REPAIR

NOTE

For more information on how to repair wiring, go to General Maintenance Instructions (page 2-137).

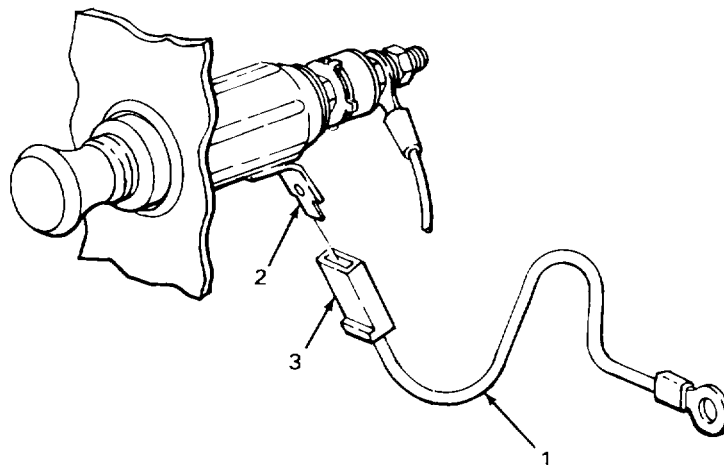
ASSEMBLY

NOTE

New cigar lighter ground wire assembly is manufactured from bulk items. For more information on manufacturing new wire assembly, go to Appendix D.

INSTALLATION

- | | | | |
|----|----------------------------|--|---|
| 5. | Loader backhoe | Cigar lighter ground wire assembly (1) | Route into place as noted during removal. |
| 6. | Cigar lighter terminal (2) | Connector (3) | Push on. |



TA242975

**CIGAR LIGHTER GROUND WIRE ASSEMBLY (SERIAL NUMBERS 319995 THRU 342573 ONLY) -
CONTINUED**

NOTE

FOLLOW-ON MAINTENANCE: Install warning light flasher and bracket (page 2-657).

TASK ENDS HERE

FUEL LEVEL GAGE

This task covers:

- | | |
|--|------------------------------|
| a. Removal (page 2-540) | d. Repair (page 2-542) |
| b. Cleaning (page 2-540) | e. Installation (page 2-542) |
| c. Inspection/Replacement (page 2-542) | |

INITIAL SETUP

Tools

Threading set, screw
Wrench, open-end, 11/32-inch
Wrench, open-end, 3/8-inch

Materials/Parts - Continued

Tags, marking (item 30, Appendix C)

Personnel Required

One

Materials/Parts

Cleaning compound, solvent
(item 4, Appendix C)
Detergent, GP (item 7, Appendix C)
Lockwasher, fuel level gage,
large terminal nut
Lockwasher, fuel level gage,
small terminal nut (page 2-576)
Rags, wiping (item 21, Appendix C)
Solvent, drycleaning (item 28,
Appendix C)

Equipment Condition

1. Battery ground cable disconnected
(page 2-696)
2. Cowl front cover removed (page 2-1020)
3. Plexiglass dash cover removed

2-539

FUEL LEVEL GAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Terminal (1), and terminal (2)	Nut (3) and lockwasher (4)	a. Using 3/8-inch open-end wrench, unscrew and take off. b. Get rid of lockwasher (4).
2.	Terminal (1) and nut (5)	Terminal (2)	a. Tag (page 2-137). b. Take off.
3.	Terminal (6) and terminal (7)	Nut (8) and lockwasher (9)	a. Using 11/32-inch open-end wrench, unscrew and take off. b. Get rid of lockwasher (9).
4.	Terminal (6) and nut (10)	Terminal (7)	a. Tag (page 2-137). b. Take off.
5.	Terminal (1) and bracket (11)	Nut (5)	Using 3/8-inch open-end wrench, unscrew and take off.
6.	Terminal (6) and bracket (11)	Nut (10)	Using 11/32-inch open-end wrench, unscrew and take off.

NOTE

Make sure insulating grommets do not fall out of bracket during removal.

7.	Dash (12) and two terminals (1 and 6)	Bracket (11)	Take off.
8.	Dash (12)	Liquid indicator (13)	Take out.

CLEANING

NOTE

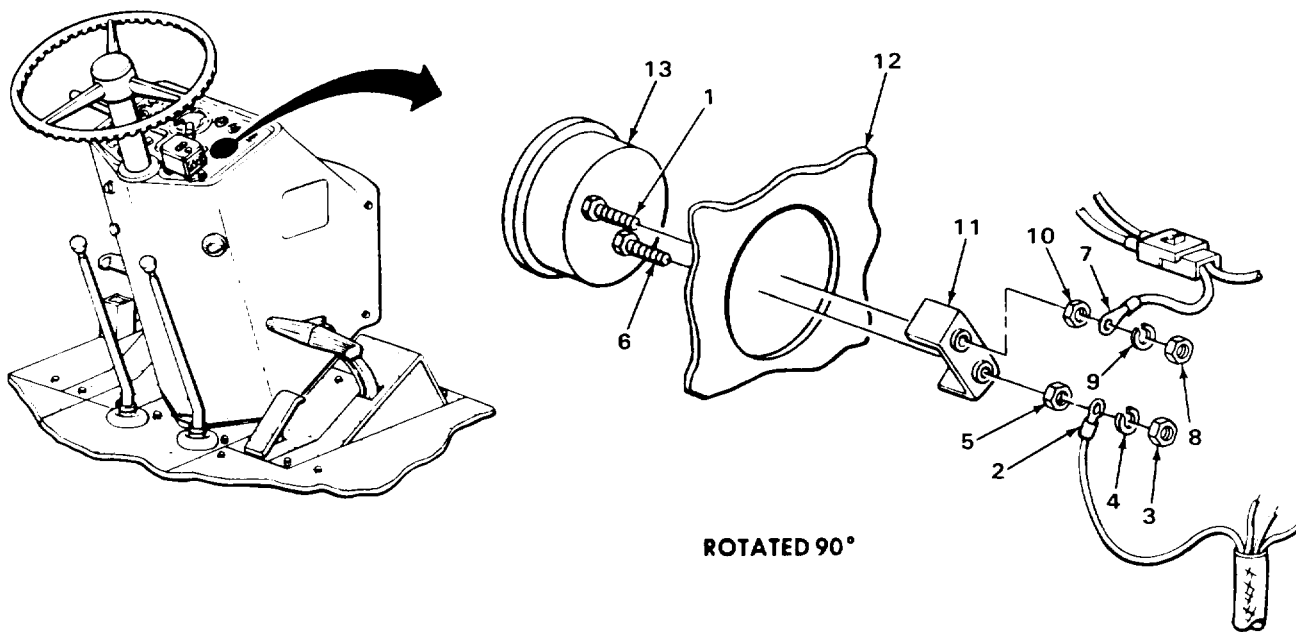
For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

LOCATION	ITEM	ACTION	REMARKS
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WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (46°C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|-----------------------|---|
| 9. | Liquid indicator (13) | <ul style="list-style-type: none"> a. Using clean rag dampened with solvent cleaning compound, wipe clean. b. Using clean, dry rags, wipe dry. |
| 10. | Bracket (11) | <ul style="list-style-type: none"> a. Clean in solution of detergent and water. b. Rinse with clean water. c. Using clean, dry rags, wipe dry. |



TA242976

FUEL LEVEL GAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38°to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|-----|-----------------------|---|--|
| 11. | All other metal parts | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. | |
|-----|-----------------------|---|--|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

- | | | | |
|-----|----------------------|--|--|
| 12. | Liquid indicator (1) | <ul style="list-style-type: none"> a. Look for cracks, breaks, and dents. b. Look for unreadable dial. | |
| 13. | Bracket (2) | Look for cracked and broken insulating grommets. | |
| 14. | All metal parts | Look for cracks, breaks, and abnormal bends. | |
| 15. | All threaded parts | Look for damaged threads. | |

REPAIR

- | | | | |
|-----|----------------------|---|--|
| 16. | Liquid indicator (1) | If threads are damaged, using screw threading set, restore threads. | |
|-----|----------------------|---|--|

INSTALLATION

- | | | | |
|-----|------------------------|----------------|--|
| 17. | Dash (3) indicator (1) | Liquid Put in. | |
|-----|------------------------|----------------|--|

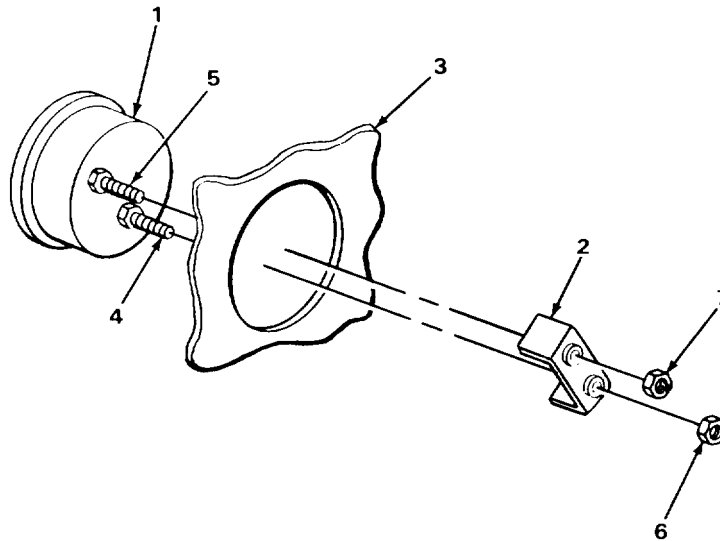
FUEL LEVEL GAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CAUTION

Make sure two bracket insulating grommets are in place, and that they stay in place when you put on bracket. If a grommet is missing, short circuit will result, damaging wiring and gage.

- | | | | |
|--|-------------|--|--|
| 18. Dash (3) and two terminals (4 and 5) | Bracket (2) | Put on. | |
| 19. Bracket (2) and terminal (4) | Nut (6) | Screw on and tighten using 11/32-inch open-end wrench. | |
| 20. Bracket (2) and terminal (5) | Nut (7) | Screw on and tighten using 3/8-inch open-end wrench. | |



TA242977

FUEL LEVEL GAGE - CONTINUED

NOTE

FOLLOW-ON MAINTENANCE:

1. Install plexiglass dash cover (page 2-576).
2. Install cowl front cover (page 2-1020).
3. Connect battery ground cable (page 2-696).

TASK ENDS HERE

ENGINE WATER TEMP. INDICATOR

This task covers:

- | | |
|---|--|
| <ol style="list-style-type: none"> a. Removal (page 2-546) b. Cleaning (page 2-546) c. Inspection/Replacement (page 2-547) | <ol style="list-style-type: none"> d. Repair (page 2-548) e. Installation (page 2-548) |
|---|--|

INITIAL SETUP

Tools

- File, thread restoring
- Wrench, box, 3/8-inch
- Wrench, open-end box, 5/8-inch
- Wrench, open-end box, 7/8-inch

Materials/Parts

- Detergent, GP (item 7, Appendix C)
- Nut, assembled washer, temperature indicator clamp nut (two required) (page 2-576)
- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)

Materials/Parts - Continued

One

Equipment Condition

1. Battery ground cable disconnected (page 2-696)
2. Radiator drained (page 2-368)
3. Cowl front cover removed (page 2-1020)
4. Plexiglass dash cover removed

2-545

ENGINE WATER TEMP. INDICATOR - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Capillary tube (1) and cowl support (2)	Grommet (3)	Take off.
2.	Clamp (4) and temperature indicator (5)	Two assembled washer nuts (6)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of.
3.	Temperature indicator (5) and dash (7)	Clamp (4)	Take off.
4.	Adapter (8), bulb (9), and capillary tube (1)	Jam nut (10)	Using 7/18-inch and 5/18-inch open-end box wrenches, unscrew and slide up tube (1).
5.	Adapter (8)	Bulb (9)	Pull out.
6.	Cylinder head (11)	Adapter (8)	Using 7/18-inch open-end box wrench, unscrew and take out.
7.	Dash (7)	Temperature indicator (5)	Note routing for proper placement during installation, and guiding capillary tube (1) and bulb (9), take out.

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

- | | | |
|----|---------------------------|--|
| 8. | Temperature indicator (5) | a. Using clean rag dampened with solution of detergent and water, wipe clean.
b. Using clean rag dampened with water, rinse.
c. Using clean, dry rags, wipe dry. |
|----|---------------------------|--|

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

ENGINE WATER TEMP. INDICATOR - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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9.	All other metal parts	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.	
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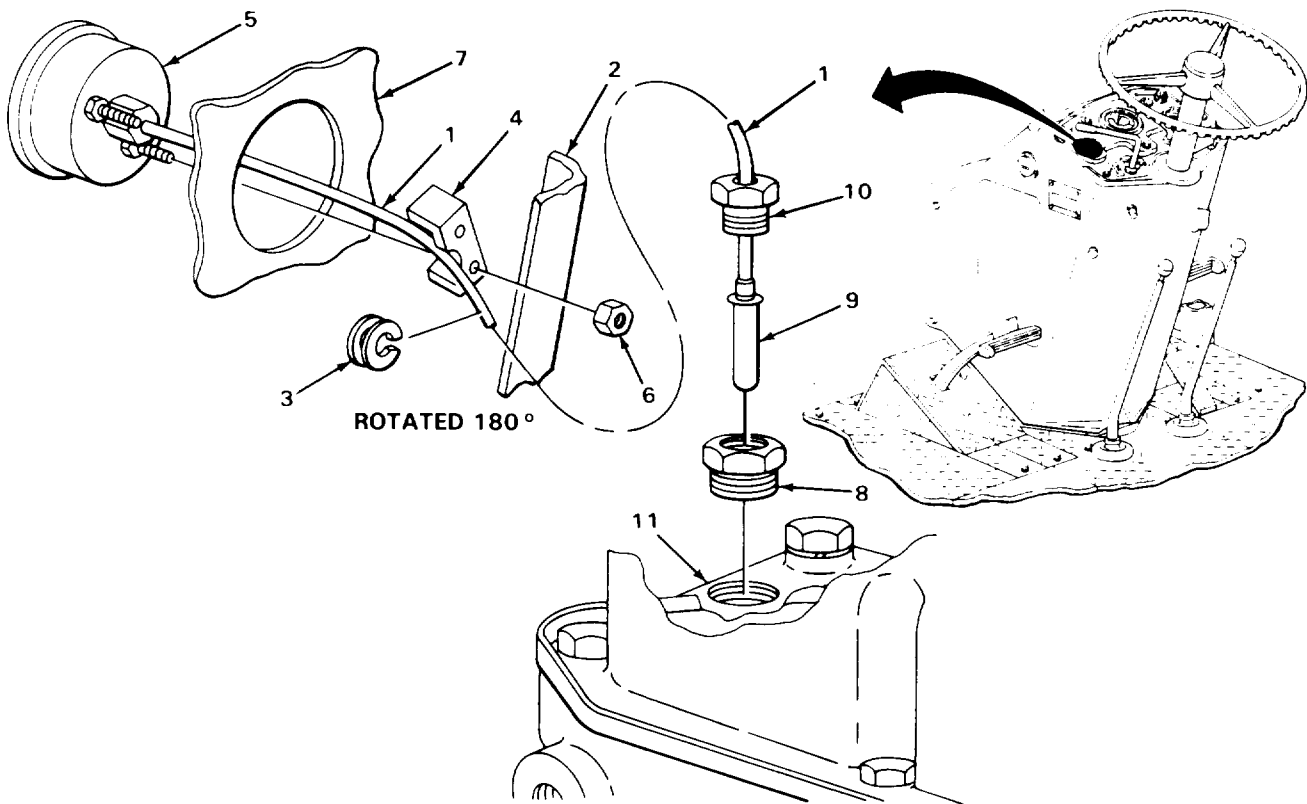
INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

10.	Temperature indicator (5)	a. Look for cracks, breaks, and dents. b. Look for unreadable dial. c. Look for kinks, breaks, and holes in capillary tube (1) and bulb (9).	
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TA242979

ENGINE WATER TEMP. INDICATOR - CONTINUED

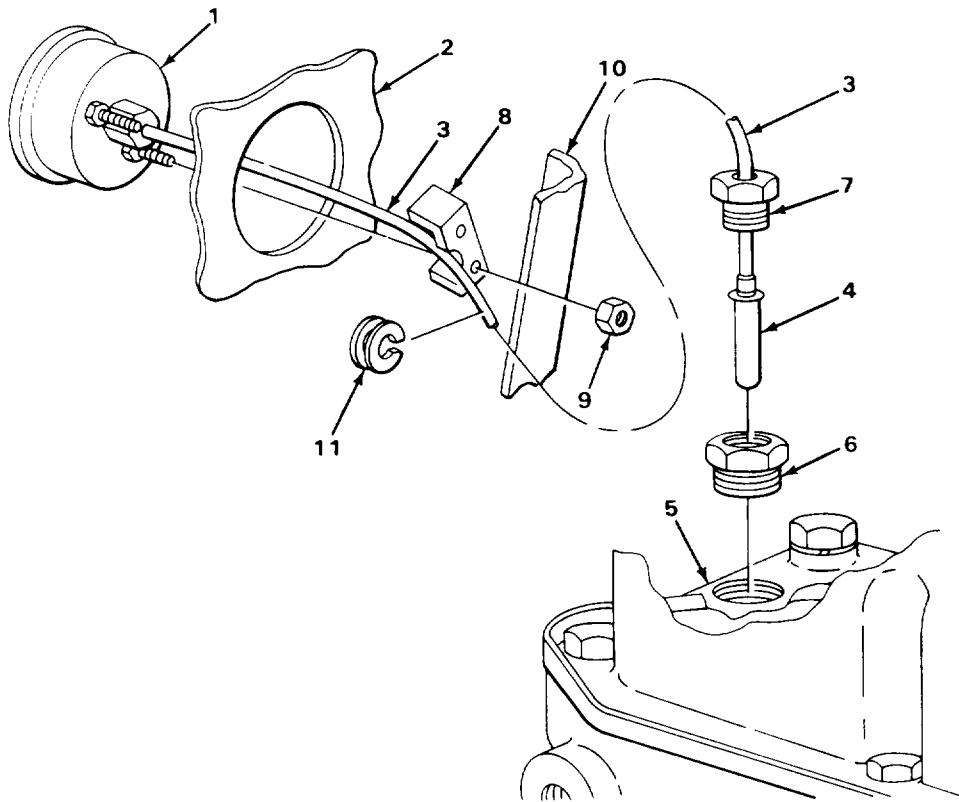
LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT - CONTINUED		
11.	All other metal parts	Look for cracks, breaks, and abnormal bends.
12.	All threaded parts	Look for damaged threads.
REPAIR		
13.	Temperature indicator (1)	If threads are damaged, using thread restoring file, restore threads.
INSTALLATION		

CAUTION

Make sure capillary tube does not contact exhaust manifold or muffler. Exhaust system heat will damage tube and cause inaccurate readings.

14.	Dash (2)	Temperature indicator (1)	Routing as noted during removal, and guiding capillary tube (3) and bulb (4), put in place.
15.	Cylinder head (5)	Adapter (6)	Screw in and tighten using 7/8-inch open-end box wrench.
16.	Adapter (6)	Bulb (4)	Put in.
17.	Capillary tube (3), bulb (4), and adapter (6)	Jam nut (7)	Screw in and tighten using 5/8-inch and 7/8-inch open-end box wrenches.
18.	Temperature indicator (1) and dash (2)	Clamp (8)	Put on.
19.	Clamp (8) and temperature indicator (1)	Two new assembled washer nuts (9)	Screw on and alternately tighten using 3/8-inch box wrench.
20.	Capillary tube (3) and cowl support (10)	Grommet (11)	Put in place.

ENGINE WATER TEMP. INDICATOR - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Install plexiglass dash cover (page 2-576).
2. Install cowl front cover (page 2-1020).
3. Fill radiator (page 2-368).
4. Connect battery ground cable (page 2-696).

TASK ENDS HERE

TA 242980

INDICATOR LIGHTS

This task covers:

- a. Removal (page 2-550)
 - b. Cleaning (page 2-551)
 - c. Inspection/Replacement (page 2-552)
 - d. Repair (page 2-552)
 - e. Installation (page 2-553)
-

INITIAL SETUP:

Tools

Screwdriver, flat-tip, 1/8-inch

Personnel Required

One

Materials/Parts

Cleaning compound, solvent (item 4, Appendix C)
 Detergent, GP (item 7, Appendix C)
 Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)
 Tags, marking (item 30, Appendix C)

Equipment Condition

1. Battery ground cable disconnected (page 2-696)
 2. Plexiglass dash cover removed (page 2-576)
 3. Cowl front cover removed (page 2-1020)
-

LOCATION	ITEM	ACTION	REMARKS
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NOTE

Oil pressure and alternator indicator lights on all loader backhoes and parking brake warning lights on loader backhoes with Serial Numbers 319995 thru 342573 are similar and are maintained the same way. Oil pressure indicator light is shown. Repeat procedures for alternator indicator light and parking brake warning light as needed.

REMOVAL

1.	Lens (1)	Light lead (2) with assembled spring (3)	Holding lens (1), push in, turn one-quarter turn counterclockwise, and take out.
2.	Light lead (2)	Spring (3)	Take off.
3.		Bulb (4)	Push in, turn one-quarter turn counterclockwise, and take out.
4.	Terminal (5)	Connector (6)	a. Tag (page 2-137). b. Unplug.
5.	Connector (7)	Connector (8)	a. Tag (page 2-137). b. Using 1/8-inch flat-tip screwdriver, lift tab on connector (8) and unplug.

INDICATOR LIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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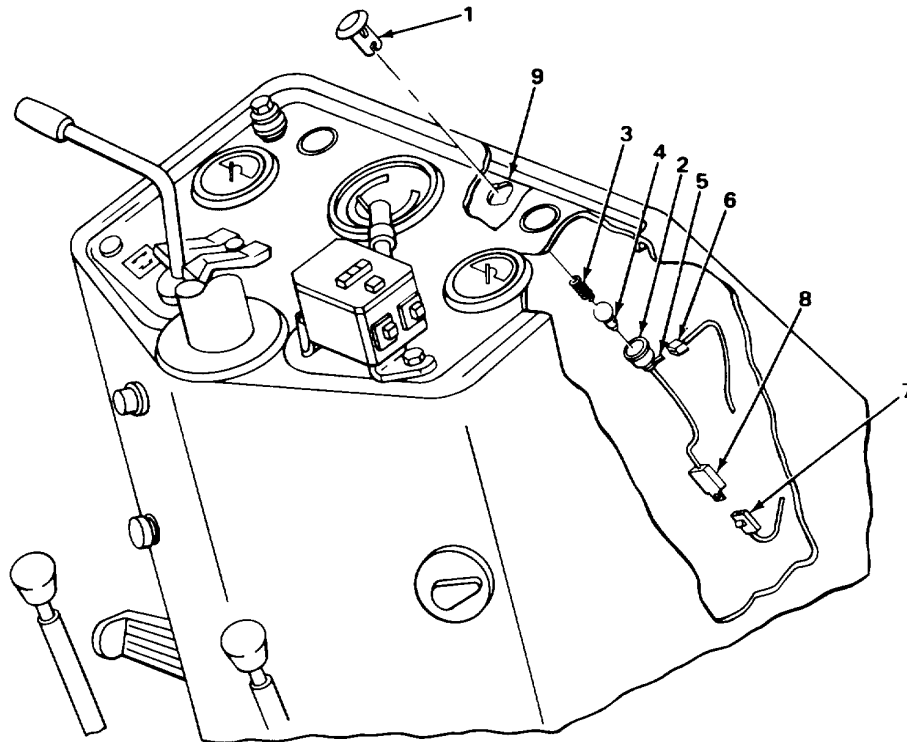
6. Dash (9)	Lens (1)	Take out.	
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CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

7.	Lens (1)	a. Using solution of detergent and water, clean. b. Rinse in clean water. c. Using clean, dry rags, wipe dry.	
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TA242981

INDICATOR LIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 1140F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|----------------|---|
| 8. | Light lead (1) | <ul style="list-style-type: none"> a. Clean in solvent cleaning compound. b. Using clean, dry rags, wipe dry. |
|----|----------------|---|

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

INSPECTION/REPLACEMENT

- | | | |
|----|------------|---|
| 9. | Spring (2) | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. |
|----|------------|---|

NOTE

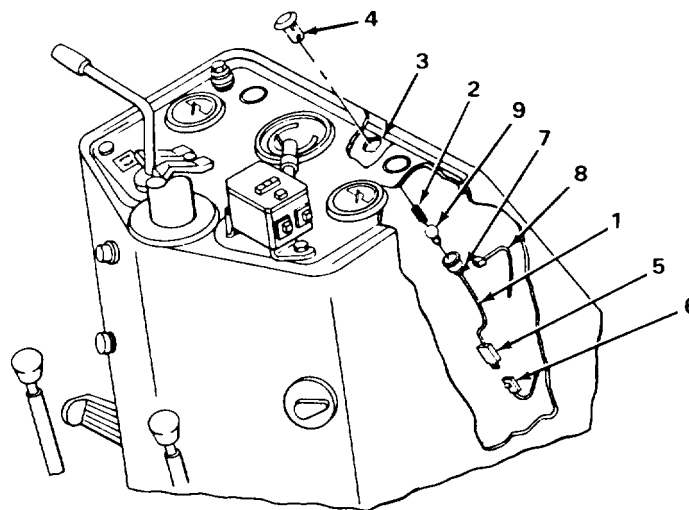
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

- | | | |
|-----|----------------|--|
| 10. | All parts | Look for cracks, breaks, and abnormal bends. |
| 11. | Light lead (1) | <ul style="list-style-type: none"> a. Look for cracked, burned, or worn insulation. b. Look for broken wire. c. Look for loose and corroded connector and terminal. |

INDICATOR LIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REPAIR			
NOTE			
For more information on how to repair wiring, go to General Maintenance instructions (page 2-137).			
INSTALLATION			
12. Dash (3)	Lens (4)	Put in.	
13. Connector(5)	Connector (6)	a. Plug in. b. Take off tag.	
14. Terminal (7)	Connector (8)	a. Push on. b. Take off tag.	
15. Light lead (1)	Bulb (9)	Push in and turn one-quarter turn clockwise.	
16.	Spring (2)	Put in place.	
17. Lens (4)	Light lead (1) and assembled spring (2)	Holding lens (4), push in and turn one-quarter clockwise.	



TA242982

INDICATOR LIGHTS - CONTINUED

INSTALLATION - CONTINUED

NOTE

FOLLOW-ON MAINTENANCE:

1. Install cowl front cover (page 2-1020).
2. Install plexiglass dash cover (page 2-576).
3. Connect battery ground cable (page 2-696).

TASK ENDS HERE

DASH LIGHT

This task covers:

- | | |
|---|--|
| <ol style="list-style-type: none"> a. Removal (page 2-554) b. Cleaning (page 2-555) c. Inspection/Replacement (page 2-556) | <ol style="list-style-type: none"> d. Repair (page 2-557) e. Installation (page 2-557) |
|---|--|

INITIAL SETUP:

Tools

File, thread restoring
Wrench, open-end, 9/16-inch

Personnel Required

One

Materials/Parts

Cleaning compound, solvent
(item 4, Appendix C)
Lockwasher, dash light nut
Rags, wiping (item 21, Appendix C)
Solvent, drycleaning (item 28,
Appendix C)
Tags, marking (item 30, Appendix C)

Equipment Condition

1. Battery ground cable disconnected
(page 2-696)
2. Cowl front cover removed (page 2-1020)

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Dash light (1) and bulb (2)	Cap (3)	Pull off.
2.	Dash light (1)	Bulb (2)	Push in, turn one-quarter turn counter-clockwise, and take out.

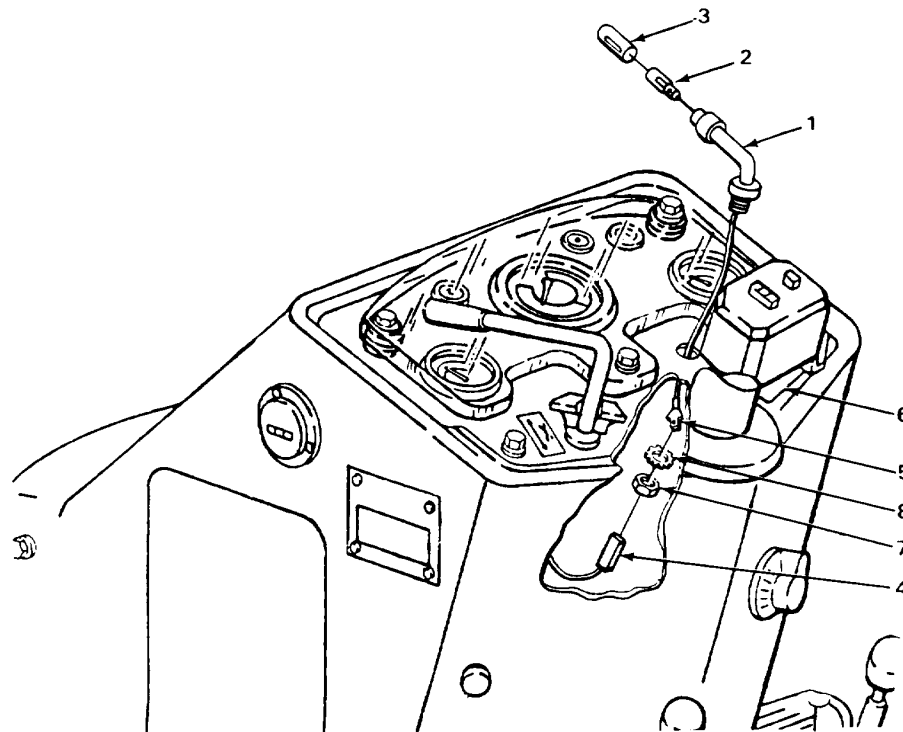
DASH LIGHT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
3. Connector (4)	Connector (5)	a. Tag (page 2-137). b. Unplug.	
4. Dash light (1) and dash (6)	Nut (7) and lockwasher (8)	a. Noting position of light for proper placement during installation, using 9/16-inch open-end wrench, unscrew and take off. b. Get rid of lockwasher (8).	
5. Dash (6)	Dash light (1)	Take out.	

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).



TA242983

DASH LIGHT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|----|----------------|---|--|
| 6. | Dash light (1) | a. Clean in solvent cleaning compound.
b. Using clean, dry rags, wipe dry. | |
|----|----------------|---|--|

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|----|-----------------------|---|--|
| 7. | All other metal parts | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. | |
|----|-----------------------|---|--|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

- | | | | |
|-----|--------------------|--|--|
| 8. | Dash light (1) | a. Look for cracks, burns, and worn insulation.
b. Look for broken wire.
c. Look for loose and corroded connector. | |
| 9. | All metal parts | Look for cracks, breaks, and abnormal bends. | |
| 10. | All threaded parts | Look for damaged threads. | |

DASH LIGHT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REPAIR

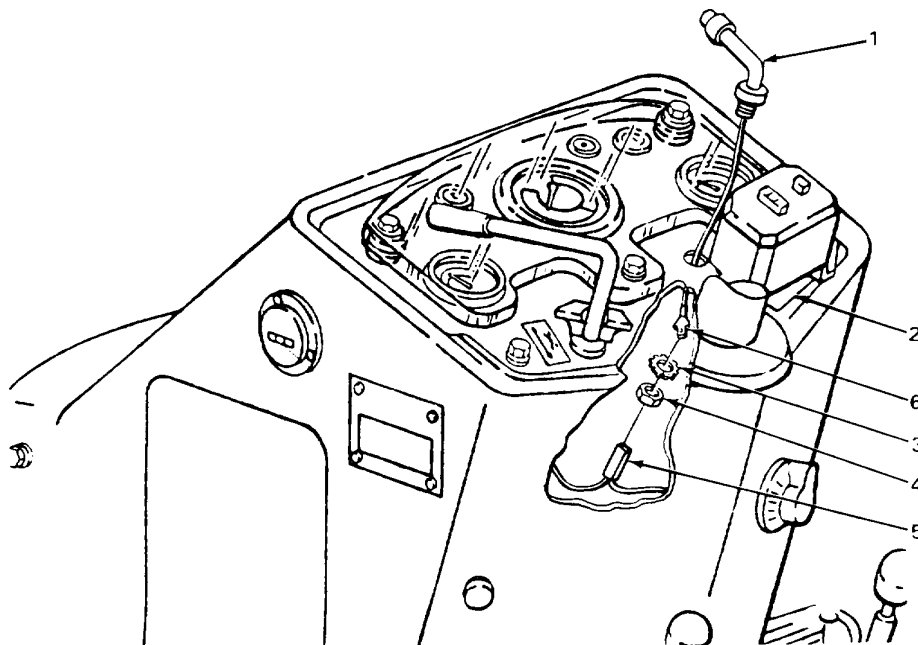
NOTE

For more information on how to repair wiring, go to General Maintenance Instructions (page 2-137).

11.	Dash light (1)		If threads are damaged, using thread restoring file, restore threads.
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INSTALLATION

12.	Dash (2)	Dash light (1)	Put in place as noted during removal.
13.	Dash light (1) and dash (2)	New lockwasher (3) and nut (4)	Holding dash light to keep it from turning, screw on and tighten using 9/16-inch open- end wrench.
14.	Connector(5)	Connector (6)	a. Plug in. b. Take off tag.



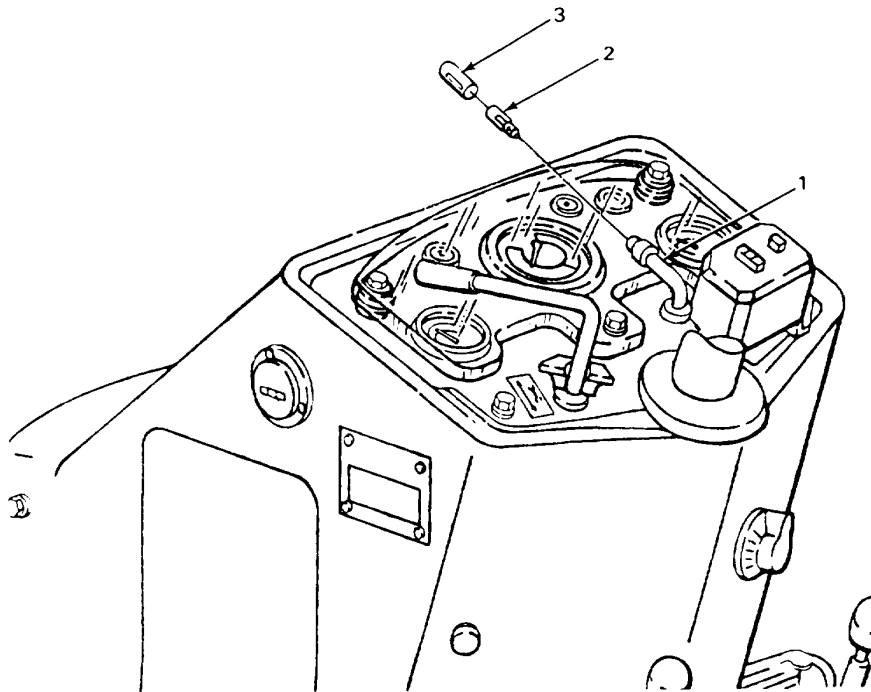
TA242984

DASH LIGHT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION - CONTINUED

15. Dash light (1)	Bulb (2)	Push in and turn one-quarter turn counter-clockwise.	
16. Dash light (1) and bulb (2)	Cap (3)	Put on.	



NOTE

FOLLOW-ON MAINTENANCE:

1. Install cowl front cover (page 2-1020).
2. Connect battery ground cable (page 2-696).

TASK ENDS HERE

TA242985

COWL WIRING HARNESS

This task covers:

- a. Removal (page 2-560)
 - b. Cleaning (page 2-560)
 - c. Inspection/Replacement (page 2-562)
 - d. Repair (page 2-562)
 - e. Installation (page 2-562)
-

INITIAL SETUP:

Tools

Screwdriver, flat-tip, 1/8-inch
Wrench, box, 11/32-inch
Wrench, box, 3/8-inch

Materials/Parts

Cleaning compound solvent
(item 4, Appendix C)
Lockwasher, FUEL gage (two required)
Rags, wiping (item 21, Appendix C)
Tags, marking (item 30, Appendix C)

Personnel Required

One

Equipment Condition

1. Battery ground cable disconnected
(page 2-696)
2. Cowl front cover removed (page 2-1020)

2-559

COWL WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1.	Main wiring harness connector (1)	Connector (2) a. Tag (page 2-137). b. Lift tabs on connector (2) and unplug.
2.	Connector(3)	Ac generator indicator light lead connector (4) a. Tag (page 2-137). b. Using 1/8-inch flat-tip screwdriver, lift tab on connector (4) and unplug.
3.	Connector (5)	Oil pressure indicator light lead connector (6) a. Tag (page 2-137). b. Using 1/8-inch flat-tip screwdriver, lift tab on connector (6) and unplug.
4.	FUEL gage terminal (7) and terminal (8)	Nut (9) and lockwasher (10) a. Using 11/32-inch box wrench, unscrew and take off. b. Get rid of lockwasher (10).
5.	FUEL gage terminal (7)	Terminal (8) a. Tag (page 2-137). b. Take off.
6.	FUEL gage terminal (11) and terminal (12)	Nut (13) and lockwasher (14) a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (14).
7.	FUEL gage terminal (11)	Terminal (12) a. Tag (page 2-137). b. Take off.
8.	Oil pressure indicator light terminal (15)	Connector (16) a. Tag (page 2-137). b. Pull off.
9.	Ac generator indicator light terminal (17)	Connector (18) a. Tag (page 2-137). b. Pull off.
10.	Cowl (19)	Cowl wiring harness (20) Note routing for proper placement during installation and take out.

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

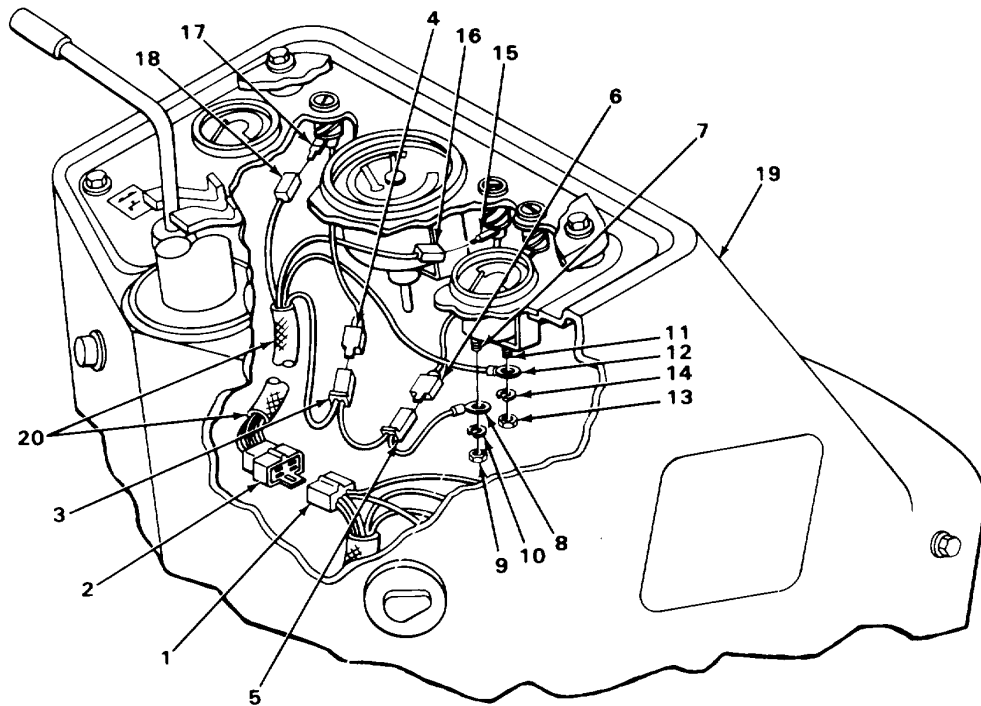
COWL WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 1140F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|--------------------------|---|
| 11. | Cowl wiring harness (20) | <ul style="list-style-type: none"> a. Using rag dampened with solvent cleaning compound, wipe clean. b. Dip connectors in solvent cleaning compound. c. Using clean, dry rags, wipe dry. |
|-----|--------------------------|---|



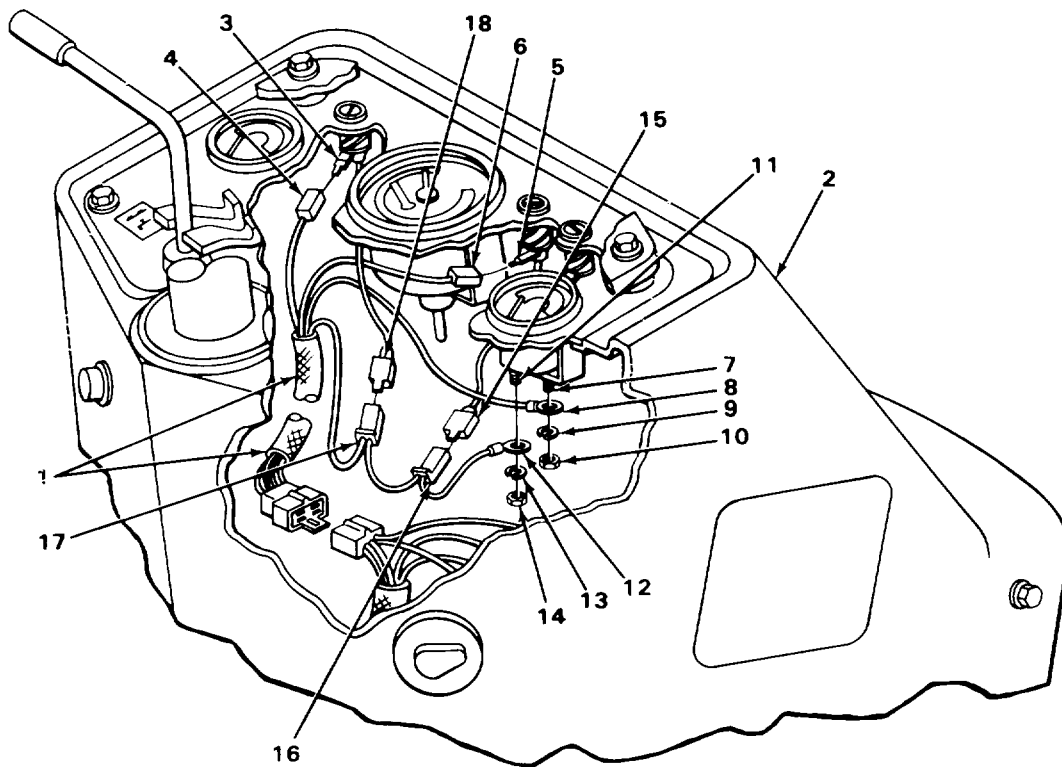
TA242986

COWL WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT			
NOTE			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).			
Replace defective parts which cannot be repaired.			
12.	Cowl wiring harness (1)	a. Look for cracked, burned, and worn insulation. b. Look for broken wires. c. Look for loose and corroded terminals.	
REPAIR			
NOTE			
For more information on how to repair wiring, go to General Maintenance Instructions (page 2-137).			
INSTALLATION			
13. Cowl (2)	Cowl wiring harness (1)		Routing as noted during removal, put in place.
14. Ac generator indicating light terminal (3)	Connector (4)		a. Push on. b. Take off tag.
15. Oil pressure indicating light terminal (5)	Connector (6)		a. Push on. b. Take off tag.
16. FUEL gage terminal (7)	Terminal (8)		a. Put on. b. Take off tag.
17. FUEL gage terminal (7) and terminal (8)	New lockwasher (9) and nut (10)		Screw on and tighten using 3/8-inch box wrench.
18. FUEL gage terminal (11)	Terminal (12)		a. Put on. b. Takeoff tag.

COWL WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
19. FUEL gage terminal (11) and terminal (12)	New lockwasher (13) and nut (14)	Screw on and tighten using 11/32-inch box wrench.
20. Connector(15)	Oil pressure indicator light lead (16)	a. Plug in. b. Take off tag.
21. Connector(17)	Ac generator indicator light lead (18)	a. Plug in. b. Take off tag.



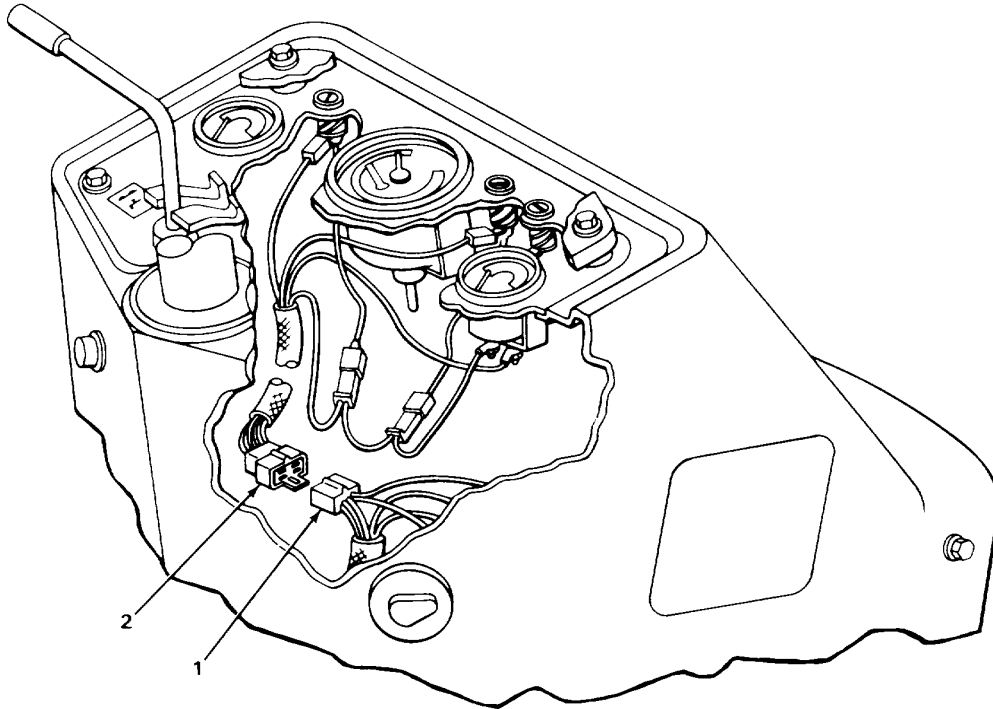
TA242987

COWL WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION - CONTINUED

22. Main wiring harness connector (1)	Connector (2)	Plug in.	
---------------------------------------	---------------	----------	--



NOTE

FOLLOW-ON MAINTENANCE:

1. Install cowl front cover (page 2-1020).
2. Connect battery ground cable (page 2-696).

TASK ENDS HERE

TA242988

IGNITION LOCK SWITCH AND KEY

This task covers:

- | | |
|--|------------------------------|
| a. Removal (page 2-566) | d. Repair (page 2-568) |
| b. Cleaning (page 2-567) | e. Installation (page 2-568) |
| c. Inspection/Replacement (page 2-568) | |
-

INITIAL SETUP:

Tools

File, thread restoring
 Wrench, box, 3/8-inch
 Wrench, open-end, 7/8-inch

Personnel Required

One

Equipment Condition

Materials/Parts

Cleaning compound, solvent
 (item 4, Appendix C)
 Lockwasher, ignition switch terminal
 nut (four required)
 Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28,
 Appendix C)
 Tags, marking (item 30, Appendix C)

1. Battery ground cable disconnected
 (page 2-696)
2. Loader control box door removed
 (page 2-1167)

NOTE

The following part only applies
 to loader backhoes with Serial
 Numbers 319995 thru 342573.

Lockwasher, ignition switch terminal
 nut

IGNITION LOCK SWITCH AND KEY - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	ACC terminal (1) and terminal (2)	Nut (3) and lockwasher (4)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (4).
2.	ACC terminal (1)	Terminal (2)	a. Tag (page 2-137). b. Take off.
3.	ACC terminal (1) and terminal (5)	Nut (6) and lockwasher (7)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (7).
4.	ACC terminal (1)	Terminal (5)	a. Tag (page 2-137). b. Take off.
NOTE			
Steps 5 and 6 only apply to loader backhoes with Serial Numbers 319995 thru 342573.			
5.	IGN terminal (8) and terminal (9)	Nut (10) and lockwasher (11)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (11).
6.	IGN terminal (8)	Terminal (9)	a. Tag (page 2-137). b. Take off.
7.	IGN terminal (8) and terminal (12)	Nut (13) and lockwasher (14)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher(14).
8.	IGN terminal (8)	Terminal (12)	a. Tag (page 2-137). b. Take off.
9.	BATT terminal (15) and terminal (16)	Nut (17) and lockwasher (18)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher(18).
10.	BATT terminal (15)	Terminal (16)	a. Tag (2-137). b. Take off.
11.	Ignition lock switch (19) control box (20)	Special nut (21) and washer (22)	Holding switch (19) to keep it from turning, using 7/8-inch open-end wrench, unscrew and take off.
12.	Control box (20)	Ignition lock switch (19)	Take out.

IGNITION LOCK SWITCH AND KEY - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

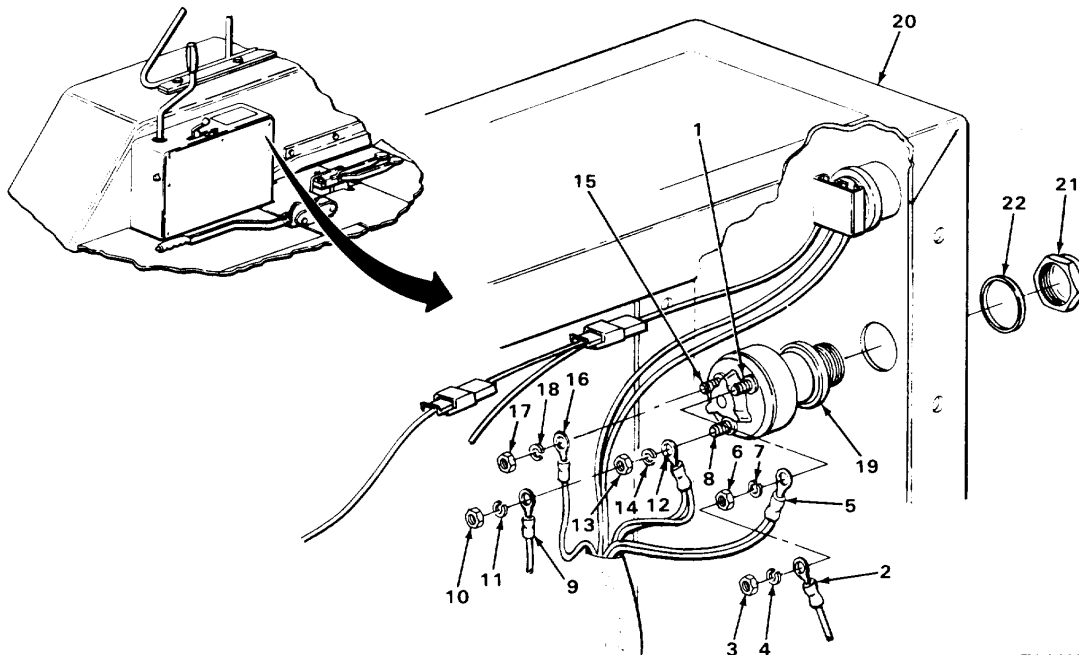
NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 1140F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|---------------------------|---|
| 13. | Ignition lock switch (19) | <ul style="list-style-type: none"> a. Using clean rag dampened with solvent cleaning compound, wipe clean. b. Using clean, dry rag, wipe dry. |
|-----|---------------------------|---|



TA242989

IGNITION LOCK SWITCH AND KEY - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
CLEANING - CONTINUED			
WARNING			
Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 138°F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.			
14.	All other metal parts, including ignition key (1)	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.	
INSPECTION/REPLACEMENT			
NOTE			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).			
Replace defective parts which cannot be repaired.			
15.	All metal parts, including ignition key (1)		Look for cracks, breaks, and abnormal bends.
16.	All threaded parts		Look for damaged threads.
REPAIR			
17.	Ignition lock switch (2)		If threads are damaged, using thread restoring file, restore threads.
INSTALLATION			
18. Control box (3)	Ignition lock switch (2)		Put in place.
19. Ignition lock switch (2) and control box (3)	Washer (4) and special nut (5)		Holding switch (2) to keep it from turning, screw on and tighten using 7/8-inch open-end wrench.
20. BATT terminal (6)	Terminal (7)		a. Put on. b. Take off tag.

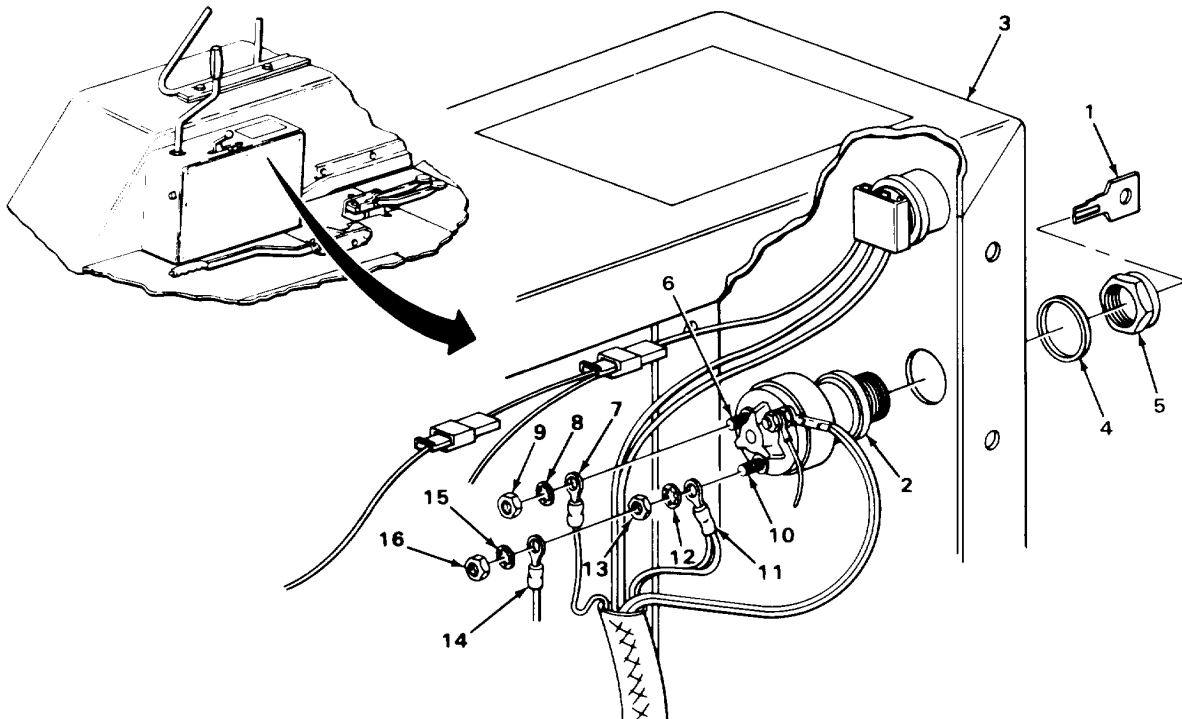
IGNITION LOCK SWITCH AND KEY - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
21. BATT terminal (6) and terminal (7)	New lockwasher (8) and nut (9)	Screw on and tighten using 3/8-inch box wrench.	
22. IGN terminal (10)	Terminal (11)	a. Put on. b. Take off tag.	
23. IGN terminal (10) and terminal (11)	New lockwasher (12) and nut (13)	Screw on and tighten using 3/8-inch box wrench.	

NOTE

Steps 24 and 25 only apply to loader backhoes with Serial Numbers 319995 thru 342573.

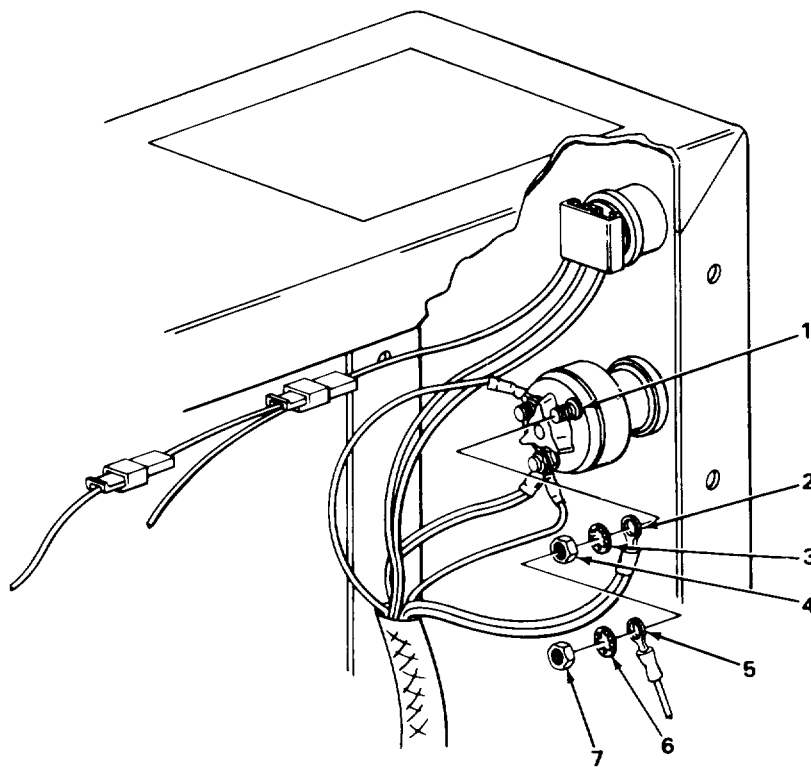
24. IGN terminal (10)	Terminal (14)	a. Put on. b. Take off tag.	
25. IGN terminal (10) and terminal (14)	New lockwasher (15) and nut (16)	Screw on and tighten using 3/8-inch box wrench.	



TA242990

IGNITION LOCK SWITCH AND KEY - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
26. ACC terminal (1)	Terminal (2)	a. Put on. b. Take off tag.	
27. ACC terminal (1) and terminal (2)	New lockwasher (3) and nut (4)	Screw on and tighten using 3/8-inch box wrench.	
28. ACC terminal (1)	Terminal (5)	a. Put on. b. Take off tag.	
29. ACC terminal (1) and terminal (5)	New lockwasher (6) and nut (7)	Screw on and tighten using 3/8-inch box wrench.	



TA242991

IGNITION LOCK SWITCH AND KEY - CONTINUED**NOTE****FOLLOW-ON MAINTENANCE:**

1. Install loader control box door (page 2-1167).
2. Connect battery ground cable (page 2-696).

TASK ENDS HERE**STARTER SWITCH**

This task covers:

- | | |
|--|------------------------------|
| a. Removal (page 2-572) | d. Repair (page 2-574) |
| b. Cleaning (page 2-572) | e. Installation (page 2-574) |
| c. Inspection/Replacement (page 2-574) | |
-

INITIAL SETUP:**Tools**

File, thread restoring

Personnel Required

One

Materials/PartsCleaning compound, solvent
(item 4, Appendix C)

Detergent, GP (item 7, Appendix C)

Rags, wiping (item 21, Appendix C)

Solvent, drycleaning (item 28,
Appendix C)

Tags, marking (item 30, Appendix C)

Equipment Condition

1. Battery ground cable disconnected
(page 2-696)
2. Loader control box door removed
(page 2-1167)

2-571

STARTER SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Two terminals (1)	Connector (2)	a. Tag (page 2-137). b. Pull off.
<u>CAUTION</u>			
Unscrew cap by metal base to keep from tearing rubber cover.			
2.	Starter switch (3) and control box (4)	Cap (5)	Unscrew and take off.
3.	Control box (4)	Starter switch (3) with assembled nut (6)	Take out.
4.	Starter switch (3)	Nut (6)	Noting position for proper placement during installation, unscrew and take off.

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|--------------------|---|
| 5. | Starter switch (3) | a. Using clean rag dampened with solvent cleaning compound, wipe clean.
b. Using clean, dry rag, wipe dry. |
|----|--------------------|---|

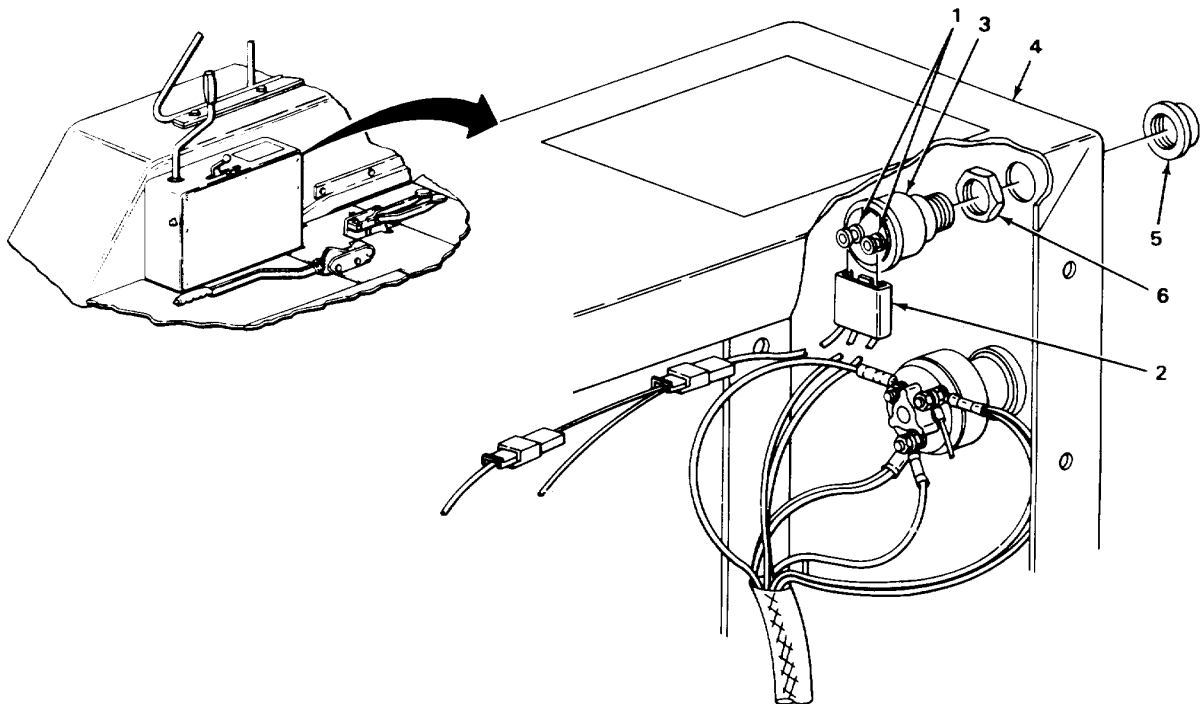
STARTER SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|---------|---|
| 6. | Nut (6) | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. |
| 7. | Cap (5) | a. Clean in solution of detergent and water.
b. Rinse in clean water.
c. Using clean, dry rags, wipe dry. |

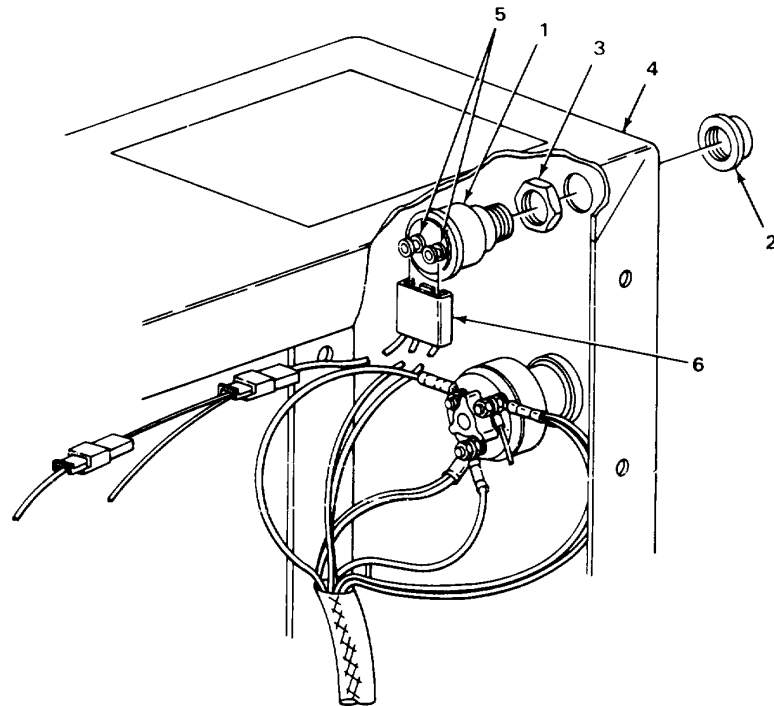


TA242992

STARTER SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT			
NOTE			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).			
Replace defective parts which cannot be repaired.			
8.	Starter switch (1)		Look for cracks, breaks, or abnormal bends.
9.	Cap (2)		Look for torn or missing rubber cover.
10.	All threaded parts		Look for damaged threads.
REPAIR			
11.	Starter switch (1)		If threads are damaged, using thread restoring file, restore threads.
INSTALLATION			
12. Starter switch (1)	Nut (3)		Screw on to position noted during removal.
13. Control box (4)	Starter switch (1) with assembled nut (3)		Put in place.
<u>CAUTION</u>			
Screw on cap by metal base to keep from tearing rubber cover.			
14. Starter switch (1) and control box (4)	Cap (2)		Screw on and tighten.
15. Two terminals (5)	Connector (6)		a. Push on. b. Take off tag.

STARTER SWITCH - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Install loader control box door (page 2-1167).
2. Connect battery ground cable (page 2-696).

TASK ENDS HERE

TA242993

PLEXIGLASS DASH COVER

This task covers:

- | | |
|--------------------------|------------------------------|
| a. Removal (page 2-576) | d. Repair (page 2-577) |
| b. Cleaning (page 2-576) | e. Installation (page 2-578) |

INITIAL SETUP:

Tools

Handle, ratchet, 3/8-inch drive
 Socket, 3/8-inch drive, 7/16-inch

Materials/Parts - Continued

Solvent, drycleaning (item 28, Appendix C)
 Rags, wiping (item 30, Appendix C)

Materials/Parts

Detergent, GP (item 7, Appendix C)

Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

NOTE

Loader backhoes have two configurations of plexiglass cover. Both are maintained the same way. Cover for loader backhoes with Serial Numbers 319995 thru 342573 is shown.

REMOVAL

- | | | | |
|----|---|--|--|
| 1. | Plexiglass cover (1), three thick washers (2), dash (3), and cowl (4) | Three screws (5) and washers (6) | Using 7/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take off. |
| 2. | Dash (3) | Plexiglass cover (1) and three thick washers (2) | Take off. |

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

PLEXIGLASS DASH COVER

LOCATION	ITEM	ACTION	REMARKS
3.	Plexiglass cover (1)	a. Clean in solution of detergent and water. b. Rinse in clean water. c. Using clean, dry rags, wipe dry.	

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

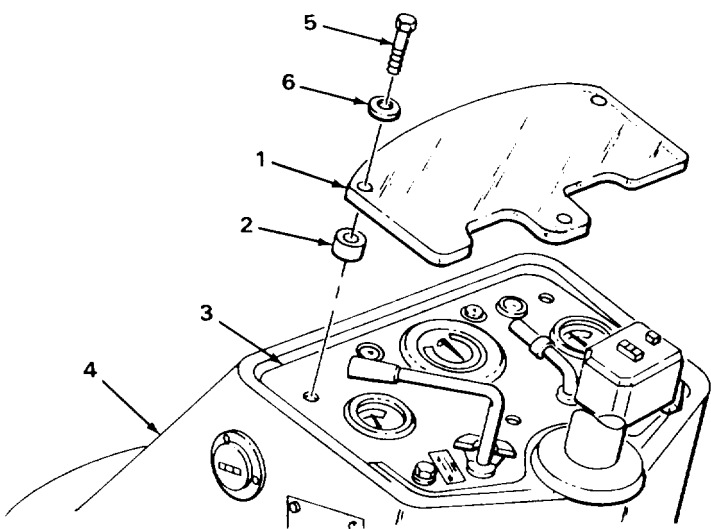
4.	All metal parts	a. Clean in drycleaning solvent. b. using clean, dry rags, wipe dry.	
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INSPECTION/REPLACEMENT

NOTE

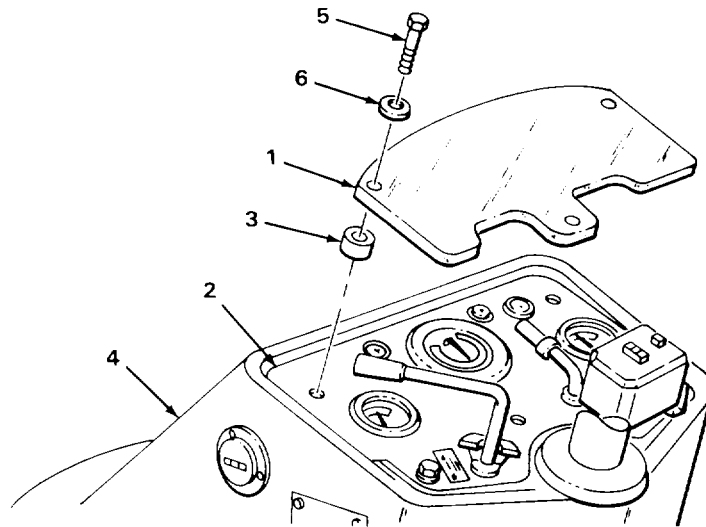
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.



PLEXIGLASS DASH COVER

LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT- CONTINUED			
5.	Plexiglass dash cover (1)	Look for cracks, breaks, discoloring, and fogging that would make gages underneath hard to read.	
6.	All metal parts	Look for cracks, breaks, and abnormal bends.	
7.	All threaded parts	Look for damaged threads.	
INSTALLATION			
8. Dash (2)	Three thick washers (3) and plexiglass cover (1)	Put in place.	
9. Plexiglass cover (1), three thick washers (3), dash (2), and cowl (4)	Three screws (5) and washers (6)	Screw in and alternatly tighten using 7/16-inch, 3/8-inch drive socket and ratchet handle.	



TASK ENDS HERE

TA242995

DASH

This task covers:

- a. Removal (page 2-579)
- b. Disassembly (page 2-582)
- c. Cleaning (page 2-583)
- d. Inspection/Replacement (page 2-584)
- e. Assembly (page 2-584)
- f. Installation (page 2-585)

INITIAL SETUP:

Tools

Hammer, ball-peen, 1-pound head
 Punch, drive-pin, straight, 5/32-inch
 Screwdriver, flat-tip, 118-inch
 Wrench, box, 3/8-inch
 Wrench, box, 7/16-inch

Materials/Parts

Detergent, GP (item 7, Appendix C)
 Lockwasher, circuit breaker terminal nut
 Packing, tachometer
 Rags, wiping (item 21, Appendix C)

Materials/Parts - Continued

Solvent, drycleaning (item 28, Appendix C)
 Tags, marking (item 30, Appendix C)

Personnel Required

One

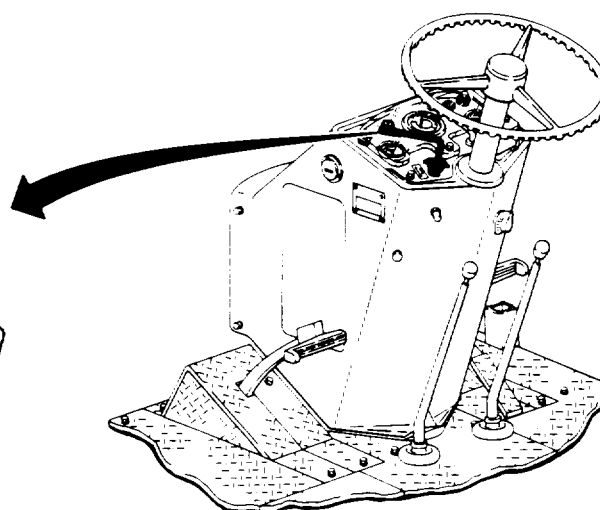
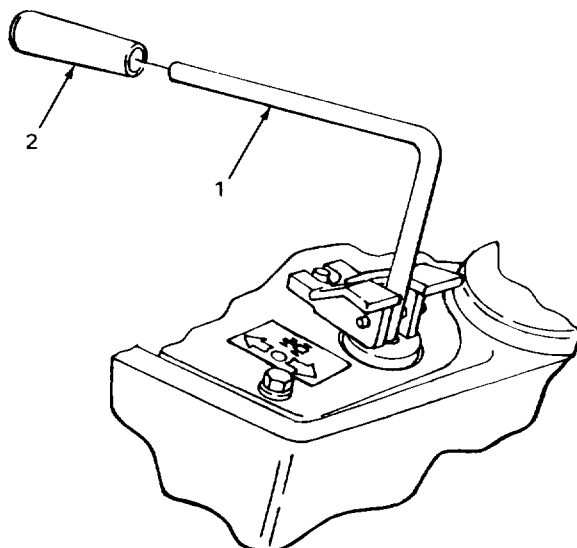
Equipment Condition

- 1. ENGINE WATER TEMP. indicator removed (page 2-545)
- 2. Steering wheel removed (page 2-941)

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

- | | | |
|-------------------------------|----------|------------|
| 1. Reverser control lever (1) | Knob (2) | Twist off. |
|-------------------------------|----------|------------|



TA242996

DASH - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
2. Neutral latch (1) and reverser control lever (2)	Spring pin (3)	Using 1-pound head ball-peen hammer and 5/32-inch straight drive-pin punch, drive out.
3. Reverser control lever (2)	Neutral latch (1)	Take off.
4. Reverser control lever (2), washer (4), and dash (5)	Special washer (4)	Take off.
5. Main wiring harness connector (6) connector (7)	Cowl wiring harness lift tab and unplug.	a. Tag (page 2-137). b. Using 1/8-inch flat-tip screwdriver,
6. Connector (8) connector (9)	Dash light	a. Tag (page 2-137). b. Unplug.
7. Warning light flasher three terminals (10)	Connector (11)	a. Tag (page 2-137). b. Unplug.
8. Connector (12)	Warning light connector (13)	a. Tag (page 2-137). b. Using 1/8-inch flat-tip screwdriver, lift tab on connector (12) and unplug.
9. Connector (14)	Warning light connector (15)	a. Tag (page 2-137). b. Using 1/8-inch flat-tip screwdriver, lift tab on connector (14) and unplug.

NOTE

On loader backhoe, warning flasher terminal connects to 20 ampere circuit breaker front terminal for Serial Nos. 235786 thru 235999 and rear terminal for Serial Nos. 31995 thru 342573.

10. Warning flasher terminal (16) and terminal (17 and 18)	Nut (19) and lockwasher (20)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (20).
11. Terminal (17 and 18) and nut (21 and 22)	Warning flasher terminal (16)	a. Tag (page 2-137). b. Take off.
12. Tachometer drive cable (23) and tachometer (24)	Nut (25)	Unscrew and pull back.

DASH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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13. Tachometer (24)
cable (23)

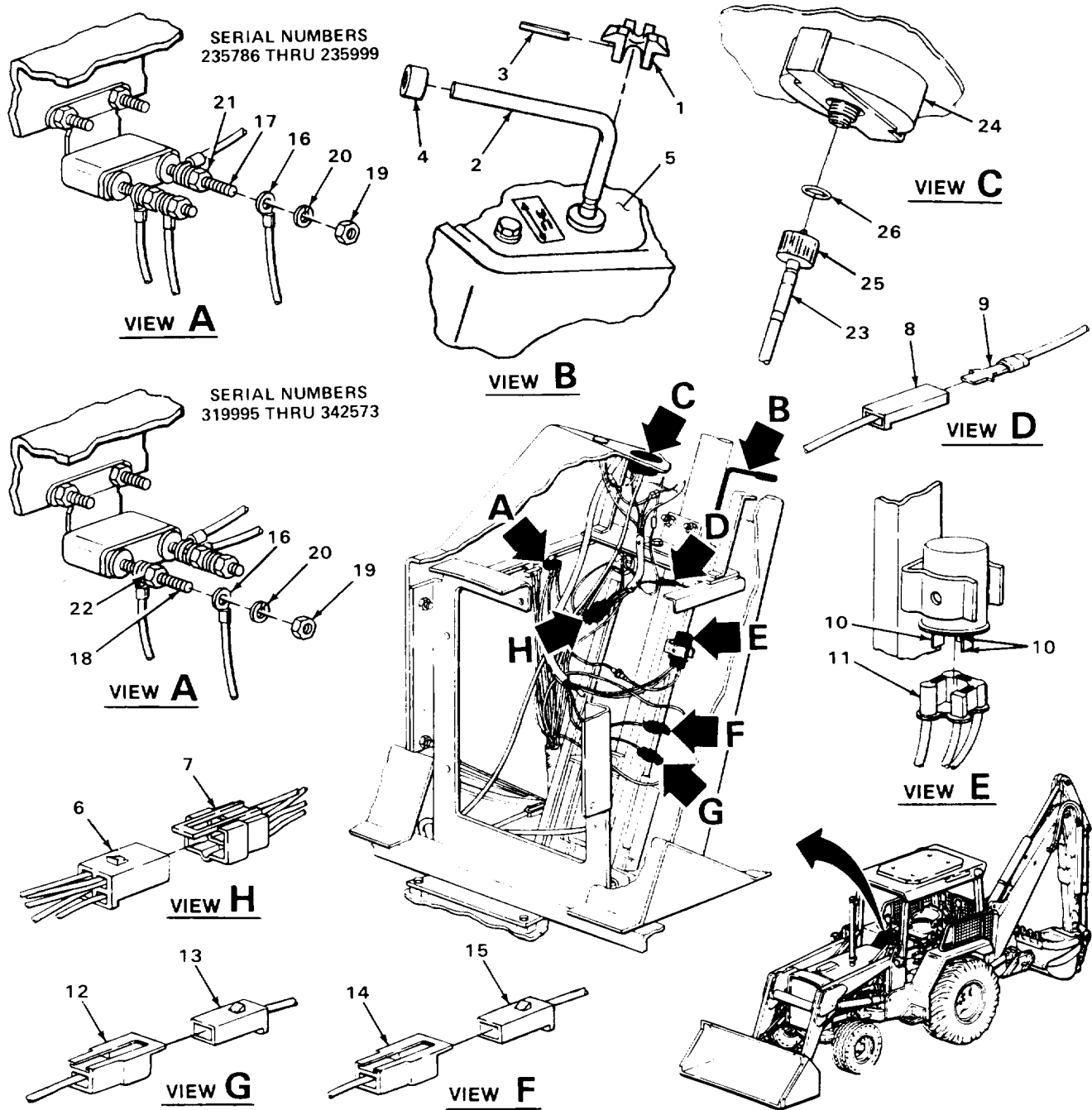
Tachometer drive

Take out.

14.

Packing (26)

Take off and get rid of.



TA242997

DASH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL - CONTINUED

NOTE

Steps 15 and 16 only apply to loader backhoes with Serial Numbers 319995 thru 342573.

15. Parking brake warning light connector (1)	Connector (2)	a. Tag (page 2-137). b. Using 1/8-inch flat-tip screwdriver, pry up tab on connector (1). c. Unplug.
16. Parking brake warning light terminal (3)	Connector (4)	a. Tag (page 2-137). b. Unplug.
17. Turn signal switch bracket (5), dash (6), cowl (7), and two U-type clip nuts (8)	Two screws (9) take out.	Using 7/16-inch box wrench, unscrew and
18. Cowl (7) and five U-type clip nuts (8 and 10)	Dash (6) with assembled parts	Take off.
19. Cowl (7) nuts (8 and 10)	Five U-type clip	Take off.

DISASSEMBLY

20. Dash	Dash light	Remove (page 2-554).
21.	Tachometer	Remove (page 2-1785).
22. Dash and cowl wiring harness	Indicator lights	Remove (page 2-550).
23.	Fuel level gage	Remove (page 2-539).
24. Dash	Parking brake warning light	On loader backhoes with Serial Numbers 319995 thru 342573, remove (page 2-489).
25.	Turn signal switch	Remove (2-594).

DASH - CONTINUED

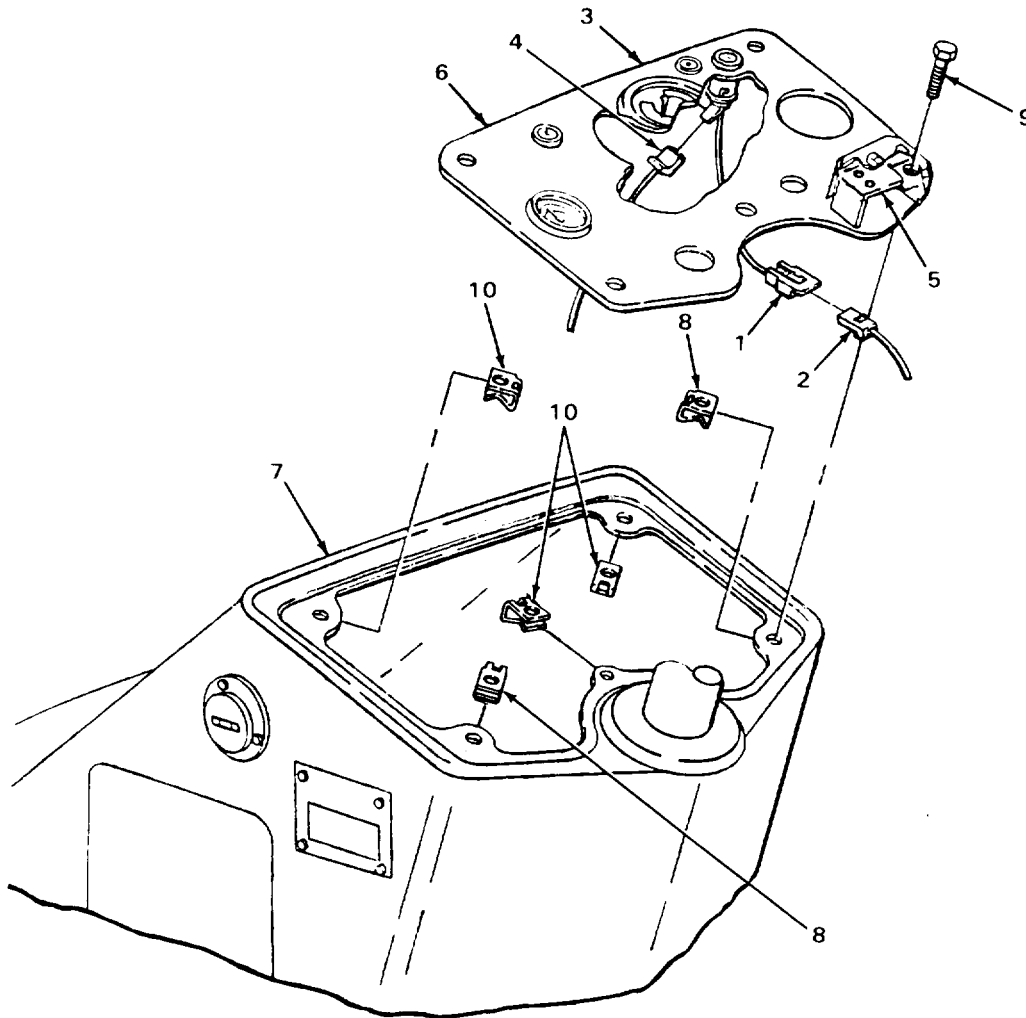
LOCATION	ITEM	ACTION	REMARKS
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CLEANING

NOTE

For more information on how to clean parts, go to **General Maintenance Instructions (page 2-137)**.

- | | | |
|-----|----------|---|
| 26. | Dash (6) | <ul style="list-style-type: none"> a. Using detergent and water, clean. b. Using clean, dry rags, wipe dry. |
|-----|----------|---|



TA242998

DASH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CLEANING - CONTINUED

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|-----|--|---|--|
| 27. | Two screws (1) and five U-type clip nuts (2 and 3) | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. | |
|-----|--|---|--|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

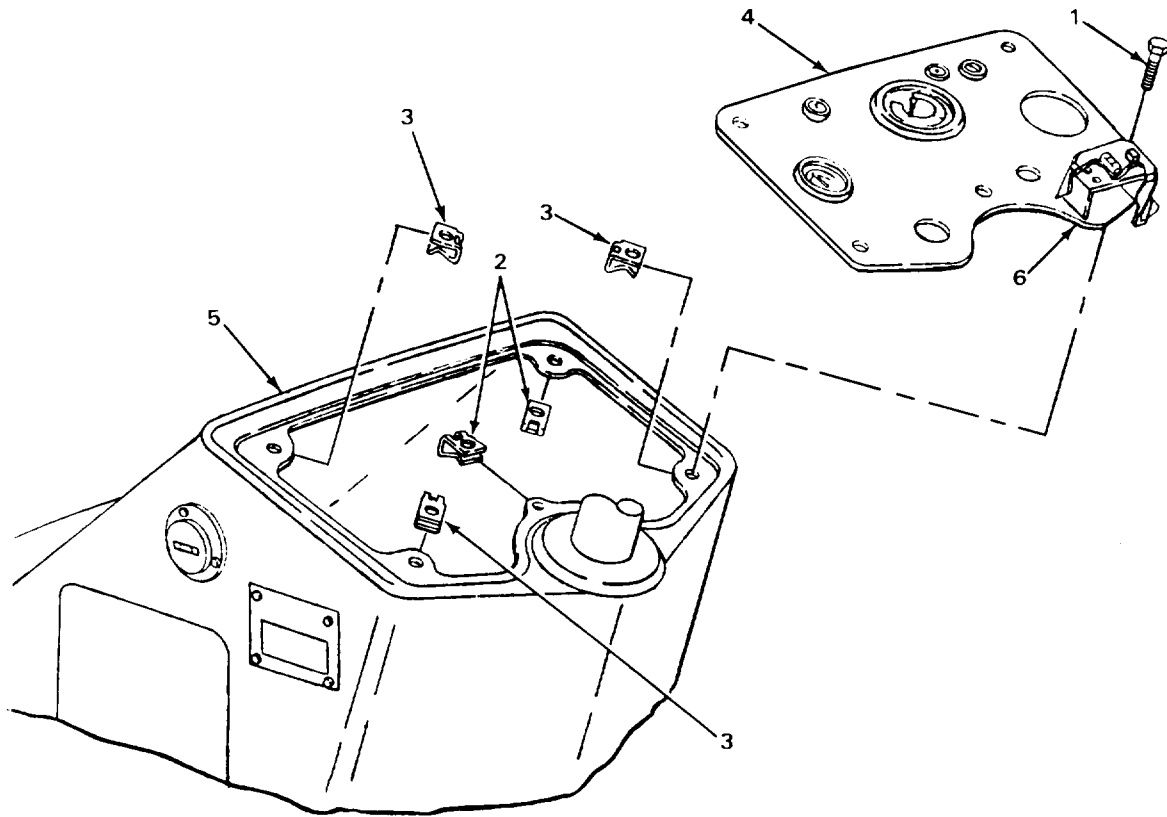
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|-----|---------------------------------|---|--|
| 28. | Dash (4) | Look for abnormal bends. | |
| 29. | Five U-type clip nuts (2 and 3) | Look for cracks, breaks, and abnormal bends. | |
| 30. | Two screws (1) | Look for cracks, breaks, and damaged threads. | |

ASSEMBLY

- | | | | |
|----------------------------------|-----------------------------|--|--|
| 31. Dash | Turn signal switch | Install (page 2-594). | |
| 32. | Parking brake warning light | On loader backhoes with Serial Numbers 319995 thru 342573, install (page 2-489). | |
| 33. Dash and cowl wiring harness | Fuel level gage | Install (page 2-539). | |
| 34. | Indicator lights | Install (page 2-550). | |

DASH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
35. Dash	Tachometer	Install (page 2-1785).	
36.	Dash light	Install (page 2-554).	
INSTALLATION			
37. Cowl (5)	Five U-type clip nuts (2 and 3)	Push into place.	
38. Cowl (5) and five U-type clip nuts (2 and 3)	Dash (4) with assembled parts	Put in place.	
39. Turn signal switch bracket (6), dash (4), cowl (5), and two U-type clip nuts (2 and 3)	Two screws (1)	Screw in and tighten using 7/16-inch box wrench.	



TA242999

DASH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

INSTALLATION - CONTINUED

NOTE

Steps 40 and 41 only apply to loader backhoes with Serial Numbers 319995 thru 342573.

40. Parking brake warning light terminal (1)	Connector (2)	a. Push on. b. Take off tags.
41. Parking brake warning light connector (3)	Connector (4)	a. Push on. b. Take off tags.
42. Tachometer (5)	New packing (6)	Put on.
43.	Tachometer drive cable (7)	Put in.
44. Tachometer drive cable (7) and tachometer (5)	Nut (8)	Screw on and tighten.

NOTE

Warning flasher terminal connects to 20 ampere circuit breaker front terminal on loader backhoes with Serial Numbers 235786 thru 235999 and to rear terminal on loader backhoes with Serial Numbers 319995 thru 342573.

45. Terminal (9 or 10) and nut (11 or 12)	Warning flasher terminal (13)	a. Put on. b. Take off tags.
46. Warning flasher terminal (13) and terminal (9 or 10)	New lockwasher (14) and nut (15)	Screw on and tighten using 3/8-inch box wrench.
47. Connector(16)	Warning light connector (17)	a. Plug in. b. Take off tags.
48. Connector(18)	Warning light connector (19)	a. Plug in. b. Take off tags.
49. Warning light flasher three terminals (20)	Connector (21)	a. Push on. b. Take off tags.

DASH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

50. Connector(22)
connector (23)

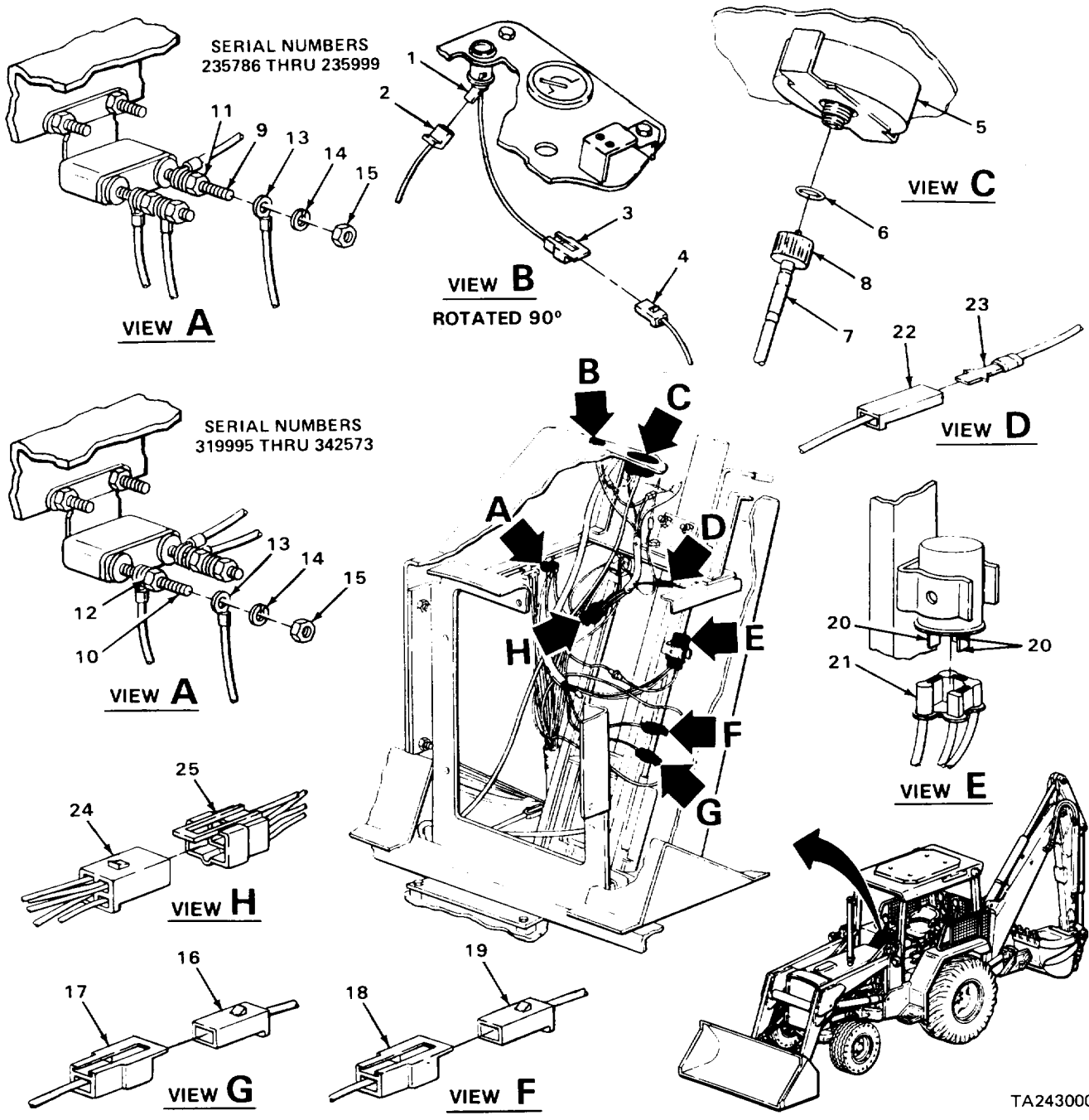
Dash light

- a. Plug in.
- b. Take off tags.

51. Main wiring
harness
connector (24)

Cowl wiring
harness
connector (25)

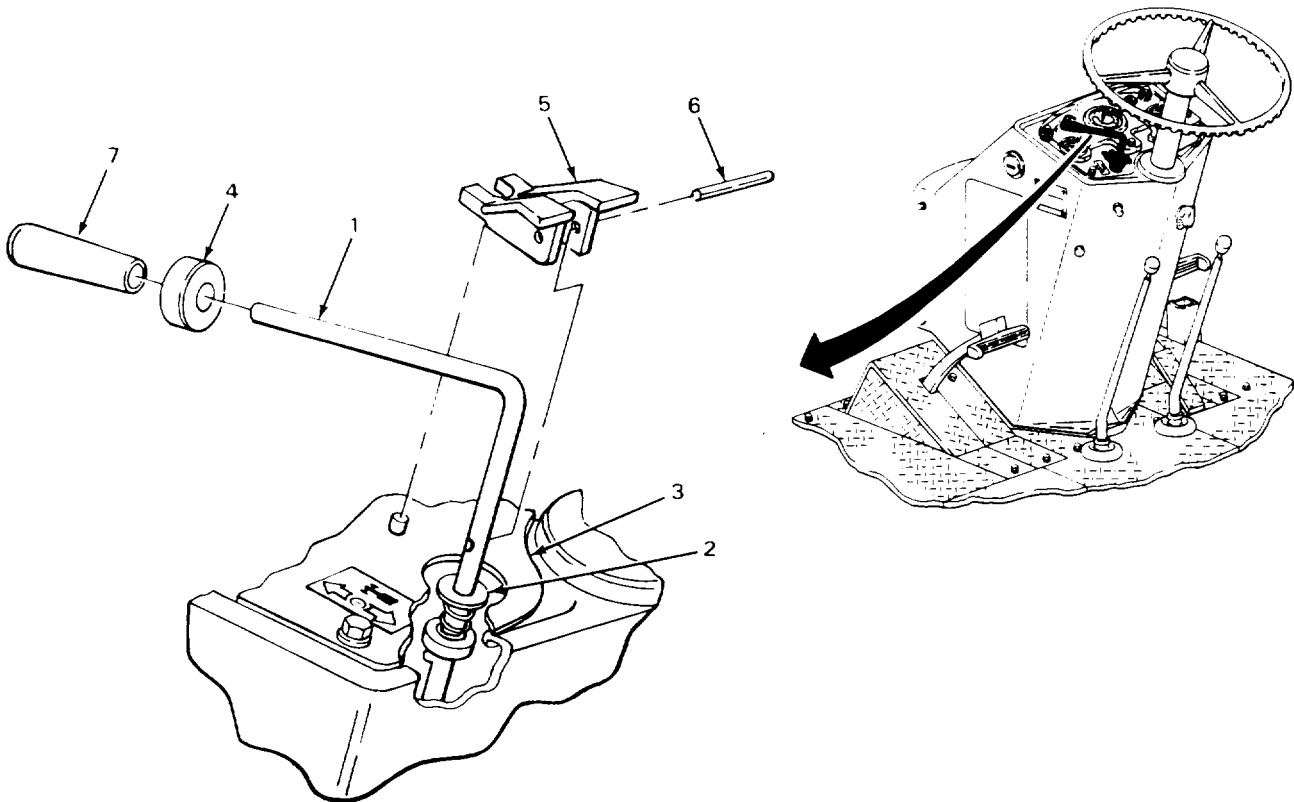
- a. Plug in.
- b. Take off tags.



TA243000

DASH - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
52. Reverser control lever (1), washer (2), and dash (3)	Special washer (4)	Slide into place.
53. Reverser control lever (1)	Neutral latch (5)	Put in place.
54. Neutral latch (5) and reverser control lever (1)	Spring pin (6)	a. Put into hole in latch (5). b. Push down latch (5) until holes line up with lever (1). c. Using 1-pound head ball-peen hammer and 5/32-inch straight drive-pin punch, drive in.
55. Reverser control lever (1)	Knob (7)	Twist on.



TA243001

DASH - CONTINUED**NOTE****FOLLOW-ON MAINTENANCE:**

1. Install steering wheel (page 2-941).
2. Install ENGINE WATER TEMP. indicator (page 2-545).

TASK ENDS HERE**LIGHT SWITCH**

This task covers:

- | | |
|---|--|
| <ol style="list-style-type: none"> a. Removal (page 2-590) b. Cleaning (page 2-590) c. Inspection/Replacement (page 2-592) | <ol style="list-style-type: none"> d. Repair (page 2-592) e. Installation (page 2-592) |
|---|--|

INITIAL SETUP:**Tools**

File, thread restoring
Screwdriver, flat-tip, 3/16-inch
Threading set, screw
Wrench, open-end, 5/8-inch

Materials/Parts

Cleaning compound, solvent
(item 4, Appendix C)
Detergent, GP (item 7, Appendix C)
Lockwasher, light switch
Lockwasher, light switch lever
screw
Rags, wiping (item 21, Appendix C)

Materials/Parts - Continued

Solvent, drycleaning (item 28, Appendix C)
Tags, marking (item 30, Appendix C)

Personnel Required

One

Equipment Condition

1. Battery ground cable disconnected
(page 2-696)
2. Cowl front cover removed (page 2-1020)

LIGHT SWITCH - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. HD terminal (1)	Connector (2)	a. Tag (page 2-137). b. Unplug.
2. FL terminal (3)	Connector (4)	a. Tag (page 2-137). b. Unplug.
3. B terminal (5)	Connector (6)	a. Tag (page 2-137). b. Unplug.
4. TL terminal (7)	Connector (8)	a. Tag (page 2-137). b. Unplug.
5. Lever (9) and light switch (10)	Screw (11) and lockwasher (12)	a. Using 3/16-inch flat-tip screwdriver, unscrew and take out. b. Get rid of lockwasher (12).
6. Light switch (10)	Lever (9)	Take off.
7. Cowl (13) and light switch (10)	Nut (14) and lockwasher (15)	a. Using 5/8-inch open-end wrench, unscrew and take off. b. Get rid of lockwasher (15).
8. Cowl (13)	Light switch (10)	Take out.

CLEANING

NOTE

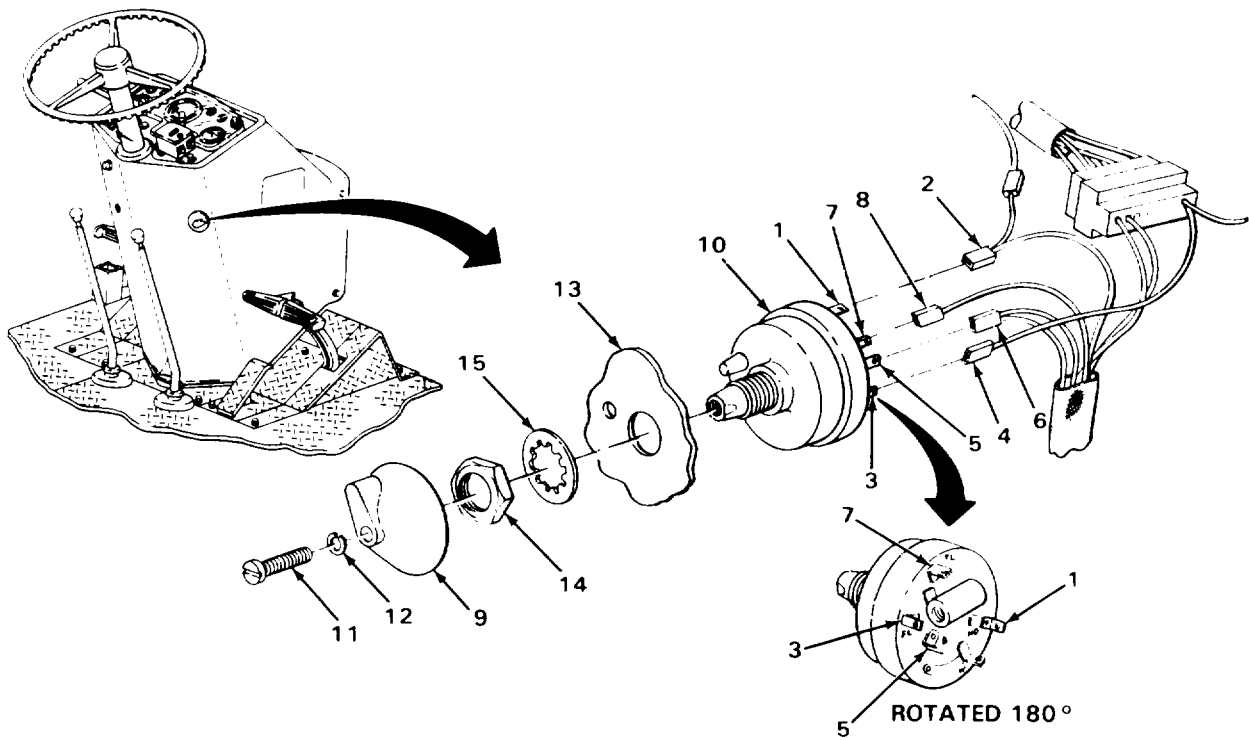
For more information on how to clean parts, go to **General Maintenance Instructions (page 2-137)**.

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 1140F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

LIGHT SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
9.	Switch (10)	a. Using clean rag dampened with solvent cleaning compound, wipe clean. b. Using clean, dry rags, wipe dry.	
10.	Lever (9)	a. Clean in solution of detergent and water. b. Rinse in clean water. c. Using clean, dry rags, wipe dry.	
11.	All metal parts	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.	



TA243002

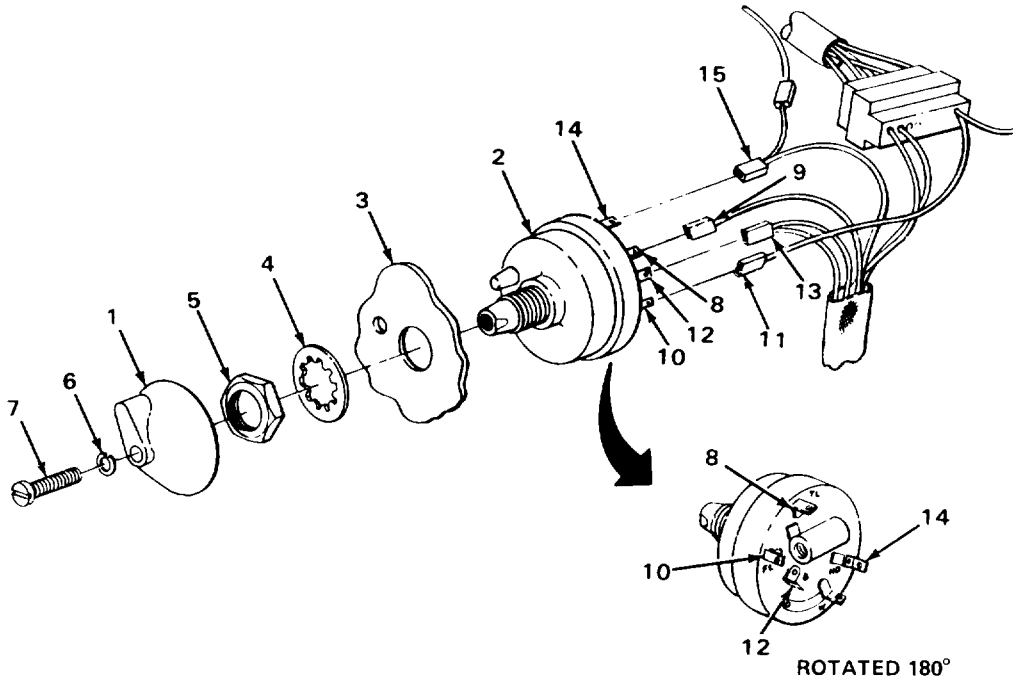
LIGHT SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT			
NOTE			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137) .			
Replace defective parts which cannot be repaired.			
12.	All metal parts		Look for cracks, breaks, and abnormal bends.
13.	Lever (1)		Look for cracks and breaks.
14.	All threaded parts		Look for damaged threads.
REPAIR			
15.	Light switch (2)		If threads are damaged, using thread restoring file and screw threading set, restore threads.
INSTALLATION			
16. Cowl (3)	Light switch (2)		Put in place. Make sure pin on switch goes into hole in cowl.
17. Light switch (2) and cowl (3)	New lockwasher (4) and nut (5)		Screw on and tighten using 5/8-inch open-end wrench.
18. Light switch (2)	Lever (1)		Put on.
19. Lever (1) and light switch (2)	New lockwasher (6) and screw (7)		Screw in and tighten using 3/16-inch flat-tip screwdriver.
20. TL terminal (8)	Connector (9)		a. Push on. b. Take off tag.
21. FL terminal (10)	Connector (11)		a. Push on. b. Take off tag.
22. B terminal (12)	Connector (13)		a. Push on. b. Take off tag.

LIGHT SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

23. HD terminal (14)	Connector (15)	a. Push on.	b. Take off tag.
----------------------	----------------	-------------	------------------



NOTE

FOLLOW-ON MAINTENANCE:

1. Install cowl front cover 2-1020).
2. Connect battery ground cable (page 2-696).

TASK ENDS HERE

TA243003

TURN SIGNAL SWITCH

This task covers:

- | | |
|--|------------------------------|
| a. Removal (page 2-594) | e. Repair (page 2-598) |
| b. Disassembly (page 2-596) | f. Assembly (page 2-599) |
| c. Cleaning (page 2-597) | g. Installation (page 2-599) |
| d. Inspection/Replacement (page 2-598) | |
-

INITIAL SETUP:

Tools

Hammer, ball-peen, 1-pound head
 Screwdriver, flat-tip, 1/8-inch
 Screwdriver, flat-tip, 1/4-inch
 Screwdriver, flat-tip, 7/32-inch
 1-inch blade
 Punch, drive-pin, straight, 5/32-inch
 Wrench, box, 3/8-inch

Materials/Parts - Continued

Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)
 Tags, marking (item 30, Appendix C)

Personnel Required

One

Materials/Parts

Cleaning compound, solvent
 (item 4, Appendix C)
 Lockwasher, circuit breaker
 terminal nut
 Lockwasher, turn signal switch
 screw (two required)

Equipment Condition

- Battery ground cable disconnected
 page 2-696
 - Cowl front cover removed (page 2-1020)
 - Plexiglass dash cover removed
 (page 2-576)
-

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

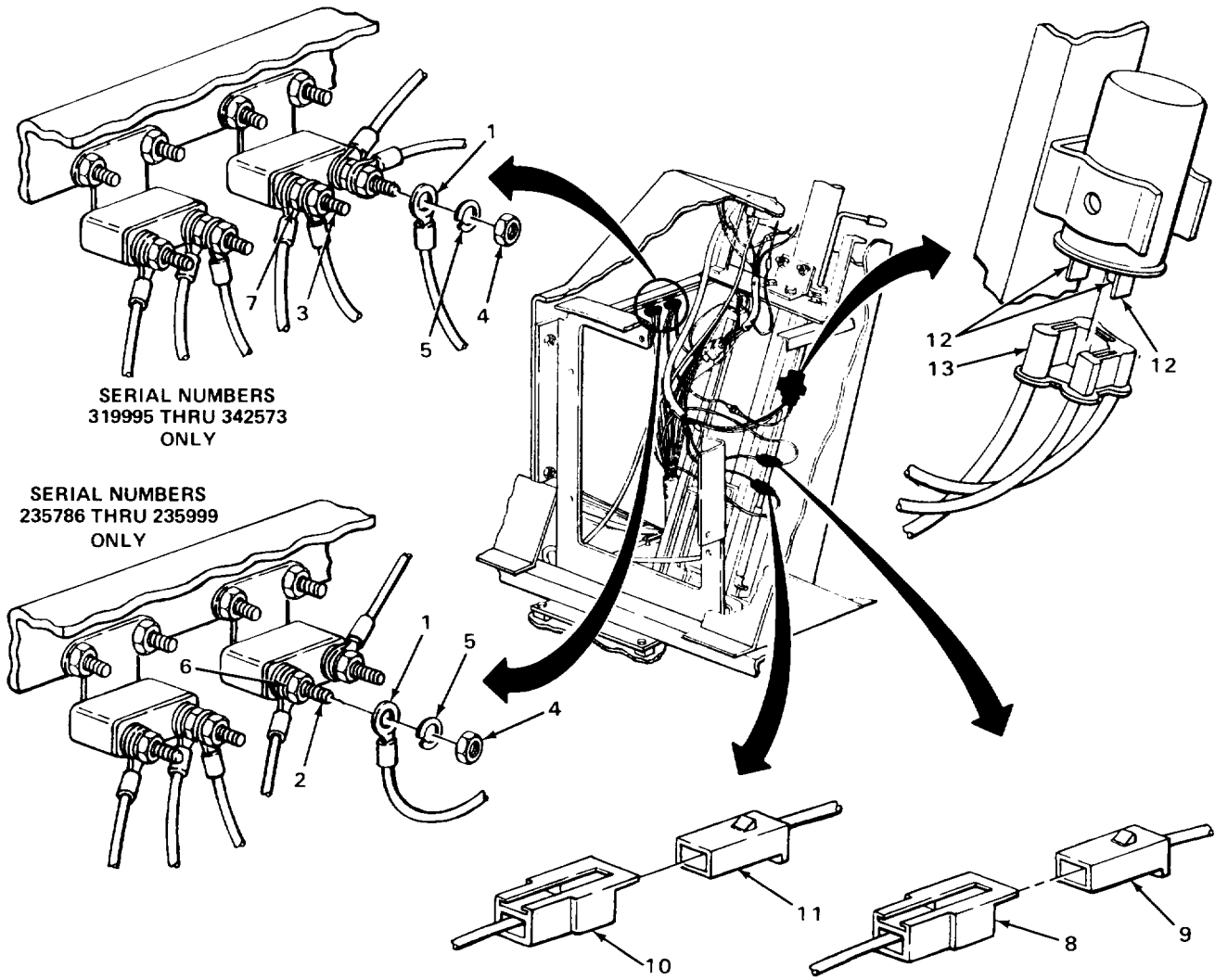
NOTE

Warning flasher terminal connects to 20 ampere circuit breaker front terminal on loader backhoes with Serial Numbers 235786 thru 235999 and to rear terminal on loader backhoes with Serial Numbers 319995 thru 342573.

- | | | |
|---|------------------------------|--|
| 1. Warning flasher terminal (1) and terminal (2 or 3) | Nut (4) and lockwasher (5) | a. Using 3/8-inch box wrench, unscrew and take off.
b. Get rid of lockwasher (5). |
| 2. Terminal (2 or 3) and nut (6 or 7) | Warning flasher terminal (1) | a. Tag (page 2-137).
b. Take off. |

TURN SIGNAL SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
3. Connector (8)	Connector (9)	a. Tag (page 2-137). b. Using 1/8-inch flat-tip screwdriver, pry up tab on connector (9) and unplug.	
4. Connector(10)	Connector (11)	a. Tag (page 2-137). b. Using 1/8-inch flat-tip screwdriver, pry up tab on connector (11) and unplug.	
5. Warning light flasher three terminals (12)	Connector (13)	a. Tag (page 2-137). b. Unplug.	



TA243004

TURN SIGNAL SWITCH - CONTINUED

LOCATION	ITEM	ACTION REMARKS
6. Reverser control lever (1) and neutral latch (2)	Spring pin (3)	Using 5/32-inch straight drive-pin punch, and 1-pound head ball-peen hammer, drive out.
7. Reverser control lever (1)	Neutral latch (2)	Take off.
8. Dash (4) and cable (5)	Grommet (6)	Using 1/4-inch flat-tip screwdriver, pry up and take out.
9. Bracket (7), dash (4), cowl (8), and two U-type clip nuts (9)	Two screws (10)	Using 7/16-inch box wrench, unscrew and take out.
10. Cowl (8) and five U-type clip nuts (9 and 11)	Dash (4) with assembled parts	Lift up enough to access screws (12).
11. Dash (4), bracket (7), and turn signal switch (13)	Two screws (12) and lockwashers (14)	a. Using 1-inch blade, 7/32-inch flat-tip screwdriver, unscrew and take out. b. Get rid of lockwasher(14).
12. Dash (4)	Turn signal switch (13) with assembled cable (5) and bracket (7)	Note routing of cable (5) for proper placement during installation, take out.
13. Turn signal switch (13)	Bracket (7)	Take off.
14. Cowl (8)	Dash (4) with assembled parts	Set back in place.

DISASSEMBLY

NOTE

For turn signal switch disassembly, go to Turn Signal Switch In-Line Fuse (page 2-602).

TURN SIGNAL SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

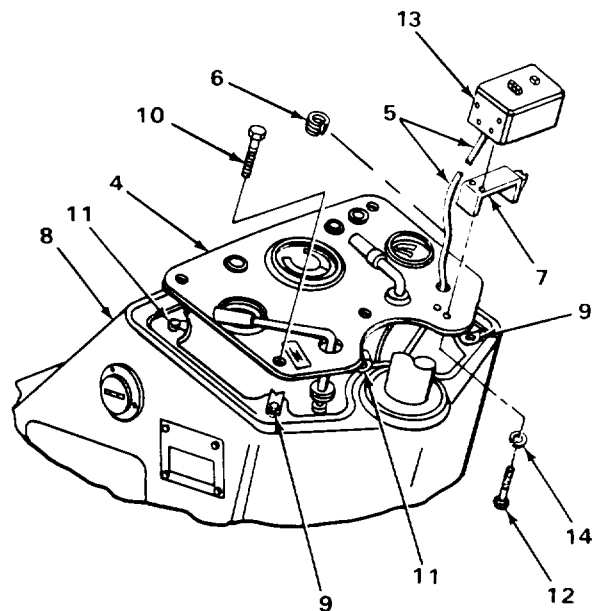
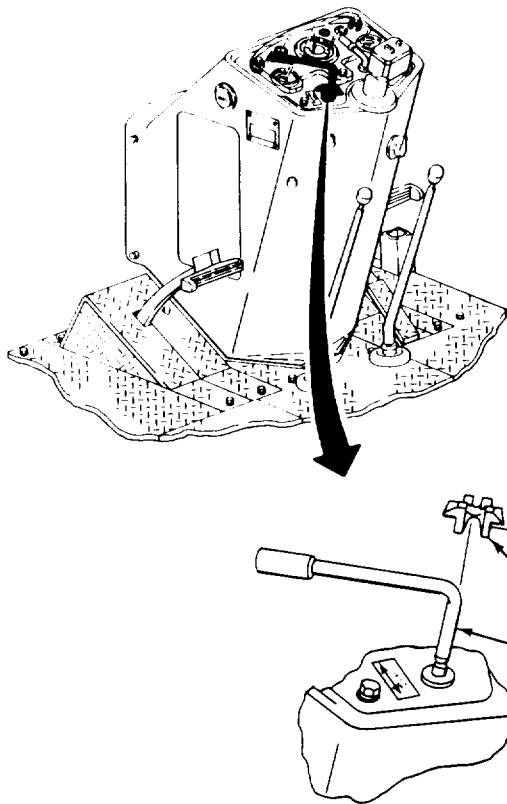
NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|-----------------|---|
| 15. | All metal parts | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. |
|-----|-----------------|---|



TA243005

TURN SIGNAL SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

16.	Turn signal switch (1) with assembled cable (2)	<ul style="list-style-type: none"> a. Using clean rag dampened with solvent cleaning compound, wipe clean. b. Dip connectors in solvent cleaning compound to remove corrosion. c. Using clean, dry rags, wipe dry. 	
-----	---	---	--

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

17.	Turn signal switch (1) and assembled cable (2)	<ul style="list-style-type: none"> a. Look for cracks and breaks in housing. b. Look for missing and damaged buttons. c. Look for cracked, burned, and worn insulation on wires. 	
18.	All metal parts	Look for cracks, breaks, or abnormal bends.	
19.	All threaded parts	Look for damaged threads.	

REPAIR

NOTE

For more information on how to repair wiring, go to General Maintenance Instructions (page 2-137).

TURN SIGNAL SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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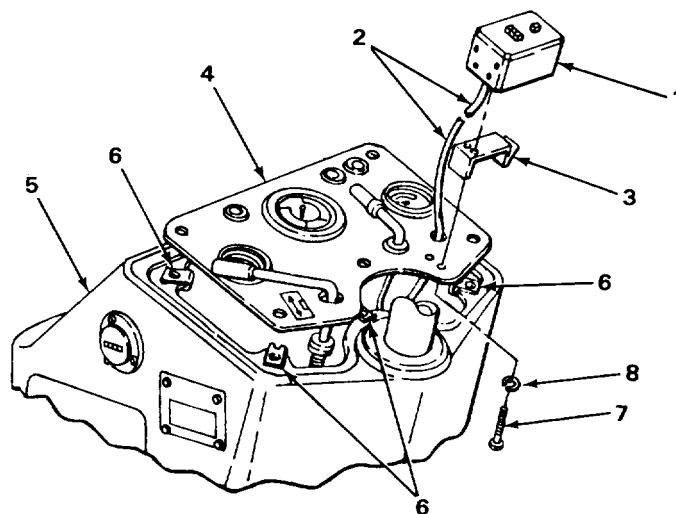
ASSEMBLY

NOTE

For information on how to assemble turn signal switch, go to Turn Signal Switch In-Line Fuse (page 2-602).

INSTALLATION

20. Turn signal switch (1)	Bracket (3)	Put on.	
21. Dash (4)	Turn signal switch (1) with assembled cable (2) and bracket (3)	Put in place, routing cable (2) as noted during removal.	
22. Cowl (5) and five U-type clip nuts (6)	Dash (4) with assembled parts	Lift up enough for access to put in screws (7).	
23. Dash (4), bracket (3), and turn signal switch (1)	Two new lockwashers (8) and screws (7)	Screw in and tighten using 1-inch blade, 7/32-inch flat-tip screwdriver.	
24. Cowl (5) and five U-type clip nuts (6)	Dash (4) with assembled parts	Set back in place.	



TA243006

TURN SIGNAL SWITCH - CONTINUED

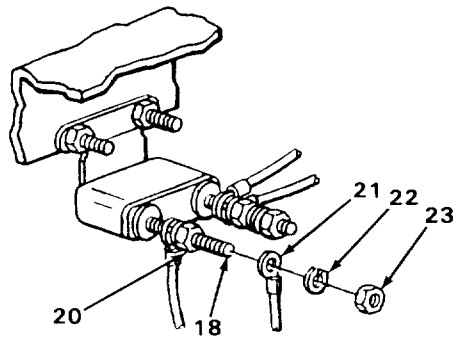
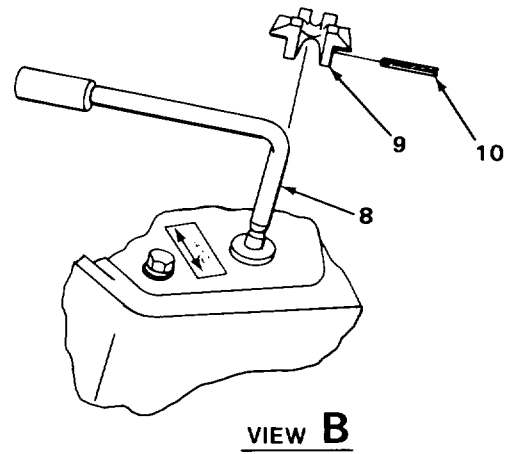
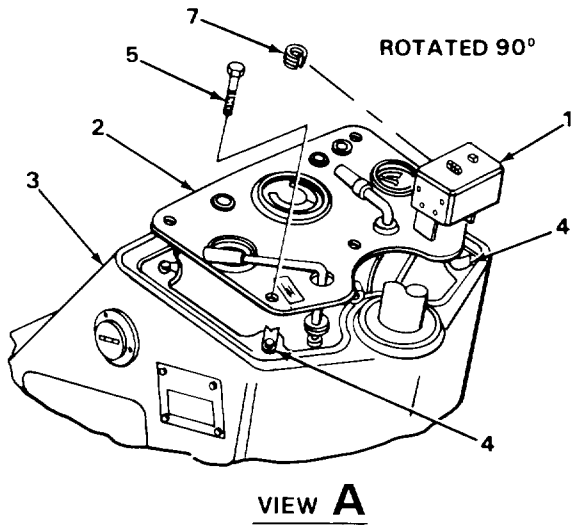
LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
25. Bracket (1), dash (2), cowl (3), and two U-type clip nuts (4)	Two screws (5) wrench.	Screw in and tighten using 7/16-inch box	
26. Dash (2) and cable (6)	Grommet (7) into place.	Using 1/4-inch flat-tip screwdriver, work	
27. Reverser control lever (8)	Neutral latch (9)	Put in place.	
28. Neutral latch (9) and reverser control lever (8)	Spring pin (10)	Using 1-pound head ball-peen hammer and 5/32-inch straight drive-pin punch, drive in.	
29. Warning light flasher three terminals (11)	Connector (12)	a. Push on. b. Take off tags.	
30. Connector(13)	Connector (14)	a. Plug in. b. Take off tags.	
31. Connector (15)	Connector (16)	a. Plug in. b. Take off tags.	

NOTE

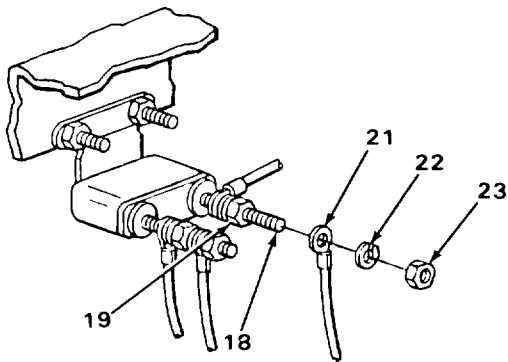
Warning flasher terminal connects to 20 ampere circuit breaker front terminal on loader backhoes with Serial Numbers 235786 thru 235999 and to rear terminal on loader backhoes with Serial Numbers 319995 thru 342573.

32. Terminal (17 or 18) and nut (19 or 20)	Warning flasher terminal (21)	a. Put on. b. Take off tag.	
33. Warning flasher terminal (21) and terminal (17 or 18)	New lockwasher (22) and nut (23)	Screw on and tighten using 3/8-inch box wrench.	

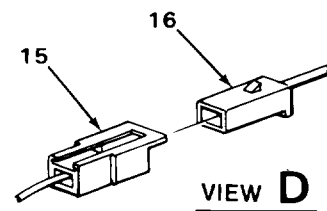
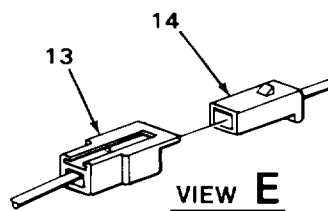
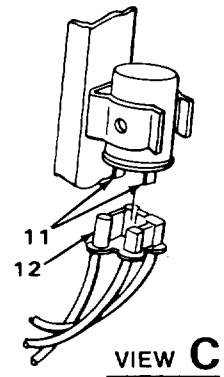
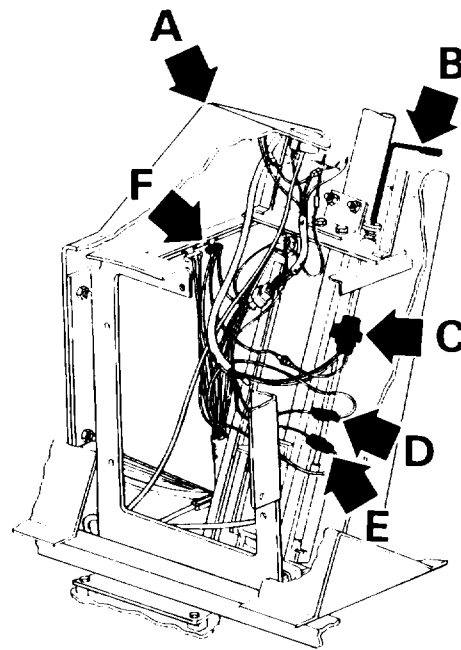
TURN SIGNAL SWITCH - CONTINUED



SERIAL NUMBERS
319995 THRU 342593



SERIAL NUMBERS
235786 THRU 235999



TURN SIGNAL SWITCH - CONTINUED

INSTALLATION - CONTINUED

NOTE

FOLLOW-ON MAINTENANCE:

1. Install plexiglass dash cover (page 2-576).
2. Install cowl front cover (page 2-1020).
3. Connect battery ground cable (page 2-696).

TASK ENDS HERE

TURN SIGNAL SWITCH IN-LINE FUSE

This task covers:

- | | |
|-------------------------|------------------------------|
| a. Removal (page 2-602) | c. Installation (page 2-603) |
| b. Testing (page 2-603) | |
-

INITIAL SETUP:

Tools

Multimeter

Personnel Required

One

Equipment Condition

1. Battery ground cable disconnected (page 2-696)
 2. Cowl front cover removed (page 2-1020)
-

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

NOTE

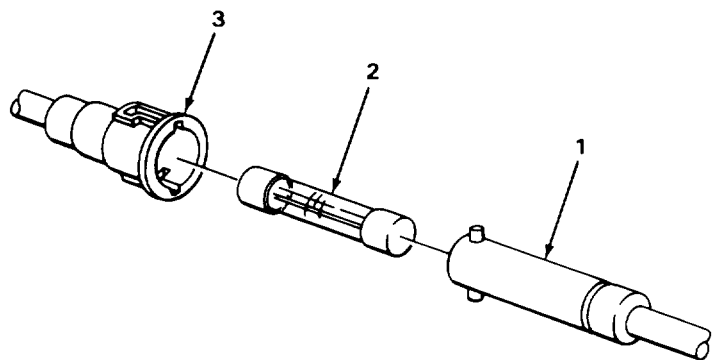
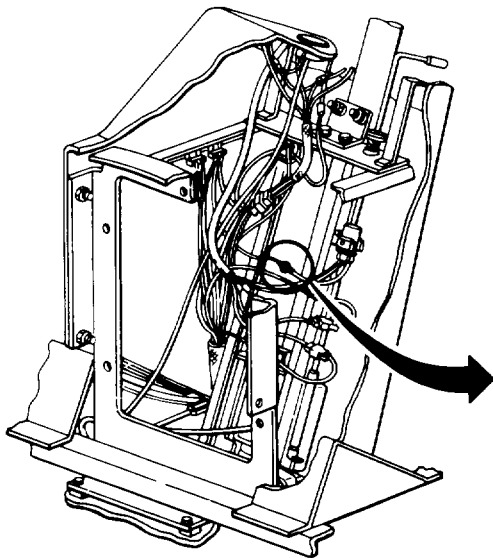
Turn signal switch in-line fuse and fuse holder may not be present on some loader backhoes.

REMOVAL

- | | | |
|---------------------------------------|----------------------|---|
| 1. Fuseholder socket (1) and fuse (2) | Fuseholder cover (3) | Push in, turn one-quarter turn counter-clockwise, and take off. |
| 2. Fuse holder socket (1) | Fuse (2) | Take out. |

TURN SIGNAL SWITCH IN-LINE FUSE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
TESTING			
3.	Fuse (2)	a. Using multimeter, check for continuity between end caps. Meter should read 0 ohms. b. If meter reads more than 0 ohms, replace.	
INSTALLATION			
4. Fuseholder socket (1)	Fuse (2)	Put in.	
5. Fuseholder socket (1) and fuse (2) clockwise.	Fuseholder cover (3)	a. Aline tabs with slots in socket (1). b. Push on and turn one-quarter turn	



TA243008

TURN SIGNAL SWITCH IN-LINE FUSE - CONTINUED

NOTE

FOLLOW-ON MAINTENANCE:

1. Install cowl front cover (page 2-1020).
2. Connect battery ground cable (page 2-696).

TASK ENDS HERE

ENGINE STARTING AID SOLENOID SWITCH

This task covers:

- | | |
|---|--|
| <ol style="list-style-type: none"> a. Removal (page 2-604) b. Cleaning (page 2-605) c. Inspection/Replacement (page 2-606) | <ol style="list-style-type: none"> d. Repair (page 2-607) e. Installation (page 2-607) |
|---|--|

INITIAL SETUP:

Tools

File, thread restoring

Personnel Required

One

Materials/Parts

Cleaning compound, solvent
 (item 4, Appendix C)
 Detergent, GP (item 7, Appendix C)
 Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning
 (item 28, Appendix C)
 Tags, marking (item 30, Appendix C)

Equipment Condition

1. Battery ground cable disconnected (page 2-696)
2. Loader control box door removed (page 2-1167)

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

- | | | |
|--|----------------------|--|
| <ol style="list-style-type: none"> 1. Two terminals (1) | <p>Connector (2)</p> | <ol style="list-style-type: none"> a. Tag (page 2-137). b. Pull off. |
|--|----------------------|--|

CAUTION

Unscrew cap by metal base to keep from tearing rubber cover.

- | | | |
|---|----------------|------------------------------|
| <ol style="list-style-type: none"> 2. Switch (3) and control box (4) | <p>Cap (5)</p> | <p>Unscrew and take off.</p> |
|---|----------------|------------------------------|

ENGINE STARTING AID SOLENOID SWITCH - CONTINUED

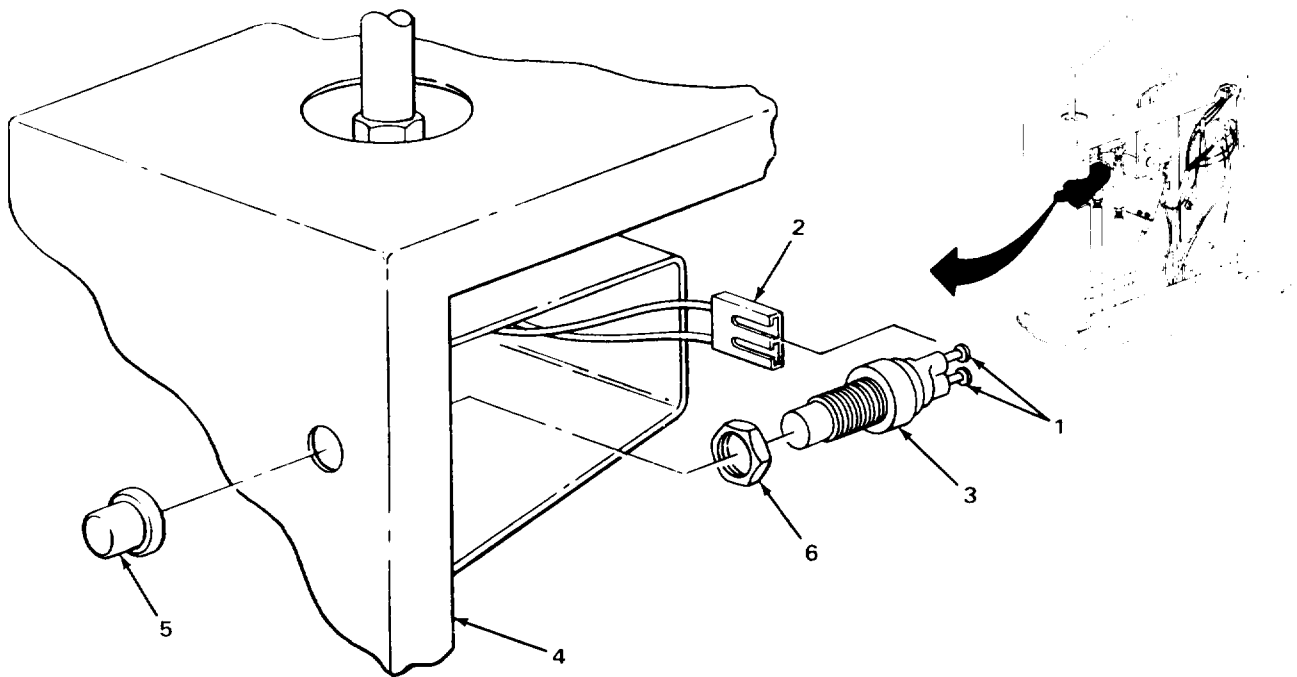
LOCATION	ITEM	ACTION	REMARKS
3. Control box (4)	Switch (3)	Take out.	
4. Switch (3)	Nut (6)	Noting position for installation, unscrew and take off.	

CLEANING

NOTE

For more information on how to clean parts, go to **General Maintenance Instructions (page 2-137)**.

- | | | |
|----|---------|---|
| 5. | Cap (5) | <ul style="list-style-type: none"> a. Clean in solution of detergent and water. b. Rinse in clean water. c. Using clean, dry rags, wipe dry. |
|----|---------|---|



TA243009

ENGINE STARTING AID SOLENOID SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CLEANING - CONTINUED

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 1140F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|----|------------|--|--|
| 6. | Switch (1) | a. Clean in solvent cleaning compound.
b. Using clean, dry rag, wipe dry. | |
|----|------------|--|--|

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|----|---------|--|--|
| 7. | Nut (2) | a. Clean in drycleaning solvent.
b. Using clean, dry rag, wipe dry. | |
|----|---------|--|--|

INSPECTION/REPLACEMENT

NOTE

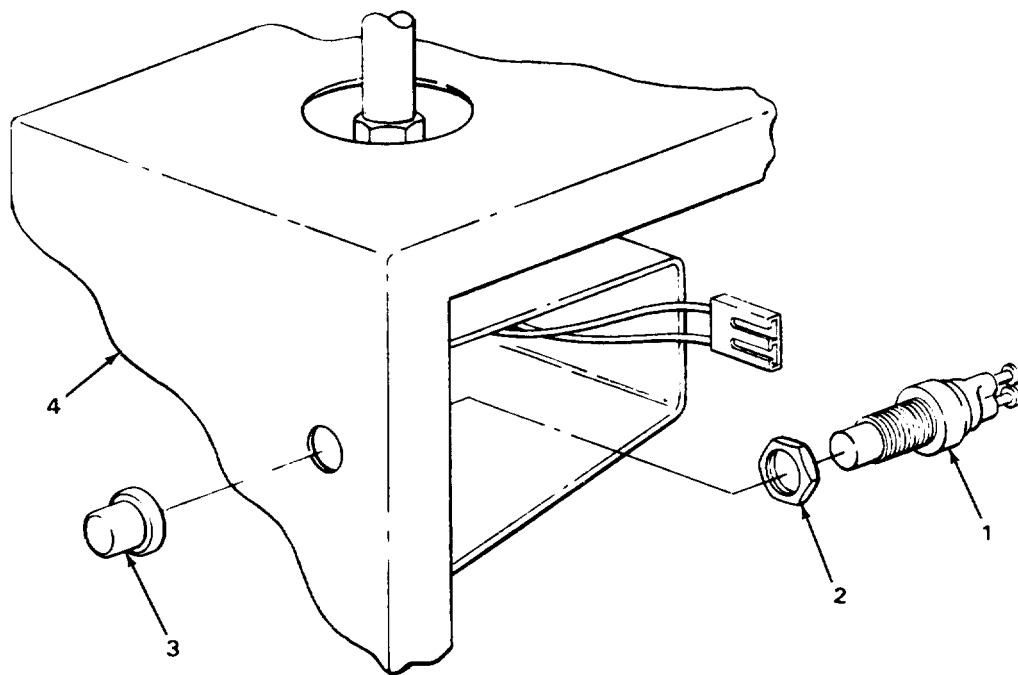
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

- | | | | |
|----|------------|---|--|
| 8. | Switch (1) | Look for cracks, breaks, or abnormal bends. | |
| 9. | Cap (3) | Look for torn or missing rubber cover. | |

ENGINE STARTING AID SOLENOID SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
10.	All threaded parts	Look for damaged threads.	
REPAIR			
11.	Switch (1)	If threads are damaged, using thread restoring file, restore threads.	
INSTALLATION			
12. Switch (1)	Nut (2)	Screw on to position noted during removal.	
13. Control box (4)	Switch (1)	Put in place.	



TA243010

ENGINE STARTING AID SOLENOID SWITCH - CONTINUED

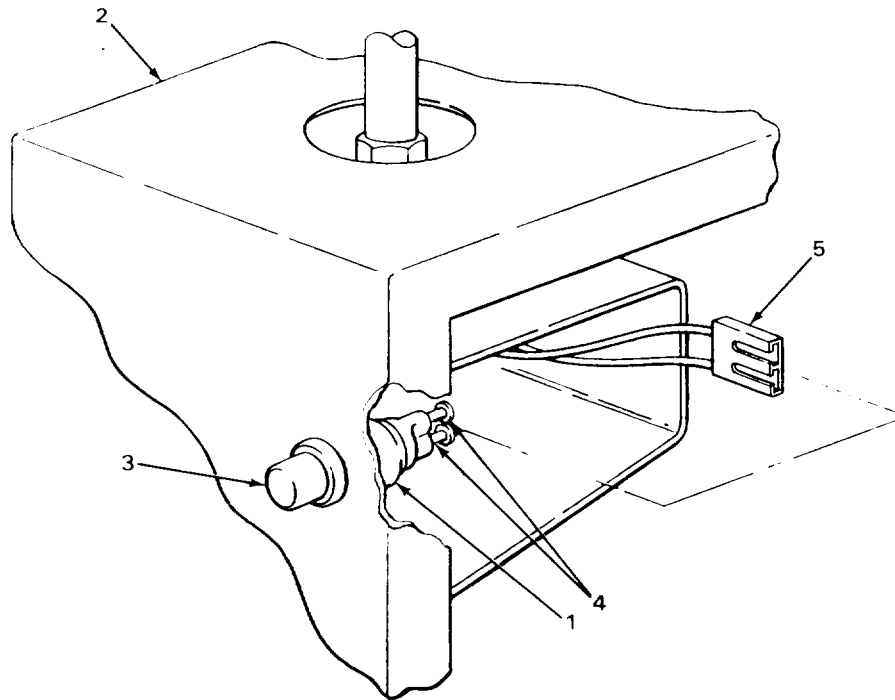
LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION - CONTINUED

CAUTION

Screw on cap by metal base to keep from tearing rubber cover.

14. Switch (1) and control box (2)	Cap (3)	Screw on and tighten.
15. Two terminals(4)	Connector (5)	a. Push on. b. Remove tags.



TA243011

ENGINE STARTING AID SOLENOID SWITCH - CONTINUED**NOTE****FOLLOW-ON MAINTENANCE:**

1. Install loader control box door (page 2-1167).
2. Connect battery ground cable (page 2-696).

TASK ENDS HERE**ENGINE STARTING AID SOLENOID LEAD**

This task covers:

- | | |
|---|--|
| <ol style="list-style-type: none"> a. Removal (page 2-610) b. Cleaning (page 2-612) c. Inspection/Replacement (page 2-614) | <ol style="list-style-type: none"> d. Repair (page 2-614) e. Installation (page 2-614) |
|---|--|

INITIAL SETUP**Tools**

Handle, ratchet, 3/8-inch drive
 Pliers, diagonal-cutting
 Pliers, slip-joint
 Screwdriver, flat-tip, 1/8-inch
 Socket, 3/8-inch drive, 1/2-inch
 Wrench, box, 1/2-inch (page 2-696)

Materials/Parts

Band, plastic, electrical tiedown
 (as required)
 Cleaning compound, solvent (item 4,
 Appendix C)
 Lockwasher, solenoid screw nut
 Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)
 Tags, marking (item 30, Appendix C)

Personnel Required

One

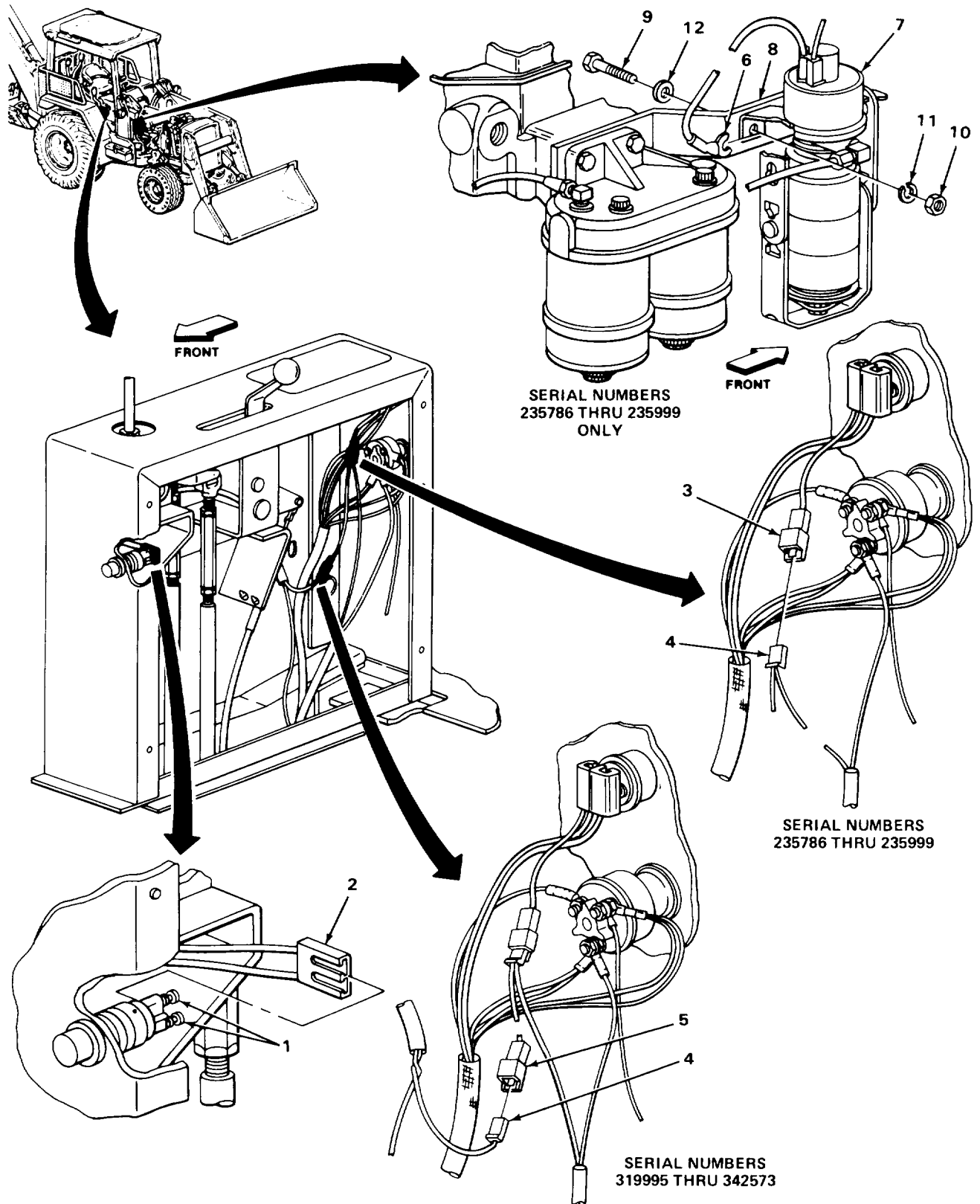
Equipment Condition

1. Battery ground cable disconnected
2. Loader control box door removed
 (page 2-1167)
3. Right platform removed (page 2-1079)

ENGINE STARTING AID SOLENOID LEAD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Two switch terminals (1)	Connector (2)	a. Tag (page 2-137). b. Pull off.
NOTE			
Step 2 only applies to loader backhoes with Serial Numbers 235786 thru 235999.			
2.	Main harness connector (3)	Connector (4)	a. Tag (page 2-137). b. Using 1/8-inch flat-tip screwdriver, pry up tab on connector (3) and unplug.
NOTE			
Step 3 only applies to loader backhoes with Serial Numbers 319995 thru 342573.			
3.	Parking brake warning light harness connector (5)	Connector (4)	a. Tag (page 2-137). b. Using 1/8-inch flat-tip screwdriver, pry up tab on connector (5) and unplug.
NOTE			
Step 4 and 5 only apply to loader backhoes with Serial Numbers 235786 thru 235999.			
4.	Terminal (6), solenoid (7), and bracket (8)	Screw (9), nut (10), lockwasher (11), and washer (12)	a. Using 1/2-inch box wrench, 1/2-inch, 3/8-inch drive socket, and ratchet handle, unscrew and take off. b. Get rid of lockwasher (11).
5.	Solenoid (7)	Terminal (6)	a. Tag (page 2-137). b. Take off.

ENGINE STARTING AID SOLENOID LEAD - CONTINUED



ENGINE STARTING AID SOLENOID LEAD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
NOTE			
Step 6 and 7 only apply to loader backhoes with Serial Numbers 319995 thru 342573.			
6.	Terminal (1), solenoid (2), and hood (3) washer (8)	Screw (4), nut (5), lockwasher (6), spacer (7), and	<ol style="list-style-type: none"> a. Using 1/2-inch box wrench, 1/2-inch, 3/8-inch drive socket, and ratchet handle, unscrew and take off. b. Get rid of lockwasher (6).
7.	Solenoid (2)	Terminal (1)	<ol style="list-style-type: none"> a. Tag (page 2-137). b. Take off.
8.	Two terminals (9)	Connector (10)	<ol style="list-style-type: none"> a. Tag (page 2-137). b. Unplug.
9.	Lead (11)	Plastic bands (12)	<ol style="list-style-type: none"> a. Note number and location for proper placement during installation. b. Using diagonal-cutting pliers, cut off. c. Get rid of.
10.		Clips (13)	<ol style="list-style-type: none"> a. Note number and location for proper placement during installation. b. Pull off.
11.	Loader backhoe	Lead (11)	<ol style="list-style-type: none"> a. Note routing and location for proper placement during installation. b. Take out.

CLEANING

NOTE

For more information on how to clean parts, go to **General Maintenance Instructions (page 2-137)**.

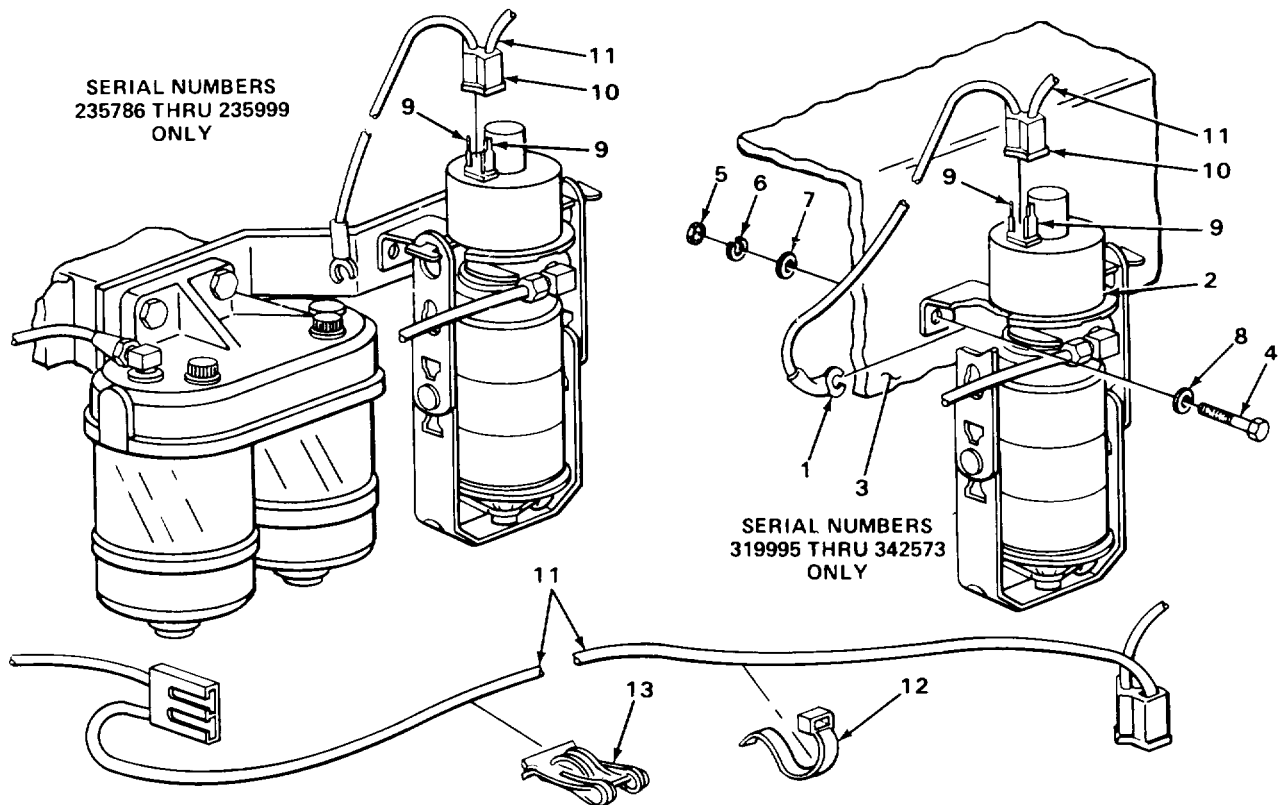
ENGINE STARTING AID SOLENOID LEAD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 1140F (460°C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|-----|-----------|---|--|
| 12. | Lead (11) | <ul style="list-style-type: none"> a. Using clean rag dampened with solvent cleaning compound, wipe clean. b. Dip connectors in solvent cleaning compound. c. Using clean, dry rags, wipe dry. | |
|-----|-----------|---|--|



ENGINE STARTING AID SOLENOID LEAD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CLEANING - CONTINUED

WARNING

Drycleaning solvent PD680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 138°F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|-----|-----------------|---|--|
| 13. | All metal parts | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. | |
|-----|-----------------|---|--|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

- | | | | |
|-----|-----------------|---|--|
| 14. | Lead (1) | a. Look for cracked, burned, and worn insulation.
b. Look for broken wires.
c. Look for loose and corroded terminals. | |
| 15. | All metal parts | Look for cracks, breaks, and abnormal bends. | |

REPAIR

NOTE

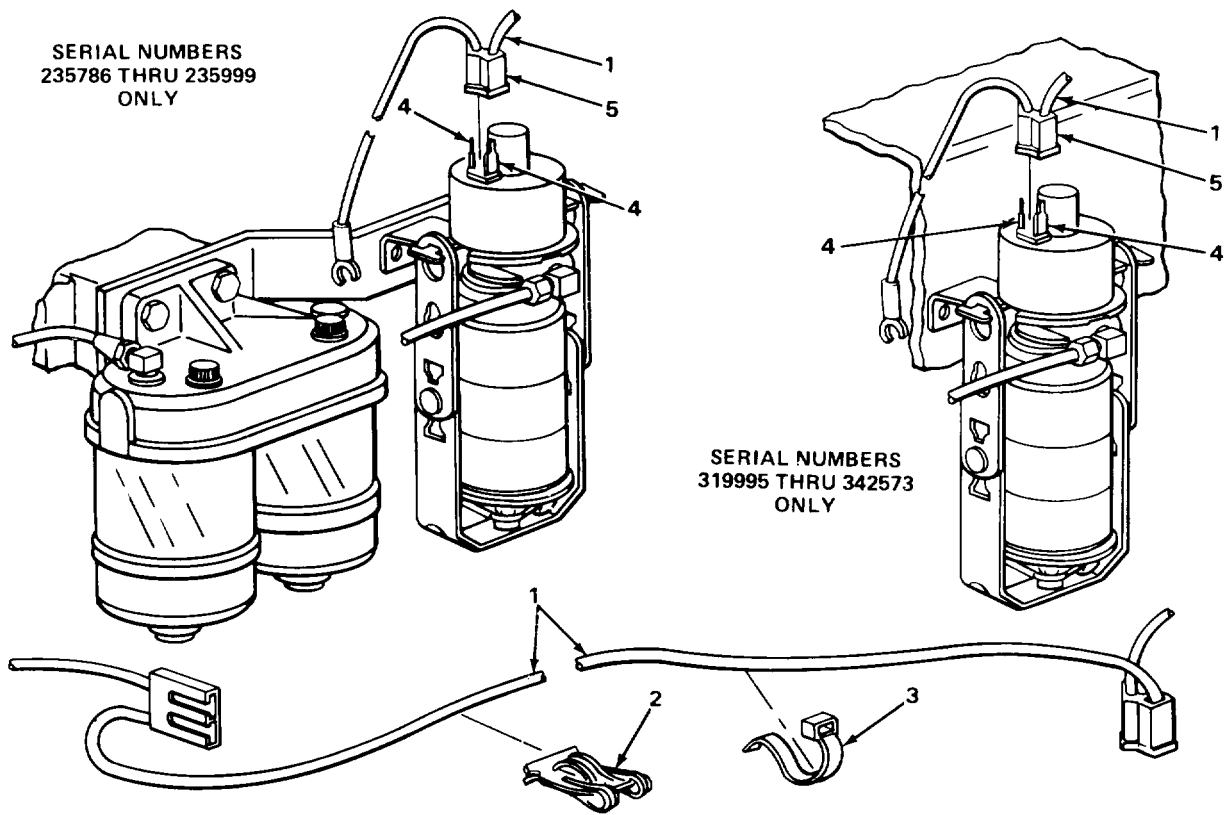
For more information on how to repair wiring, go to General Maintenance Instructions (page 2-137).

INSTALLATION

- | | | | |
|--------------------|----------|--|--|
| 16. Loader backhoe | Lead (1) | Routing as noted during removal, put in place. | |
|--------------------|----------|--|--|

ENGINE STARTING AID SOLENOID LEAD - CONTINUED

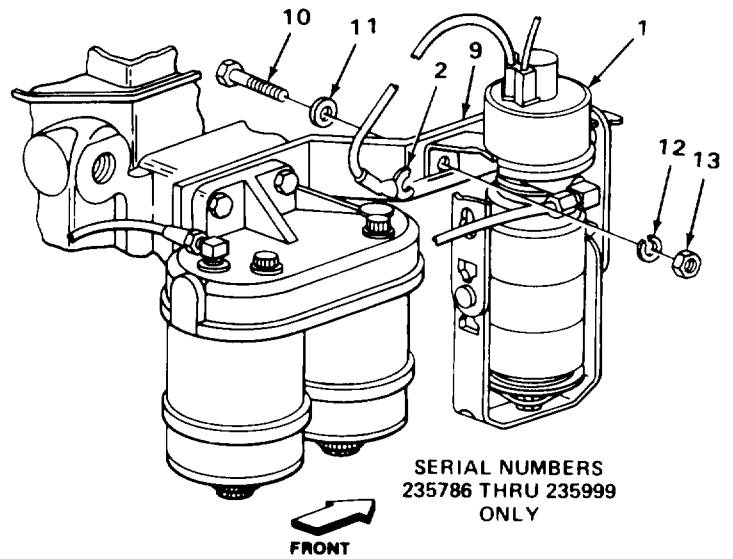
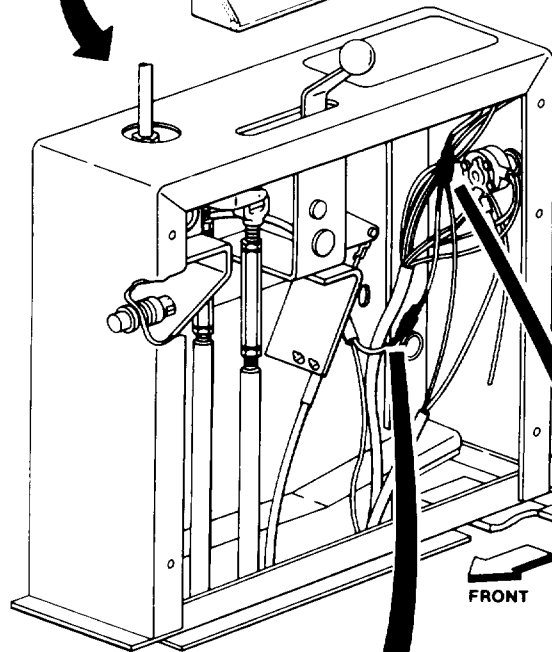
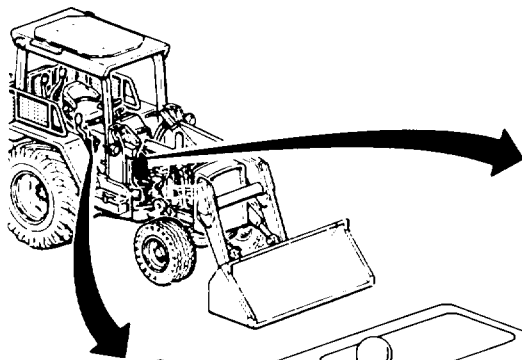
LOCATION	ITEM	ACTION	REMARKS
17. Lead (1)	Clips (2)	Put in place as noted during removal.	
18.	New plastic bands (3)	a. Put on as noted during removal. b. Using slip-joint pliers, tighten.	
19. Two terminals (4)	Connector (5)	a. Push on. b. Take off tag.	



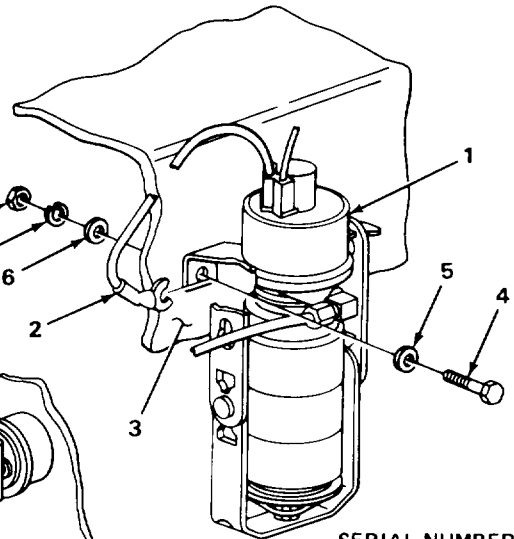
ENGINE STARTING AID SOLENOID LEAD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
NOTE			
Steps 20 and 21 only apply to loader backhoes with Serial Numbers 31995 thru 342573.			
20.	Solenoid (1)	Terminal (2)	Put in place.
21.	Terminal (2), solenoid (1), and hood (3)	Screw (4), washer (5), spacer (6), new lockwasher (7), and nut (8)	a. Screw in and tighten using 1/2-inch box wrench, 1/2-inch, 3/8-inch drive socket and ratchet handle. b. Take off tag.
NOTE			
Steps 22 and 23 only apply to loader backhoes with Serial Numbers 235786 thru 235999.			
22.	Solenoid (1)	Terminal (2)	Put in place.
23.	Terminal (2), solenoid (1), and bracket (9)	Screw (10), washer (11), new lockwasher (12), and nut (13)	a. Screw in and tighten using 1/2-inch box wrench, 1/2-inch, 3/8-inch drive socket and ratchet handle. b. Take off tag.
NOTE			
Step 24 only applies to loader backhoes with Serial Numbers 31995 thru 342573.			
24.	Parking brake warning light harness connector (14)	Connector (15)	a. Plug in. b. Take off tag.
NOTE			
Step 25 only applies to loader backhoes with Serial Numbers 235786 thru 235999.			
25.	Main harness connector (16)	Connector (15)	a. Plug in. b. Take off tag.

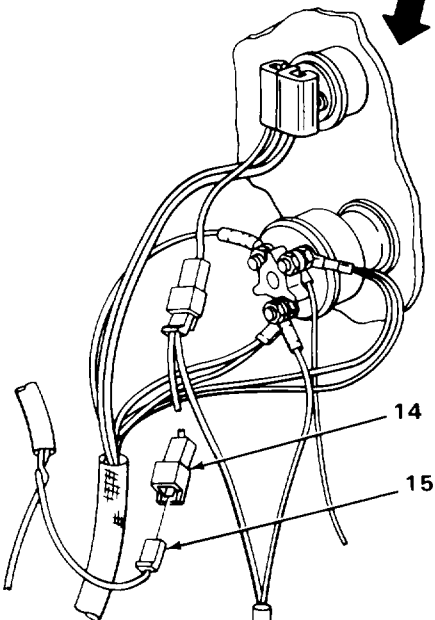
ENGINE STARTING AID SOLENOID LEAD - CONTINUED



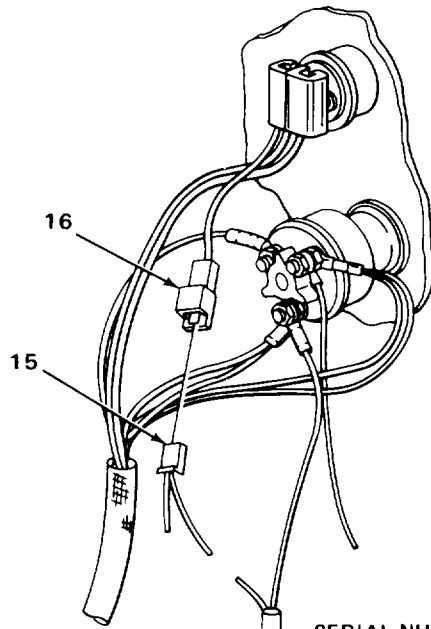
SERIAL NUMBERS
235786 THRU 235999
ONLY



SERIAL NUMBERS
319995 THRU 342573
ONLY



SERIAL NUMBERS
319995 THRU 342573



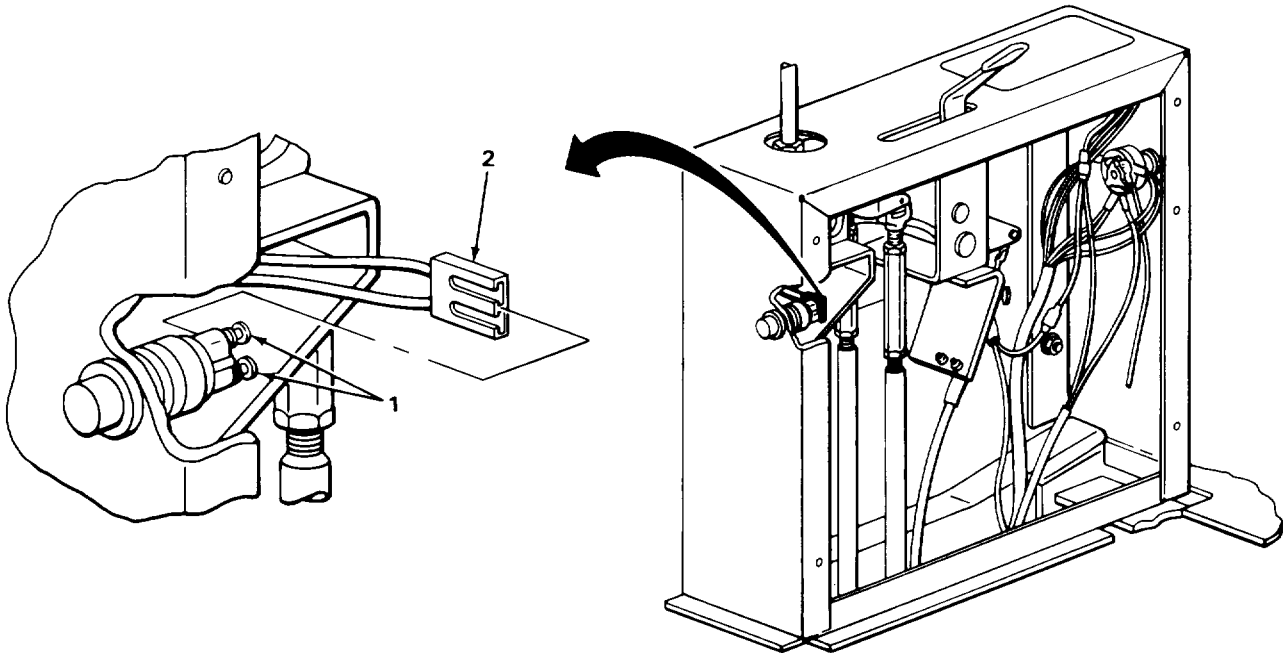
SERIAL NUMBERS
235786 THRU 235999

ENGINE STARTING AID SOLENOID LEAD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION - CONTINUED

26. Two terminals (1)	Connector (2)	a. Push on. b. Take off tag.	
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NOTE

FOLLOW-ON MAINTENANCE:

1. Install right platform (page 2-1079).
2. Install loader control box door (page 2-1167).
3. Connect battery ground cable (page 2-696).

TASK ENDS HERE

CIGAR LIGHTER

This task covers:

- | | | | |
|----|-------------------------------------|----|---------------------------|
| a. | Removal (page 2-620) | d. | Repair (page 2-623) |
| b. | Cleaning (page 2-621) | e. | Installation (page 2-624) |
| c. | Inspection/Replacement (page 2-622) | | |
-

INITIAL SETUP**Tools**

Threading set, screw
Wrench, box, 3/8-inch

Materials/Parts

Cleaning compound, solvent (page 2-696)
(item 4, Appendix C)
Lockwasher, terminal nut
Rags, wiping (item 21, Appendix C)
Solvent, drycleaning
(item 28, Appendix C)
Tags, marking (item 30, Appendix C)

Personnel Required

One

Equipment Condition

1. Battery ground cable disconnected
2. Cowl front cover removed (page 2-1020)

NOTE

Perform the following only on loader backhoes with Serial Numbers 235786 thru 235999.

3. Warning light flasher and bracket removed (page 2-657)

2-619

CIGAR LIGHTER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Socket (1)	Element (2)	Pull out.
NOTE			
Step 2 only applies to loader backhoes with Serial Numbers 319995 thru 342573.			
2.	Terminal (3)	Connector (4)	a. Tag (page 2-137). b. Unplug.
3.	Terminal (5) and terminal (6)	Nut (7) and lockwasher (8)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (8).
4.	Terminal (5)	Terminal (6)	a. Tag (page 2-137). b. Take off.
NOTE			
Steps 5 and 6 only apply to loader backhoes with Serial Numbers 235786 thru 235999.			
5.	Socket (1) and terminal (9)	Cover (10)	Unscrew and take off.
6.	Socket (1) and cowl (11)	Terminal (9) with assembled ground wire assembly (12)	Take off.
NOTE			
Step 7 only applies to loader backhoes with Serial Numbers 319995 thru 342573.			
7.	Socket (1) and cowl (11)	Cover (13)	Unscrew and take off.
8.	Cowl (11)	Socket (1)	Take out.

CIGAR LIGHTER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CAUTION

For loader backhoes with Serial Numbers 235786 thru 235999, do not remove cigar lighter ground wire assembly from terminal unless inspection shows it is necessary. Removal may damage parts.

NOTE

Step 9 only applies to loader backhoes with Serial Numbers 235786 thru 235999.

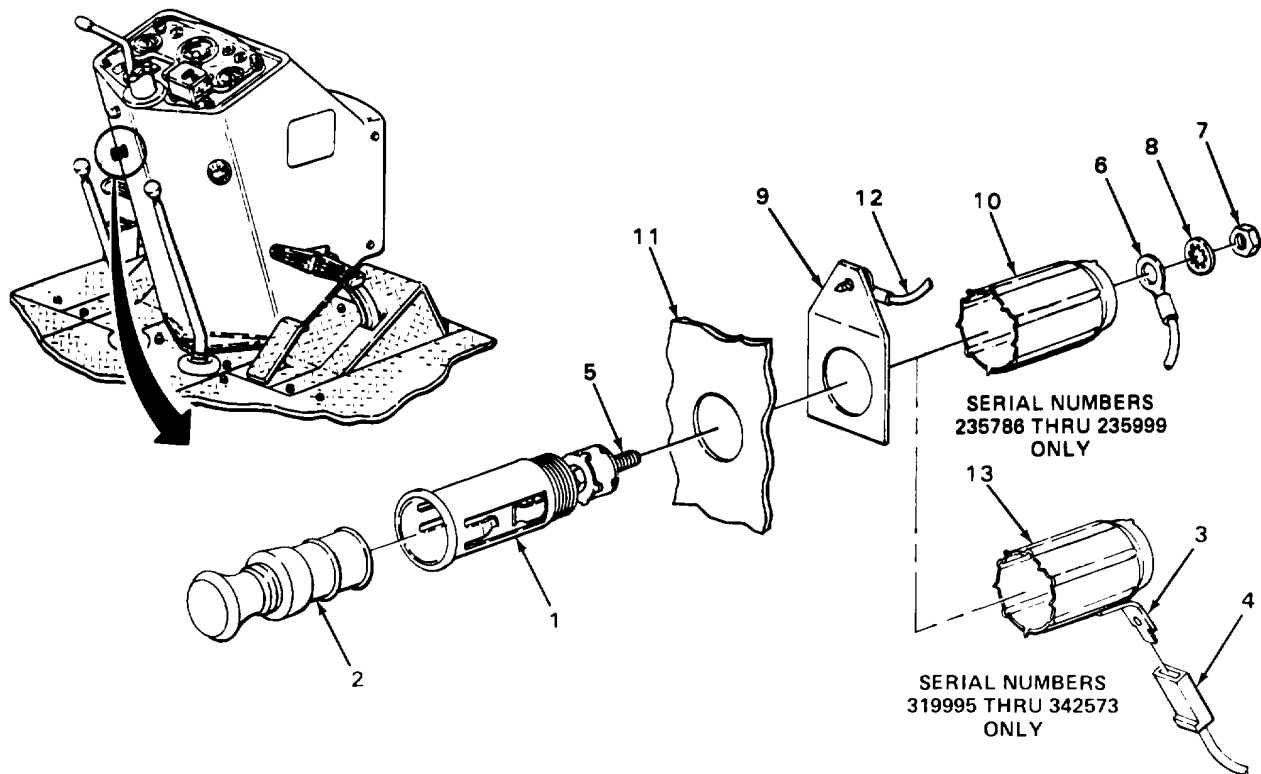
9. Terminal	Cigar lighter ground wire assembly	Remove (page 2-532).	
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CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

TA243017



TA243017

CIGAR LIGHTER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 1140F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|--|---|
| 10. | Element (1),
socket (2), cover
(3 or 4), and
terminal (5)
if present | a. Clean in solvent cleaning compound.
b. Using clean, dry rags, wipe dry. |
|-----|--|---|

WARNING

Drycleaning solvent PD680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|---------|---|
| 11. | Nut (6) | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. |
|-----|---------|---|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

- | | | |
|-----|--------------------|--|
| 12. | All parts | Look for cracks, breaks, and abnormal bends. |
| 13. | All threaded parts | Look for damaged threads. |

CIGAR LIGHTER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

14.	Element (1)		Look for broken heating coil.
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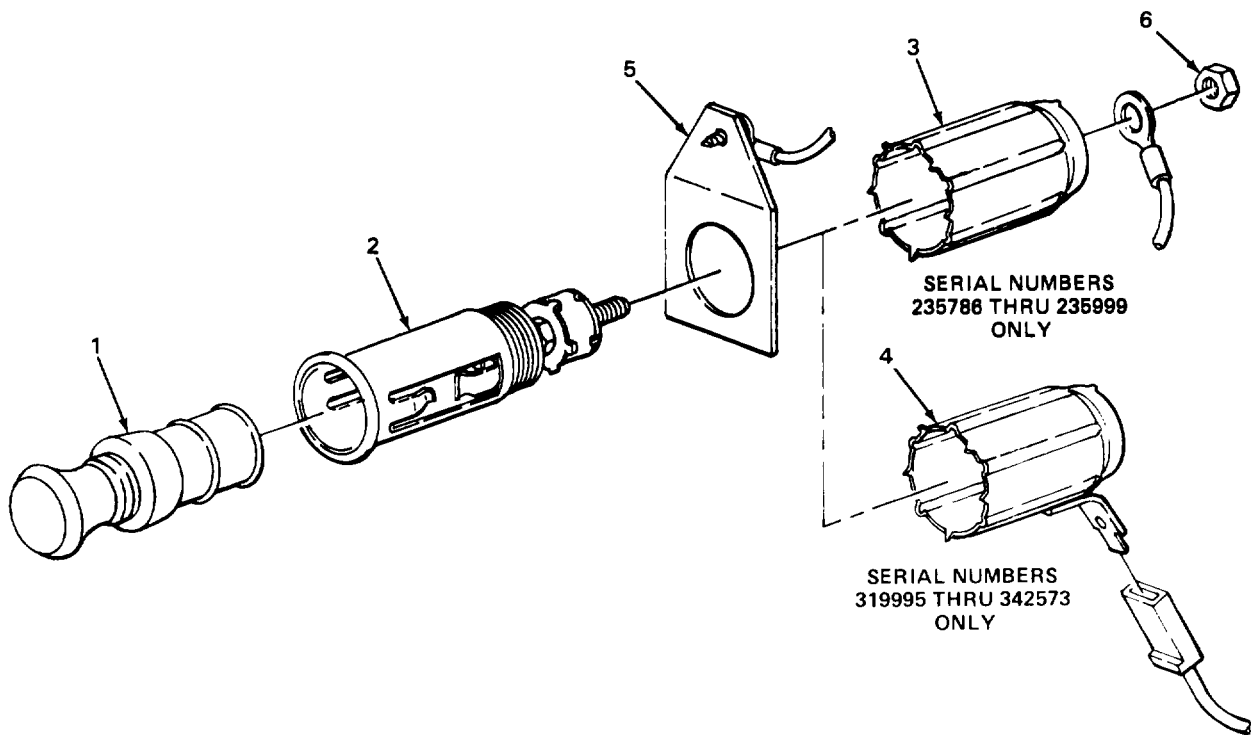
NOTE

Step 15 only applies to loader backhoes with Serial Numbers 235786 thru 235999.

15. Terminal	Cigar lighter ground wire assembly		Inspect (page 2-532).
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REPAIR

16.	Socket (2)		If threads are damaged, using screw threading set, restore threads.
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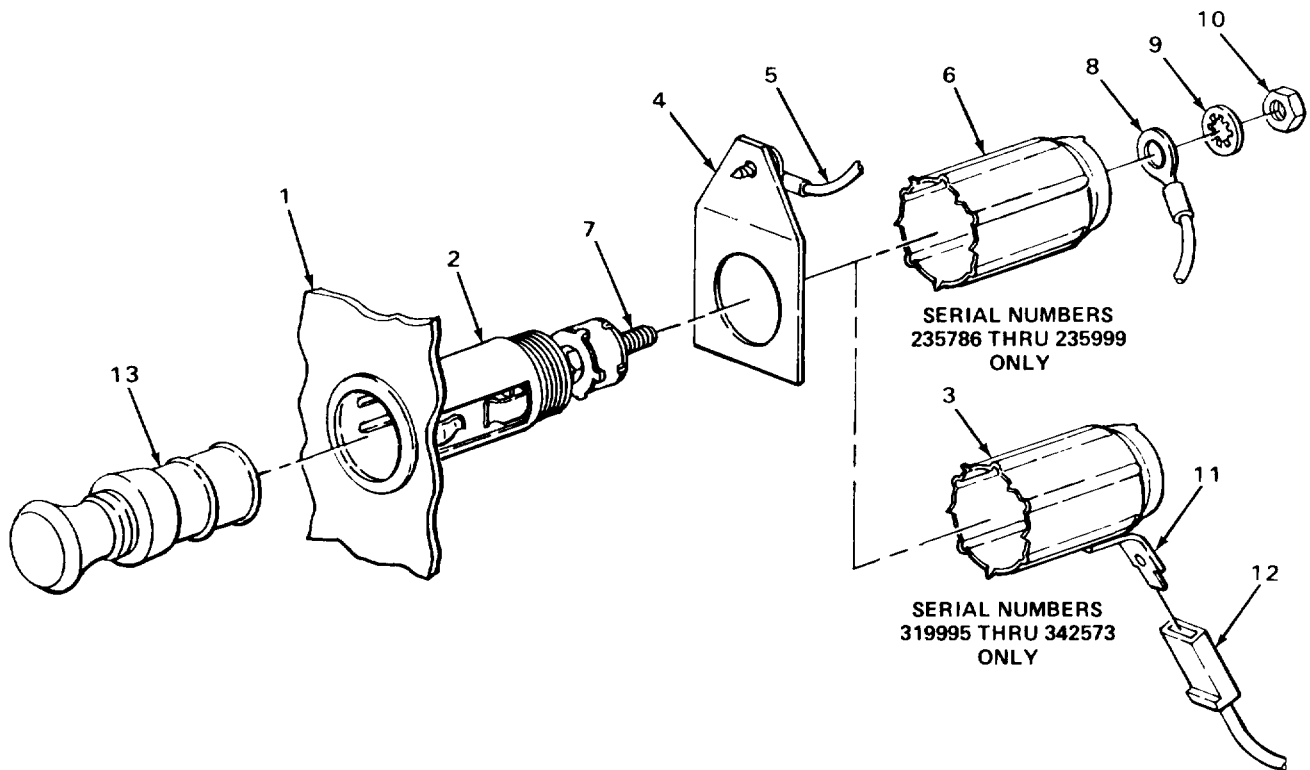


TA243018

CIGAR LIGHTER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION			
NOTE			
Step 17 only applies to loader backhoes with Serial Numbers 235786 thru 235999.			
17.	Terminal	Cigar lighter ground wire assembly	If removed, install (page 2-532).
18.	Cowl (1)	Socket (2)	Put in.
NOTE			
Step 19 only applies to loader backhoes with Serial Numbers 319995 thru 342573.			
19.	Socket (2) and cowl (1)	Cover (3)	Screw on and tighten.
NOTE			
Steps 20 and 21 only apply to loader backhoes with Serial Numbers 235786 thru 235999.			
20.	Socket (2) and cowl (1)	Terminal (4) with assembled ground wire assembly (5)	Put on.
21.	Socket (2) and terminal (4)	Cover (6)	Screw on and tighten.
22.	Terminal (7)	Terminal (8)	a. Put on. b. Take off tag.
23.	Terminal (7) and terminal (8)	New lockwasher (9) and nut (10)	Screw on and tighten using 3/8-inch box wrench.
NOTE			
Step 24 only applies to loader backhoes with Serial Numbers 319995 thru 342573.			
24.	Terminal (11)	Terminal (12)	a. Push on. b. Takeoff tag.
25.	Socket (2)	Element (13)	Push in.

CIGAR LIGHTER - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

Perform the following only on loader backhoes with Serial Numbers 235786 thru 235999.

1. Install warning light flasher and bracket (page 2-657).

Perform the following on all loader backhoes.

2. Install cowl front cover (page 2-1020).
3. Connect battery ground cable (page 2-696).

TASK ENDS HERE

WARNING LIGHTS

This task covers:

- | | |
|--|------------------------------|
| a. Removal (page 2-626) | e. Repair (page 2-630) |
| b. Disassembly (page 2-625) | f. Assembly (page 2-631) |
| c. Cleaning (page 2-628) | g. Installation (page 2-632) |
| d. Inspection/Replacement (page 2-630) | |

INITIAL SETUP

Tools

File, thread restoring
 Knife, putty
 Screwdriver, flat-tip, 1/8-inch
 Wrench, open-end, 9/16-inch

Materials/Parts

Adhesive, metal bonding (item 1, Appendix C)
 Cleaning compound, solvent (item 4, Appendix C)
 Detergent, GP (item 7, Appendix C)
 Lockwasher, warning light nut
 Rags, wiping (item 21, Appendix C)

Materials/Parts - Continued

Solvent, cleaning compound (item 27, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)
 Tags, marking (item 30, Appendix C)

Personnel Required

One

Equipment Condition

Battery ground cable disconnected (page 2-696)

LOCATION	ITEM	ACTION	REMARKS
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NOTE

Both types of warning lights are maintained in similar way. One light of one type is shown. Repeat procedures for other light as needed.

REMOVAL

NOTE

It is not necessary to remove warning light to disassemble it.

- | | | | |
|----|---------------------------------------|---|---|
| 1. | Connector (1) | Connector (2) | a. Tag (page 2-137).
b. Unplug. |
| 2. | Warning light (3) and canopy roof (4) | Nut (5), lockwasher (6), and washer (7) | a. Using 9/16-inch open-end wrench, unscrew and take off.
b. Get rid of lockwasher(6). |

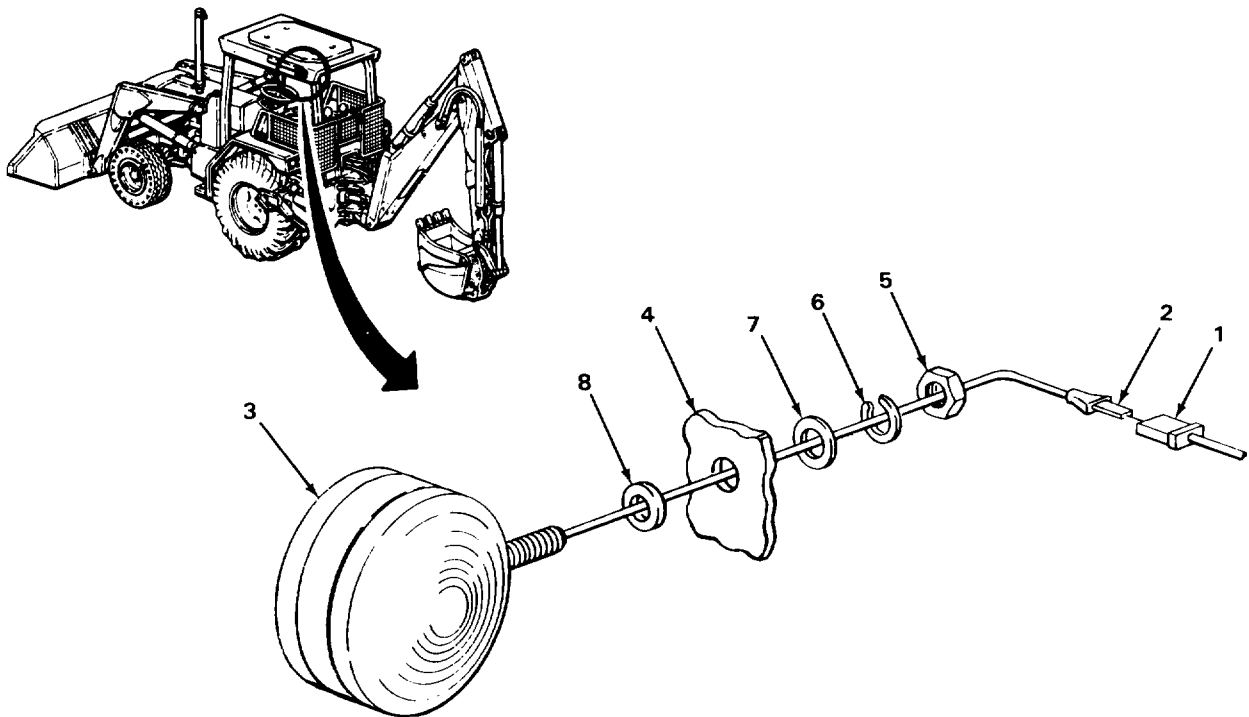
WARNING LIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
3. Canopy roof (4)	Warning light (3) with assembled parts	Take off.	

WARNING

Water soluble cleaning compound solvent is flammable and fumes are toxic. Flashpoint is 2200F (1040C). Boiling point is 2120F (100°C). Do not store in temperatures above 150°F (65°C) or below 35°F (2°C). Do not use near open flame or excessive heat. Do not wear jewelry, wear rubber gloves and goggles, and use only in well ventilated area. Avoid contact with skin, eyes, and clothes, and don't breathe vapors. Avoid contact with acids, aluminum, or zinc; chemical reaction may result. If you become dizzy while using cleaning compound solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|--------------------|-------------------|---|
| 4. Canopy roof (4) | Rubber washer (8) | a. Note position for proper placement during installation.
b. Using clean rags and cleaning compound solvent, dissolve adhesive. |
|--------------------|-------------------|---|



WARNING LIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL- CONTINUED

WARNING

Water soluble cleaning compound solvent is flammable and fumes are toxic. Flashpoint is 2200F (1040C). Boiling point is 2120F (1000C). Do not store in temperatures above 150°F (650C) or below 35°F (20C). Do not use near open flame or excessive heat. Do not wear jewelry, wear rubber gloves and goggles, and use only in well ventilated area. Avoid contact with skin, eyes, and clothes, and don't breathe vapors. Avoid contact with acids, aluminum, or zinc; chemical reaction may result. If you become dizzy while using cleaning compound solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----------------------------------|-------------------|---|
| 4. Canopy roof (1) -
Continued | Rubber washer (2) | <ul style="list-style-type: none"> c. Using putty knife, pull up corner. d. Wet with more cleaning compound solvent and continue to pull off. e. Repeat steps b thru d until completely removed. f. Using clean rags dampened with cleaning solvent, remove all adhesive from canopy (1). g. Rinse canopy (1) with clean water. h. Using clean, dry rags, wipe dry. |
|-----------------------------------|-------------------|---|

DISASSEMBLY

NOTE

It is not necessary to remove warning light to disassemble it.

- | | | |
|----------------------|----------------|--|
| 5. Warning light (3) | Red lens (4) | Using 3/16-inch flat-tip screwdriver, pry off. |
| 6. | Lamp (5) | Push in, turn one-quarter turn counter-clockwise and take out. |
| 7. | Amber lens (6) | Using 3/16-inch flat-tip screwdriver, pry off. |

CLEANING

NOTE

For more information or how to clean parts, go to General Maintenance Instructions (page 2-137).

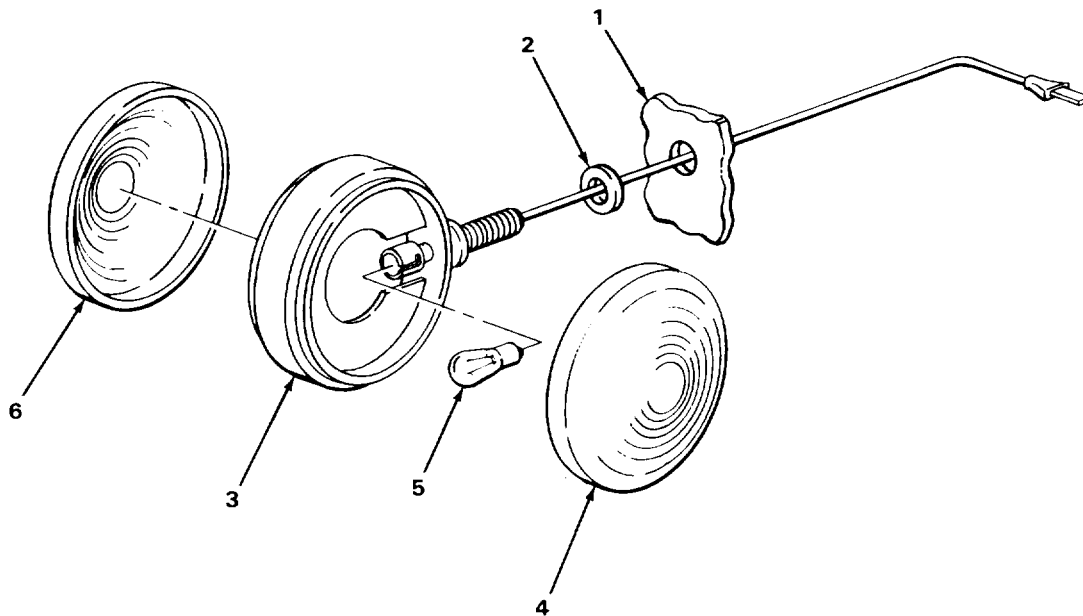
WARNING LIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
8.	All plastic and rubber parts	a. Clean in solution of detergent and water. b. Rinse in clean water. c. Using clean, dry rags, wipe dry.	

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 1140F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

9.	Warning light (3)	a. Using clean rags dampened with solvent cleaning compound, wipe clean. b. Using clean, dry rags, wipe dry.	
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TA243021

WARNING LIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Drycleaning solvent PD680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|-----------------|---|
| 10. | All other parts | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. |
|-----|-----------------|---|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

- | | | |
|-----|---------------------------|---|
| 11. | All plastic parts | Look for cracks, breaks, and discoloration. |
| 12. | All rubber parts | Look for cracks, tears, and crumbling. |
| 13. | All metal parts
bends. | Look for cracks, breads, and abnormal |
| 14. | Lead (1) | <ul style="list-style-type: none"> a. Look for cracked, burned, and worn insulation. b. Look for broken wires. c. Look for loose and corroded terminals. |
| 15. | All threaded parts | Look for damaged threads |

REPAIR

NOTE

For more information on how to repair wiring, go to General Maintenance Instructions (page 2-137).

WARNING LIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

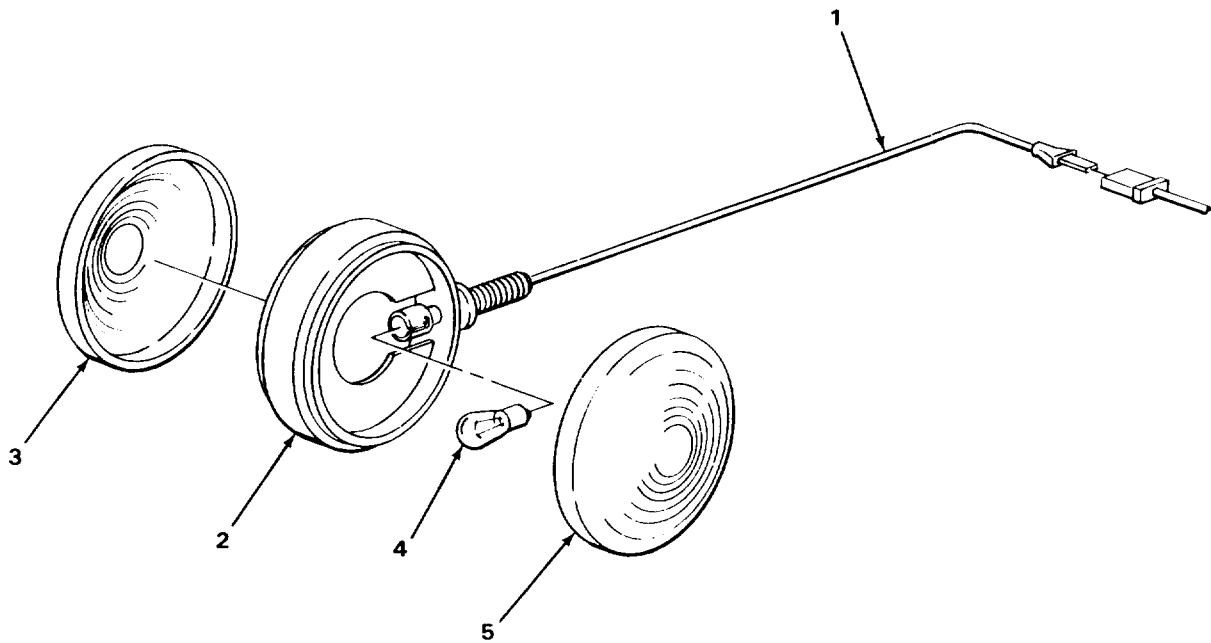
16.	Warning light (2		If threads are damaged, using thread restoring file, restore threads.
-----	------------------	--	---

ASSEMBLY

NOTE

Warning light can be assembled either removed or installed. When assembling installed, make sure red lens is toward rear of loader backhoe.

17.	Warning light (2)	Amber lens (3)	Snap on.
18.	Lamp (4)		Push in and turn one-quarter turn clockwise.
19.		Red lens (5)	Snap on.



2-631

TA243022

WARNING LIGHTS - CONTINUED

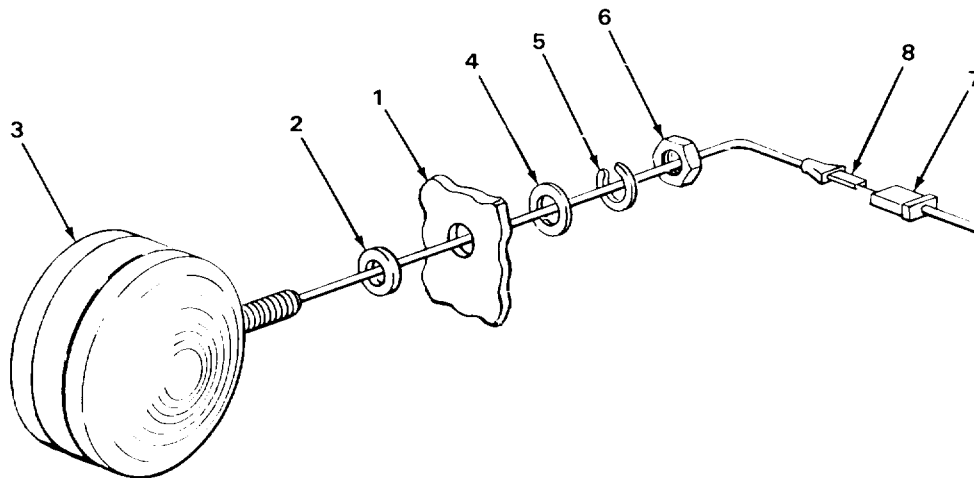
LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION

NOTE

Warning light can be assembled either removed or installed.

- | | | |
|---|---|---|
| 20. Canopy roof (1) | Rubber washer (2) | <ul style="list-style-type: none"> a. If removed, apply metal adhesive. b. Line up and press into place. c. Take off and allow metal adhesive to set for two minutes. d. Line up and press firmly in place. |
| 21. | Warning light (3) and assembled parts | Put in place with red lens toward rear of loader backhoe. |
| 22. Warning light (3) and canopy roof (1) | Washer (4), new lockwasher (5), and nut (6) | Screw on and tighten using 7/16-inch open-end wrench. |
| 23. Connector (7) | Connector (8) | <ul style="list-style-type: none"> a. Plug in. b. Take off tag. |



WARNING LIGHTS - CONTINUED

NOTE

FOLLOW-ON MAINTENANCE: Connect battery ground cable (page 2-696).

TASK ENDS HERE

COMBINATION TAIL AND STOPLIGHTS

This task covers:

- | | |
|--|------------------------------|
| a. Removal (page 2-633) | e. Repair (page 2-636) |
| b. Disassembly (page 2-634) | f. Assembly (page 2-636) |
| c. Cleaning (page 2-634) | g. Installation (page 2-637) |
| d. Inspection/Replacement (page 2-636) | |

INITIAL SETUP

Tools

File, thread restoring
 Handle, ratchet, 3/8-inch drive
 Screwdriver, cross-tip, number 2
 Socket, deep, 3/8-inch drive,
 7/16-inch

Materials/Parts

Cleaning compound, solvent
 (item 4, Appendix C)
 Detergent, GP (item 7, Appendix C)
 Lockwasher, taillight nut (two required)

Materials/Parts - Continued

Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)

Personnel Required

One

Equipment Condition

Battery ground cable disconnected
 (page 2-696)

LOCATION	ITEM	ACTION	REMARKS
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NOTE

Both combination tail and stoplights are maintained the same way. One light is shown. Repeat procedures for other light as needed.

REMOVAL

NOTE

It is not necessary to remove combination tail and stoplight to disassemble it.

COMBINATION TAIL AND STOPLIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
1.	Taillight (1) and plug (2)	Boot (3)	Pull off.
2.	Taillight (1) assembled boot (3)	Plug (2) and and pull out.	Push in and turn one-quarter turn clockwise
3.	Taillight (1) and fender (4)	Two nuts (5) and lockwashers (6)	a. Using 7/16-inch, 3/8-inch drive deep socket and ratchet handle, unscrew and take off. b. Get rid of lockwashers (6).
4.	Fender (4)	Taillight (1)	Take off.

DISASSEMBLY

NOTE

It is not necessary to remove combination tail and stoplight to disassemble it.

5.	Lens (7) and taillight (1)	Two screws (8)	Using number 2 cross-tip screwdriver, unscrew and take out.
6.	Taillight (1)	Lens (7) and gasket (9)	Take off. Do not get rid of gasket unless inspection shows need for replacement.
7.		Lamp (10)	Push in, turn one-quarter turn counter- clockwise and take out.

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

8.	All plastic and rubber parts		a. Clean in solution of detergent and water. b. Rinse in clean water. c. Using clean, dry rags, wipe dry.
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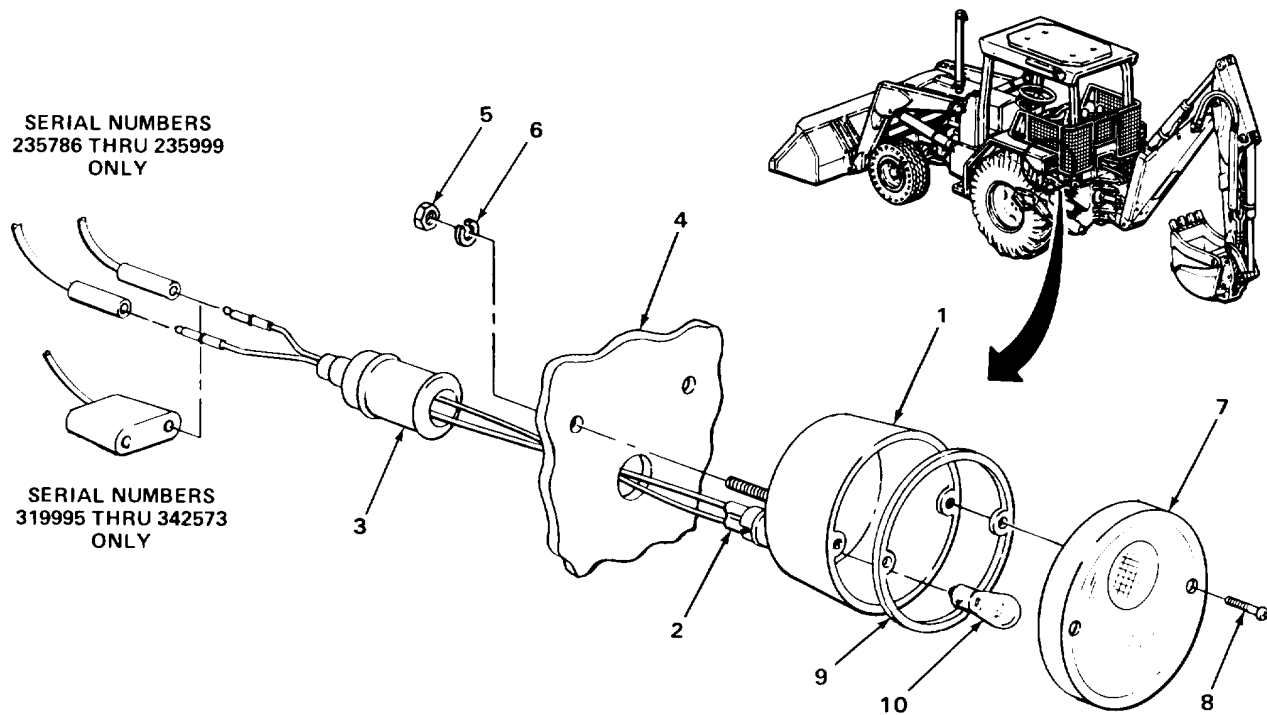
COMBINATION TAIL AND STOPLIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 1140F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|---------------|--|
| 9. | Taillight (1) | a. Using clean rag dampened with solvent cleaning compound, wipe clean.
b. Using clean, dry rags, wipe dry. |
|----|---------------|--|



TA243024

COMBINATION TAIL AND STOPLIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Drycleaning solvent PD680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|-----|-----------------------|---|--|
| 10. | All other metal parts | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. | |
|-----|-----------------------|---|--|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to **General Maintenance Instructions (page 2-137)**.

Replace defective parts which cannot be repaired.

- | | | | |
|-----|--------------------|--|--|
| 11. | All plastic parts | Look for cracks, breaks, and discoloration. | |
| 12. | All rubber parts | Look for cracks, tears, and crumbling. | |
| 13. | All metal parts | Look for cracks, breaks, and abnormal bends. | |
| 14. | All threaded parts | Look for damaged threads. | |

REPAIR

- | | | | |
|-----|---------------|---|--|
| 15. | Taillight (1) | If threads are damaged, using thread restoring file, restore threads. | |
|-----|---------------|---|--|

ASSEMBLY

NOTE

Taillight can be assembled either removed or installed.

- | | | | |
|-----|---------------|----------|---|
| 16. | Taillight (1) | Lamp (2) | Push in and turn one-quarter turn counterclockwise. |
|-----|---------------|----------|---|

COMBINATION TAIL AND STOPLIGHTS - CONTINUED

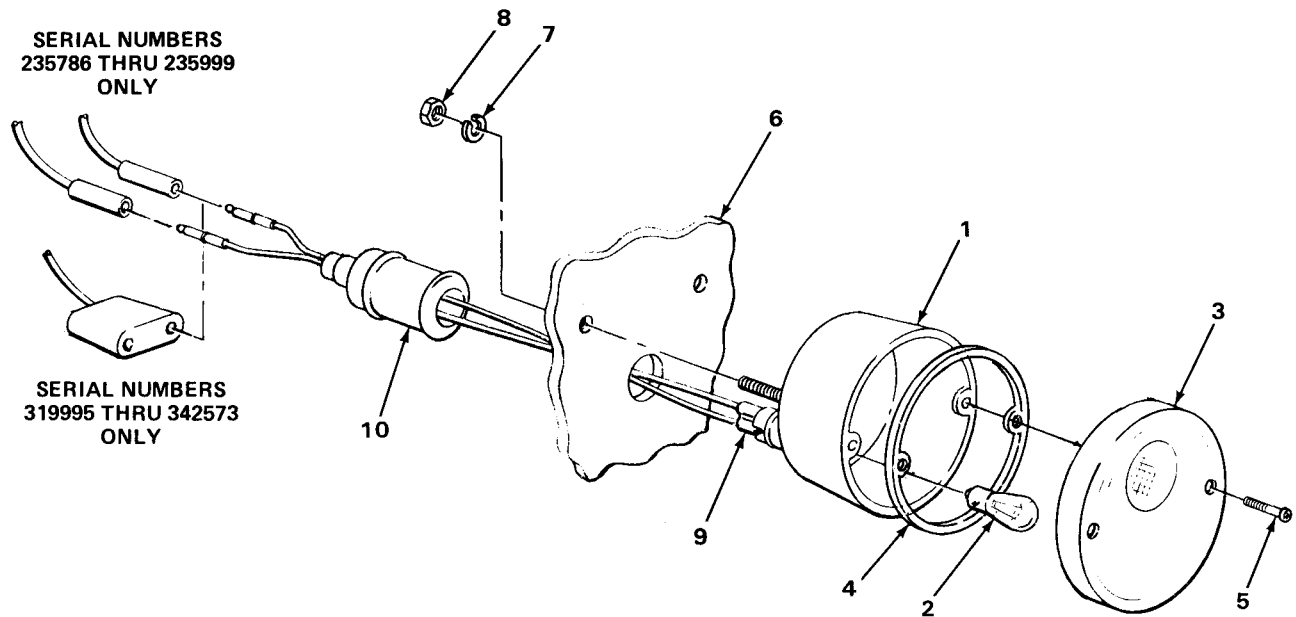
LOCATION	ITEM	ACTION	REMARKS
17.	Lens (3) and gasket (4)	Put on.	
18.	Lens (3) and taillight (1)	Two screws (5)	Screw in and tighten using number 2 cross-tip screwdriver.

INSTALLATION

NOTE

Taillight can be assembled either removed or installed.

19.	Fender (6)	Taillight (1)	Put on.
20.	Taillight (1) and fender (6)	Two new lockwashers (7) and nuts (8)	Screw on and tighten using 7/16-inch, 3/8-inch drive deep socket and ratchet handle.
21.	Taillight (1)	Plug (9) and assembled boot (10)	Push in and turn one-quarter turn counterclockwise.
22.	Taillight (1) and plug (9)	Assembled boot (10)	Push into place.



TA243025

COMBINATION TAIL AND STOPLIGHTS - CONTINUED

INSTALLATION - CONTINUED

NOTE

FOLLOW-ON MAINTENANCE: Connect battery ground cable (page 2-696).

TASK ENDS HERE

COMBINATION TAIL AND FLOODLIGHTS

This task covers:

- | | |
|--|------------------------------|
| a. Removal (page 2-638) | e. Repair (page 2-644) |
| b. Disassembly (page 2-640) | f. Assembly (page 2-644) |
| c. Cleaning (page 2-641) | g. Installation (page 2-646) |
| d. Inspection/Replacement (page 2-642) | h. Adjustment (page 2-646) |
-

INITIAL SETUP

Tools

File, thread restoring
Screwdriver, flat-tip, 3/16-inch
Wrench, open-end, 3/4-inch

Materials/Parts - Continued

Rags, wiping (item 21, Appendix C)
Solvent, drycleaning (item 28, Appendix C)
Tags, marking (item 30, Appendix C)

Materials/Parts

Cleaning compound, solvent
(item 4, Appendix C)
Detergent, GP (item 7, Appendix C)
Lockwasher, combination tail and
floodlight nut
Paper, abrasive, fine (item 20,
Appendix C)

Personnel Required

One

Equipment Condition

Battery ground cable disconnected
(page 2-696)

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

NOTE

Both combination tail and floodlights are maintained the same way. One side is shown. Repeat procedures for other side as needed.

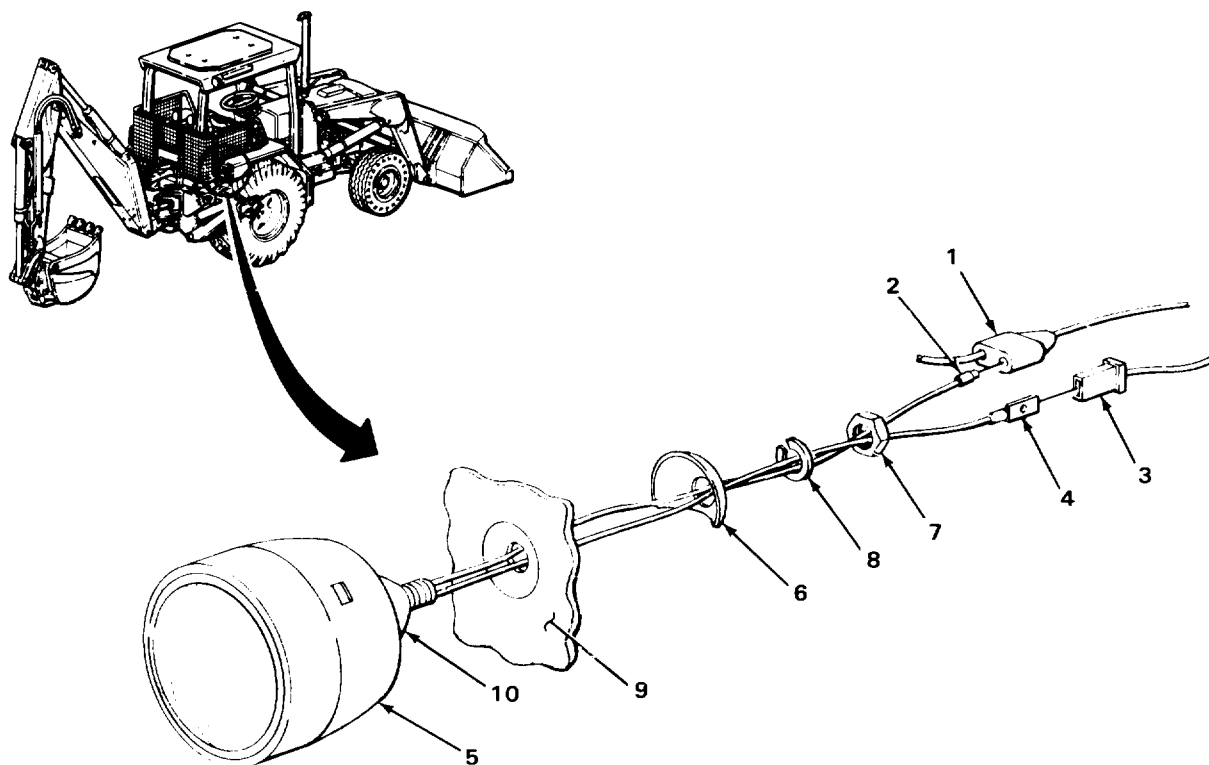
REMOVAL

NOTE

It is not necessary to remove combination tail and floodlight to disassemble it.

COMBINATION TAIL AND FLOODLIGHTS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
1. Connector (1)	Connector (2)	a. Tag (page 2-137). b. Unplug.
2. Connector (3)	Connector (4)	a. Tag (page 2-137). b. Unplug.
3. Combination taillight (5) and special washer (6)	Nut (7) and lockwasher (8)	a. Using 3/4-inch open-end wrench, unscrew and take off. b. Get rid of lockwasher (8).
4. Combination taillight (5) and fender (9)	Special washer (6)	Take off.
5. Fender (9)	Combination tail-light (5) with assembled spherical washer (10)	Take out.



TA243027

COMBINATION TAIL AND FLOODLIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL - CONTINUED

6. Combination taillight (1)	Spherical washer (2)	Take off.	
------------------------------	----------------------	-----------	--

DISASSEMBLY

NOTE

It is not necessary to remove combination tail and floodlight to disassemble it.

7. Combination taillight (1)	Bezel (3) and assembled sealed unit (4)	Pull off.	
8. Socket (5)	Lamp (6)	Push in, turn one-quarter turn counter-clockwise, and take out.	
9. Terminal (7) and terminal (8)	Screw (9)	Using 3/16-inch flat-tip screwdriver, unscrew and take out.	
10. Terminal (8)	Terminal (7)	Take off.	
11. Terminal (10), socket (5), and terminal (11)	Screw (12)	Using 3/16-inch flat-tip screwdriver, unscrew and take out.	
12. Terminal (11)	Terminal (10) and socket (5)	Take off.	
13. Bezel (3)	Sealed unit (4)	Work out.	

NOTE

If combination tail and floodlight has been removed, skip steps 14 and 15.

14. Connector (13)	Connector (14)	a. Tag (page 2-137). b. Unplug.	
15. Connector (15)	Connector (16)	a. Tag (page 2-137). b. Unplug.	
16. Combination taillight (1)	Socket (4) with assembled lead (17)	a. Take off tag. b. Take out. c. Put tag back on.	

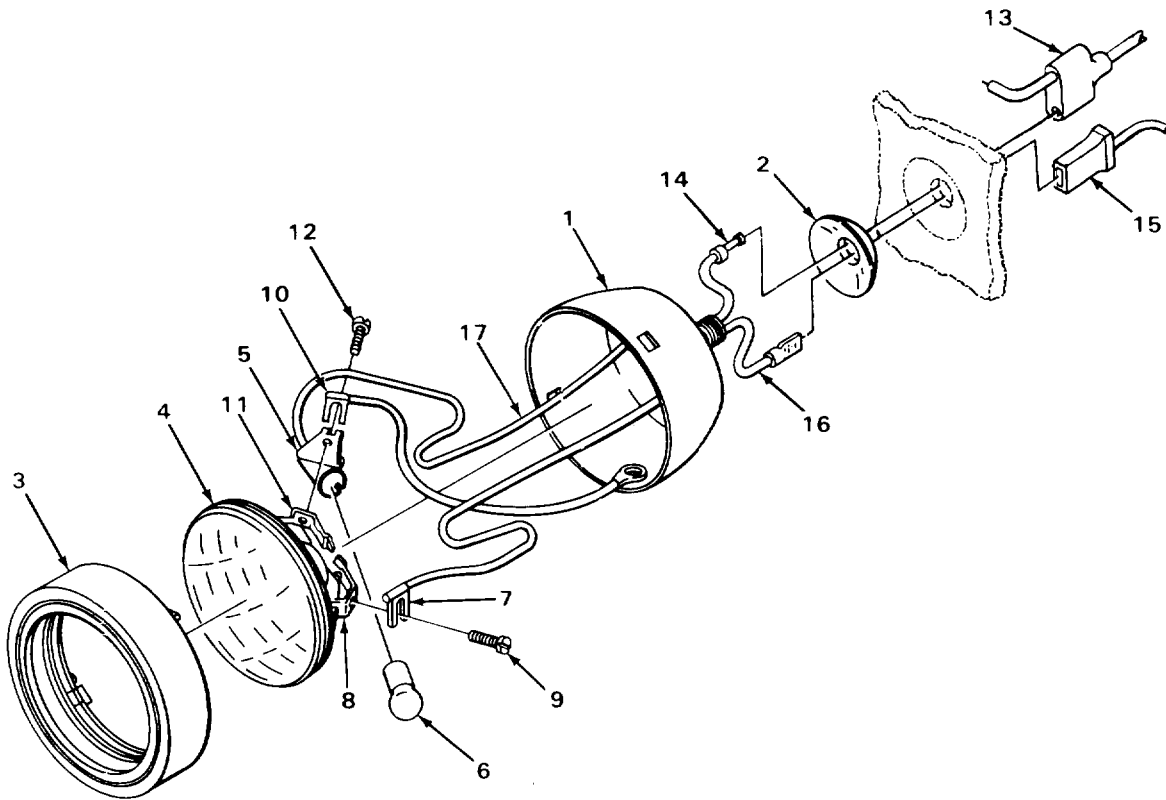
COMBINATION TAIL AND FLOODLIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
17. Assembled lead (17)	Socket (4) with assembled lead (17)	Noting position for proper placement during assembly, untie knot and take off.	
CLEANING			

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

- | | | |
|-----|-----------|---|
| 18. | Bezel (3) | <ul style="list-style-type: none"> a. Clean in solution of detergent and water. b. Rinse in clean water. c. Using clean, dry rags, wipe dry. |
|-----|-----------|---|



TA243028

COMBINATION TAIL AND FLOODLIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CLEANING - CONTINUED

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (46°C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|---|--|
| 19. | Combination tail-light (1), sealed unit (2), lamp (3), and socket (4) with assembled lead (5) | <ul style="list-style-type: none"> a. Using rag dampened with solvent cleaning compound, wipe clean. b. Using clean, dry rags, wipe dry. |
| 20. | Special washer (6) and spherical washer (7) | <ul style="list-style-type: none"> a. Clean in solvent cleaning compound. b. Using clean, dry rags, wipe dry. |

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100° to 138° (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|-----------------------|---|
| 21. | All other metal parts | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. |
|-----|-----------------------|---|

INSPECTION/REPLACEMENT

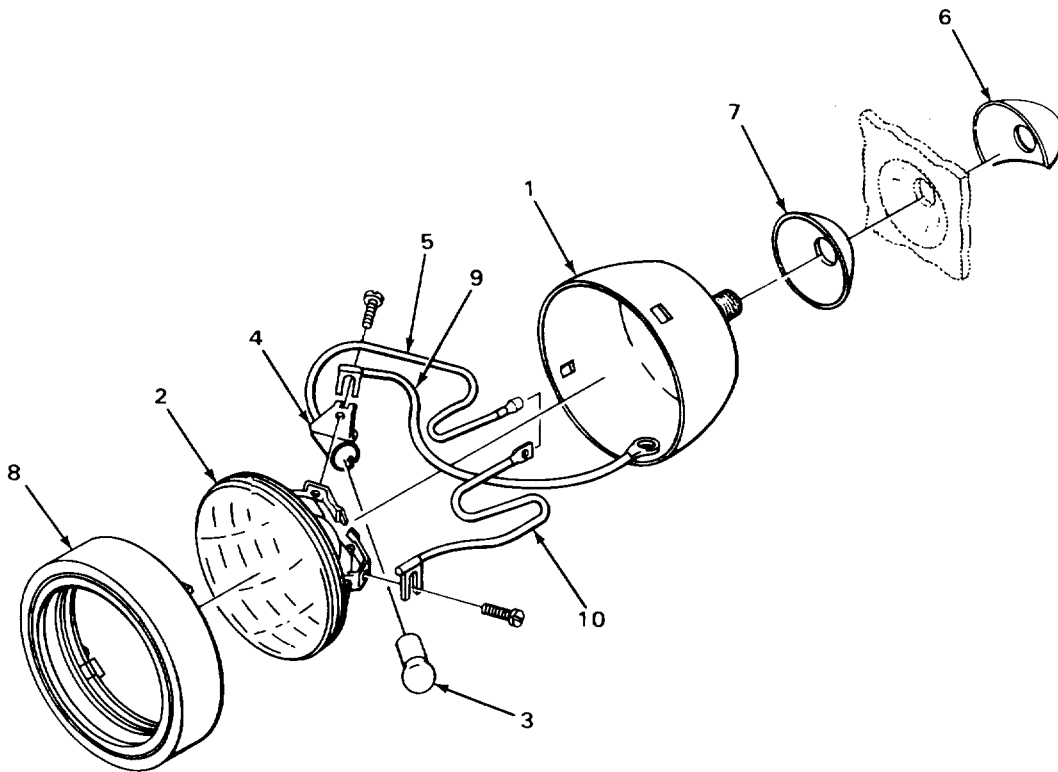
NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

COMBINATION TAIL AND FLOODLIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
22.	All metal parts		Look for cracks, breaks, and abnormal bends.
23.	All threaded parts		Look for damaged threads.
24.	Sealed unit (2)		Look for cracks, breaks, and loose terminals.
25.	Lamp (3)		Look for cracks, breaks, and loose base.
26.	Bezel (8)		Look for cracks, tears, and crumbling.
27.	Three leads (5, 9, and 10)	a.	Look for cracked, burned, and worn insulation.
		b.	Look for broken wires.
		c.	Look for loose and corroded terminals.



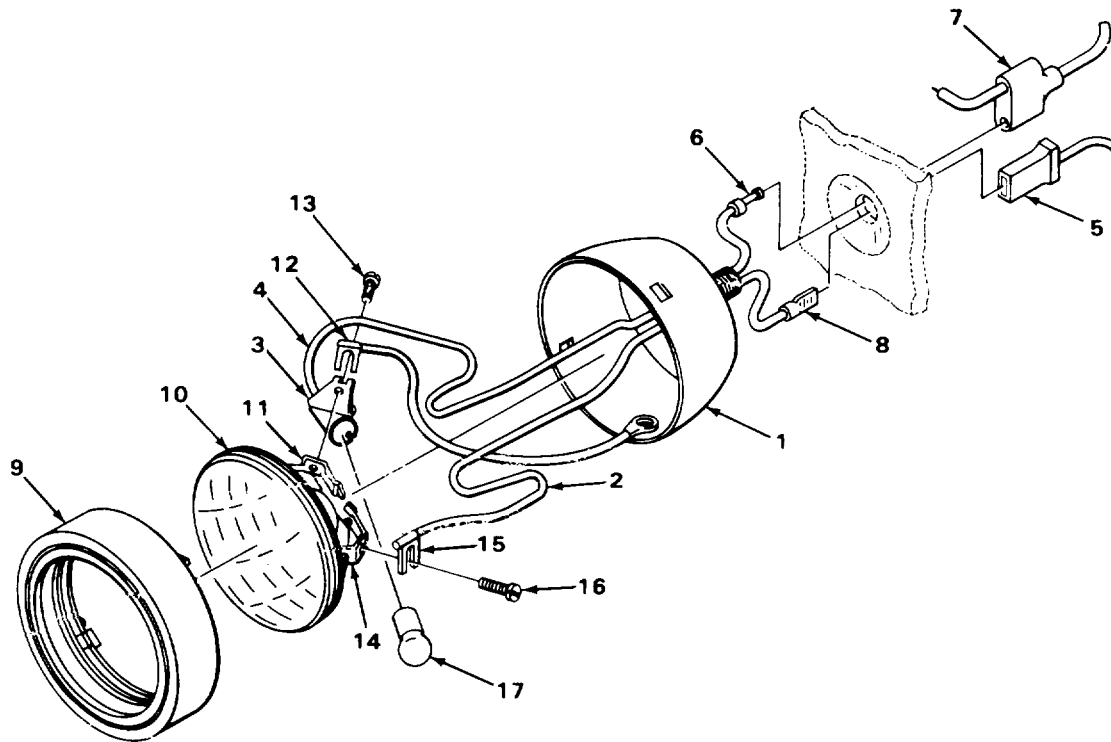
TA243029

COMBINATION TAIL AND FLOODLIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REPAIR			
NOTE			
For more information on how to repair wiring, go to General Maintenance Instructions (page 2-137).			
28.	Combination taillight (1)	Using thread restoring file, restore threads.	
ASSEMBLY			
29. Lead (2)	Socket (3) with assembled lead (4)	Positioning knot as noted during disassembly, tie together. Knot provides strain relief	
30. Combination taillight (1)	Socket (3) and assembled lead (4)	a. Take off tag. b. Thread lead (4) through hollow mounting bolt. c. Put tag back on.	
NOTE			
If combination tail and floodlight has been removed, skip steps 31 and 32.			
31. Connector (5)	Connector (6)	a. Plug in. b. Take off tags.	
32. Connector (7)	Connector (8)	a. Plug in. b. Take off tags.	
33. Bezel (9)	Sealed unit (10)	Work into place. Tabs on sealed unit fit into slots of bezel.	
34. Terminal (11)	Socket (3) and terminal (12)	Put in place.	
35. Terminal (12), socket (3), and terminal (11)	Screw (13)	Screw in and tighten using 3/16-inch flat-tip screwdriver.	
36. Terminal (14)	Terminal (15)	Put in place.	

COMBINATION TAIL AND FLOODLIGHTS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
37. Terminal (15) and terminal (14)	Screw (16)	Screw in and tighten using 3/16-inch flat-tip screwdriver.
38. Socket (3)	Lamp (17)	Push in and turn one-quarter turn clockwise.
39. Combination taillight (1)	Bezel (9) and assembled sealed unit (10)	a. Aline tabs on bezel (9) with slots in taillight (1). b. Push into place. Tabs on bezel will snap onto taillight.



TA243030

COMBINATION TAIL AND FLOODLIGHTS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
40. Combination taillight (1)	Spherical washer (2)	Put on.
41. Fender (3)	Combination taillight (1)	a. Using fine abrasive paper, clean fender (3) down to bare metal where taillight (1) will mount so taillight will have good ground. b. Put in place.
42. Combination taillight (1) and fender (3)	Special washer (4)	Put on.
43. Combination taillight (1) and special washer (4)	New lockwasher (5) and nut (6)	Screw on until snug.
44. Connector (7)	Connector (8)	a. Plug in. b. Take off tags.
45. Connector (9)	Connector (10)	a. Plug in. b. Take off tags.
46. Battery	Battery ground cable	Connect (page 2-696).

ADJUSTMENT

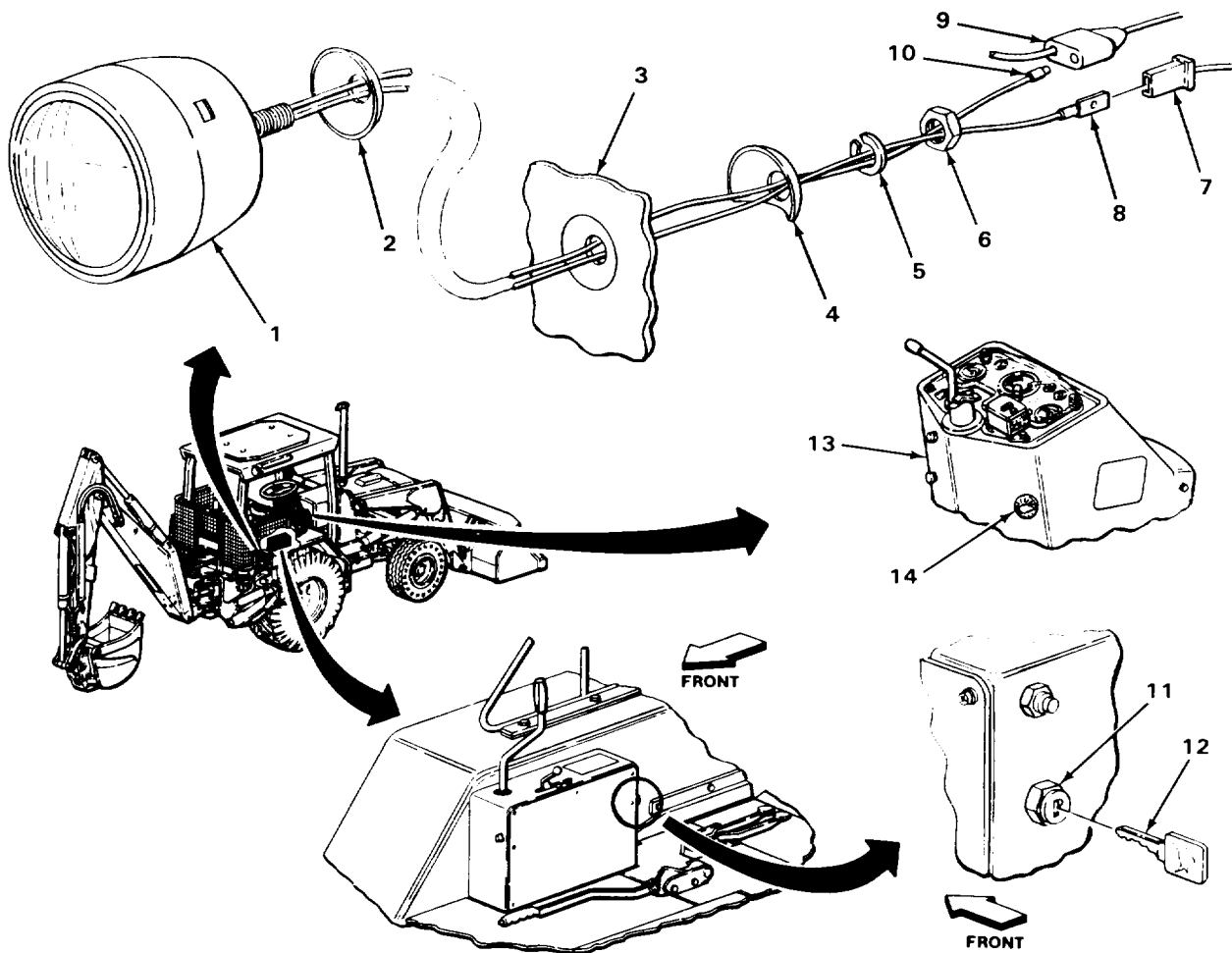
NOTE

If combination tail and floodlight was just installed, skip step 47.

47. Combination taillight (1) and special washer (4)	Nut (6) and lockwasher (5)	a. Using 3/4-inch open-end wrench, loosen. b. Tighten until snug.
48. Ignition switch (11)	Key (12)	a. Put in. b. Turn clockwise.
49. Cowl (13)	Light switch (14)	Turn clockwise to F position.
50. Fender (3)	Combination taillight (1)	Aim for best illumination of work area.

COMBINATION TAIL AND FLOODLIGHTS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
51. Combination taillight (1) and special washer (4)	Nut (6) and lockwasher (4) wrench, tighten.	Holding taillight (1) so adjustment doesn't change, using 3/4-inch open-end
52. Cowl (13)	Light switch (14)	Turn counterclockwise to OFF position.
53. Ignition switch (11)	Key (12)	a. Turn counterclockwise. b. Take out.



TASK ENDS HERE

TA243031

FRONT LIGHTS

This task covers:

- a. Removal (page 2-648)
 - b. Disassembly (page 2-650)
 - c. Cleaning (page 2-650)
 - d. Inspection/Replacement (page 2-652)
 - e. Repair (page 2-653)
 - f. Assembly (page 2-653)
 - g. Installation (page 2-654)
 - h. Adjustment (page 2-655)
-

INITIAL SETUP

Tools

- File, thread restoring
- Handle, ratchet, 3/8-inch drive
- Screwdriver, flat-tip, 3/16-inch
- Socket, 3/8-inch drive, 9/16-inch
- Wrench, box, 9/16-inch
- Wrench, open-end, 3/4-inch

Materials/Parts

- Cleaning compound, solvent (item 4, Appendix C)
- Detergent, GP (item 7, Appendix C)
- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)
- Tags, marking (item 30, Appendix C)

Materials/Parts - Continued

NOTE

The following part only applies to loader backhoes with Serial Numbers 319995 thru 342573.

Lockwasher, front light nut

Personnel Required

One

Equipment Condition

Battery ground cable disconnected (page 2-696)

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

NOTE

Both front lights are maintained the same way. One light is shown. Repeat procedures for other light as needed.

REMOVAL

NOTE

It is not necessary to remove front light to disassemble it.

- | | | |
|------------------|---------------|--|
| 1. Connector (1) | Connector (2) | <ul style="list-style-type: none"> a. Tag (page 2-696). b. Unplug. |
|------------------|---------------|--|

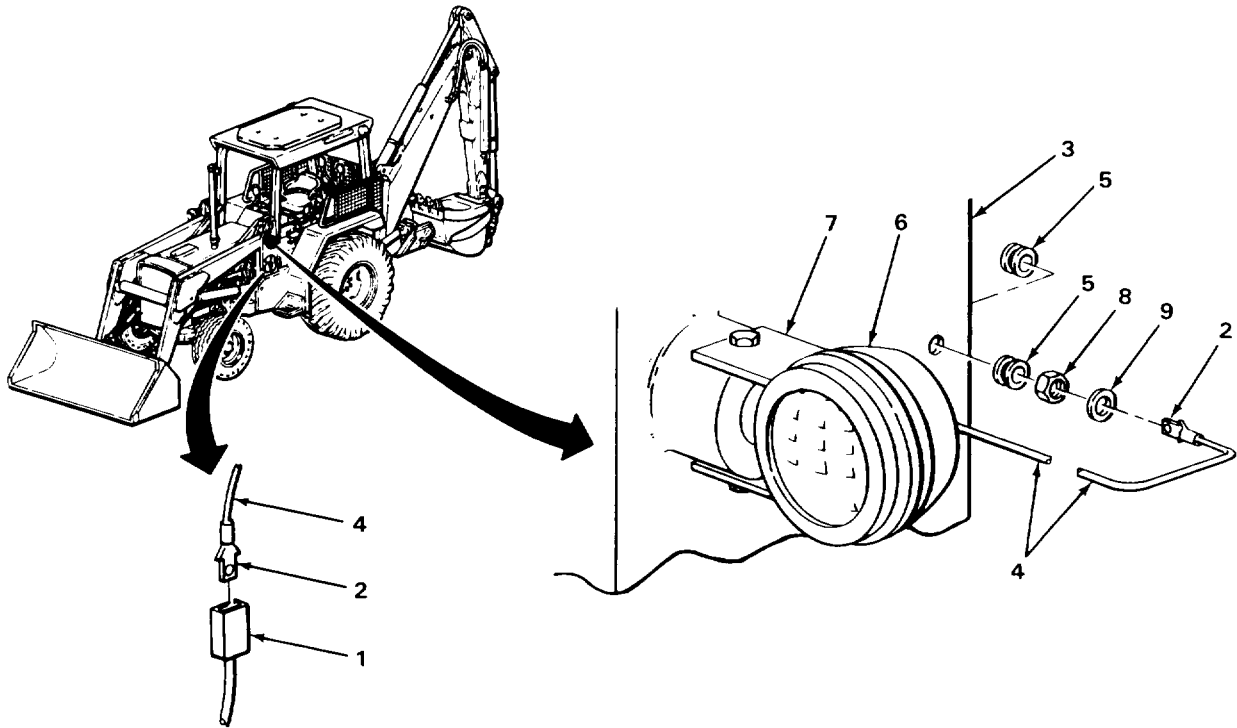
FRONT LIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
2. Side frame (3) and lead (4)	Two grommets (5)	Using 3/16-inch flat-tip screwdriver, pry out.	
3. Side frame (3)	Lead (4)		Note routing for proper placement during installation and take out.

NOTE

Step 4 only applies to loader backhoes with Serial Numbers 235786 thru 235999.

4. Front light (6) and light bracket (7)	Nut (8) and washer (9)	Using 3/4-inch open-end wrench, unscrew and take off.
--	------------------------	---



TA243032

FRONT LIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL - CONTINUED

NOTE

Step 5 only applies to loader backhoes with Serial Numbers 31995 thru 342573.

5. Front light (1) and light bracket (2)	Nut (3) and lockwasher (4)	a. Using 3/4-inch open-end wrench, unscrew and take off. b. Get rid of lockwasher (4).	
6. Light bracket (2)	Front light (1) with assembled parts	Take out.	

DISASSEMBLY

NOTE

It is not necessary to remove front light to disassemble it.

7. Front light (1)	Bezel (5) with assembled lamp (6)	Work over flange and take off.	
8. Terminal (7) and terminal (8)	Screw (9)	Using 3/16-inch flat-tip screwdriver, unscrew and take off.	
9. Terminal (7)	Terminal (8)	Take off.	
10. Terminal (10) and terminal (11)	Screw (12)	Using 3/16-inch flat-tip screwdriver, unscrew and take off.	
11. Terminal (10)	Terminal (11)	Take off.	
12. Bezel (5)	Lamp (6)	Work out.	

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

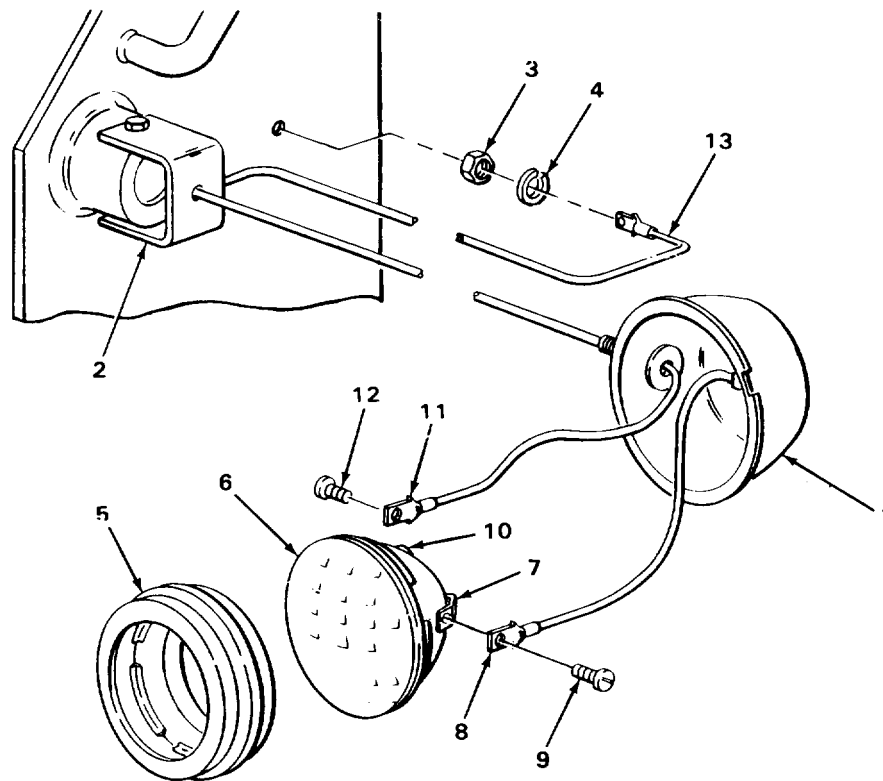
FRONT LIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (46°C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|--|---|
| 13. | Front light (1), lamp (6), and lead (13) | a. Using clean rags dampened with solvent cleaning compound, wipe clean.
b. Using clean, dry rags, wipe dry. |
|-----|--|---|



TA243033

FRONT LIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CLEANING - CONTINUED

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138° (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|-----|--------------------------------|---|--|
| 14. | All other metal parts | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. | |
| 15. | Bezel (1) and two grommets (2) | a. Clean in solution of detergent and water.
b. Rinse with clean water.
c. Using clean, dry rags, wipe dry. | |

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

- | | | | |
|-----|--------------------------------|---|--|
| 16. | All metal parts | Look for cracks, breaks, and abnormal bends. | |
| 17. | All threaded | Look for damaged threads. | |
| 18. | Lamp (3) | Look for cracks, breaks, and loose terminals. | |
| 19. | Bezel (1) and two grommets (2) | Look for cracks, tears, and crumbling. | |
| 20. | Two leads (4 and 5) | a. Look for cracked, burned, and worn insulation.
b. Look for broken wires.
c. Look for loose, missing, and corroded terminals. | |

FRONT LIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REPAIR

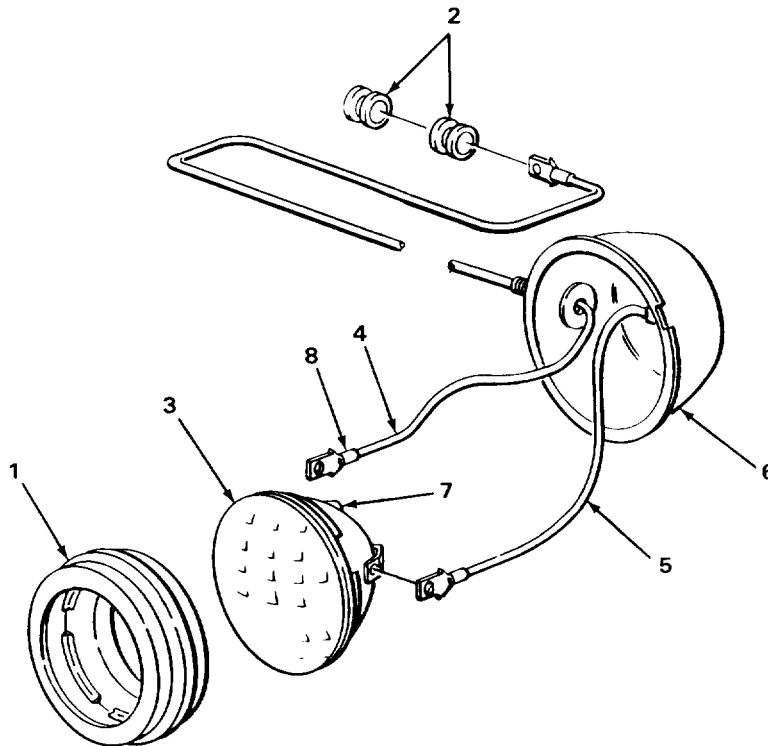
NOTE

For more information on how to repair wiring, go to General Maintenance Instructions (page 2-137).

21.	Front light (6)	If threads are damaged, using thread restoring file, restore.
-----	-----------------	---

ASSEMBLY

22. Bezel (1)	Lamp (3)	Work into place. Tabs on lamp fit into slots of bezel.
23. Terminal (7)	Terminal (8)	Put in place.



TA243034

FRONT LIGHTS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
ASSEMBLY - CONTINUED		
24. Terminal (1) and terminal (2)	Screw (3)	Screw in and tighten using 3/16-inch flat-tip screwdriver.
25. Terminal (4)	Terminal (5)	Put in place.
26. Terminal (4) and terminal (5)	Screw (6)	Screw in and tighten using 3/16-inch flat-tip screwdriver.
27. Front light (7)	Bezel (8) with assembled lamp (9)	a. Aline tabs in bezel (1) with notches in flange. b. Work over flange into place.
INSTALLATION		
28. Light bracket (10)	Front light (7) with assembled parts	Put in place.
NOTE		
Step 29 only applies to loader backhoes with Serial Numbers 319995 thru 342573.		
29. Front light (7) and light bracket (10)	New lockwasher (11) and nut (12)	Screw on until snug. Front light must be free enough to adjust but tight enough to hold position.
NOTE		
Step 30 only applies to loader backhoes with Serial Numbers 235786 thru 235999.		
30. Front light (7) and light bracket (10)	Washer (13) and nut (12)	Screw on until snug. Front light must be free enough to adjust but tight enough to hold position.
31. Side frame (14)	Lead (15)	Routing as noted during removal, put in place.
32. Side frame (14) and lead (15)	Two grommets (16)	Push into place.
33. Connector (17)	Connector (18)	a. Plug in. b. Take off tags.
34. Loader backhoe	Battery ground cable	Connect (page 2-696).

FRONT LIGHTS - CONTINUED

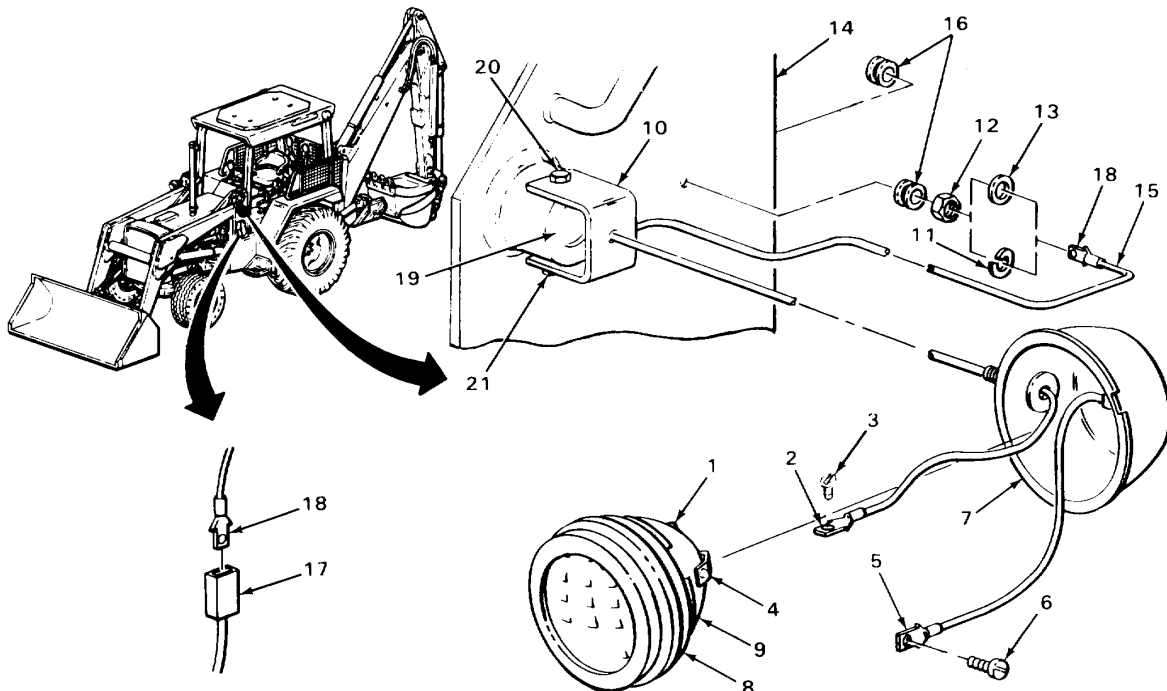
LOCATION	ITEM	ACTION	REMARKS
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ADJUSTMENT

NOTE

If front light has just been installed, skip step 35.

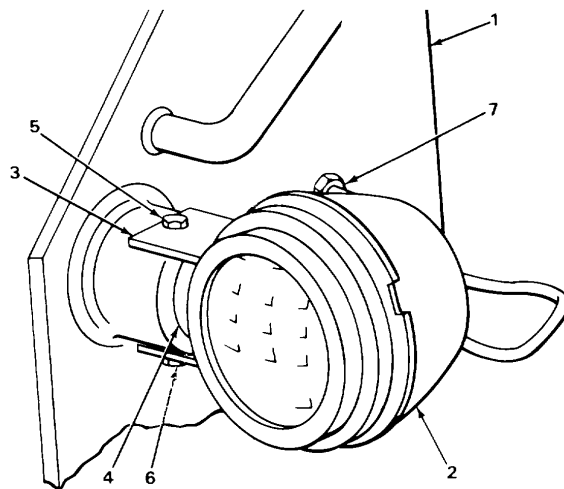
35. Front light (7) and light bracket (10)	Nut (12)	a. Using 3/4-inch open-end wrench, loosen. b. Tighten just until snug.	<p>Front light must be free enough to adjust but tight enough to hold position.</p>
36. Light bracket (10) side frame (14) and pin (19)	Screw (20) and nut (21)	a. Using 9/16-inch box wrench, 9116-inch, 3/8-inch drive socket, and ratchet handle, loosen. b. Tighten just until snug.	<p>Front light must be free enough to adjust but tight enough to hold position.</p>



TA243035

FRONT LIGHTS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
ADJUSTMENT - CONTINUED			
37. Operator's compartment	Front lights	Turn on (TM 5-2420-222-10).	
<u>WARNING</u>			
If loader backhoe is to be driven on public roads at night, front lights must be adjusted so they do not shine into eyes of drivers of oncoming vehicles.			
38. Side frame (1)	Front light (2) and light bracket (3)	Adjust.	
39. Light bracket (3), side frame (1), and pin (4)	Screw (5) and nut (6)	Using 9/16-inch box wrench, 9/16-inch, 3/8-inch drive socket, and ratchet handle, tighten.	Make sure you do not change adjustment.
40. Front light (2) and	Nut (7) light bracket (3)	Using 3/4-inch open-end wrench, tighten.	Make sure you do not change adjustment.
41. Operator's compartment	Front lights	Turn off (TM 5-2420-222-10).	



TASK ENDS HERE

TA243036

WARNING LIGHT FLASHER AND BRACKET

This task covers:

- a. Removal (page 2-657)
- b. Cleaning (page 2-658)
- c. Inspection/Replacement (page 2-659)
- d. Installation (page 2-660)

INITIAL SETUP

Tools

File, contact point
 Handle, ratchet, 3/8-inch drive
 Socket, deep, 3/8-inch drive,
 7/16-inch

Materials/Parts

Lockwasher, warning light flasher nut
 Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)
 Tags, marking (item 30, Appendix C)

Personnel Required

One

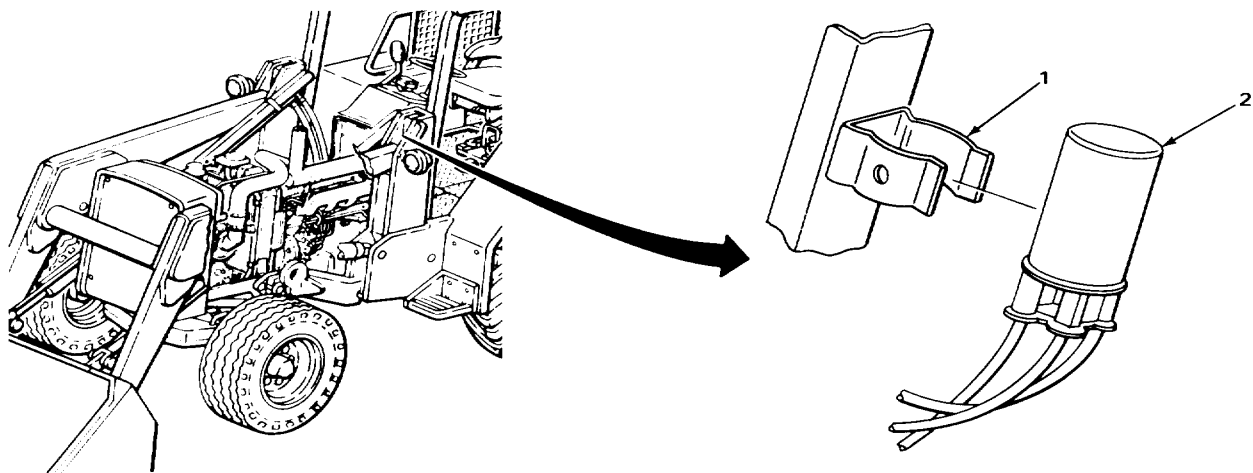
Equipment Condition

- 1. Battery ground cable disconnected (page 2-2-696)
- 2. Cowl front cover removed (page 2-1020)

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

- 1. Bracket (1)
- Flasher (2)
- Pull out.



TA243037

WARNING LIGHT FLASHER AND BRACKET - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL - CONTINUED

- | | | | |
|------------------|-------------|---|--|
| 2. Connector (1) | Flasher (2) | <ul style="list-style-type: none"> a. Tag connector (1) (page 2-137). b. Unplug and take out. | |
|------------------|-------------|---|--|

NOTE

If removing flasher only, do not remove bracket.

Loader backhoes with Serial Numbers 319995 thru 342573 have one terminal on cowl support stud. Loader backhoes with Serial Numbers 235786 thru 235999 have more than one terminal on cowl support stud. Configuration for loader backhoes with Serial Numbers 319995 thru 342573 is shown.

- | | | | |
|---|------------------------------|---|--|
| 3. Bracket (3), terminal (4), and cowl support stud (5) | Nut (6) and lockwasher (7) | <ul style="list-style-type: none"> a. Using 7/16-inch, 3/8-inch drive deep socket and ratchet handle, unscrew and take out. b. Get rid of lockwasher (7). | |
| 4. Cowl support stud (5) | Terminal (4) and bracket (1) | <ul style="list-style-type: none"> a. Tag terminal (4) (page 2-137). b. Take off. | |

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

- | | | | |
|----|-------------|------------------------------------|--|
| 5. | Flasher (2) | Using clean, dry rags, wipe clean. | |
|----|-------------|------------------------------------|--|

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100° to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|----|-----------------------|---|--|
| 6. | All other metal parts | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. | |
|----|-----------------------|---|--|

WARNING LIGHT FLASHER AND BRACKET - CONTINUED

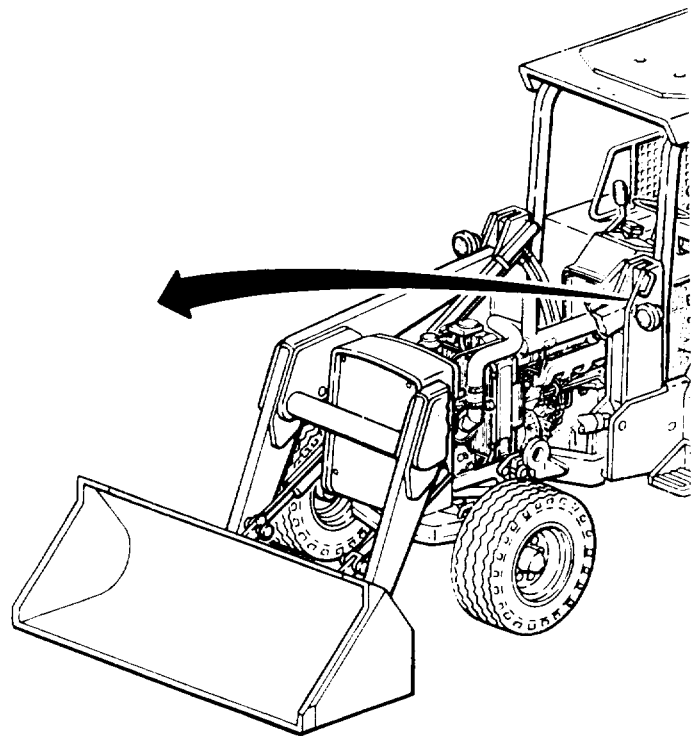
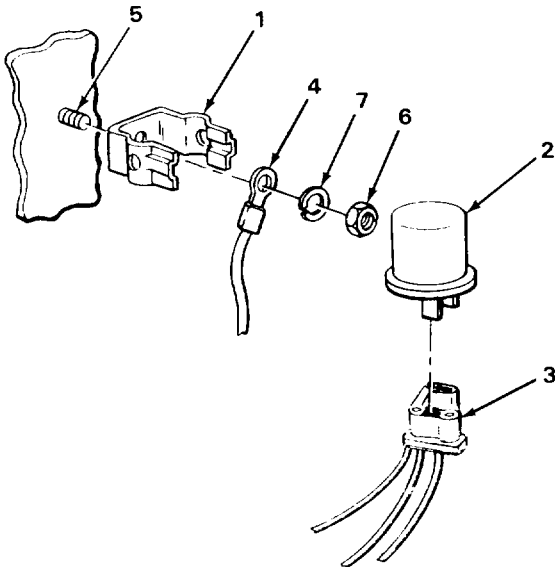
LOCATION	ITEM	ACTION	REMARKS
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INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.



TA243038

WARNING LIGHT FLASHER AND BRACKET - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT - CONTINUED			
7.	Flasher (1)	a. Look for burns. b. Look for loose and corroded terminals.	
8.	All metal parts	Look for cracks, breaks, and abnormal bends.	
9.	All threaded parts	Look for damaged threads.	

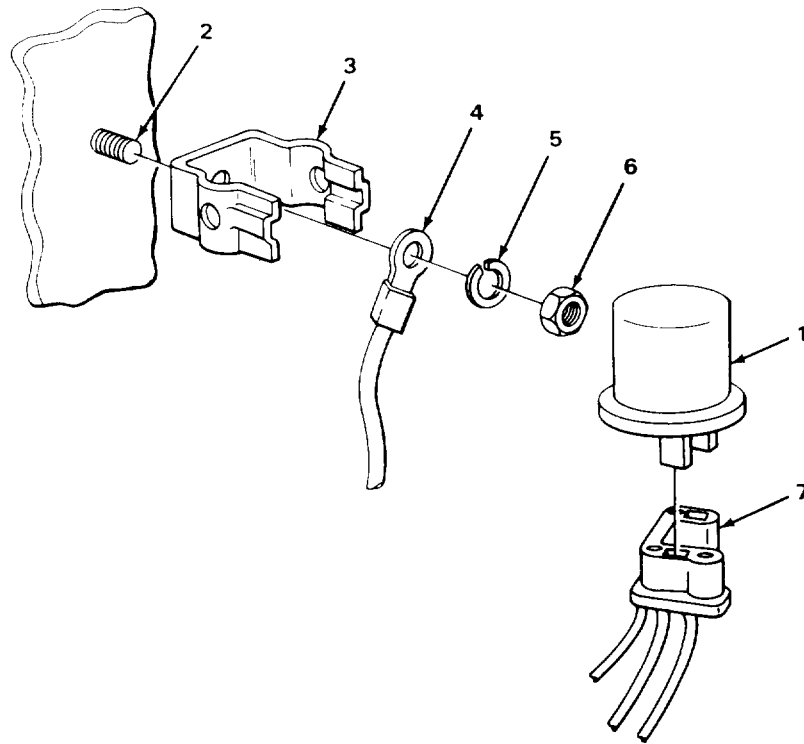
INSTALLATION

NOTE

Loader backhoes with Serial Numbers 319995 thru 342573 have one terminal on cowl support stud. Loader backhoes with Serial Numbers 235786 thru 235999 have more than one terminal on cowl support stud. Configuration for loader backhoes with Serial Numbers 319995 thru 342573 is shown.

10. Cowl support stud (2)	Bracket (3) and terminal (4)	a. Put on. b. Take tag off terminal (4).	
11. Bracket (3), terminal (4), and cowl support stud (2)	New lockwasher (5) and nut (6)	a. Hold bracket (3) level. b. Screw on and tighten using 7/16-inch, 3/8-inch drive deep socket and ratchet handle.	
12. Connector (7)	Flasher (1)	a. Plug in. b. Take tag off connector (7).	
13. Bracket (3)	Flasher (1)	Snap in.	

WARNING LIGHT FLASHER AND BRACKET - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Install cowl front cover (page 2-1020).
2. Connect battery ground cable (page 2-696).

TASK ENDS HERE

TA243039

FUEL GAGE SENDER

This task covers:

- a. Removal (page 2-662)
 - b. Cleaning (page 2-663)
 - c. Inspection/Replacement (page 2-664)
 - d. Installation (page 2-665)
-

INITIAL SETUP

Tools

- Brush, wire
- Screwdriver, flat-tip, 1/4-inch

Materials/Parts

- Gasket, fuel gage sender
- Lockwasher, sender terminal screw
- Rags, wiping (item 21, Appendix C)
- Sealing compound, gasket (item 23, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)

Personnel Required

Two

Equipment Condition

- 1. Fuel tank drained (page 2-250)
 - 2. Right side grille removed (TM - 52420-222-10)
-

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

WARNING

No open flames, welding, grinding, smoking, or use of heat producing devices permitted near fuel tank and fuel lines during maintenance unless the fuel tank has been cleaned and purged of all flammable liquids and vapors. Fuel burns easily and fumes are explosive. Keep battery disconnected. Failure to observe these precautions could cause serious injury.

1. Sender (1) and terminal (2)	Screw (3), lockwasher (4), and washer (5)	Using 1/4-inch flat-tip screwdriver, loosen.	
2. Screw (3), lockwasher (4), and washer (5)	Terminal (2)	a. Tag (page 2-137). b. Take out.	
3. Sender (1)	Screw (3), lockwasher (4), and washer (5)	a. Unscrew and take out. b. Get rid of lockwasher (4).	

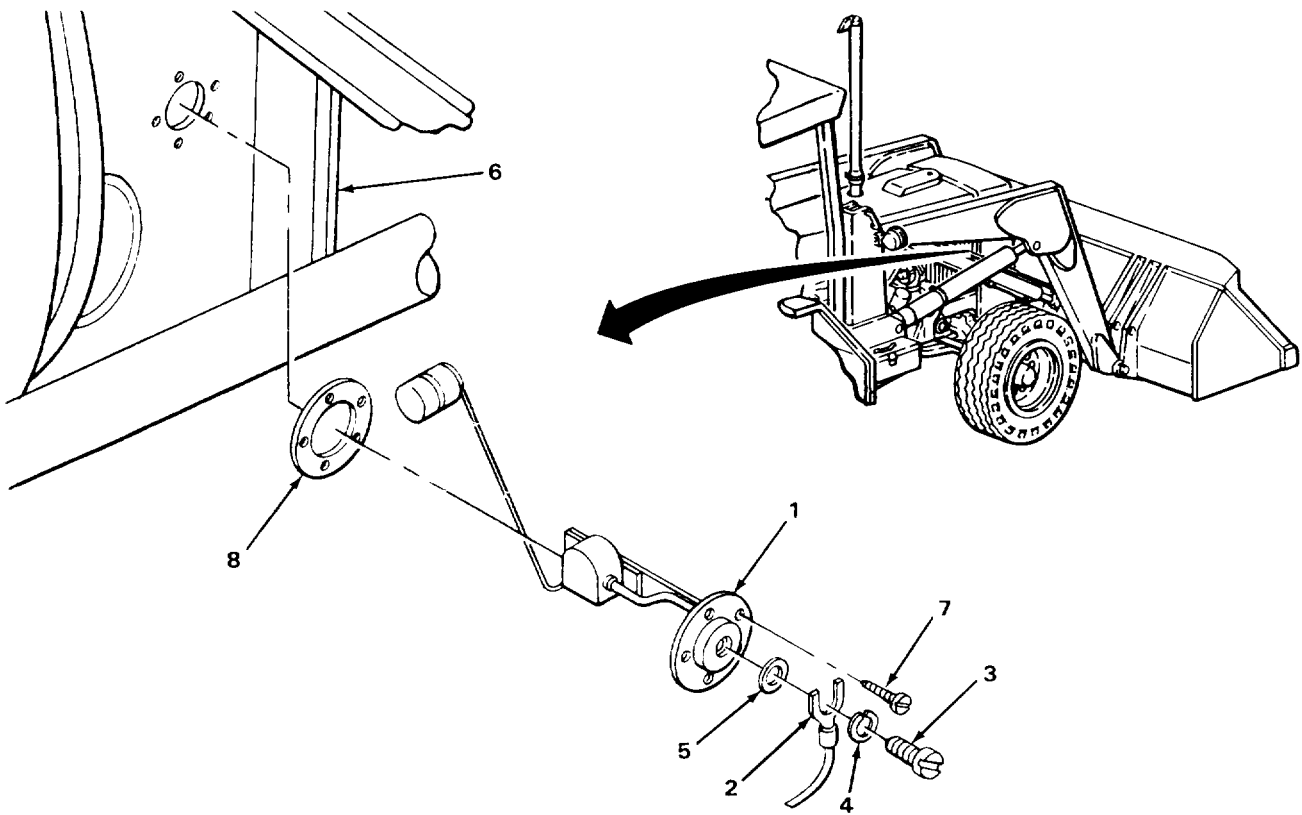
FUEL GAGE SENDER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
4. Sender (1) and fuel tank (6)	Five screws (7)	Using 1/4-inch flat-tip screwdriver, unscrew and take out.	
5. Fuel tank (6)	Sender (1) and gasket (8)	a. Using 1/4-inch flat-tip screwdriver, pry loose and take out. b. Get rid of gasket (8).	

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).



TA243040

FUEL GAGE SENDER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|----|--------------------------|---|--|
| 6. | Sender (1) | a. Using rag dampened with drycleaning solvent, wipe clean.
b. Dry using clean, dry rags. | |
| 7. | Five screws (2) | a. If necessary, use wire brush to clean off sealing compound.
b. Clean in drycleaning solvent.
c. Using clean, dry rags, wipe dry. | |
| 8. | Screw (3) and washer (4) | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. | |

INSPECTION/REPLACEMENT

NOTE

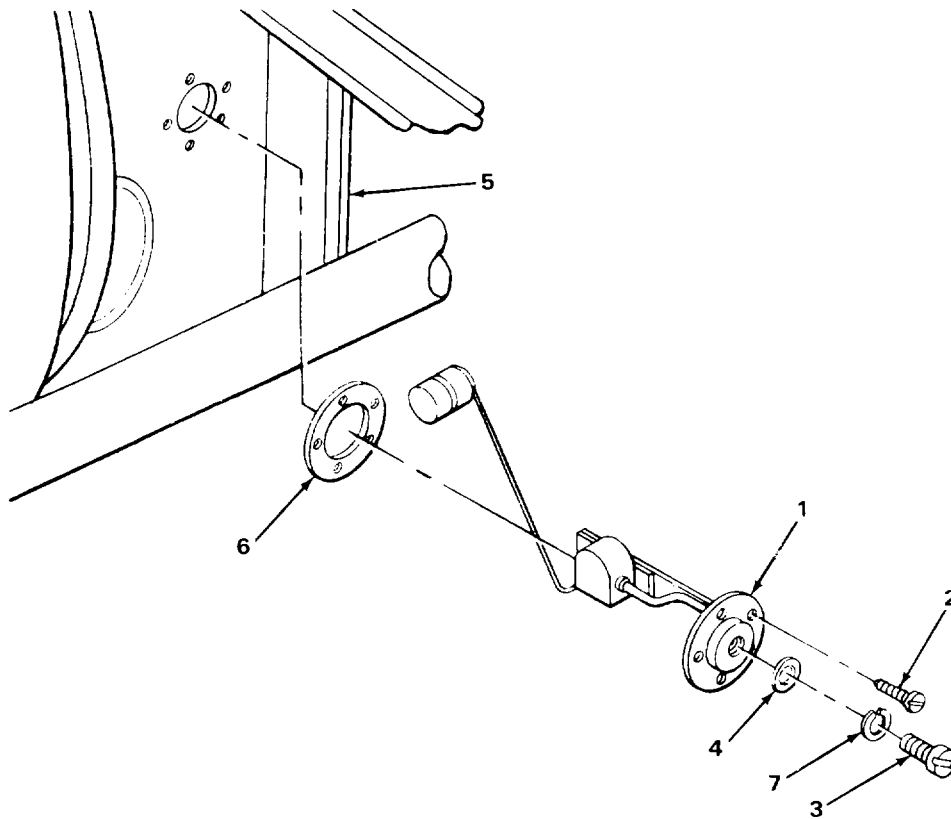
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

- | | | | |
|-----|--------------------|---|--|
| 9. | Sender (1) | a. Look for fuel inside float.
b. Look for broken wire.
c. Look for cracked or worn insulation.
d. Move float arm up and down.
Arm should move freely with slight drag of brush against rheostat coil. | |
| 10. | All metal parts | Look for cracks, breaks, and abnormal bends. | |
| 11. | All threaded parts | Look for damaged threads. | |

FUEL GAGE SENDER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION			
12. Fuel tank (5)	New gasket (6) and sender (1)	a. Position sender (1) so float arm goes straight up and down. b. Put in and line up holes. c. Hold through through step 14.	Holes are unevenly spaced so sender will be mounted correctly.
13. Sender (1) and fuel tank (5)	Five screws (3)	a. Have assistant coat threads with gasket sealing compound. b. Have assistant screw in and alternately tighten using 1/4-inch flat-tip screwdriver.	

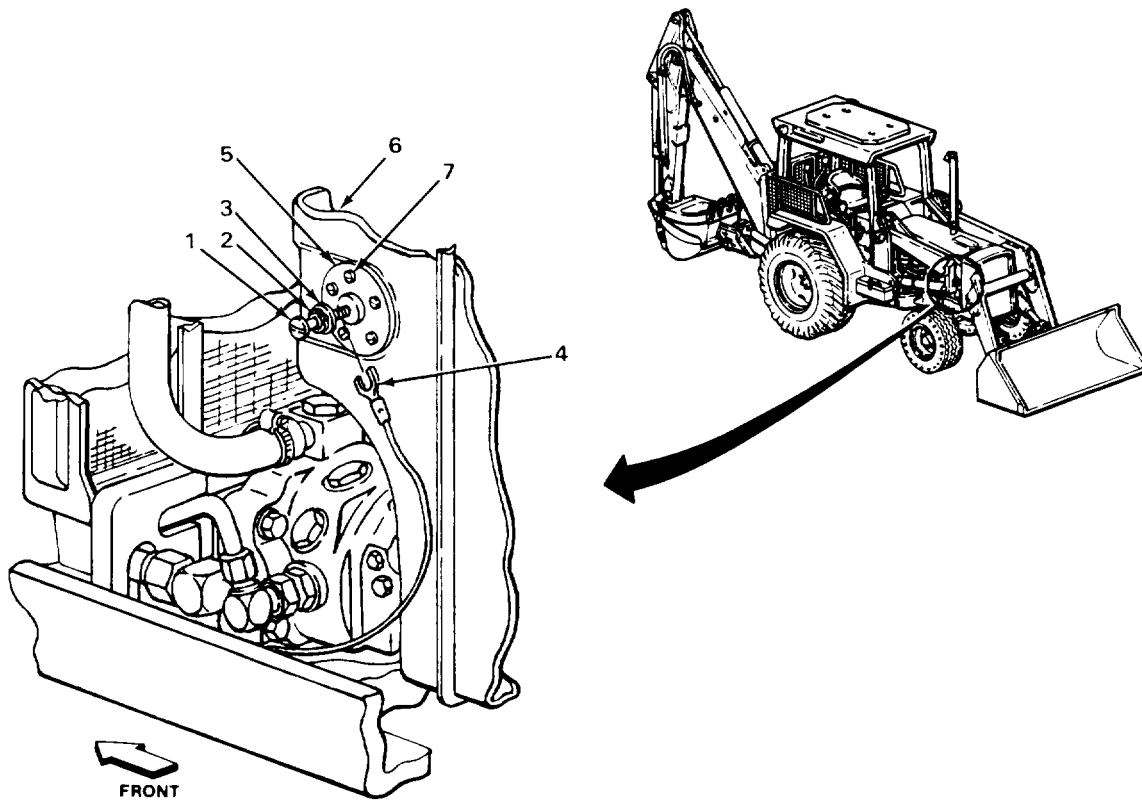


TA243041

FUEL GAGE SENDER - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
14. Sender (1)	Screw (3), new lockwasher (7), and washer (4)	Screw in part way.
15. Screw (1), lockwasher (2), and washer (3)	Terminal (4) washer (3).	Push in between lockwasher (2) and
16. Sender (5) and terminal (4)	Screw (1)	Using 1/4-inch flat-tip screwdriver, tighten.
<u>CAUTION</u>		
Do not fill fuel tank with fuel for at least one hour after fuel gage sender installation to allow sealing compound time to set. If filled too soon, fuel tank may leak around sender screws.		
17. Loader backhoe	Fuel tank	Fill (TM 5-2420-222-10).
18. Fuel tank (6)	Sender (5) and five screws (7)	<ol style="list-style-type: none"> a. Check for leaks. b. If leaking, using 1/4-inch flat-tip screwdriver, tighten screws (7). c. If leaking does not stop, use more gasket sealing compound on screws (7) or replace defective parts as outlined in this task.

FUEL GAGE SENDER - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Connect battery ground cable (page 2-696).
2. Prime fuel system (page 2-340).
3. Install right side grille (TM 5-2420-222-10).

TASK ENDS HERE

TA243042

ELECTRIC HORN AND BRACKET

This task covers:

- | | |
|--|------------------------------|
| a. Removal (page 2-668) | e. Repair (page 2-670) |
| b. Disassembly (page 2-668) | f. Assembly (page 2-670) |
| c. Cleaning (page 2-669) | g. Installation (page 2-671) |
| d. Inspection/Replacement (page 2-670) | |
-

INITIAL SETUP

Tools

Extension, 3/8-inch drive, 12-inch
File, thread restoring
Handle, ratchet, 3/8-inch drive
Socket, 3/8-inch drive, 9/16-inch

Materials/Parts

Cleaning compound, solvent
(item 4, Appendix C)
Lockwasher, horn mounting screw
Rags, wiping (item 21, Appendix C)
Solvent, drycleaning
(item 28, Appendix C)

Materials/Parts - Continued

Tags, marking (item 30, Appendix C)

Personnel Required

One

Equipment Condition

- Battery ground cable disconnected (page 2-696)
 - Hood removed (page 2-1025)
-

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1. Terminal (1)	Connector (2)	a. Tag (page 2-137). b. Unplug.	
2. Horn bracket (3), cowl support (4), and flywheel housing (5)	Screw (6) and lockwasher (7)	a. Using 9/16-inch, 3/8-inch drive socket, 12-inch extension, and ratchet handle, unscrew and take off. b. Get rid of lockwasher (7).	
3. Cowl support (4)	Horn bracket (3) with assembled horn (8)	Take off.	
DISASSEMBLY			
4. Horn bracket (3) and nut (9)	Horn (8)	Unscrew and take off.	
5. Horn bracket (3)	Nut (9)	Take out.	

ELECTRIC HORN AND BRACKET - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

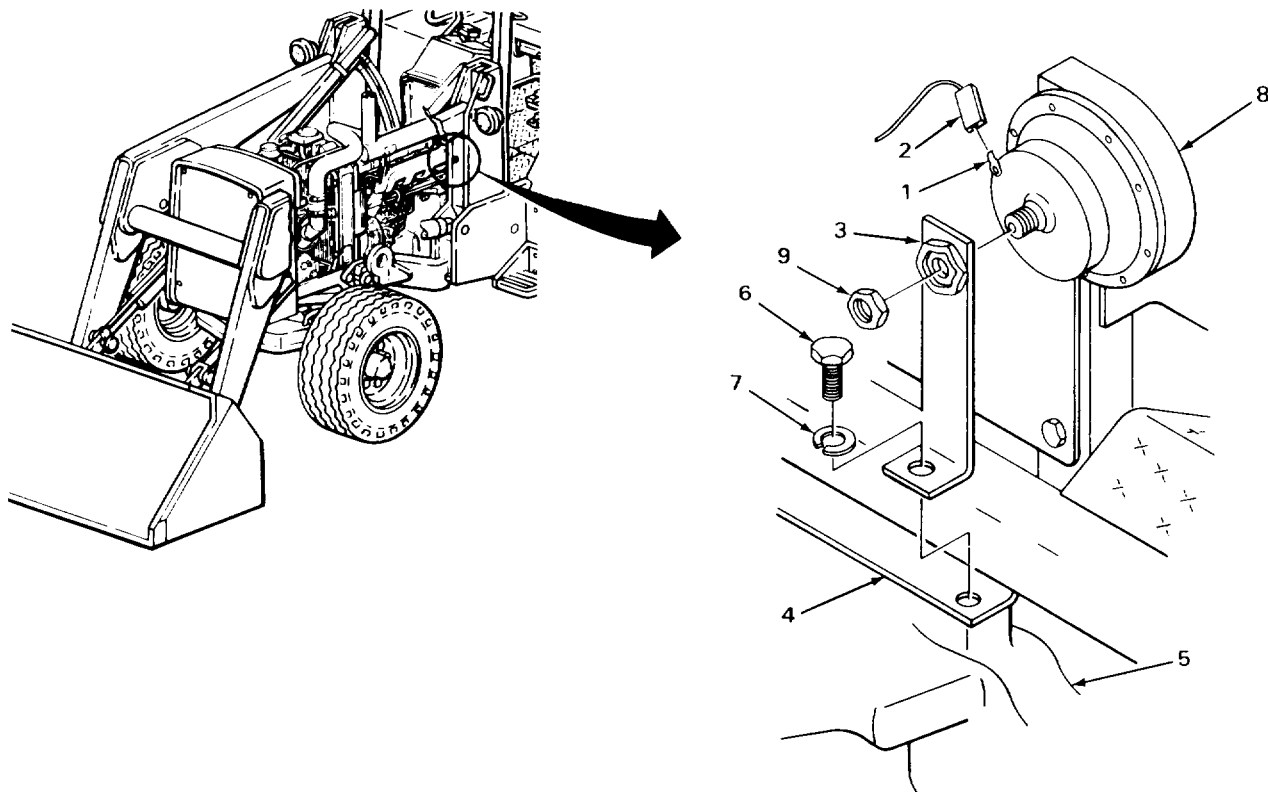
NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|-----------------------|---|
| 6. | Screw (6) and nut (9) | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. |
|----|-----------------------|---|



TA243043

ELECTRIC HORN AND BRACKET - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CLEANING - CONTINUED

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (46°C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|----|----------|--|--|
| 7. | Horn (1) | a. Using clean rag dampened with solvent cleaning compound, wipe clean.
b. Using clean, dry rags, wipe dry. | |
|----|----------|--|--|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

- | | | | |
|-----|--------------------|--|--|
| 8. | Horn (1) | Look for loose or corroded terminal. | |
| 9. | All metal parts | Look for cracks, breaks, and abnormal bends. | |
| 10. | All threaded parts | Look for damaged threads. | |

REPAIR

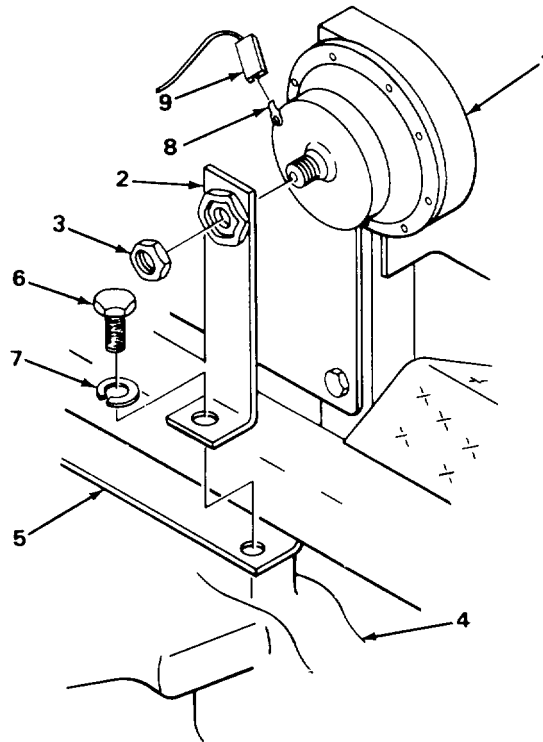
- | | | | |
|-----|----------|---|--|
| 11. | Horn (1) | If threads are damaged, using thread restoring file, restore threads. | |
|-----|----------|---|--|

ASSEMBLY

- | | | | |
|-----|---------------------------------|----------|-----------------------|
| 12. | Horn bracket (2) | Nut (3) | Put in place. |
| 13. | Horn bracket (2)
and nut (3) | Horn (1) | Screw in and tighten. |

ELECTRIC HORN AND BRACKET - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION			
14. Cowl support (4)	Horn bracket (2) with assembled horn (1)	Put on.	
15. Horn bracket (2), cowl support (4), and flywheel housing (5)	Screw (6) and new lockwasher (7)	Screw in and tighten using 9/16-inch box wrench.	
16. Terminal (8)	Connector (9)	a. Push on. b. Take off tag.	



TA243044

ELECTRIC HORN AND BRACKET - CONTINUED

NOTE

FOLLOW-ON MAINTENANCE:

1. Install hood (page 2-1025).
2. Connect battery ground cable (page 2-696).

TASK ENDS HERE

HORN SWITCH

This task covers:

- | | |
|---|--|
| <ol style="list-style-type: none"> a. Removal (page 2-672) b. Cleaning (page 2-673) c. Inspection/Replacement (page 2-674) | <ol style="list-style-type: none"> d. Repair (page 2-675) e. Installation (page 2-676) |
|---|--|

INITIAL SETUP

Tools

File, thread restoring

Personnel Required

One

Materials/Parts

Cleaning compound, solvent
 (item 4, Appendix C)
 Detergent, GP (item 7, Appendix C)
 Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning
 (item 28, Appendix C)
 Tags, marking (item 30, Appendix C)

Equipment Condition

1. Battery ground cable disconnected
 (page 2-696)
2. Cowl front cover removed (page 2-1020)

LOCATION	ITEM	ACTION	REMARKS
-----------------	-------------	---------------	----------------

REMOVAL

- | | | |
|--|---------------|--|
| <ol style="list-style-type: none"> 1. Two terminals (1) | Connector (2) | <ol style="list-style-type: none"> a. Tag (page 2-137). b. Pull off. |
|--|---------------|--|

CAUTION

Unscrew cab by metal base to keep from tearing rubber cover.

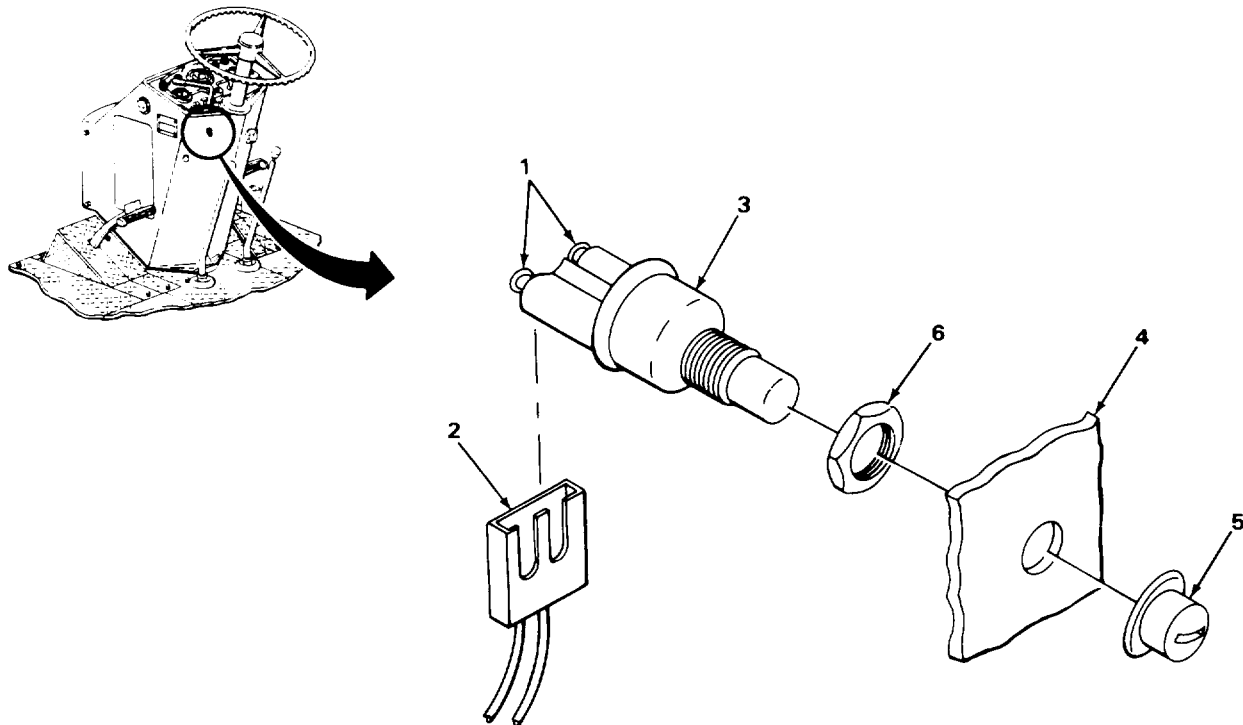
HORN SWITCH - CONTINUED

LOCATION	ITEM	ACTION REMARKS
2. Horn switch (3) and cowl (4)	Cap (5)	Unscrew and take off.
3. Cowl (4)	Horn switch (3) and assembled nut (6)	Take out.
4. Horn switch (3)	Nut (6)	Noting position for proper placement during assembly, unscrew and take off.

CLEANING

NOTE

For more information on how to clean parts, go to **General Maintenance Instructions (page 2-137)**.



TA243045

HORN SWITCH - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CLEANING - CONTINUED

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (46°C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|-----------------|---|
| 5. | Horn switch (1) | <ul style="list-style-type: none"> a. Clean in solvent cleaning compound. b. Using clean, dry rags, wipe dry. |
|----|-----------------|---|

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|---------|---|
| 6. | Nut (2) | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. |
| 7. | Cap (3) | <ul style="list-style-type: none"> a. Clean in solution of detergent and water. b. Rinse in clean water. c. Using clean, dry rags, wipe dry. |

INSPECTION/REPLACEMENT

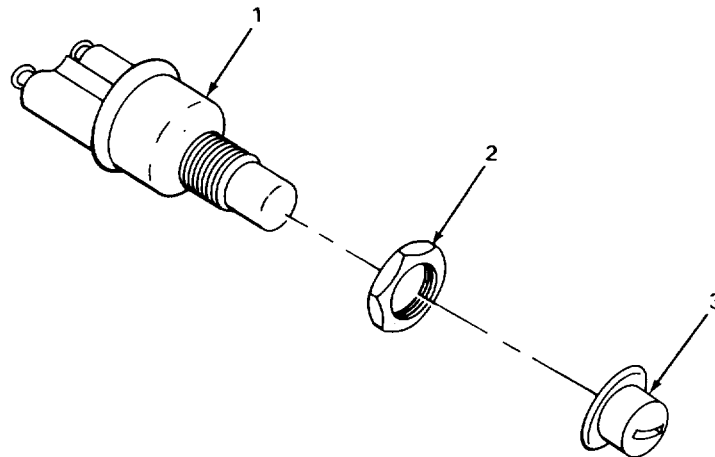
NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

HORN SWITCH - CONTINUED

LOCATION	ITEM	ACTION REMARKS
8.	Horn switch (1) and nut (2)	Look for cracks, breaks, or abnormal bends.
9.	Cap (3)	Look for torn or missing rubber cover.
10.	All threaded parts	Look for damaged threads.
REPAIR		
11.	Horn switch (1)	If threads are damaged, using thread restoring file, restore threads.



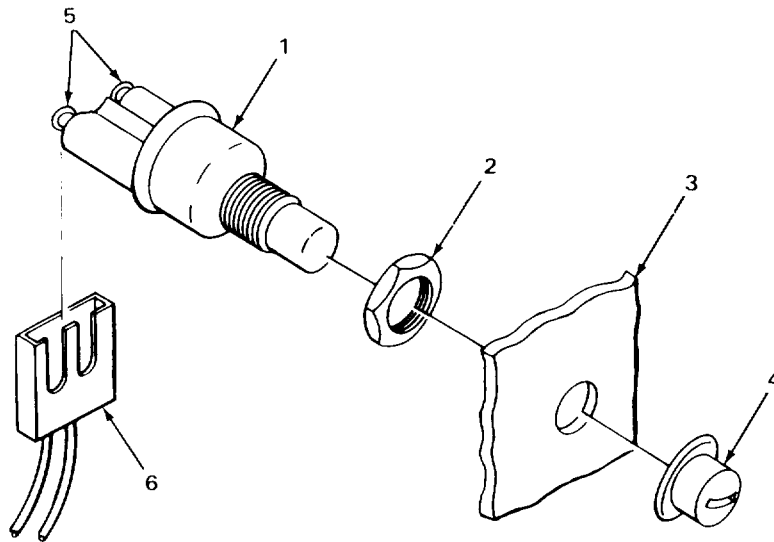
TA243046

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION			
12. Horn switch (1)	Nut (2)	Screw on to position noted during removal.	
13. Cowl (3)	Horn switch (1) and assembled nut (2)	Put in place.	

CAUTION

Screw on cap by metal base to keep from tearing rubber cover.

14. Horn switch (1) and cowl (3)	Cap (4)	Screw on and tighten.	
15. Two terminals (5)	Connector (6)	a. Push on. b. Take off tag.	



TA243047

HORN SWITCH - CONTINUED

NOTE

FOLLOW-ON MAINTENANCE:

1. Install cowl front cover (page 2-1020).
2. Connect battery ground cable (page 2-696).

TASK ENDS HERE

REVERSE WARNING ALARM SENSITIVE SWITCH AND FITTING

This task covers:

- | | |
|---|--|
| <ol style="list-style-type: none"> a. Removal (page 2-678) b. Cleaning (page 2-678) c. Inspection/Replacement (page 2-679) | <ol style="list-style-type: none"> d. Repair (page 2-680) e. Installation (page 2-680) |
|---|--|

INITIAL SETUP

Tools

- File, thread restoring
- Knife, pocket
- Wrench, open-end, 9/16-inch
(two required)
- Wrench, box, 12-point, 7/8-inch
(page 2-696)

Materials/Parts

- Cleaning compound, solvent
(item 4, Appendix C)
- Packing, reverser housing plug
- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28,
Appendix C)
- Tags, marking (item 30, Appendix C)

Personnel Required

One

Equipment Condition

1. Battery ground cable disconnected
2. Right platform removed (page 2-1079)

REVERSE WARNING ALARM SENSITIVE SWITCH AND FITTING - CONTINUED

LOCATION	ITEM	ACTION REMARKS	
REMOVAL			
1.	Two terminals (1)	Connector (2)	a. Tag (page 2-137). b. Pull off.
2.	Special fitting (3)	Switch (4)	Using 9/16-inch open-end wrench, unscrew and take out.
3.	Special fitting (3) and packing (5)	Nut (6)	Using two 9/16-inch open-end wrenches, loosen.
4.	Reverser valve housing (7)	Special fitting (3) with assembled packing (5)	Using 9/16-inch open-end wrench, unscrew and take out.
5.	Special fitting (3)	Packing (5)	a. Using pocket knife, pry up and take off. b. Get rid of.

CLEANING

NOTE

For more information on how to clean parts, go to **General Maintenance Instructions (page 2-137)**.

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (46°C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

6.	Switch (4)	a. Clean in solvent cleaning compound. b. Using clean, dry rags, wipe dry.
----	------------	---

REVERSE WARNING ALARM SENSITIVE SWITCH AND FITTING - CONTINUED

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

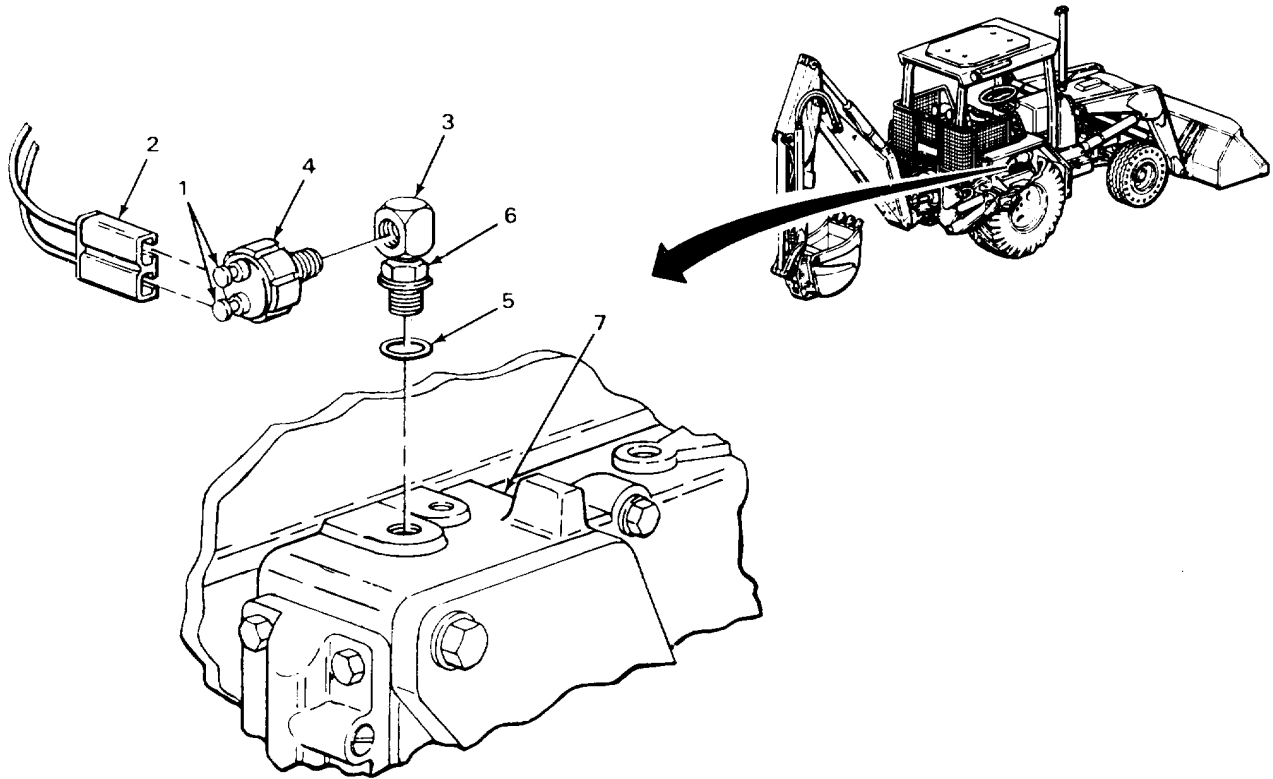
- 7. Special fitting (3)
 - a. Clean in drycleaning solvent.
 - b. Using clean, dry rags, wipe dry.

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

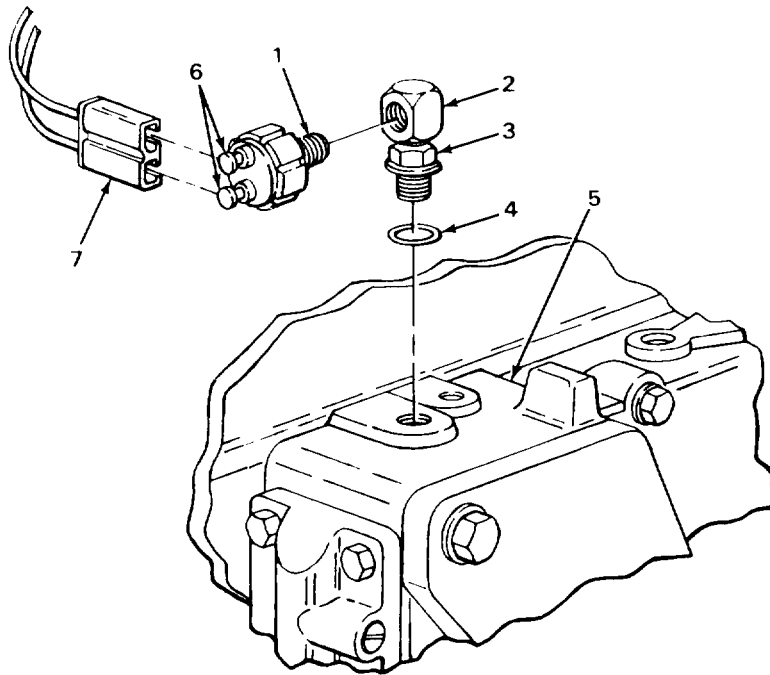
Replace defective parts which cannot be repaired.



TA243048

REVERSE WARNING ALARM SENSITIVE SWITCH AND FITTING - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT- CONTINUED		
8.	Switch (1) and special fitting (2)	a. Look for cracks, breaks, and abnormal bends. b. Look for damaged threads.
REPAIR		
9.	Switch (1)	If threads are damaged, using thread restoring file, restore threads.
INSTALLATION		
10.	Special fitting (2)	Nut (3) Screw to top of threads. Nut is part of fitting and does not come off.
11.	Special fitting (2)	New packing (4) Put on.
12.	Reverser valve housing (5)	Special fitting (2) with assembled packing (4) Screw in and tighten, using 9/16-inch open-end wrench, so hole faces rear of loader backhoe.
13.	Special fitting (2) and packing (4)	Nut (3) Using two 9/16-inch open-end wrenches, screw down and tighten pressing packing (4) against reverser control housing (5).
14.	Special fitting (2)	Switch (1) Screw in and tighten using 7/8-inch 12-point box wrench.
15.	Two terminals (6)	Connector (7) a. Push on. b. Take off tag.



NOTE

FOLLOW-ON MAINTENANCE:

1. Install right platform (page 2-1079).
2. Connect battery ground cable (page 2-696).

TASK ENDS HERE

TA243049

REVERSE WARNING ALARM

This task covers:

- | | |
|--|------------------------------|
| a. Removal (page 2-682) | e. Repair (page 2-685) |
| b. Cleaning (page 2-683) | f. Assembly (page 2-685) |
| c. Cleaning (page 2-684) | g. Installation (page 2-686) |
| d. Inspection/Replacement (page 2-679) | h. Adjustment (page 2-686) |

INITIAL SETUP

Tools

File, thread restoring
 Handle, ratchet, 3/8-inch drive
 Screwdriver, flat-tip, 1/4-inch
 Socket, 3/8-inch drive, 1/2-inch
 Wrench, box, 3/8-inch
 Wrench, box, 1/2-inch

Materials/Parts

Cleaning compound, solvent
 (item 4, Appendix C)
 Lockwasher, mounting screw nut
 (four required)
 Nut, assembled washer, terminal
 (two required)

Materials/Parts - Continued

Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)
 Tags, marking (item 30, Appendix C)

Personnel Required

Two

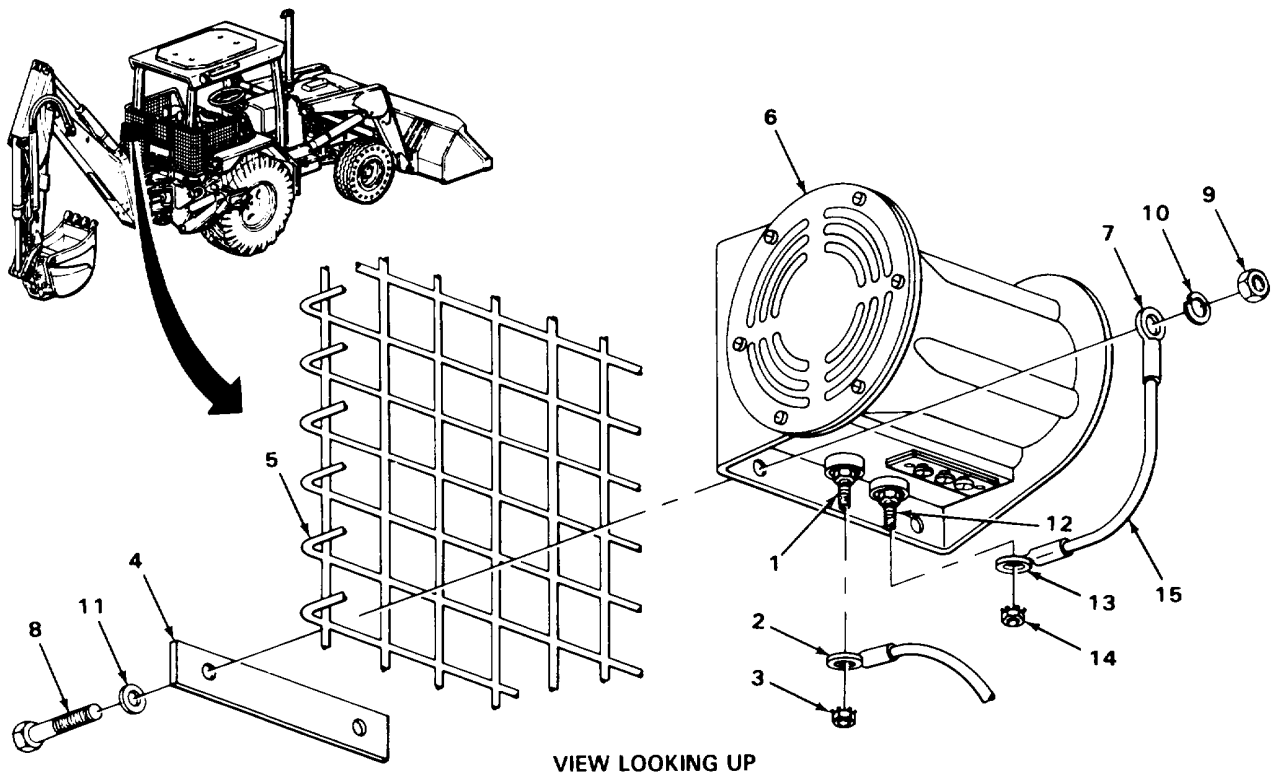
Equipment Condition

Battery ground cable disconnected
 (page 2-696)

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Terminal (1) and terminal (2)	Assembled washer nut (3)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of.
2.	Terminal (1)	Terminal (2)	a. Tag (page 2-137). b. Take off.
3.	Two plates (4), left backhoe control guard (5), alarm (6), and terminal (7)	Four screws (8), nuts (9), lock- washers (10), and washers (11)	a. Have assistant hold alarm. b. Using 1/2-inch box wrench, 1/2-inch, 3/8-inch drive socket, and ratchet handle, unscrew and take off. c. Get rid of lockwashers (10).
4.	Left backhoe control guard (5)	Two plates (4)	Take off.

REVERSE WARNING ALARM - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
5.	Alarm (6)	Terminal (7)	Take off.
6.	Left backhoe control guard (5)	Alarm (6)	Have assistant take off.
DISASSEMBLY			
7.	Terminal (12) and terminal (13)	Assembled washer nut (14)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of.
8.	Terminal (12)	Terminal (13) with assembled cable (15)	Take off.



TA243050

REVERSE WARNING ALARM - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (46°C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|--|--|
| 9. | Alarm (1) and cable (2) with assembled terminals (3 and 4) | <ul style="list-style-type: none"> a. Using rag dampened with solvent cleaning compound, wipe clean. b. Using clean, dry rags, wipe dry. |
|----|--|--|

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|-----------------------|---|
| 10. | All other metal parts | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. |
|-----|-----------------------|---|

INSPECTION/REPLACEMENT

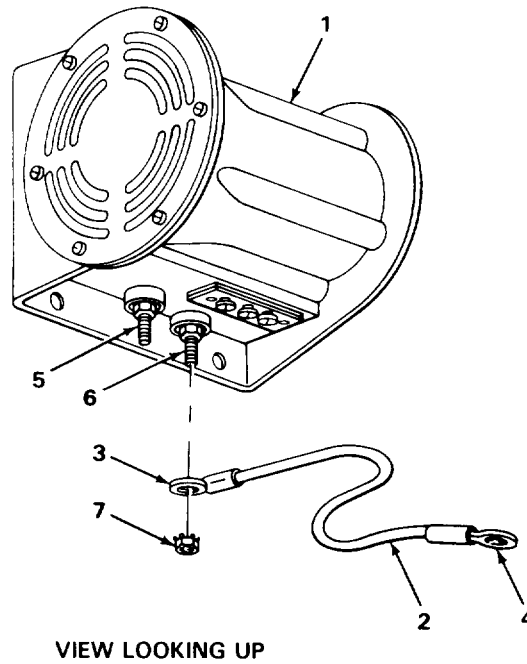
NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

REVERSE WARNING ALARM - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
11.	All metal parts		Look for cracks, breaks, and abnormal bends.
12.	All threaded parts		Look for damaged threads.
REPAIR			
13.	Two terminals (5 and 6)		If threads are damaged, using thread restoring file, restore threads.
ASSEMBLY			
14. Terminal (6)	Terminal (3)		Put on.
15. Terminal (6) and terminal (3)	New assembled washer nut (7)		Screw on and tighten using 3/8-inch box wrench.



TA243051

REVERSE WARNING ALARM - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION			
16.	Left backhoe control guard (1)	Alarm (2)	Have assistant put in place and hold.
17.	Alarm (2)	Terminal (3)	Have assistant put in place and hold.
18.	Left backhoe control guard (1)	Two plates (4)	Put in place.
19.	Two plates (4), left backhoe control guard (1), alarm (2), and terminal (3)	Four screws (5), washers (6), new lockwashers (7), and nuts (8)	Screw in and tighten using 1/2-inch box wrench, 1/2-inch, 3/8-inch drive socket, and ratchet handle.
20.	Terminal (9)	Terminal (10)	a. Put in place. b. Take off tag.
21.	Terminal (9), and terminal (10)	New assembled washer nut (11)	Screw on and tighten using 3/8-inch box wrench.
22.	Battery	Ground cable	Connect (page 2-696).

ADJUSTMENT

NOTE

Reverse warning alarm volume is adjustable. Switch tab connected between L and H terminals gives highest volume. Tab connected between L and M terminal gives medium volume. Tab connected to L terminal alone gives lowest volume.

23.	Alarm (2) and three screws (12, 13, and 14)	Switch tab (15)	Check position.
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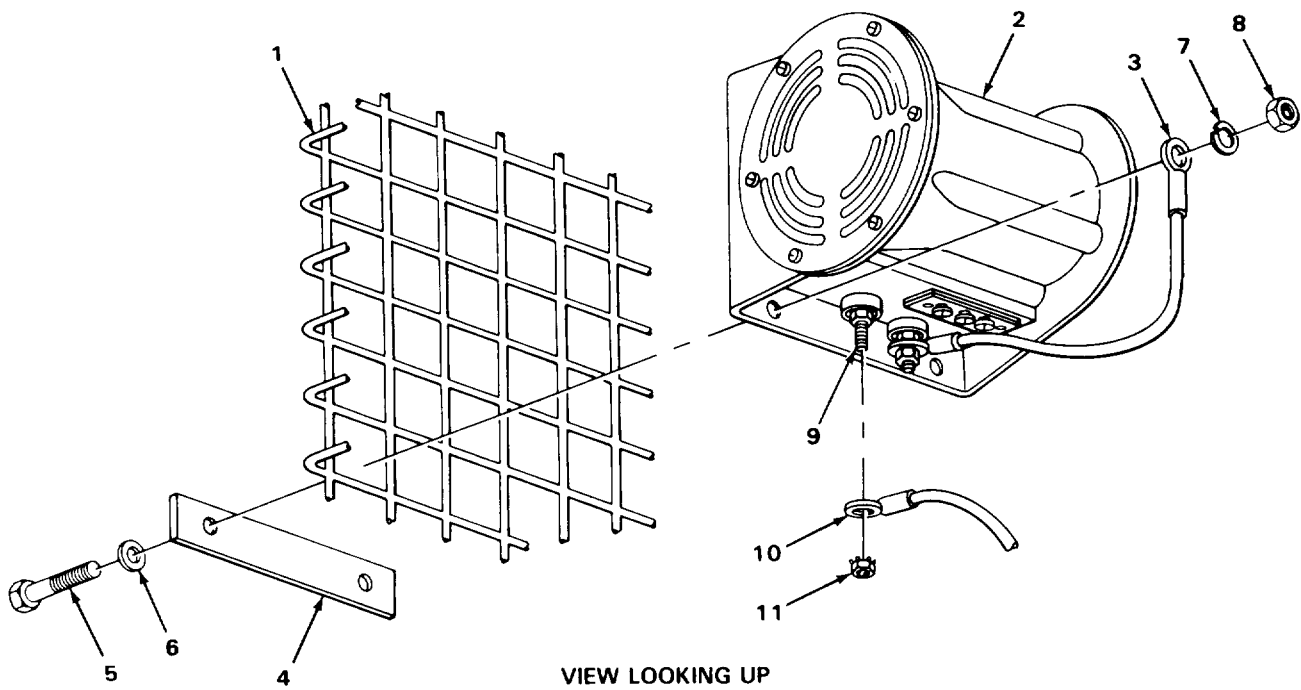
NOTE

If switch tab is properly placed for desired volume, skip steps 24 thru 26.

24.	Alarm (2) and switch tab (15)	Three screws (12, 13, and 14)	Using 1/4-inch flat-tip screwdriver, loosen.
25.	Three screws (12, 13, and 14)	Switch tab (15)	Place in position for desired volume.

REVERSE WARNING ALARM - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
26. Alarm (2) and switch tab (15)	Three screws (12, 13, and 14)	Using 1/4-inch flat-tip screwdriver, tighten.	



TASK ENDS HERE

TA243052

REVERSE WARNING ALARM GROUND WIRE ASSEMBLY

This task covers:

- a. Removal (page 2-688)
- b. Cleaning (page 2-689)
- c. Inspection/Replacement (page 2-690)
- e. Repair (page 2-690)
- f. Installation (page 2-690)

INITIAL SETUP

Tools

Handle, ratchet, 3/8-inch drive
 Socket, 3/8-inch drive, 1/2-inch
 Wrench, box, 3/8-inch
 Wrench, box, 1/2-inch

Materials/Parts

Cleaning compound, solvent
 (item 4, Appendix C)
 Lockwasher, reverse alarm mounting
 screw nut

Materials/Parts - Continued

Nut, assembled washer terminal
 Rags, wiping (item 21, Appendix C)
 Tags, marking (item 30, Appendix C)

Personnel Required

One

Equipment Condition

Battery ground cable disconnected
 (page 2-696)

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

1.	Terminal (1) and terminal (2)	Assembled washer nut (3)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of.
2.	Terminal (1)	Terminal (2)	a. Tag (page 2-137). b. Take off.
3.	Plate (4), left backhoe control guard (5), alarm (6), and terminal (7)	Screw (8), nut (9), lockwasher (10), and washer (11)	a. Using 1/2-inch box wrench, 1/2-inch, 3/8-inch drive socket, and ratchet handle, unscrew and take off. b. Get rid of lockwasher (11).
4.	Alarm (6)	Terminal (7) and assembled cable (12)	Take off.

REVERSE WARNING ALARM GROUND WIRE ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

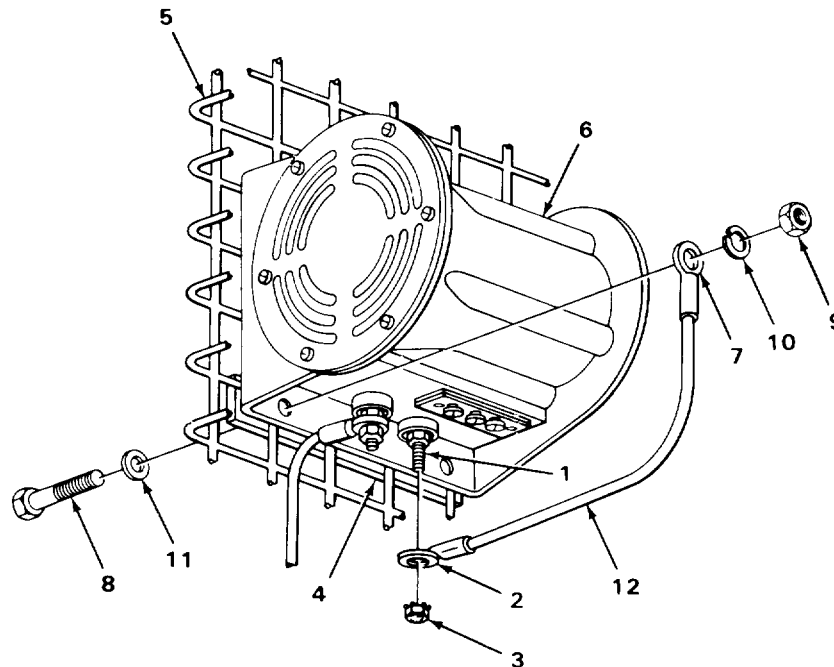
NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (46°C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|--|--|
| 5. | Cable (12) and assembled terminals (2 and 7) | <ul style="list-style-type: none"> a. Using clean rag dampened with solvent cleaning compound, wipe clean. b. Using clean, dry rags, wipe dry. |
|----|--|--|



TA243053

REVERSE WARNING ALARM GROUND WIRE ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

6.	Cable (1) with assembled terminals (2 and 3)	<ul style="list-style-type: none"> a. Look for cracked, burned, and worn insulation. b. Look for broken wires. c. Look for loose and corroded terminals. 	
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REPAIR

NOTE

For more information on how to repair wiring, go to General Maintenance Instructions (page 2-137).

INSTALLATION

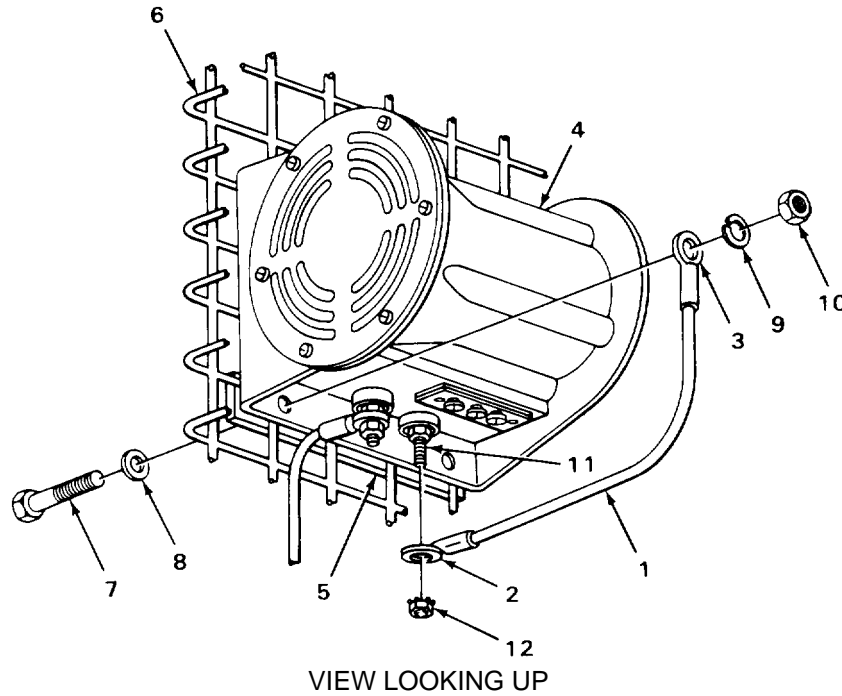
NOTE

New wires are manufactured to required length from bulk items. For more information on manufacturing new wires, go to Appendix D.

7.	Alarm (4)	Terminal (3) and assembled cable (1)	Put in place.
8.	Plate (5) left backhoe control guard (6), alarm (4), and terminal (3)	Screw (7), washer (8), new lockwashers (9), and nut (10)	Screw together and tighten using 1/2-inch box wrench, 1/2-inch, 3/8-inch drive socket, and ratchet handle.
9.	Terminal (11)	Terminal (2)	<ul style="list-style-type: none"> a. Put on. b. Take off tag.

REVERSE WARNING ALARM GROUND WIRE ASSEMBLY - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
10. Terminal (11), and terminal (2)	New assembled washer nut (12)	Screw on and tighten using 3/8-inch box wrench.	



NOTE

FOLLOW-ON MAINTENANCE: Connect battery ground cable (page 2-696).

TASK ENDS HERE

TA243054

BATTERIES

This task covers:

- | | |
|--|--|
| <ul style="list-style-type: none"> a. Testing (page 2-692) b. Removal (page 2-692) c. Cleaning (page 2-694) | <ul style="list-style-type: none"> d. Inspection/Replacement (page 2-694) e. Installation (page 2-694) |
|--|--|

INITIAL SETUP

Tools

Handle, ratchet, 3/8-inch drive
 Socket, deep, 3/8-inch drive,
 7/16-inch 2.

Equipment Condition

- 1. Battery starter cable disconnected (page 2-710)
 Battery connector cable removed (page 2-704)

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

TESTING

NOTE

For information on how to test batteries, go to TM 9-6140-200-14.

REMOVAL

WARNING

Do not smoke, use open flame, or allow sparks near batteries. The mixture of oxygen and hydrogen gases released from batteries is highly flammable and can explode causing serious injury or death.

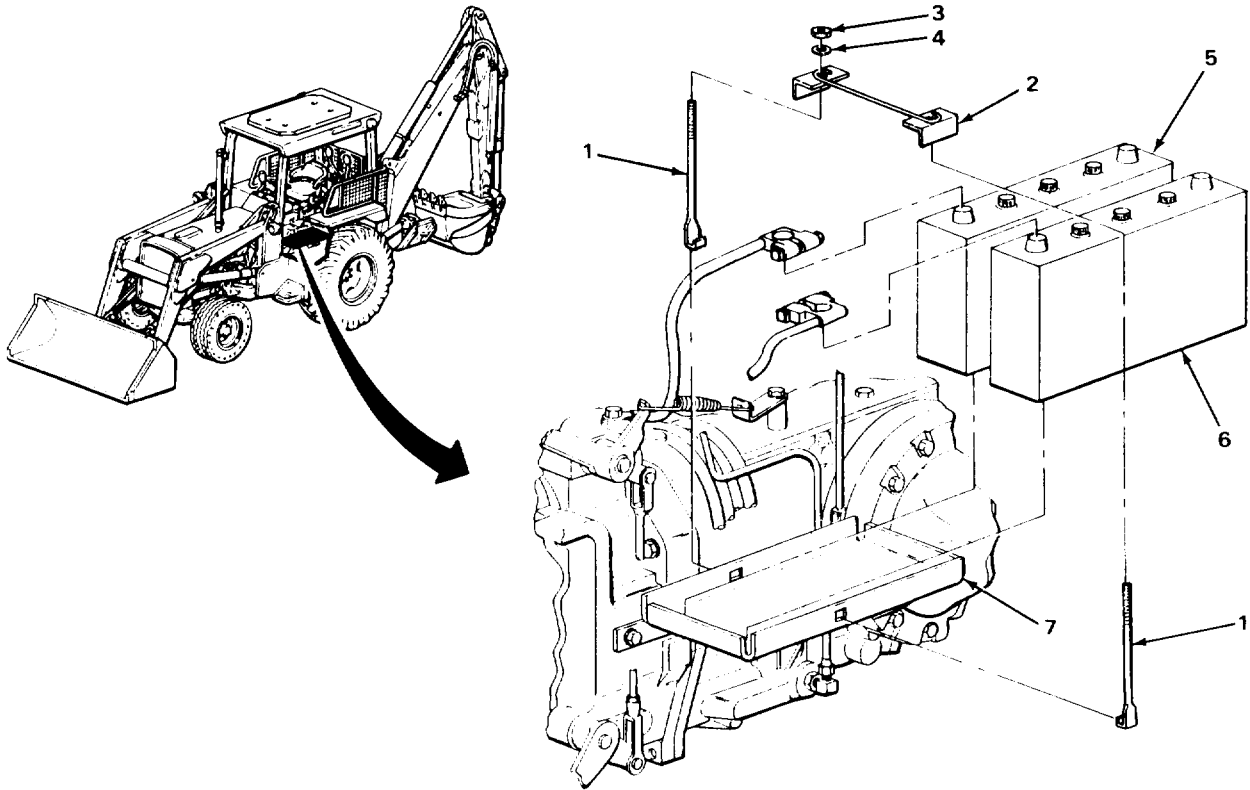
Electrolyte and battery corrosion can cause injury. Wear safety goggles and gloves. If for any reason electrolyte or battery corrosion contacts the eyes, skin, or clothing, flush immediately with large amounts of cool water and seek medical attention immediately.

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> 1. Two hook bolts (1) and battery retainer (2) | <ul style="list-style-type: none"> Two nuts (3) and washers (4) | <ul style="list-style-type: none"> Using 7/16-inch, 3/8-inch drive deep socket and ratchet handle, unscrew and take off. |
|--|--|---|

BATTERIES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

- | | | | |
|----|--|----------------------|-----------|
| 2. | Two hook bolts (1) and batteries (5 and 6) | Battery retainer (2) | Take off. |
| 3. | Battery tray (7) | Two hook bolts (1) | Take out. |
| 4. | Two batteries (5 and 6) | | Take out. |



TA243055

BATTERIES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CLEANING

NOTE

For information on how to clean batteries and retaining parts, go to TM 9-6140-200-14.

INSPECTION/REPLACEMENT

NOTE

For inspection/replacement information on batteries and retaining parts, go to TM 9-6140-200-14.

INSTALLATION

WARNING

Do not smoke, use open flame, or allow sparks near batteries. The mixture of oxygen and hydrogen gases released from batteries is highly flammable and can explode causing serious injury or death.

Electrolyte and battery corrosion can cause injury. Wear safety goggles and gloves. If for any reason electrolyte or battery corrosion contacts the eyes, skin, or clothing, flush immediately with large amounts of cool water and seek medical attention immediately.

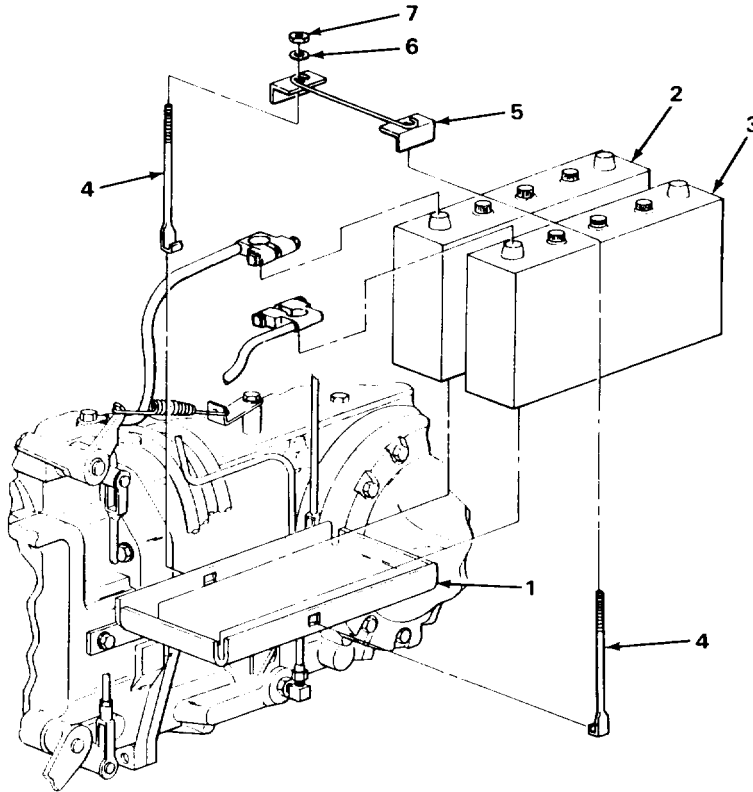
5.	Battery tray (1)	Right battery (2)	Set in place with negative terminal toward front of loader backhoe.
6.		Left battery (3)	Set in place with positive terminal toward front of loader backhoe.
7.		Two hook bolts (4)	Hook onto slots in tray (1).
8.	Two hook bolts (4) and batteries (2 and 3)	Battery retainer (5)	Put on.

CAUTION

Do not overtighten battery retainer nuts or battery cases may be damaged.

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

- | | | |
|---|-------------------------------------|---|
| <p>9. Two hook bolts (4) and battery retainer (5)</p> | <p>Two washers (6) and nuts (7)</p> | <p>Screw on and alternately tighten using 7/16-inch, 3/8-inch drive deep socket and ratchet handle.</p> |
|---|-------------------------------------|---|



NOTE

FOLLOW-ON MAINTENANCE:

1. Install battery connector cable (page 2-704).
2. Connect battery starter cable (page 2-710).

TASK ENDS HERE

TA243056

BATTERY GROUND CABLE

This task covers:

- a. Removal (page 2-688)
- b. Cleaning (page 2-689)
- c. Inspection/Replacement (page 2-690)
- e. Repair (page 2-690)
- f. Installation (page 2-690)

INITIAL SETUP

Tools

Cleaner, battery terminal
 Handle, ratchet, 3/8-inch drive
 Puller, battery terminal
 Socket, 3/8-inch drive, 9/16-inch
 Wrench, box, 1/2-inch
 Wrench, open-end, 1/2-inch

Materials/Parts - Continued

Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)

Personnel Required

One

Materials/Parts

Cleaning compound, solvent (item 4, Appendix C)
 Grease (LO 5-2420-222-12)
 Lockwasher, ground cable and pedal stop screw
 Paper, abrasive, fine (item 20, Appendix C)

Equipment Condition

Battery cover removed (page 2-1110)

LOCATION	ITEM	ACTION	REMARKS
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NOTE

Loader backhoes with Serial Numbers 235786 thru 235999 have battery ground cable called battery ground cable. Loader backhoes with Serial Numbers 319995 thru 342573 have battery ground cable called battery lead. Although length and appearance may vary, the maintenance procedures are the same.

DISCONNECTION

WARNING

Do not smoke, use open flame, or allow sparks near batteries. The mixture of oxygen and hydrogen gases released from batteries is highly flammable and can explode causing serious injury or death.

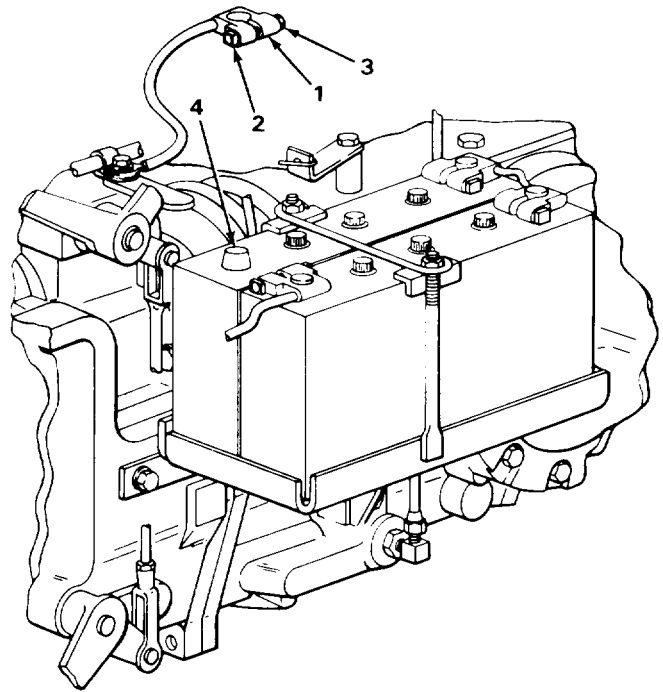
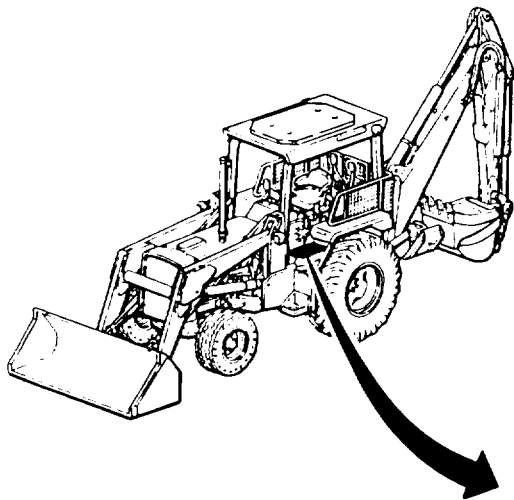
BATTERY GROUND CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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WARNING

Electrolyte and battery corrosion can cause injury. Wear safety goggles and gloves. If for any reason electrolyte or battery corrosion contacts the eyes, skin, or clothing, flush immediately with large amounts of cool water and seek medical attention immediately.

- | | | |
|----------------------------------|---|---|
| 1. Terminal clamp (1) | Screw (2) and nut (3) | Using 1/2-inch open-end and 1/2-inch box wrenches, loosen. |
| 2. Negative battery terminal (4) | Terminal clamp (1) with assembled parts | <ul style="list-style-type: none"> a. Note position for proper placement during connection. b. Using battery terminal puller, pull off. c. Put clamp (1) where it will not touch terminal (4). |



TA243057

BATTERY GROUND CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
<u>WARNING</u>			
Do not smoke, use open flame, or allow sparks near batteries. The mixture of oxygen and hydrogen gases released from batteries is highly flammable and can explode causing serious injury or death.			
3.	Terminal (1), clamp (2), pedal stop (3), and gear assembly cover (4)	Screw (5) and lockwasher (6)	<ul style="list-style-type: none"> a. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out. b. Get rid of lockwasher (6).
4.	Clamp (2)	Terminal (1) with assembled battery ground cable or battery lead (7)	Note position for proper placement during installation and take off.
DISASSEMBLY			
5.	Terminal clamp (8)	Screw (9) and nut (10)	Unscrew and take apart.

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 1140F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

6.	Battery ground cable or battery lead (7)	<ul style="list-style-type: none"> a. Using clean rags dampened with solvent cleaning compound, wipe clean. b. Using clean, dry rags, wipe dry. c. Using battery terminal cleaner, clean inside of terminal clamp (8) until shiny.
----	--	---

BATTERY GROUND CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

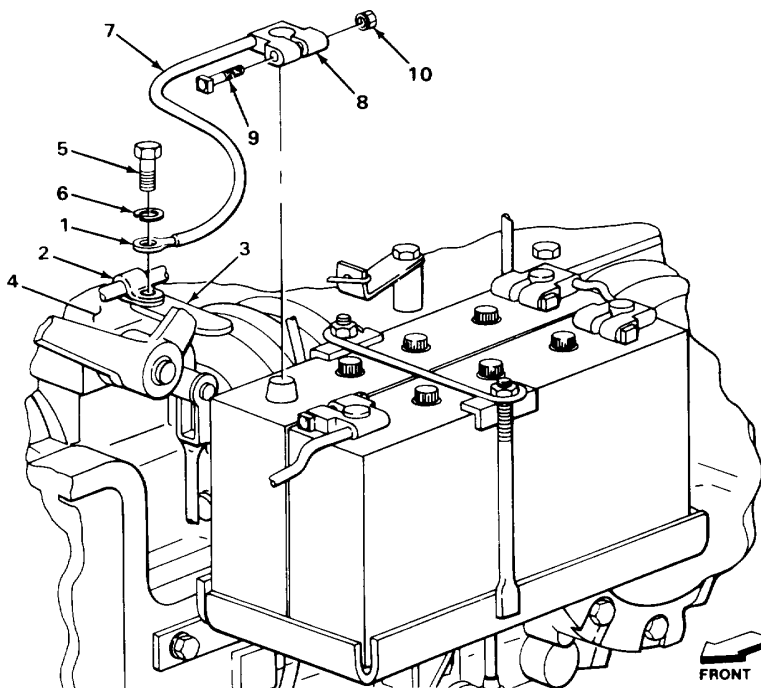
- | | | |
|----|-----------------------|---|
| 7. | All other metal parts | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. |
|----|-----------------------|---|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.



TA243058

BATTERY GROUND CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT - CONTINUED			
8.	Battery ground cable or battery lead (1)	a. Look for cracked, burned, and worn insulation. b. Look for broken, corroded, stretched or cracked terminal clamp (2) and terminal (3).	Clamp ends should not be able to touch when tightened onto negative battery terminal.
9.	All other metal parts	Look for cracks, breaks, abnormal bends, and corrosion damage.	
10.	All threaded parts	Look for damaged threads.	
ASSEMBLY			
11. Terminal clamp (2)	Screw (4) and nut (5)	Screw together part way.	

INSTALLATION

WARNING

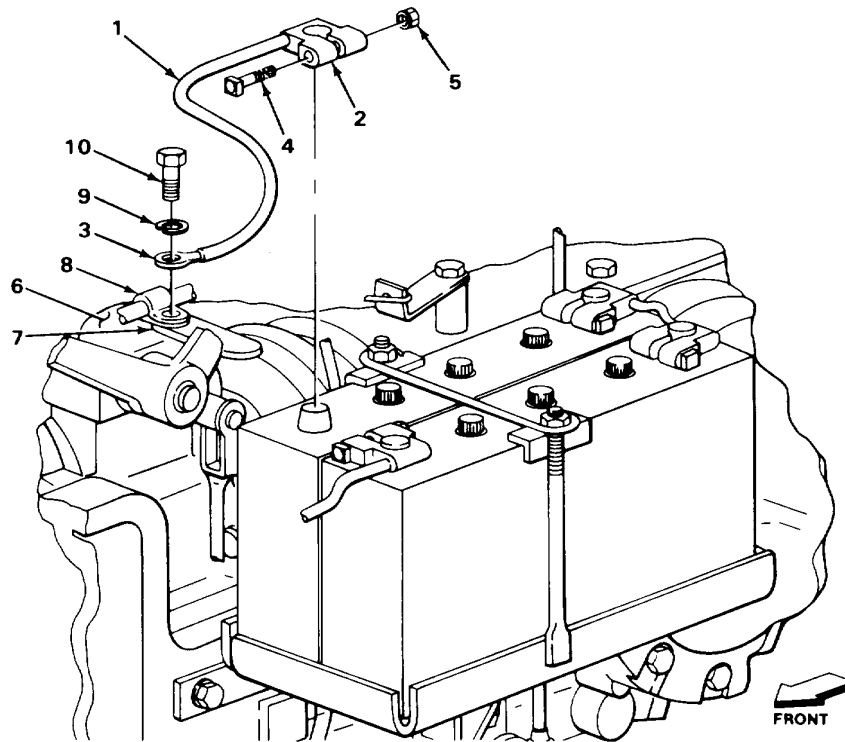
Do not smoke, use open flame, or allow sparks near batteries. The mixture of oxygen and hydrogen gases released from batteries is highly flammable and can explode causing serious injury or death.

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

12. Gear assembly cover (6)	Pedal stop (7) and clamp (8)	a. Using clean rag dampened with dry-cleaning solvent, clean area where terminal (3) will contact. b. Using fine abrasive paper, clean all paint and rust off of area where terminal (3) will contact.	
-----------------------------	------------------------------	---	--

BATTERY GROUND CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
13. Clamp (8)	Terminal (3) with assembled battery ground cable or battery lead (1)	Put in place as noted during removal.	
14. Terminal (3), clamp (8), pedal stop (7), and gear assembly cover (6)	New lockwasher (9) and screw (10)	Screw in and tighten using 9/16-inch, 3/8-inch drive socket and ratchet handle.	



TA243059

BATTERY GROUND CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CONNECTION

WARNING

Do not smoke, use open flame, or allow sparks near batteries. The mixture of oxygen and hydrogen gases released from batteries is highly flammable and can explode causing serious injury or death.

NOTE

Step 15 does not apply if battery ground cable or battery lead has been removed and cleaned.

- | | | |
|--|--------------------|---|
| 15. Battery ground cable or battery lead (1) | Terminal clamp (2) | Using battery terminal cleaner, clean inside until shiny. |
|--|--------------------|---|

WARNING

Electrolyte and battery corrosion can cause injury. Wear safety goggles and gloves. If for any reason electrolyte or battery corrosion contacts the eyes, skin, or clothing, flush immediately with large amounts of cool water and seek medical attention immediately.

- | | | |
|-----------------|-------------------------------|--|
| 16. Battery (3) | Negative battery terminal (4) | Using battery terminal cleaner, clean until shiny. |
|-----------------|-------------------------------|--|

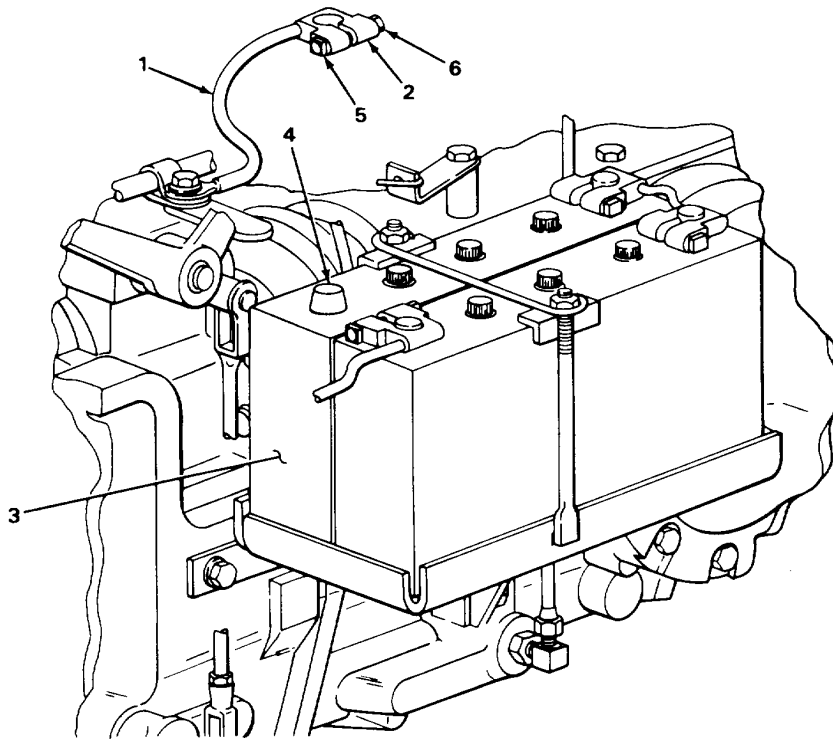
CAUTION

Be sure to put battery ground cable or battery lead on negative terminal. Starting engine with reversed battery polarity will damage ac generator (alternator) and wiring.

- | | | |
|-----------------------------------|---|--|
| 17. Negative battery terminal (4) | Terminal clamp (2) with assembled parts | Put on in position noted during disconnection. |
| 18. Terminal clamp (2) | Screw (5) and nut (6) | Using 1/2-inch open-end and 1/2-inch box wrenches, tighten just until connection between clamp (2) and negative battery terminal (4) is tight.
Connection is tight enough when clamp will not twist on terminal using thumb and two fingers. |

BATTERY GROUND CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
19. Battery (3)	Negative battery terminal (4) and terminal clamp (2)	Apply light coat of grease.	



NOTE

FOLLOW-ON MAINTENANCE: Install battery cover (page 2-1110).

TASK ENDS HERE

TA243060

BATTERY CONNECTOR CABLE

This task covers:

- | | |
|-----------------------------|--|
| a. Removal (page 2-704) | d. Inspection/Replacement (page 2-706) |
| b. Disassembly (page 2-705) | e. Assembly (page 2-707) |
| c. Cleaning (page 2-705) | f. Installation (page 2-708) |

INITIAL SETUP:

Tools

Cleaner, battery terminal
 Puller, battery terminal
 Wrench, box, 1/2-inch
 Wrench, open-end, 11/2-inch

Materials/Parts - Continued

Solvent, drycleaning (item 28, Appendix C)

Personnel Required

One

Materials/Parts

Cleaning compound, solvent
 (item 4, Appendix C)
 Grease (LO 5-2420-222-12)
 Rags, wiping (item 21, Appendix C)

Equipment Condition

Battery ground cable disconnected
 (page 2-696)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

WARNING

Do not smoke, use open flame, or allow sparks near batteries. The mixture of oxygen and hydrogen gases released from batteries is highly flammable and can explode causing serious injury or death.

Electrolyte and battery corrosion can cause injury. Wear safety goggles and gloves. If for any reason electrolyte or battery corrosion contacts the eyes, skin, or clothing, flush immediately with large amounts of cool water and seek medical attention immediately.

- | | | | |
|----|--|---|--|
| 1. | Two terminal clamps (1 and 2) | Two screws (3 and 4) and nuts (5 and 6) | Using 1/2-inch open-end and 1/2-inch box wrenches, loosen. |
| 2. | Right battery positive terminal (7) and left battery negative terminal (8) | Two terminal clamps (1 and 2) and assembled parts | Using battery terminal puller, pull off. |

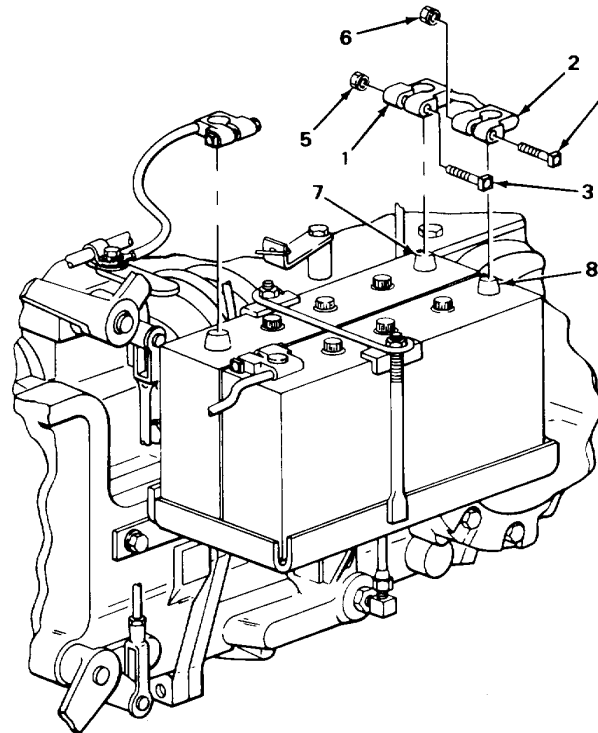
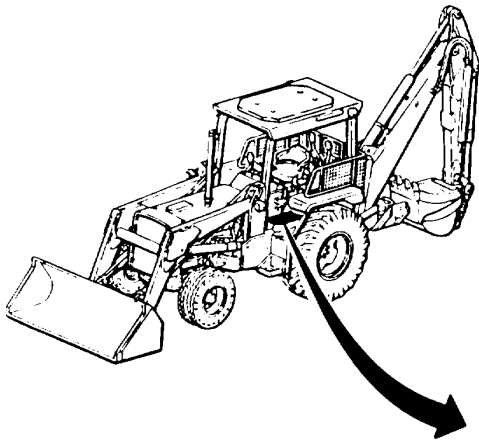
BATTERY CONNECTOR CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
DISASSEMBLY			
3. Two terminal clamps (1 and 2)	Two screws (3 and 4) and nuts (5 and 6)	Unscrew and take apart.	

CLEANING

NOTE

For more information on how to clean parts, go to **General Maintenance Instructions (page 2-137)**.



TA243061

BATTERY CONNECTOR CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|-----------------------------|--|
| 4. | Battery connector cable (1) | <ul style="list-style-type: none"> a. Using clean rags dampened with solvent cleaning compound, wipe clean. b. Using clean, dry rags, wipe dry. c. Using battery terminal cleaner, clean inside of terminal clamps (2 and 3) until shiny. |
|----|-----------------------------|--|

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 138°F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|-----------------------|---|
| 5. | All other metal parts | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. |
|----|-----------------------|---|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

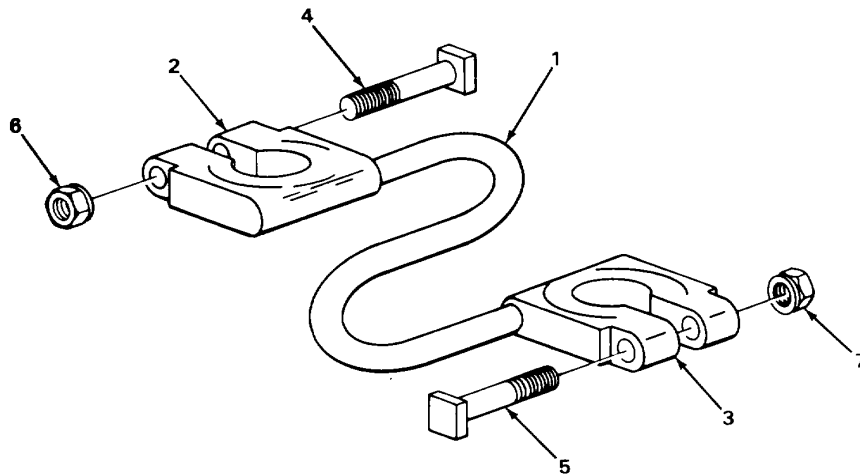
Replace defective parts as needed.

BATTERY CONNECTOR CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
6.	Battery connector cable (1)	a. Look for cracked, burned, or worn insulation. b. Look for broken wires. c. Look for loose, corroded, stretched or cracked terminal clamps.	Clamp ends should not be able to touch when tightened onto their battery terminals.
7.	All other metal parts	Look for cracks, breaks, abnormal bends, and corrosion damage.	
8.	All threaded parts	Look for damaged threads.	

ASSEMBLY

9. Terminal clamps (2 and 3)	Two screws (4 and 5) and nuts (6 and 7)	Screw together part way.
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TA243062

BATTERY CONNECTOR CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION

WARNING

Do not smoke, use open flame, or allow sparks near batteries. The mixture of oxygen and hydrogen gases released from batteries is highly flammable and can explode causing serious injury or death.

Electrolyte and battery corrosion can cause injury. Wear safety goggles and gloves. If for any reason electrolyte or battery corrosion contacts the eyes, skin, or clothing, flush immediately with large amounts of cool water and seek medical attention immediately.

10. Right battery (1)	Positive terminal (2)	Using battery terminal cleaner, clean until shiny.
11. Left battery (3)	Negative terminal (4)	Using battery terminal cleaner, clean until shiny.

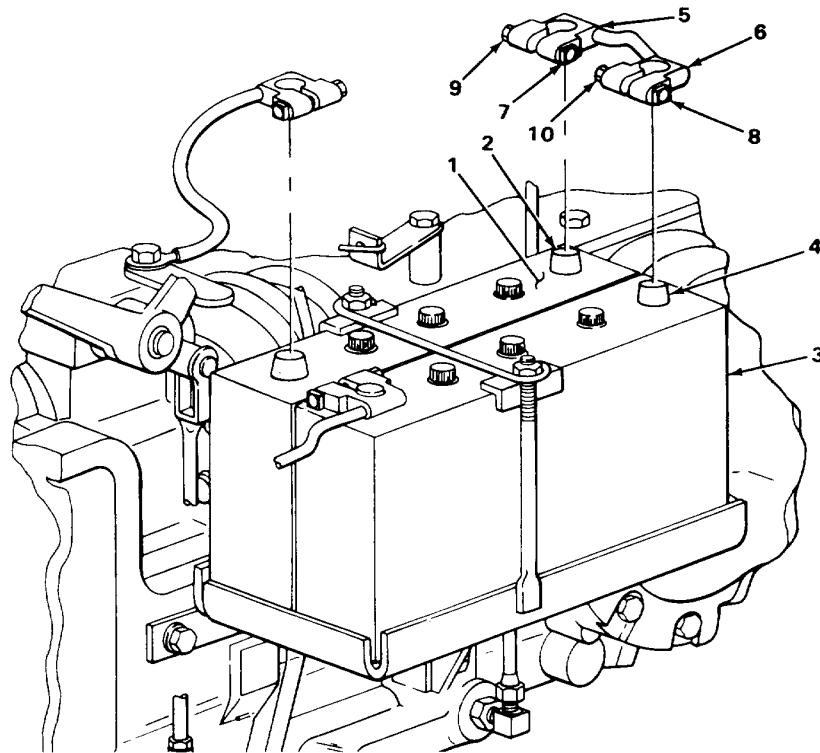
NOTE

Positive battery terminal is larger than negative battery terminal. Put terminal clamp with larger hole on left battery negative terminal.

12. Right battery positive terminal (2) and left battery negative terminal (4)	Two terminal clamps (5 and 6) with assembled parts	Put on.
13. Two terminal clamps (5 and 6)	Two screws (7 and 8) and nuts (9 and 10)	Using 1/2-inch open-end and 1/2-inch box wrenches, tighten just until connections between clamps (5 and 6) and terminals (2 and 4) are tight. Connections are tight enough when clamps will not twist on terminals using thumb and two fingers.

BATTERY CONNECTOR CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
14. Right battery (1) and left battery (3)	Right battery positive terminal (2), left battery negative terminal (4), and two terminal clamps (5 and 6)	Apply light coat of grease.	



NOTE

FOLLOW-ON MAINTENANCE: Connect battery ground cable (page 2-696).

TASK ENDS HERE

TA243063

BATTERY STARTER CABLE

This task covers:

- | | |
|--------------------------------------|---|
| a. Disconnection (page 2-710) | e. Inspection/Replacement (page 2-714) |
| b. Removal (page 2-712) | f. Assembly (page 2-715) |
| c. Disassembly (page 2-712) | g. Installation (page 2-716) |
| d. Cleaning (page 2-712) | h. Connection (page 2-716) |
-

INITIAL SETUP:

Tools

- Cleaner, battery terminal
- Handle, ratchet, 3/8-inch drive
- Puller, battery terminal
- Socket, 3/8-inch drive, 9/16-inch
- Wrench, box, 1/2-inch
- Wrench, box, 9/16-inch
- Wrench, open-end, 1/2-inch

Materials/Parts - Continued

- Lockwasher, battery cable starter terminal nut
- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)
- Tags, marking (item 30, Appendix c)

Personnel Required

One

Materials/Parts

- Cleaning compound, solvent (item 4, Appendix C)
- Grease (LO 5-2420-222-12)
- Lockwasher, battery cable clamp screw (two required)

Equipment Condition

Battery ground cable disconnected (page 2-696)

LOCATION	ITEM	ACTION	REMARKS
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NOTE

Battery starter cables for all loader backhoes are similar and are maintained the same way. Battery starter cable for loader with Serial Numbers 319995 thru 342573 is shown.

DISCONNECTION

WARNING

Do not smoke, use open flame, or allow sparks near batteries. The mixture of oxygen and hydrogen gases released from batteries is highly flammable and can explode causing serious injury or death.

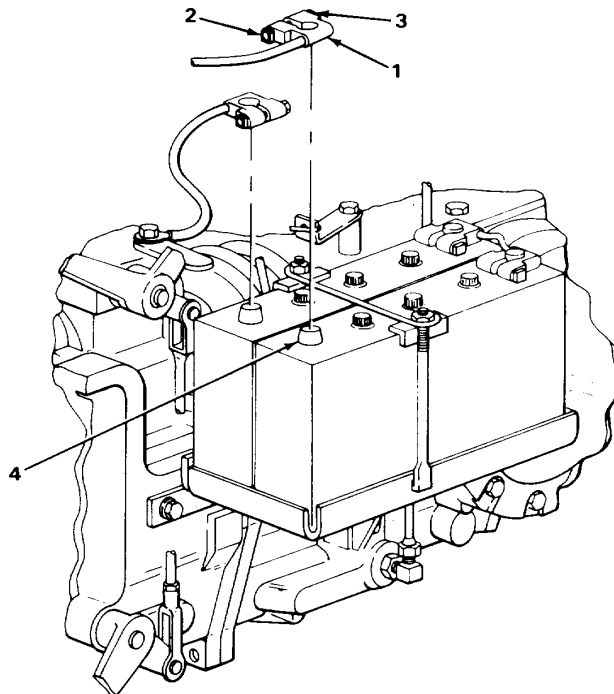
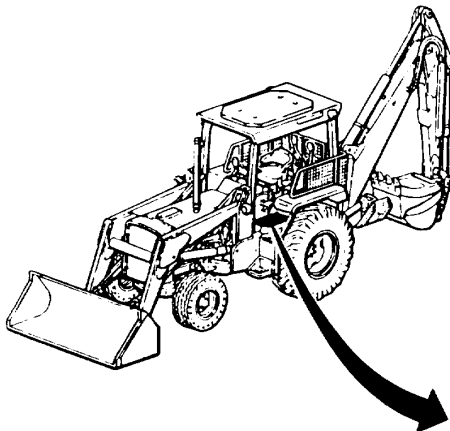
BATTERY STARTER CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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WARNING

Electrolyte and battery corrosion can cause injury. Wear safety goggles and gloves. If for any reason electrolyte or battery corrosion contacts the eyes, skin, or clothing, flush immediately with large amounts of cool water and seek medical attention immediately.

- | | | |
|----------------------------------|---|---|
| 1. Terminal clamp (1) | Screw (2) and nut (3) | Using 1/2-inch open-end and 1/2-inch box wrenches, loosen. |
| 2. Positive battery terminal (4) | Terminal clamp (1) with assembled parts | <ul style="list-style-type: none"> a. Note position for proper placement during connection. b. Using battery terminal puller, pull off. c. Put clamp (1) where it will not touch terminal (4). |



TA243064

BATTERY STARTER CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
3.	Battery starter cable terminal (1), terminal (2), and	Nut (4) and lockwasher (5)	<ul style="list-style-type: none"> a. Using 9/16-inch box wrench, unscrew and take off. b. Get rid of lockwasher (5). terminal (3)
4.	Terminal (3)	Battery starter cable terminal (1) and terminal (2)	<ul style="list-style-type: none"> a. Tag (page 2-137). b. Take off.
5.	Two clamps (6)	Two screws (7) and lockwashers (8)	<ul style="list-style-type: none"> a. Note location of clamps for proper placement during installation. b. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out. c. Get rid of lockwashers (8).

WARNING

Do not smoke, use open flame, or allow sparks near batteries. The mixture of oxygen and hydrogen gases released from batteries is highly flammable and can explode causing serious injury or death.

6.	Loader backhoe	Battery starter cable (9)	<ul style="list-style-type: none"> a. Note routing for proper placement during installation. b. Take out.
7.	Battery starter cable (9)	Two clamps (6)	<ul style="list-style-type: none"> a. Note routing for proper placement during installation. b. Take off.

DISASSEMBLY

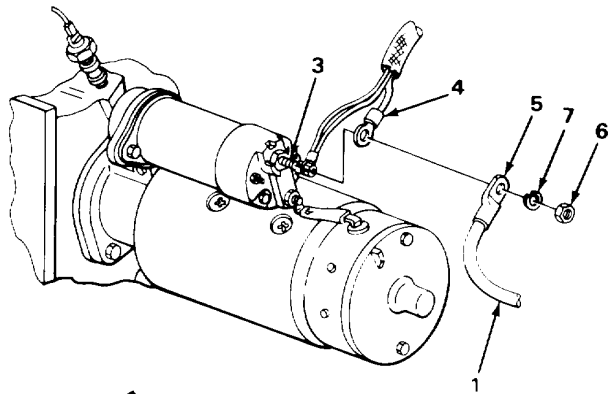
8.	Terminal clamp (10)	Screw (11) and nut (12)	Unscrew and take out.
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CLEANING

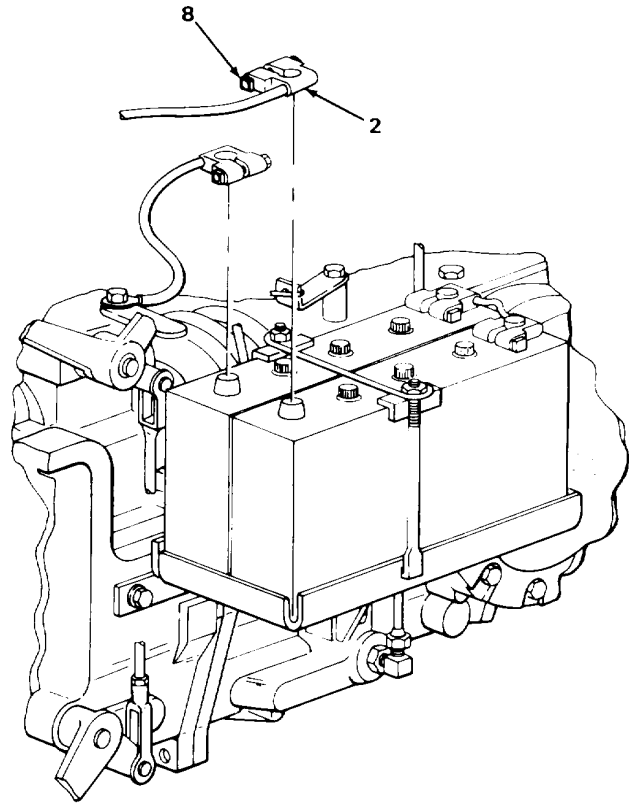
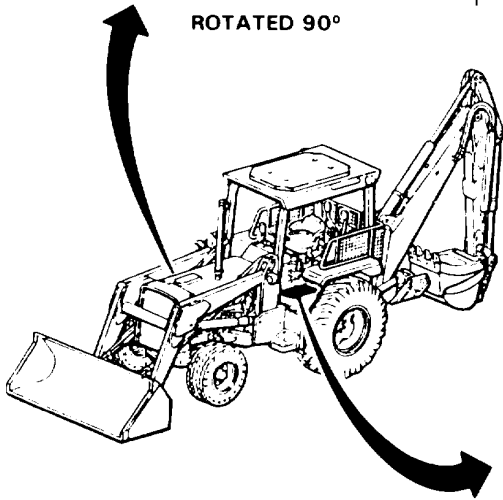
NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

BATTERY STARTER CABLE - CONTINUED



ROTATED 90°



TA243065

BATTERY STARTER CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (46 C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|---------------------------|---|
| 9. | Battery starter cable (1) | <ul style="list-style-type: none"> a. Using clean rags dampened with solvent cleaning compound, wipe clean. b. Using clean, dry rags, wipe dry. c. Using battery terminal cleaner, clean inside of terminal clamp (2) until shiny. |
|----|---------------------------|---|

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 1380F (380 to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|-----------------------|---|
| 10. | All other metal parts | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. |
|-----|-----------------------|---|

INSPECTION/REPLACEMENT

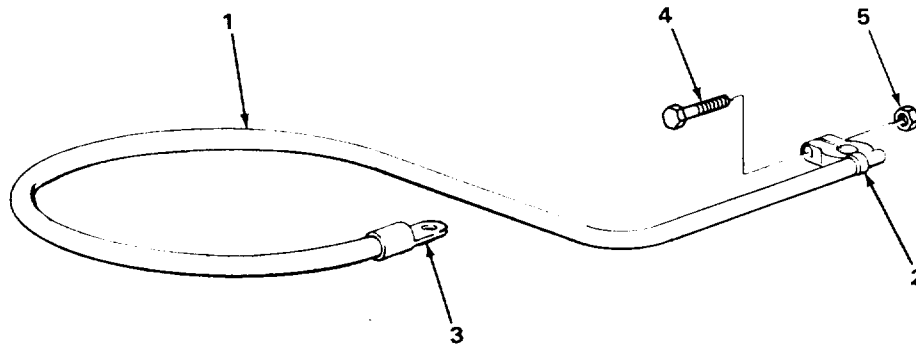
NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

BATTERY STARTER CABLE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
11.	Battery starter cable (1)	a. Look for cracked, burned, and worn insulation. b. Look for broken wires. c. Look for loose, corroded, stretched or cracked terminal clamp (2) and terminal (3). Clamp ends should not be able to touch when tightened onto negative battery terminal.
12.	All other metal parts	Look for cracks, breaks, abnormal bends, and corrosion damage.
13.	All threaded parts	Look for damaged threads.
ASSEMBLY		
14. Terminal clamp (2)	Screw (4) and nut (5)	Screw in but do not tighten.



TA243066

BATTERY STARTER CABLE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION			
15. Battery starter cable (1)	Two clamps (2)	Put in place as noted during removal.	
WARNING			
Do not smoke, use open flame, or allow sparks near batteries. The mixture of oxygen and hydrogen gases released from batteries is highly flammable and can explode causing serious injury or death.			
16. Loader backhoe	Battery starter cable (1)	Route into place as noted during removal.	
17. Terminal (3)	Terminal (4) and battery starter cable terminal (5)	a. Put on. b. Takeoff tags.	
18. Battery starter cable terminal (5), terminal (4), and terminal (3)	Nut (6) and new lockwasher (7)	Screw on and tighten using 9/16-inch box wrench.	
19. Two clamps (2)	Two screws (8) and new lockwashers (9)	a. Put clamps (2) in position noted during removal. b. Screw in and tighten using 9/16-inch, 3/8-inch drive socket and ratchet handle.	

CONNECTION

WARNING

Do not smoke, use open flame, or allow sparks near batteries. The mixture of oxygen and hydrogen gases released from batteries is highly flammable and can explode causing serious injury or death.

Electrolyte and battery corrosion can cause injury. Wear safety goggles and gloves. If for any reason electrolyte or battery corrosion contacts the eyes, skin, or clothing, flush immediately with large amounts of cool water and seek medical attention immediately.

BATTERY STARTER CABLE - CONTINUED

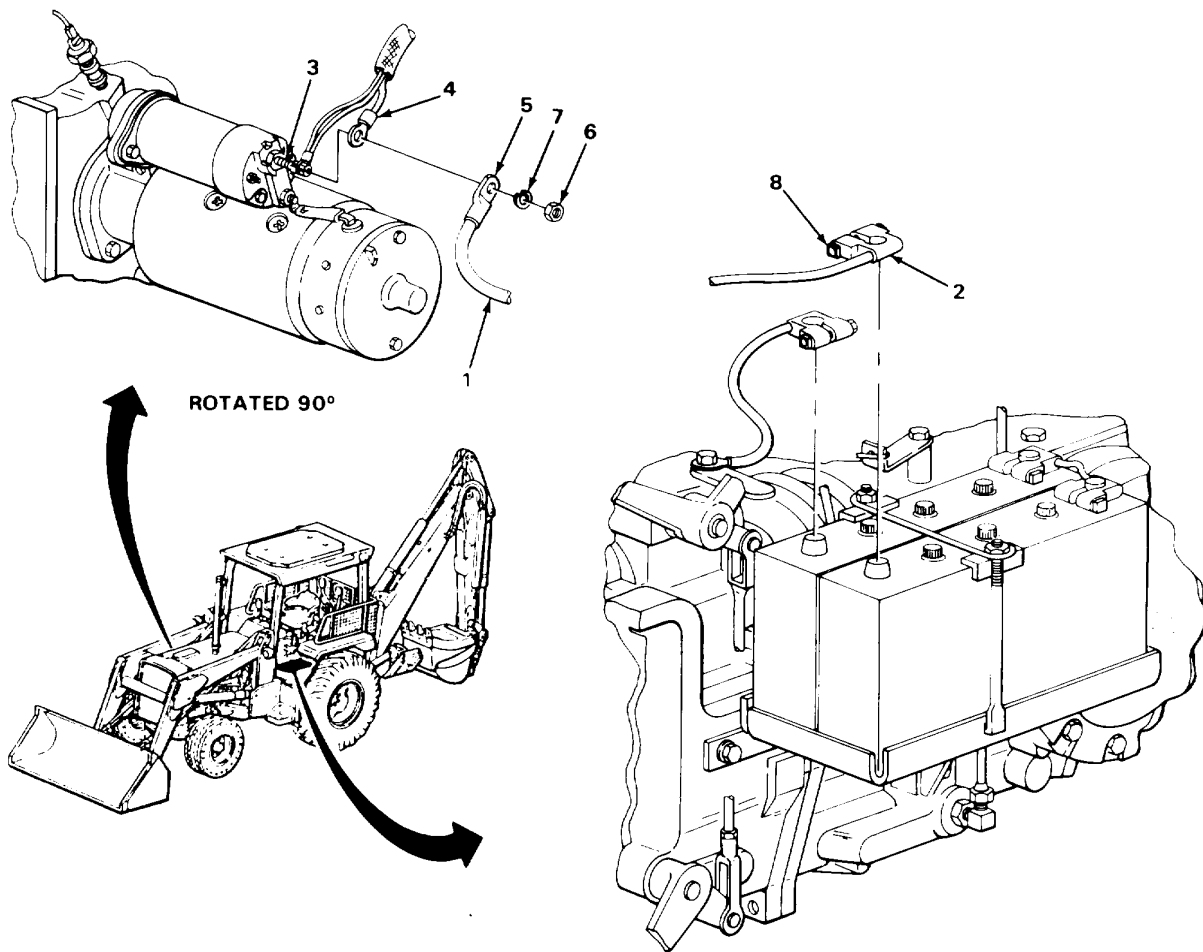
LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CONNECTION

NOTE

Step 20 does not apply if battery starter cable has been removed and cleaned.

20. Battery starter cable (1)	Terminal clamp (2)	Using battery terminal cleaner, clean inside hole until shiny.
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TA243067

BATTERY STARTER CABLE - CONTINUED

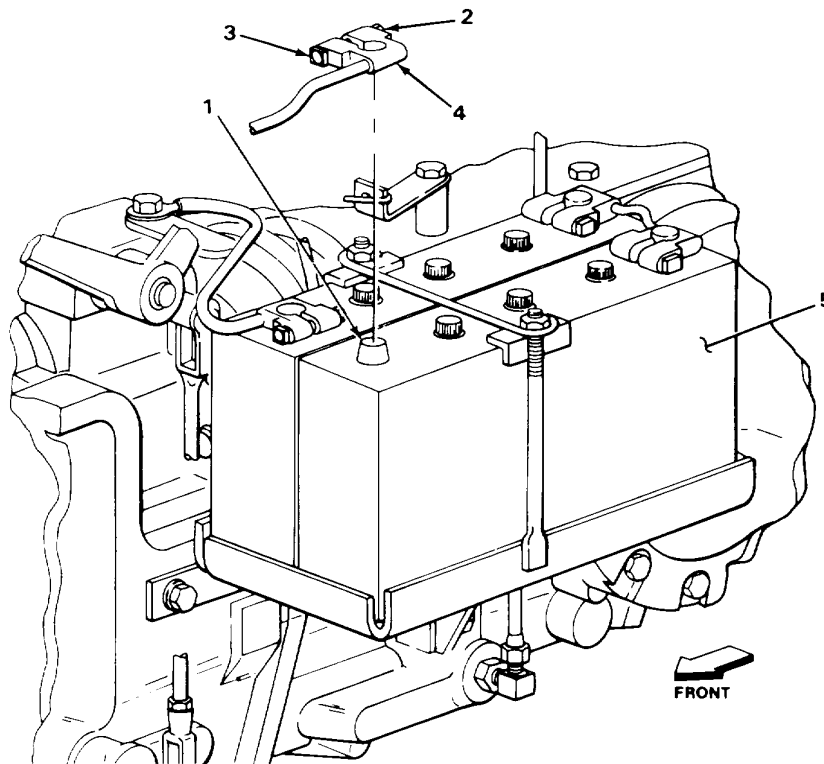
LOCATION	ITEM	ACTION	REMARKS
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CONNECTION - CONTINUED

CAUTION

Be sure to put battery starter cable on positive terminal. Starting engine with reversed battery polarity will damage ac generator and wiring.

- | | | | |
|-----------------------------------|--|--|--|
| 21. Positive battery terminal (1) | Terminal clamp (2) with assembled parts | Put on in position noted during disconnection. | |
| 22. Terminal clamp (2) | Screw (3) and nut (4) | Using 1/2-inch open-end and 11/2-inch box wrenches, tighten until connection is tight. | Connection is tight enough when clamp will not twist on terminal using thumb and two fingers. |
| 23. Battery (5) | Positive battery terminal (1) and terminal clamp (2) | Apply light coat of grease. | |



BATTERY STARTER CABLE - CONTINUED

NOTE

FOLLOW-ON MAINTENANCE: Connect battery ground cable (page 2-696).

TASK ENDS HERE

BATTERY TRAY

This task covers:

- | | |
|---|--|
| <ul style="list-style-type: none"> a. Removal (page 2-720) b. Cleaning (page 2-720) c. Inspection/Replacement (page 2-722) | <ul style="list-style-type: none"> d. Repair (page 2-722) e. Installation (page 2-722) |
|---|--|

INITIAL SETUP:

Tools

- Brush, scrub, floor
- Brush, wire
- Extension, 3/8-inch drive, 3-inch
- Handle, ratchet, 3/8-inch drive
- Socket, 3/8-inch drive, 9/16-inch

Materials/Parts

- Coating compound, plastic
(item 5, Appendix c)
- Lockwasher, battery tray screw
(three required)

Materials/Parts - Continued

- Rags, wiping (item 21, Appendix C)
- Sodium, bicarbonate (item 25, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)

Personnel Required

One

Equipment Condition

Batteries removed (page 2-692)

2-719

BATTERY TRAY - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
WARNING			
Electrolyte and battery corrosion can cause injury. Wear safety goggles and gloves. If for any reason electrolyte or battery corrosion contacts the eyes, skin, or clothing, flush immediately with large amounts of cool water and seek medical attention immediately.			
1. Battery tray (1) and transmission case (2)	Three screws (3) and lockwashers (4)	a. Using 9/16-inch, 3/8-inch drive socket, 3-inch extension, and ratchet handle, unscrew and take out. b. Get rid of lockwashers (4).	
2. Transmission case (2)	Battery tray (1)	Take off.	

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

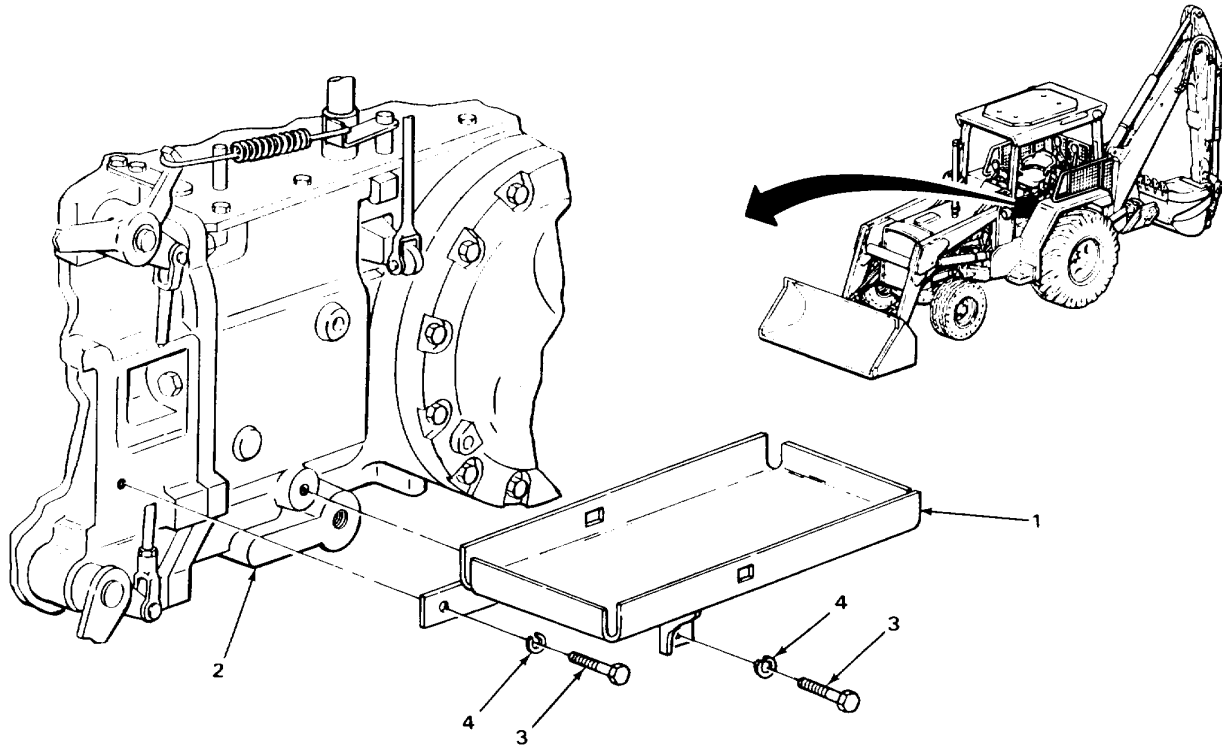
Electrolyte and battery corrosion can cause injury. Wear safety goggles and gloves. If for any reason electrolyte or battery corrosion contacts the eyes, skin, or clothing, flush immediately with large amounts of cool water and seek medical attention immediately.

- | | | |
|----|------------------|--|
| 3. | Battery tray (1) | a. Using solution of 1/2-pound (0.28 kg)
sodium bicarbonate for each gallon
(38 liters) of water and floor scrub
brush, clean and flush until no
bubbles appear when new solution
is applied. |
|----|------------------|--|

BATTERYTRAY - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

- | | | | |
|--------------|------------------|--|--|
| 3. Continued | Battery tray (1) | <ul style="list-style-type: none"> b. Using clean water, rinse. c. Using wire brush, clean off any loose paint. d. Using clean, dry rags, wipe dry. | |
|--------------|------------------|--|--|



TA243069

BATTERY TRAY - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CLEANING - CONTINUED

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 1380F (380 to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|----|------------------|---|--|
| 4. | Three screws (2) | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. | |
|----|------------------|---|--|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to **General Maintenance Instructions (page 2-137)**.

Replace defective parts as needed.

- | | | | |
|----|------------------|--|--|
| 5. | Battery tray (1) | a. Look for cracks, breaks, and abnormal bends.
b. Look for corrosion damage.
c. Look for missing paint. | |
| 6. | Three screws (2) | a. Look for cracks, breaks, and abnormal bends.
b. Look for damaged threads. | |

REPAIR

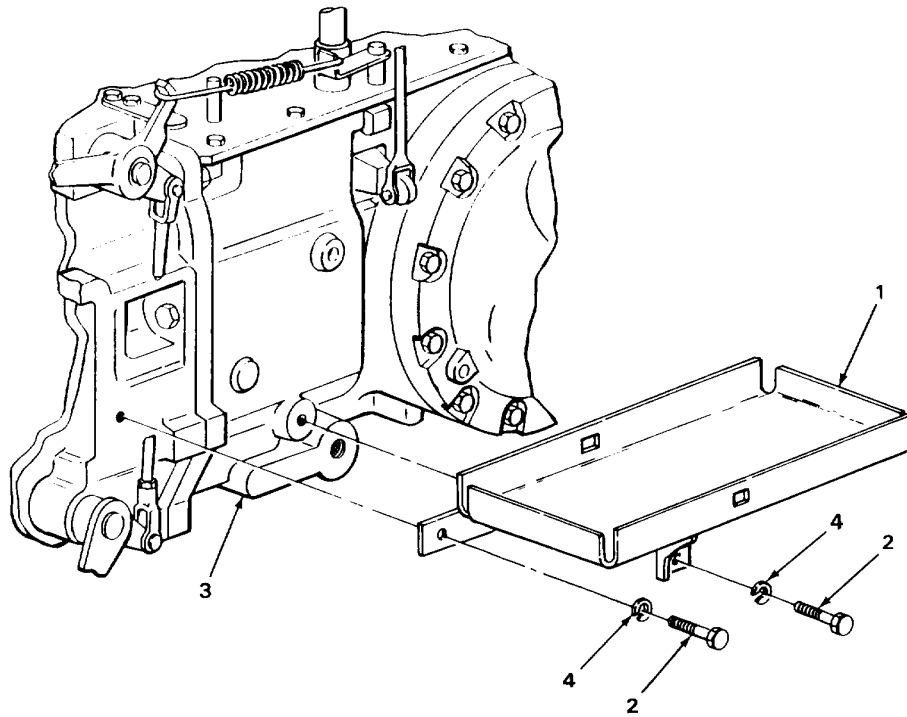
- | | | | |
|----|------------------|---|--|
| 7. | Battery tray (1) | If paint is missing, using plastic coating compound, paint. | |
|----|------------------|---|--|

INSTALLATION

- | | | | |
|--------------------------|------------------|---------------|--|
| 8. Transmission case (3) | Battery tray (1) | Put in place. | |
|--------------------------|------------------|---------------|--|

BATTERY TRAY - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
9. Battery tray (1) and transmission case (3)	Three screws (2) and new lockwashers (4)	Screw in and tighten using 9/16-inch, 3/8-inch drive socket, 3-inch extension, and ratchet handle.	



NOTE

FOLLOW-ON MAINTENANCE: Install batteries (page 2-692).

TASK ENDS HERE

TA2430/0

WARNING ALARM WIRING HARNESS

This task covers:

- a. Removal (page 2-724)
- b. Cleaning (page 2-726)
- c. Inspection/Replacement (page 2-728)
- d. Repair (page 2-728)
- e. Installation (page 2-728)

INITIAL SETUP:

Tools

- Pliers, diagonal-cutting
- Pliers, slip-joint
- Wrench, box, 3/8-inch

Materials/Parts

- Band, plastic, electrical tiedown (as required)
- Cleaning compound, solvent (item 4, Appendix C)
- Lockwasher, circuit breaker nut
- Nut, assembled washer, reverse warning alarm terminal
- Rags, wiping (item 21, Appendix C)

Materials/Parts - Continued

- Tags, marking (item 30, Appendix C)

Personnel Required

One

Equipment Condition

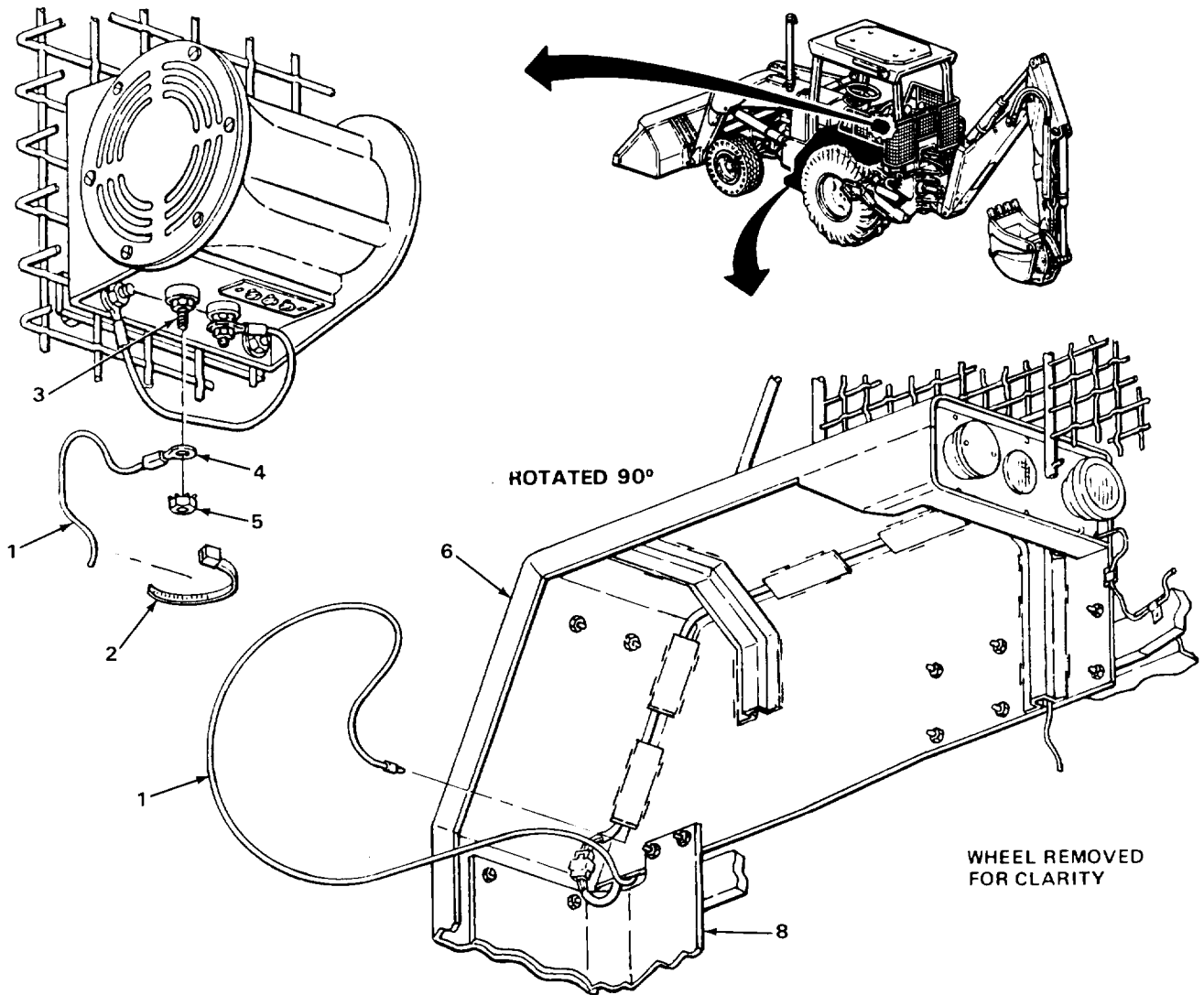
1. Battery ground cable disconnected (page 2-696)
2. Left platform removed (page 2-1060)
3. Right platform removed (page 2-1079)
4. Cowl front cover removed (page 2-1020)

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Alarm wiring harness (1) and loader backhoe	Plastic bands (2)	<ol style="list-style-type: none"> a. Note number and location for proper placement during installation. b. Using diagonal-cutting pliers, cut and take off. c. Get rid of.
2.	Reverse warning alarm terminal (3) and terminal (4)	Assembled washer nut (5)	<ol style="list-style-type: none"> a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of.
3.	Reverse warning alarm terminal (3)	Terminal (4)	<ol style="list-style-type: none"> a. Tag (page 2-137). b. Take off.

WARNING ALARM WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

- | | | | |
|---------------|--------------------------|--|--|
| 4. Fender (6) | Alarm wiring harness (1) | Pull out through fender braces from front. | |
|---------------|--------------------------|--|--|



WARNING ALARM WIRING HARNESS - CONTINUED

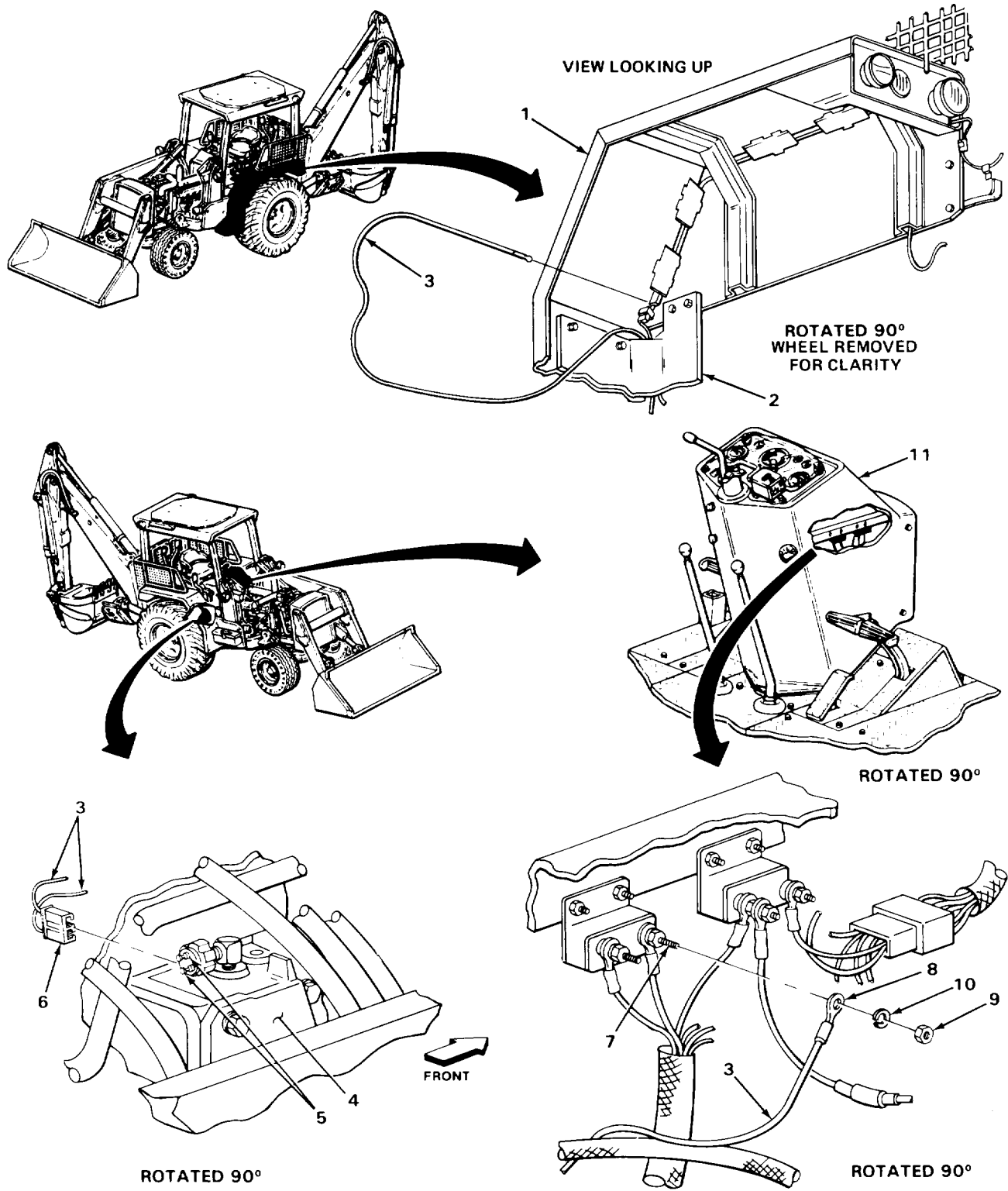
LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
5.	Fender (1) and fender support (2)	Alarm wiring harness (3)	Working from inside loader backhoe, pull through hole between fender support (2) and fender (1).
6.	Transmission (4)	Alarm wiring harness (3)	Working from hole where right platform goes, pull over top of transmission (4).
7.	Alarm switch two terminals (5)	Connector (6)	a. Tag (page 2-137). b. Pull off.
8.	40 ampere circuit breaker terminal (7) and terminal (8)	Nut (9) and lockwasher (10)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (10).
9.	40 ampere circuit breaker terminal (7)	Terminal (8)	a. Tag (page 2-137). b. Take off.
10.	Cowl (11)	Alarm wiring harness (3)	Note routing for proper placement during installation and take out.
11.	Transmission (4)	Alarm wiring harness (3)	Note routing for proper placement during installation and take out.
12.	Loader backhoe	Alarm wiring harness (3)	Take out.

CLEANING**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

2-726

WARNING ALARM WIRING HARNESS - CONTINUED



TA243072

WARNING ALARM WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CLEANING - CONTINUED

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (46°C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|-----|--------------------------|--|--|
| 13. | Alarm wiring harness (1) | <ul style="list-style-type: none"> a. Using rag dampened with solvent cleaning compound, wipe clean. b. Dip connector (2) in solvent cleaning compound. c. Using clean, dry rags, wipe dry. | |
|-----|--------------------------|--|--|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to **General Maintenance Instructions (page 2-137)**.

Replace defective parts which cannot be repaired.

- | | | | |
|-----|--------------------------|---|--|
| 14. | Alarm wiring harness (1) | <ul style="list-style-type: none"> a. Look for cracked, burned, and worn insulation. b. Look for broken wires. c. Look for loose and corroded terminals. | |
|-----|--------------------------|---|--|

REPAIR

NOTE

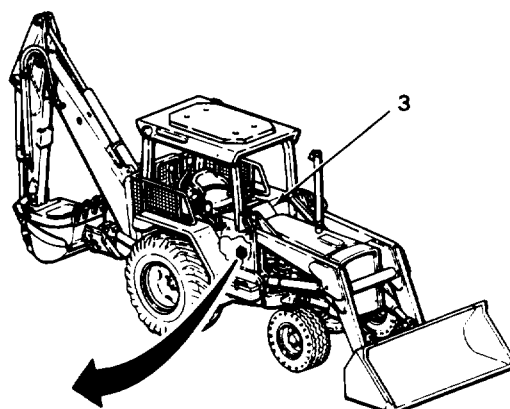
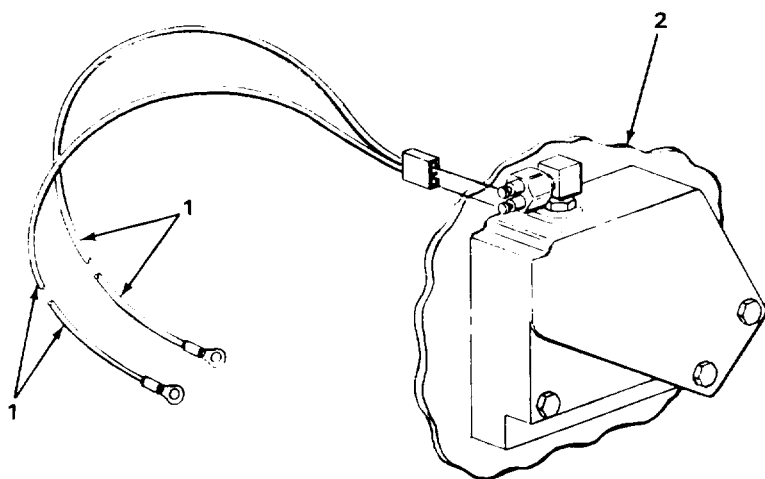
For more information on how to repair wiring, go to **General Maintenance Instructions (page 2-137)**.

INSTALLATION

- | | | | |
|--------------------|--------------------------|--|--|
| 15. Loader backhoe | Alarm wiring harness (1) | Put in next to right side of transmission. | |
|--------------------|--------------------------|--|--|

WARNING ALARM WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
16. Transmission (2)	Alarm wiring harness (1)	Route into place as noted during removal.
17. Cowl (3)	Alarm wiring harness (1)	Route into place as noted during removal.

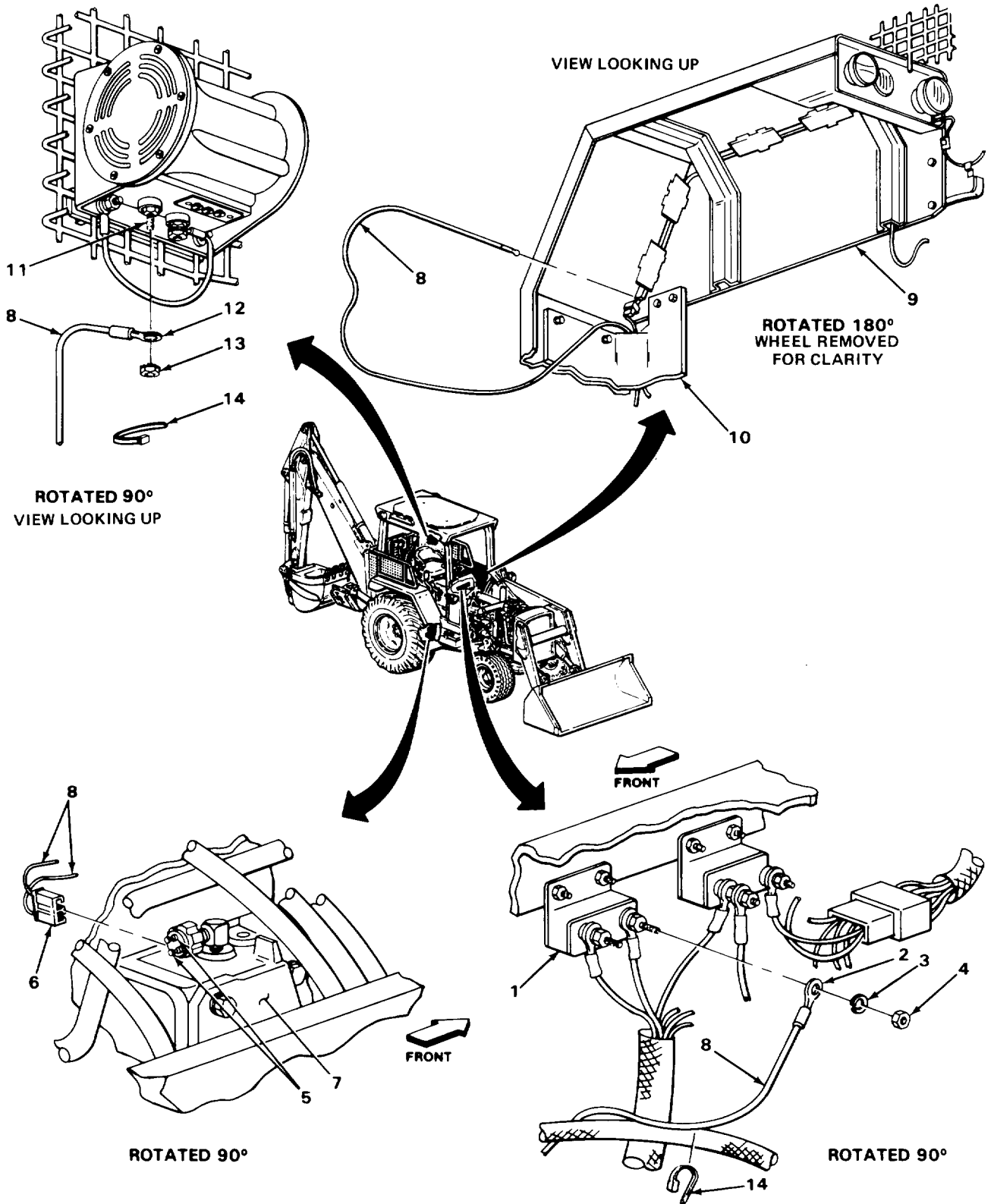


TA243073

WARNING ALARM WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
18.	40 ampere circuit breaker (1)	Terminal (2)	a. Put on. b. Take off tag.
19.	40 ampere circuit breaker terminal (1) and terminal (2)	New lockwasher (3) and nut (4)	Screw on and tighten using 3/8-inch box wrench.
20.	Alarm switch with two terminals (5)	Connector (6)	a. Push on. b. Take off tag.
21.	Transmission (7)	Alarm wiring harness (8)	Route over top of transmission (7) as noted during removal.
22.	Fender (9) and fender support (10)	Alarm wiring harness (8)	Push through hole between fender (9) and fender support (10).
23.	Fender (9) harness (8)	Alarm wiring harness (8)	Push in through fender braces from front until taut.
24.	Reverse warning alarm terminal (11)	Terminal (12)	Put on.
25.	Reverse warning alarm terminal (11) and terminal (12)	New assembled washer nut (13)	Screw on and tighten using 3/8-inch box wrench.
26.	Alarm wiring harness (8) and loader backhoe	New plastic bands (14)	a. Put on same number in same places as noted during removal. b. Using slip-joint pliers, pull tight.

WARNING ALARM WIRING HARNESS - CONTINUED



WARNING ALARM WIRING HARNESS - CONTINUED

INSTALLATION - CONTINUED

NOTE

FOLLOW-ON MAINTENANCE:

1. Install cowl front cover (page 2-1020).
2. Install left platform (page 2-1060).
3. Install right platform (page 2-1079).
4. Connect battery ground cable (page 2-696).

TASK ENDS HERE

HORN WIRING HARNESS (SERIAL NUMBERS 235786 THRU 235999 ONLY)

This task covers:

- | | |
|--|------------------------------|
| a. Removal (page 2-732) | d. Repair (page 2-736) |
| b. Cleaning (page 2-734) | e. Installation (page 2-736) |
| c. Inspection/Replacement (page 2-734) | |
-

INITIAL SETUP

Tools	Personnel Required
Wrench, box, 3/8-inch	One
Materials/Parts	Equipment Condition
Cleaning compound, solvent (item 4, Appendix c)	1. Battery ground cable disconnected (page 2-696)
Lockwasher, circuit breaker terminal nut	2. Cowl front cover removed (page 2-1020)
Rags, wiping (item 21, Appendix C)	
Tags, marking (item 30, Appendix C)	

LOCATION	ITEM	ACTION REMARKS
----------	------	-------------------

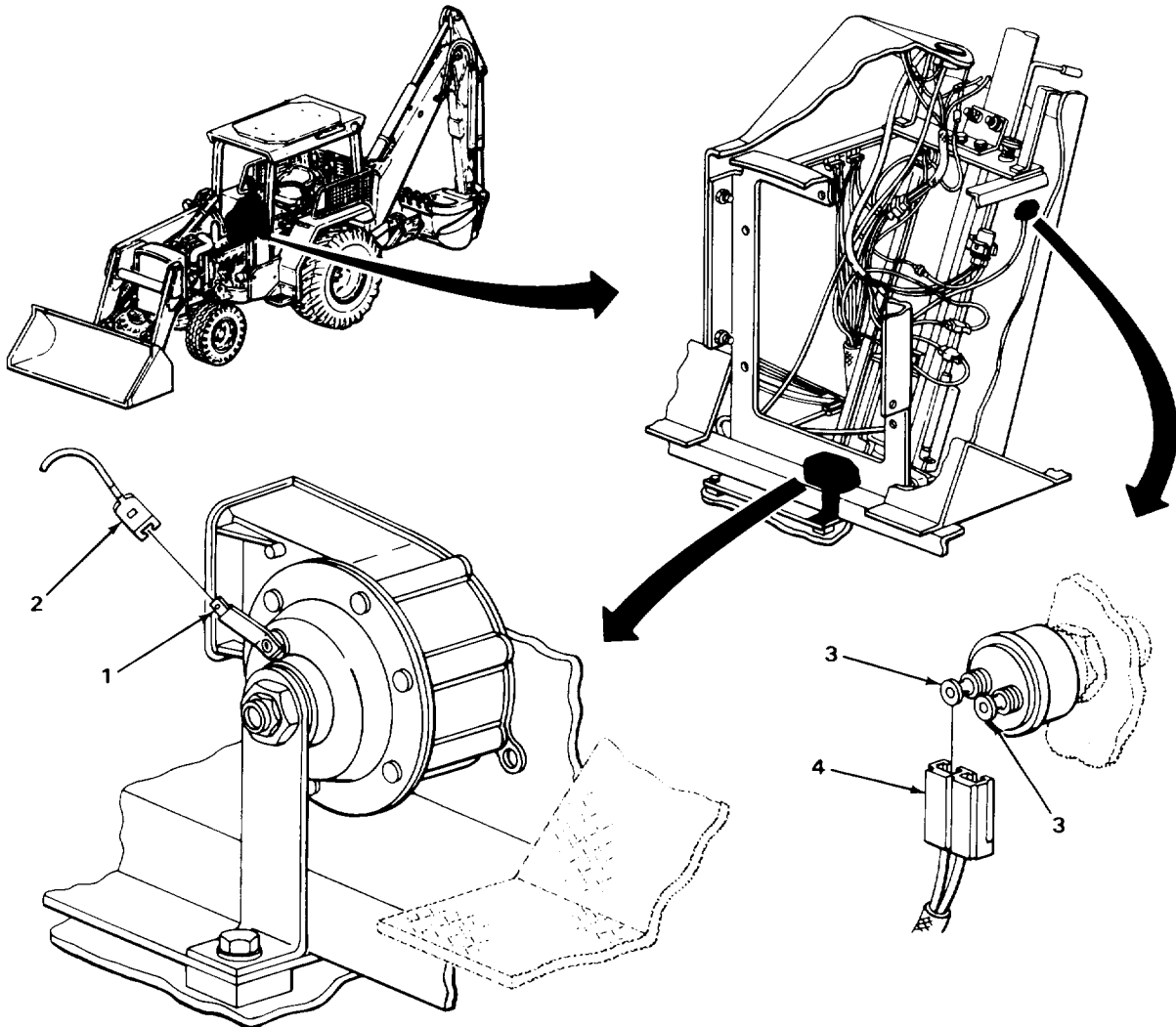
REMOVAL

- | | | |
|----------------------|---------------|--|
| 1. Horn terminal (1) | Connector (2) | <ol style="list-style-type: none"> a. Tag (page 2-137). b. Unplug. |
|----------------------|---------------|--|

HORN WIRING HARNESS (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

- | | | | |
|---------------------------------------|---------------|------------------------------------|--|
| 2. Horn switch with two terminals (3) | Connector (4) | a. Tag (page 2-137).
b. Unplug. | |
|---------------------------------------|---------------|------------------------------------|--|



TA243075

HORN WIRING HARNESS (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
3.	Circuit breaker terminal (1) and terminal (2)	Nut (3) and lockwasher (4)	a. Using 3/8-inch box wrench, unscrew and take out. b. Get rid of lockwasher (4).
4.	Circuit breaker terminal (1)	Terminal (2)	a. Tag (page 2-137). b. Take off.
5.	Cowl (5)	Horn wiring harness (6)	a. Note routing for proper placement during installation. b. Take out.

CLEANING**NOTE**

For more information on how to clean parts, go to **General Maintenance Instructions (page 2-VI-1)**.

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 1140F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

6.	Horn wiring harness (6)		a. Using clean rags dampened with solvent cleaning compound, wipe clean. b. Dip connectors in solvent cleaning compound. c. Using clean, dry rags, wipe dry.
----	-------------------------	--	--

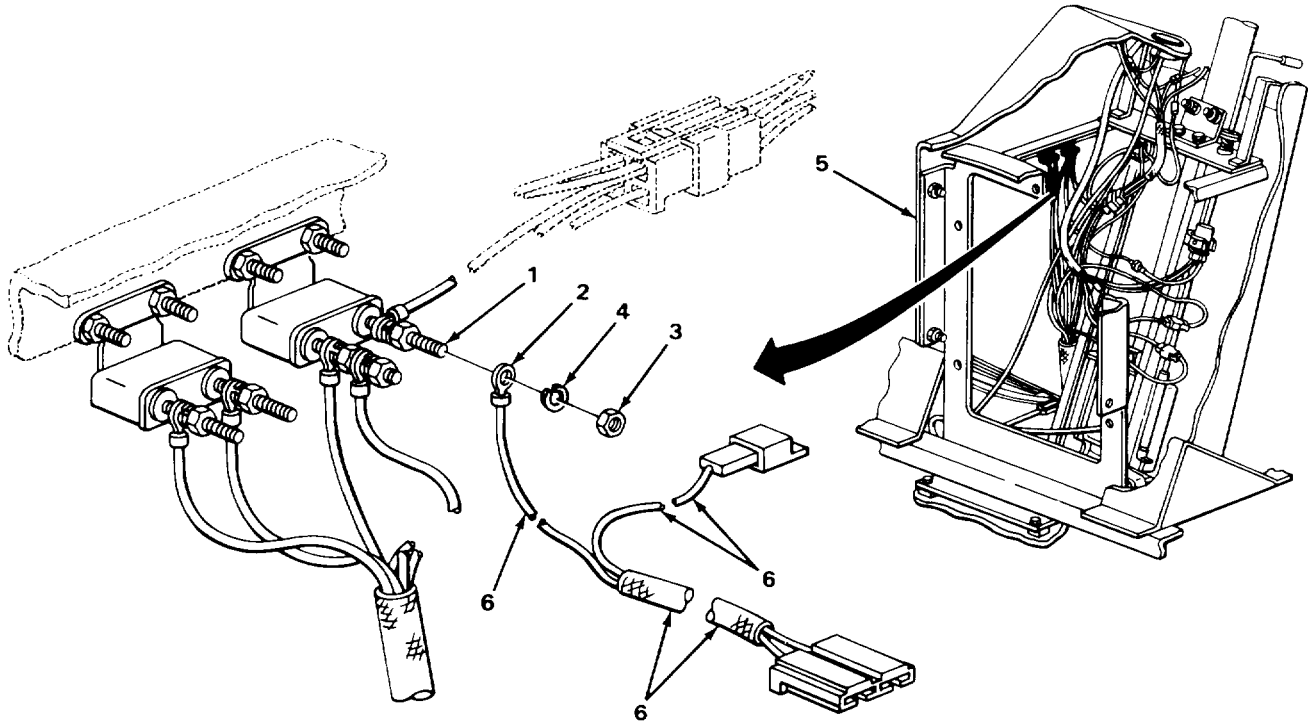
INSPECTION/REPLACEMENT**NOTE**

For more information on how to inspect parts, go to **General Maintenance Instructions (page 2-137)**.

Replace defective parts which cannot be repaired.

HORN WIRING HARNESS (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
7.	Horn wiring harness (6)	<ul style="list-style-type: none"> a. Look for cracks, breaks, and abnormal bends. b. Look for broken wires. c. Look for loose and corroded terminals. 	



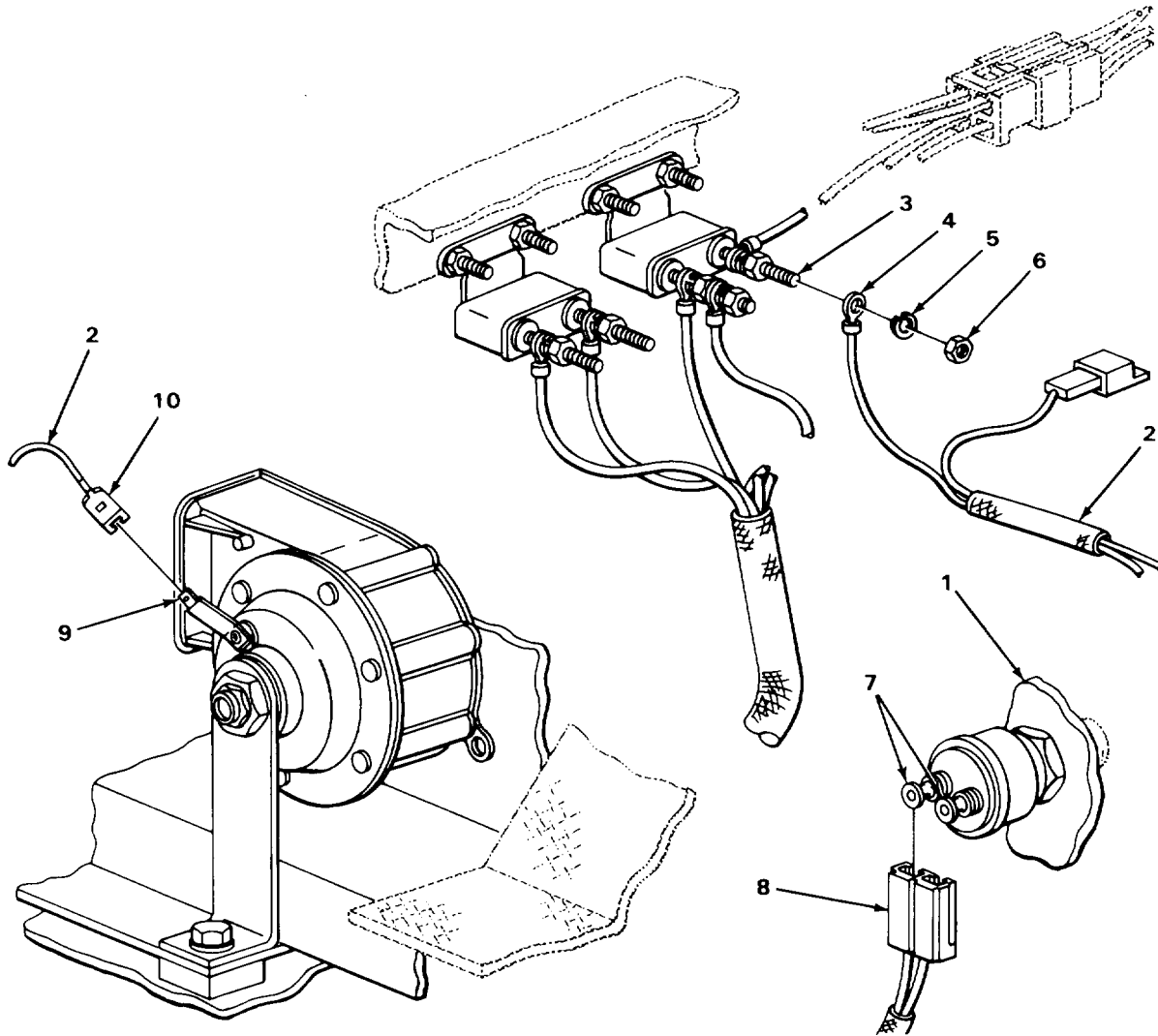
2-735

TA243076

HORN WIRING HARNESS (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REPAIR			
NOTE			
For more information on how to repair wiring, go to General Maintenance Instructions (page 2-137).			
INSTALLATION			
8. Cowl (1) harness (2)	Horn wiring		Route into place as noted during removal.
9. Circuit breaker terminal (3)	Terminal (4)		a. Put on. b. Take off tag.
10. Circuit breaker terminal (3) and terminal (4)	New lockwasher (5) and nut (6)		Screw on and tighten using 3/8-inch box wrench.
11. Horn switch with two terminals (7)	Connector (8)		a. Push on. b. Take off tag.
12. Horn terminal (9)	Connector (10)		a. Push on. b. Take off tag.

HORN WIRING HARNESS (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Install cowl front cover (page 2-1020).
2. Connect battery ground cable (page 2-696).

TASK ENDS HERE

REAR LIGHT WIRING HARNESSSES

This task covers:

- | | |
|--|------------------------------|
| a. Removal (page 2-738) | d. Repair (page 2-742) |
| b. Cleaning (page 2-742) | e. Installation (page 2-743) |
| c. Inspection/Replacement (page 2-742) | |
-

INITIAL SETUP

Tools

Screwdriver, flat-tip, 1/8-inch

Personnel Required

One

Materials/Parts

Cleaning compound, solvent
(item 4, Appendix C)
Rags, wiping (item 21, Appendix C)
Tags, marking (item 30, Appendix C)
Tape, duct (item 31, Appendix C)
Tape, lacing and tying
(item 33, Appendix C)

Equipment Condition

Battery ground cable disconnected
(page 2-696)

LOCATION	ITEM	ACTION	REMARKS
-----------------	-------------	---------------	----------------

NOTE

Both rear light wiring harnesses are maintained the same way. One side is shown. Repeat procedures for other side as needed.

REMOVAL

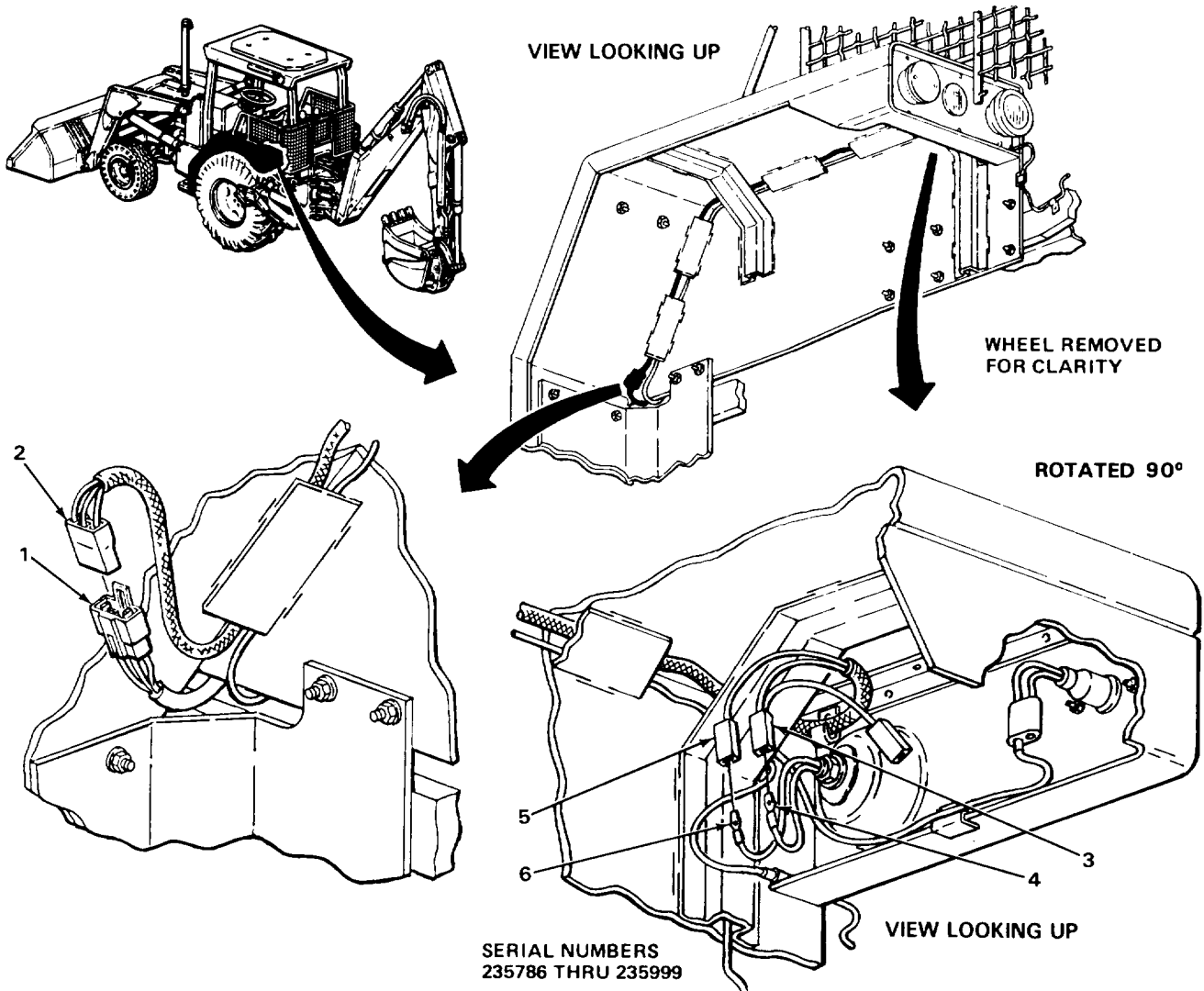
- | | | |
|------------------|---------------|---|
| 1. Connector (1) | Connector (2) | <ul style="list-style-type: none"> a. Tag (page 2-137). b. Lift tab on connector (1). c. Unplug. |
|------------------|---------------|---|

NOTE

Steps 2 and 3 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

- | | | |
|------------------|---------------|--|
| 2. Connector (3) | Connector (4) | <ul style="list-style-type: none"> a. Tag (page 2-137). b. Unplug. |
| 3. Connector (5) | Connector (6) | <ul style="list-style-type: none"> a. Tag (page 2-137). b. Unplug. |

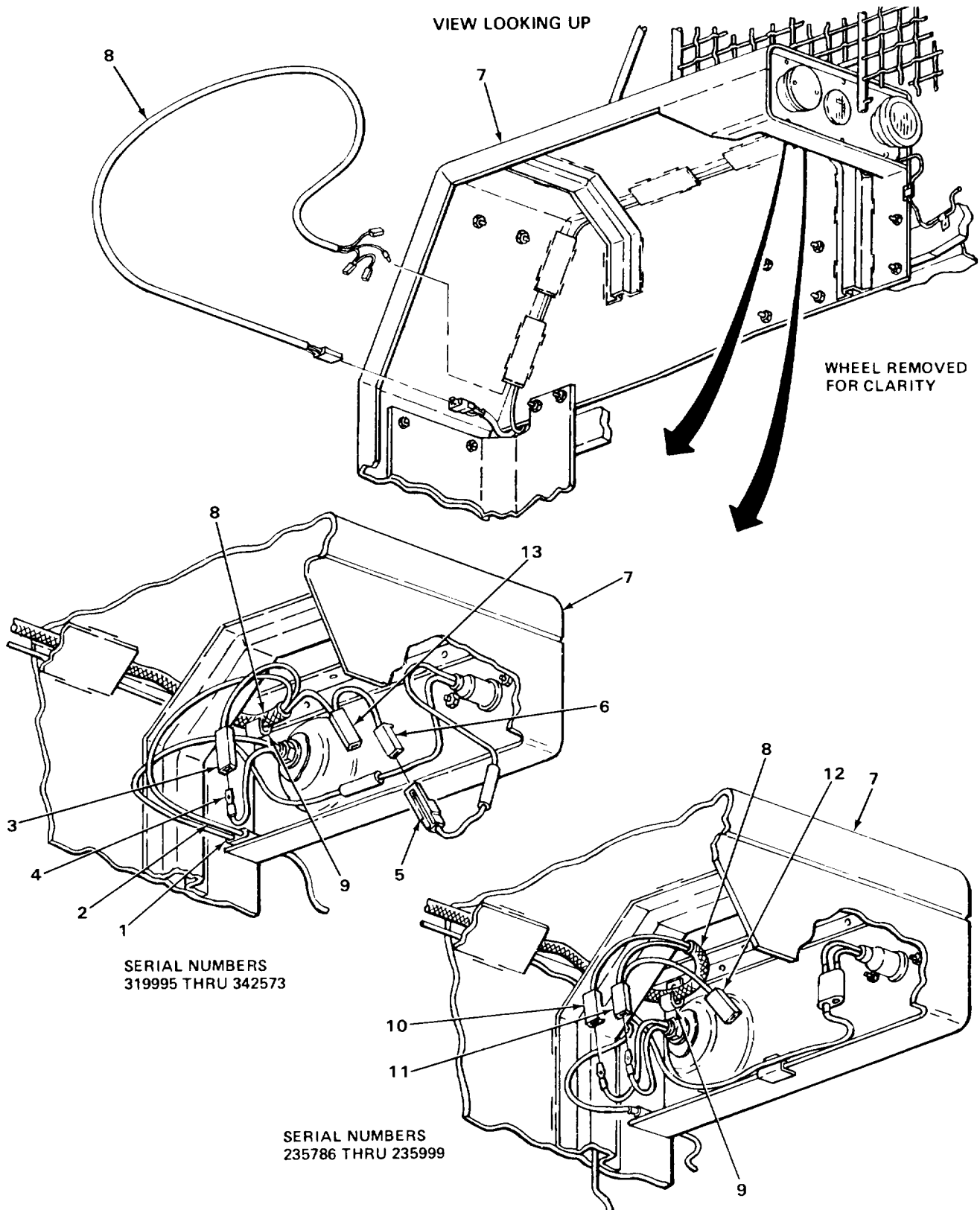
REAR LIGHT WIRING HARNESSSES - CONTINUED



REAR LIGHT WIRING HARNESSES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
NOTE			
Steps 4 thru 6 only apply to loader backhoes with Serial Numbers 319995 thru 342573.			
4.	Connector (1)	Connector (2)	a. Tag (page 2-137). b. Unplug.
5.	Connector (3)	Connector (4)	a. Tag (page 2-137). b. Unplug.
6.	Connector (5)	Connector (6)	a. Tag (page 2-137). b. Using 1/8-inch flat-tip screwdriver, lift tab on connector (5). c. Unplug.
7.	Fender (7) and rear light wiring harness (8)	Clip (9)	Using 1/8-inch flat-tip screwdriver, pry open.
8.	Clip (9)	Rear light wiring harness (8)	Take out.
9.	Rear light wiring harness (8)	Three connectors (10, 11, and 12) or four connectors (2, 3, 6, and 13)	a. Using duct tape, tape into smallest diameter bundle possible. Bundled connectors must be able to pass between fender and braces. b. Tie on 7 feet (2.13 m) of lacing and tying tape.
10.	Fender (7)	Rear light wiring harness (8)	Pull out through fender and braces from front. Leave lacing and tying tape between fender and braces to aid in installation, step 19.
11.	Rear light wiring harness (8)	Three connectors (10, 11, and 12) or four connectors (2, 3, 6, and 13)	a. Untie and take off lacing and tying b. Take off duct tape.

REAR LIGHT WIRING HARNESSES - CONTINUED



REAR LIGHT WIRING HARNESSSES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|-------------------------------|--|
| 12. | Rear light wiring harness (1) | <ul style="list-style-type: none"> a. Using clean rags dampened with solvent cleaning compound, wipe clean. b. Dip connectors in solvent cleaning compound. c. Using clean, dry rags, wipe dry. |
|-----|-------------------------------|--|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

- | | | |
|-----|-------------------------------|---|
| 13. | Rear light wiring harness (1) | <ul style="list-style-type: none"> a. Look for cracked, burned, and worn insulation. b. Look for broken wires. c. Look for loose and corroded terminals. |
|-----|-------------------------------|---|

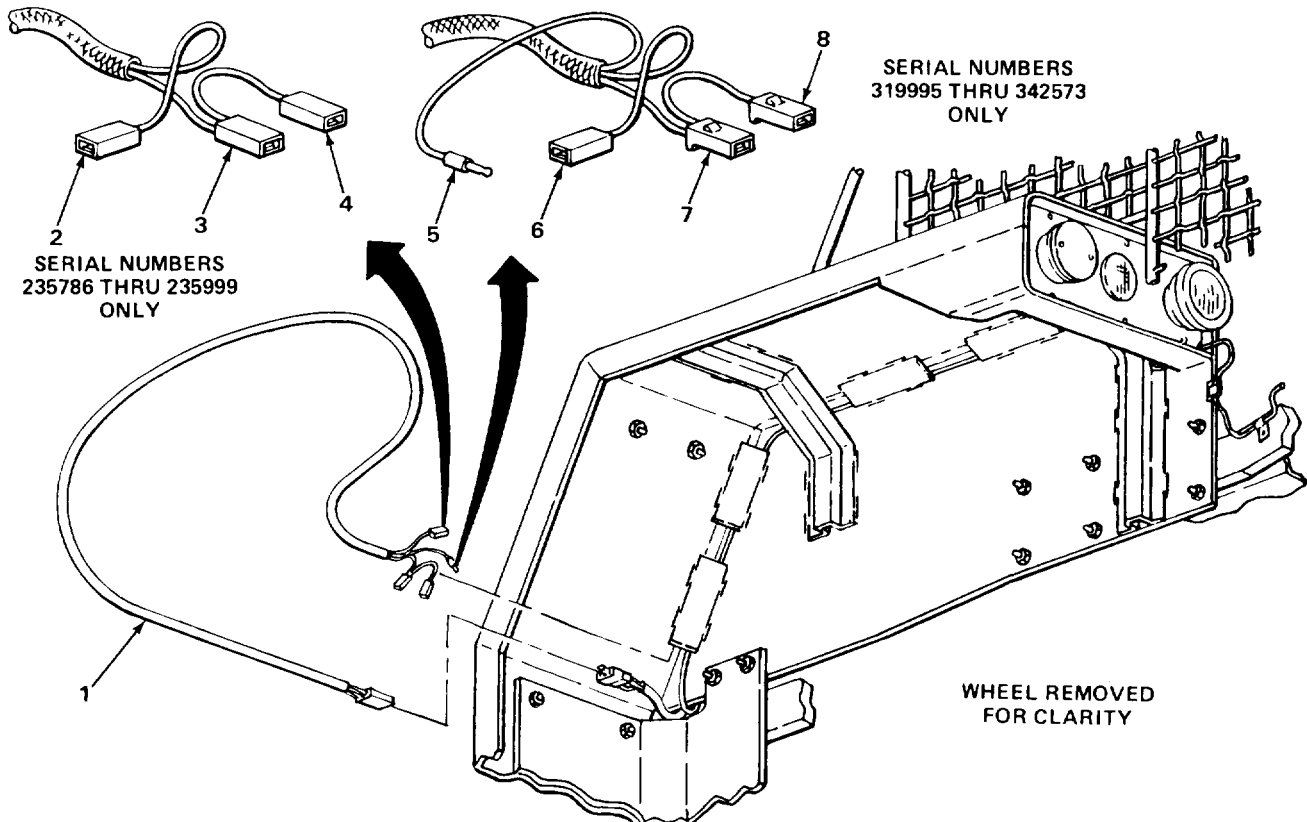
REPAIR

NOTE

For more information on how to repair wiring, go to General Maintenance Instructions (page 2-137).

REAR LIGHT WIRING HARNESSSES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION			
14. Rear light wiring harness (1)	Three connectors (2, 3, and 4) or four connectors (5, 6, 7, and 8)	a. Using duct tape, tape into smallest diameter bundle possible. b. Tie on 7 feet (2.13 m) of lacing and tying tape left in fender and braces in step 10.	Bundled connectors must be able to pass between fender and braces.
15. Fender (9)	Rear light wiring harness (1)	Using lacing and tying tape, pull through between fender and braces.	
16. Rear light wiring	Three connectors harness (1) (2, 3, and 4) or four connectors (5, 6, 7, and 8)	a. Untie and take off lacing and tying tape. b. Take off duct tape.	



TA243080

REAR LIGHT WIRING HARNESSES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

INSTALLATION - CONTINUED

- | | | | |
|-----|--|-------------------------------|--------------|
| 17. | Clip (1) | Rear light wiring harness (2) | Put in. |
| 18. | Fender (3) and rear light wiring harness (2) | Clip (1) | Bend closed. |

NOTE

Steps 19 thru 21 only apply to loader backhoes with Serial Numbers 319995 thru 342573.

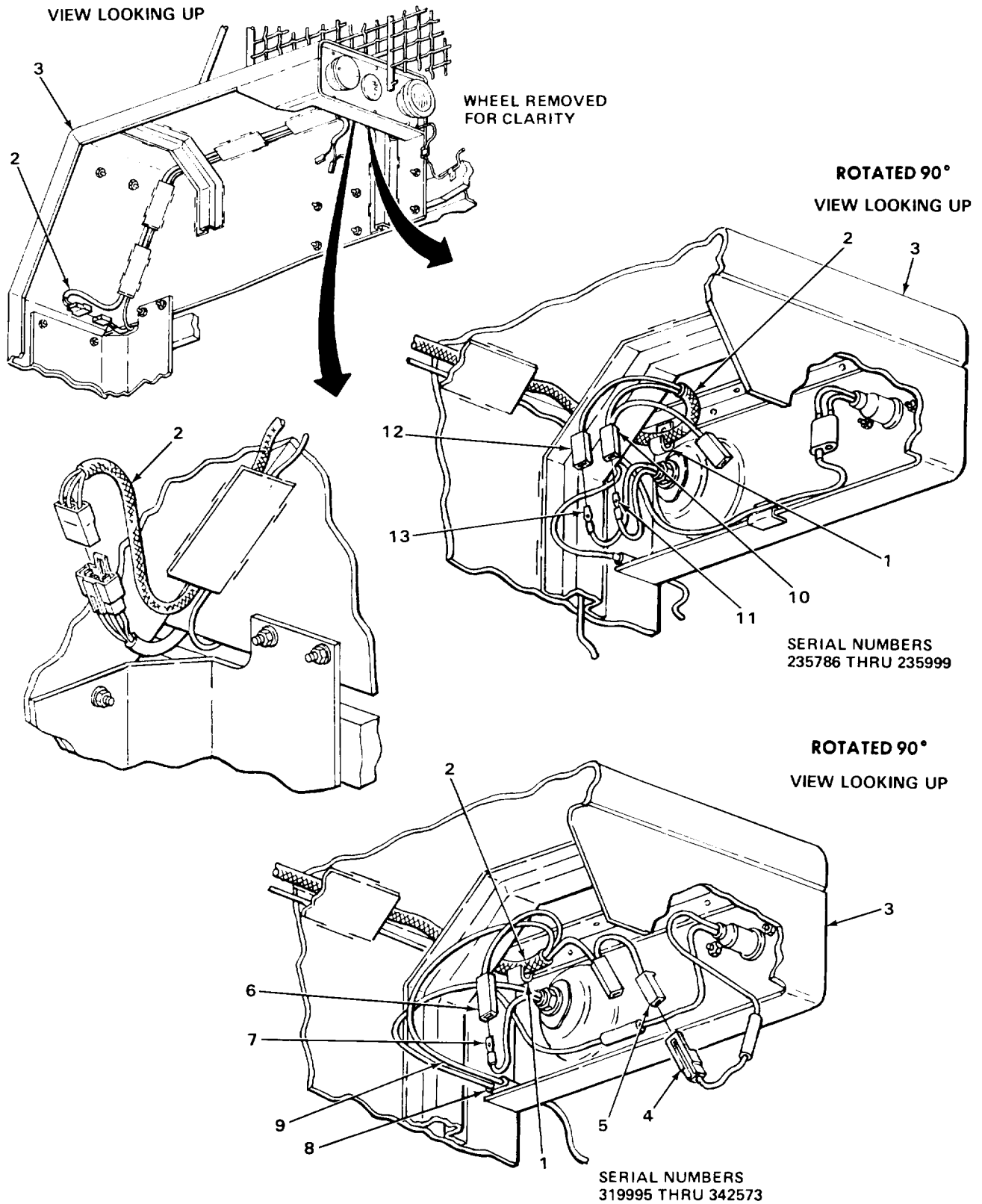
- | | | | |
|-----|---------------|---------------|----------------------------------|
| 19. | Connector(4) | Connector (5) | a. Plug in.
b. Take off tags. |
| 20. | Connector (6) | Connector (7) | a. Plug in.
b. Take off tags. |
| 21. | Connector(8) | Connector (9) | a. Plug in.
b. Take off tags. |

NOTE

Steps 22 and 23 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

- | | | | |
|-----|---------------|----------------|----------------------------------|
| 22. | Connector(10) | Connector(11) | a. Plug in.
b. Take off tags. |
| 23. | Connector(12) | Connector (13) | a. Plug in.
b. Take off tags. |
| 24. | Connector(14) | Connector (15) | a. Plug in.
b. Take off tags. |

REAR LIGHT WIRING HARNESSSES - CONTINUED



REAR LIGHT WIRING HARNESSSES - CONTINUED

NOTE

FOLLOW-ON MAINTENANCE: Connect battery ground cable (page 2-696).

TASK ENDS HERE

COMBINATION TAIL AND STOPLIGHT PLUG AND WIRE ASSEMBLIES

This task covers:

- | | |
|--|------------------------------|
| a. Removal (page 2-746) | d. Repair(page 2-749) |
| b. Cleaning (page 2-748) | e. Installation (page 2-750) |
| c. Inspection/Replacement (page 2-748) | |
-

INITIAL SETUP

Materials/Parts	Personnel Required
Cleaning compound, solvent (item 4, Appendix C)	One
Rags, wiping (item 21, Appendix C)	Equipment Condition
Tags, marking (item 30, Appendix C)	Battery ground cable disconnected (page 2-696)

LOCATION	ITEM	ACTION	REMARKS
-----------------	-------------	---------------	----------------

NOTE

Both combination tail and stoplight plug and wire assemblies are maintained the same way. One side is shown. Repeat procedures for other side as needed.

REMOVAL

NOTE

Step 1 only applies to loader backhoes with Serial Numbers 235786 thru 235999.

- | | | |
|------------------------|---------------------------------|----------------------|
| 1. Double connector(1) | Connector (2) and connector (3) | a. Tag (page 2-137). |
| | | b. Unplug. |

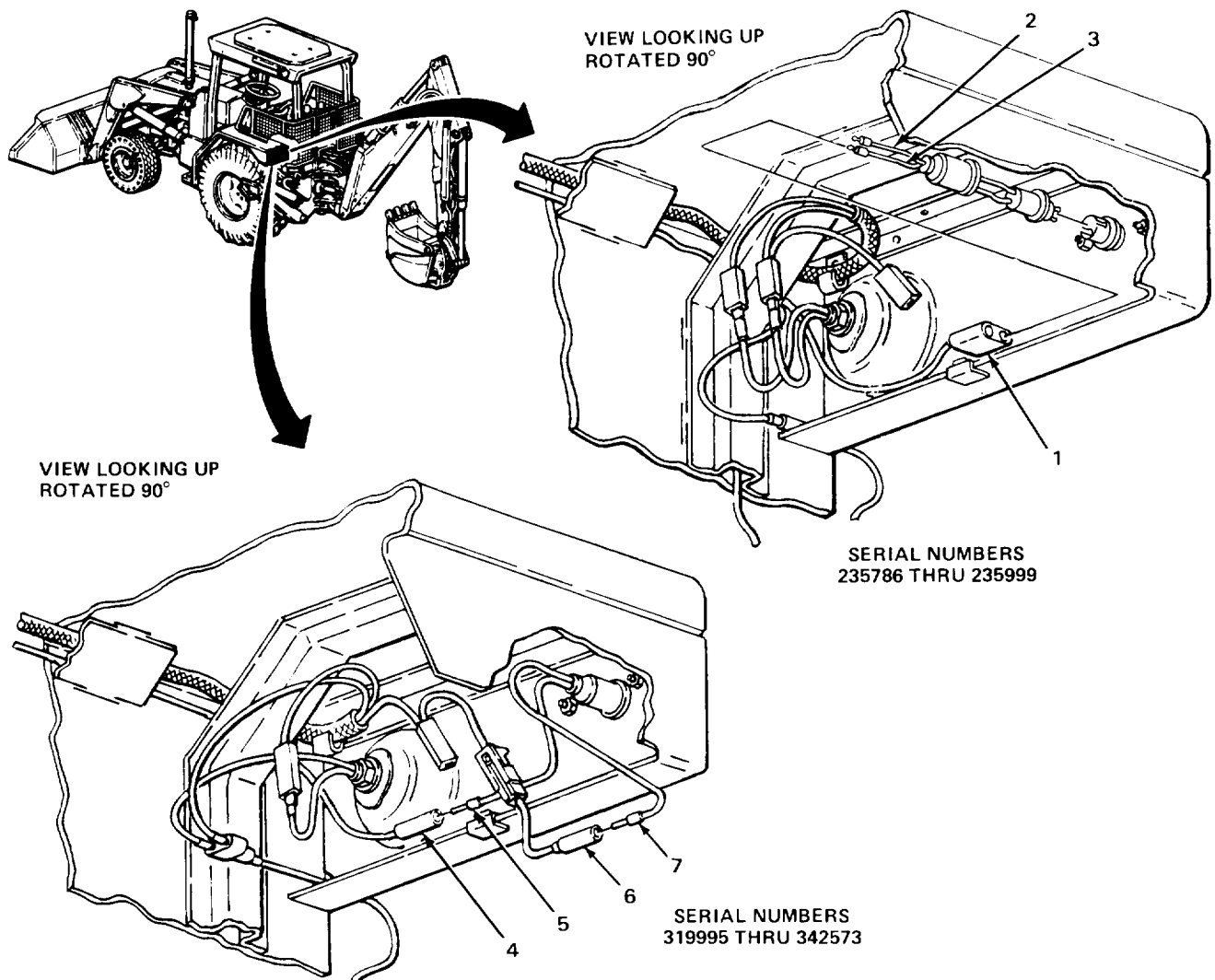
COMBINATION TAIL AND STOPLIGHT PLUG AND WIRE ASSEMBLIES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

NOTE

Steps 2 and 3 only apply to loader backhoes with Serial Numbers 319995 thru 342573.

- | | | | |
|----|---------------|---------------|------------------------------------|
| 2. | Connector (4) | Connector (5) | a. Tag (page 2-137).
b. Unplug. |
| 3. | Connector (6) | Connector (7) | a. Tag (page 2-137).
b. Unplug. |



COMBINATION TAIL AND STOPLIGHT PLUG AND WIRE ASSEMBLIES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
4. Taillight (1) and plug (2)	Boot (3)	Pull off of taillight (1).	
5. Taillight (1)	Plug (2) and assembled boot (3)	Push in, turn one-quarter turn clockwise, and take out.	

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 1140F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

6.	Plug (2)	<ul style="list-style-type: none"> a. Using clean rag dampened with solvent cleaning compound, wipe clean. b. Dip connectors and plug in solvent cleaning compound. b. Using clean, dry rags, wipe dry. 	
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INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

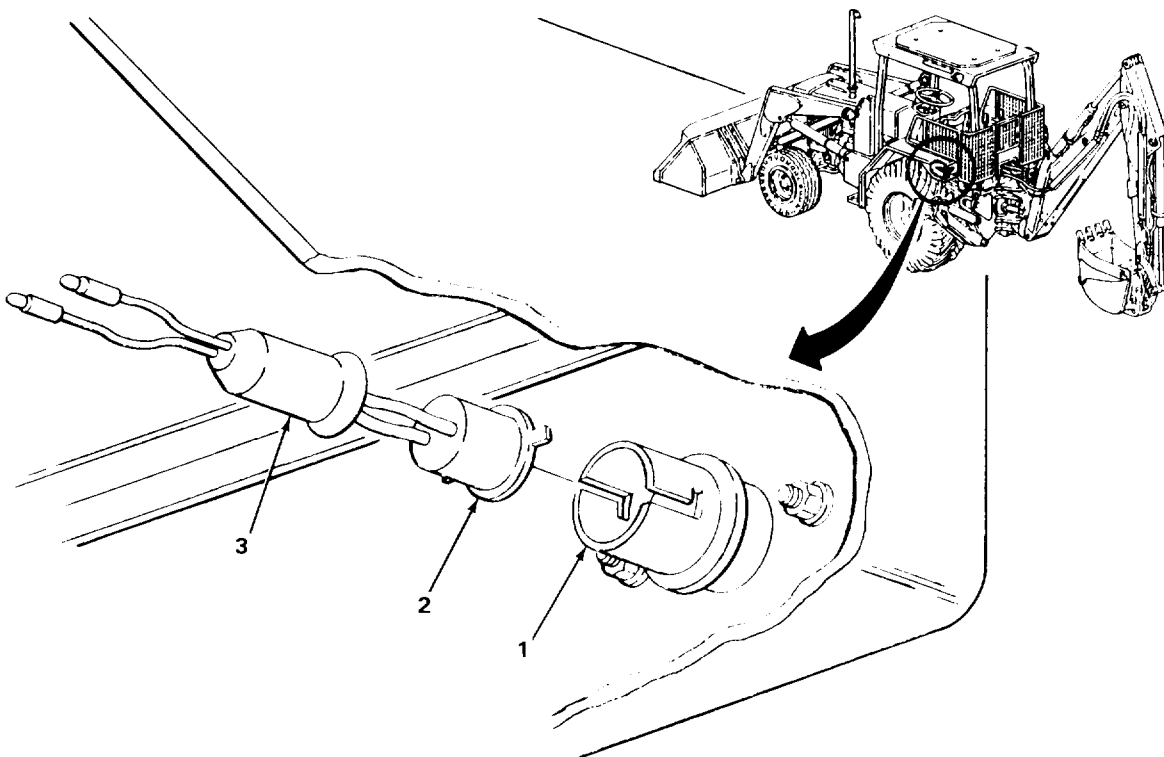
COMBINATION TAIL AND STOPLIGHT PLUG AND WIRE ASSEMBLIES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
7.	Plug (2)	<ul style="list-style-type: none"> a. Look for cracks, breaks, and abnormal bends. b. Look for cracked, burned, or worn insulation. c. Look for broken wires. d. Look for loose and corroded connectors. e. Look for cracks, tears, and crumbling of boot (3). 	

REPAIR

NOTE

For more information on how to repair wiring, go to General Maintenance Instructions (page 2-137).



COMBINATION TAIL AND STOPLIGHT PLUG AND WIRE ASSEMBLIES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
8. Taillight (1)	Plug (2) and assembled boot (3)	Push in and turn one-quarter turn clockwise and take out.
9. Taillight (1) and plug (2)	Boot (3)	Push onto taillight (1).

NOTE

Steps 10 and 11 only apply to loader backhoes with Serial Numbers 319995 thru 342573.

10. Connector (4)	Connector (5)	a. Push in. b. Take off tags.
11. Connector(6)	Connector (7)	a. Push in. b. Take off tags.

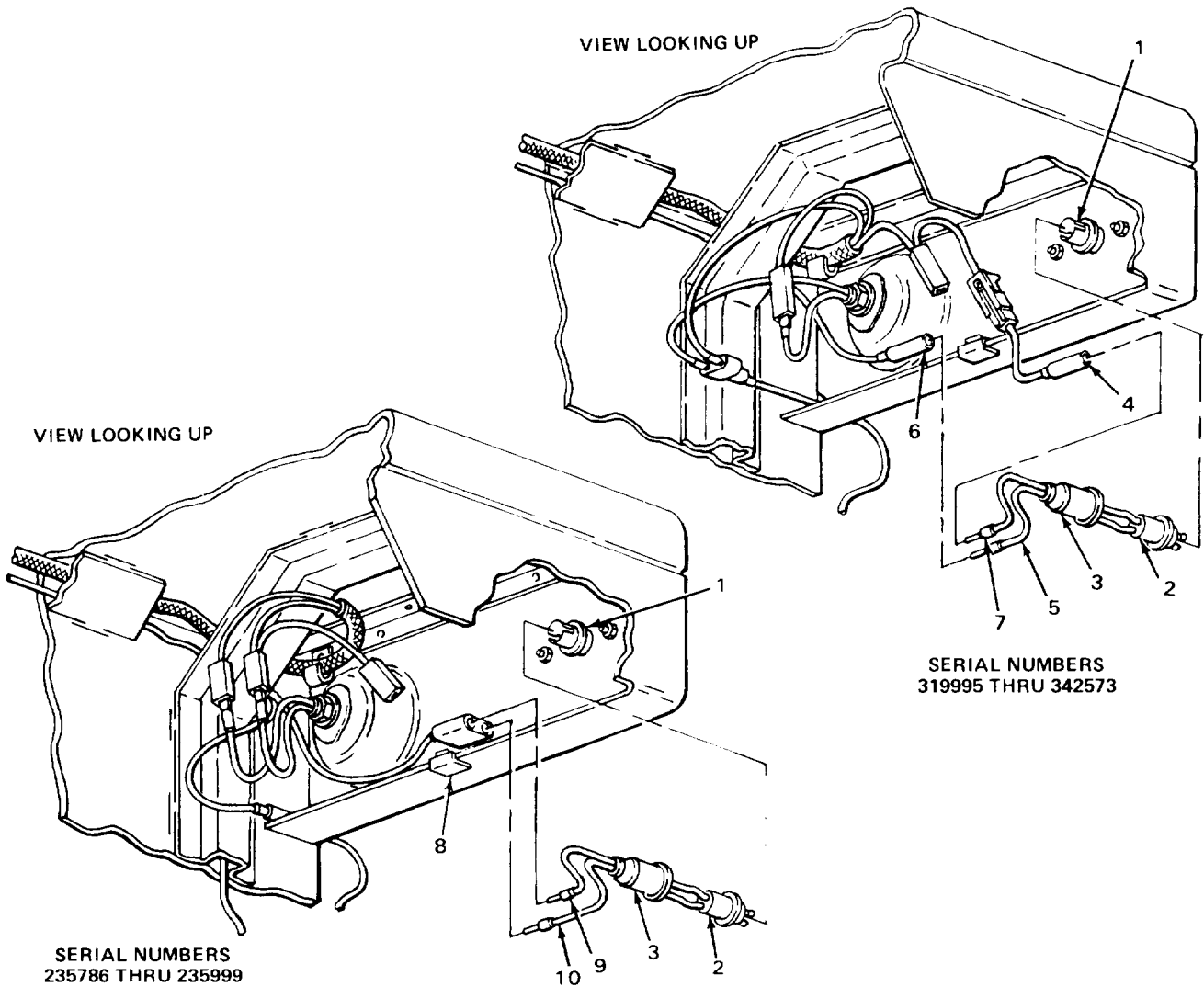
NOTE

Step 12 only applies to loader backhoes with Serial Numbers 235786 thru 235999.

12. Double connector (8)	Connector (9) and connector (10)	a. Push in. b. Take off tags.
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2-750

COMBINATION TAIL AND STOPLIGHT PLUG AND WIRE ASSEMBLIES - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE: Connect battery ground cable (page 2-696)

STOPLIGHT WIRING HARNESS

This task covers:

- a. Removal (page 2-752)
 - b. Cleaning (page 2-756)
 - c. Inspection/Replacement (page 2-758)
 - d. Repair (page 2-758)
 - e. Installation (page 2-758)
-

INITIAL SETUP

Tools

- Handle, ratchet, 3/8-inch drive
- Pliers, diagonal-cutting
- Pliers, slip-joint
- Socket, 3/8-inch drive, 11/16-inch
- Tape, measuring, 78 3/4-inch
- Wrench, box, 3/8-inch
- Wrench, box, 11/16-inch

Materials/Parts

- Band, plastic, electrical tiedown (as required)
- Cleaning compound, solvent (item 4, Appendix C)
- Lockwasher, ignition switch terminal nut

Materials/Parts - Continued

- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)
- Tags, marking (item 30, Appendix C)

Personnel Required

One

Equipment Condition

- 1. Battery ground cable disconnected (page 2-696)
 - 2. Loader control box door removed (page 2-1167)
-

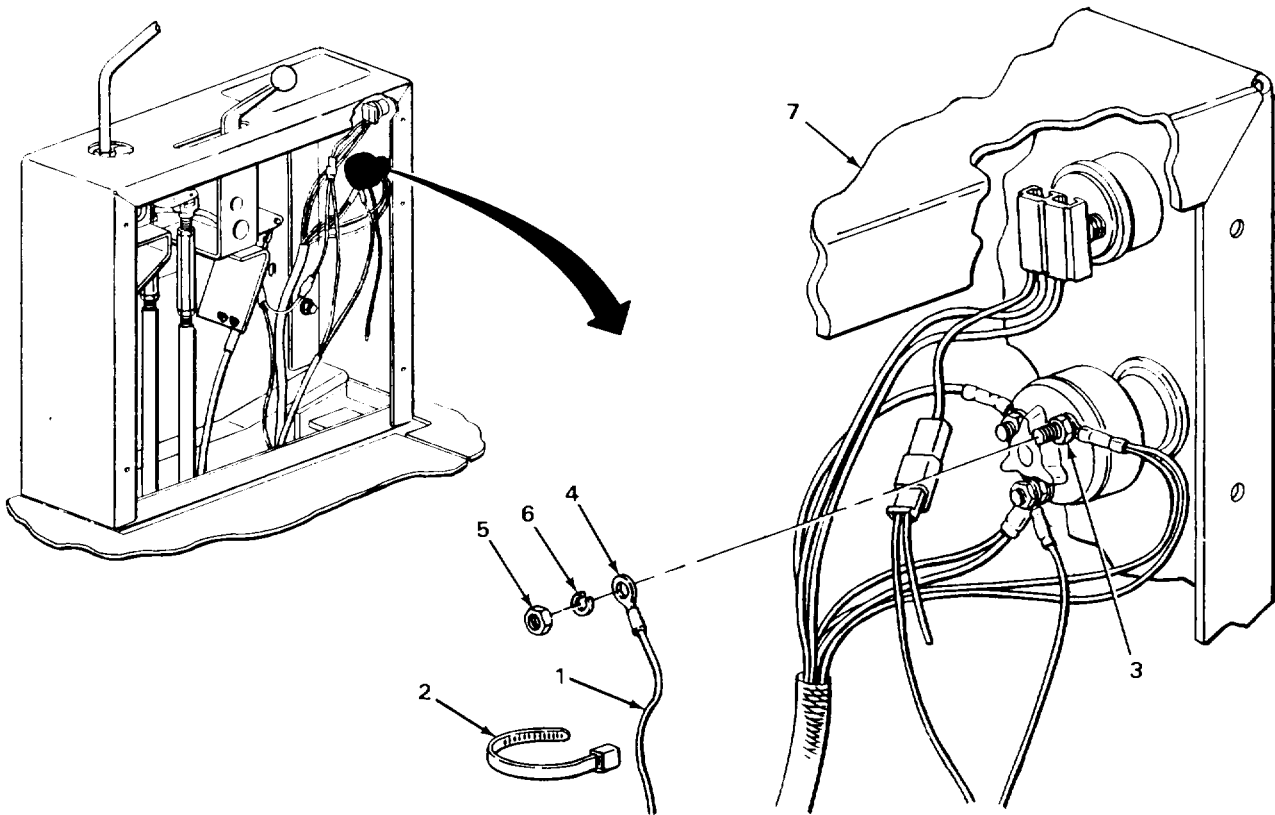
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

- | | | | |
|----|---|----------------------------|---|
| 1. | Stoplight wiring harness (1) and loader backhoe | Plastic bands (2) | <ul style="list-style-type: none"> a. Note number and location for proper placement during installation. b. Using diagonal-cutting pliers, cut off. c. Get rid of. |
| 2. | Ignition switch ACC terminal (3) and terminal (4) | Nut (5) and lockwasher (6) | <ul style="list-style-type: none"> a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (6). |
| 3. | Ignition switch ACC terminal (3) | Terminal (4) | <ul style="list-style-type: none"> a. Tag (page 2-137). b. Take off. |

STOPLIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
4. Loader control box (7) loader backhoe.	Stoplight wiring harness (1)	Note routing for proper placement during installation, take out, and let hang under	



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STOPLIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL- CONTINUED

NOTE

Stoplight wiring harness is disconnected and removed from both fenders the same way. The left side is shown. Repeat steps 5 thru 12 for the right side as necessary.

Steps 5 and 6 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

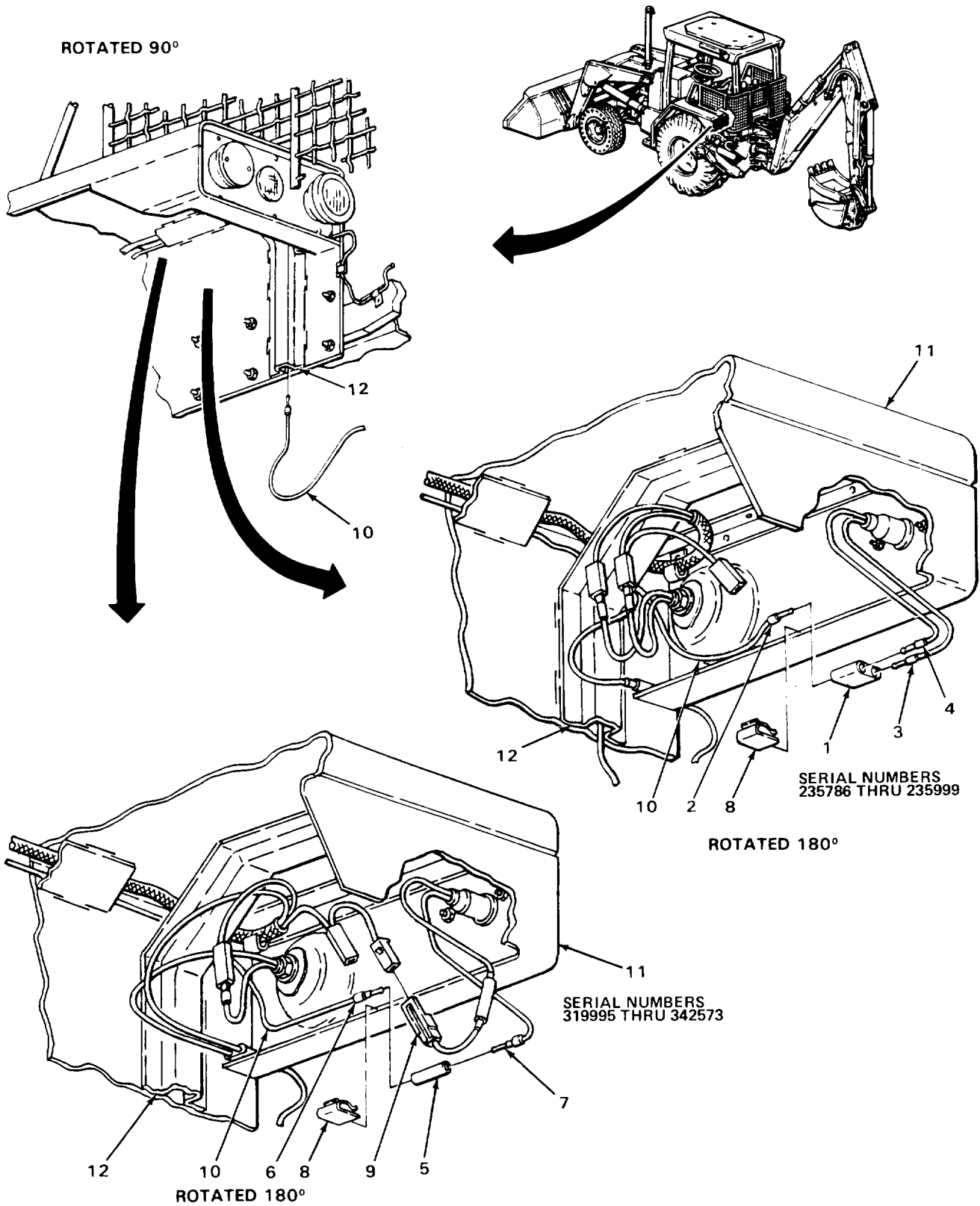
- | | | | |
|----|--------------------------|----------------------|------------------------------------|
| 5. | Double connector (1) | Connector (2) | a. Tag (page 2-137).
b. Unplug. |
| 6. | Two connectors (3 and 4) | Double connector (1) | a. Tag (page 2-137).
b. Unplug. |

NOTE

Steps 7 thru 9 only apply to loader backhoes with Serial Numbers 319995 thru 342573.

- | | | | |
|-----|-------------------|-------------------------------|-------------------------------------|
| 7. | Connector (5) | Connector (6) | a. Tag (page 2-137).
b. Unplug. |
| 8. | Connector (7) | Connector (5) | a. Tag (page 2-137).
b. Unplug. |
| 9. | Clip (8) | Lead (9) | Take out. |
| 10. | | Stoplight wiring harness (10) | Take out. |
| 11. | Fender (11) | Clip (8) | Take off. |
| 12. | Fender brace (12) | Stoplight wiring harness (10) | Pull out from bottom of brace (12). |

STOPLIGHT WIRING HARNESS - CONTINUED



STOPLIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
13.	Left brake light pressure switch two terminals (1)	Connector (2)	a. Tag (page 2-137). b. Pull off.
14.	Right brake light pressure switch two terminals (3)	Connector (4)	a. Tag (page 2-137). b. Pull off.
15.	Clamp (5)	Screw (6), nut (7), and lockwasher (8)	a. Using 11/16-inch box wrench, 11/16-inch, 3/8-inch drive socket, and ratchet handle, unscrew and take out. b. Get rid of lockwasher (8).
16.	Stoplight wiring harness (9)	Clamp (5)	Take off.
17.	Loader backhoe	Stoplight wiring harness (9)	Note routing for proper placement during installation and take out.

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 1140F (460C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

18.	Stoplight wiring harness (9)		a. Using clean rag dampened with solvent cleaning compound, wipe clean. b. Dip connectors in solvent cleaning compound. b. Using clean, dry rags, wipe dry.
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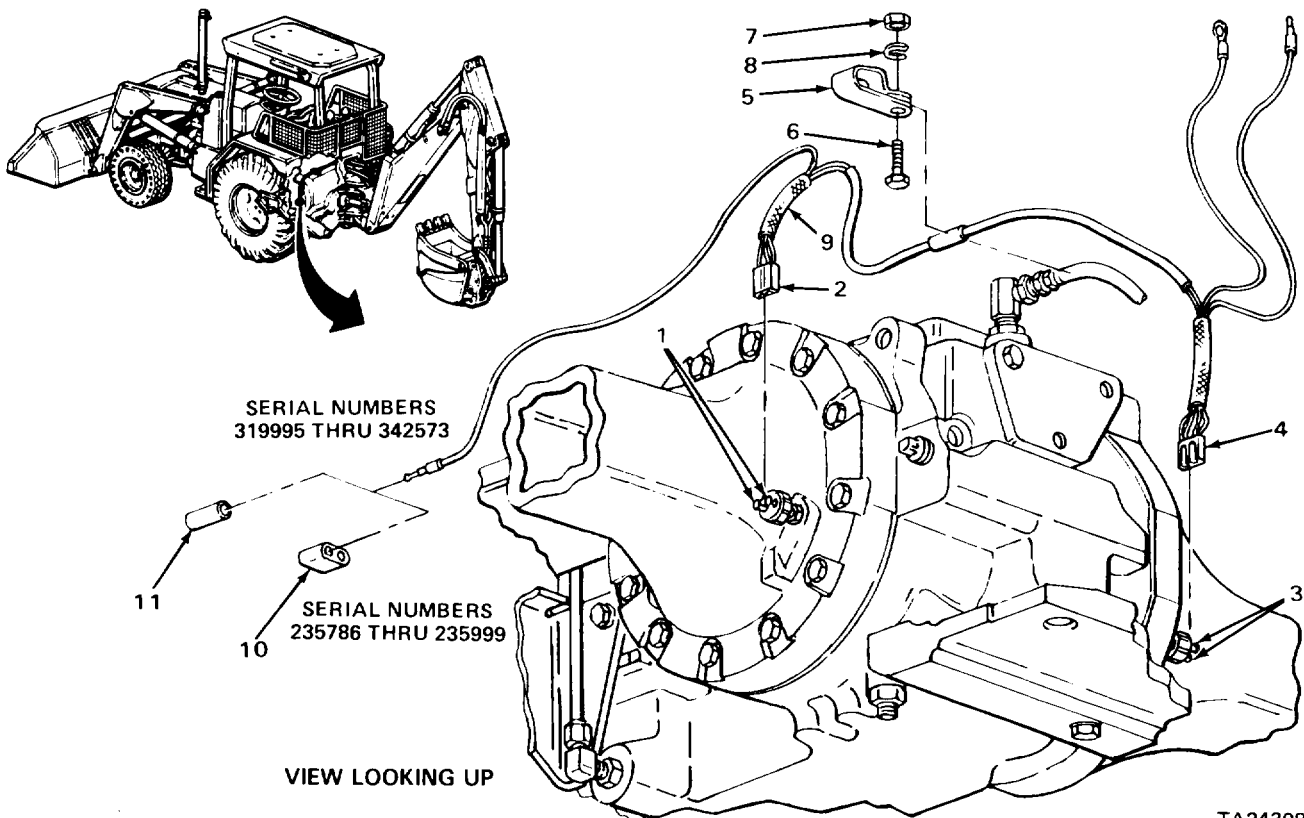
STOPLIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
19.	Two double connectors (10) or two connectors (11)	a. Clean in solvent cleaning compound. b. Using clean, dry rags, wipe dry.	
20.	Clamp (5)	a. Clean in solution of detergent and water. b. Rinse in clean water. c. Using clean, dry rags, wipe dry.	

WARNING

Drycleaning solvent PD680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

21.	All metal parts	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.	
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STOPLIGHT WIRING HARNESS - CONTINUED

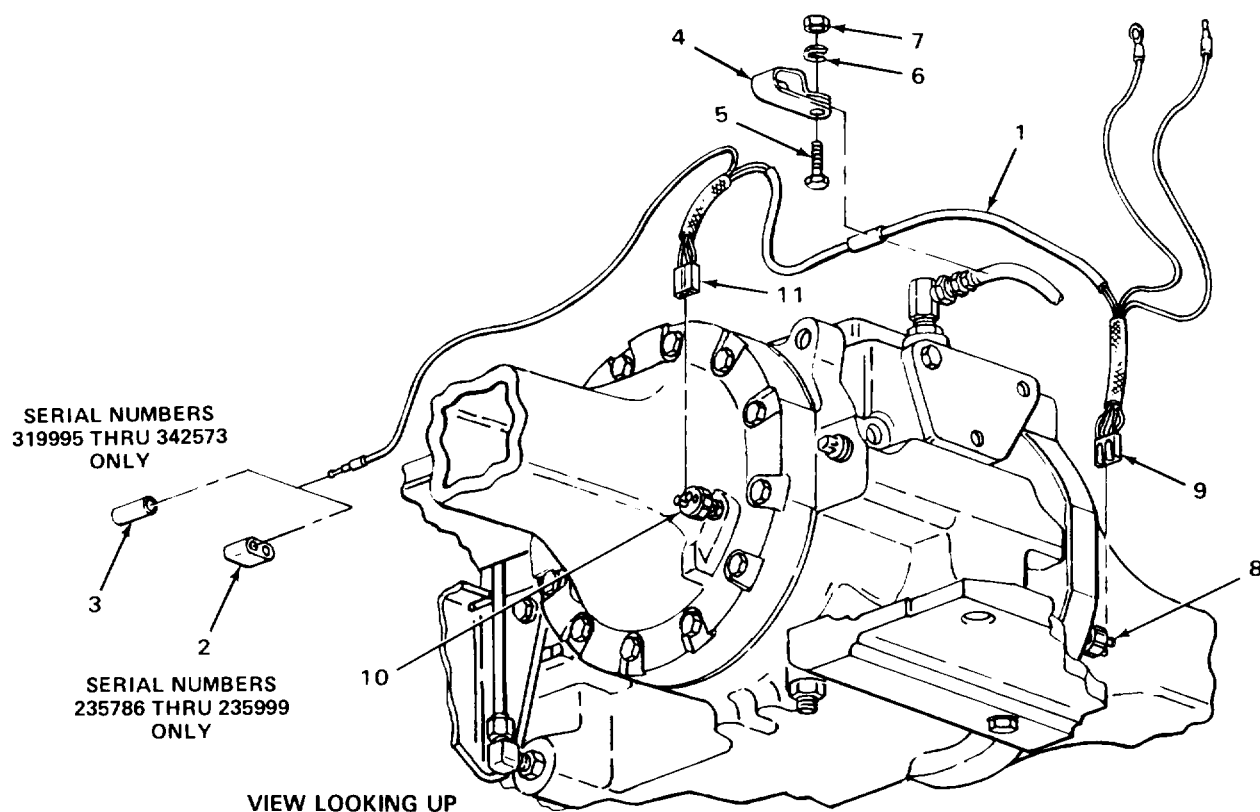
LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT			
NOTE			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).			
Replace defective parts which cannot be repaired.			
22.	Stoplight wiring harness (1)	a. Look for cracked, burned, or worn insulation. b. Look for broken wires. c. Look for loose and corroded terminals.	
23.	Two double connectors (2) or two connectors (3)		Look for cracks, breaks, and corrosion damage.
24.	Clamp (4)		Look for peeling or missing plastic coating.
25.	All metal parts		Look for cracks, breaks, and abnormal bends.
26.	All threaded parts		Look for damaged threads.
REPAIR			
NOTE			
For more information on how to repair wiring, go to General Maintenance Instructions (page 2-137).			
INSTALLATION			
27.	Loader backhoe	Stoplight wiring harness (1).	Route into place as noted during removal.
28.	Stoplight wiring	Clamp (4)	Put on.
29.	Clamp (4)	Screw (5), new lockwasher (6), and nut (7)	Screw in and tighten using 11/16-inch box wrench, 11/16-inch, 3/8-inch drive Socket, and ratchet handle.

STOPLIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
30. Right brake light pressure switch two terminals (8)	Connector (9)	a. Push on. b. Take off tags.	
31. Left brake light pressure switch two terminals (10)	Connector (11)	a. Push on. b. Take off tags.	

NOTE

Stoplight wiring harness is installed and connected in both fenders the same way. The left side is shown. Repeat steps 32 thru 40 for the right side.

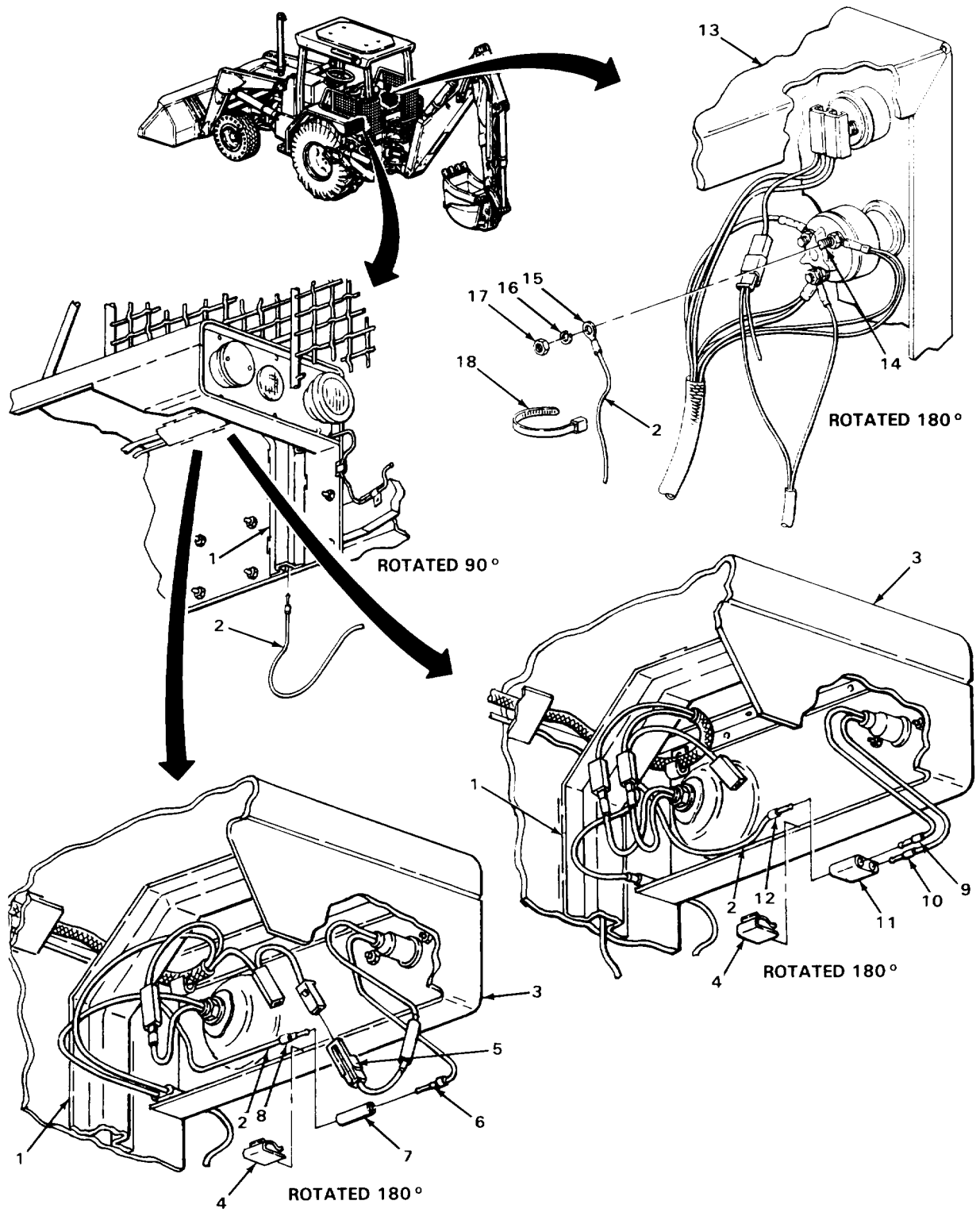


TA243088

STOPLIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
32. Fender brace (1)	Stoplight wiring harness (2)	Push through from bottom until 11 inches (28 cm) past fender brace (1) using 78 3/4-inch measuring tape.
33. Fender (3)	Clip (4)	Put on.
34. Clip (4)	Stoplight wiring harness (2)	Put in.
NOTE		
Steps 35 thru 37 only apply to loader backhoes with Serial Numbers 319995 thru 342573.		
35. Clip (4)	Lead (5)	Put in.
36. Connector (6)	Connector (7)	a. Push on. b. Take off tag.
37. Connector (7)	Connector (8)	a. Plug in. b. Take off tag.
NOTE		
Steps 38 thru 40 only apply to loader backhoes with Serial Numbers 235786 thru 235999.		
38. Two connectors (9 and 10)	Double connector (11)	Push on. Leave on tags through step 39.
39. Double connector (11)	Connector (12)	a. Plug in. b. Take off tag.
40. Two connectors (9 and 10)	Double connector (11)	Take off tags.
41. Loader control box (13)	Stoplight wiring harness (2)	Route into place as noted during removal.
42. Ignition switch ACC terminal (14)	Terminal (15)	Put on.
43. Ignition switch ACC terminal (14) and terminal (15)	New lockwasher (16) and nut (17)	Screw on and tighten using 3/8-inch box wrench.
44. Stoplight wiring harness (2) and loader backhoe	Plastic bands (18)	a. Put on same number in same location as noted during removal. b. Using slip-joint pliers, pull tight.

STOPLIGHT WIRING HARNESS - CONTINUED



STOPLIGHT WIRING HARNESS - CONTINUED

INSTALLATION - CONTINUED

NOTE

FOLLOW-ON MAINTENANCE:

1. Install loader control box door (page 2-1167).
2. Connect battery ground cable (page 2-696).

TASK ENDS HERE

COMBINATION TAIL AND STOPLIGHT LEADS (SERIAL NUMBERS 319995 THRU 342573 ONLY)

This task covers:

- | | |
|--|------------------------------|
| a. Removal (page 2-762) | d. Repair (page 2-764) |
| b. Cleaning (page 2-763) | e. Installation (page 2-765) |
| c. Inspection/Replacement (page 2-764) | |
-

INITIAL SETUP:

Tools

Screwdriver, flat-tip, 1/8-inch

Personnel Required

One

Materials/Parts

Cleaning compound, solvent
(item 4, Appendix C)
Rags, wiping (item 21, Appendix C)
Tags, marking (item 30, Appendix C)

Equipment Condition

Battery ground cable disconnected
(page 2-696)

LOCATION	ITEM	ACTION	REMARKS
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NOTE

Both combination tail and stoplight leads are maintained the same way. One side is shown. Repeat procedures for other side.

REMOVAL

- | | | |
|------------------|---------------|------------------------------------|
| 1. Connector (1) | Connector (2) | a. Tag (page 2-137).
b. Unplug. |
|------------------|---------------|------------------------------------|

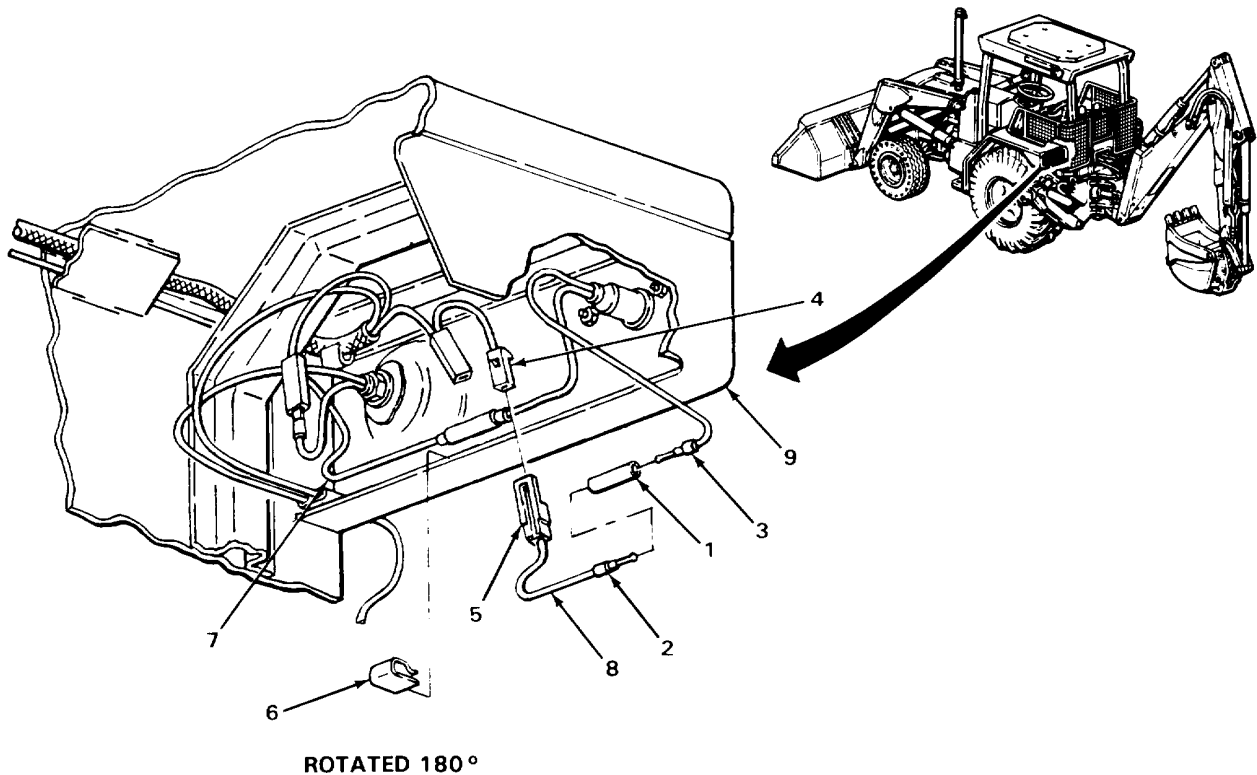
COMBINATION TAIL AND STOPLIGHT LEADS (SERIAL NUMBERS 31995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
2. Connector (3)	Connector (1)	a. Tag (page 2-137). b. Unplug.	
3. Connector (4)	Connector (5)	a. Tag (page 2-137). b. Using 1/8-inch flat-tip screwdriver, lift tab. c. Unplug.	
4. Clip (6)	Lead (7)	Take out.	

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).



TA243090

COMBINATION TAIL AND STOPLIGHT LEADS (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (46°C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|---------------|--|
| 5. | Lead (1) | <ul style="list-style-type: none"> a. Using clean rags dampened with solvent cleaning compound, wipe clean. b. Dip connectors in solvent cleaning compound. c. Using clean, dry rags, wipe dry. |
| 6. | Connector (2) | <ul style="list-style-type: none"> a. Clean in solvent cleaning compound. b. Using clean, dry rags, wipe dry. |

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to **General Maintenance Instructions (page 2-137)**.

Replace defective parts which cannot be repaired.

- | | | |
|----|---------------|---|
| 7. | Lead (1) | <ul style="list-style-type: none"> a. Look for cracked, burned, and worn insulation. b. Look for broken wires. c. Look for loose and corroded terminals. |
| 8. | Connector (2) | Look for cracks, breaks, abnormal bends, and damage from corrosion. |

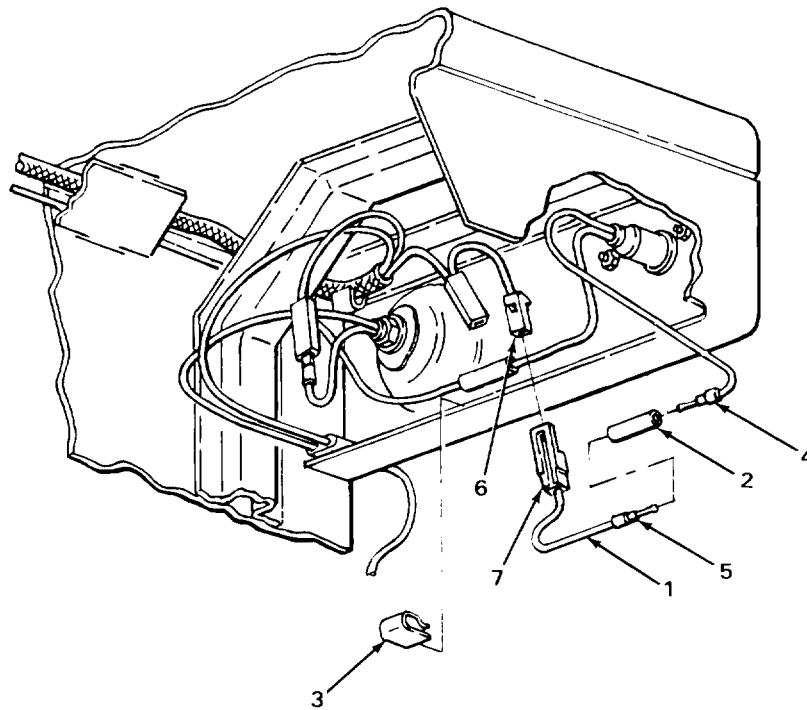
REPAIR

NOTE

For more information on how to repair wiring, go to **General Maintenance Instructions (page 2-137)**.

COMBINATION TAIL AND STOPLIGHT LEADS (SERIAL NUMBERS 31995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
9. Clip (3)	Lead (1)	Push in.
10. Connector (2)	Connector (4)	a. Plug in. b. Take off tag.
11.	Connector (5)	a. Plug in. b. Take off tag.
12. Connector (6)	Connector (7)	a. Plug in. b. Take off tag.



VIEW LOOKING UP

TA243091

COMBINATION TAIL AND STOPLIGHT LEADS (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

NOTE

FOLLOW-ON MAINTENANCE: Connect battery ground cable (page 2-696).

TASK ENDS HERE

WARNING LIGHT LEADS

This task covers:

- | | |
|--|------------------------------|
| a. Removal (page 2-766) | d. Repair (page 2-770) |
| b. Cleaning (page 2-768) | e. Installation (page 2-771) |
| c. Inspection/Replacement (page 2-770) | |

INITIAL SETUP:

Tools

Screwdriver, flat-tip, 3/16-inch

Materials/Parts - Continued

Tape, lacing and tying (item 33, Appendix C)

Materials/Parts

Cleaning compound, solvent
(item 4, Appendix C)
Detergent, GP (item 7, Appendix C)
Rags, wiping (item 21, Appendix C)
Solvent, drycleaning
(item 28, Appendix C)
Tags, marking (item 30, Appendix C)

Personnel Required

One

Equipment Condition

Battery ground cable disconnected
(page 2-696)

LOCATION	ITEM	ACTION	REMARKS
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NOTE

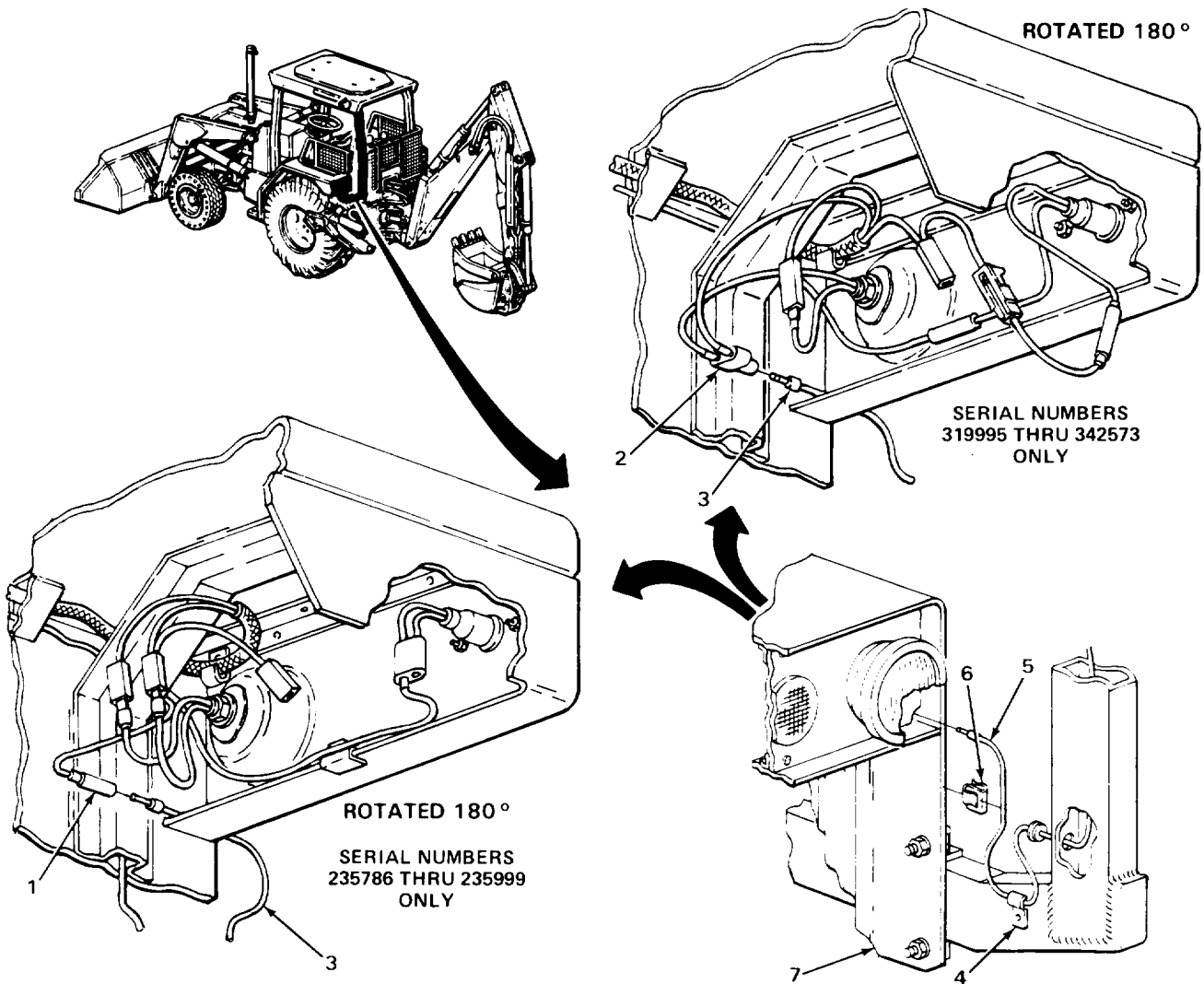
Both warning light leads are maintained the same way. One side is shown. Repeat procedures for other side as needed.

REMOVAL

- | | | |
|--------------------------------------|--------------------------------|---------------------------------------|
| 1. Connector (1)
or connector (2) | Connector (3)
(page 2-137). | a. Tag connector (1) or connector (2) |
| | | b. Unplug. |

WARNING LIGHT LEADS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
2. Weld on clip (4)	Lead (5)	Using 3/16-inch flat-tip screwdriver, pry open clip (4) and take out.
3. Clip (6)	Lead (5)	Pull open clip (6) and take out.
4. Fender (7)	Clip (6)	Take off.



TA243092

WARNING LIGHT LEADS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL - CONTINUED

NOTE

What is called canopy for Serial Numbers 235786 thru 235999 is called rollover protective structure for Serial Numbers 319995 thru 342573.

- | | | |
|---|---------------|--|
| 5. Canopy or rollover protective structure (1) and lead (2) | Grommet (3) | Using 3/16-inch flat-tip screwdriver, pry out. |
| 6. Connector (4) | Connector (5) | a. Tag (page 2-137).
b. Unplug. |
| 7. Canopy or rollover protective structure (1) and lead (2) | Grommet (6) | Using 3/16-inch flat-tip screwdriver, pry out. |
| 8. Canopy or rollover protective structure (1) and lead (2) | Lead (2) | a. Tie on 6 feet (2 meters) of lacing and tying tape.
b. Pull out through top.
c. Untie lacing and tying tape and leave inside canopy or rollover protective structure (1) to aid in installation. |
| 9. Lead (2) | Grommet (6) | Take off. |
| 10. | Connector (7) | Tag (page 2-137). |

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

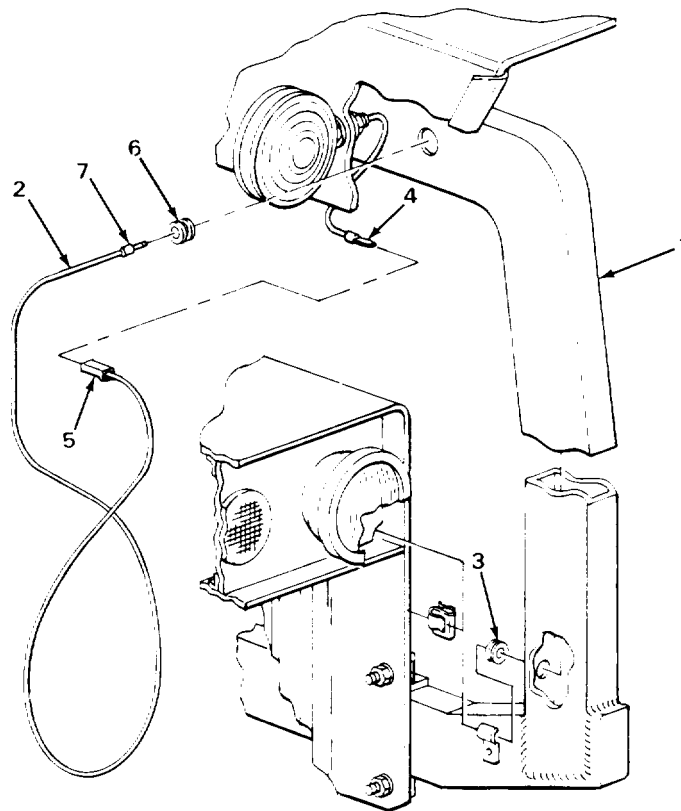
WARNING LIGHT LEADS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (46°C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|----------|--|
| 11. | Lead (2) | <ul style="list-style-type: none"> a. Using clean rags dampened with solvent cleaning compound, wipe clean. b. Dip connectors in solvent cleaning compound. c. Using clean, dry rags, wipe dry. |
|-----|----------|--|



TA243093

WARNING LIGHT LEADS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CLEANING - CONTINUED

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|----------------------------------|--|
| 12. | Clip (1) | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. |
| 13. | Two grommets
(2 and 3) water. | a. Clean in solution of detergent and
b. Using clean water, rinse clean.
c. Using clean, dry rags, wipe dry. |

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

- | | | |
|-----|---------------------------|---|
| 14. | Lead (4) | a. Look for cracked, burned, and worn insulation.
b. Look for broken wires.
c. Look for loose and corroded terminals. |
| 15. | Clip (1) | Look for cracks, breaks, and abnormal bends. |
| 16. | Two grommets
(2 and 3) | Look for cracks, tears, and hardening. |

REPAIR

NOTE

For more information on how to repair wiring, go to General Maintenance Instructions (page 2-137).

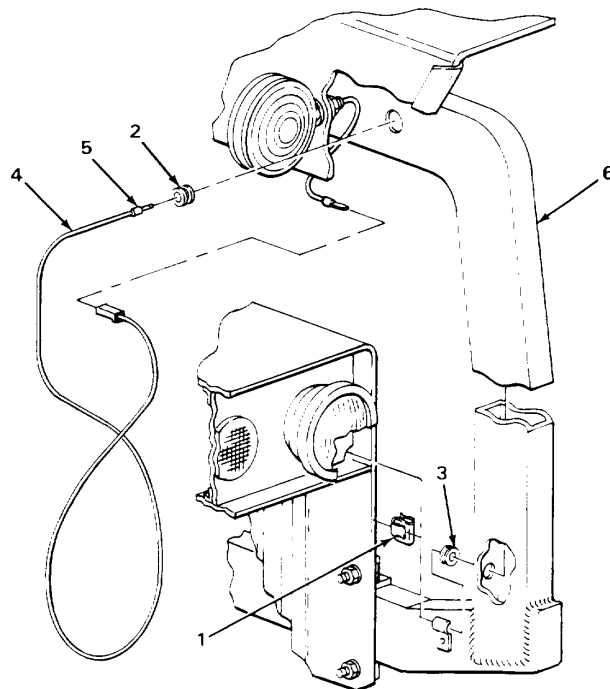
WARNING LIGHT LEADS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION			
17. Lead (4)	Connector (5)	Take off tag.	
18.	Grommet (2)	Put on.	

NOTE

What is called canopy for Serial Numbers 235786 thru 235999 is called rollover protective structure for Serial Numbers 319995 thru 342573.

- | | | |
|--|-----------------|--|
| <p>19. Canopy or rollover protective structure (6)</p> | <p>Lead (4)</p> | <p>a. Tie bottom end of lead (4) on top end of lacing and tying tape left in from step 8.</p> <p>b. Using lacing and tying tape, pull through until 3 inches (6.5 cm) of lead (1) are left on top.</p> <p>c. Untie lacing and tying tape and take off.</p> |
|--|-----------------|--|

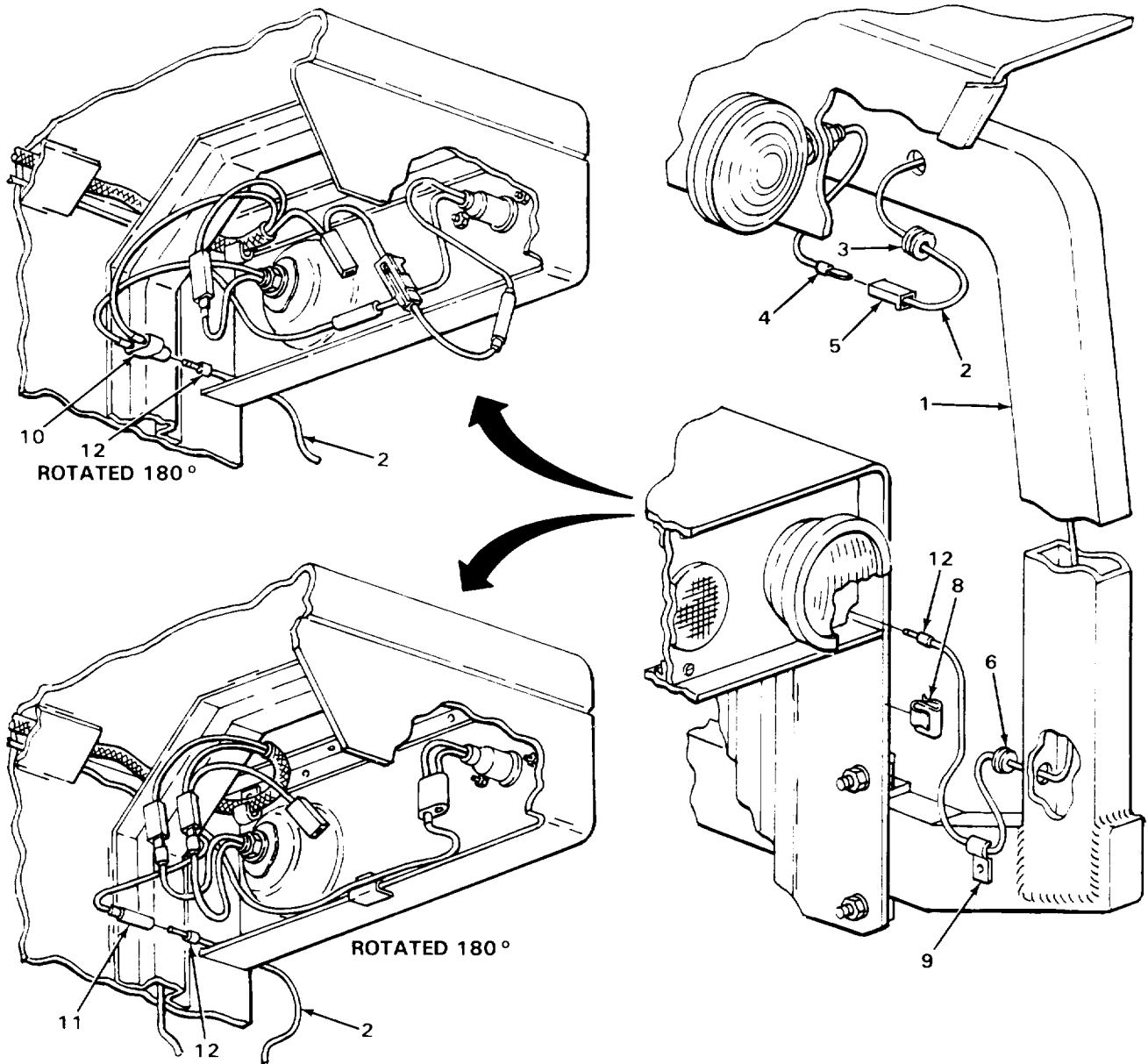


TA243094

WARNING LIGHT LEADS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
20. Canopy or rollover protective structure (1) and lead (2)	Grommet (3)	Using 3/16-inch flat-tip screwdriver, work into place.
21. Connector (4)	Connector (5)	a. Push in. b. Take off tags.
22. Canopy or rollover protective structure (1) and lead (2)	Grommet (6)	Using 3/16-inch flat-tip screwdriver, work into place.
23. Fender (7)	Clip (8)	Push on.
24. Clip (8)	Lead (2)	Push in.
25. Weld on clip (9)	Lead (2)	a. Push in. b. Push clip (8) shut.
26. Connector (10) or connector (11)	Connector (12)	a. Plug in. b. Take off tag.

WARNING LIGHT LEADS - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE: Connect battery ground cable (page 2-696).

TASK ENDS HERE

TA243095

MAIN AND FRONT LIGHT WIRING HARNESS

This task covers:

- a. Removal (page 2-775)
 - b. Cleaning (page 2-790)
 - c. Inspection/Replacement (page 2-791)
 - d. Repair (page 2-792)
 - e. Installation (page 2-792)
-

INITIAL SETUP:

Tools

Handle, ratchet, 1/4-inch drive
 Handle, ratchet, 3/8-inch drive
 Pliers, diagonal-cutting
 Pliers, slip-joint
 Screwdriver, flat-tip, 1/8-inch
 Screwdriver, flat-tip, 1/4-inch
 Screwdriver, flat-tip, 3/16-inch
 Socket, 1/4-inch drive, 11/32-inch
 Socket, 3/8-inch drive, 7/16-inch
 Socket, 3/8-inch drive, 11/16-inch
 Wrench, box, 11/32-inch
 Wrench, box, 3/8-inch
 Wrench, box, 7/16-inch
 Wrench, box, 9/16-inch
 Wrench, box, 11/16-inch

Materials/Parts

Band, plastic, electrical tiedown
 (as required)
 Cleaning compound, solvent
 (item 4, Appendix C)
 Detergent, GP (item 7, Appendix C)
 Lockwasher, ac generator terminal
 nut
 Lockwasher, ignition switch terminal
 nut (five required)
 Lockwasher, starter solenoid battery
 terminal nut
 Lockwasher, starter solenoid terminal
 nut
 Lockwasher, wire clamp nut
 (two required)
 Lockwasher, wire clamp screw
 Lockwasher, wire clamp screw nut
 Nut, self-locking, metering pump
 shutoff solenoid

Materials/Parts - Continued

Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)
 Tags, marking (item 30, Appendix C)

NOTE

**The following part only applies to
 loader backhoes with Serial Numbers
 235786 thru 235999.**

Lockwasher, circuit breaker terminal nut
 (eight required)

NOTE

**The following part only applies to
 to loader backhoes with Serial Numbers
 31995 thru 342573.**

Lockwasher, circuit breaker terminal nut
 (six required)

Personnel Required

One

Equipment Condition

1. Battery ground cable disconnected
 (page 2-696)
2. Right side grille removed
 (TM 5-2420-222-10)
3. Cowl front cover removed (page 2-1020)
4. Loader control box door removed
 (page 2-1167)
5. Right platform removed (page 2-1079)
6. Right inner platform ramp removed
 (page 2-1095)

MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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NOTE

Loader backhoes with Serial Numbers 235786 thru 235999 have separate main and front light wiring harnesses. Loader backhoes with Serial Numbers 319995 thru 342573 have combined main and front light wiring harness.

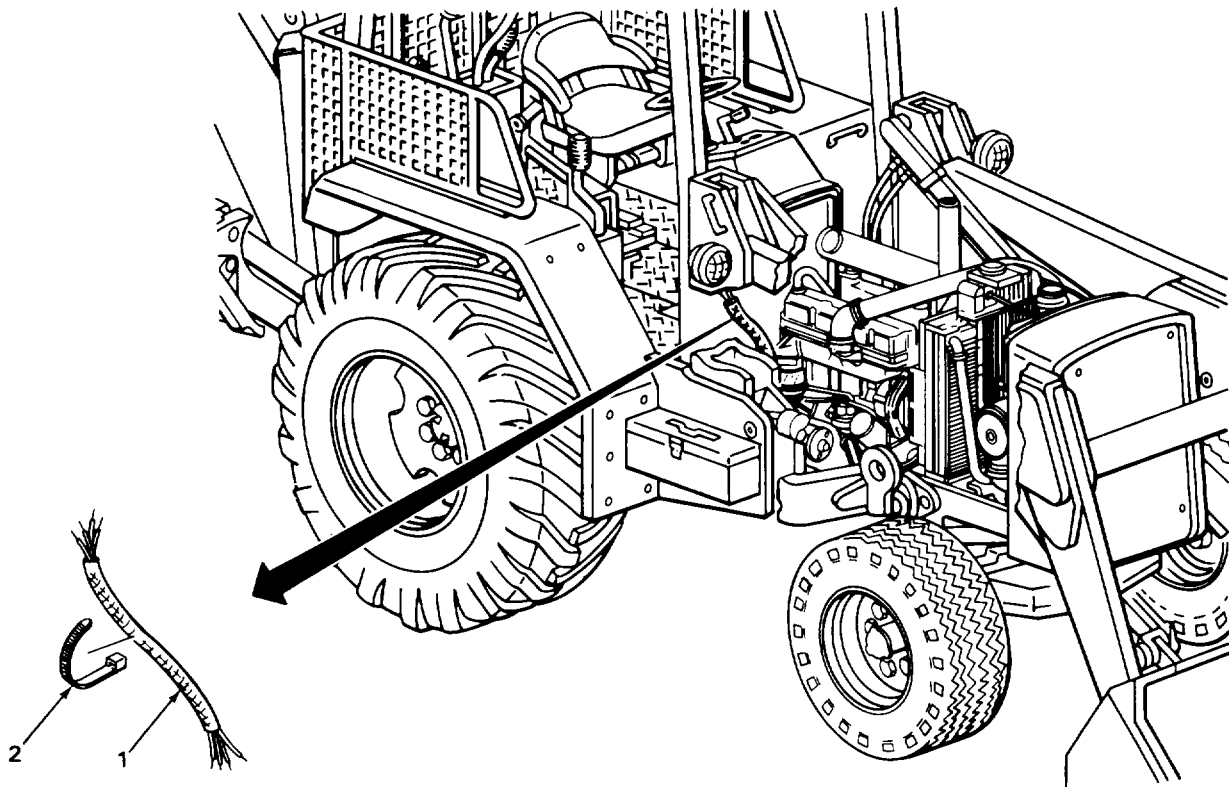
REMOVAL

NOTE

If removing only main wiring harness on loader backhoes with Serial Numbers 235786 thru 235999, skip steps 1 thru 12.

Step 1 only applies to loader backhoes with Serial Numbers 235786 thru 235999.

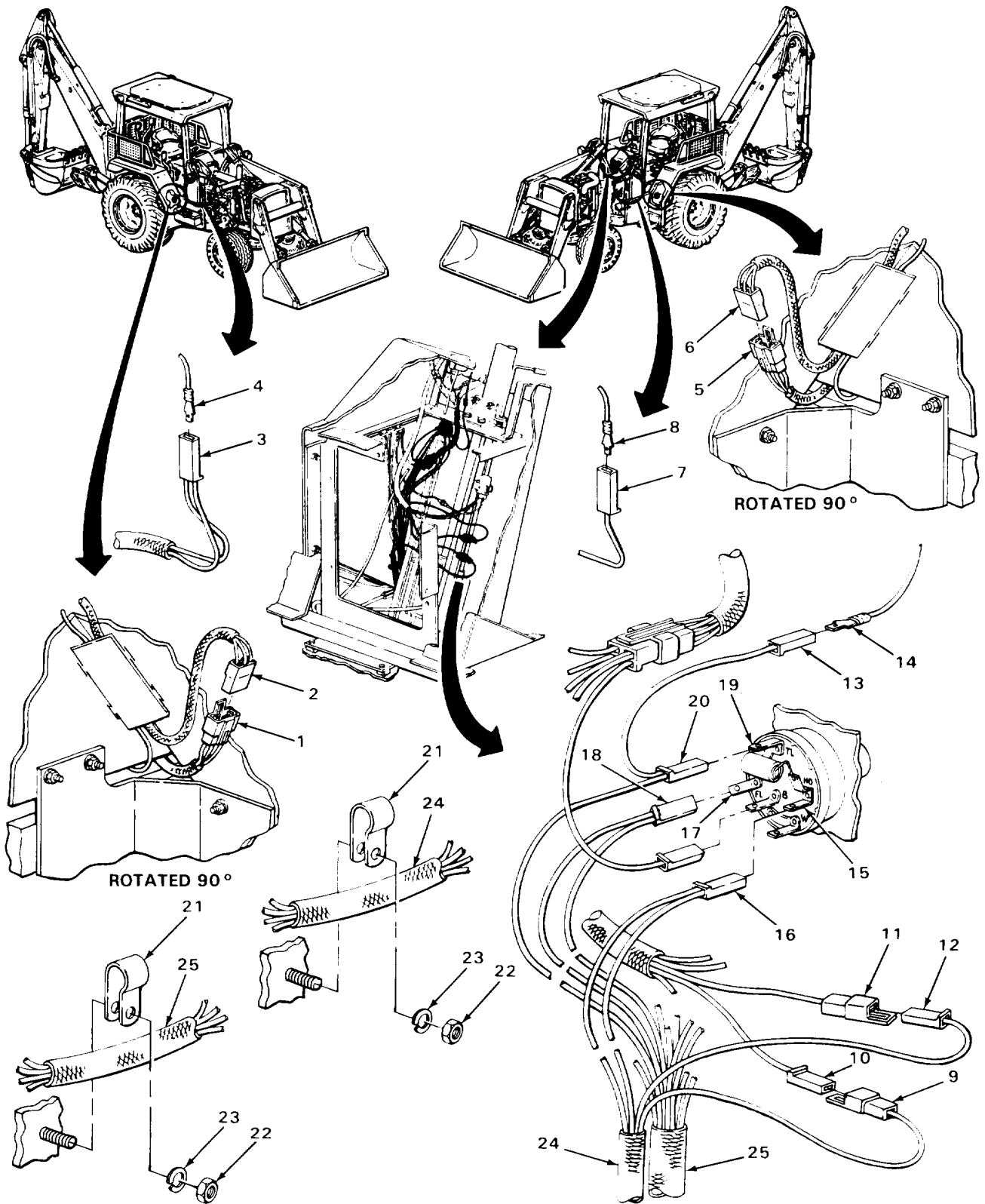
- | | | |
|-----------------------------------|-------------------|---|
| 1. Front light wiring harness (1) | Plastic bands (2) | <ul style="list-style-type: none"> a. Note number and location for proper placement during installation. b. Using diagonal-cutting pliers, cut off. c. Get rid of. |
|-----------------------------------|-------------------|---|



MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
2. Connector (1)	Connector (2)	a. Tag (page 2-137). b. Lift tab on connector (1). c. Unplug.
3. Connector(3)	Connector (4)	a. Tag (page 2-137). b. Unplug.
4. Connector (5)	Connector (6)	a. Tag (page 2-137). b. Lift tab on connector (5). c. Unplug.
5. Connector (7)	Connector (8)	a. Tag (page 2-137). b. Unplug.
6. Connector (9)	Connector (10)	a. Tag (page 2-137). b. Using 1/8-inch flat-tip screwdriver, lift tab on connector (9). c. Unplug.
7. Connector(11)	Connector (12)	a. Tag (page 2-137). b. Using 1/8-inch flat-tip screwdriver, lift tab on connector (11). c. Unplug.
8. Connector(13)	Connector (14)	a. Tag (page 2-137). b. Unplug.
9. Light switch HD terminal (15)	Connector (16)	a. Tag (page 2-137). b. Unplug.
10. Light switch FL terminal (17)	Connector (18)	a. Tag (page 2-137). b. Unplug.
11. Light switch TL terminal (19)	Connector (20)	a. Tag (page 2-137). b. Unplug.
12. Two clamps (21)	Two nuts (22) and lockwashers (23)	a. Using 7/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take off. b. Get rid of lockwashers (23).
13. Front light wiring harness (24) or main wiring harness (25)	Two clamps (21)	Note location for proper placement during installation and take off.

MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED



TA243097

MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
14. Clamp (1)	Screw (2), nut (3), and lockwasher (4)	a. Using 11/16-inch box wrench, 11/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out. b. Get rid of lockwasher (4).
15. Front light wiring harness (5) or main wiring harness (6)	Clamp (1)	Take off.

NOTE

Step 16 only applies to loader backhoes with Serial Numbers 235786 thru 235999.

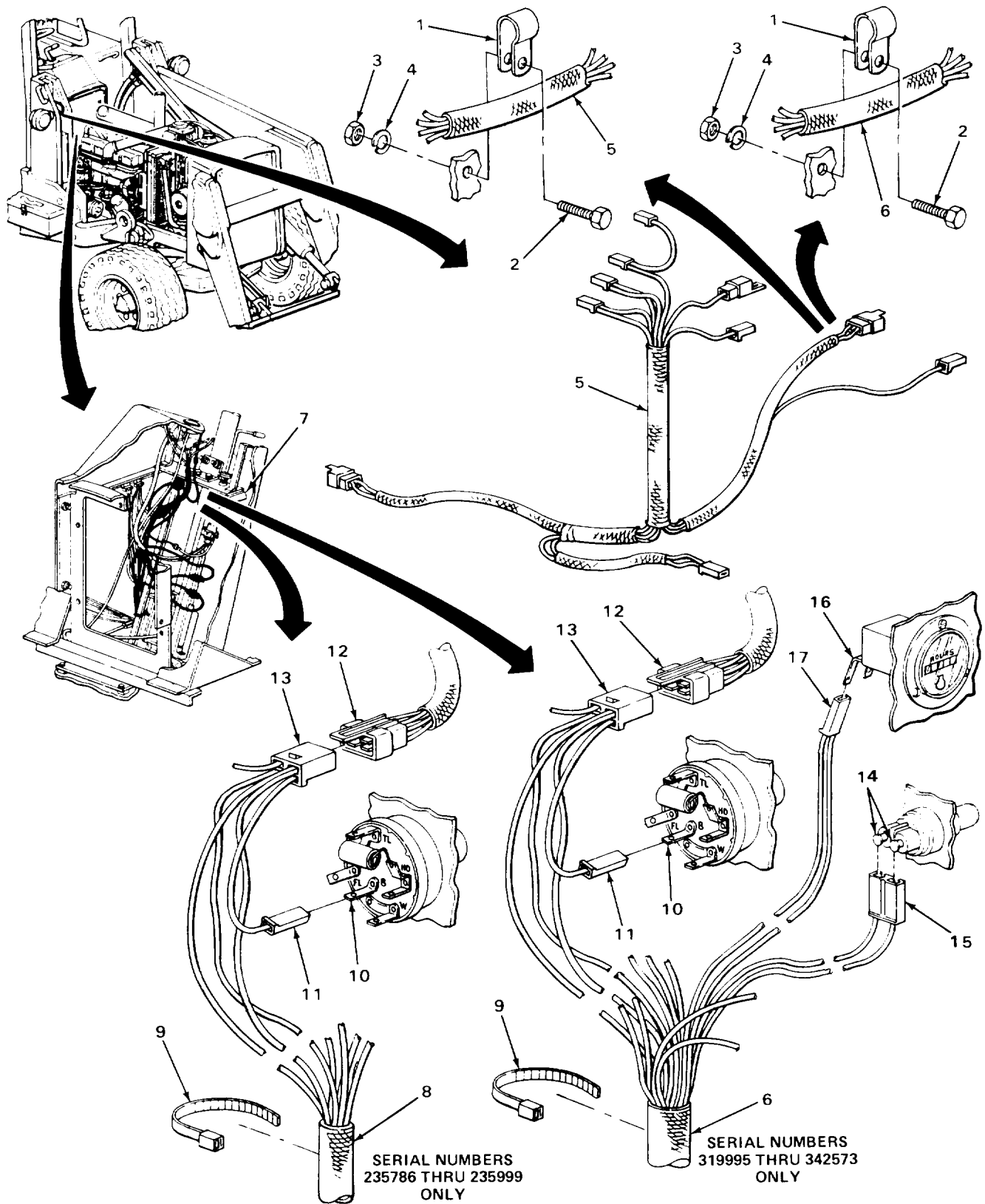
16. Loader backhoe	Front light wiring harness (5)	a. Note routing for proper placement during installation. b. Take out.
17. Cowl support (7) and main wiring harness (8 or 6)	Plastic bands (9) for proper placement during installation.	a. If present, note number and location b. Using diagonal-cutting pliers, cut off. c. Get rid of.
18. Light switch B terminal (10)	Connector (11)	a. Tag (page 2-137). b. Unplug.
19. Instrument panel wiring harness connector(12)	Connector (13)	a. Using 1/8-inch flat-tip screwdriver, lift tab on connector (13). b. Unplug.

NOTE

Steps 20 and 21 only apply to loader backhoes with Serial Numbers 319995 thru 342573.

20. Horn switch two terminals (14)	Connector (15)	a. Tag (page 2-137). b. Pull off.
21. Time total meter terminal (16)	Connector (17)	a. Tag (page 2-137). b. Pull off.

MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED



TA243098

MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
22. Circuit breaker terminal (1) and terminal (2)	Nut (3) and lockwasher (4)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (4).	
23. Circuit breaker terminal (1)	Terminal (2)	a. Tag (page 2-137). b. Take off.	
24. Circuit breaker terminal (5) and terminal (6)	Nut (7) and lockwasher (8)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (8).	
25. Circuit breaker terminal (5)	Terminal (6)	a. Tag (page 2-137). b. Take off.	
26. Circuit breaker terminal (5) and terminal (9)	Nut (10) and lockwasher (11)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (11).	
27. Circuit breaker terminal (5)	Terminal (9)	a. Tag (page 2-137). b. Take off.	

NOTE

Loader backhoes with Serial Numbers 235786 thru 235999 have cigar lighter lead terminal connected to front terminal of 20 amper circuit breaker. Loader backhoes with Serial Numbers 319995 thru 342573 have warning light flasher lead terminal connected to front terminal of 20 ampere circuit breaker.

28. Circuit breaker terminal (12) and cigar lighter lead terminal (13) or warning light flasher lead terminal (14)	Nut (15) and lockwasher (16)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (16).	
29. Circuit breaker terminal (12)	Cigar lighter lead terminal (13) or warning light flasher lead terminal (14)	a. Tag (page 2-137). b. Take off.	

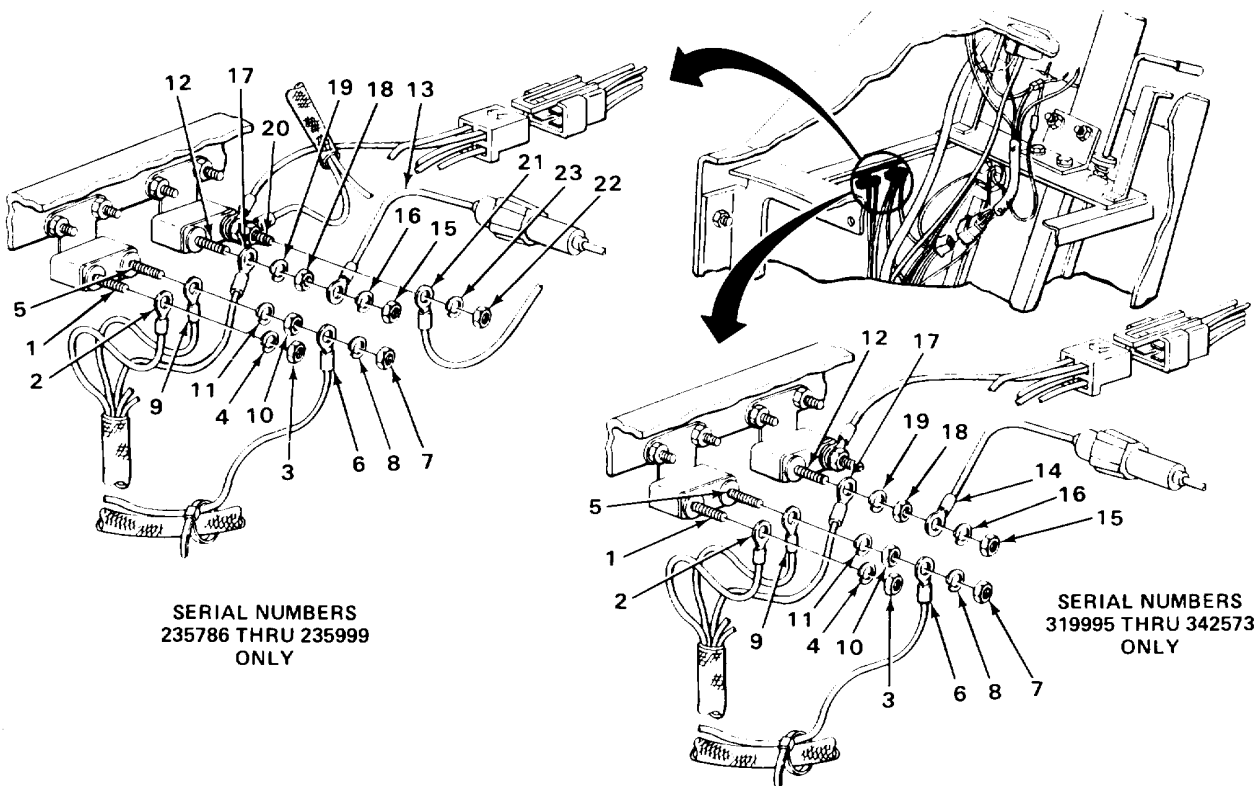
MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
30. Circuit breaker terminal (12) and terminal (17)	Nut (18) and lockwasher (19)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher(19).	
31. Circuit breaker terminal (12)	Terminal (17)	a. Tag (page 2-137). b. Take off.	

NOTE

Steps 32 thru 35 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

32. Circuit breaker terminal (20) and terminal (21)	Nut (22) and lockwasher (23)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (23).	
33. Circuit breaker terminal (20)	Terminal (21)	a. Tag (page 2-137). b. Take off.	

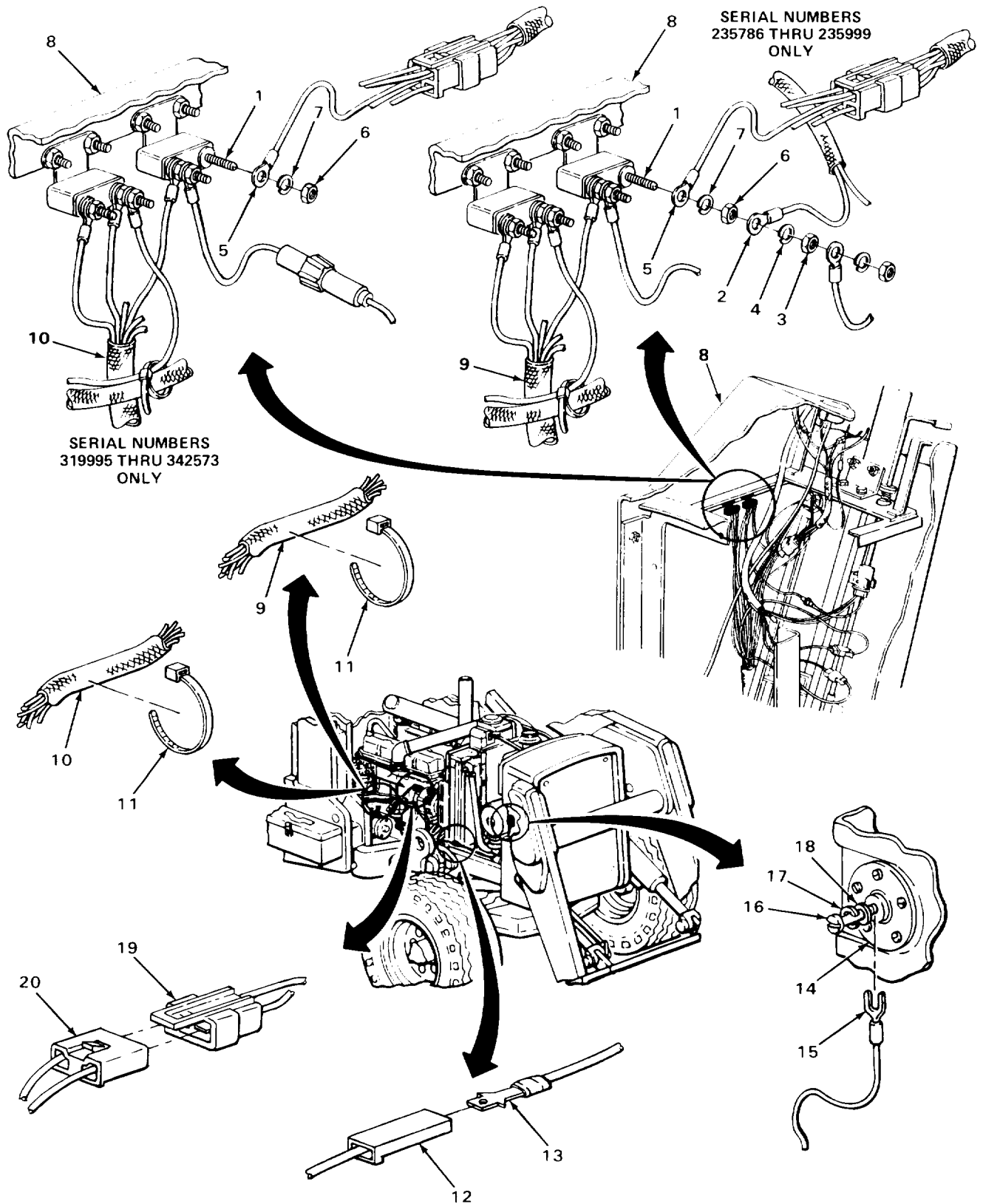


TA243099

MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
34. Circuit breaker terminal (1) and terminal (2)	Nut (3) and lockwasher (4)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (4).
35. Circuit breaker terminal (1)	Terminal (2)	a. Tag (page 2-137). b. Take off.
36. Circuit breaker terminal (1) and terminal (5)	Nut (6) and lockwasher (7)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (7).
37. Circuit breaker terminal (1)	Terminal (5)	Take off.
38. Cowl (8)	Main wiring harness (9 or 10)	a. Note routing of branch that goes into cowl (8) for proper placement during installation. b. Take out.
39. Main wiring harness (9 or 10)	Plastic bands (11)	a. Note number and location for proper placement during installation. b. Using diagonal-cutting pliers, cut off. c. Get rid of.
40. Connector(12) solenoid lead connector (13)	Hydraulic pump	a. Tag (page 2-137). b. Unplug.
41. Fuel gage sender (14) and terminal (15)	Screw (16), lockwasher (17), and washer (18)	Using 1/4-inch flat-tip screwdriver, loosen.
42. Screw (16), lockwasher (17), and washer (18)	Terminal (15)	Take out.
43. Voltage regulator connector (19)	Connector (20)	a. Tag (page 2-137). b. Using 3/16-inch flat-tip screwdriver, lift up tab on connector (19). c. Unplug.

MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

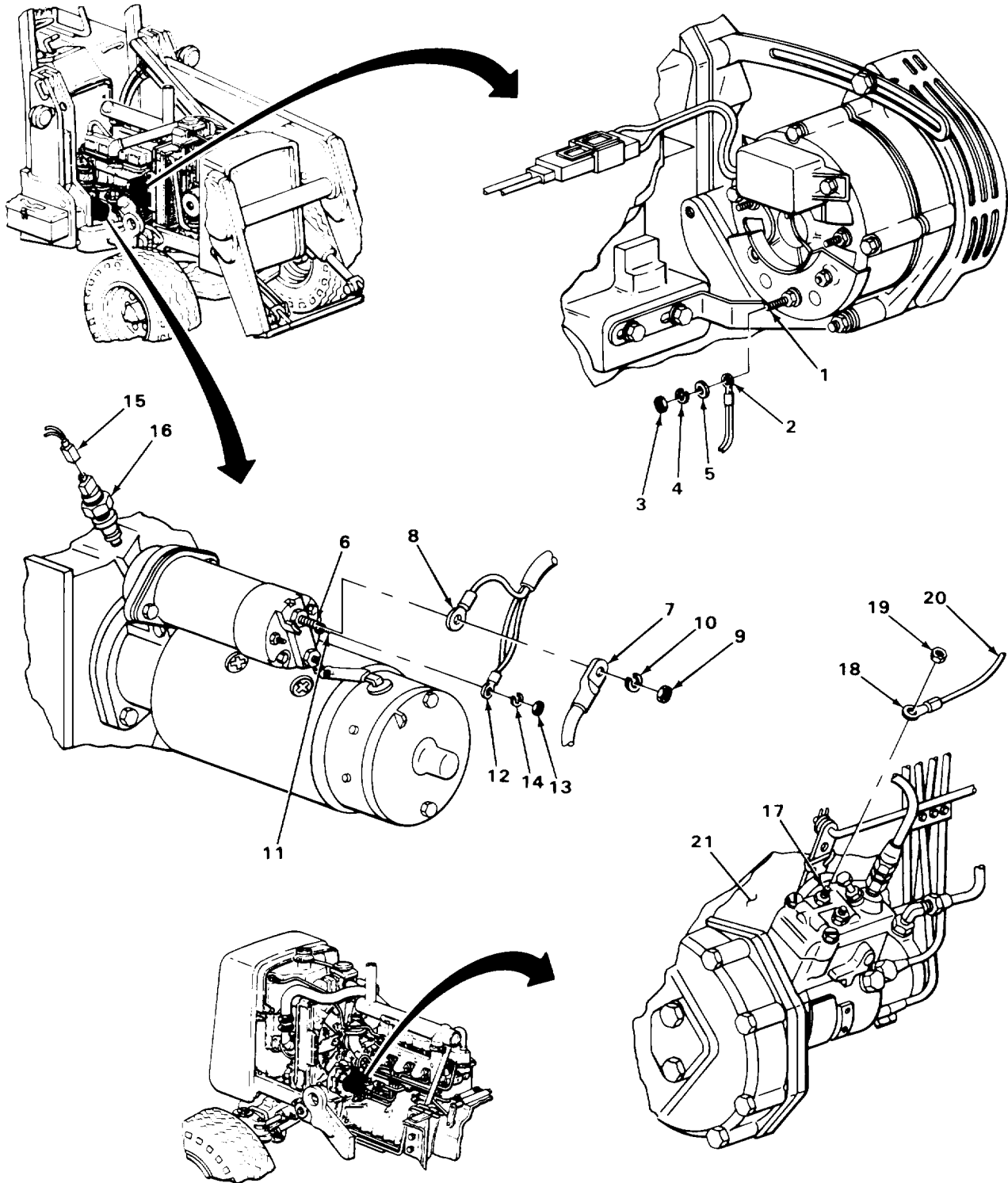


TA243100

MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
44. Ac generator terminal (1) and terminal (2)	Nut (3), lockwasher (4), and insulator washer (5)	a. Using 7/16-inch box wrench, unscrew and take off. b. Get rid of lockwasher (4).
45. Ac generator terminal (1)	Terminal (2)	a. Tag (page 2-137). b. Take off.
46. Starter solenoid terminal (6), battery cable terminal (7), and terminal (8)	Nut (9) and lockwasher (10)	a. Using 9/16-inch box wrench, unscrew and take off. b. Get rid of lockwasher (10).
47. Starter solenoid terminal (6)	Battery cable terminal (7) and terminal (8)	a. Tag (page 2-137). b. Take off.
48. Starter solenoid terminal (11) and terminal (12)	Nut (13), and lockwasher (14)	a. Using 11/32-inch box wrench, unscrew and take off. b. Get rid of lockwasher (14).
49. Starter solenoid terminal (11)	Terminal (12)	a. Tag (page 2-137). b. Take off.
50. Engine oil pressure switch terminal (15)	Connector (16)	a. Tag (page 2-137). b. Take off.
51. Fuel injection pump solenoid terminal (17) and terminal (18)	Self-locking nut (19)	a. Using 11/32-inch, 1/4-inch drive socket and ratchet handle, unscrew and take off. b. Get rid of.
52. Fuel injection pump solenoid terminal (17)	Terminal (18)	a. Tag (page 2-137). b. Take off.
53. Engine block (19)	Main wiring harness fuel shutoff during installation. lead (20)	a. Note routing for proper placement b. Take off.

MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED



TA243101

MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL - CONTINUED

NOTE

Step 54 only applies to loader backhoes with Serial Numbers 319995 thru 342573.

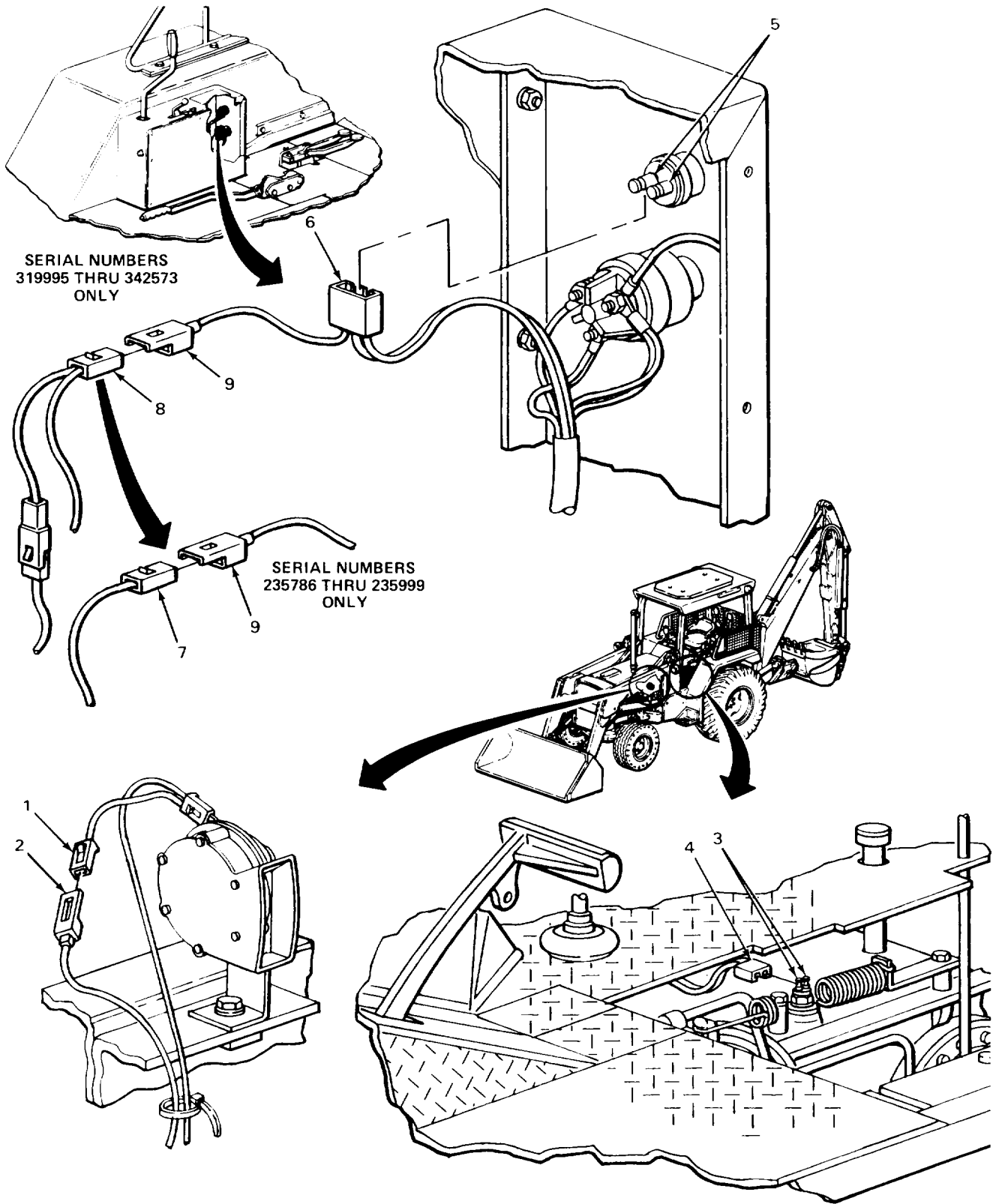
54. Connector (1)	Connector (2)	a. Tag (page 2-137). b. Using 1/8-inch flat-tip screwdriver, lift tab on connector (1). c. Unplug.
55. Starter neutral safety switch two terminals (3)	Connector (4)	a. Tag (page 2-137). b. Pull off.
56. Two starter switch terminals (5)	Connector (6)	a. Tag (page 2-137). b. Pull off.

NOTE

Loader backhoes with Serial Numbers 235786 thru 235999 have connector on main harness connected to connector on cold weather starting aid wiring harness. Loader backhoes with Serial Numbers 319995 thru 342573 connector on main harness connected to connector on parking brake wiring harness.

57. Cold weather starting aid harness connector (7) or parking brake wiring harness connector (8)	Connector (9)	a. Tag (page 2-137). b. Using 1/8-inch flat-tip screwdriver, lift tab. c. Unplug.
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MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

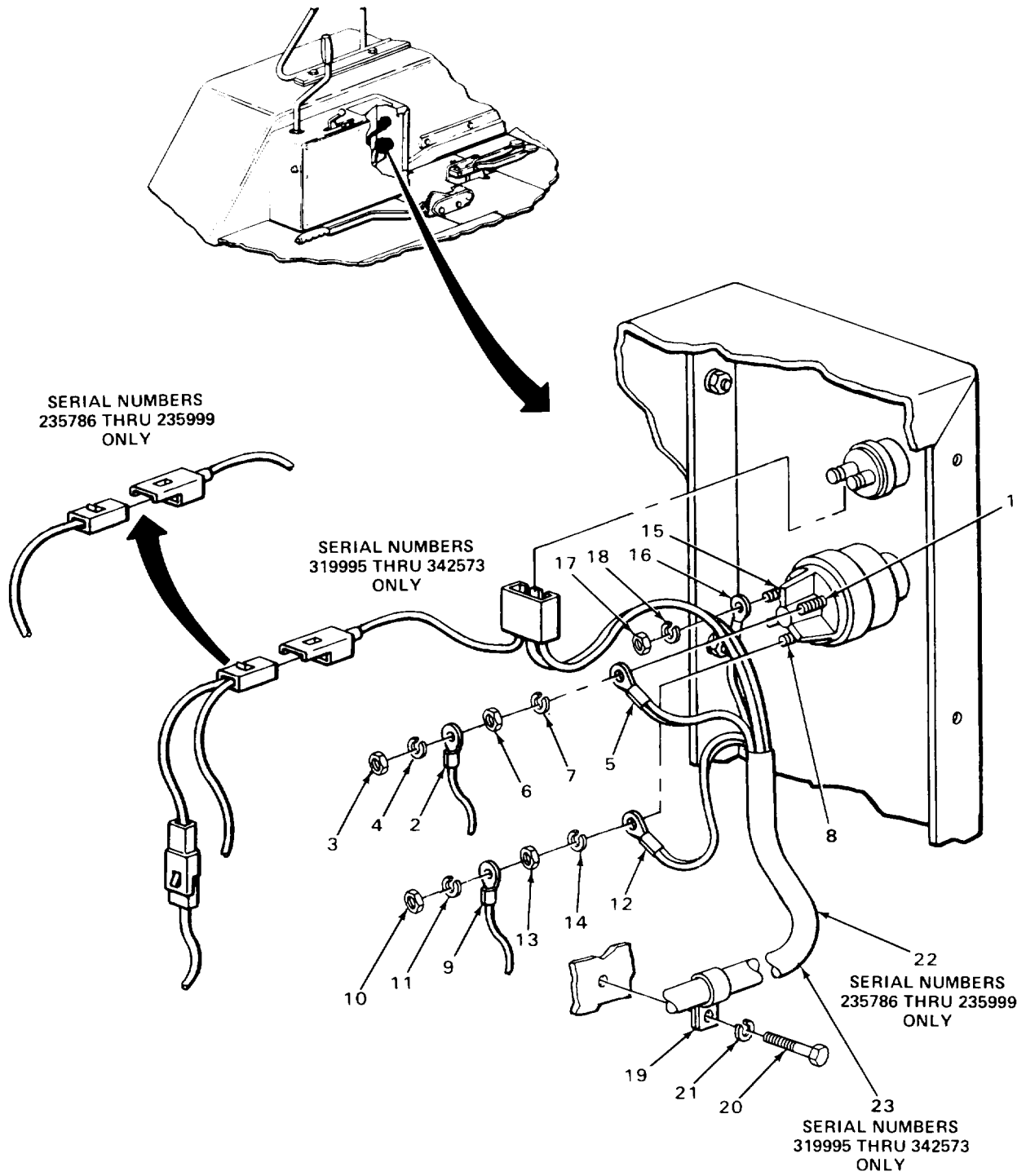


TA243102

MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
58. Ignition switch ACC terminal (1) and terminal (2)	Nut (3) and lockwasher (4)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (4).
59. Ignition switch ACC terminal (1)	Terminal (2)	a. Tag (page 2-137). b. Take off.
60. Ignition switch ACC terminal (1) and terminal (5)	Nut (6) and lockwasher (7)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (7).
61. Ignition switch ACC terminal (1)	Terminal (5)	a. Tag (page 2-137). b. Take off.
62. Ignition switch IGN terminal (8) and terminal (9)	Nut (10) and lockwasher(11)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (11).
63. Ignition switch IGN terminal (8)	Terminal (9)	a. Tag (page 2-137). b. Take off.
64. Ignition switch IGN terminal (8) and terminal (12)	Nut (13) and lockwasher (14)	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher(14).
65. Ignition switch IGN terminal (8)	Terminal (12)	a. Tag (page 2-137). b. Take off.
66. Ignition switch BATT terminal (15) and terminal (16)	Nut (17) and lockwasher (18) and take off.	a. Using 3/8-inch box wrench, unscrew and take off. b. Get rid of lockwasher (18).
67. Ignition switch BATT terminal (15)	Terminal (16)	a. Tag (page 2-137). b. Take off.
68. Two clamps (19)	Two screws (20) and lockwashers (21)	a. Using 7/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take off. b. Get rid of lockwasher (21).
69. Main wiring harness (22 or 23)	Two clamps (19)	Take off.

MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED



TA243103

MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
70.	Loader backhoe	Main wiring harness (1 or 2)	Note routing for proper placement during installation and take out.

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Electrical parts solvent cleaning compound (trichlorotrifluoroethane) is flammable, and reacts violently with aluminum, titanium, barium, lithium, samarium, and sodium potassium. Cleaning compound fumes displace air and it may be carcinogenic. Boiling point is 114°F (46°C). Do not wear jewelry. Wear rubber gloves and use only in well ventilated area. Avoid contact with skin, eyes, and clothes and do not breathe vapors. Do not use near open flame or excessive heat. If you become dizzy while using cleaning compound, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

71.	Main wiring harness (1 or 2)	<ul style="list-style-type: none"> a. Using clean rags dampened with solvent cleaning compound, wipe clean. b. Dip connectors in solvent cleaning compound. c. Using clean, dry rags, wipe dry.
72.	Five clamps (3)	<ul style="list-style-type: none"> a. Clean in solution of detergent and water. b. Rinse with clean water. c. Using clean, dry rags, wipe dry.

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

73.	All other metal parts	<ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.
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MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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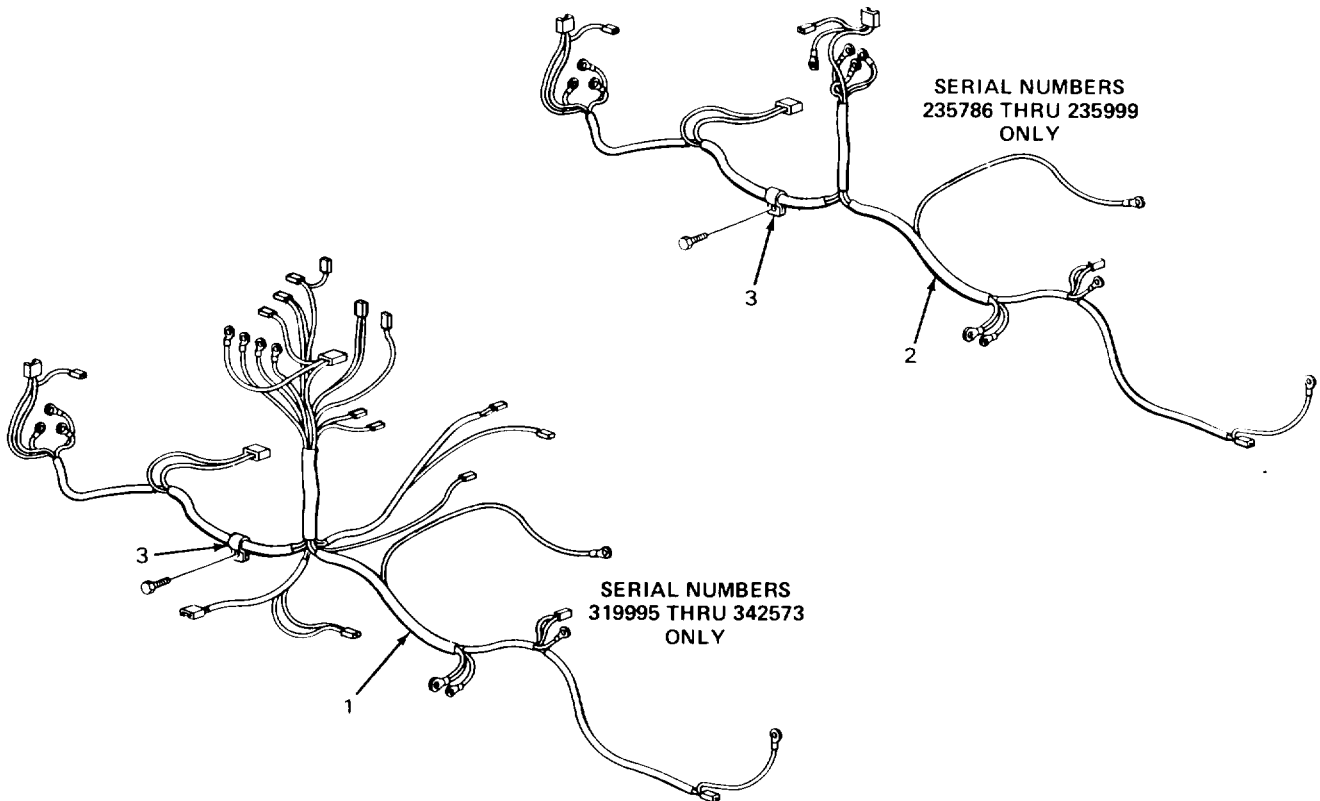
INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to **General Maintenance Instructions (page 2-137)**.

Replace defective parts which cannot be repaired.

74.	Main wiring harness (1 or 2)	<ul style="list-style-type: none"> a. Look for cracked, burned, and worn insulation. b. Look for broken wires. c. Look for loose and corroded terminals.
75.	Five clamps (3)	Look for peeling or missing plastic coating.

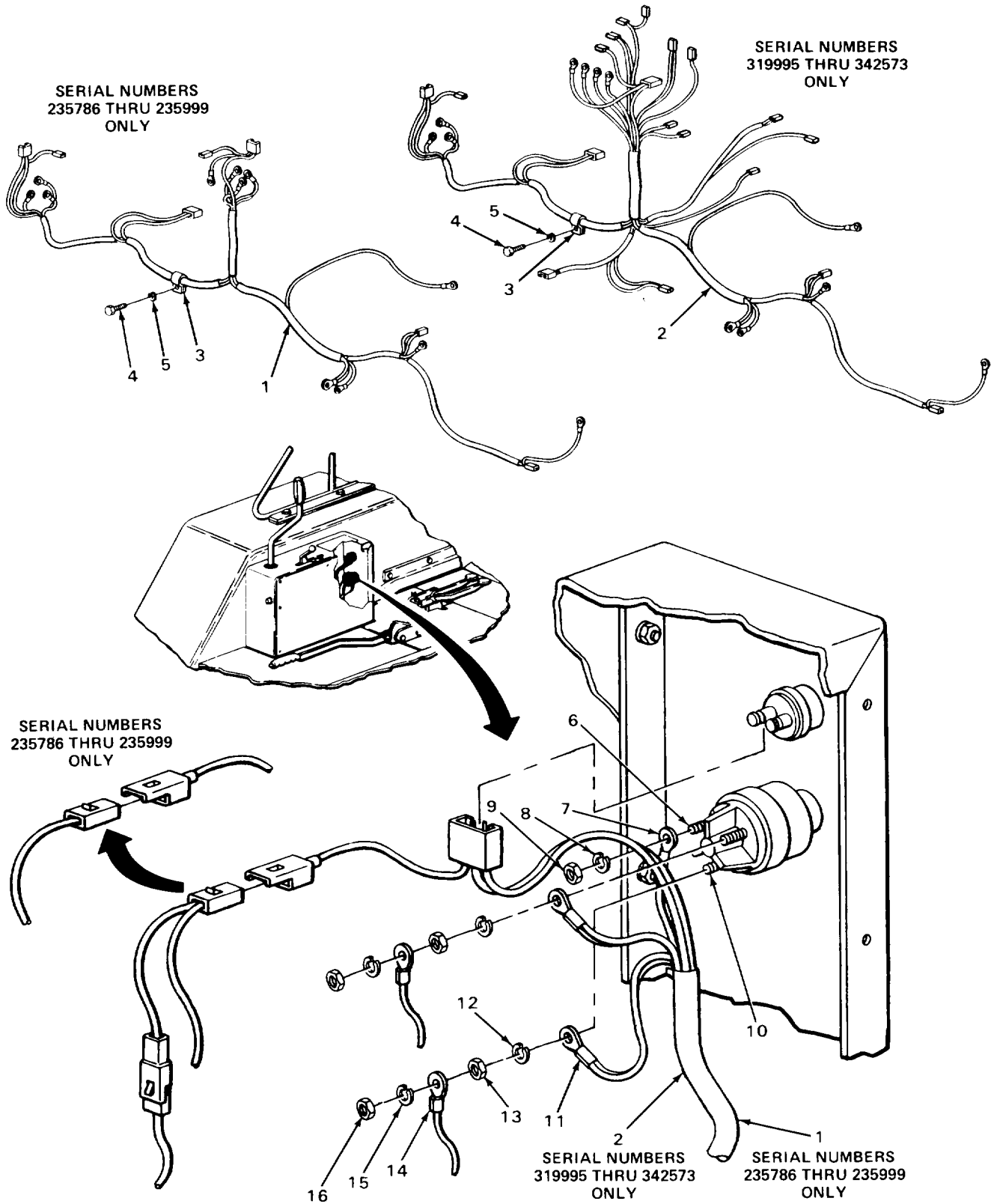


TA243104

MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT - CONTINUED			
76.	All metal parts		Look for cracks, breaks, and abnormal bends.
77.	All threaded parts		Look for damaged threads.
REPAIR			
NOTE			
For more information on how to repair wiring, go to General Maintenance Instructions (page 2-137).			
INSTALLATION			
78.	Loader backhoe	Main wiring harness (1 or 2)	Route into place as noted during removal.
79.	Main wiring harness	Two clamps (3)	Put in place as noted during removal.
80.	Two clamps (3)	Two screws (4) and new lockwashers (5)	Screw in and tighten using 7/16-inch box wrench, 7/16-inch, 3/8-inch drive socket, and ratchet handle.
81.	Ignition switch BATT terminal (6)	Terminal (7)	a. Put on. b. Take off tag.
82.	Ignition switch BATT terminal (6) and terminal (7)	New lockwasher (8) and nut (9)	Screw on and tighten using 3/8-inch box wrench.
83.	Ignition switch IGN terminal (10)	Terminal (11)	a. Put on. b. Take off tag.
84.	Ignition switch IGN terminal (10) and terminal (11)	New lockwasher (12) and nut (13)	Screw on and tighten using 3/8-inch box wrench.
85.	Ignition switch IGN terminal (10)	Terminal (14)	a. Put on. b. Take off tag.
86.	Ignition switch IGN terminal (10) and terminal (14)	New lockwasher (15) and nut (16)	Screw on and tighten using 3/8-inch box wrench.

MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED



TA243105

MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
87.	Ignition switch ACC terminal (1)	Terminal (2)	a. Put on. b. Take off tag.
88.	Ignition switch ACC terminal (1) and terminal (2)	New lockwasher (3) and nut (4)	Screw on and tighten using 3/8-inch box wrench.
89.	Ignition switch ACC terminal (1)	Terminal (5)	a. Put on. b. Take off tag.
90.	Ignition switch ACC terminal (1) and terminal (5)	New lockwasher (6) and nut (7)	Screw on and tighten using 3/8-inch box wrench.

NOTE

Loader backhoes with Serial Numbers 235786 thru 235999 have connector on main harness connected to connector on cold weather starting aid wiring harness. Loader backhoes with Serial Numbers 319995 thru 342573 connector on main harness connected to connector on parking brake wiring harness.

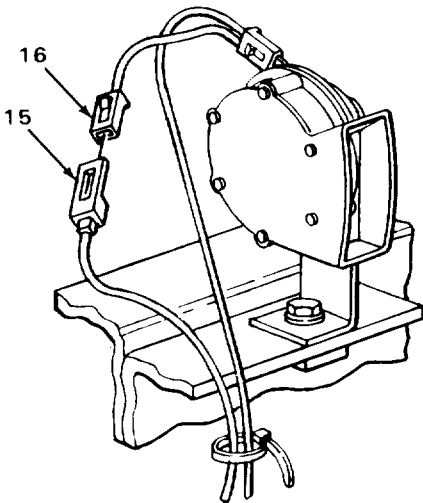
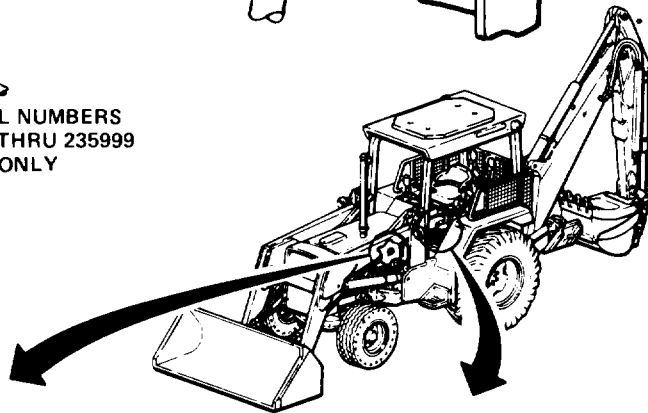
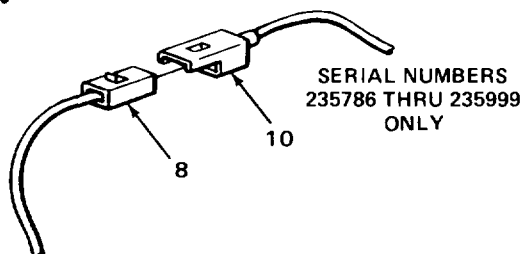
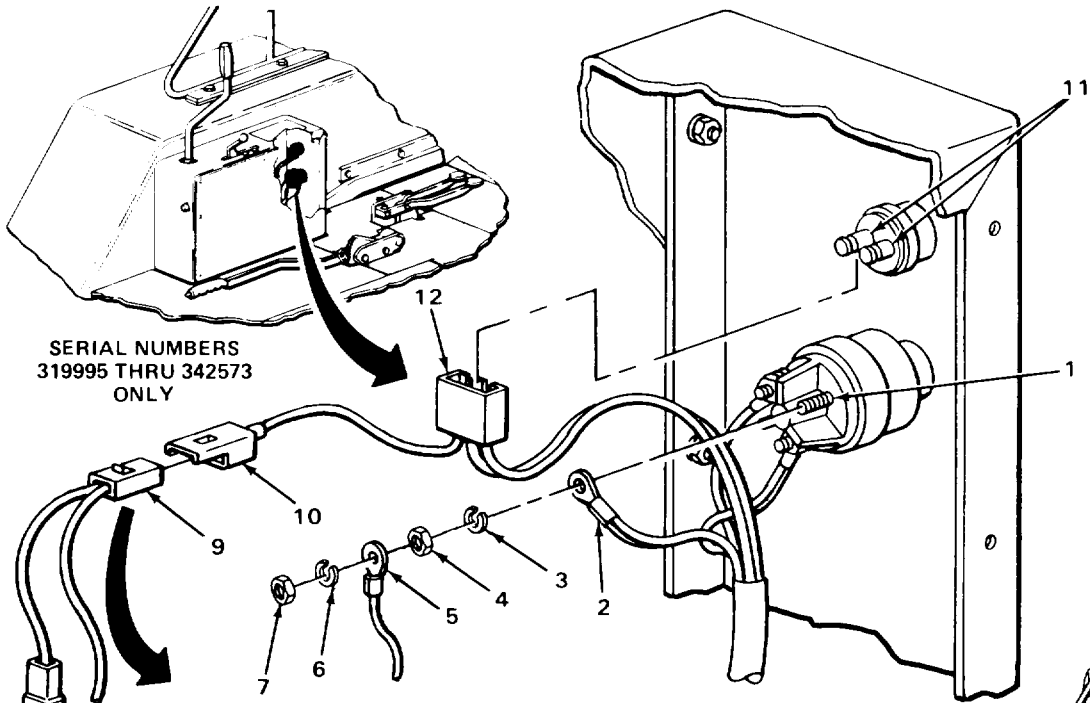
91.	Cold weather starting aid harness connector (8) or parking brake wiring harness connector (9)	Connector (10)	a. Plug in. b. Take off tag.
92.	Two starter switch terminal (11)	Connector (12)	a. Push on. b. Take off tag.
93.	Two starter neutral safety switch terminals (13)	Connector (14)	a. Push on. b. Take off tag.

NOTE

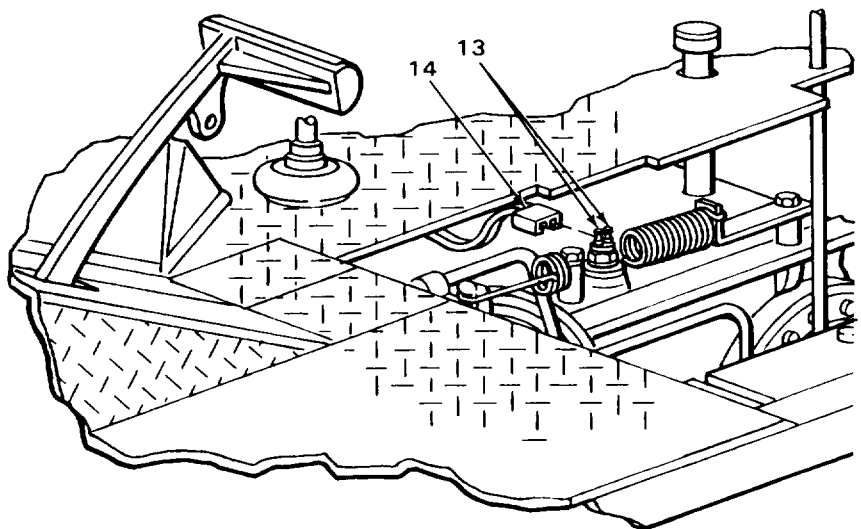
Step 94 only applies to loader backhoes with Serial Numbers 31995 thru 342573.

94.	Connector(15)	Connector (16)	a. Plug in. b. Take off tag.
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MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

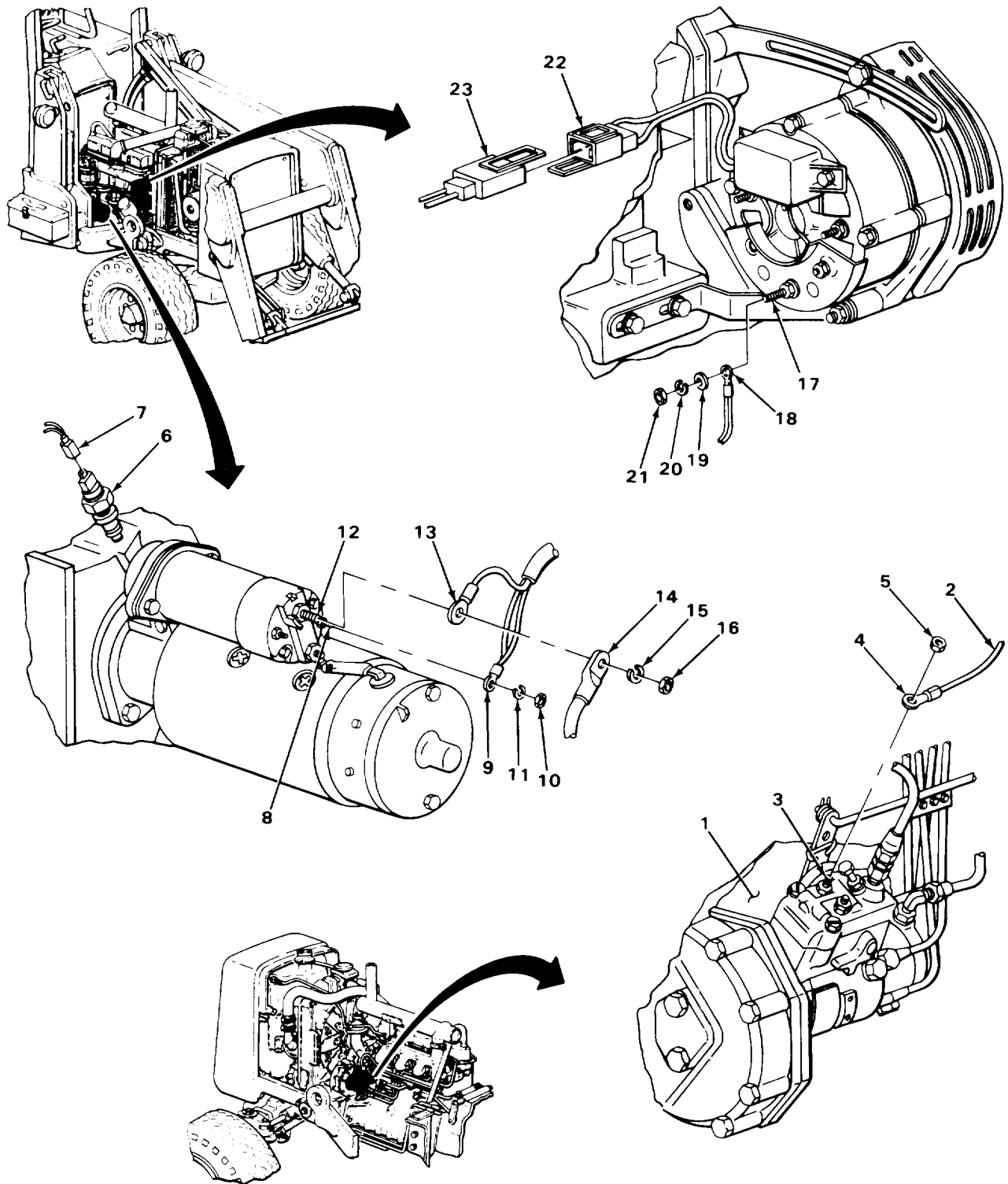


SERIAL NUMBERS
319995 THRU 342573
ONLY



MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
95. Engine block (1)	Main wiring harness fuel shutoff lead (2)	Route into place as noted during removal.
96. Fuel injection solenoid terminal (3)	Terminal (4)	a. Put on. b. Take off tag.
97. Fuel injection pump solenoid terminal (3) and terminal (4)	New self-locking nut (5)	Screw on and tighten using 11/32-inch, 1/4-inch drive socket and ratchet handle.
98. Engine oil pressure switch terminal (6)	Connector (7)	a. Push on. b. Take off tag.
99. Starter solenoid terminal (8)	Terminal (9)	a. Put on. b. Take off tag.
100. Starter solenoid terminal (8) and terminal (9)	New lockwasher (10) and nut (11)	Screw on and tighten using 3/8-inch box wrench.
101. Starter solenoid terminal (12)	Terminal (13) and battery cable terminal (14)	a. Put on. b. Take off tags.
102. Starter solenoid terminal (12), battery cable terminal (13), and terminal (14)	New lockwasher (15) and nut (16)	Screw on and tighten using 9/16-inch box wrench.
103. Ac generator terminal (17)	Terminal (18)	a. Put on. b. Take off tag.
104. Ac generator terminal (17) and terminal (18)	Insulator washer (19), new lockwasher (20), and nut (21)	Screw on and tighten using 7/16-inch box wrench.
105. Voltage regulator connector (22)	Connector (23)	a. Plug in. b. Take off tag.



MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

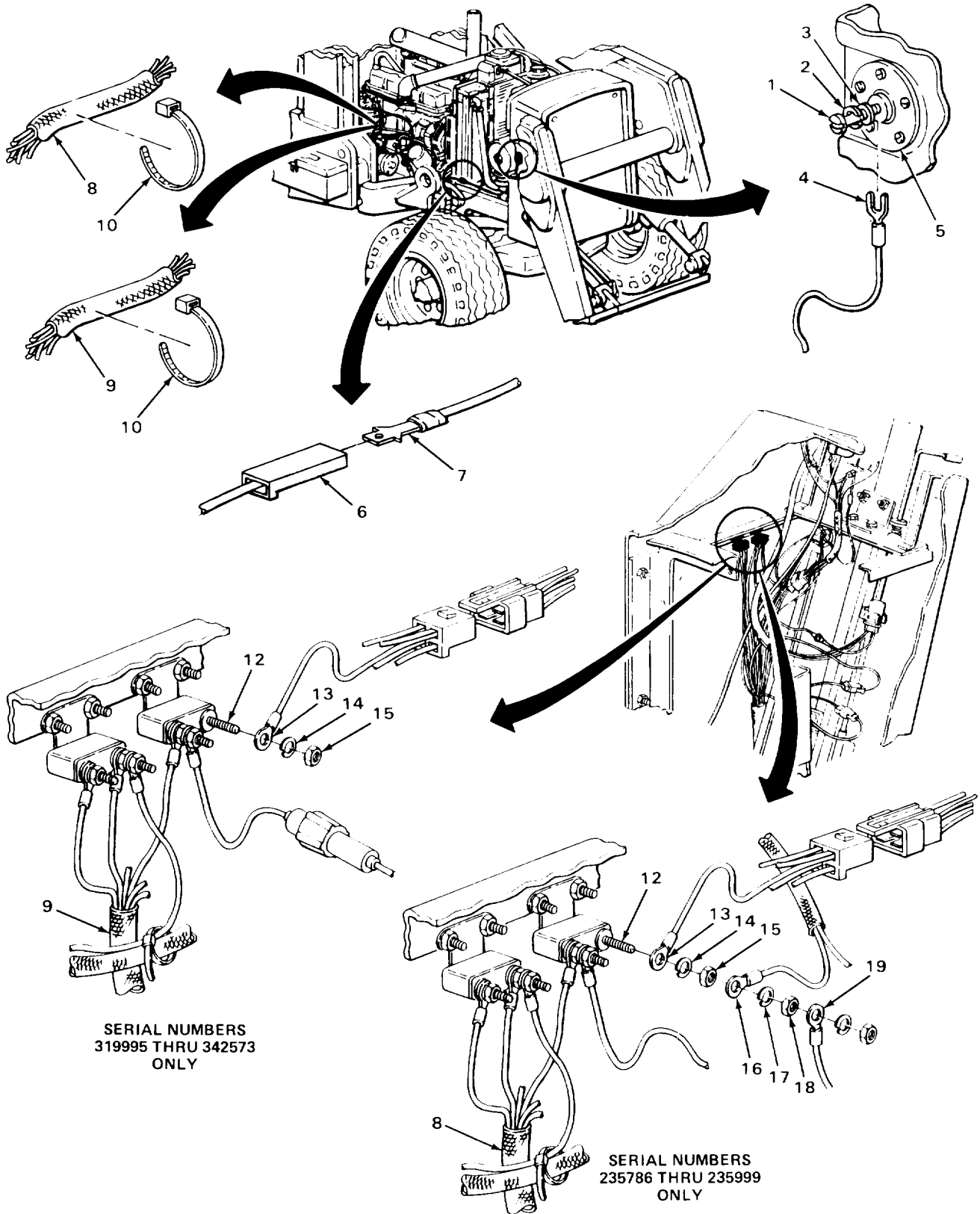
LOCATION	ITEM	ACTION REMARKS	
INSTALLATION - CONTINUED			
106.	Screw (1), lockwasher (2), and washer (3)	Terminal (4)	Push in between lockwasher (2) and washer (4).
107.	Fuel gage sender (5) and terminal (4)	Screw (1)	Using 1/4-inch flat-tip screwdriver, tighten.
108.	Connector (6) solenoid lead connector (7)	Hydraulic pump	a. Plug in. b. Take off tag.
109.	Main wiring harness (8 or 9) except for branch that goes into cowl	New plastic bands (10)	a. Put into place as noted during removal. b. Using slip-joint pliers, pull tight.
110.	Cowl (11)	Main wiring harness (8 or 9)	Route branch that goes into cowl (11) into place as noted during removal.
111.	Circuit breaker terminal (12)	Terminal (13)	a. Put on. b. Take off tag.
112.	Circuit breaker terminal (12) and terminal (13)	New lockwasher (14) and nut (15)	Screw on and tighten using 3/8-inch box wrench.

NOTE

Steps 113 thru 115 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

113.	Circuit breaker terminal (12)	Terminal (16)	a. Put on. b. Takeoff tag.
114.	Circuit breaker terminal (12) and terminal (16)	New lockwasher (17) and nut (18)	Screw on and tighten using 3/8-inch box wrench.
115.	Circuit breaker terminal (12)	Terminal (19)	a. Put on. b. Take off tag.

MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED



MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
116. Circuit breaker terminal (1) and terminal (2)	New lockwasher (3) and nut (4)	Screw on and tighten using 3/8-inch box wrench.
117. Circuit breaker terminal (5)	Terminal (6)	a. Put on. b. Take off tag.
118. Circuit breaker terminal (5) and terminal (6)	New lockwasher (7) and nut (8)	Screw on and tighten using 3/8-inch box wrench.

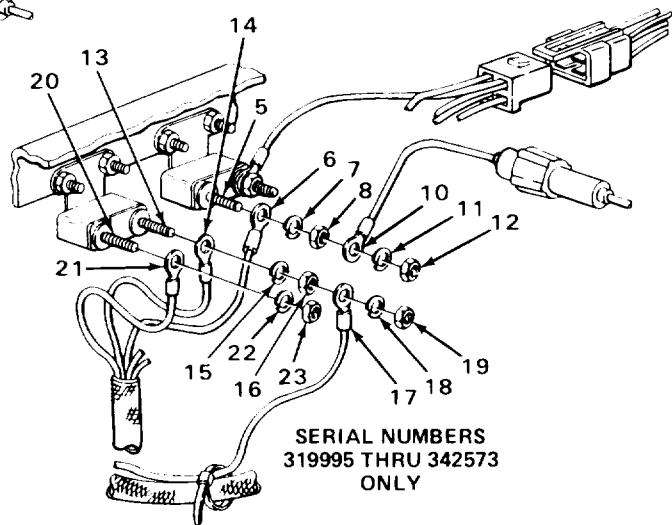
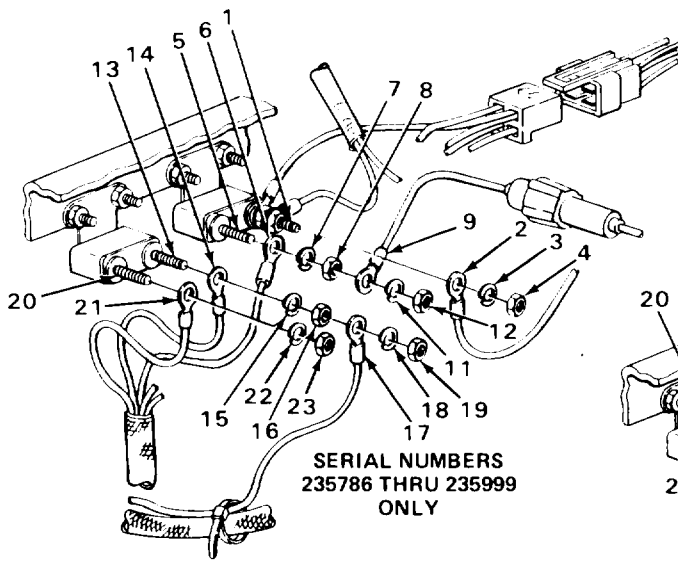
NOTE

Loader backhoes with Serial Numbers 235786 thru 235999 have cigar lighter lead terminal connected to front terminal of 20 amper circuit breaker. Loader backhoes with Serial Numbers 319995 thru 342573 have warning light flasher lead terminal connected to front terminal of 20 ampere circuit breaker.

119. Circuit breaker terminal (5) warning flasher lead terminal (10)	Cigar lighter lead terminal (9) or	a. Put on. b. Take off tag.
120. Circuit breaker terminal (5) and cigar lighter lead terminal (9) or warning light flasher lead terminal (10)	New lockwasher(11) and nut (12)	Screw on and tighten using 3/8-inch box wrench.
121. Circuit breaker terminal (13)	Terminal (14)	a. Put on. b. Take off tag.
122. Circuit breaker terminal (13) and terminal (14)	New lockwasher (15) and nut (16)	Screw on and tighten using 3/8-inch box wrench.
123. Circuit breaker terminal (13)	Terminal (17)	a. Put on. b. Take off tag.

MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
124. Circuit breaker terminal (13) and terminal (17)	New lockwasher (18) and nut (19)	Screw on and tighten using 3/8-inch box wrench.
125. Circuit breaker terminal (20)	Terminal (21)	a. Put on. b. Take off tag.
126. Circuit breaker terminal (20) and terminal (21)	New lockwasher (22) and nut (23)	Screw on and tighten using 3/8-inch box wrench.



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MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION - CONTINUED

NOTE

Steps 127 thru 128 only apply to loader backhoes with Serial Numbers 31995 thru 342573.

127.	Time total meter terminal (1)	Connector (2)	a. Push on. b. Take off tag.
128.	Horn switch two terminals (3)	Connector (4)	a. Push on. b. Take off tag.
129.	Instrument panel wiring harness connector (5)	Connector (6)	a. Plug in. b. Take off tags.
130.	Light switch B terminal (7)	Connector (8)	a. Push on. b. Take off tag.
131.	Cowl support (9) and main wiring harness (10 or 11)	New plastic bands (12)	a. Put in place as noted during removal. b. Using slip-joint pliers, pull tight.

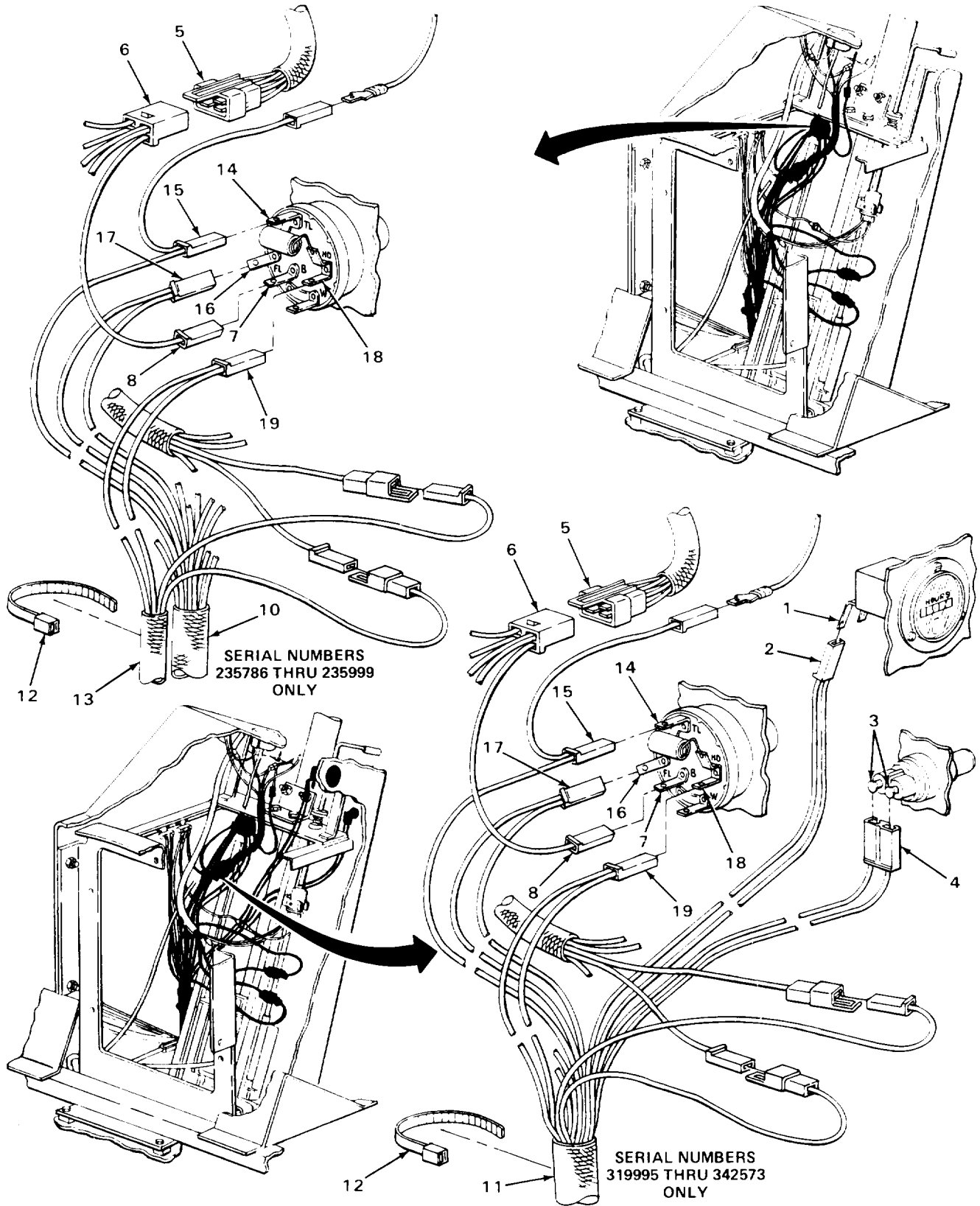
NOTE

If you did not remove front light wiring harness on loader backhoe with Serial Numbers 235786 thru 235999, skip steps 128 thru 139.

Step 132 only applies to loader backhoes with Serial Numbers 235786 thru 235999.

132.	Loader backhoe harness (13)	Front light wiring	Route into place as noted during removal.
133.	Light switch TL terminal (14)	Connector (15)	a. Push on. b. Take off tag.
134.	Light switch FL terminal (16)	Connector (17)	a. Push on. b. Take off tag.
135.	Light switch HD terminal (18)	Connector (19)	a. Push on. b. Take off tag.

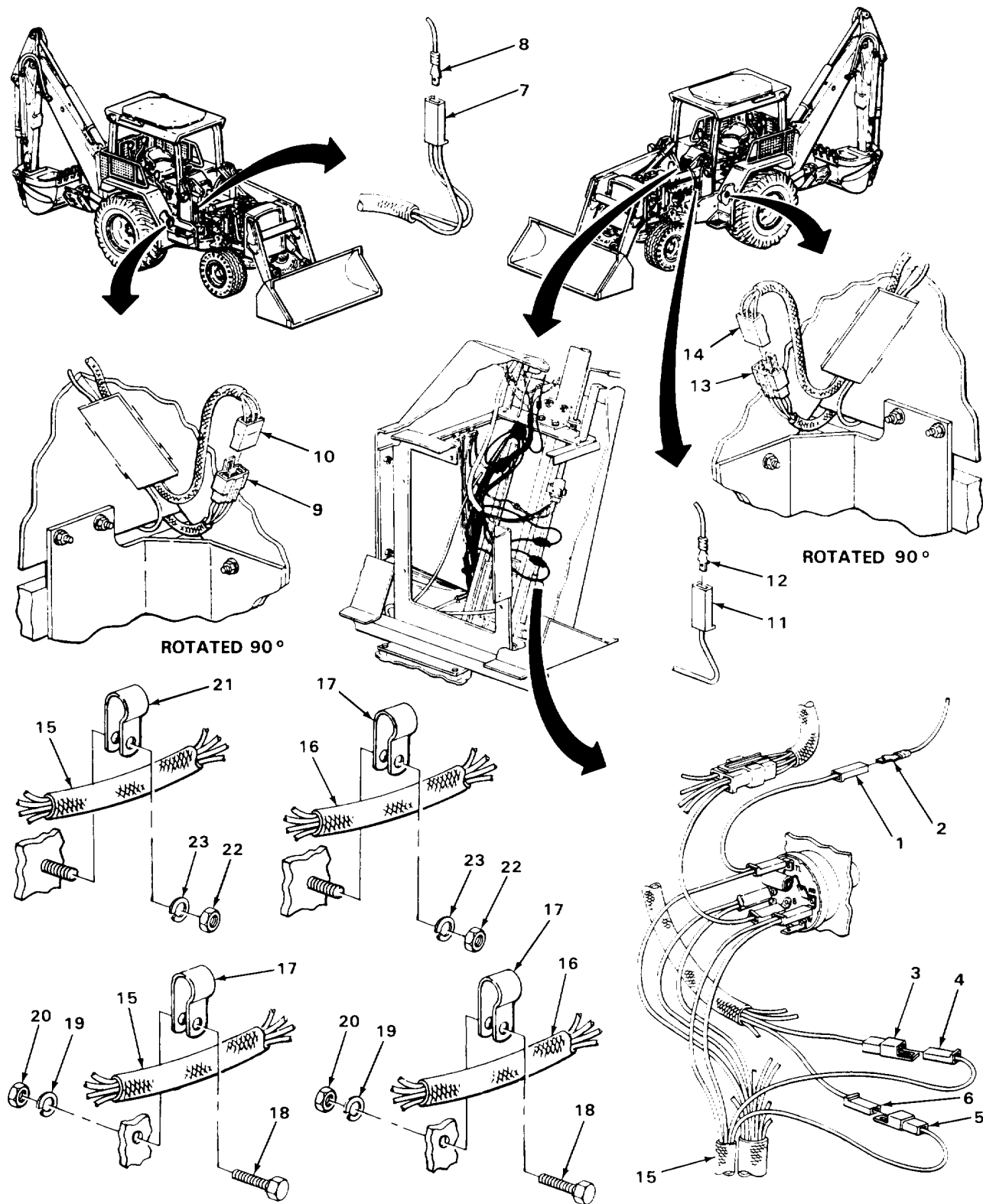
MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED



TA243110

MAIN AND FRONT LIGHT WIRING HARNESS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
136. Connector(1)	Connector (2)	a. Plug in. b. Take off tags.
137. Connector (3)	Connector (4)	a. Plug in. b. Take off tags.
138. Connector (5)	Connector (6)	a. Plug in. b. Take off tags.
139. Connector(7)	Connector (8)	a. Plug in. b. Take off tags.
140. Connector (9)	Connector (10)	a. Plug in. b. Take off tags.
141. Connector(11)	Connector (12)	a. Plug in. b. Take off tags.
142. Connector (13)	Connector (14)	a. Plug in. b. Take off tags.
143. Front light wiring harness (15) or main wiring harness (16)	Clamp (17)	Put in place as noted during removal.
144. Clamp (17)	Screw (18), new lockwasher (19), and nut (20)	Screw in and tighten using 11/16-inch box wrench, 11/16-inch, 3/8-inch drive socket and ratchet handle.
145. Front light wiring harness (15) or main wiring harness (16)	Two clamps (21)	Put in place as noted during removal.
146. Two clamps (21)	Two new lockwashers (22) and nuts (23)	Screw on and tighten using 7/16-inch 3/8-inch drive socket and ratchet handle.



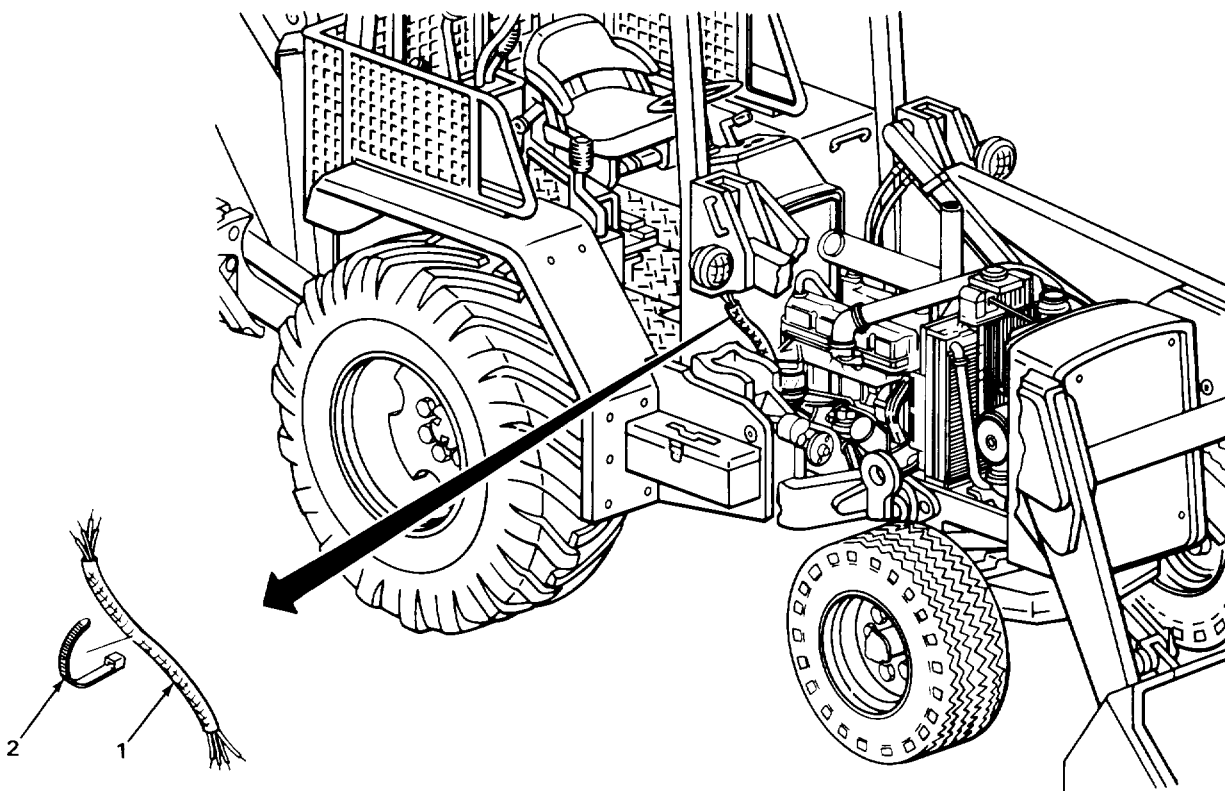
LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION - CONTINUED

NOTE

Step 147 only applies to loader backhoes with Serial Numbers 235786 thru 235999.

147. Front light wiring harness (1)	New plastic bands (2)	a. Put in place as noted during removal. b. Using slip-joint pliers, pull tight.
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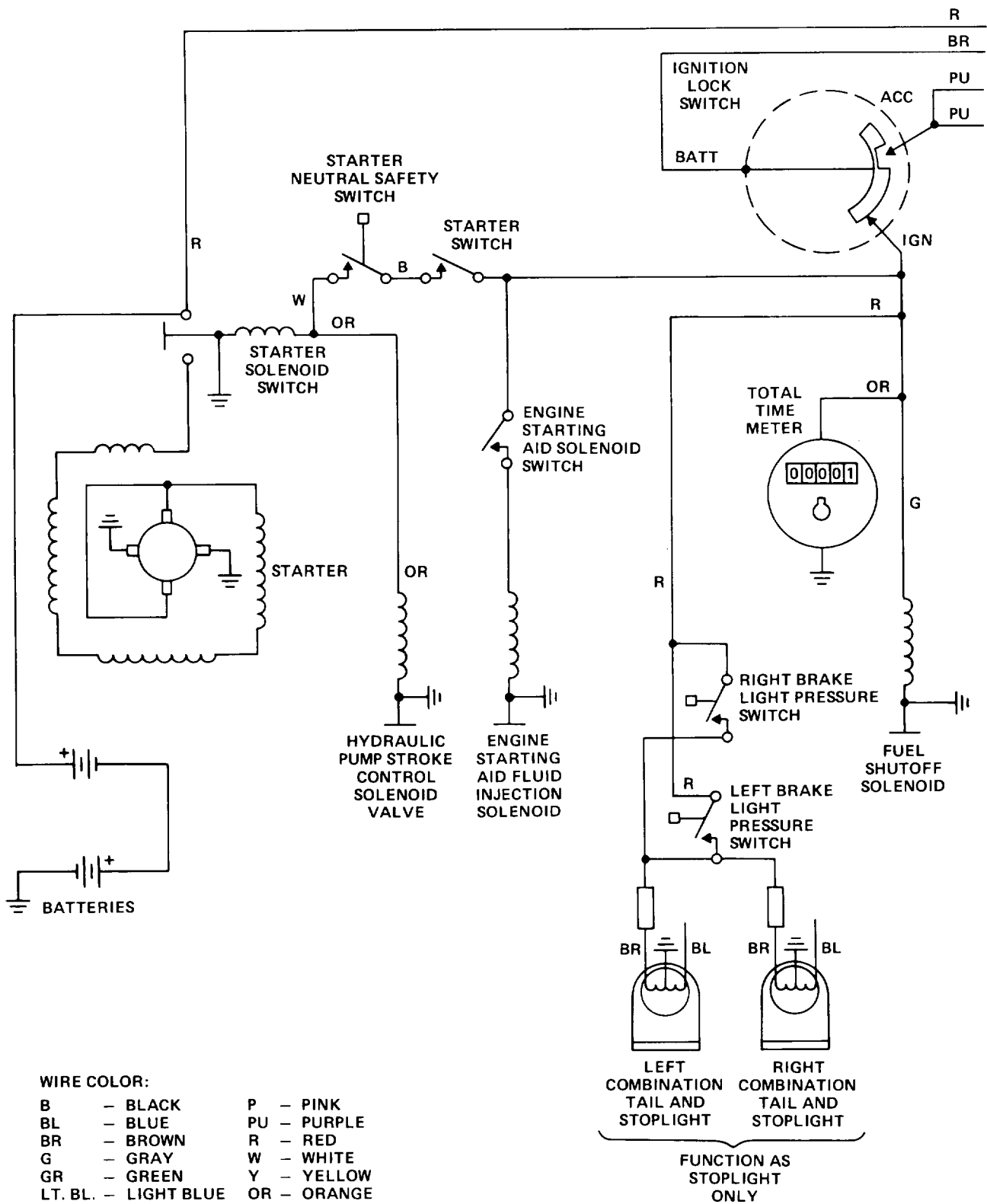
NOTE

FOLLOW-ON MAINTENANCE:

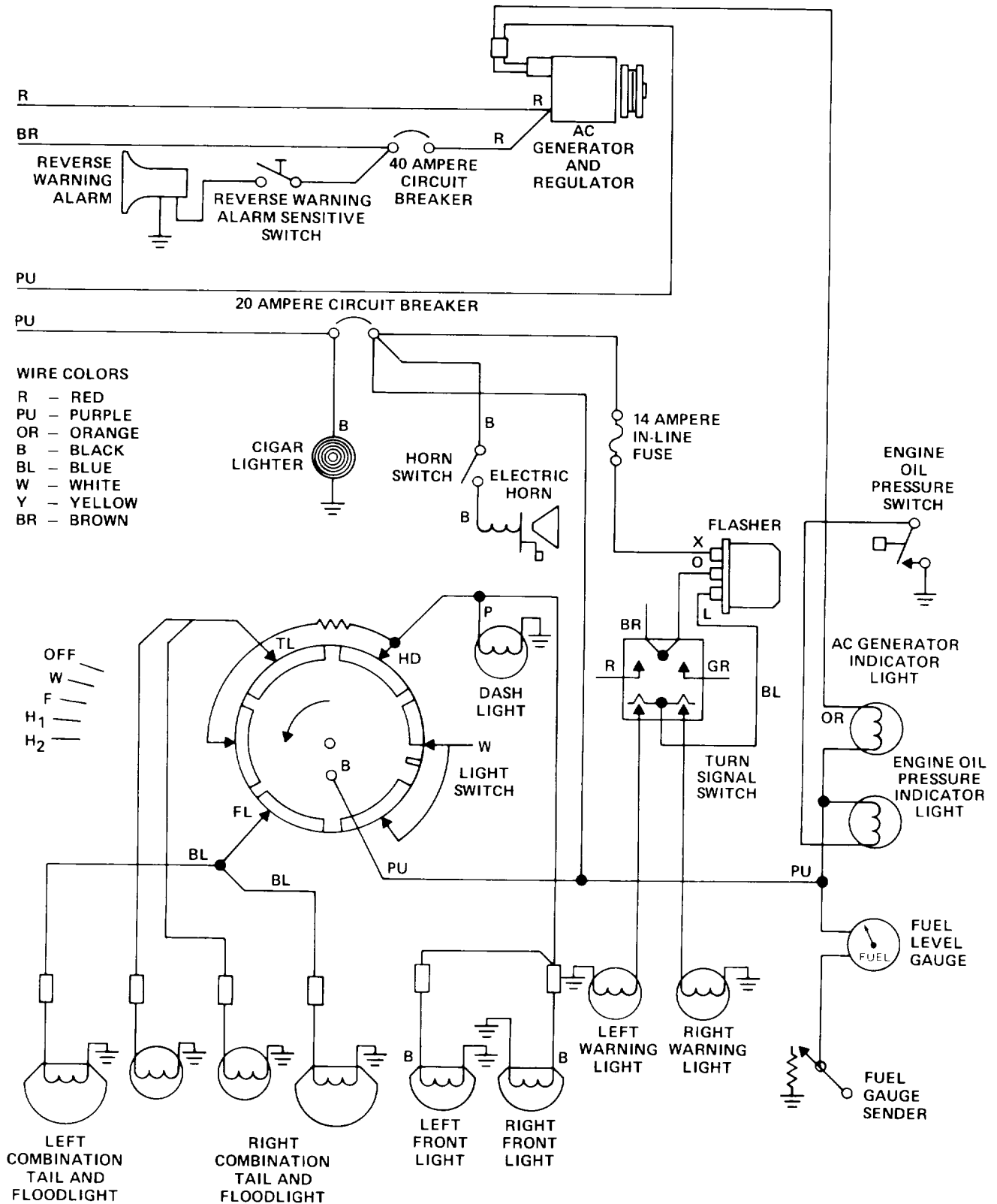
1. Install right inner platform ramp (page 2-1095).
2. Install right platform (page 2-1079).
3. Install loader control box door (page 2-1167).
4. Install cowl front cover (page 2-1020).
5. Install right side grille (TM 5-2420-222-10).
6. Connect battery ground cable (page 2-696).

TASK ENDS HERE

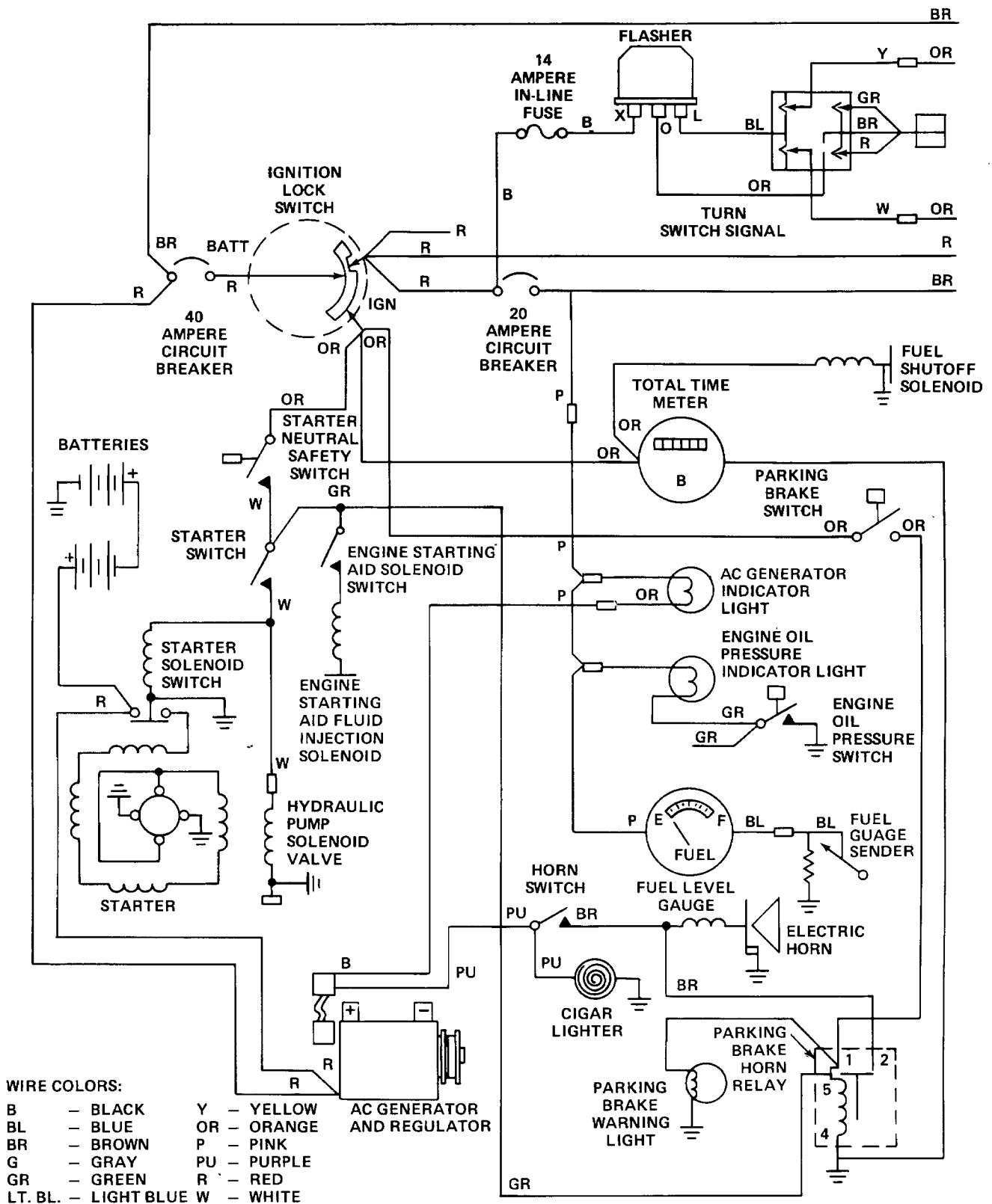
ELECTRICAL SYSTEM DIAGRAM (SCHEMATIC) (SERIAL NUMBERS 235786 THRU 235999 ONLY)



ELECTRICAL SYSTEM DIAGRAM (SCHEMATIC) (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED



ELECTRICAL SYSTEM DIAGRAM (SCHEMATIC) (SERIAL NUMBERS 31995 THRU 34253 ONLY)



Section XIII. TRANSMISSION

	Page		Page
Hydraulic Oil Cooler.....	2-841	Transmission.....	2-811
Speed Gear Assembly (Reverser)		Transmission Dipstick	2-814
Speed-of-Shift Adjustment	2-834	Transmission Strainer Element	
Speed Gear Assembly (Reverser)		(Filter Screen)	2-848
Control Lever.....	2-828	Transmission Oil Filter	2-836
Speed Gear Assembly (Reverser)			
Control Lever Linkage	2-815		

TRANSMISSION

This task covers:

- a. Draining (page 2-811)
- b. Filling (page 2-812)

INITIAL SETUP

Tools

Container, 10-gallon
 Handle, ratchet, 3/4-inch drive
 Socket, 3/4-inch drive, 1 1/4-inch

Materials/Parts

Hydraulic fluid (LO 5-2420-222-12)
 Packing, drainplug
 Packing, drainplug
 Rags, wiping (item 21, Appendix C)

Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
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DRAINING

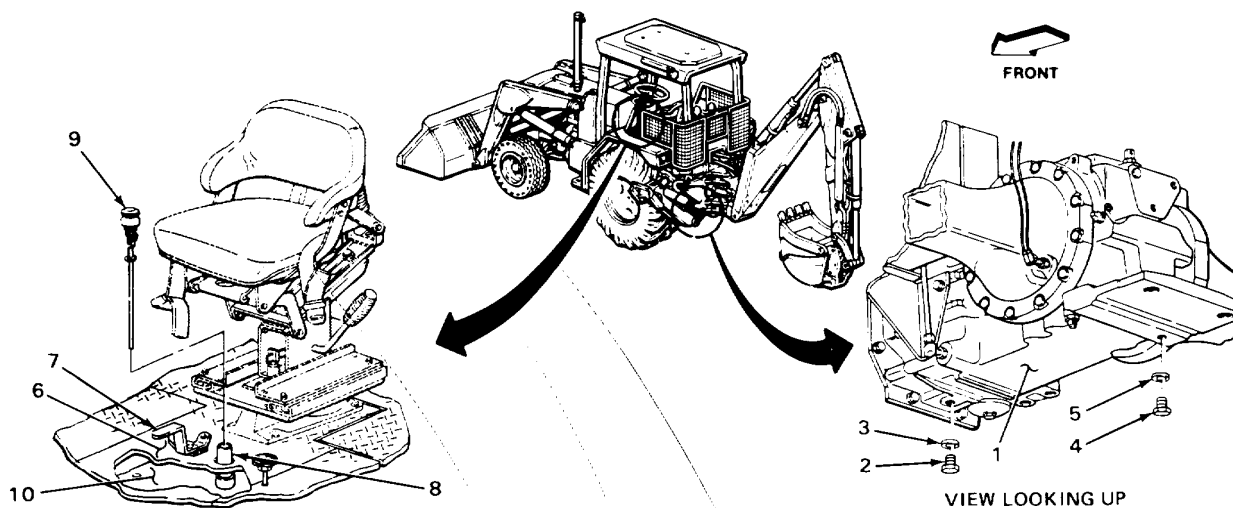
- | | | | |
|----|----------------|--------------------------|--|
| 1. | Loader backhoe | Engine | Start (TM 5-2420-222-10). |
| 2. | | Hydraulic control levers | Operate for several minutes to heat hydraulic fluid to operating temperature (TM 5-2420-222-10). |
| 3. | | Engine | Shut down (TM 5-2420-222-10). |

TRANSMISSION - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
DRAINING - CONTINUED			
<u>WARNING</u>			
Be careful when draining hot fluids. Wear gloves to protect your hands from hot parts and fluids or severe burns could result.			
4.	Transmission case (1)	Drainplug (2) with assembled packing (3)	<ol style="list-style-type: none"> a. Place 10-gallon container underneath. b. Using 1 1/4-inch, 3/4-inch drive socket and ratchet handle, unscrew and take out. c. Allow hydraulic fluid to drain into 10-gallon container.
5.		Drainplug (4) with assembled packing (3)	<ol style="list-style-type: none"> a. Place 10-gallon container underneath. b. Using 1 1/4-inch, 3/4-inch drive socket and ratchet handle, unscrew and take out. c. Allow hydraulic fluid to drain into 10-gallon container. d. Get rid of drained fluid (page 2-137).
6.	Two drainplugs (2 and 4)	Two packings (3 and 5)	<ol style="list-style-type: none"> a. Take off. b. Get rid of.
7.		Two new packings (3 and 5)	Place in position.
8.	Transmission case (1)	Two drainplugs (2 and 4) with packings (3 and 5)	Screw in and tighten using 1 1/4-inch, 3/4-inch drive socket and ratchet handle.
FILLING			
9.	Center platform (6)	Filler lock (7)	Move aside.
10.	Filler tube (8)	Dipstick (9)	<ol style="list-style-type: none"> a. Loosen. b. Pull out. c. Using clean, dry rag, wipe off fluid.
11.	Transmission cover (10)	Filler tube (8)	Add proper amount and grade of hydraulic fluid (LO 5-2420-222-12).

TRANSMISSION - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
12. Loader backhoe	Engine	Start and warm up for 3 minutes (TM 5-2420-222-10).	Make sure speed gear assembly reverser), range transmission shifter, and gear transmission shifter are in neutral position and clutch engaged.
13. Filler tube (8)	Dipstick (9)	a. Slide into position. b. Pull out and read fluid level. Fluid level should be between add and full marks. c. If fluid level is below add mark, repeat steps 11 and 13. d. If fluid level is correct, slide into position. e. Tighten.	
14. Center platform (6)	Filler lock (7)	Move over top of dipstick (9).	
15. Transmission case (1)	Two drainplugs (2 and 4)	a. Check for leaks. b. If leaking, using 1 1/4-inch, 3/4-inch drive socket and ratchet handle, tighten. c. If leaking does not stop, shut down engine (TM 5-2420-222-10) and replace packings as outlined in this task. d. If there were leaks, repeat steps 10 thru 15.	



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TRANSMISSION - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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FILLING - CONTINUED

16. Loader backhoe	Engine	If running, shut down (TM 5-2420-222-10).	
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TASK ENDS HERE

TRANSMISSION DIPSTICK

This task covers:

- a. Replacement (page 2-814)

INITIAL SETUP

Personnel Required

One

Equipment Condition

Transmission dipstick removed, cleaned, and inspected (TM 5-2420-222-10)

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REPLACEMENT

If transmission dipstick is defective, it must be replaced.

TASK ENDS HERE

SPEED GEAR ASSEMBLY (REVERSER) CONTROL LEVER LINKAGE

This task covers:

- | | |
|--|------------------------------|
| a. Removal (page 2-81) | e. Repair (page 2-820) |
| b. Disassembly (page 2-818) | f. Assembly (page 2-820) |
| c. Cleaning (page 2-820) | g. Installation (page 2-822) |
| d. Inspection/Replacement (page 2-820) | h. Adjustment (page 2-823) |

INITIAL SETUP**Tools**

Gage, thickness
 Hammer, ball-peen, 1-pound head
 Pliers, slip-joint
 Punch, drive-pin, straight, 1/8-inch
 Screwdriver, flat-tip, 3/16-inch
 Threading set, screw One
 Vise, machinist's
 Wrench, adjustable, 0 to 1.322-inch
 Wrench, open-end, 1/2-inch
 Wrench, open-end, 9/16-inch

Materials/Parts

Pin, cotter, adjustable yoke
 Pin, cotter, link
 Pin, cotter, headed pin
 Pin, cotter, control lever rod (page 2-1106)

Materials/Parts - Continued

Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)

Personnel Required**Equipment Conditions**

1. Left platform removed (page 2-1060)
2. Left outer platform ramp removed (page 2-1073)
3. Right inner platform ramp removed (page 2-1095)
4. Right platform removed (page 2-1079)
5. Center platform support removed

2-815

SPEED GEAR ASSEMBLY (REVERSER) CONTROL LEVER LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Pin (1)	Cotter pin (2)	a. Using slip-joint pliers, straighten ends and take out. b. Get rid of.
2.	Adjustable yoke (3) and control arm (4)	Pin (1)	Take out.
3.	Link (5) and control shaft arm (6)	Cotter pin (7)	a. Using slip-joint pliers, straighten ends and take out. b. Get rid of.
4.	Control shaft arm (6) and control arm (4)	Link (5) and attached adjustable yoke (3)	Take out and off.
5.	Headed pin (8)	Cotter pin (9)	a. Using slip-joint pliers, straighten ends and take out. b. Get rid of.
6.	Washer (10)	Take off.	
7.	Clutch control valve shaft (11) and yoke (12)	Headed pin (8)	Take out.
8.	Clutch control valve shaft (11)	Yoke (12)	Take off.
9.	Control lever rod (13)	Cotter pin (14)	a. Using slip-joint pliers, straighten ends and take out. b. Get rid of.

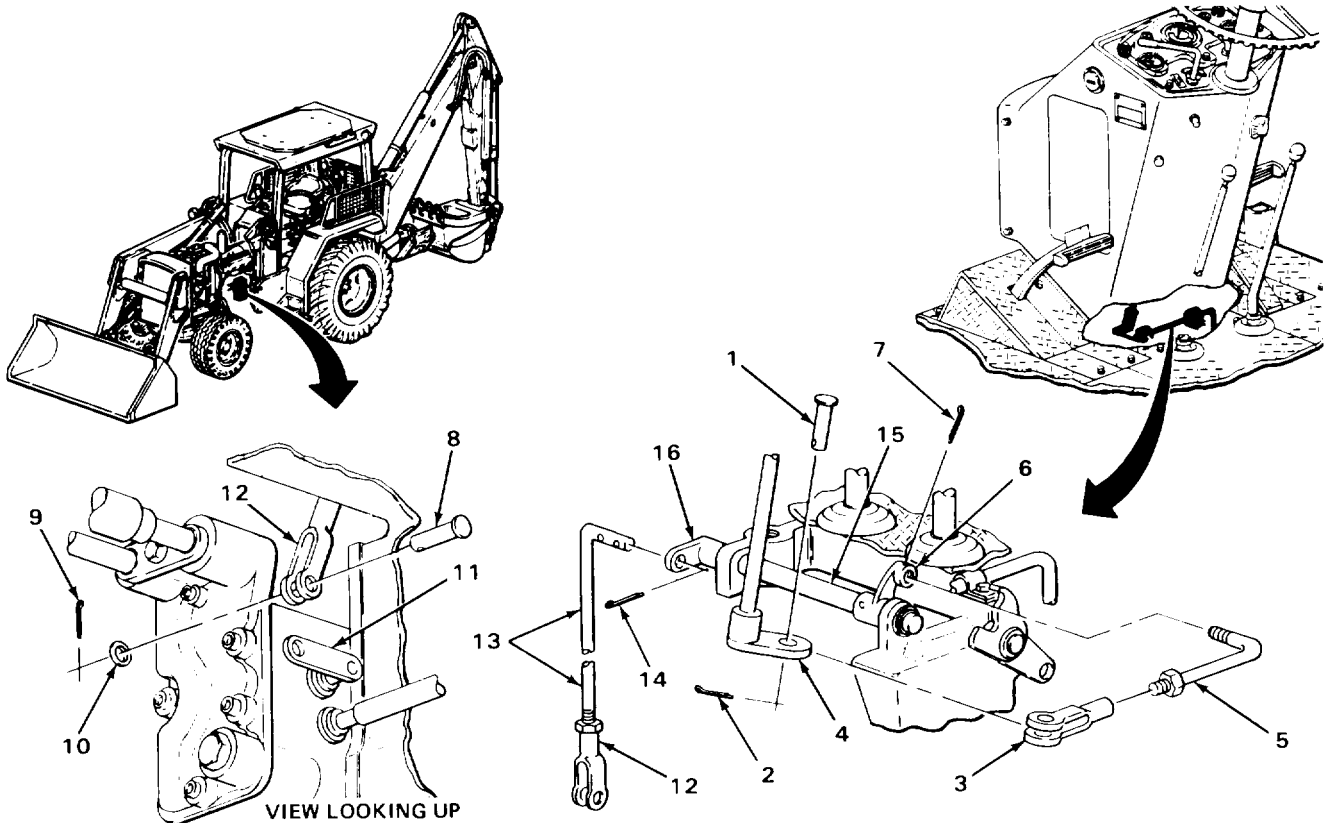
SPEED GEAR ASSEMBLY (REVERSER) CONTROL LEVER LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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NOTE

Shaft on loader backhoes with Serial Numbers 235786 thru 235999 has separate control lever arm. Shaft on loader backhoes with Serial Numbers 319995 thru 342573 is one piece. Both are removed the same way.

- | | | | |
|----------------------------|---|-----------|--|
| 10. Shaft (15) or arm (16) | Control lever rod (13) with assembled parts | Take out. | |
|----------------------------|---|-----------|--|



TA243118

SPEED GEAR ASSEMBLY (REVERSER) CONTROL LEVER LINKAGE - CONTINUED

LOCATION	ITEM	ACTION REMARKS	
REMOVAL - CONTINUED			
11.	Shaft (1 or 2) and control shaft arm (3)	Groove pin (4)	<ol style="list-style-type: none"> Rotate shaft (1 or 2) until pin (4) is accessible. Using 1-pound head ball-peen hammer and 1/8-inch straight drive-pin punch, drive out.
12.	Shaft (1 or 2) and washer (5)	Ring (6)	Using 3/16-inch flat-tip screwdriver, pry off.
13.	Shaft (1 or 2) and reverser housing (7)	Washer (5)	Take off.
14.	Reverser housing (7) and control shaft arm (3)	Shaft (1 or 2)	Slide out.
15.	Reverser housing (7) arm (3)	Control shaft	Take off.
DISASSEMBLY			
16.	Adjustable yoke (8) and link (9)	Nut (10)	<ol style="list-style-type: none"> Place link (9) in machinist's vise. Using 1/2-inch open-end wrench, loosen.
17.	Link (9)	Adjustable yoke (8) and nut (10)	<ol style="list-style-type: none"> Note number of exposed threads on link (9) and relative position of yoke (8). Unscrew and take off. Take link (9) out of machinist's vise.

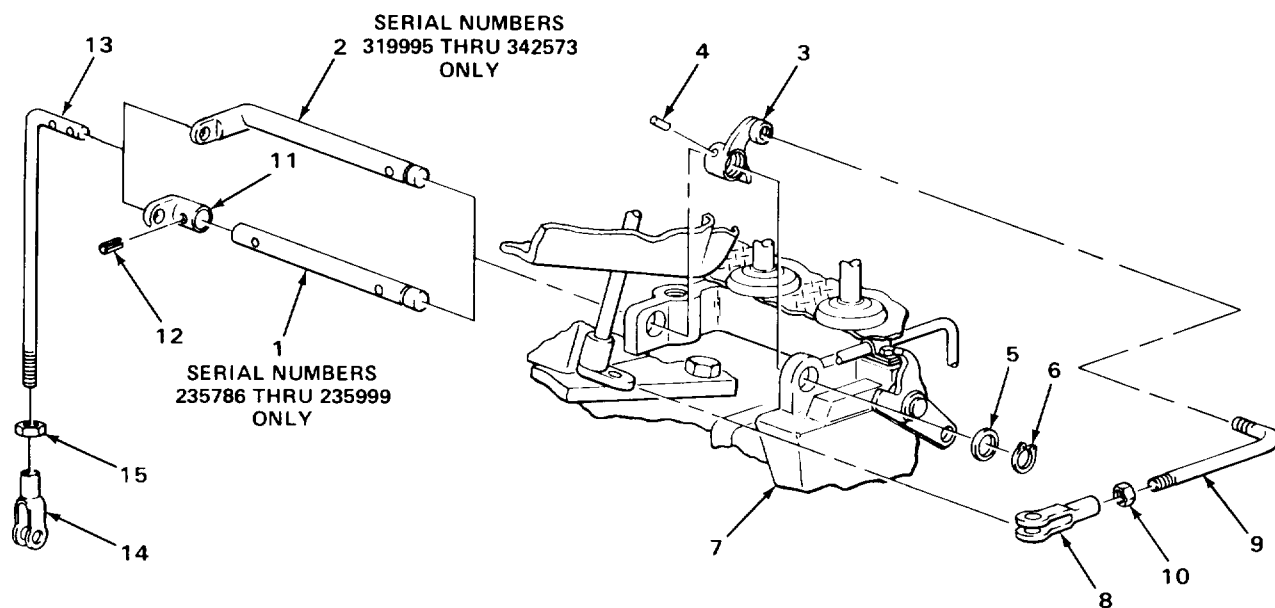
NOTE

Steps 18 and 19 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

18.	Shaft (1) and control lever arm (11)	Groove pin (12)	<ol style="list-style-type: none"> Place shaft (1) in machinist's vise. Using 1/8-inch straight drive-pin punch and 1-pound head ball-peen hammer, drive out.
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SPEED GEAR ASSEMBLY (REVERSER) CONTROL LEVER LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
19. Shaft (1)	Control lever arm (11)	a. Take off. b. Take shaft (1) out of machinist's vise.	
20. Control lever rod (13) and yoke (14)	Nut (15)	a. Place rod (13) in machinist's vise. b. Using 9/16-inch open-end wrench, loosen.	
21. Control lever rod (13)	Yoke (14) and nut (15)	a. Note number of exposed threads on rod (13) and relative position of yoke (14). b. Unscrew and take off. c. Take rod (13) out of machinist's vise.	



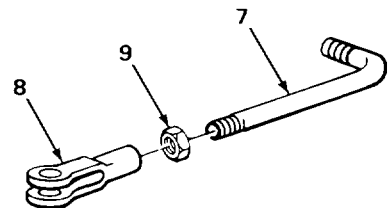
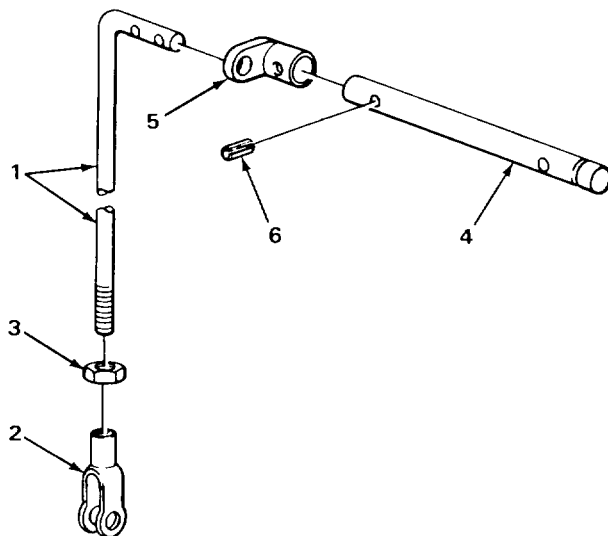
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SPEED GEAR ASSEMBLY (REVERSER) CONTROL LEVER LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
CLEANING			
NOTE			
For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).			
WARNING			
Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.			
22.	All parts	a. Clean in drycleaning solvent. b. Using clean dry rags, wipe dry.	
INSPECTION/REPLACEMENT			
NOTE			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).			
Replace defective parts which cannot be repaired.			
23.	All parts		Look for cracks, breaks, and abnormal bends.
24.	All threaded parts		Look for damaged threads.
REPAIR			
25.	All threaded parts except attaching hardware		If threads are damaged, using screw threading set, restore threads.
ASSEMBLY			
26. Control lever rod (1)	Yoke (2) and nut (3)		a. Place rod (1) in machinist's vise. b. Screw on until number of threads showing on rod (1) and relative position of yoke (2) are same as noted in disassembly.

SPEED GEAR ASSEMBLY (REVERSER) CONTROL LEVER LINKAGE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
27. Control lever rod (1) and yoke (2)	Nut (3)	a. Using 9/16-inch open-end wrench and 0 to 1.322-inch adjustable wrench, tighten until seated against yoke (2). b. Take rod (1) out of machinist's vise.
NOTE		
Steps 27 and 28 only apply to loader backhoes with Serial Numbers 235786 thru 235999.		
28. Shaft (4)	Control lever arm (5)	a. Place shaft (4) in machinist's vise. b. Place in position, lining up pin holes.
29. Shaft (4) and control lever arm (5)	Groove pin (6)	a. Using 1-pound ball-peen hammer tap in. b. Take shaft (4) out of machinist's vise.
30. Link (7)	Adjustable yoke (8) and nut (9)	a. Place link (7) in machinist's vise. b. Screw on until number of exposed threads on link (7) and relative position of yoke (8) are same as noted in disassembly.
31. Link (7) and adjustable yoke (8)	Nut (9)	a. Using 1/2-inch open-end wrench and 0 to 1.322-inch adjustable wrench, tighten until seated against yoke (8). b. Take link (7) out of machinist's vise.



SPEED GEAR ASSEMBLY (REVERSER) CONTROL LEVER LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION			
32.	Reverser housing (1)	Control shaft arm (2)	Put in place.
NOTE			
Shaft on loader backhoes with Serial Numbers 235786 thru 235999 has separate control lever arm. Shaft on loader backhoes with Serial Numbers 319995 thru 342573 is one piece. Both are installed the same way.			
33.	Reverser housing (1) and control shaft arm (2)	Shaft (3 or 4)	Slide in.
34.	Shaft (3 or 4) and reverser housing (1)	Washer (5)	Put on.
35.	Shaft (3 or 4) and washer (5)	Ring (6)	a. Place in position. b. Using slip-joint pliers, clamp shut.
36.	Shaft (3 or 4) and control shaft arm (2)	Groove pin (7)	a. Aline pin holes in shaft (3 or 4) and arm (2). b. Using 1-pound head ball-peen hammer and 1/8-inch straight drive-pin punch, drive in.
37.	Shaft (3 or 4)	Control lever rod (8) with assembled parts	Place in position.
38.	Control lever rod (8)	New cotter pin (9)	a. Push in. b. Using slip-joint pliers, bend ends back.
39.	Clutch control valve shaft (10)	Yoke (11)	Place in position.
40.	Clutch control valve shaft (10) and yoke (11)	Headed pin (12)	Push in.
41.	Headed pin (12)	Washer (13)	Put on.
42.		New cotter pin (14)	a. Push in. b. Using slip-joint pliers, bend ends back.

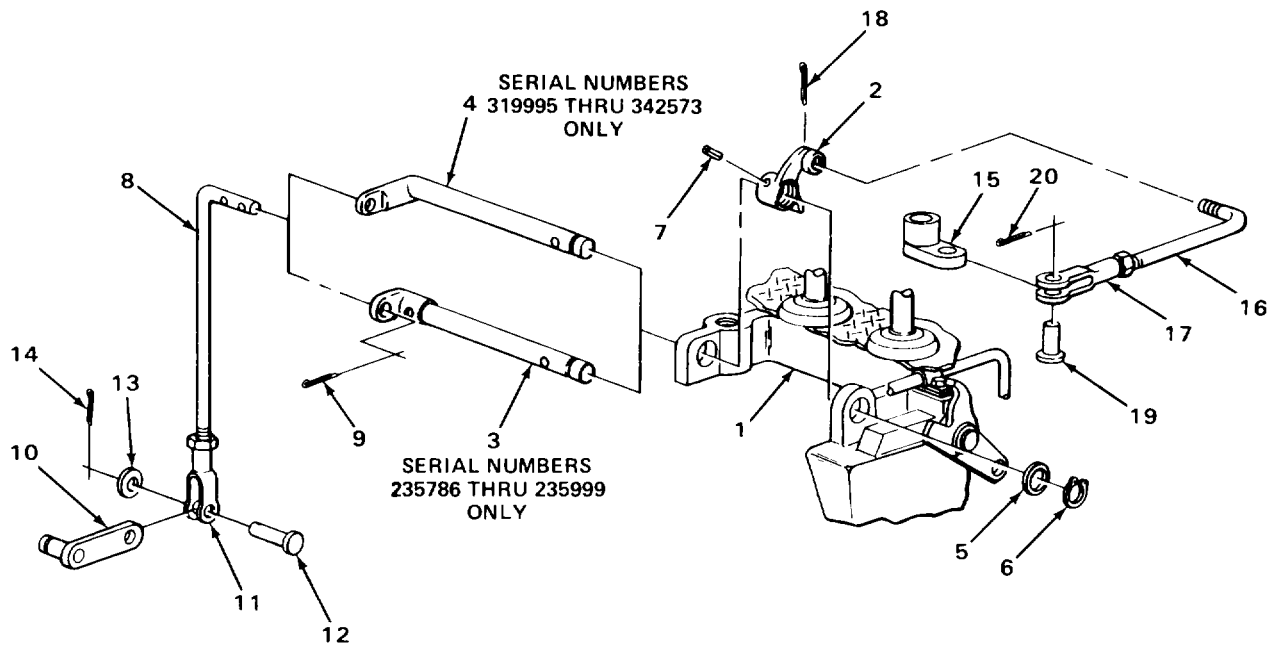
SPEED GEAR ASSEMBLY (REVERSER) CONTROL LEVER LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
43. Control shaft arm (2) and control arm (15)	Link (16) and attached adjustable yoke (17)	Place in position.	
44. Link (16) and control shaft arm (2)	New cotter pin (18)	a. Push in. b. Using slip-joint pliers, bend ends back.	
45. Adjustable yoke (17) and control arm (15)	Pin (19)	Push in.	
46. Pin (19)	New cotter pin (20)	a. Push in. b. Using slip-joint pliers, bend ends back.	

ADJUSTMENT

NOTE

Steps 47 thru 60 only apply to loader backhoes with Serial Numbers 235786 thru 235999.



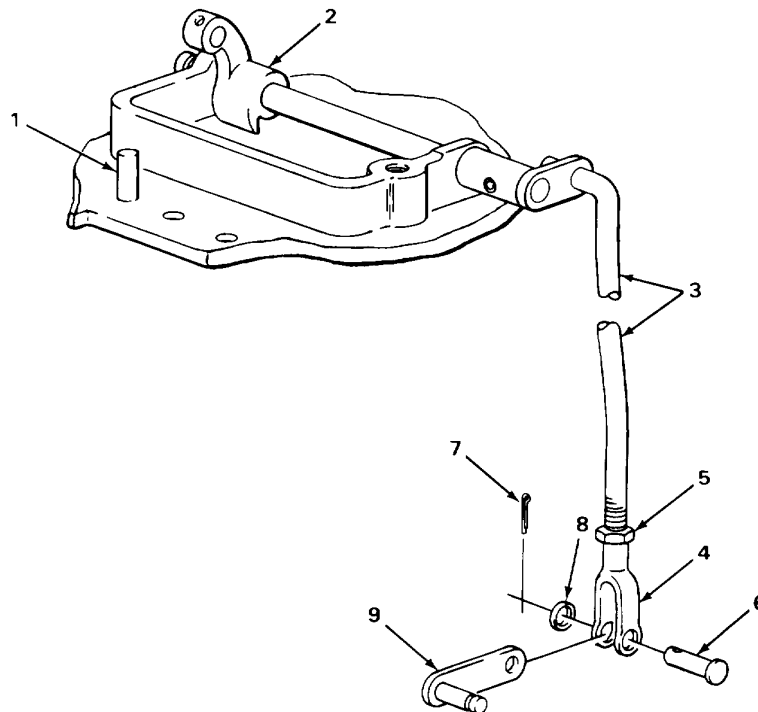
TA243121

SPEED GEAR ASSEMBLY (REVERSER) CONTROL LEVER LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
ADJUSTMENT - CONTINUED			
47.	Operator's compartment	Transmission range shift lever	Put in high range (II) position (TM 5-2420-222-10).
48.		Speed gear assembly (reverser) control lever	Put in forward drive position (TM 5-2420-222-10).
49.	High speed lockout pin (1)	Control shaft arm (2)	Using thickness gage, check clearance between pin (1) and arm (2). Correct clearance is 0.060-inch (1.524 mm).
NOTE			
If clearance between pin and arm is correct, skip steps 50 thru 60.			
50.	Control lever rod (3) and yoke (4)	Nut (5)	Using 9/16-inch open-end wrench, loosen.
51.	Headed pin (6)	Cotter pin (7)	a. Using slip-joint pliers, straighten ends and take out. b. If not just replaced during assembly, get rid of.
52.		Washer (8)	Take off.
53.	Clutch control valve shaft (9) and yoke (4)	Headed pin (6)	Take out.
54.	Clutch control valve shaft (9)	Yoke (4)	Take off.
55.	Control lever rod (3)	Yoke (4)	a. If clearance between high speed lockout pin (1) and control shaft arm (2) is less than specification, turn clockwise to increase clearance. b. If clearance between high speed lockout pin (1) and control shaft arm (2) is greater than specification, turn counter-clockwise to decrease clearance.

SPEED GEAR ASSEMBLY (REVERSER) CONTROL LEVER LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
56.	Clutch control valve shaft (9)	Yoke (4)	Place in position.
57.	Clutch control valve shaft (9) and yoke (4)	Headed pin (6)	a. Put in. b. Repeat steps 47 thru 55 until clearance meets specification.
NOTE			
If lockwasher and cotter pin have just been replaced during assembly, they may be reused after adjustment. Otherwise, use new lockwasher and cotter pin.			
58.	Headed pin (6)	Washer (8)	Put on.
59.		Cotter pin (7)	a. Push in. b. Using slip-joint pliers, bend ends back.
60.	Control lever rod (3) and yoke (4)	Nut (5)	Using 9/16-inch open-end wrench and 0 to 1.322-inch adjustable wrench, tighten until seated against yoke (4).



TA243122

SPEED GEAR ASSEMBLY (REVERSER) CONTROL LEVER LINKAGE - CONTINUED

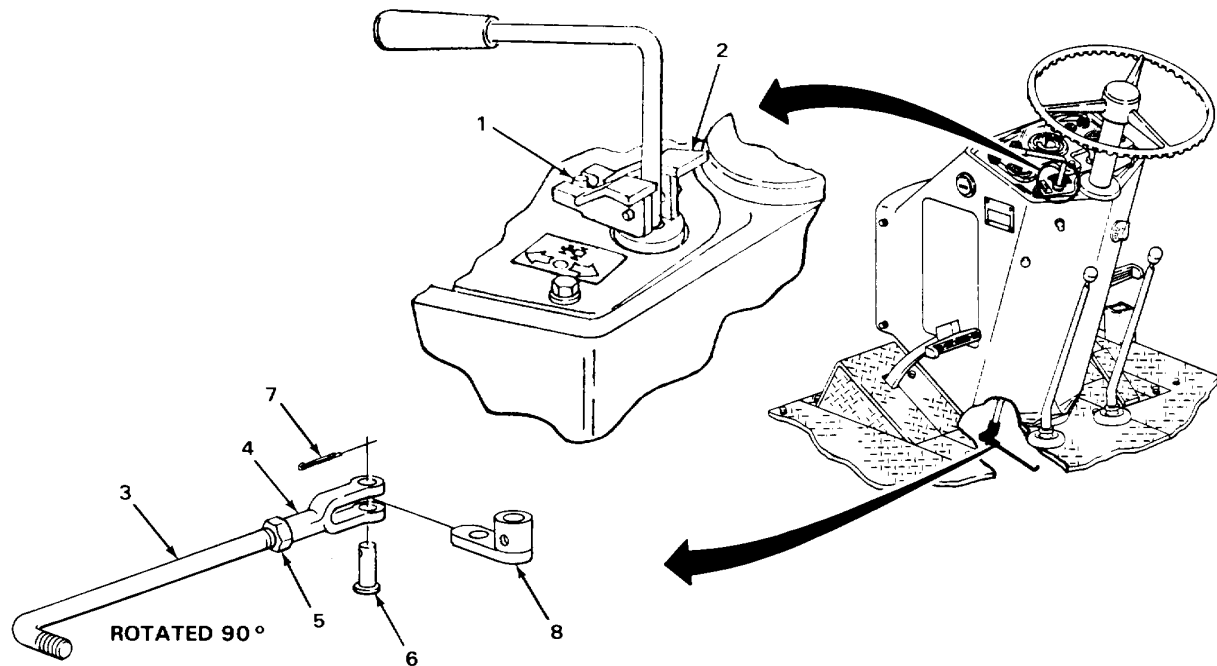
LOCATION	ITEM	ACTION	REMARKS
ADJUSTMENT - CONTINUED			
61.	Operator's compartment control lever	Speed gear assembly (reverser)	Put in neutral position (TM 5-2420-222-10).
62.	Pin (1)	Neutral latch (2)	Place in position to check adjustment. With neutral latch down, speed gear assembly (reverser) must not engage.
NOTE			
If neutral latch adjustment is correct, skip steps 63 thru 70.			
63.	Link (3) and adjustable yoke (4)	Nut (5)	If not already loose, using 1/2-inch open-end wrench, loosen.
64.	Pin (6)	Cotter pin (7)	a. Using slip-joint pliers, straighten ends and take out. b. If not replaced during assembly, get rid of.
65.	Adjustable yoke (4) and control arm (8)	Pin (6)	Take out.
66.	Control arm (8)	Adjustable yoke (4)	Take off.
67.	Link (3)	Adjustable yoke (4)	a. If neutral latch (2) is to left of pin (1), turn clockwise to move latch (2) to right. b. If neutral latch (2) is to right of pin (1), turn counterclockwise to move latch (2) to left.
68.	Control arm (8)	Adjustable yoke (4)	Place in position.
69.	Adjustable yoke (4) and control arm (8)	Pin (6)	a. Put in. b. Repeat steps 60 thru 65.

NOTE

If cotter pin has just been replaced during assembly, it may be reused after adjustment. Otherwise, use new cotter pin.

SPEED GEAR ASSEMBLY (REVERSER) CONTROL LEVER LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
70. Pin (6)	Cotter pin (7)	a. Push in. b. Using slip-joint pliers bend ends back.	
71. Link (3) and adjustable yoke (4)	Nut (5)	If loose, using 1/2-inch open-end wrench and 0 to 1.322-inch adjustable wrench, tighten until seated against yoke (4).	



NOTE

FOLLOW-ON MAINTENANCE:

1. Install center platform support (page 2-1106).
2. Install right inner platform ramp (page 2-1095).
3. Install right platform (page 2-1079).
4. Install left outer platform ramp (page 2-1073).
5. Install left platform (page 2-1060).

TASK ENDS HERE

TA243123

SPEED GEAR ASSEMBLY (REVERSER) CONTROL LEVER

This task covers:

- a. Removal (page 2-704)
- b. Disassembly (page 2-705)
- c. Cleaning (page 2-705)
- d. Inspection/Replacement (page 2-706)
- e. Assembly (page 2-707)
- f. Installation (page 2-708)

INITIAL SETUP:

Tools

- Hammer, ball-peen, 1-pound head
- Pliers, slip-joint
- Punch, drive-pin, straight, 1/8-inch
- Punch, drive-pin, straight, 5/32-inch
- Vise, machinist's

Materials/Parts

- Detergent, GP (item 7, Appendix C)
- Pin, cotter, lever
- Pin, cotter, pin

Materials/Parts - Continued

- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)

Personnel Required

One

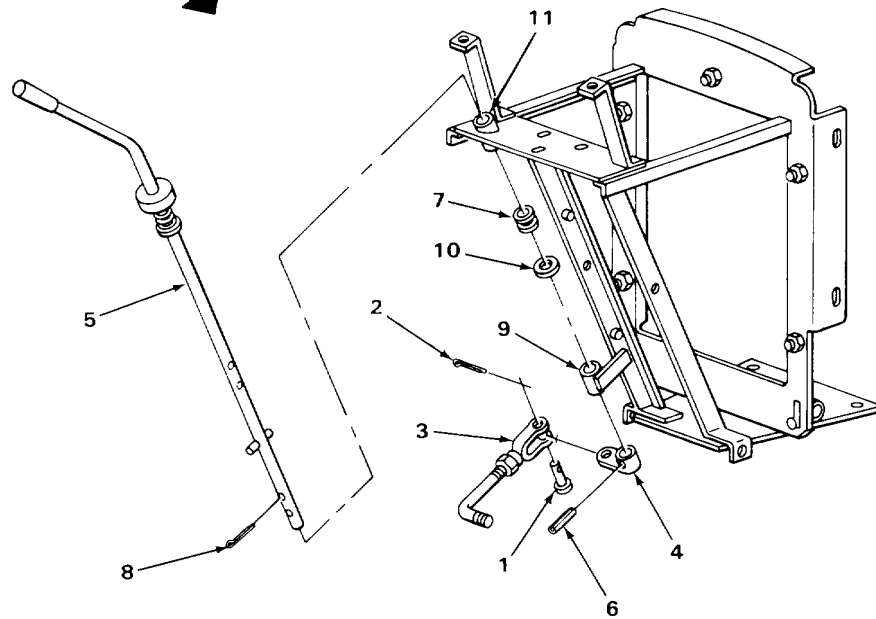
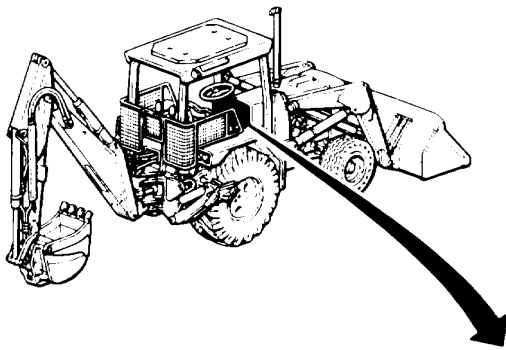
Equipment Conditions

1. Cowl removed (page 2-1006)
2. Left outer platform ramp removed (page 2-1073)
3. Left platform removed (page 2-1060)

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Pin (1)	Cotter pin (2)	a. Using slip-joint pliers, straighten ends and take out. b. Get rid of.
2.	Adjustable yoke (3) and control arm (4)	Pin (1)	Take out.
3.	Control arm (4)	Adjustable yoke (3)	Take off.
4.	Control arm (4) and lever (5)	Spring pin (6)	Using 1-pound head ball-peen hammer and 1/8-inch straight drive-pin punch, drive out.
5.	Lever (5)	Control arm (4)	Take off.
6.	Bushing (7) and lever (5)	Cotter pin (8)	a. Using slip-joint pliers, straighten ends and take out of lever. b. Get rid of.

SPEED GEAR ASSEMBLY (REVERSER) CONTROL LEVER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
7. Lower cowl support bushing (9)	Lever (5) with assembled parts, bushing (7), and washer (10)	Lift clear.	
8. Lever (5)	Bushings (7) and washer (10)	Take off.	
9. Upper cowl support bushing (11)	Lever (5) and assembled parts	Take out.	



TA243124

SPEED GEAR ASSEMBLY (REVERSER) CONTROL LEVER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
DISASSEMBLY			
10.	Lever (1) and washer (2)	Spring pin (3)	a. Put lever (1) in machinist's vise. b. Using 1-pound head ball-peen hammer and 5/32-inch straight drive-pin punch, drive out.
11.	Lever(1)	Special washer (4), spring (5), and washer (2)	a. Slide off. b. Take lever (1) out of machinist's vise.
12.		Knob (6)	Twist off.
CLEANING			

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38 to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

CAUTION

Do not allow knob to contact drycleaning solvent. Solvent may damage plastic and rubber parts.

13.	Knob (6)	Lever (1)	a. Using clean, dry rag dampened in dry-cleaning solvent, wipe clean. b. Using clean, dry rag, wipe dry.
14.		All other metal parts	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.

SPEED GEAR ASSEMBLY (REVERSER) CONTROL LEVER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
15. Lever (1)	Knob (6)	a. Using clean, dry rag dampened in solution of detergent and water, wipe clean. b. Rinse with clean water. c. Using clean, dry rags, wipe dry.	

INSPECTION/REPLACEMENT

NOTE

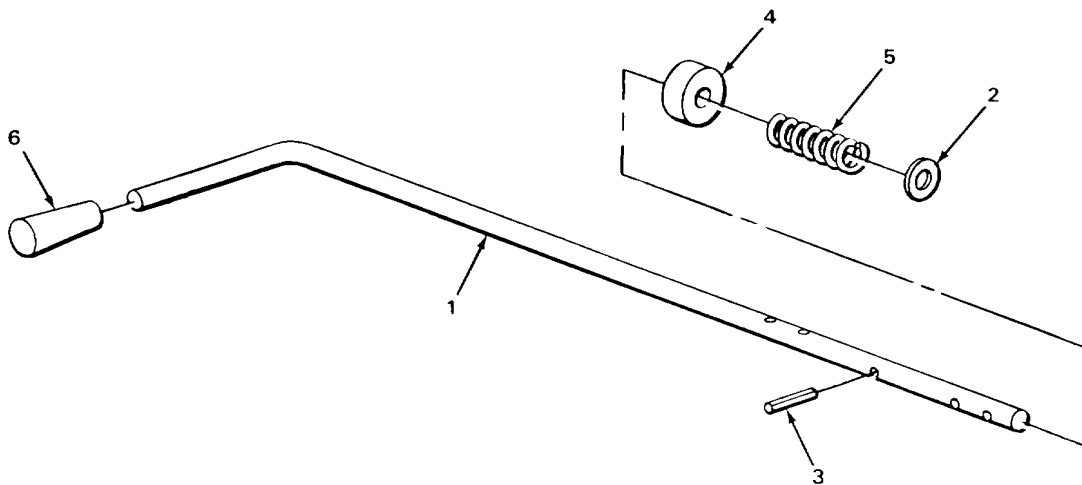
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

16. Lever (1)	Knob (6)	Look for tears, cracks, and crumbling.
17.	All metal parts	Look for cracks, breaks, and abnormal bends.

ASSEMBLY

18. Lever (1)	Knob (6)	Twist on.
19.	Special washer (4), spring (5), and washer (2)	Put in position.

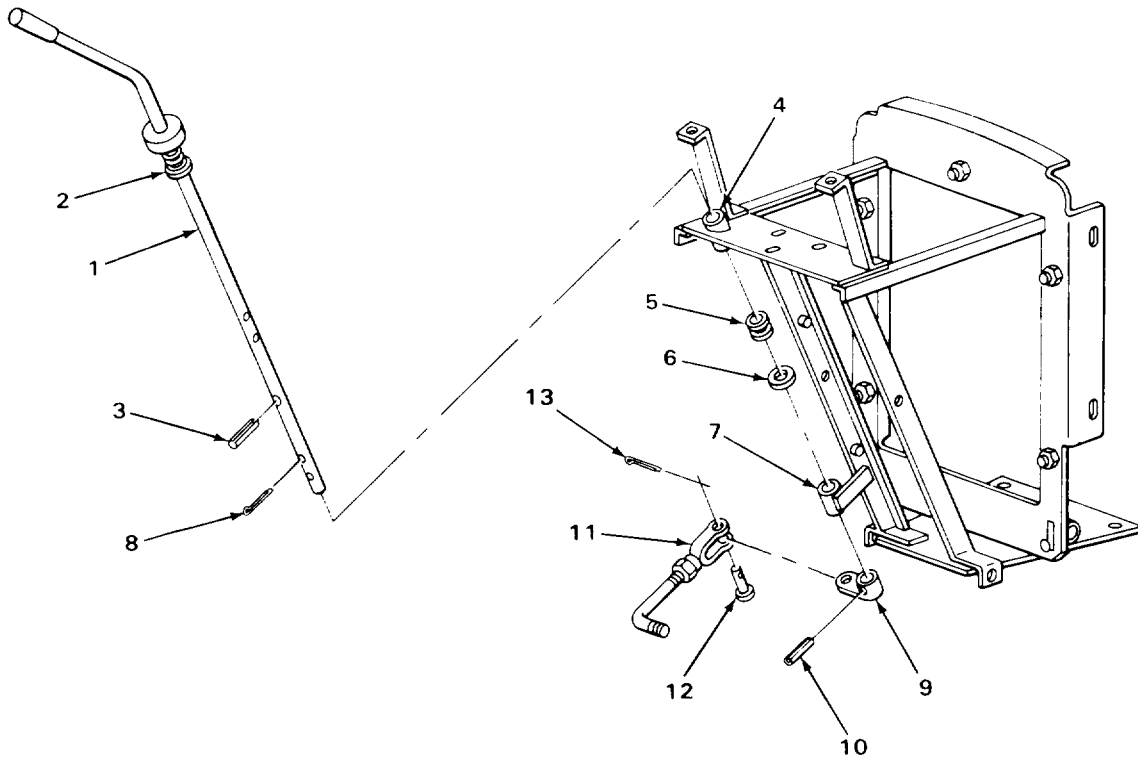


TA243125

SPEED GEAR ASSEMBLY (REVERSER) CONTROL LEVER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
ASSEMBLY - CONTINUED			
20.	Lever (1) and washer (2)	Spring pin (3)	<ul style="list-style-type: none"> a. Place lever (1) in machinist's vise. b. Using 1-pound head ball-peen hammer, tap in. c. Take lever (1) out of machinist's vise.
INSTALLATION			
21.	Upper cowl support bushing (4)	Lever (1) with assembled parts	Slide into position.
22.	Lever (1)	Bushing (5) and washer (6)	Put on.
23.	Lower cowl support bushing (7)	Lever (1) with assembled parts	Slide into position.
24.	Bushing (5) and lever (1)	New cotter pin (8)	<ul style="list-style-type: none"> a. Push through lever (1). b. Using slip-joint pliers, bend ends back.
25.	Lever (1)	Control arm (9)	Put in position.
26.	Lever (1) and control arm (9)	Spring pin (10)	Using 1-pound head ball-peen hammer, tap in.
27.	Control arm (9)	Adjustable yoke (11)	Put on.
28.	Adjustable yoke (11) and control arm (9)	Pin (12)	Push in.
29.	Pin (12)	New cotter pin (13)	<ul style="list-style-type: none"> a. Push in. b. Using slip-joint pliers, bend ends back.

SPEED GEAR ASSEMBLY (REVERSER) CONTROL LEVER - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Install left platform (page 2-1060).
2. Install left outer platform ramp (page 2-1073).
3. Install cowl (page 2-1006).

TASK ENDS HERE

TA243126

SPEED GEAR ASSEMBLY (REVERSER) SPEED-OF-SHIFT ADJUSTMENT

This task covers:
Adjustment (page 2-834)

INITIAL SETUP:

Tools	Personnel Required
Screwdriver, flat-tip, 1/4-inch	One

LOCATION	ITEM	ACTION	REMARKS
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ADJUSTMENT

NOTE

Operator preference may determine speed-of-shift adjustment within specified range.

1.	Loader backhoe	Engine	Start (TM 5-2420-222-10).
2.	Operator's compartment	Transmission shift lever	Put in low range (I) (TM 5-2420-222-10).
3.		Gear shift control lever	Put in first gear (1-5) (TM 5-2420-222-10).
4.		Speed gear assembly (reverser) control	a. Put in forward position (TM 5-2420-222-10). b. Put in reverse position (TM 5-2420-222-10). c. Measure time between putting lever in reverse and beginning of loader backhoe movement. Movement should begin between 3/4 and 1 1/4 seconds.
5.	Loader backhoe	Engine	Shut down (TM 5-2420-222-10).

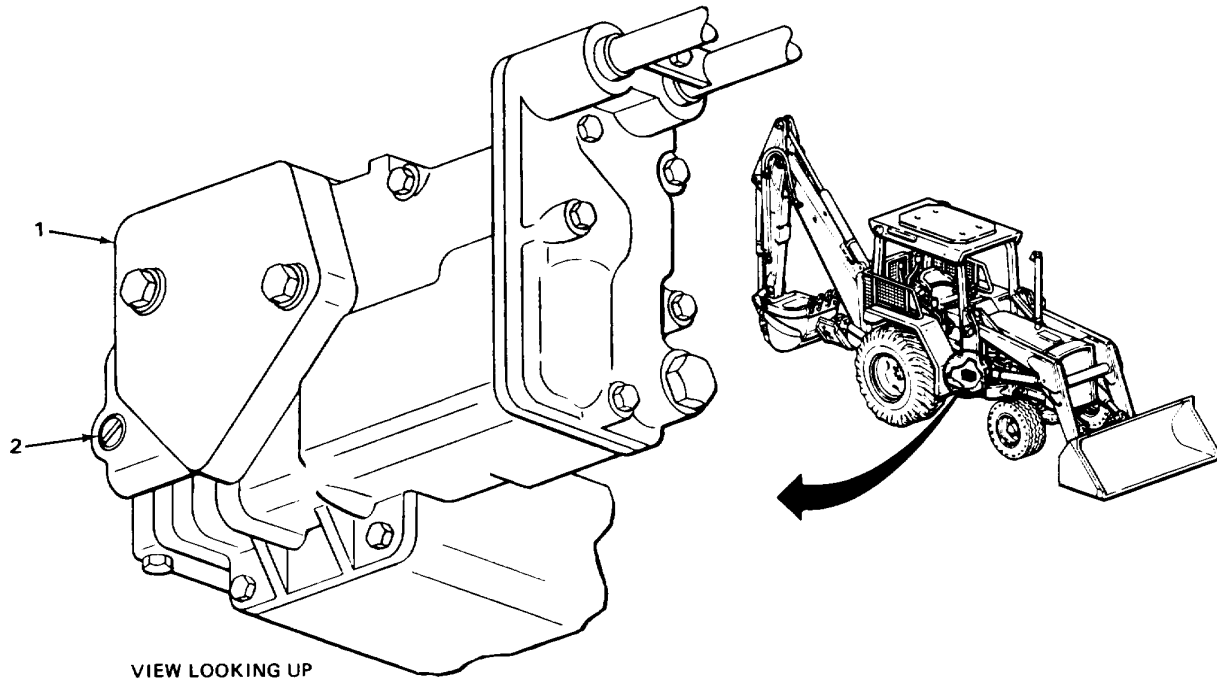
NOTE

If speed-of-shift satisfies preference of operator and specification, skip step 6.

6.	Speed gear assembly (reverser) control valve (1)	Speed gear assembly (reverser) speed-of-shift adjustment screw (2)	a. If speed-of-shift is too slow, using 1/4-inch flat-tip screwdriver, turn one-quarter turn counterclockwise to increase speed-of-shift.
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SPEED GEAR ASSEMBLY (REVERSER) SPEED-OF-SHIFT ADJUSTMENT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
6. Continued		b. If speed-of-shift is too fast, using 1/4-inch flat-tip screwdriver, turn one-quarter turn clockwise to decrease speed-of-shift. c. Repeat steps 1 thru 6 until speed-of-shift is correct.	



TASK ENDS HERE

TA243127

TRANSMISSION OIL FILTER

This task covers:

- | | |
|-----------------------------|--|
| a. Removal (page 2-836) | d. Inspection/Replacement (page 2-838) |
| b. Disassembly (page 2-838) | e. Assembly (page 2-839) |
| c. Cleaning (page 2-838) | f. Installation (page 2-840) |

INITIAL SETUP:

Tools

- Container, 1-gallon
- Handle, ratchet, 1/2-inch drive
- Knife, pocket
- Pliers, retaining ring
- Socket, 1/2-inch drive, 3/4-inch
- Wrench, torque, 1/2-inch drive, 0 to 150 foot-pound capacity

Materials/Parts - Continued

- Packing, cover
- Packing, retainer
- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)

Materials/Parts

- Element
- Fluid, hydraulic (LO 5-2420-222-12)
- Packing, capscrew

Personnel Required

Two

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

WARNING

Be careful when draining hot fluids. Wear gloves to protect your hands from hot parts and fluids or severe burns could result.

- | | | |
|--|-----------------------|--|
| 1. Cover (1) and transmission case (2) | Special cap screw (3) | <ul style="list-style-type: none"> a. Place 1-gallon container underneath. b. Hold cover (1) in place. c. Using 3/4-inch, 1/2-inch drive socket and ratchet handle, loosen. |
|--|-----------------------|--|

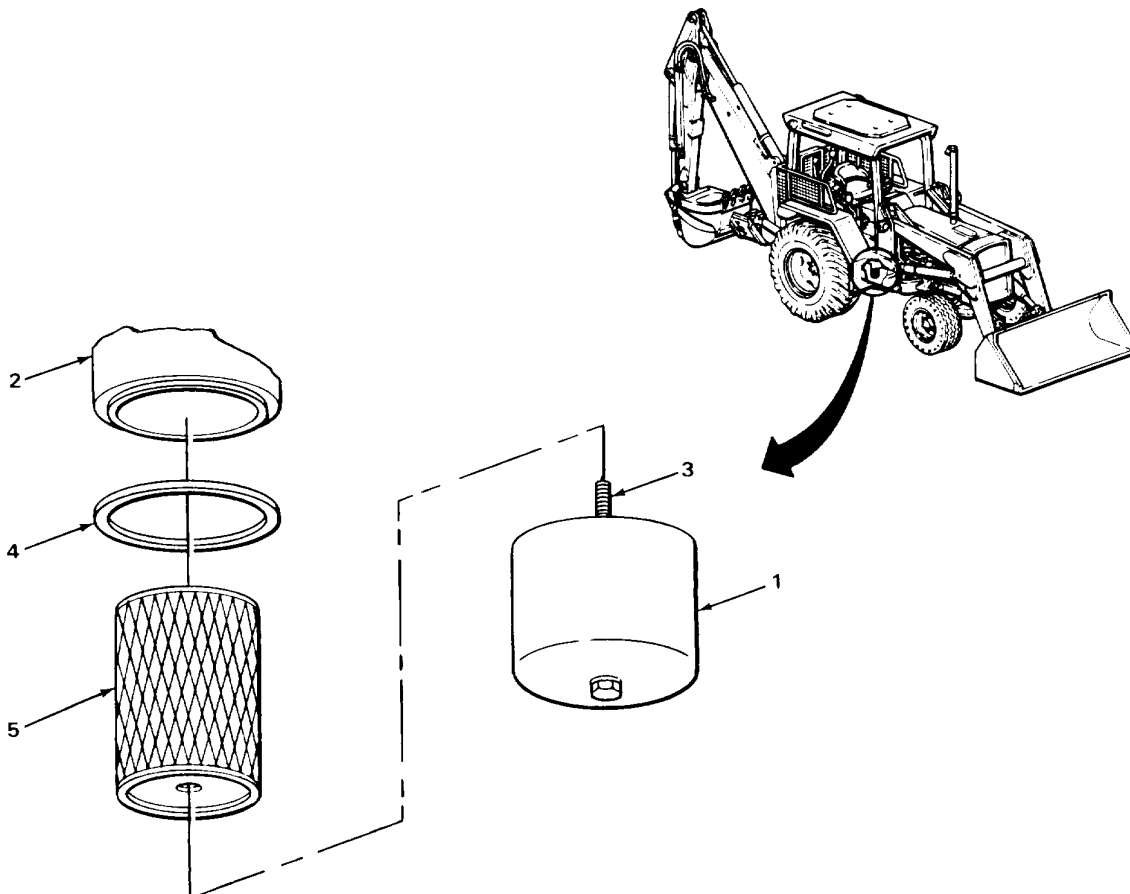
TRANSMISSION OIL FILTER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
2. Transmission case (2)	Cover (1) with attached parts and special capscrew (3)	Take off.	
3. Cover (1)	Packing (4)	a. Take off. b. Get rid of.	

NOTE

If removing transmission oil filter for access only, skip step 4.

4. Cover (1) and special capscrew (3)	Element (5)	a. Take out. b. Get rid of. c. Get rid of drained fluid (page 2-137).	
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TA243128

TRANSMISSION OIL FILTER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
DISASSEMBLY			
5.	Special capscrew (1)	Ring (2)	<ul style="list-style-type: none"> a. Have assistant hold down retainer (3). b. Using retaining ring pliers, take off. c. Have assistant release retainer (3).
NOTE			
<p>Loader backhoes with Serial Numbers 235786 thru 235999 have different packing from loader backhoes with Serial Numbers 329995 thru 342573. Both are disassembled the same way.</p>			
6.	Retainer (3), packing (4 and 5), washer (6), spring (7) and cover (8)		<ul style="list-style-type: none"> a. Take off. b. Get rid of packing (4 and 5).
7.	Special capscrew (1)	Packing (9)	<ul style="list-style-type: none"> a. Using pocket knife, take off. b. Get rid of.

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 138°F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

8.	All parts		<ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.
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INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137). Replace defective parts as needed.

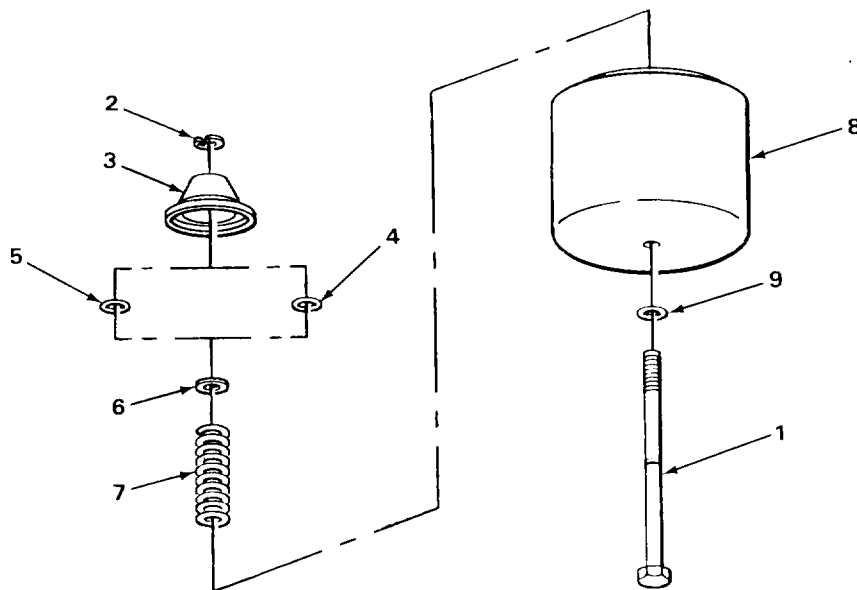
TRANSMISSION OIL FILTER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
9.	All parts		Look for cracks, breaks, and abnormal bends.
ASSEMBLY			
10.	Special capscrew (1)	New packing (9)	a. Lubricate with hydraulic fluid. b. Put on.

NOTE

Loader backhoes with Serial Numbers 235786 thru 235999 have different packing from loader backhoes with Serial Numbers 329995 thru 342573. Both are assembled the same way.

11.	Special capscrew (1) with assembled packing (9)	Cover (8), spring (7), washer (6), new packing (4 and 5), and retainer (3)	a. Lubricate packing (4 and 5) with hydraulic fluid. b. Put on.
12.	Special capscrew (1) with assembled parts	Retainer (3)	Have assistant push down until groove on screw (1) is exposed and hold in this position.
13.		Ring (2)	Using retaining ring pliers, put on.

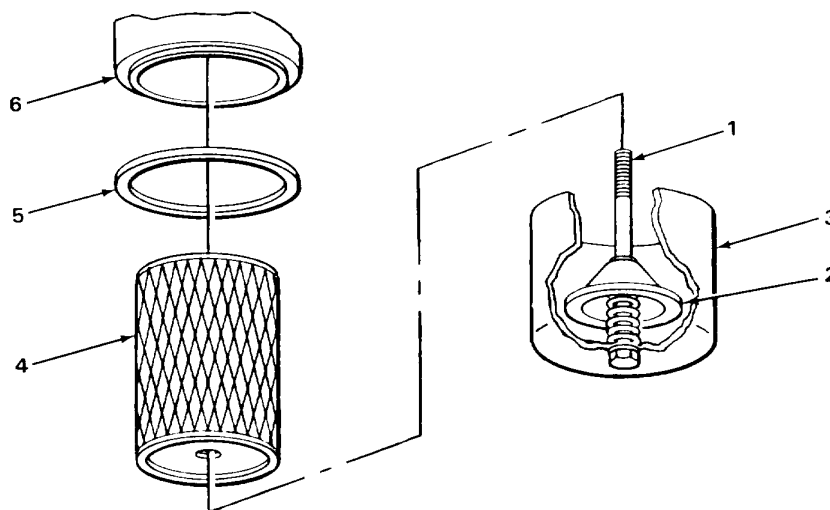


TA243129

TRANSMISSION OIL FILTER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
ASSEMBLY - CONTINUED			
14.	Special capscrew (1) with assembled parts	Retainer (2)	Have assistant release.
INSTALLATION			
NOTE			
If transmission oil filter was removed for access only, skip step 15.			
15.	Cover (3) and special capscrew (1)	New element (4)	Put in position.
16.	Cover (3)	New packing (5)	a. Lubricate with hydraulic fluid. b. Place in position.
17.	Transmission case (6)	Cover (3) with assembled parts and special capscrew (1)	a. Screw in and tighten until snug using 3/4-inch, 1/2-inch drive socket and ratchet handle. b. Using 3/4-inch, 1/2-inch drive socket and 0 to 150 foot-pound capacity torque wrench, tighten to 55 foot- pounds (75 N•m) torque.
18.	Loader backhoe	Transmission	Fill (page 2-811).
19.		Engine	Start (TM 5-2420-222-10).
20.	Transmission case (6)	Cover (3) and special capscrew (1)	a. Check for leaks. b. If leaking, shut down engine (TM 5-2420-222-10) and replace leaking packing or packings as outlined in this task.

TRANSMISSION OIL FILTER - CONTINUED



TASK ENDS HERE

HYDRAULIC OIL COOLER

This task covers:

- a. Removal (page 2-842)
- b. Cleaning (page 2-844)
- c. Inspection/Replacement (page 2-845)
- d. Repair (page 2-846)
- e. Installation (page 2-846)

INITIAL SETUP:

Tools

- Extension, 3/8-inch drive, 5-inch
- Pan, drain
- Screwdriver, flat-tip, 3/16-inch
- Screwdriver, flat-tip, 5/16-inch
- Socket, 3/8-inch drive, 9/16-inch
- Socket, 3/8-inch drive, 1/2-inch
- Universal joint, 3/8-inch drive

Materials/Parts

- Adhesive, metal bonding (item 1, Appendix C)
- Detergent, GP (item 7, Appendix C)
- Lockwasher, radiator stud nut (four required)

Materials/Parts - Continued

- Rags, wiping (item 21, Appendix C)
- Solvent, cleaning compound (item 27, appendix C)
- Solvent, drycleaning (item 28, Appendix C)

Personnel Required

One

Equipment Condition

1. Loader bucket support installed (page 2-1830)
2. Hood removed (page 2-1025)

TA243130

HYDRAULIC OIL COOLER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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NOTE

There are two configurations of loader backhoe oil cooler. Both are maintained the same way. Oil cooler for loader backhoes with Serial Numbers 319995 thru 342573 is shown.

REMOVAL

- | | | |
|-------------|-----------|--|
| 1. Hose (1) | Clamp (2) | a. Place drain pan underneath.
b. Using 3/16-inch flat-tip screwdriver, loosen. |
|-------------|-----------|--|

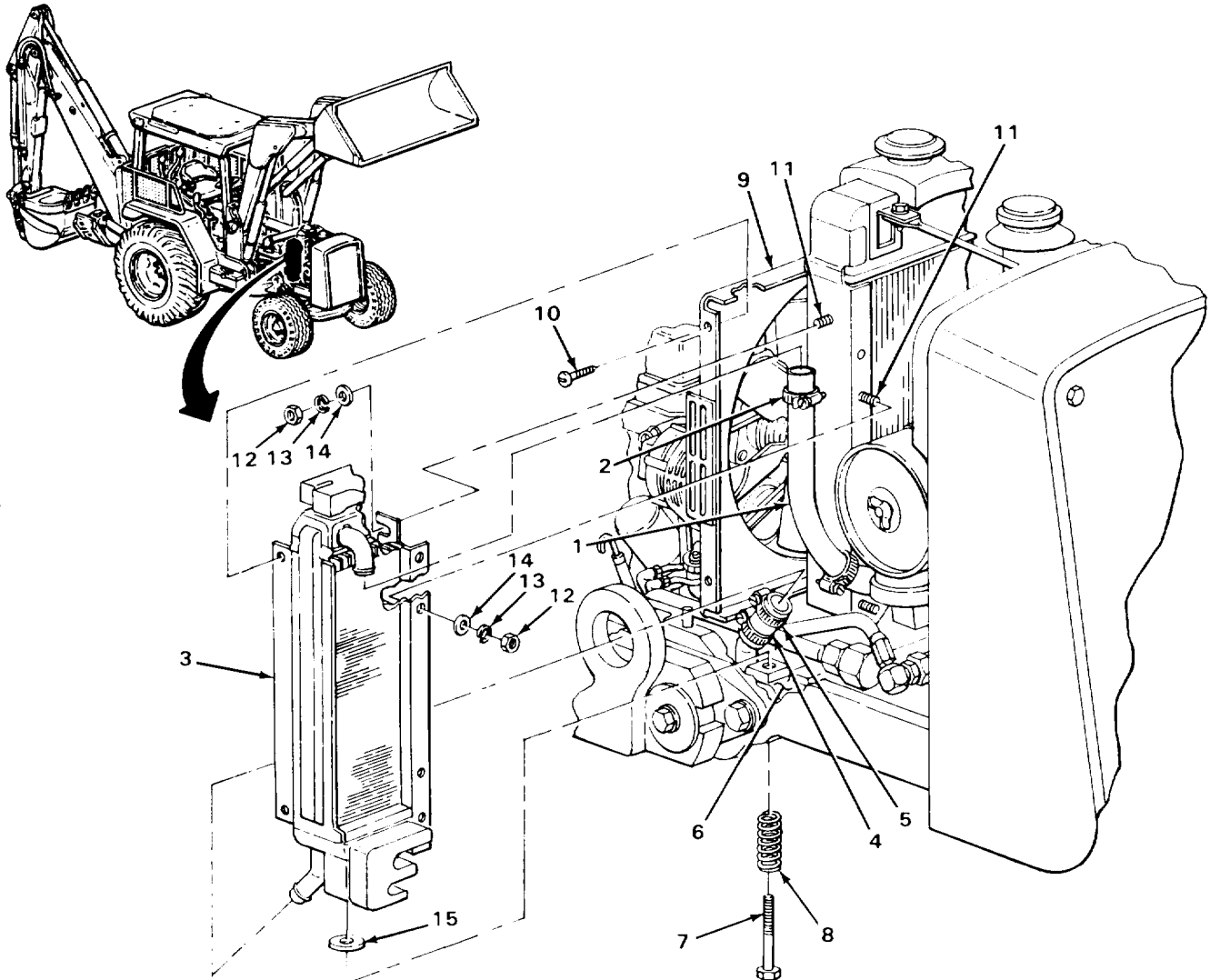
WARNING

Be careful when draining hot fluids. Wear gloves to protect your hands from hot parts and fluids or severe burns could result.

- | | | |
|---|--|---|
| 2. Oil cooler (3) | Hose (1) with assembled clamp (2) | a. Pull off.
b. Let fluid drain into drain pan. |
| 3. Hose (4) | Clamp (5) | Using 3/16-inch flat-tip screwdriver, loosen. |
| 4. Oil cooler (3) and front support (6) | Screw (7) with assembled spring (8) | Using 9/16-inch, 3/8-inch drive socket, ratchet handle, and 5-inch extension, unscrew and take out. |
| 5. Screw (7) | Spring (8) | Take off. |
| 6. Oil cooler (3) and fan shroud (9) | Two screws (10) | Using 5/16-inch flat-tip screwdriver, unscrew and take out. |
| 7. Four radiator studs (11) and oil cooler (3) | Four nuts (12), lockwashers (13), and washers (14) | a. Using 1/2-inch, 3/8-inch drive socket, 5-inch extension, universal joint, and ratchet handle, unscrew and take off.
b. Get rid of lockwashers (13). |
| 8. Four radiator studs (11), fan shroud (9), front support (6), rubber washer (15), and hose (4) with assembled clamp (5) | Oil cooler (3) | a. Lift out.
b. Let fluid drain into drain pan.
c. Get rid of drained fluid (page 2-137). |

HYDRAULIC OIL COOLER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
9. Front support (6)	Rubber washer (15)	Take off.	



TA243131

HYDRAULIC OIL COOLER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL - CONTINUED

WARNING

Water soluble cleaning compound solvent is flammable and fumes are toxic. Flashpoint is 220°F (104°C). Boiling point is 212°F (100°C). Do not store in temperatures above 150°F (65°C) or below 35°F (2°C). Do not use near open flame or excessive heat. Do not wear jewelry, wear rubber gloves and goggles, and use only in well ventilated area. Avoid contact with skin, eyes, and clothes, and don't breathe vapors. Avoid contact with acids, aluminum, or zinc; chemical reaction may result. If you become dizzy while using cleaning compound solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

CAUTION

Do not remove baffles unless inspection shows need for replacement. Removal may damage part.

10. Oil cooler (1)	Two baffles (2 and 3)	<ol style="list-style-type: none"> a. Using cleaning compound solvent, dissolve adhesive and take off. b. Using clean rag soaked in cleaning compound solvent, remove all adhesive from cooler (1). c. Using clean rag dampened with clean water, wipe cooler (1) clean. d. Using clean, dry rag, wipe cooler (1) dry. 	
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CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

11.	Oil cooler	Clean (TM 750-254).	
12.	Rubber washer (4)	<ol style="list-style-type: none"> a. Using clean, dry rag dampened with solution of detergent and water, wipe clean. b. Rinse with clean water. c. Using clean, dry rag, wipe dry. 	

HYDRAULIC OIL COOLER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|-----|-----------------|----------------------------------|------------------------------------|
| 13. | All other parts | a. Clean in drycleaning solvent. | b. Using clean, dry rag, wipe dry. |
|-----|-----------------|----------------------------------|------------------------------------|

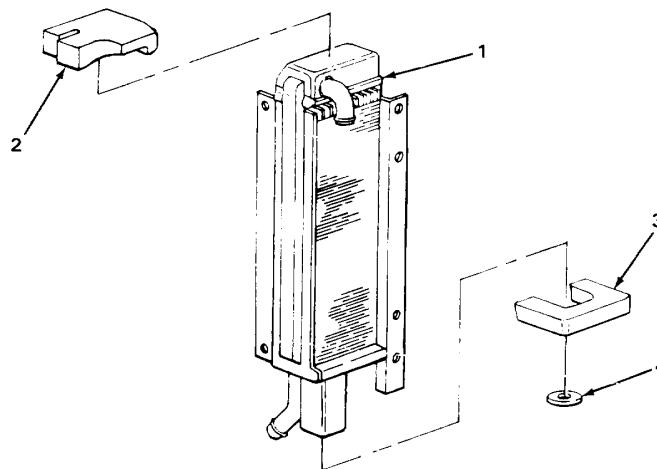
INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

- | | | | |
|-----|--------------------------|--|--|
| 14. | Oil cooler | Inspect (TM 750-254). | |
| 15. | Two baffles
(2 and 3) | Look for tears and crumbling. | |
| 16. | Rubber washer (4) | Look for tears, cracks, and crumbling. | |
| 17. | All other parts | Look for cracks, breaks, and abnormal bends. | |



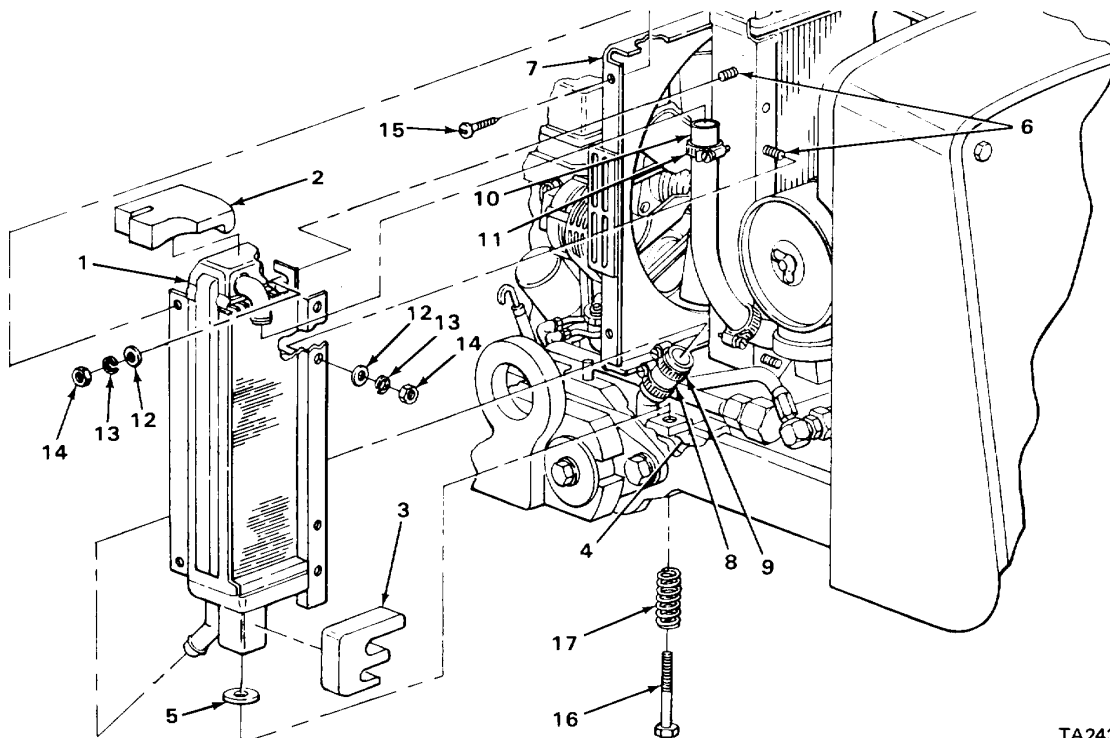
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HYDRAULIC OIL COOLER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT - CONTINUED			
18.	All threaded parts		Look for damaged threads.
REPAIR			
19.	Oil cooler		Repair (TM 750-254).
INSTALLATION			
20.	Oil cooler (1)	Two baffles (2 and 3)	<ol style="list-style-type: none"> If removed, apply metal adhesive. Press into place to transfer some metal adhesive. Take off and allow metal adhesive to set for about 2 minutes. Press firmly into place.
21.	Front support (4)	Rubber washer (5)	Place in position.
22.	Four radiator studs (6), fan shroud (7), front support (4), rubber washer (5), and hoses (8) with assembled clamp (9)	Oil cooler (1)	Place in position.
23.	Oil cooler (1)	Hose (10) with assembled clamp (11)	Put on.
24.	Hose (10)	Clamp (11)	Using 3/16-inch flat-tip screwdriver, tighten.
25.	Four radiator studs (6) and oil cooler (1)	Four washers (12), new lockwashers (13), and nuts (14)	Screw on and tighten using 1/2-inch, 3/8-inch drive socket, 5-inch extension, universal joint, and ratchet handle.
26.	Oil cooler (1) and fan shroud (7)	Two screws (15)	Screw in and tighten using 5/16-inch flat-tip screwdriver.
27.	Hose (8)	Clamp (9)	Using 3/16-inch flat-tip screwdriver, tighten.
28.	Screw (16)	Spring (17)	Put on.
29.	Oil cooler (1) and front support (4)	Screw (16) with assembled spring (17)	Screw in and tighten using 9/16-inch, 3/8-inch drive socket, 5-inch extension, and ratchet handle.

HYDRAULIC OIL COOLER - CONTINUED

LOCATION	ITEM	ACTION REMARKS
30.	Transmission	Fill (page 2-811).
31.	Engine	If not already running, start and run at fast idle (TM 5-2420-222-10).
32. Oil cooler (1)	Hoses (8 and 10)	a. Check for leaks. b. If leaking at either connection, using 3/16-inch flat-tip screwdriver, tighten. c. If leaking does not stop, shut down engine (TM 5-2420-222-10) and replace defective parts as outlined in Hydraulic Oil Cooler-to-Clutch Control Valve Oil Line (page 2-1361), and Hydraulic Pump-to-Hydraulic Oil Cooler Hose (Serial Numbers 319995 thru 342573 only) (page 3-1338) or Hydraulic Pump-to-Hydraulic Oil Cooler Oil Line Numbers 235786 thru 235999 only) (page 2-1342).
33. Loader backhoe	Engine	If not already off, shut down (TM 5-2420-222-10).



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HYDRAULIC OIL COOLER - CONTINUED

NOTE

FOLLOW-ON MAINTENANCE:

1. Install hood (page 2-1025).
2. Remove loader bucket support (page 2-1830).

TASK ENDS HERE

TRANSMISSION STRAINER ELEMENT (FILTER SCREEN)

This task covers:

- | | |
|---|--|
| <ol style="list-style-type: none"> a. Removal (page 2-848) b. Cleaning (page 2-850) | <ol style="list-style-type: none"> d. Inspection/Replacement (page 2-851) e. Installation (page 2-852) |
|---|--|

INITIAL SETUP:

Tools

Container, flexible, 1-gallon
 Knife, pocket
 Screwdriver, flat-tip, 1/4-inch
 Screwdriver, flat-tip, 5/8-inch
 Wrench, box and open-end,
 combination, 1 7/8-inch

Materials/Parts

Detergent, GP (item 7, Appendix C)
 Fuel, diesel (item 8, Appendix C)

Materials/Parts - Continued

Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)
 Spacer, ring

Personnel Required

One

Equipment Condition

Transmission drained (page 2-811)

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

NOTE

Loader backhoes with Serial Numbers 235786 thru 235999 have strainer element. Loader backhoes with Serial Numbers 319995 thru 342573 have screen. Both are maintained the same way.

REMOVAL

- | | | |
|---|-----------------------------|---|
| <ol style="list-style-type: none"> 1. Hose (1) | <p>Two clamps (2 and 3)</p> | <ol style="list-style-type: none"> a. Place 1-gallon flexible container underneath. b. Using 1/4-inch flat-tip screwdriver, unscrew and take off. |
|---|-----------------------------|---|

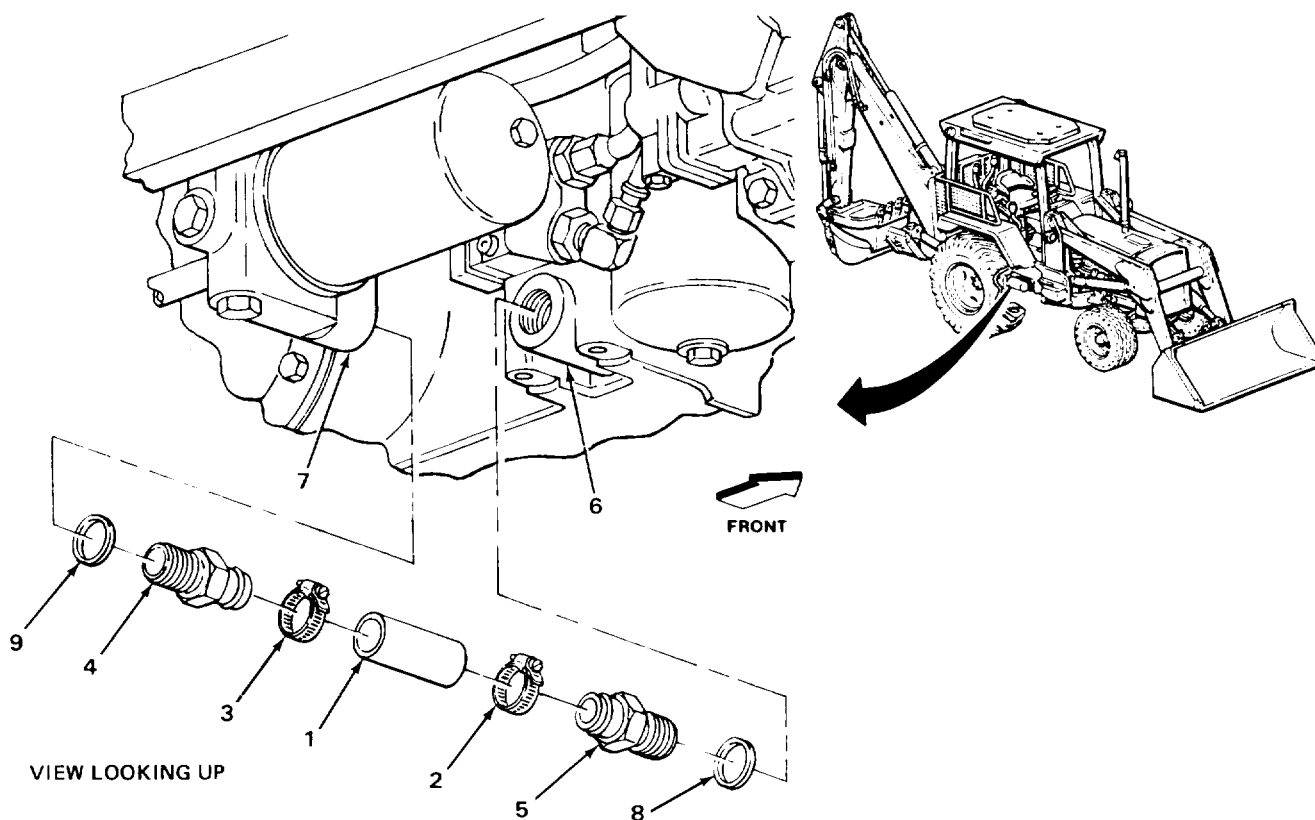
TRANSMISSION STRAINER ELEMENT (FILTER SCREEN) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CAUTION

Make sure hose is not damaged during removal. Rubber particles may enter hydraulic system and contaminate it.

2. Two connectors (4 and 5)	Hose (1)	Using 1/4-inch and 3/8-inch flat-tip screwdrivers, pry off.	
3. Transmission case (6)	Connector (4) open-end wrench, unscrew and take out.	Using 1 7/8-inch combination box and open-end wrench, unscrew and take out.	
4. Relief valve housing (7)	Connector (5)	Using 1 7/8-inch combination box and open-end wrench, unscrew and take out.	
5. Two connectors (4 and 5)	Two ring spacers (8 and 9)	a. Using pocket knife, pry off. b. Get rid of.	



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TRANSMISSION STRAINER ELEMENT (FILTER SCREEN) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL - CONTINUED

CAUTION

Screen must be bent to one side during removal. Make sure that screen does not hang up on transmission case threads or it may be damaged. Pieces of plastic may enter and contaminate hydraulic system.

- | | | | |
|----|-----------------------|--------------------------------|---|
| 6. | Transmission case (1) | Strainer element or screen (2) | <ul style="list-style-type: none"> a. Take out. b. Get rid of drained fluid (page 2-137). |
|----|-----------------------|--------------------------------|---|

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|---|--|
| 7. | All metal parts except strainer element or screen (2) | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rag, wipe dry. |
|----|---|--|

WARNING

No open flames, welding, grinding, smoking or use of heat producing devices permitted nearby when using fuel. Fuel burns easily and fumes are explosive. Keep battery disconnected. Failure to observe these precautions could cause serious injury.

- | | | |
|----|--------------------------------|--|
| 8. | Strainer element or screen (2) | <ul style="list-style-type: none"> a. Clean in diesel fuel. b. Using clean, dry rag, wipe off. c. Allow to air dry. |
|----|--------------------------------|--|

TRANSMISSION STRAINER ELEMENT (FILTER SCREEN) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
9.	Hose (3)	a. Using clean, dry rag dampened with solution of detergent and water, wipe clean. b. Rinse with clean water. c. Using clean, dry rag, wipe dry.	

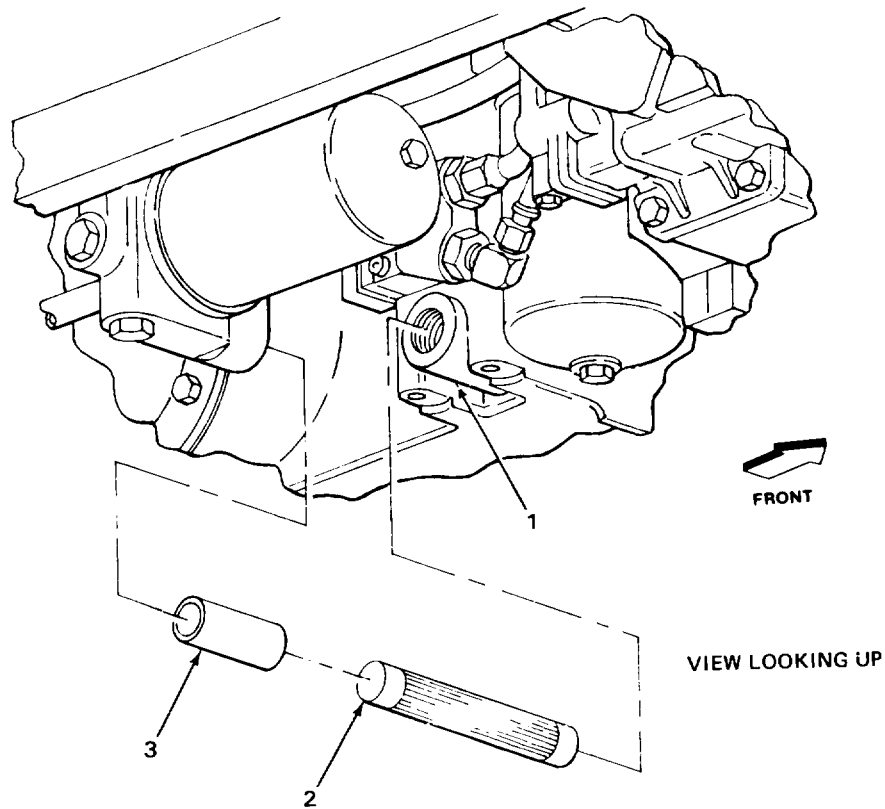
INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

10.	Hose (3)	Look for tears, cracks, and crumbling.
11.	Strainer element	Look for tears and cracks. or screen (2)



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TRANSMISSION STRAINER ELEMENT (FILTER SCREEN) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT - CONTINUED			
12.	All other parts		Look for cracks, breaks, and abnormal bends.

INSTALLATION

CAUTION

Screen must be bent to one side during installation. Make sure that screen does not hang up on transmission case threads or it may be damaged. Pieces of plastic may enter and contaminate hydraulic system.

13.	Transmission case (1)	Strainer element or screen (2)	Put in.
14.	Two connectors (3 and 4)	Two new ring spacers (5 and 6)	Put on.
15.	Transmission case (1)	Connector (3) with assembled spacer (5)	Using 1 7/8-inch combination box and open-end wrench, screw in and tighten.
16.	Relief valve housing (7)	Connector (4) with assembled spacer (6)	Using 1 7/8-inch combination box and open-end wrench, screw in and tighten.

CAUTION

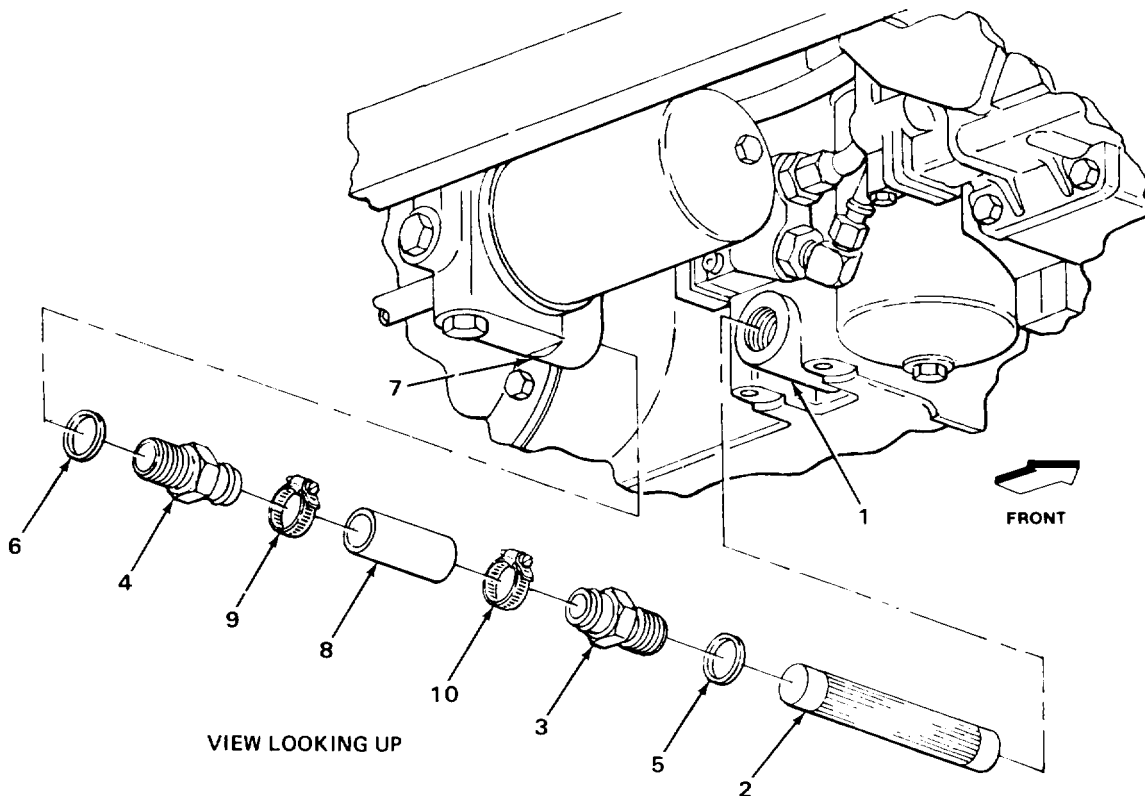
Make sure hose is not damaged during installation. Rubber particles may enter hydraulic system and contaminate it.

New hoses on loader backhoes with Serial Numbers 235786 thru 235999 are precut. New hoses on loader backhoes with Serial Numbers 319995 thru 342573 are manufactured from bulk material. For more information on how to manufacture new hoses, go to Appendix D.

17.	Two connectors (3 and 4)	Hose (8)	Using 1/4 and 3/8-inch flat-tip screw-drivers, put on.
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TRANSMISSION STRAINER ELEMENT (FILTER SCREEN) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
18. Hose (8)	Two clamps (9 and 10)	a. Put on. b. Tighten using 1/4-inch flat-tip screwdriver.	
19. Loader backhoe	Transmission	Fill (page 2-811).	
20.	Engine	Start (TM 5-2420-222-10).	
21. Transmission case (1) and relief valve housing (7)	Hose (8) and two connectors (3 and 4)	a. Check for leaks. b. If leaking, using 1/4-inch flat-tip screwdriver or 1 7/8-inch combination box and open-end wrench tighten. c. If leaking does not stop, shut down engine (TM 5-2420-222-10) and replace ring spacer as outlined in this task.	



TRANSMISSION STRAINER ELEMENT (FILTER SCREEN) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
22. Loader backhoe	Transmission		If there were leaks, check level of hydraulic fluid and add proper amount and grade of fluid (TM 5-2420-222-10).
23.	Engine	If running, shut down	(TM 5-2420-222-10).

TASK ENDS HERE**2-854**

Section XIV. BRAKES

<p>Page</p> <p>Hydraulic Brake System Bleeding2-870</p> <p>Left Service Brake Line and Fittings2-884</p> <p>Parking Brake Adjustment2-867</p> <p>Parking Brake Lever and Linkage2-855</p>	<p style="text-align: right;">Page</p> <p>Right Service Brake Line and Fittings2-879</p> <p>Service Brake Pedals2-891</p> <p>Service Brake Special Screw2-876</p>
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PARKING BRAKE LEVER AND LINKAGE

This task covers:

- | | |
|---|---|
| <p>a. Removal (page 2-856)</p> <p>b. Disassembly (page 2-858)</p> <p>c. Cleaning (page 2-861)</p> | <p>d. Inspection/Replacement (page 2-862)</p> <p>e. Assembly (page 2-862)</p> <p>f. Installation (page 2-864)</p> |
|---|---|
-

INITIAL SETUP

Tools

- Hammer, ball-peen, 2-pound head
- Handle, ratchet, 1/2-inch drive
- Pliers, retaining ring
- Pliers, slip-joint
- Press, arbor
- Punch, drive-pin, straight, 1/4-inch
- Remover and installer, 1.0625-inch outside diameter
- Screwdriver, flat-tip, 3/8-inch
- Socket, 1/2-inch drive, 3/4-inch
- Vise, machinist's
- Wrench, box, 3/4-inch

NOTE

The following tools only apply to loader backhoes with Serial Numbers 235786 thru 235999.

- Socket, 1/2-inch drive, xx-inch
- Stud remover and setter, 1/2-inch drive
- Wrench, open-end, xx-inch

Tools - Continued

NOTE

The following tools only apply to loader backhoes with Serial Numbers 319995 thru 342573.

- Socket, 1/2-inch drive, 15/16-inch
- Wrench, box, 15/16-inch

Materials/Parts

- Detergent, GP (item 7, Appendix C)
- Grease, (LO 5-2420-222-12)
- Lockwasher, latch plate screw (two required)
- Lockwasher, support screw (two required)
- Pin, cotter, brake latch
- Pin, cotter, brake rod pin (two required)
- Pin, cotter, brake latch pin
- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)

NOTE

The following parts only apply to loader backhoes with Serial Numbers 235786 thru 235999.

- Locknut, support screw (two required)

PARKING BRAKE LEVER AND LINKAGE - CONTINUED

INITIAL SETUP - CONTINUED

Personnel Required

One

Equipment Condition - Continued

NOTE

Equipment Condition

1. Right platform removed (page 2-1079)

The following only applies to loader backhoes with Serial Numbers 319995 thru 342573.

NOTE

The following only applies to loader backhoes with Serial Numbers 235786 thru 235999.

3. Parking brake warning switch removed (page 2-482)
4. Left rear platform removed (page 2-1114)

2. Rear platform removed (page 2-1117)

LOCATION	ITEM	ACTION	REMARKS
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WARNING

Make sure that loader bucket and backhoe bucket are lowered to ground, or wheels are blocked, to keep loader backhoe from rolling before performing maintenance on parking brake.

REMOVAL

- | | | | |
|----|---|----------------|---|
| 1. | Loader backhoe | Parking brake | Release (TM 5-2420-222-10). |
| 2. | Brake rod (1) and pin (2) | Cotter pin (3) | <ol style="list-style-type: none"> a. Using slip-joint pliers, straighten ends and take out. b. Get rid of. |
| 3. | Brake rod (1) and parking brake arm (4) | Pin (2) | Pull out. |
| 4. | Parking brake arm (4) | Brake rod (1) | Take off. |
| 5. | Brake shaft (5) and parking brake arm (4) | Pin (6) | Using 1/4-inch straight drive-pin punch and 2-pound head ball-peen hammer, drive out. |
| 6. | Brake shaft (5) Parking brake arm (4) | Take off. | |

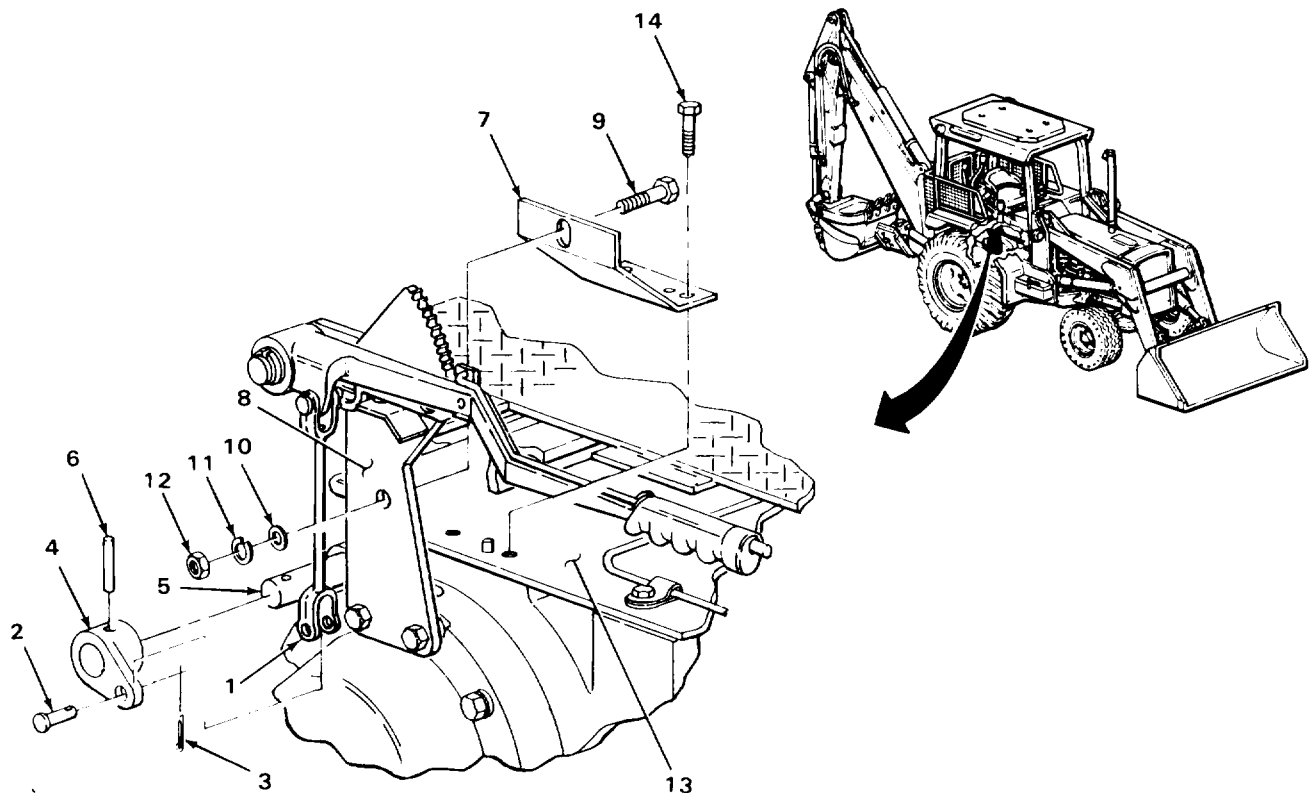
PARKING BRAKE LEVER AND LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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NOTE

Steps 7 thru 9 only apply to loader backhoes with Serial Numbers 319995 thru 342573.

7. Support (7) and brake lever support (8)	Screw (9), washer (10), lockwasher (11), and nut (12)	a. Using 15/16-inch, 1/2-inch drive socket, ratchet, handle, and 15/16-inch box wrench, unscrew and take apart. b. Get rid of lockwasher (11).
8. Transmission top cover (13) and support (7)	Two screws (14)	Using 3/4-inch, 1/2-inch drive socket and ratchet handle, unscrew and take out.
9. Transmission top cover (13) and brake lever support (8)	Support (7)	Take off.



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PARKING BRAKE LEVER AND LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
10.	Stud (1) and brake lever support (2)	Locknut (3)	a. Only on loader backhoes with Serial Numbers 235786 thru 235999, using xx-inch, 1/2-inch drive socket, ratchet handle, and xx-inch open-end wrench, unscrew and take off. b. Get rid of.
11.	Brake lever support (2) and right axle housing (4)	Two screws (5), washers (6), and washers (7)	Using 3/4-inch, 1/2-inch drive socket and ratchet handle, unscrew and take out.
12.	Right axle housing (4) and stud (1) with locknut (8), if present	Brake lever support (2) with assembled parts	Take off.

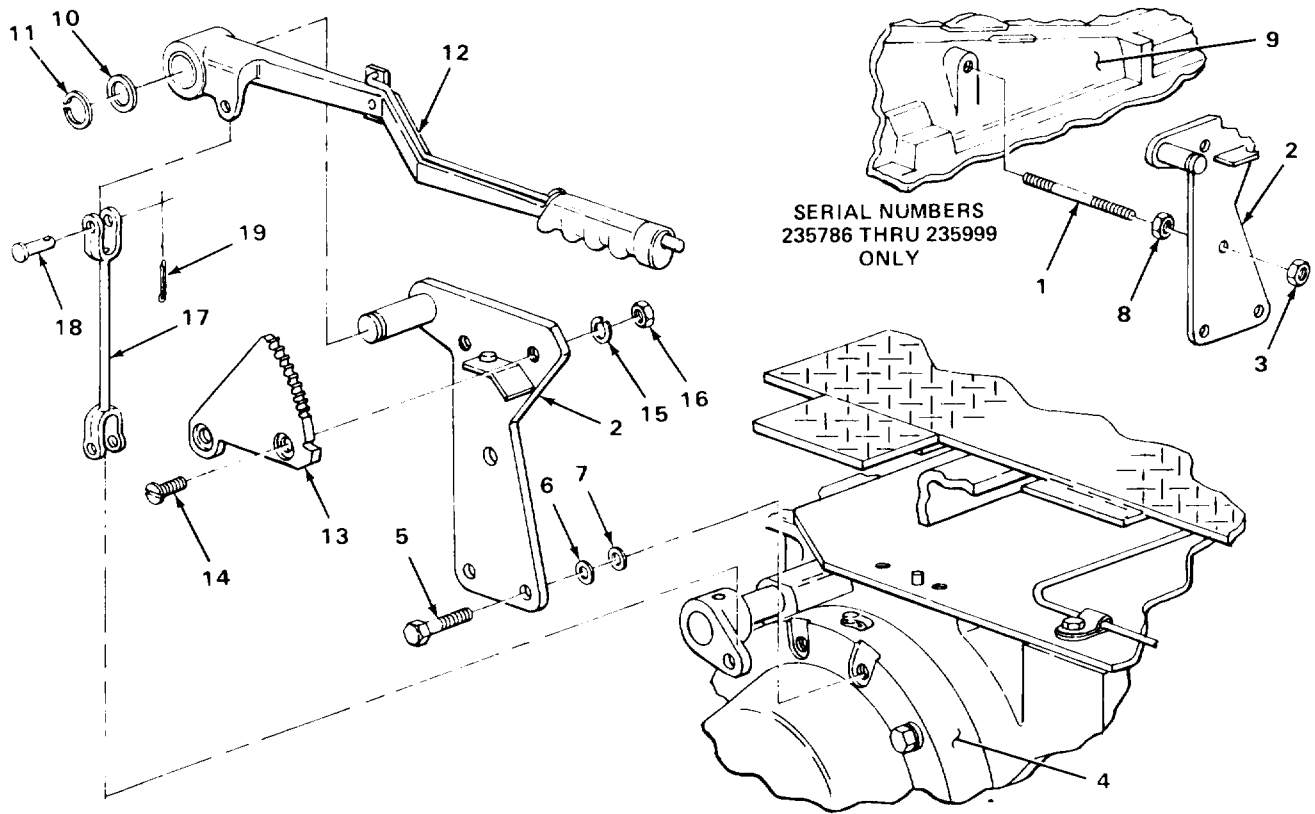
NOTE

Steps 13 and 14 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

13.	Stud (1)	Locknut (8)	a. Using xx-inch, 1/2-inch drive socket and ratchet handle, unscrew and take off. b. Get rid of.
14.	Transmission top cover (9)	Stud (1)	Using 1/2-inch drive stud remover and setter, unscrew and take apart.
DISASSEMBLY			
15.	Brake lever support (2) and washer (10)	Snapping (11)	a. Position support (2) in machinist's vise. b. Using retaining ring pliers, take off.
16.	Brake lever support (2) and brake lever (12)	Washer (10)	Take off.

PARKING BRAKE LEVER AND LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
17. Brake lever support (2)	Brake lever (12)	Slide off.	
18. Brake lever support (2) and brake latch plate (13)	Two screws (14), lockwashers (15), and nuts (16)	a. Using 3/8-inch flat-tip screwdriver and 3/4-inch box wrench, unscrew and take apart. b. Get rid of lockwashers (15).	
19. Brake lever support (2) vise.	Brake latch plate (13)	a. Take off. b. Take support (2) out of machinist's vise.	
20. Brake rod (17) and pin (18)	Cotter pin (19)	a. Using slip-joint pliers, straighten ends and take out. b. Get rid of.	



PARKING BRAKE LEVER AND LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
DISASSEMBLY - CONTINUED			
21.	Brake rod (1) and brake lever (2)	Pin (3)	Take out.
22.	Brake lever (2)	Brake rod (1)	Take off.
23.	Brake lever (2), spring (4), and brake latch rod (5)	Button (6)	a. Place brake lever (2) in machinist's vise. b. Using slip-joint pliers and clean rag, unscrew and take off.
24.	Brake lever (2) and brake latch rod (5)	Spring (4)	Take out.
25.	Pin (7) and brake latch (8)	Cotter pin (9)	a. Using slip-joint pliers, straighten ends and take out. b. Get rid of.
26.	Brake latch rod (5) and brake latch (8)	Cotter pin (10)	a. Using slip-joint pliers, straighten ends and take out. b. Get rid of.
27.	Brake latch rod (5) and pin (7)	Brake latch (8)	Take off.
28.	Brake lever (2)	Brake latch rod (5)	Take out.

CAUTION

Do not remove brake lever pin or sleeve bushing unless inspection shows need for replacement. Removal may damage parts.

29.	Pin (7)		a. Using 1/4-inch straight drive-pin punch and 2-pound head ball-peen hammer, drive out. b. Take brake lever (2) out of machinist's vise.
30.	Sleeve bushing (11)		Using 1.0625-inch outside diameter remover and installer and arbor press, press out.

PARKING BRAKE LEVER AND LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

NOTE

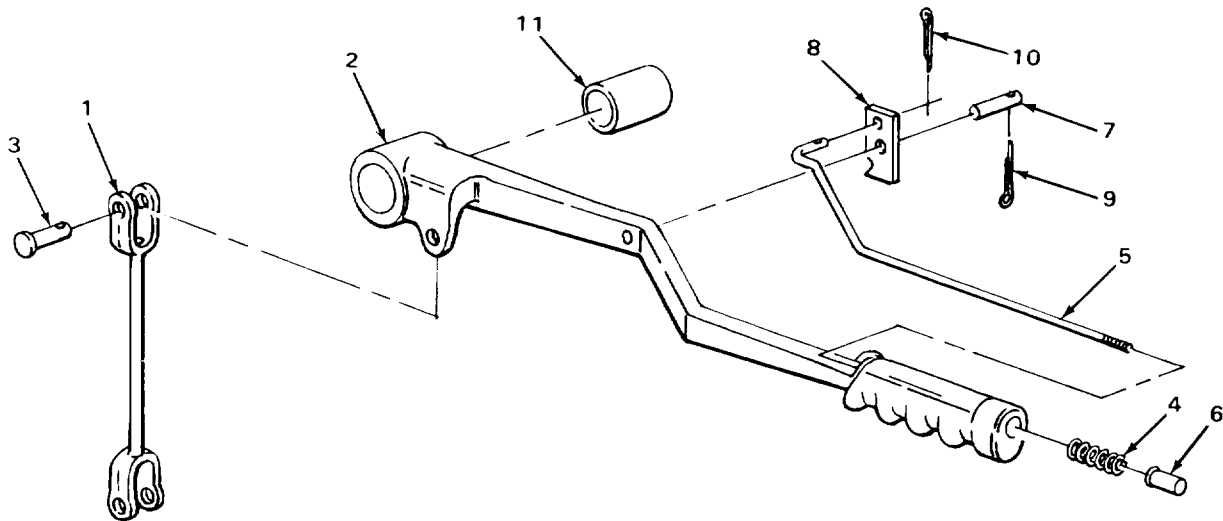
For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

- | | | |
|------------|-----------------|---|
| 31. | Brake lever (2) | <ul style="list-style-type: none"> a. Using clean rags dampened in solution of detergent and water, wipe clean. b. Rinse with clean water. c. Using clean, dry rags, wipe dry. |
|------------|-----------------|---|

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|------------|-----------------------|---|
| 32. | All other metal parts | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. |
|------------|-----------------------|---|

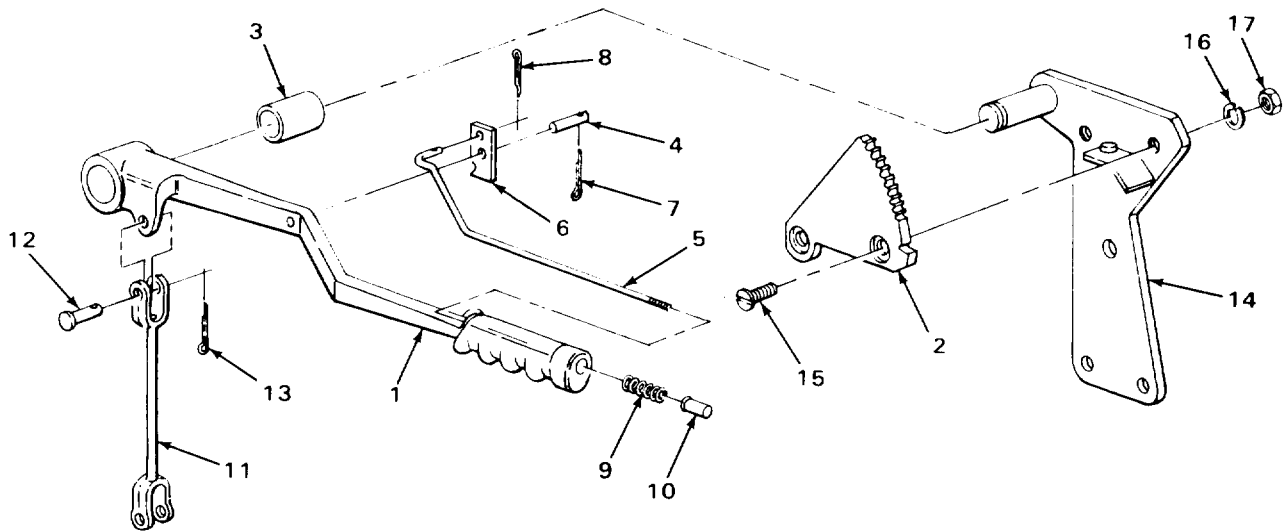


PARKING BRAKE LEVER AND LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT			
NOTE			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).			
Replace defective parts as needed.			
33.	Brake lever (1)		Look for torn or missing hand grip.
34.	Brake latch plate (2)		Look for damaged teeth.
35.	All metal parts		Look for cracks, breaks, and abnormal bends.
36.	All threaded parts		Look for damaged parts.
ASSEMBLY			
37.	Brake lever (1)	Sleeve bushing (3)	If removed, using 1.0625-inch outside diameter remover and installer and arbor press, press in.
38.		Pin (4)	If removed, using arbor press, press in.
39.		Brake latch rod (5)	Place in position.
40.	Brake latch rod (5) and pin (4)	Brake latch (6)	Place in position.
41.	Brake latch rod (5) and brake latch (6)	New cotter pin (7)	a. Place in position. b. Using slip-joint pliers, bend ends back.
42.	Pin (4) and brake latch (6)	New cotter pin (8)	a. Place in position. b. Using slip-joint pliers, bend ends back.
43.	Brake lever (1) and brake latch rod (5)	Spring (9)	Slide in.

PARKING BRAKE LEVER AND LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
44.	Brake lever (1), spring (9), and brake latch rod (5)	Button (10)	Screw on and tighten using clean rag and slip-joint pliers.
45.	Brake lever (1)	Brake rod (11)	Place in position.
46.	Brake lever (1) and brake rod (11)	Pin (12)	Slide in.
47.	Brake rod (11) and pin (12)	New cotter pin (13)	a. Place in position. b. Using slip-joint pliers, bend ends back.
48.	Brake lever support (14)	Brake latch plate (2)	a. Position brake lever support (14) in machinist's vise. b. Place in position.
49.	Brake lever support (14) and brake latch plate (2)	Two screws (15), new lockwashers (16), and nuts (17)	Screw together and tighten using 3/8-inch flat-tip screwdriver and 3/4-inch box wrench.
50.	Brake lever (1) with assembled parts		a. Apply light coating of grease to bearing surface (LO 5-2420-222-12). b. Slide on.



PARKING BRAKE LEVER AND LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
51. Brake lever support (1) and brake lever (2)	Washer (3)	Slide on.	
52. Brake lever support (1) and washer (3)	Snapping (4)	a. Using retaining ring pliers, place in position. b. Take brake lever support (1) out of machinist's vise.	

INSTALLATION

NOTE

Steps 53 and 54 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

53. Transmission top cover (5)	Stud (6)	Screw in and tighten using 1/2-inch drive stud remover and setter and ratchet handle.
54. Stud (6)	New locknut (7)	Screw on all the way using xx-inch open-end wrench.
55. Right axle housing (8) and stud (6) with locknut (7), if present	Brake lever support (1) with attached parts	Place in position.
56. Brake lever support (1) and right axle housing (8)	Two screws (9), washers (10), and washers (11)	Screw in and tighten using 3/4-inch, 1/2-inch drive socket and ratchet handle.
57. Stud (6) and brake lever support (1)	New locknut (12)	Only on loader backhoes with Serial Numbers 235786 thru 235999, screw on and tighten using xx-inch, 1/2-inch drive socket and ratchet handle and xx-inch open-end wrench.

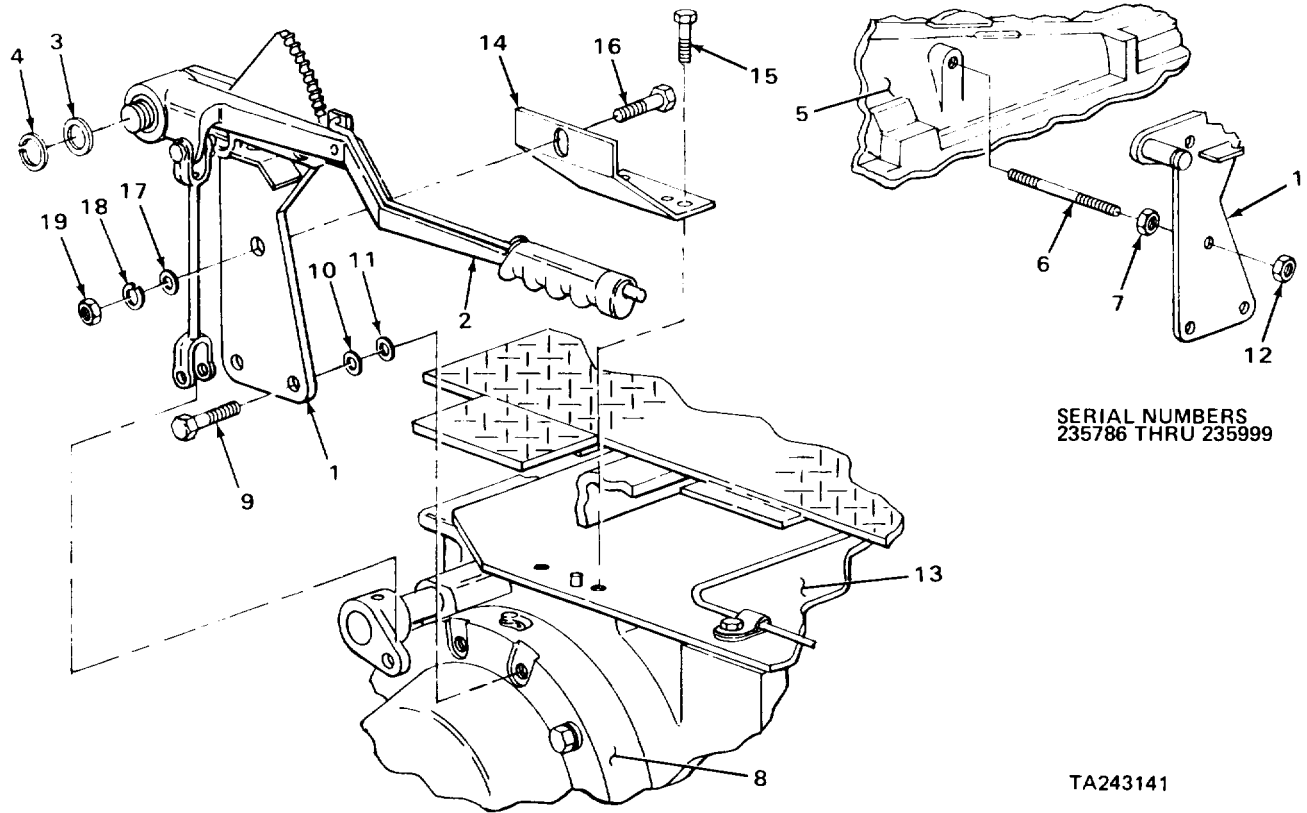
NOTE

Steps 58 thru 60 only apply to loader backhoes with Serial Numbers 319995 thru 342573.

58. Transmission top cover (13) and brake lever support (1)	Support (14)	Place in position.
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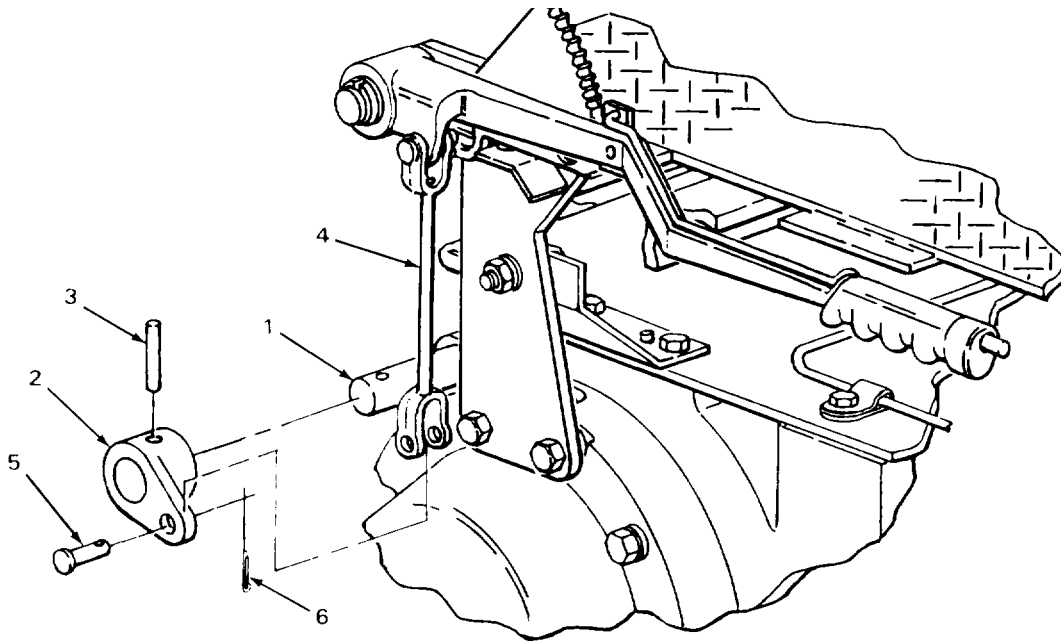
PARKING BRAKE LEVER AND LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
59. Transmission top cover (13) and support (14)	Two screws (15)	Screw in and tighten using 3/4-inch, 1/2-inch drive socket and ratchet handle.	
60. Support (14) and brake lever support (1)	Screw (16), washer (17), new lockwasher (18), and nut (19)	Screw together and tighten using 15/16-inch, 1/2-inch drive socket, ratchet handle, and 15/16-inch box wrench.	



PARKING BRAKE LEVER AND LINKAGE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
61. Shaft (1)	Parking brake arm (2)	Place in position.	
62. Parking brake arm (2) and shaft (1)	Pin (3)	Using 2-pound head ball-peen hammer, tap in.	
63. Parking brake arm (2)	Brake rod (4)	Place in position.	
64. Brake rod (4) and parking brake arm (2)	Pin (5)	Place in position.	
65. Brake rod (4) and pin (5)	New cotter pin (6)	a. Place in position. b. Using slip-joint pliers, bend ends back.	



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PARKING BRAKE LEVER AND LINKAGE - CONTINUED

NOTE

FOLLOW-ON MAINTENANCE:

1. Adjust parking brake (page 2-867).
2. Install right platform (page 2-1079).

Perform the following only on loader backhoes with Serial Numbers 319995 thru 342573.

3. Install parking brake warning switch (page 2-482).

TASK ENDS HERE

PARKING BRAKE ADJUSTMENT

This task covers:

Adjustment (page 2-868)

INITIAL SETUP

Tools

Screwdriver, flat-tip, 3/8-inch
 Wrench, box, 7/8-inch
 Wrench, open-end, 9/16-inch
 Wrench, open-end, 11/16-inch
 Wrench, open-end, 11/8-inch

Personnel Required

One

Equipment Condition

NOTE

The following only applies to loader backhoes with Serial Numbers 235786 thru 235999.

1. Rear platform removed (page 2-1117)

NOTE

The following only applies to loader backhoes with Serial Numbers 319995 thru 342573.

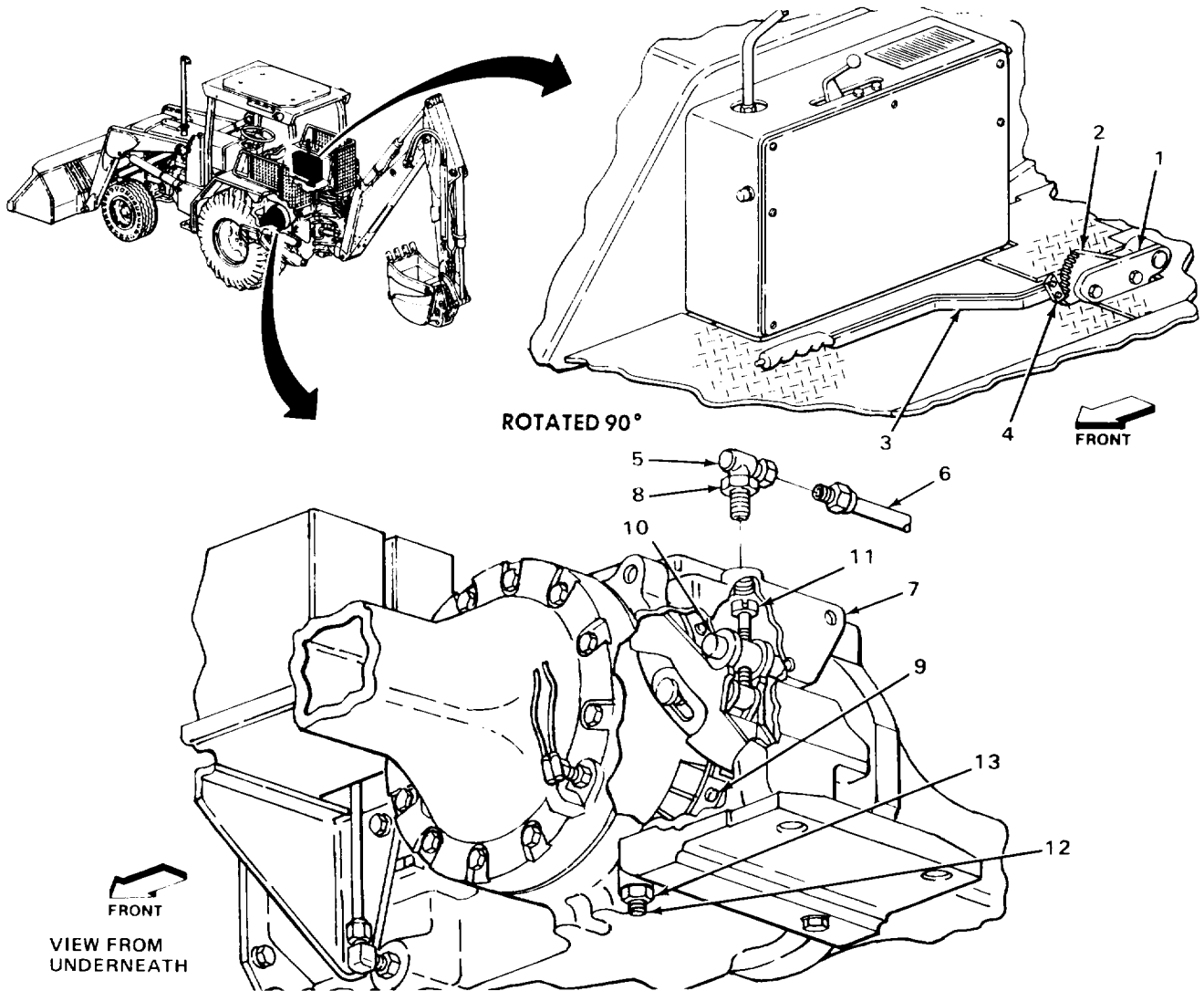
2. Left rear platform removed (page 2-1114)

2-867

PARKING BRAKE ADJUSTMENT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
ADJUSTMENT			
<u>WARNING</u>			
Make sure that loader bucket and backhoe bucket are lowered to ground, or wheels are blocked, to keep loader backhoe from rolling before performing maintenance on parking brake.			
1. Brake lever support (1) and brake latch plate (2)	Parking brake lever (3) and brake latch (4)	a. Release (TM 5-2420-222-10). b. Pull lever (3) up until latch (4) engages first tooth of latch plate (2).	
2. Elbow (5)	Auger bleed line hose (6)	Using 9/16-inch and 11/16-inch open-end wrenches, unscrew and take out.	
3. Transmission case (7)	Adapter (8) with assembled elbow (5)	Using 1 1/8-inch open-end wrench, unscrew and take out.	
4. Brake band (9) and pivot pin (10)	Setscrew (11)	Using 3/8-inch flat-tip screwdriver, screw in until snug.	
5. Transmission case (7)	Adapter (8) with assembled elbow (5)	Screw in and tighten using 1 1/8-inch open-end wrench.	
6. Elbow (5)	Auger bleed line hose (6)	Screw in and tighten using 9/16-inch and 11/16-inch open-end wrenches.	
7. Transmission case (7) and special screw (12)	Nut (13)	Using 7/8-inch box wrench, loosen.	
8. Transmission case (7) and nut (13)	Special screw (12)	a. Using 3/8-inch flat-tip screwdriver, b. Using 3/8-inch flat-tip screwdriver, unscrew two turns.	screw in until snug.
9. Transmission case (7)	Special screw (12) and nut (13)	Using 3/8-inch flat-tip screwdriver and 7/8-inch box wrench, tighten nut (13) until seated against case (7).	

PARKING BRAKE ADJUSTMENT - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

Perform the following only on loader backhoes with Serial Numbers 235786 thru 235999.

1. Install rear platform (page 2-1117).

Perform the following only on loader backhoes with Serial Numbers 319995 thru 342573.

2. Install left rear platform (page 2-1114).

TASK ENDS HERE

HYDRAULIC BRAKE SYSTEM BLEEDING

This task covers:

Bleeding (page 2-870)

INITIAL SETUP

Tools

Knife, pocket
 Tubing, nonmetallic (Appendix D)
 Wrench, box, 3/8-inch
 Wrench, open-end, 1 1/2-inch

Materials/Parts

Fluid, hydraulic (LO 5-2420-222-12)
 Packing, filler plug
 Rags, wiping (item 21, Appendix C)

Personnel Required

Two

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

NOTE

Both brakes are bled the same way. Left brake is shown. Repeat procedure for right brake as needed.

BLEEDING

NOTE

If it is not desirable to run engine at this time, skip step 1.

- | | | | |
|----|----------------|--------|---|
| 1. | Loader backhoe | Engine | a. Start and run at high idle for approximately 2 minutes (TM 5-2420-222-10).
This will allow transmission lubricating system to fill hydraulic cylinder.
b. Shut down (TM 5-2420-222-10). |
|----|----------------|--------|---|

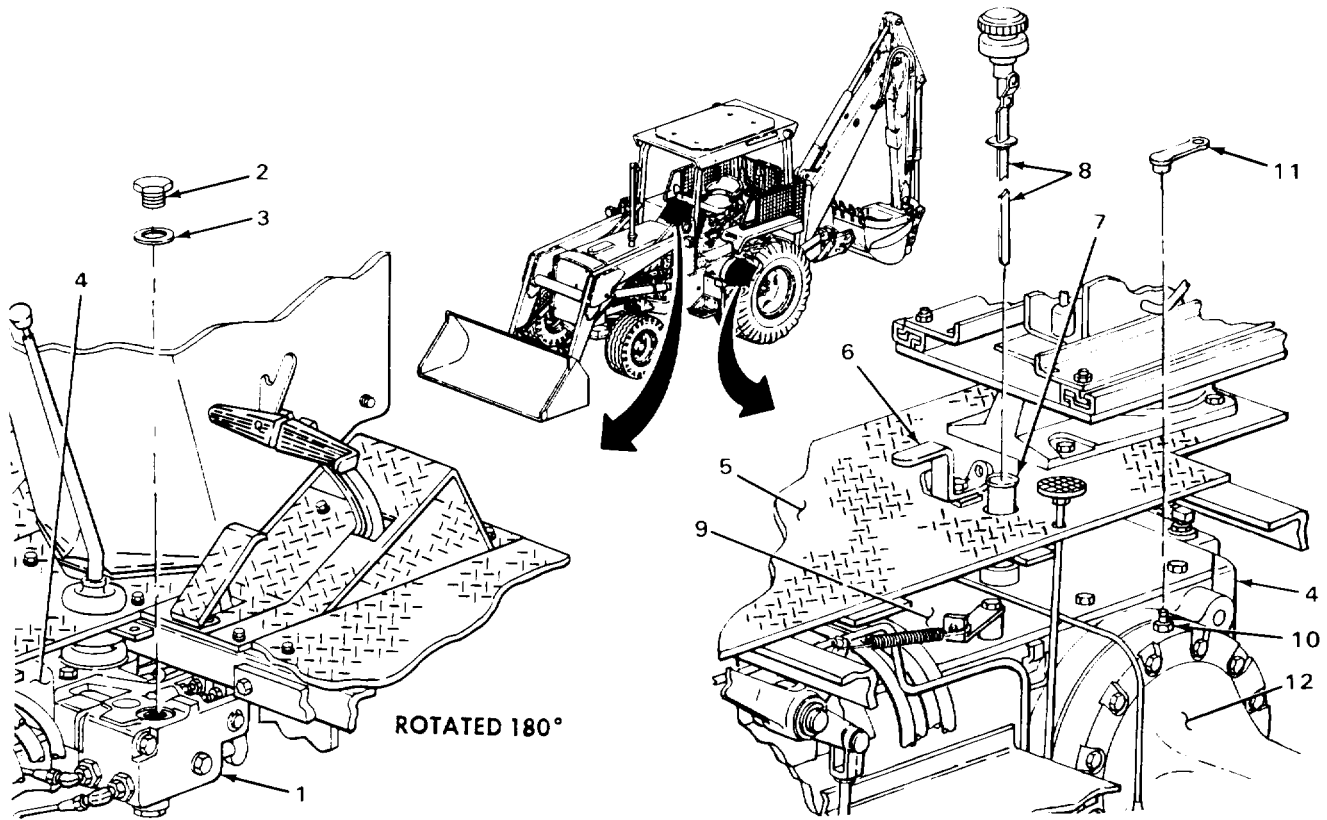
NOTE

If step 1 was performed, skip steps 2 thru 5.

- | | | | |
|----|------------------------|--|---|
| 2. | Operator's compartment | Right platform | Remove (page 2-1079). |
| 3. | Hydraulic cylinder (1) | Filler plug (2) with assembled packing (3) | a. Using clean rag, clean area around plug (2).
b. Using 1 1/2-inch open-end wrench, unscrew and take out.
Do not get rid of packing at this time. |

HYDRAULIC BRAKE SYSTEM BLEEDING - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
4. Transmission case (4)	Hydraulic cylinder (1)		If not full, fill with proper amount and grade of hydraulic fluid (LO 5-2420-222-12).
5. Hydraulic cylinder (1)	Filler plug (2) with assembled packing (3)		Screw on and tighten using 1 1/2-inch open-end wrench.
6. Center platform (5)	Filler lock (6)		Move aside.
7. Filler tube(7)	Dipstick (8)		a. Loosen. b. Pull out.
8. Transmission cover (9)	Filler tube (7)		Insert end of nonmetallic tubing approximately 6 inches.
9. Special screw (10)	Brake cap (11)		Pull off.
10. Left axle housing (12)	Special screw (10)		a. Using 3/8-inch box wrench, unscrew three-quarter turn. b. Connect other end of nonmetallic tubing.



HYDRAULIC BRAKE SYSTEM BLEEDING - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
BLEEDING - CONTINUED			
11.	Left brake pedal (1) (1) and right brake pedal (2)	Brake pedal lock (3)	Have assistant push up to unlock.
<u>CAUTION</u>			
To prevent damage to hydraulic cylinder parts, do not allow the brake pedal to return sharply.			
NOTE			
Hydraulic cylinder reservoir must be refilled after each 15 strokes of brake pedal.			
12.	Hydraulic cylinder (4)	Left brake pedal (1)	<ol style="list-style-type: none"> a. Have assistant depress and release until fluid in nonmetallic tubing is free of air bubbles or until 15 strokes have been completed. b. If 15 strokes have been completed and air bubbles are still present in fluid, refill hydraulic cylinder reservoir by performing step 1 or steps 3 thru 5, then repeat step 12. c. When air bubbles are no longer present in fluid, have assistant depress all the way and hold.
13.	Left axle housing (5)	Special screw (6)	<ol style="list-style-type: none"> a. Using 3/8-inch box wrench, tighten. b. Take off nonmetallic tubing.
14.	Hydraulic cylinder (4)	Left brake pedal (1)	Have assistant release.
15.	Transmission cover (7)	Filler tube (8)	Take out nonmetallic tubing.
16.	Filler tube (8)	Dipstick (9)	<ol style="list-style-type: none"> a. Slide in all the way. b. Tighten.
17.	Center platform (10)	Filler lock (11)	Move over top of dipstick (9).

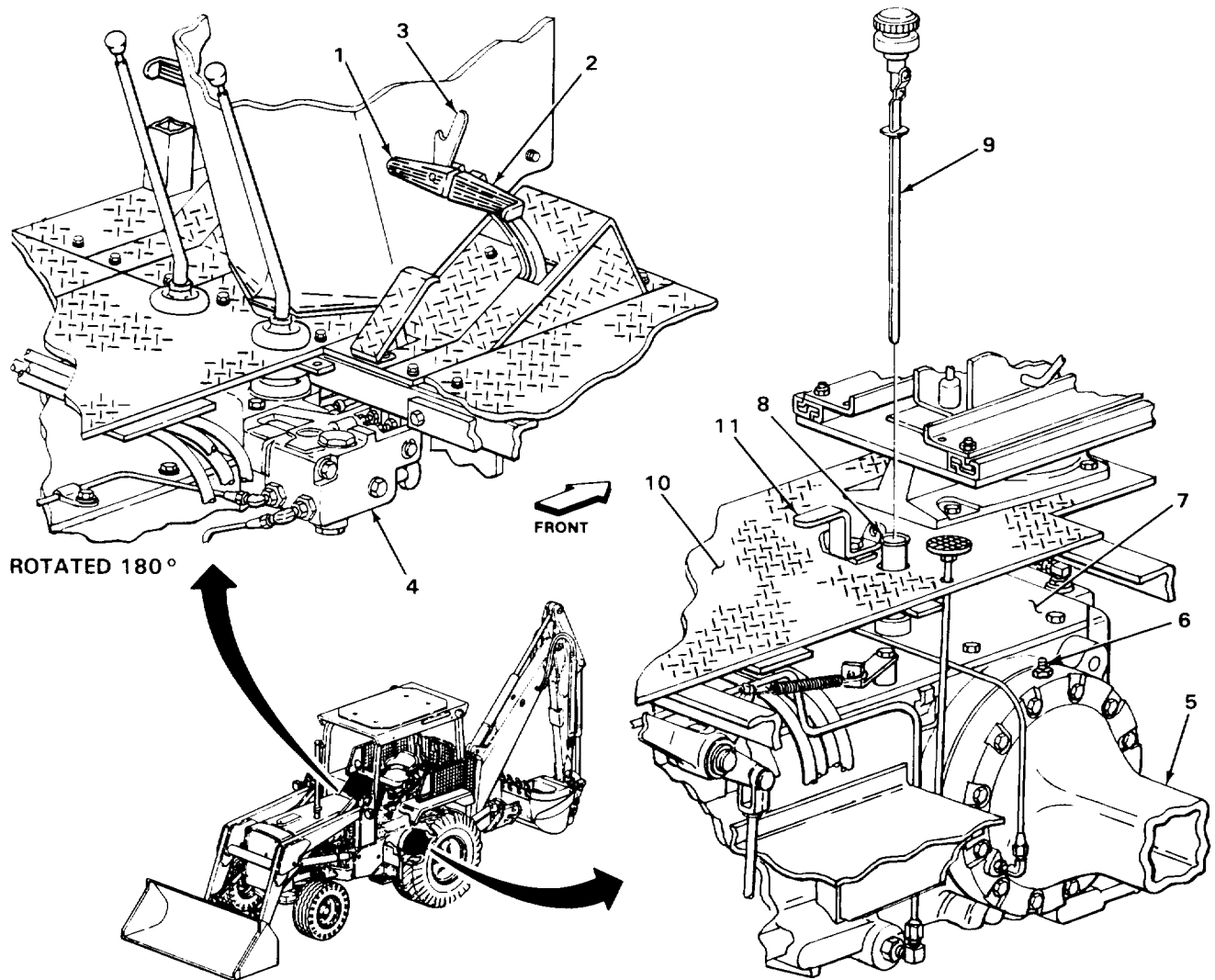
HYDRAULIC BRAKE SYSTEM BLEEDING - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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NOTE

If it is not desirable to run engine at this time, skip step 18.

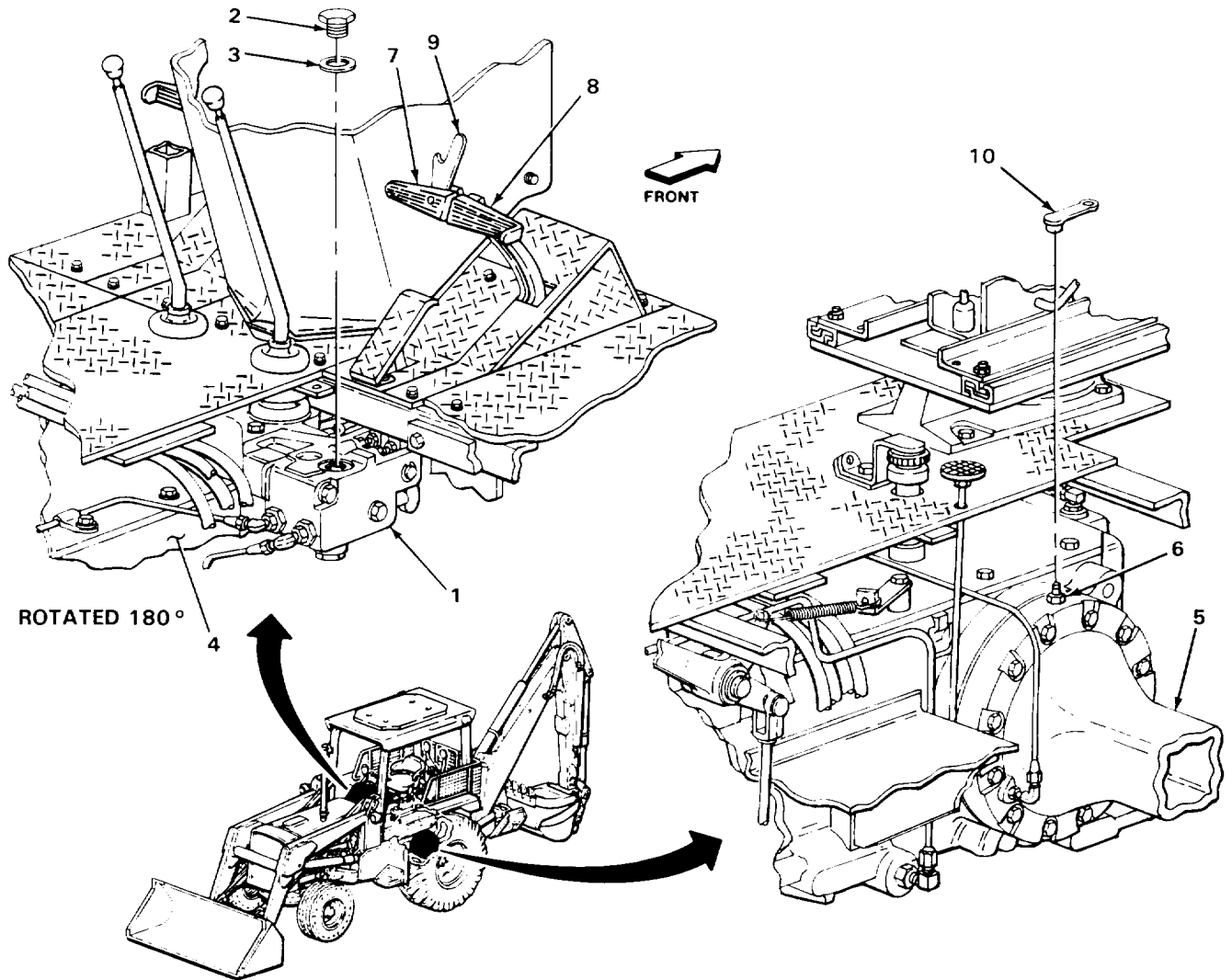
18. Loader backhoe	Engine	<p>a. Start and run at high idle for approximately 2 minutes (TM 5-2420-222-10). This will allow transmission lubricating system to fill hydraulic cylinder.</p> <p>b. Shut down (TM 5-2420-222-10).</p>
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HYDRAULIC BRAKE SYSTEM BLEEDING - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
BLEEDING - CONTINUED			
NOTE			
If step 18 was performed, skip steps 19 thru 23.			
19.	Hydraulic cylinder (1)	Filler plug (2) with assembled packing (3)	Using 1 1/2-inch open-end wrench, unscrew and take out.
20.	Filler plug (2)	Packing (3)	a. Using pocket knife, take off. b. Get rid of.
21.	Transmission case (4)	Hydraulic cylinder (1)	If not full, fill with proper amount and grade of hydraulic fluid (LO 5-2420-222-12).
22.	Filler plug (2)	New packing (3)	Place in position.
23.	Hydraulic cylinder (1)	Filler plug (2) with assembled packing (3)	Screw in and tighten using 1 1/2-inch open-end wrench.
24.	Left axle housing (5) pedal (7).	Special screw (6)	a. Have assistant depress left brake b. Check for leaks. c. If leaking, using 318-inch box wrench, tighten. d. If leaking does not stop, replace (page 2-876). e. Have assistant release left brake pedal (7).
25.	Left brake pedal (7) and right brake pedal (8)	Brake pedal lock (9)	Have assistant push down to lock.
26.	Special screw (6)	Brake cap (10)	Place in position.
27.	Operator's compartment	Right platform	If removed, install (page 2-1079).

HYDRAULIC BRAKE SYSTEM BLEEDING - CONTINUED



TASK ENDS HERE

SERVICE BRAKE SPECIAL SCREW (BLEEDER)

This task covers:

- | | |
|--------------------------|--|
| a. Removal (page 2-876) | c. Inspection/Replacement (page 2-877) |
| b. Cleaning (page 2-876) | d. Installation (page 2-878) _ |

INITIAL SETUP

Tools

- Pan, drain
- Wrench, box, 3/8-inch

Materials/Parts - Continued

- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)
- Wire, non-electrical (item 35, Appendix C)

Materials/Parts

- Detergent, GP (item 7, Appendix C)

Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
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NOTE

There are two service brake special screws (bleeders). Left side is shown. Repeat procedures for right side as needed.

REMOVAL

- | | | | |
|----|-----------------------|-------------------|--|
| 1. | Special screw (1) | Brake cap (2) | Pull off. |
| 2. | Left axle housing (3) | Special screw (1) | <ul style="list-style-type: none"> a. Place drain pan underneath to catch draining fluid. b. Using 3/8-inch box wrench, unscrew and take out. c. Get rid of drained fluid (page 2-137). d. Cap housing (3) (page 2-137). |

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

- | | | |
|----|---------------|---|
| 3. | Brake cap (2) | <ul style="list-style-type: none"> a. Clean in solution of detergent and water. b. Using clean water, rinse. c. Using clean, dry rags, wipe dry. |
|----|---------------|---|

SERVICE BRAKE SPECIAL SCREW (BLEEDER) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|-------------------|---|
| 4. | Special screw (1) | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Clean fluid passages with non-electrical wire. c. Flush fluid passages with drycleaning solvent. d. Using clean, dry rags, wipe dry. |
|----|-------------------|---|

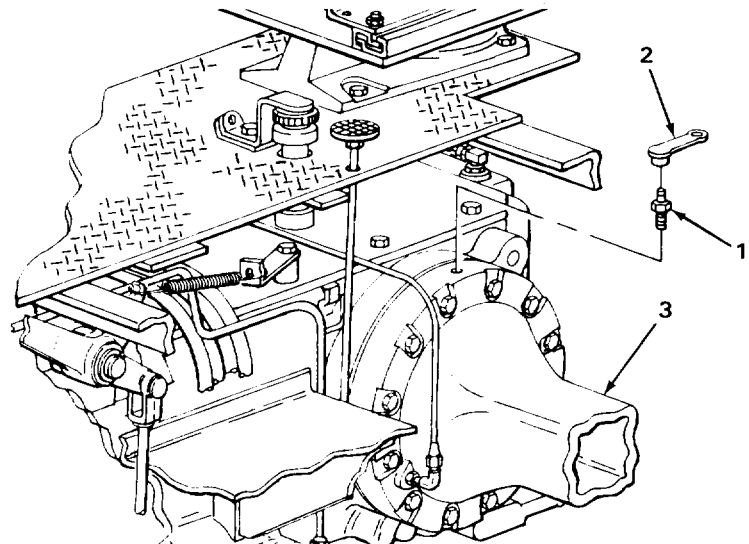
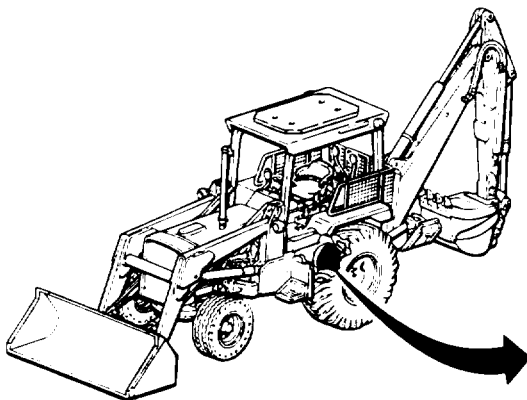
INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

- | | | |
|----|-------------------|--|
| 5. | Brake cap (2) | Look for cracks, tears, and breaks. |
| 6. | Special screw (1) | <ul style="list-style-type: none"> a. Look for cracks and breaks. b. Look for damaged threads. |



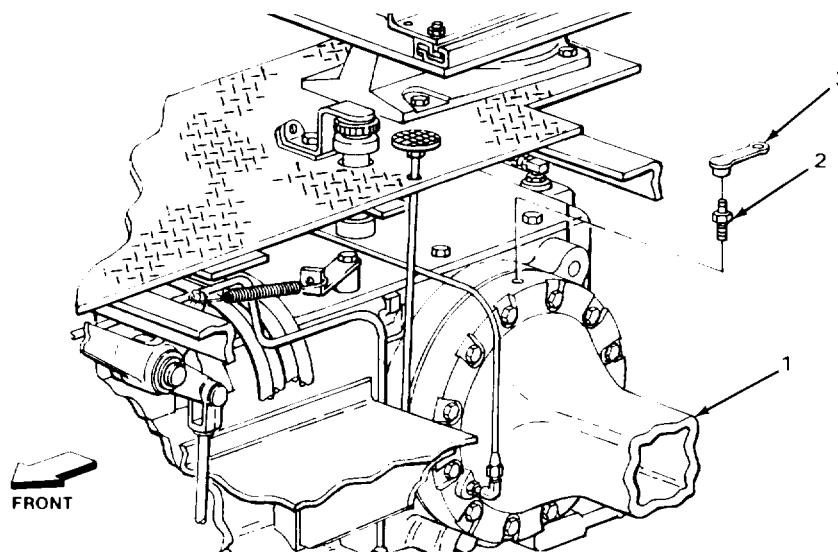
SERVICE BRAKE SPECIAL SCREW (BLEEDER) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION			
7. Left axle housing (1)	Special screw (2)	a. Remove cap from housing (1). b. Screw in and tighten using 3/8-inch box wrench.	
8. Special screw (2)	Brake cap (3)	Place in position.	

NOTE

FOLLOW-ON MAINTENANCE: Bleed hydraulic brake system (page 2-870).

TASK ENDS HERE



RIGHT SERVICE BRAKE LINE AND FITTINGS**This task covers:**

- | | |
|---|--|
| <ul style="list-style-type: none"> a. Removal (page 2-880) b. Cleaning (page 2-881) | <ul style="list-style-type: none"> c. Inspection/Replacement (page 2-882) d. Installation (page 2-882) |
|---|--|

INITIAL SETUP:

Tools

Handle, ratchet, 3/8-inch drive
 Knife, pocket
 Pan, drain
 Socket, 3/8-inch drive, 9/16-inch
 Wrench, box, 9/16-inch
 Wrench, open-end, 7/16-inch
 Wrench, open-end, 1/2-inch

Materials/Parts

Lockwasher, bracket screw
 Lockwasher, clamp screw

Materials/Parts - Continued

Packing, elbow-to-connector
 Packing, elbow-to-seat
 Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)

Personnel Required

Two

Equipment Condition

Right platform removed (page 2-1079)

RIGHT SERVICE BRAKE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Clamp (1) and bracket (2)	Screw (3), lockwasher (4), and nut (5)	a. Using 9/16-inch, 3/8-inch drive socket, ratchet handle, and 9/16-inch box wrench, unscrew and take apart. b. Get rid of lockwasher (4).
2. Bracket (2) and brake oil line (6)	Clamp (1)	Take off.
3. Bracket (2)	Screw (7) and lockwasher (8)	a. Using 9/16-inch box wrench, unscrew and take out. b. Get rid of lockwasher (8).
4. Brake oil line (6)	Bracket (2)	Take off.
5. Elbow (9)	Brake oil line (6)	a. Place drain pan underneath elbow (9). b. Using 7/16-inch open-end wrench, unscrew and take off.
6.	Nut (10)	Using 7/16-inch and 1/2-inch open-end wrenches, loosen.
7. Seat (11)	Elbow (9) with assembled parts	a. Note relative position for proper placement during installation. b. Using 7/16-inch open-end wrench, unscrew and take out. c. Plug seat (11) (page 2-137).
8. Elbow (9)	Packing (12)	a. Using pocket knife, take off. b. Get rid of.
9. Elbow (13)	Brake oil line (6)	a. Place drain pan underneath elbow (13). b. Using 7/16-inch open-end wrench, unscrew and take off.
10.	Nut (14)	Using 7/16-inch and 1/2-inch open-end wrenches, loosen.
11. Connector (15)	Elbow (13) with assembled parts	a. Note relative position for proper placement during installation. b. Using 7/16-inch open-end wrench, unscrew and take out. c. Plug connector (15) (page 2-137). d. Get rid of drained fluid (page 2-137).

RIGHT SERVICE BRAKE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
12. Elbow (13)	Packing (16)	a. Using pocket knife take off. b. Get rid of.	

CLEANING

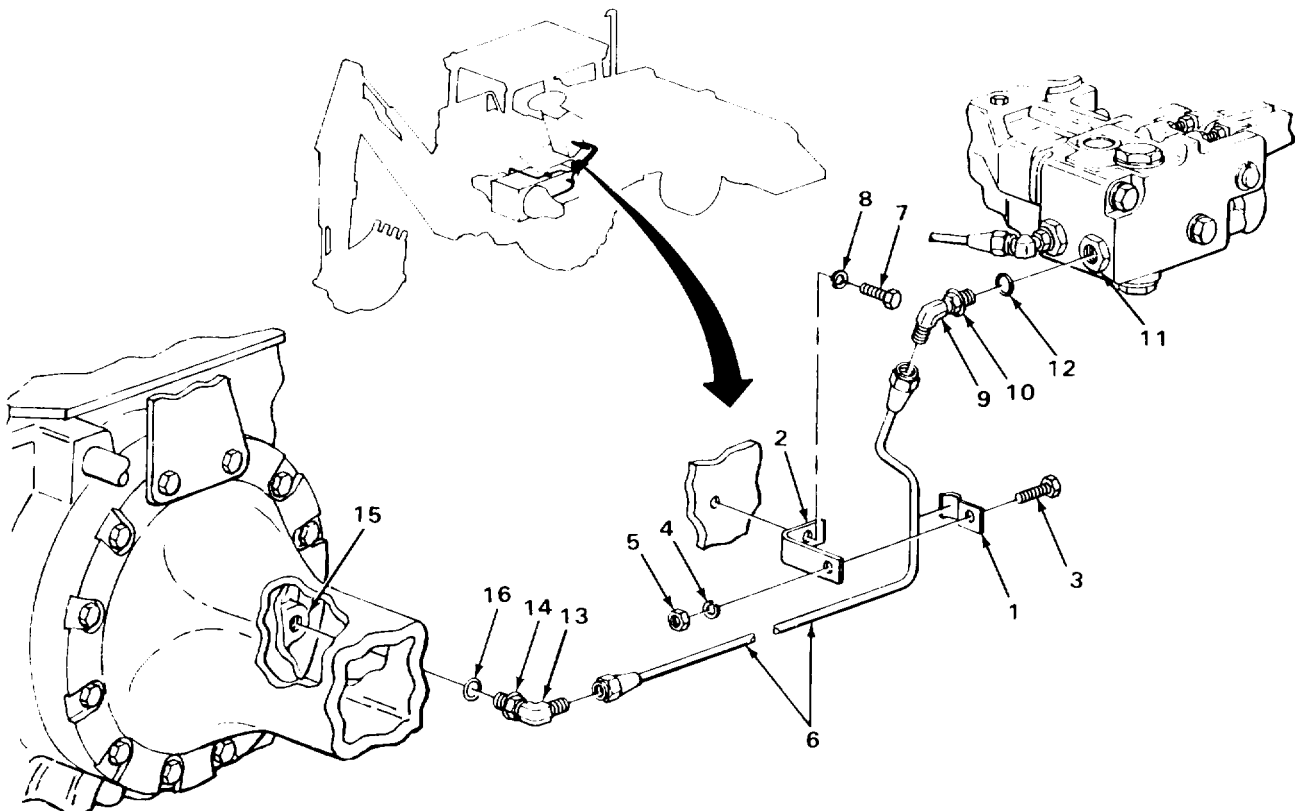
NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 138°F (38°0 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|-----------------|---|
| 13. | All metal parts | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. |
|-----|-----------------|---|



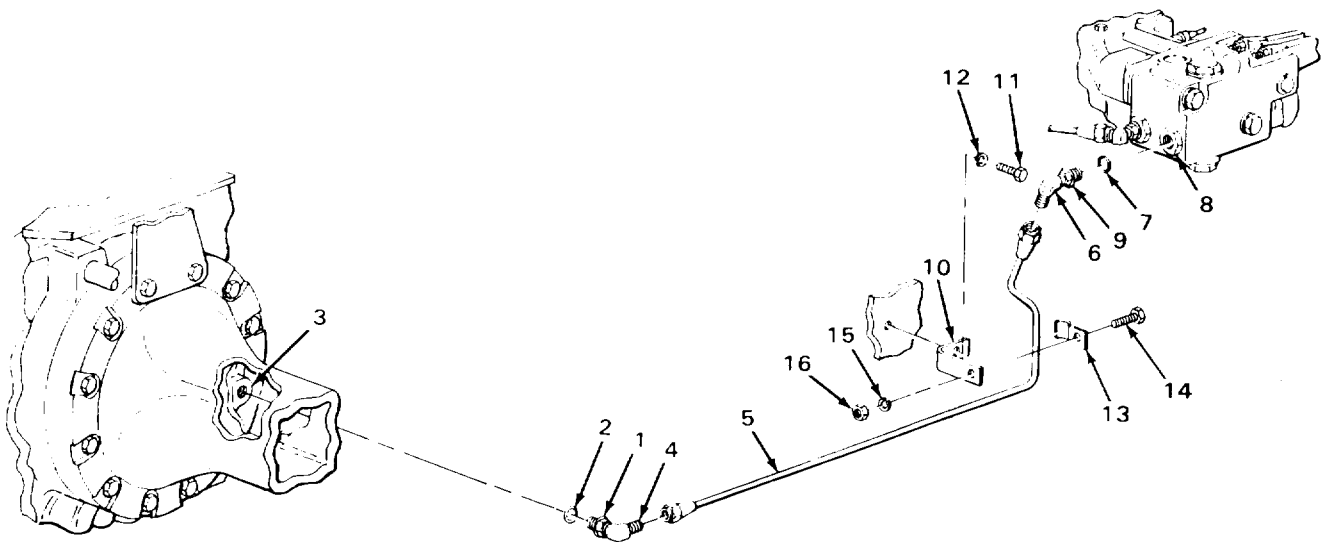
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RIGHT SERVICE BRAKE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT		
NOTE		
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).		
Replace defective parts as needed.		
14.	All metal parts	Look for cracks, breaks, and abnormal bends.
15.	All threaded parts	Look for damaged threads.
INSTALLATION		
16 Elbow (1)	New packing (2)	Place in position.
17 Connector (3)	Elbow (1) with assembled parts	a. Unplug connector (3). b. Screw in and tighten to position noted during removal using 7/16-inch open-end wrench.
18. Elbow (1)	Nut (4)	Using 7/16-inch and 1/2-inch open-end wrenches, tighten.
19 .	Brake oil line (5)	Screw on and tighten using 7/16-inch open-end wrench.
20 Elbow (6)	New packing (7)	Place in position.
21 Seat (8)	Elbow (6) with assembled parts	a. Unplug seat (8). b. Screw in and tighten to position noted during removal using 7/16-inch open-end wrench.
22. Elbow (6)	Nut (9)	Using 7/16-inch and 1/2-inch open-end wrenches, tighten.
23.	Brake oil line (5)	Screw on and tighten using 7/16-inch open-end wrench.
24 Brake oil line (5)	Bracket (10)	Place in position.
25 Bracket (10)	Screw (11) and new lockwasher (12)	Screw on and tighten using 9/16-inch box wrench.

RIGHT SERVICE BRAKE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
26. Bracket (10) and brake oil line (5)	Clamp (13)	Place in position.	
27. Bracket (10) and clamp (13)	Screw (14), new lockwasher (15), and nut (16)	Screw together and tighten using 9/16-inch, 3/8-inch drive socket, ratchet handle, and 9/16-inch box wrench.	
28. Loader backhoe	Hydraulic brake system	Bleed (page 2-870).	Do not install right platform at this time.
29.	Right service brake line and fittings	<ul style="list-style-type: none"> a. Have assistant apply brakes (TM 5-2420-222-10). b. Check for leaks. c. If leaking at any connection, tighten using 7/16-inch and 1/2-inch open-end wrenches or 7/16-inch open-end wrench. d. If leaking does not stop, have assistant release brakes (TM 5-2420-222-10) and replace leaking connection packing, fitting, or line as outlined in this task. e. If still being applied, have assistant release brakes (TM 5-2420-222-10). 	



2-883

RIGHT SERVICE BRAKE LINE AND FITTINGS - CONTINUED

INSTALLATION - CONTINUED

NOTE

FOLLOW-ON MAINTENANCE: Install right platform (page 2-1079). -

TASK ENDS HERE

LEFT SERVICE BRAKE LINE AND FITTINGS

This task covers:

- | | | |
|-----------------------|----------------------|-------------------------------------|
| a. Removal | c. Inspection | e. Pre-Load Check of Bearing |
| b. Disassembly | d. Reassembly | f. Installation |

INITIAL SETUP:

Tools

- Handle, ratchet, 3/8-inch drive
- Knife, pocket
- Pan, drain
- Screwdriver, 1/4-inch, flat-tip
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 1/2-inch

NOTE

The following tool only applies to loader backhoes with Serial Numbers 235786 thru 235999.

Socket, 3/8-inch drive, 9/16-inch

NOTE

The following tool only applies to loader backhoes with Serial Numbers 319995 thru 342573.

Socket, 3/8-inch drive, 3/4-inch

Materials/Parts

- Packing, elbow-to-connector
- Packing, elbow-to-seat
- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)

NOTE

The following part only applies to loader backhoes with Serial Numbers 235786 thru 235999.

Lockwasher, clamp screw (two required)

Personnel Required

Two

Equipment Condition

Right platform removed (page 2-1079)

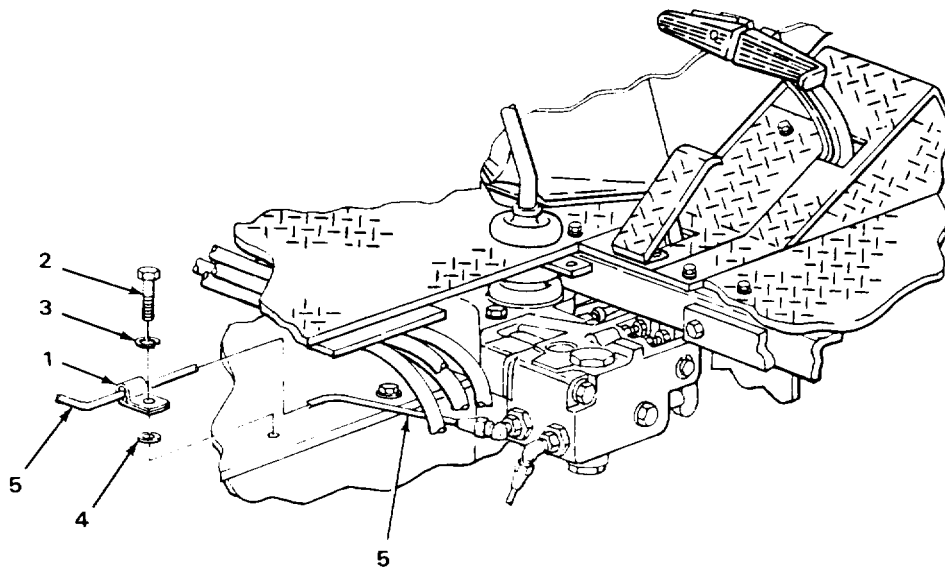
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

NOTE

Steps 1 and 2 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

- | | | |
|-----------------------|--|---|
| 1. Two clamps (1) | Two screws (2), lockwashers (3), and washers (4) | <ul style="list-style-type: none"> a. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out. b. Get rid of lockwashers (3). |
| 2. Brake oil line (5) | Two clamps (1) | Using 1/4-inch flat-tip screwdriver, take off. |



LEFT SERVICE BRAKE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
NOTE			
Steps 3 and 4 only apply to loader backhoes with Serial Numbers 319995 thru 342573.			
3.	Transmission cover (1) and clamps (2)	Screw (3) and washer (4)	Using 3/4-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out.
4.	Transmission cover (1) and brake oil line (5)	Clamp (2)	Take off.
5.	Elbow (6)	Brake oil line (5)	a. Place drain pan under elbow (6). b. Using 7/16-inch open-end wrench, unscrew and take off.
6.		Nut (7)	Using 7/16-inch and 1/2-inch open-end wrenches, loosen.
7.	Seat (8)	Elbow (6) with assembled parts	a. Note relative position for proper placement during installation. b. Using 7/16-inch open-end wrench, unscrew and take out. c. Plug seat (8) (page 2-137).
8.	Elbow (6)	Packing (9)	a. Using pocket knife, take off. b. Get rid of.
9.	Elbow (10)	Brake oil line (5)	a. Place drain pan under elbow (10). b. Using 7/16-inch open-end wrench, unscrew and take off.
10.		Nut (11)	Using 7/16-inch and 1/2-inch open-end wrenches, loosen.
11.	Connector (12)	Elbow (10) with assembled parts	a. Note relative position for proper placement during installation. b. Using 7/16-inch open-end wrench, unscrew and take out. c. Plug connector (11) (page 2-137). d. Get rid of drained fluid (page 2-137).
12.	Elbow (10)	Packing (13)	a. Using pocket knife, take off. b. Get rid of.

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

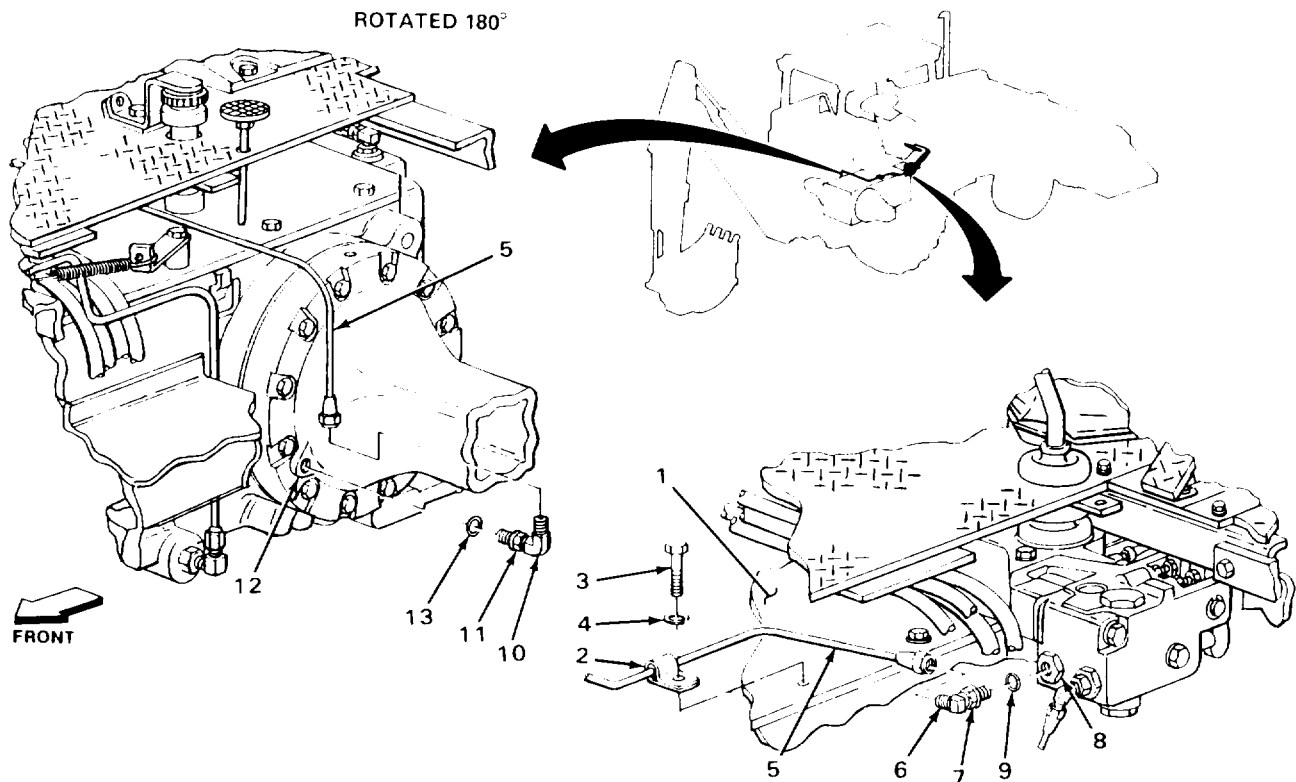
NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|-----------------|---|
| 13. | All metal parts | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. |
|-----|-----------------|---|



LEFT SERVICE BRAKE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSPECTION/REPLACEMENT**NOTE**

For more information on how to inspect parts, go to **General Maintenance Instructions (page 2-137)**.

Replace defective parts as needed.

14.	All metal parts		Look for cracks, breaks, and abnormal bends.
15.	All threaded parts		Look for damaged threads.

INSTALLATION

16. Elbow (1)	New packing (2)		Place in position.
17. Connector (3)	Elbow (1) with assembled parts	a.	Unplug connector (3).
		b.	Screw in and tighten to position noted during removal using 7/16-inch open-end wrench.
18. Elbow (1)	Nut (4)		Using 7/16-inch and 1/2-inch open-end wrenches, tighten.
19.	Brake oil line (5)		Screw on and tighten using 7/16-inch open-end wrench.
20. Elbow (6)	New packing (7)		Place in position.
21. Seat (8)	Elbow (6) with assembled parts	a.	Unplug seat (8).
		b.	Screw in and tighten to position noted during removal using 7/16-inch open-end wrench.
22. Elbow (6)	Nut (9)		Using 7/16-inch and 1/2-inch open-end wrenches, tighten.
23.	Brake oil line (5)		Screw on and tighten using 7/16-inch open-end wrench.

NOTE

Steps 24 and 25 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

24. Brake oil line (5)	Two clamps (10)		Place in position.
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LEFT SERVICE BRAKE LINE AND FITTINGS - CONTINUED

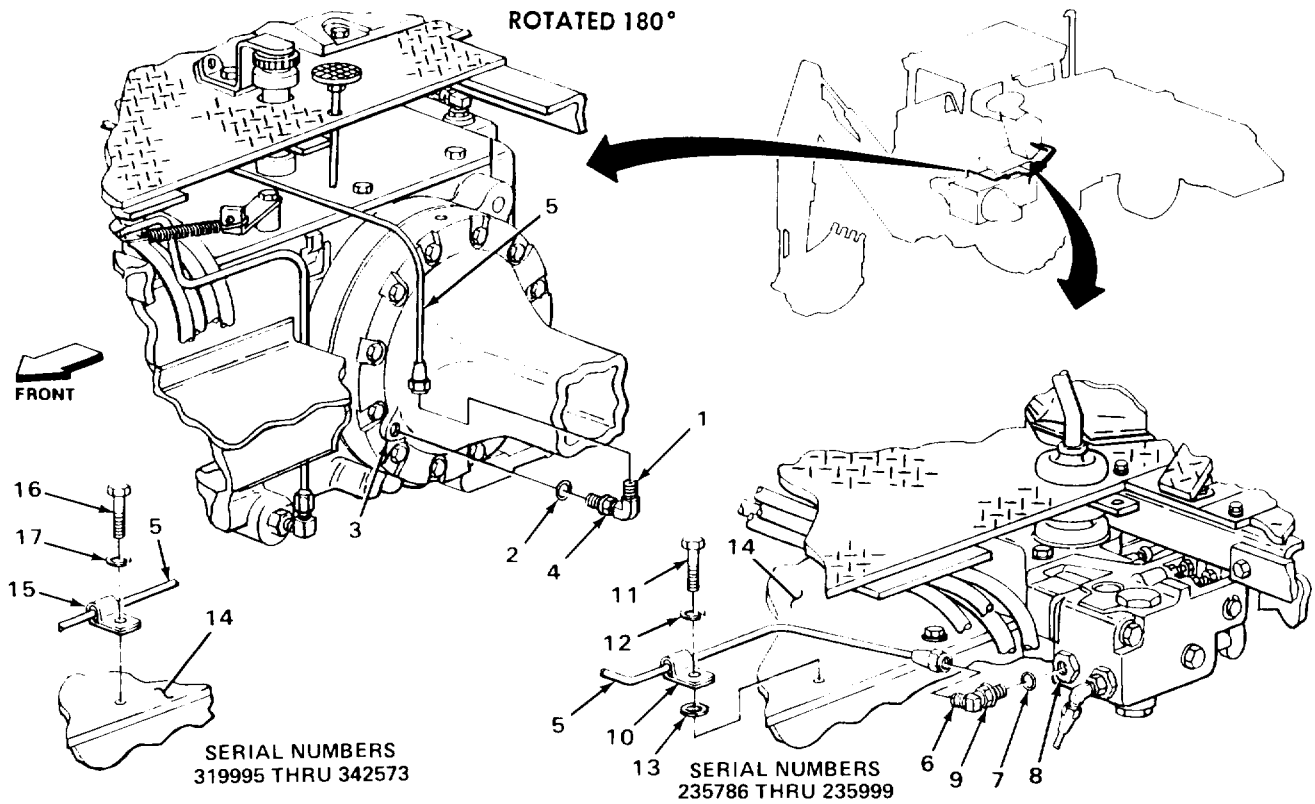
LOCATION	ITEM	ACTION	REMARKS
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25. Two clamps (10)	Two screws (11), new lockwashers (12), and washers (13)	Screw in and tighten using 9/16-inch, 3/8-inch drive socket and ratchet handle.	
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NOTE

Steps 26 and 27 only apply to loader backhoes with Serial Numbers 319995 thru 342573.

26. Transmission cover (14) and brake oil line (5)	Clamp (15)	Place in position.	
27. Transmission cover (14) and clamp (15)	Screw (16) and washer (17)	Screw in and tighten using 3/4-inch, 3/8-inch drive socket and ratchet handle.	



LEFT SERVICE BRAKE LINE AND FITTINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
28. Loader backhoe	Hydraulic brake system	Bleed (page 2-870).	Do not install right platform at this time.
29.	Right service brake lines and fittings	a Have assistant apply brakes (TM 5-2420-222-10).	b. Check for leaks. c. If leaking at any connection, tighten using 7/16-inch open-end wrench, or 7/16-inch and 1/2-inch open-end wrenches. d. If leaking does not stop, have assistant release brakes (TM 5-2420-222-10) and replace leaking connection packing, fitting, or line as outlined in this task. e. If still being applied, have assistant release brakes (TM 5-2420-222-10).

NOTE

FOLLOW-ON MAINTENANCE: Install right platform (page 2-1079).

TASK ENDS HERE

SERVICE BRAKE PEDALS**This task covers:**

- | | |
|--|------------------------------|
| a. Removal (page 2-892) | e. Assembly (page 2-894) |
| b. Disassembly (page 2-892) | f. Installation (page 2-895) |
| c. Cleaning (page 2-893) | g. Adjustment (page 2-896) |
| d. Inspection/Replacement (page 2-894) | |

INITIAL SETUP:

Tools

Bar, pry, 15 to 16-inch
 Extension, 3/8-inch drive, 5-inch
 Hammer, ball-peen, 1-pound head
 Hammer, plastic-faced
 Pliers, retaining ring
 Press, arbor
 Punch, straight drive-pin, 1/8-inch
 Punch, straight drive-pin, 1/4-inch
 Remover and installer, 0.6875-inch
 outside diameter
 Socket, 3/8-inch drive, 9/16-inch
 Vise, machinist's
 Wrench, open-end, 7/16-inch
 Wrench, open-end, 9/16-inch
 (two required)

Materials/Parts

Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)

Personnel Required

One

Equipment Condition

1. Right platform removed (page 2-1079)
2. Right inner platform ramp removed
(page 2-1095)

2-891

SERVICE BRAKE PEDALS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Union (1)	Line (2)	Using 7/16-inch open-end wrench, unscrew and take off.
2. Hydraulic cylinder (3) and shaft (4)	Ring (5)	Using retaining ring pliers, take off.
3. Hydraulic cylinder (3) and two brake pedals (6 and 7)	Shaft (4) with assembled retaining ring (8)	Using 1-pound head ball-peen hammer, 1/8-inch straight drive-pin punch, and 15 to 16-inch pry bar, take out.
4. Hydraulic cylinder (3) and two screws (9)	Two pedals (6 and 7) with assembled parts	Take out.
5. Shaft (4)	Ring (8)	Using retaining ring pliers, take off.
6. Hydraulic cylinder (3) and two screws (9)	Two nuts (10) loosen.	Using 9/16-inch open-end wrench,
7. Hydraulic cylinder (3)	Two screws (9) and nuts (10)	Using 9/16-inch, 3/8-inch drive socket, 5-inch extension, and ratchet handle, unscrew and take out.
DISASSEMBLY		
8. Two screws (9)	Two nuts (10)	Unscrew and take off.
9. Brake pedal (6), bar (11), and leaf spring (12)	Spring pin (13)	a. Position pedal (6) in machinist's vise. b. Using 1-pound head ball-peen hammer and 1/4-inch straight drive-pin punch, drive out.
10. Brake pedal (6)	Bar (11) and leaf spring (12)	a. Take out. b. Take pedal (6) out of machinist's vise.

CAUTION

Do not remove brake pedal bushings unless inspection shows need for replacement.

Removal may damage parts.

LOCATION	ITEM	ACTION	REMARKS
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NOTE

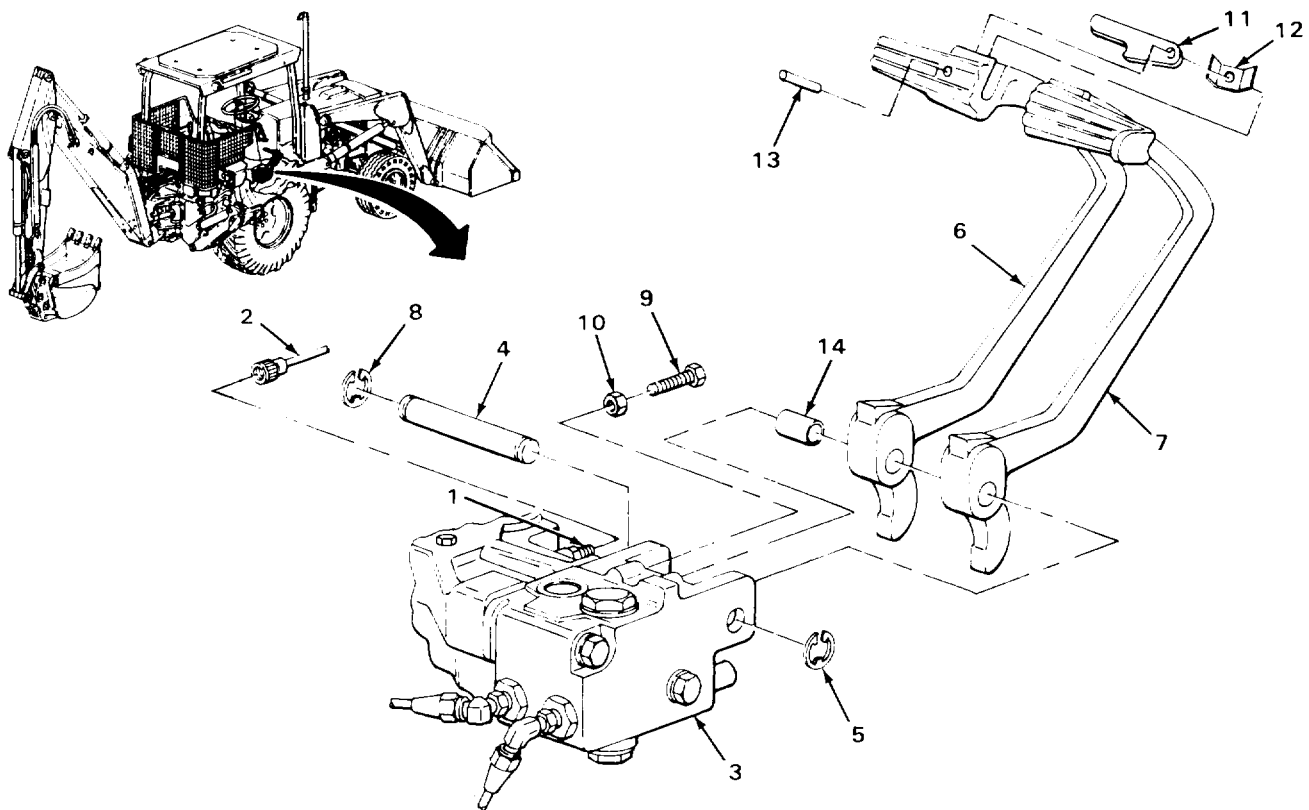
There are two brake pedal bushings, one is shown, repeat step 11 for other bushing, if needed.

11. Brake pedal (6 or 7)	Bushings (14)	a. Using 0.6875-inch outside diameter remover and installer and arbor press, press out. b. Repeat step a for other bushing, if needed.
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CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).



2-893

SERVICE BRAKE PEDALS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|-----|-----------|---|--|
| 12. | All parts | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. | |
|-----|-----------|---|--|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

- | | | | |
|-----|--------------------|--------------------------------------|--|
| 13. | Two bushings (1) | Look for cracks, breaks, and scores. | |
| 14. | All other parts | Look for cracks, bends, and breaks. | |
| 15. | All threaded parts | Look for damaged threads. | |

ASSEMBLY

NOTE

There are two brake pedal bushings, one is shown. Repeat step 16 for other bushing, if needed.

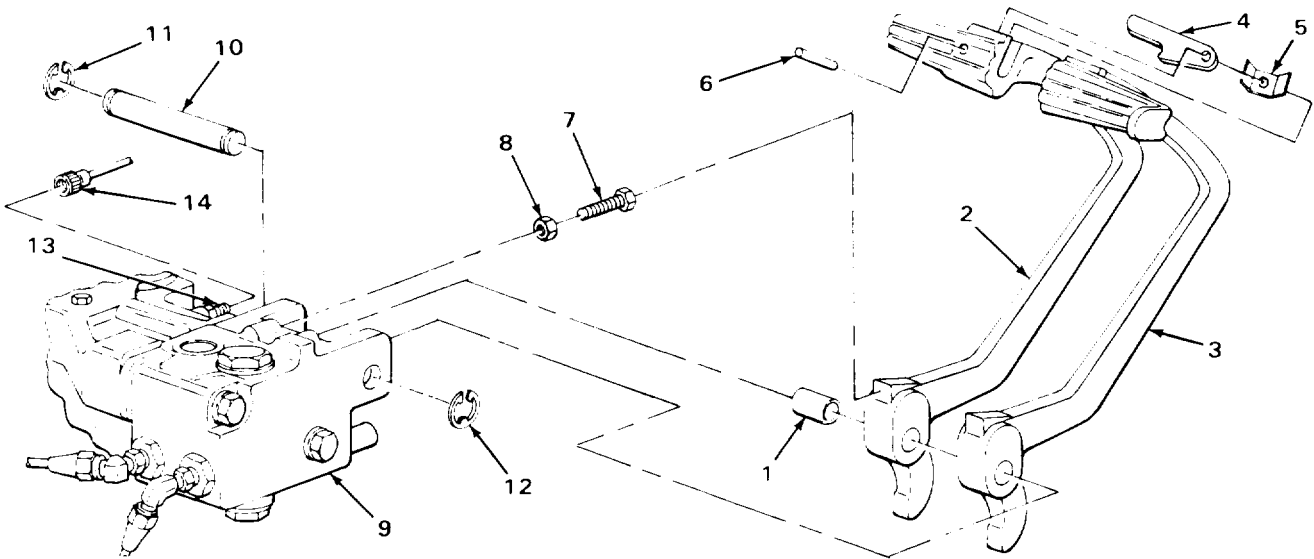
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|--------------------------|-----------------------------|---|--|
| 16. Brake pedal (2 or 3) | Bushings (1) | a. If removed, using 0.6875-inch outside diameter remover and installer and arbor press, press in.
b. If removed, repeat step a for other bushing. | |
| 17. Brake pedal (2) | Bar (4) and leaf spring (5) | a. Position pedal (2) in machinist's vise.
b. Place in position. | |

SERVICE BRAKE PEDALS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
18. Brake pedal (2), bar (4) and leaf spring (5)	Spring pin (6)	a. Aline pin holes in pedal (2), bar (4), and spring (5). b. Using 1-pound head ball-peen hammer, tap in. c. Take pedal (2) out of machinist's vise.	
19. Two screws (7)	Two nuts (8)	Screw on part way.	

INSTALLATION

20. Hydraulic cylinder (9)	Two screws (7) and nuts (8)	Screw in finger tight.	
21. Shaft (10)	Ring (11)	Using retaining ring pliers, place in position.	
22. Hydraulic cylinder (9)	Two brake pedals (2 and 3) with assembled parts	Place in position.	
23. Hydraulic cylinder (9) and two brake pedals (2 and 3)	Shaft (10) with assembled retaining ring (11)	a. Aline holes in hydraulic cylinder (9) and two pedals (2 and 3). b. Using plastic-faced hammer, tap in.	
24. Hydraulic cylinder (9) and shaft (10)	Ring (12)	Using retaining ring pliers, place in position.	
25. Union (13)	Line (14)	Screw on and tighten using 7/16-inch open-end wrench.	



SERVICE BRAKE PEDALS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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ADJUSTMENT

NOTE

Both brake pedal stop screws are adjusted the same way. One is shown. Repeat steps 26 thru 28 for other stop screw.

If adjustment is being made because of hydraulic cylinder replacement, bleed hydraulic brake system (page 2-870) before performing adjustment.

26. Hydraulic cylinder (1) and screw (2)	Nut (3)	If not already loose, using 9/16-inch open-end wrench, loosen.	
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CAUTION

Do not tighten stop screw so tight that brake piston moves, undue wear to brake system components may occur.

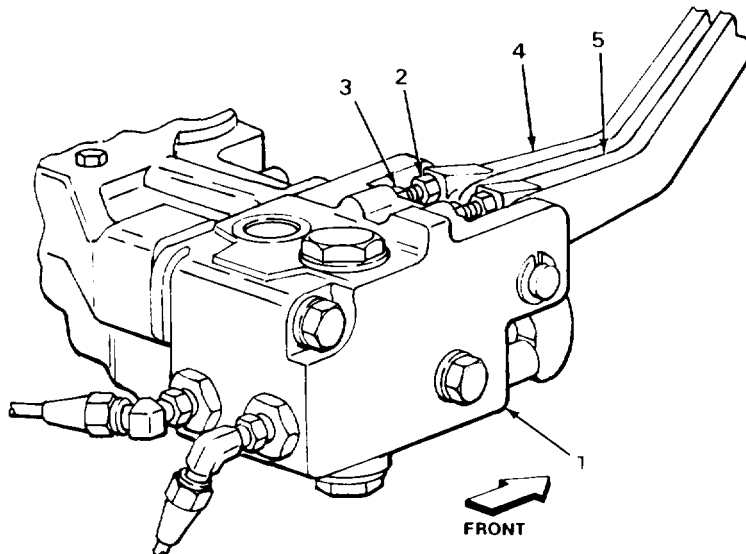
27. Hydraulic cylinder (1) and brake pedal (4 or 5)	Screw (2)	<ul style="list-style-type: none"> a. Using 9/16-inch open-end wrench screw in or out until pedal (4 or 5) being adjusted has no free travel. b. Apply light force to pedal (4 or 5) that is not being adjusted. Pedal that is being adjusted may start to settle. c. Using 9/16-inch open-end wrench, unscrew one-third turn. Pedal that is being adjusted should stop settling. d. Release pedal (4 or 5). 	
28. Hydraulic cylinder (1) and screw (2)	Nut (3)	<ul style="list-style-type: none"> a. Using two 9/16-inch open-end wrenches, tighten until seated against hydraulic cylinder (1). Do not allow brake pedal stop screw to turn or adjustment will be improper. b. Repeat steps 26 thru 28 for other brake pedal stop screw. 	

LOCATION	ITEM	ACTION	REMARKS
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NOTE

To aline brake pedals, perform steps 29 thru 31 on the highest brake pedal only. If brake pedals are alined, skip steps 29 thru 31.

29. Hydraulic cylinder (1) and screw (2)	Nut (3)	Using two 9/16-inch open-end wrenches, loosen.	Do not allow brake pedal stop screw to turn or adjustment will be improper.
30. Hydraulic cylinder (1) and brake pedal (4 or 5)	Screw (2)	Using 9/16-inch open-end wrench, unscrew up to one-third turn. Screw must not be unscrewed more than one-third turn to aline pedals.	



2-897

SERVICE BRAKE PEDALS - CONTINUED

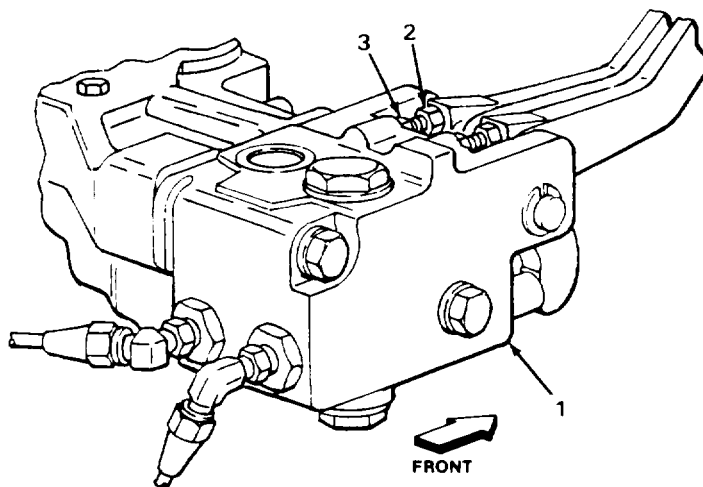
LOCATION	ITEM	ACTION	REMARKS
ADJUSTMENT - CONTINUED			
31. Hydraulic cylinder (1) and screw (2)	Nut (3)	Using two 9/16-inch open-end wrenches, tighten until seated against hydraulic cylinder (1).	Do not allow brake pedal stop screw to turn or adjustment will be improper.

INSTALLATION - CONTINUED

NOTE

FOLLOW-ON MAINTENANCE:

1. Install right inner platform ramp (page 2-1095).
2. Install right platform (page 2-1079).



TASK ENDS HERE

Section XV. WHEELS AND TRACKS

Page	Page		
Front Tire and Wheel Assemblies	2-899	Rear Tire and Wheel Assemblies	2-904
Front Wheel Bearings and Hubs	2-913		

FRONT TIRE AND WHEEL ASSEMBLIES

This task covers:

- | | |
|--|------------------------------|
| a. Removal (page 2-900) | d. Repair (page 2-902) |
| b. Cleaning (page 2-900) | e. Installation (page 2-902) |
| c. Inspection/Replacement (page 2-901) | |

INITIAL SETUP:

Tools

- Bar, pinch, 26-inch
- Blocks, wood
- Extension, 1/2-inch drive, 10-inch
- Handle, ratchet, 1/2-inch drive
- Jack, dolly type, hydraulic,
10-ton capacity
- Socket, 112-inch drive, 7/8-inch
- Trestle, motor vehicle,
5ton capacity
- Wrench, torque, 1/2-inch drive,
0 to 175 foot-pound capacity

Materials/Parts

- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)

Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
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NOTE

Loader backhoe has two front tire and wheel assemblies. Both are maintained the same way. Right front tire and wheel assembly is shown. Repeat procedures for left front tire and wheel assembly as needed.

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
<u>WARNING</u>			
Lift loader backhoe on level ground or it may become unstable. Place wood blocks in front of and behind rear tires to keep loader backhoe from rolling in either direction. Do not get under loader backhoe or place feet or hands under wheels when wheels are off ground unless loader backhoe is securely in place on trestles or severe injury may result. Do not support more than two wheels off ground at one time or loader backhoe may become unstable.			
1. Loader backhoe	Two rear tires (1)		Place wood blocks in front of and behind.
2. Hub (2) and wheel (3)	Eight hub bolts (4)		Using 7/8-inch, 1/2-inch drive socket, 10-inch extension, and ratchet handle, loosen.
3. Counterweight (5)	Front axle (6)	a.	Using 10-ton capacity hydraulic dolly type jack at counterweight (5), lift until front tire (7) is off ground.
		b.	Place 5-ton capacity motor vehicle trestle underneath set high enough to keep front tire (7) off ground when lowered.
		c.	Using 10-ton capacity hydraulic dolly type jack, lower onto 5-ton capacity motor vehicle trestle.
4. Hub (2) and wheel (3)	Eight hub bolts (4)		Using 7/8-inch, 1/2-inch drive socket, 10-inch extension, and ratchet handle, unscrew and take out.
5. Hub (2)	Wheel (3) with assembled tire (7)		Take off.

CLEANING**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

- | | | |
|----|---------------------------|---------------------------|
| 6. | Wheel with assembled tire | Clean (TM 9-2610-200-14). |
|----|---------------------------|---------------------------|

LOCATION	ITEM	ACTION	REMARKS
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WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

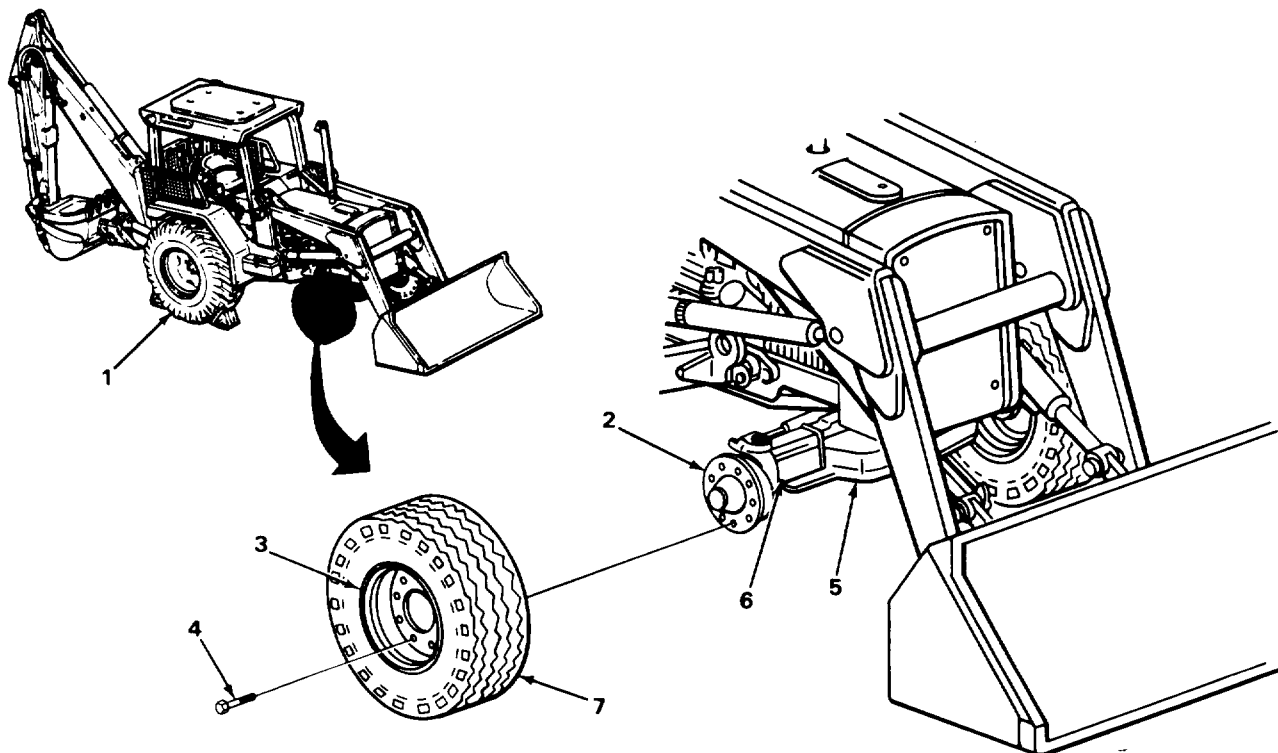
- | | | |
|----|---------------------|---|
| 7. | Eight hub bolts (4) | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. |
|----|---------------------|---|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

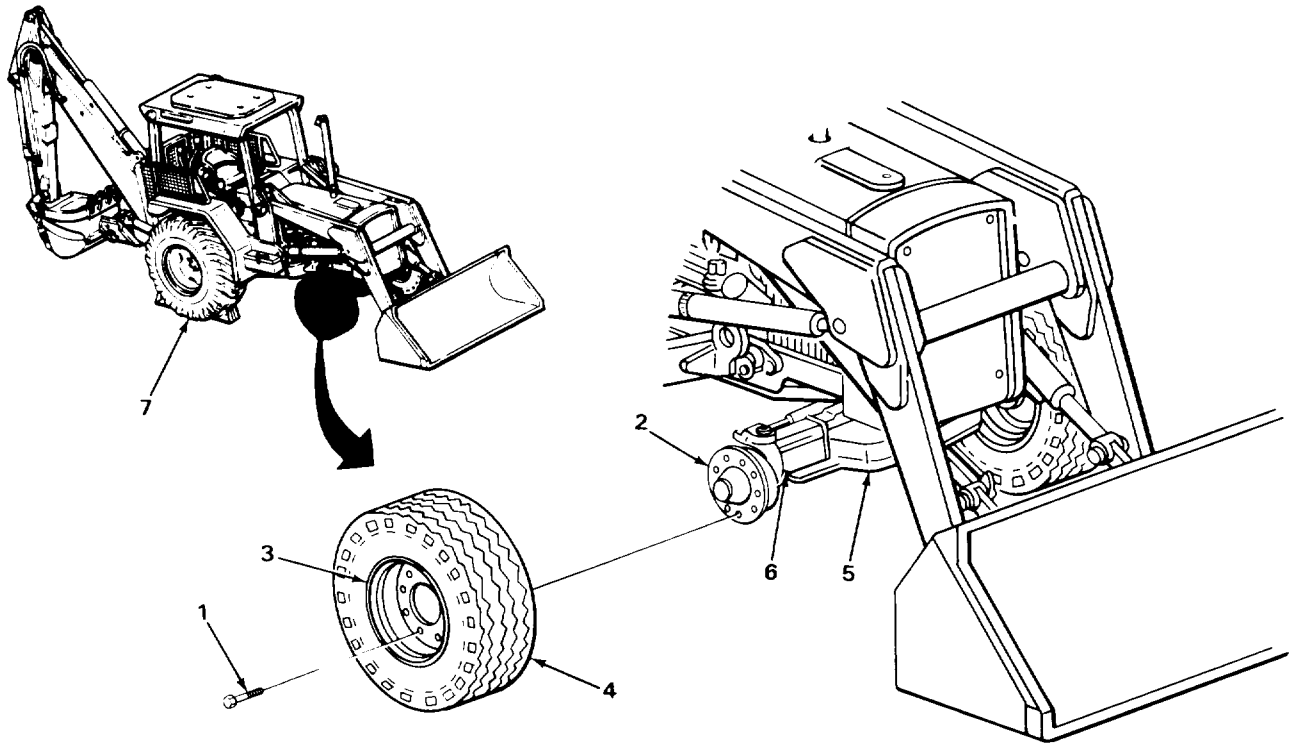


FRONT TIRE AND WHEEL ASSEMBLIES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT- CONTINUED			
8.	Wheel with assembled tire	Inspect (TM 9-2610-200-14).	
9.	Eight hub bolts (1)	Look for cracks, breaks, bends, and damaged threads	
REPAIR			
10.	Wheel with assembled tire	Repair (TM 9-2610-200-14).	
INSTALLATION			
11. Hub (2)	Wheel (3) with assembled tire (4)	a. Using 26-inch pinch bar, aline hub holes with wheel holes. b. Place in position.	
12. Hub (2) and wheel (3)	Eight hub bolts (1)	Screw in and tighten until snug using 7/8-inch, 1 1/2-inch drive socket, 10-Inch extension, and ratchet handle.	
WARNING			
Lift loader backhoe on level ground or it may become unstable. Place wood blocks in front of and behind rear tires to keep loader backhoe from rolling in either direction. Do not get under loader backhoe or place feet or hands under wheels when wheels are off ground unless loader backhoe is securely in place on trestles or severe injury may result. Do not support more than two wheels off ground at one time or loader backhoe may become unstable.			
13. Counterweight (5)	Front axle (6)	a. Using 10-ton capacity hydraulic dolly type jack at counter weight (5), lift off of 5-ton capacity motor vehicle trestle. b. Take 5-ton capacity motor vehicle trestle out from underneath. c. Using 10-ton capacity hydraulic dolly type jack, lower just enough to keep wheel (3) with assembled tire (4) from rotating.	

FRONT TIRE AND WHEEL ASSEMBLIES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
14. Hub (2) and wheel (3)	Eight hub bolts (1)	Using 7/8-inch, 1/2-inch drive socket, 10-inch extension, and 0 to 175 foot-pound capacity torque wrench, tighten to 90-110 foot-pounds (122-149 N.m) torque.
15. Front axle (6)	Counterweight (5)	<ul style="list-style-type: none"> a. Using 10-ton capacity hydraulic dolly type jack, lower all the way. b. Take 10-ton capacity hydraulic dolly type jack out from underneath.
16. Loader backhoe	Two rear tires (7)	Take wood blocks out from in front of and behind.



TASK ENDS HERE

REAR TIRE AND WHEEL ASSEMBLIES

This task covers:

- a. Removal (page 2-905)
- b. Cleaning (page 2-908)
- c. Inspection/Replacement (page 2-908)
- d. Repair (page 2-908)
- e. Installation (page 2-909)

INITIAL SETUP:

Tools

- Bar, pinch, 26-inch
- Blocks, wood
- Jack, dolly type, hydraulic, 10-ton capacity
- Trestle, motor vehicle, 5-ton capacity
- Truck, lift, wheel, 2400-pound capacity

NOTE

The following tools only apply to loader backhoes with Serial Number 235786 thru 235999.

- Extension, 1/2-inch drive, 10-inch
- Handle, ratchet, 1/2-inch drive
- Handle, hinged, 1/2-inch drive
- Wrench, torque, 1/2-inch drive, 0 to 175 foot-pound capacity

Tools - Continued

NOTE

The following tools only apply to loader backhoes with Serial Numbers 319995 thru 342573.

- Bar, torque wrench
- Extension, 3/4-inch drive, 8-inch
- Handle, ratchet, 3/4-inch drive
- Multiplier, torque wrench, 3/4-inch drive, 1200 foot-pound capacity
- Socket, 3/4-inch drive, 1 1/8-inch

Materials/Parts

- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)

Personnel Required

Two

LOCATION	ITEM	ACTION	REMARKS
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NOTE

Loader backhoe has two rear tire and wheel assemblies. Both are maintained the same way. Right rear tire and wheel assembly is shown. Repeat procedures for left side as needed.

REAR TIRE AND WHEEL ASSEMBLIES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

WARNING

Lift loader backhoe on level ground or it may become unstable. Place wood blocks in front of and behind front tires to keep loader backhoe from rolling in either direction. Do not get under loader backhoe or place feet or hands under wheels when wheels are off ground unless loader backhoe is securely in place on trestles or severe injury may result. Do not support more than two wheels off ground at one time or loader backhoe may become unstable.

- | | | |
|-------------------|---------------------|---|
| 1. Loader backhoe | Two front tires (1) | Place wood blocks in front of and behind. |
|-------------------|---------------------|---|

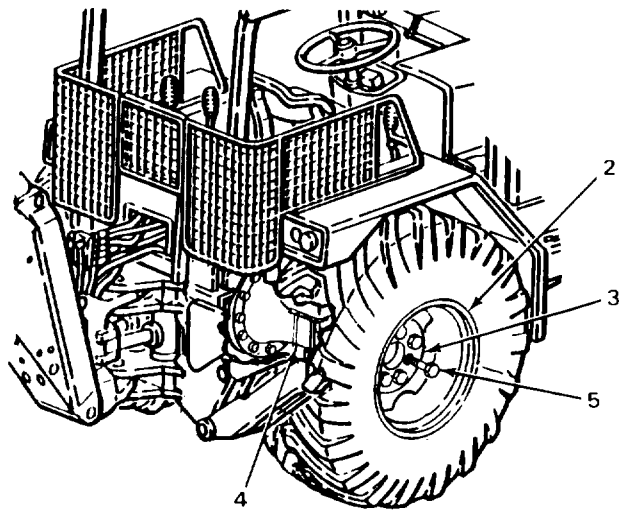
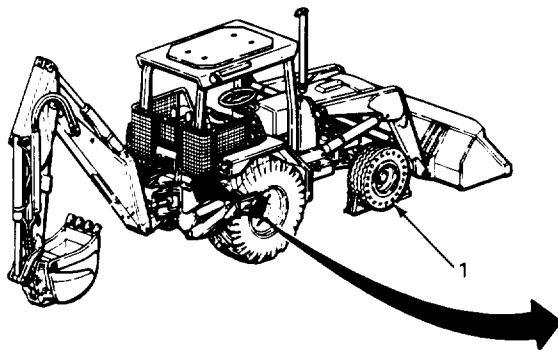
NOTE

Step 2 only applies to loader backhoes with Serial Number 235786 thru 235999.

- | | | |
|---|------------------|--|
| 2. Rim (2), reinforcing ring (3), and rear axle shaft (4) | Eight screws (5) | Using 1/2-inch drive, 13/16-inch socket, 10-inch extension, and hinged handle, loosen. |
|---|------------------|--|

NOTE

Step 3 only applies to loader backhoes with Serial Numbers 31995 thru 342573.



REAR TIRE AND WHEEL ASSEMBLIES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL - CONTINUED

- | | | | |
|--------------------------------------|------------------|--|--|
| 3. Wheel (1) and rear axle shaft (2) | Eight screws (3) | Using 1200 foot-pound capacity, 3/4-inch drive torque wrench multiplier, 8-inch extension, 1 1/8-inch socket, and torque wrench bar, loosen. | |
|--------------------------------------|------------------|--|--|

WARNING

Lift loader backhoe on level ground or it may become unstable. Place wood blocks in front of and behind front tires to keep loader backhoe from rolling in either direction. Do not get under loader backhoe or place feet or hands under wheels when wheels are off ground unless loader backhoe is securely in place on trestles or severe injury may result. Do not support more than two wheels off ground at one time or loader backhoe may become unstable.

- | | | | |
|--------------------------|---------------------|--|--|
| 4. Rear axle housing (4) | Rear axle shaft (2) | <ul style="list-style-type: none"> a. Using 10-ton capacity hydraulic dolly type jack, lift at housing (4) until rear tire (5) is off ground. b. Place 5-ton capacity motor vehicle trestle underneath, set high enough to keep rear tire (5) off ground when lowered. c. Using 10-ton capacity hydraulic dolly type jack, lower onto 5-ton capacity motor vehicle trestle. | |
|--------------------------|---------------------|--|--|

WARNING

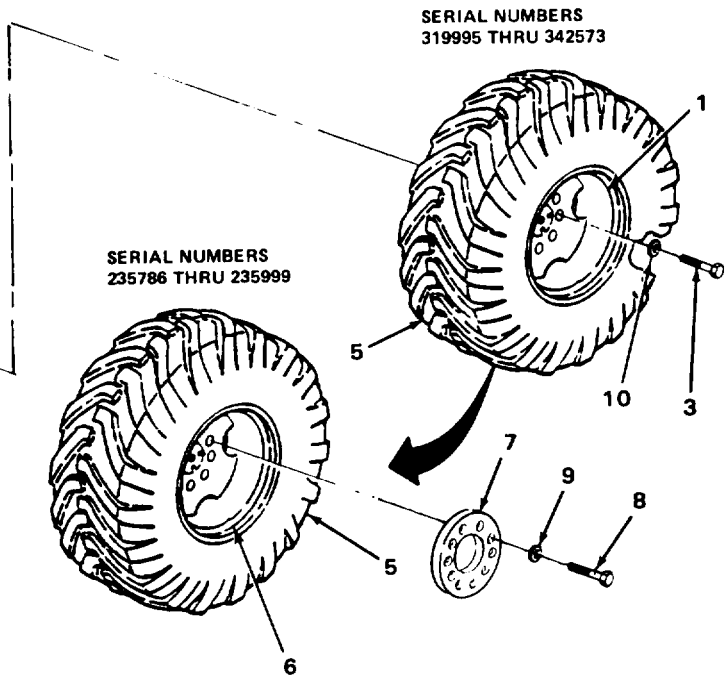
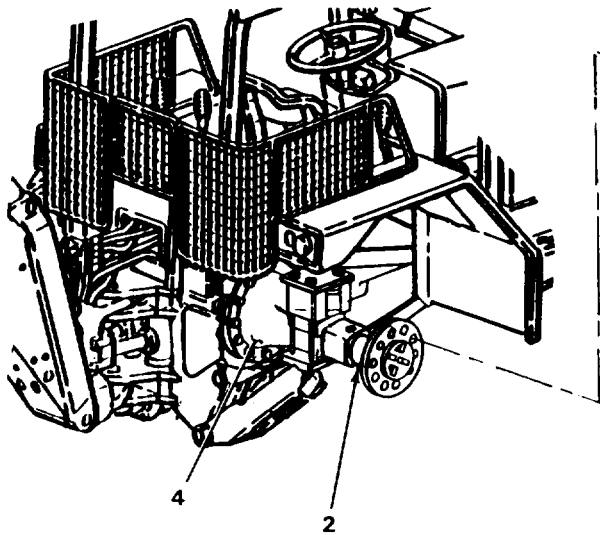
Some parts are heavy. Be careful when handling them. Lifting equipment is needed when parts weigh over 50 pounds (23 kg) for a single person lift, over 100 pounds (45 kg) for a two person lift, and over 150 pounds (68 kg) for a three or more person lift. Do not try to handle heavy parts without lifting equipment. Keep clear of heavy parts supported only by lifting equipment. Failure to observe this precaution could cause serious injury or death of personnel.

NOTE

Steps 5 and 6 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

- | | | | |
|--|----------------------------------|--|--|
| 5. Rim (6), reinforcing ring (7) and rear axle shaft (2) | Eight screws (8) and washers (9) | <ul style="list-style-type: none"> a. Using 2400-pound lifting capacity wheel lift truck, support rim (6) and tire (5). b. Using 13/16-inch, 1/2-inch drive socket, 10-inch extension, and ratchet handle, unscrew and take out. | |
|--|----------------------------------|--|--|

LOCATION	ITEM	ACTION	REMARKS
6. Rim (6)	Reinforcing ring (7)	Take off.	
NOTE			
Step 7 only applies to loader backhoes with Serial Numbers 319995 thru 342573.			
7. Wheel (1) and rear axle shaft (2)	Eight screws (3) and washers (10)	a. Using 2400-pound lifting capacity wheel lift truck, support wheel (1) and tire (5). b. Using 1 118-inch, 314-inch drive socket, 8inch extension, and ratchet handle, unscrew and take out.	
8. Rear axle shaft (2)	Wheel (1) or rim (6) with assembled tire (5)	With help from assistant, using 2400-pound lifting capacity wheel lift truck, take off.	



REAR TIRE AND WHEEL ASSEMBLIES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

9.	Wheel or rim with assembled tire	Clean (TM 9-2610-200-14).	
----	----------------------------------	---------------------------	--

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

10.	All other metal parts	a. Clean in drycleaning solvent. b. Using clean, dry rag, wipe dry.	
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INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

11.	Wheel or rim with assembled tire.	Inspect (TM 9-2610-200-14).	
12.	All other metal parts.	Look for cracks, bends, and breaks.	
13.	All threaded parts	Look for damaged threads.	

REPAIR

14.	Wheel or rim with assembled tire.	Repair (TM 9-2610-200-14).	
-----	-----------------------------------	----------------------------	--

REAR TIRE AND WHEEL ASSEMBLIES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION

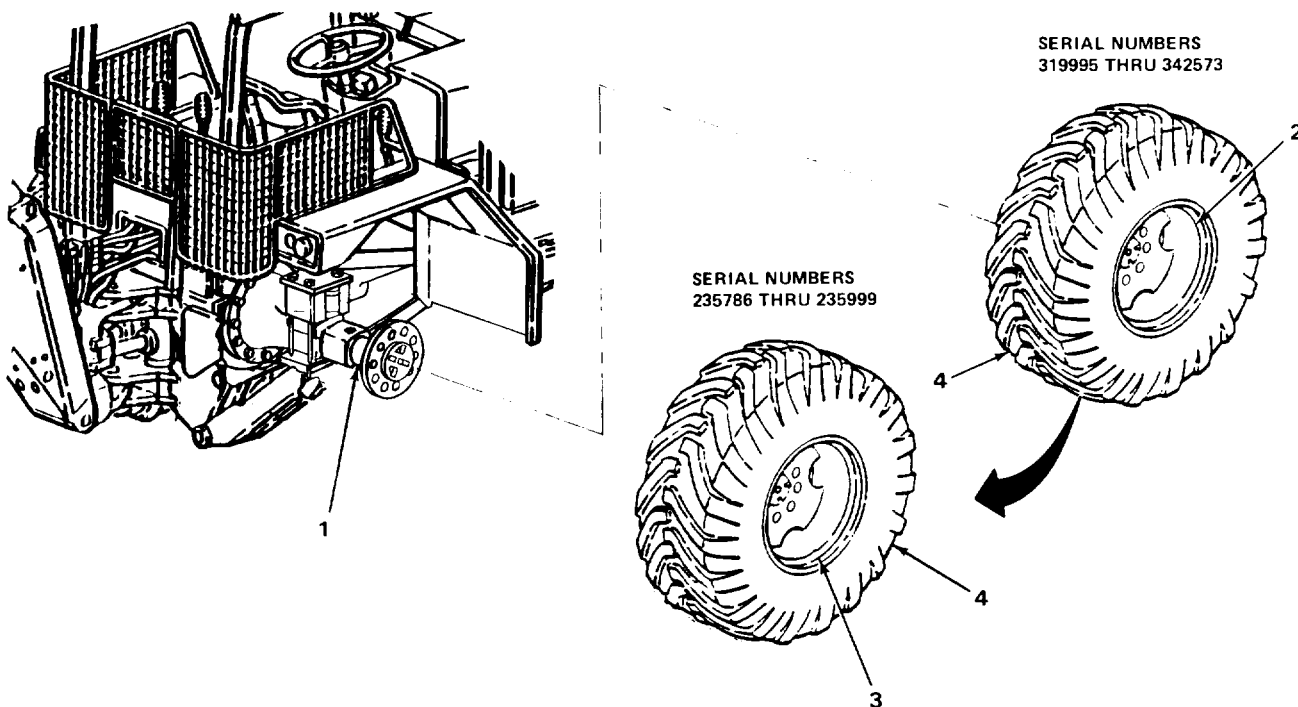
WARNING

Some parts are heavy. Be careful when handling them. Lifting equipment is needed when parts weigh over 50 pounds (23 kg) for a single person lift, over 100 pounds (45 kg) for a two person lift, and over 150 pounds (68 kg) for a three or more person lift. Do not try to handle heavy parts without lifting equipment. Keep clear of heavy parts supported only by lifting equipment. Failure to observe this precaution could cause serious injury or death of personnel.

- | | | |
|-------------------------|--|--|
| 15. Rear axle shaft (1) | Wheel (2) or rim (3) with assembled tire (4) | With help from assistant, using 2400-pound lifting capacity wheel lift truck, place in position. |
|-------------------------|--|--|

NOTE

Steps 16 and 17 only apply to loader backhoes with Serial Numbers 235786 thru 235999.



REAR TIRE AND WHEEL ASSEMBLIES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
16. Rim (1)	Reinforcing ring (2)	Place in position.	
<u>CAUTION</u>			
Screw holes in rear axle shaft, reinforcing ring, and threads on capscrews must be free of dirt, grease, and oil or screws may not hold torque.			
17. Rim (1), rear axle shaft (3), and reinforcing ring (2)	Eight washers (4) and screws (5)	a. If necessary, using 26-inch pinch bar, align screw holes. b. Screw in and tighten until snug using 13/16-inch, 1/2-inch drive socket, 10-inch extension, and ratchet handle.	
<u>CAUTION</u>			
Screw holes in rear axle shaft and threads on capscrews must be free of dirt, grease, and oil or screws may not hold torque.			
NOTE			
Step 18 only applies to loader backhoes with Serial Numbers 319995 thru 342573.			
18. Wheel (6) and rear axle shaft (3)	Eight washers (7) and screws (8)	a. If necessary, using 26-inch pinch bar, align screw holes. b. Screw in and tighten until snug using 1 1/8-inch, 3/4-inch drive socket, 8-inch extension, and ratchet handle.	
19. Rear axle housing (9)	Rear axle shaft (3)	a. Using 10-ton capacity hydraulic dolly type jack at housing (9), lift off of 5-ton capacity motor vehicle trestle. b. Take 5-ton capacity motor vehicle trestle out from underneath. c. Using 10-ton capacity hydraulic dolly type jack, lower just enough to keep wheel (6) or rim (1) with assembled tire (10) from rotating.	

REAR TIRE AND WHEEL ASSEMBLIES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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NOTE

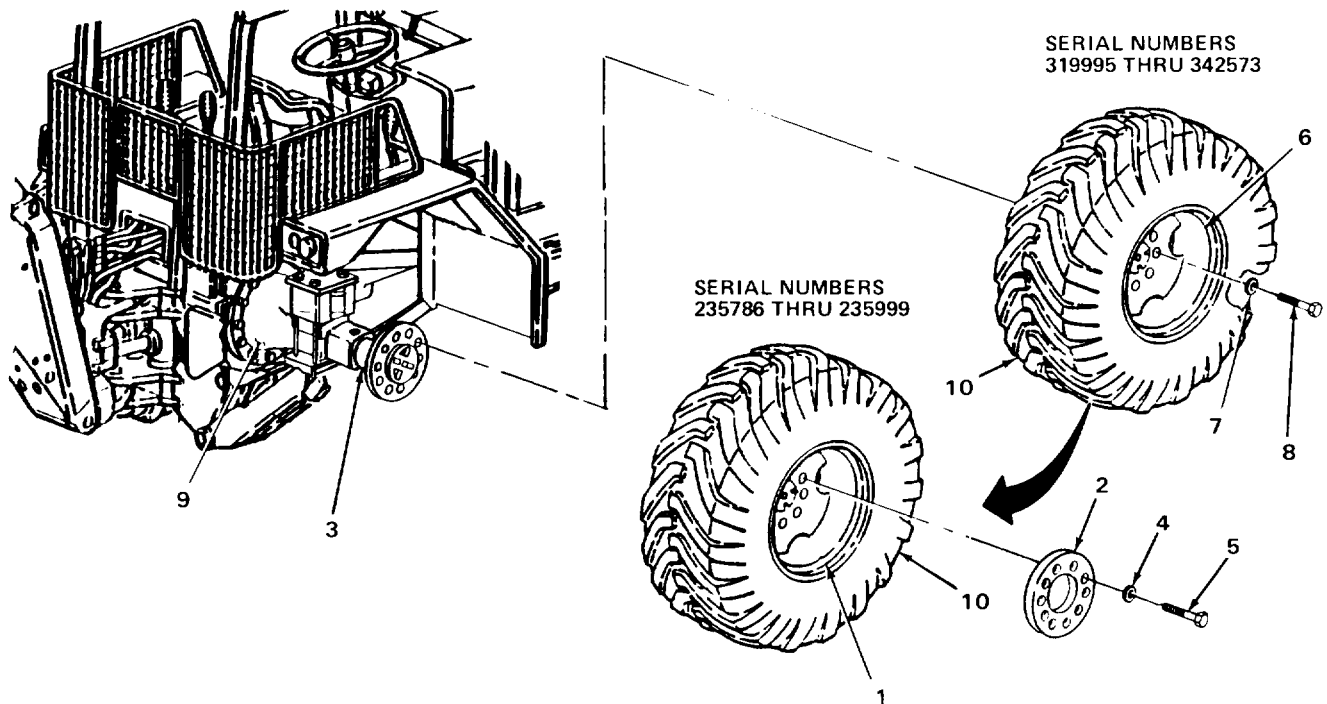
Step 20 only applies to loader backhoe with Serial Numbers 235786 thru 235999.

20. Rim (1), reinforcing	Eight screws (5) ring (2), and rear axle shaft (3)		Using 13/16-inch, 1/2-inch drive socket, 10-inch extension, and 0 to 175 foot- pound capacity torque wrench, tighten alternately to 175 foot-pounds (238 N.m) torque.
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NOTE

Step 21 only apply to loader backhoe with Serial Numbers 319995 thru 342573.

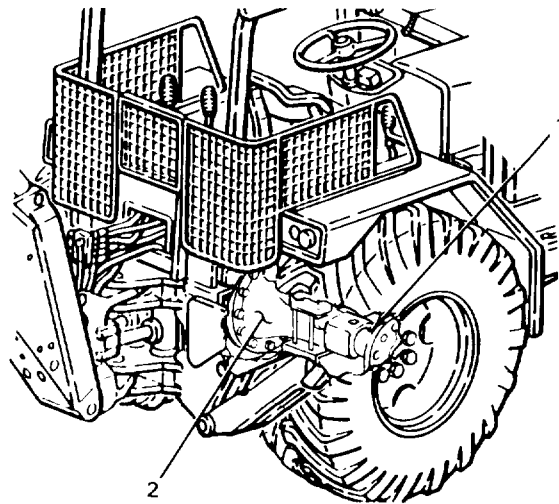
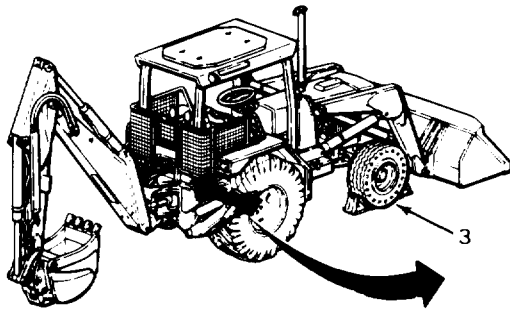
21. Wheel (6), and rear axle shaft (3)	Eight screws (8)		Using 1200 foot-pound capacity 3/4-inch drive torque wrench multiplier, 8-inch extension, 1 1/8-inch socket and torque wrench bar, tighten alternately to 425 foot-pounds (576 N.m) torque.
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TA243163

REAR TIRE AND WHEEL ASSEMBLIES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
22. Rear axle shaft (1)	Rear axle housing (2)	a. Using 10-ton capacity hydraulic dolly type jack, lower all the way. b. Take 10-ton capacity hydraulic dolly type jack out from underneath.	
23. Loader backhoe	Two front tires (3)	Take wood blocks out from in front of and behind.	



TA243164

FRONT WHEEL BEARINGS AND HUBS

This task covers:

- | | |
|-----------------------------------|------------------------------|
| a. Removal (page 2-914) | e. Repair (page 2-918) |
| b. Disassembly (page 2-916) | f. Assembly (page 2-919) |
| c. Cleaning (page 2-918) | g. Installation (page 2-920) |
| d. Inspection/Replacement (2-918) | h. Adjustment (page 2-920) |
-

INITIAL SETUP

Tools

Blocks, wood
 Chisel, cold, 1/2-inch
 Driftpin, brass tipped, 3/4-inch
 Extension, 1/2-inch drive, 10-inch
 Hammer, ball-peen, 1-pound head
 Handle, ratchet, 1/4-inch drive
 Handle, ratchet, 3/4-inch drive
 Jack, dolly type, hydraulic,
 10-ton capacity
 Pliers, slip-joint
 Puller, mechanical, gear and
 bearing, 5 1/2-inch reach
 Socket, 1/4-inch drive, 5/16-inch
 Socket, 1/2-inch drive, 7/8-inch
 Socket, 3/4-inch drive, 1 1/2-inch
 Threading set, screw
 Trestle, motor vehicle, 5-ton
 capacity, (two required)
 Wrench, torque, 1/2-inch drive,
 0 to 175 foot-pound capacity
 Wrench, torque, 3/4-inch drive,
 0 to 600 foot-pound capacity

NOTE

The following tools only apply to loader backhoes with Serial Numbers 235786 thru 235999.

Handle, ratchet, 1/2-inch drive
 Knife, pocket
 Socket, 112-inch drive, 5/16-inch
 Socket, 112-inch drive, 1/2-inch

Tools - Continued

NOTE

The following tool only applies to loader backhoes with Serial Numbers 319995 thru 342576.

Key, socket-head screw, 1/4-inch

Materials/Parts

Fitting, lubrication (item 10, Appendix C)
 (as required)
 Grease (LO 5-2420-222-12)
 Pin, cotter
 Rags, wiping (item 21, Appendix C)
 Seal, plain encased
 Solvent, drycleaning (item 28, Appendix C)

NOTE

The following part only applies to loader backhoes with Serial Numbers 235786 thru 235999.

Gasket, lub cap

Personnel Required

One

FRONT WHEEL BEARINGS AND HUBS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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NOTE

Loader backhoe has front wheel bearings and hubs for both front tire and wheel assemblies. Both sides are maintained the same way. Left side is shown. Repeat procedures for right side as needed.

REMOVAL

- | | | | |
|----|----------------|--|----------------------|
| 1. | Loader backhoe | Front tire and wheel assembly where maintenance is to be performed | Remove (page 2-899). |
|----|----------------|--|----------------------|

NOTE

Steps 2 and 3 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

- | | | | |
|----|-------------------------|--|---|
| 2. | Hub (1) and hub cap (2) | Three screws (3) and washers (4) | Using 1/2-inch, 1/2-inch drive socket and ratchet handle, unscrew and take out. |
| 3. | Hub (1) | Hub cap (2) with assembled part and hub cap gasket (5) | a. Take off.
b. Get rid of gasket (5). |

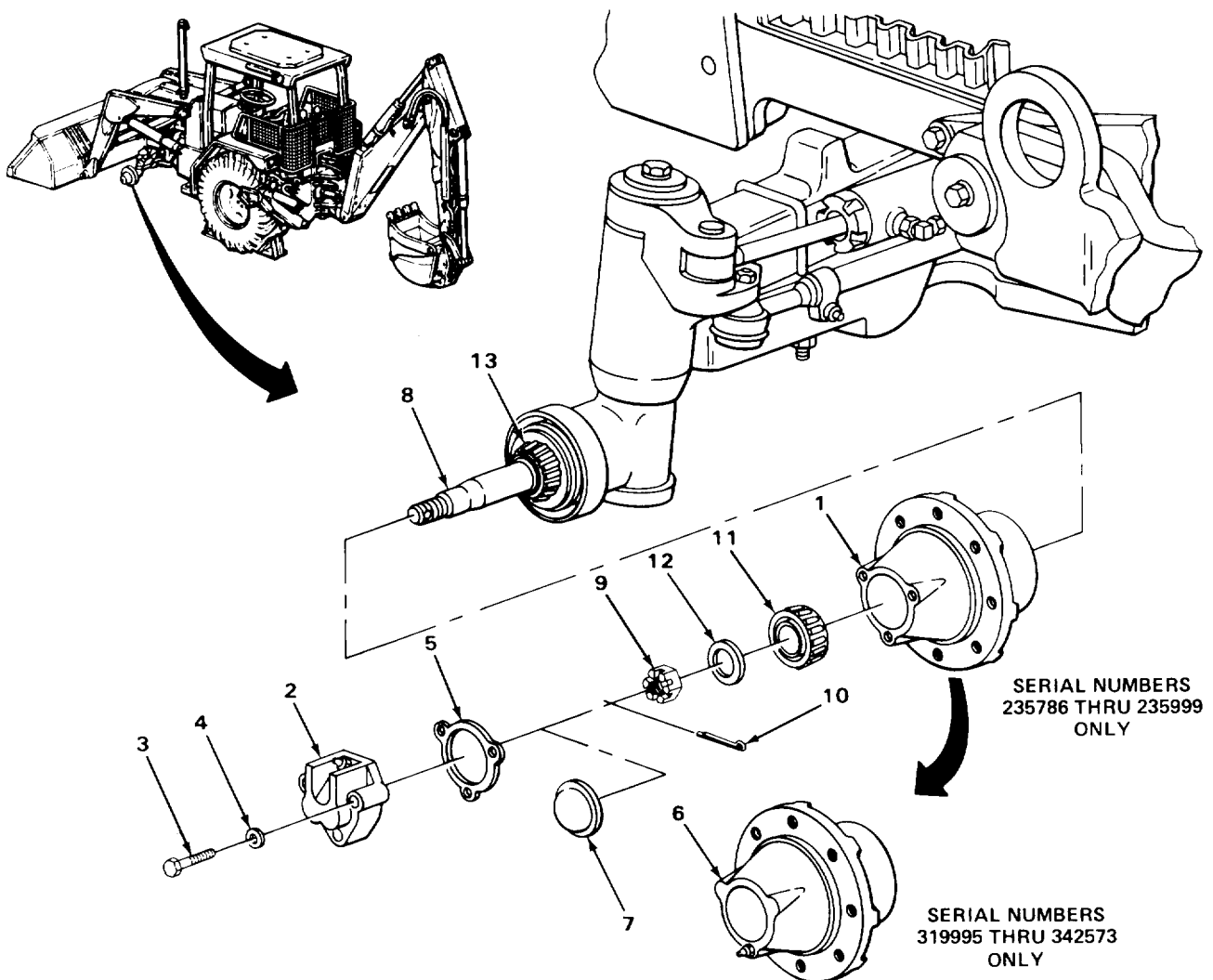
NOTE

Step 4 only applies to loader backhoes with Serial Numbers 319995 thru 342573.

- | | | | |
|----|--|--|---|
| 4. | Hub (6) | Hub cap (7) | Using 1-pound head ball-peen hammer and 1/2-inch cold chisel, tap off. |
| 5. | Wheel spindle (8) and slotted nut (9) | Cotter pin (10) | a. Using slip-joint pliers, straighten ends and take out.
b. Get rid of. |
| 6. | Wheel spindle (8) and outer bearing (11) | Slotted nut (9) and special washer (12) | Using 1 1/2-inch, 3/4-inch drive socket and ratchet handle, unscrew and take off. |
| 7. | Wheel spindle (8) and inner bearing (13) | Hub (1 or 6) with assembled parts and outer bearing (11) | Move part way off to loosen bearing (11). |

FRONT WHEEL BEARINGS AND HUBS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
8.	Hub (1 or 6) with assembled parts	Push back on.	
9.	Wheel spindle (8)	Take off.	
10.	Wheel spindle (8) and inner bearing (13)	Take off.	



FRONT WHEEL BEARINGS AND HUBS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
11.	Wheel spindle (1)	Inner bearing (2) with assembled seal cup (3) if present	Take off.
12.		Plain seal (4)	a. Using 1-pound head ball-peen hammer and 1/2-inch cold chisel, tap off. b. Get rid of.
DISASSEMBLY			
NOTE			
Some loader backhoes are equipped with seal cup, some are not. Step 13 only applies to loader backhoes equipped with seal cup.			
13.	Inner bearing (2)	Seal cup (3)	Take off.
NOTE			
Steps 14 and 15 only apply to loader backhoes with Serial Numbers 235786 thru 235999.			
Some loader backhoes are equipped with lubrication fitting, some with pipe plug. Lubrication port plug will be replaced with new lubrication fitting during assembly.			
14.	Hub cap (5)	Pipe plug (6)	a. For loader backhoes equipped with pipe plug, using 5/16-inch, 1/2-inch drive socket and ratchet handle, unscrew and take out. b. Get rid of.
15.		Lubrication fitting (7)	For loader backhoes equipped with lubrication fitting, using 5/16-inch, 1/4-inch drive socket and ratchet handle, unscrew and take out.
16.	Hub (8 or 9)	Outer cup (10) and inner cup (11)	Using 5 1/2-inch reach gear and bearing mechanical puller, take out.

FRONT WHEEL BEARINGS AND HUBS - CONTINUED

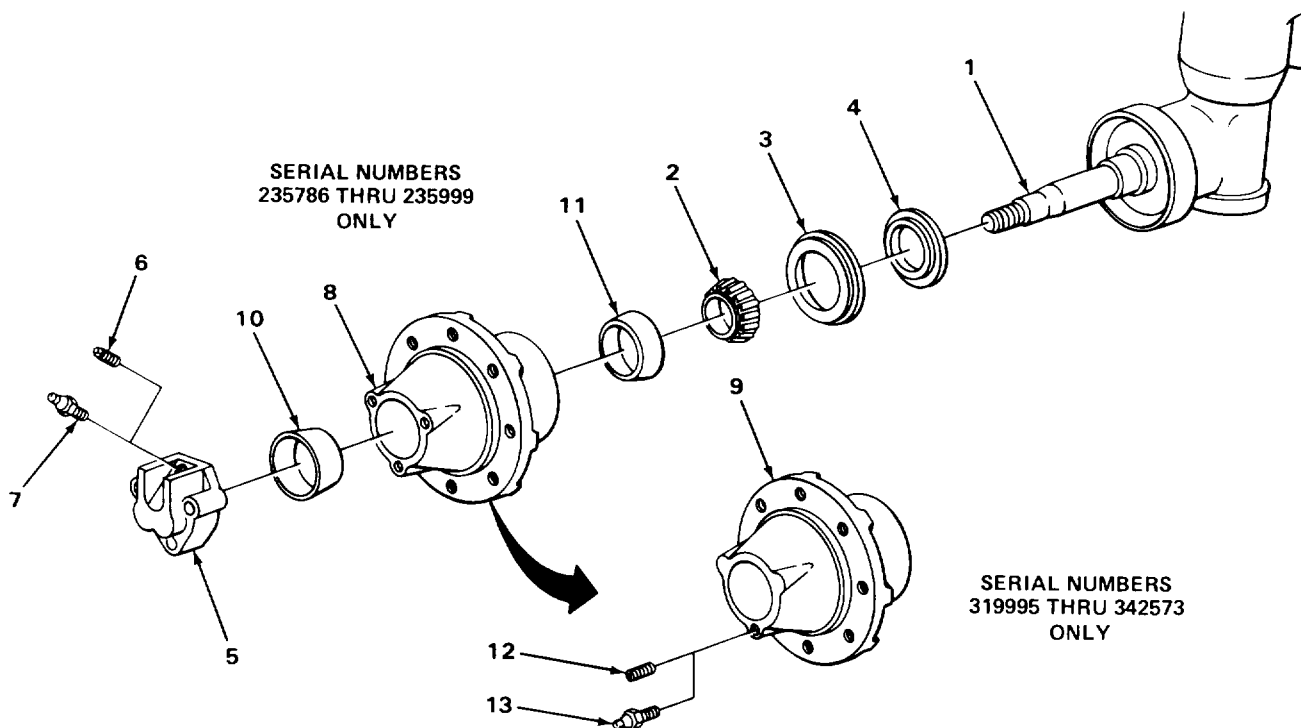
LOCATION	ITEM	ACTION	REMARKS
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NOTE

Steps 17 and 18 only apply to loader backhoes with Serial Numbers 319995 thru 342576.

Some loader backhoes are equipped with lubrication fitting, some with socket-head screw. Lubrication port socket-head screw will be replaced with new lubrication fitting during assembly.

- | | | |
|-------------|--------------------------|---|
| 17. Hub (9) | Socket-head screw (12) | <ul style="list-style-type: none"> a. For loader backhoes equipped with socket-head screw, using 1/4-inch socket-head screw key, unscrew and take out. b. Get rid of. |
| 18. | Lubrication fitting (13) | For loader backhoes equipped with lubrication fittings, using 5/16-inch, 1/4-inch drive socket and ratchet handle, unscrew and take out. |



FRONT WHEEL BEARINGS AND HUBS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

- | | | | |
|-----|--------------|-------------------|--|
| 19. | All bearings | Clean (TM 9-214). | |
|-----|--------------|-------------------|--|

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 138°F (38° to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|-----|------------------------------------|---|--|
| 20. | All metal parts
except bearings | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. | |
|-----|------------------------------------|---|--|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

- | | | | |
|-----|--------------------------|---|--|
| 21. | All bearings | Inspect (TM 9-214). | |
| 22. | All other metal
parts | Look for cracks, bends, and breaks. | |
| 23. | All threaded parts | Look for cracks, bends, breaks, and
damaged threads. | |

REPAIR

- | | | | |
|-----|---|--|--|
| 24. | All threaded parts
except attaching
hardware. | If threads are damaged, using screw
threading set, restore threads. | |
|-----|---|--|--|

FRONT WHEEL BEARINGS AND HUBS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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ASSEMBLY

NOTE

Step 25 only applies to loader backhoes with Serial Numbers 235786 thru 235999.

Replace lubrication port plug with new lubrication fitting during assembly.

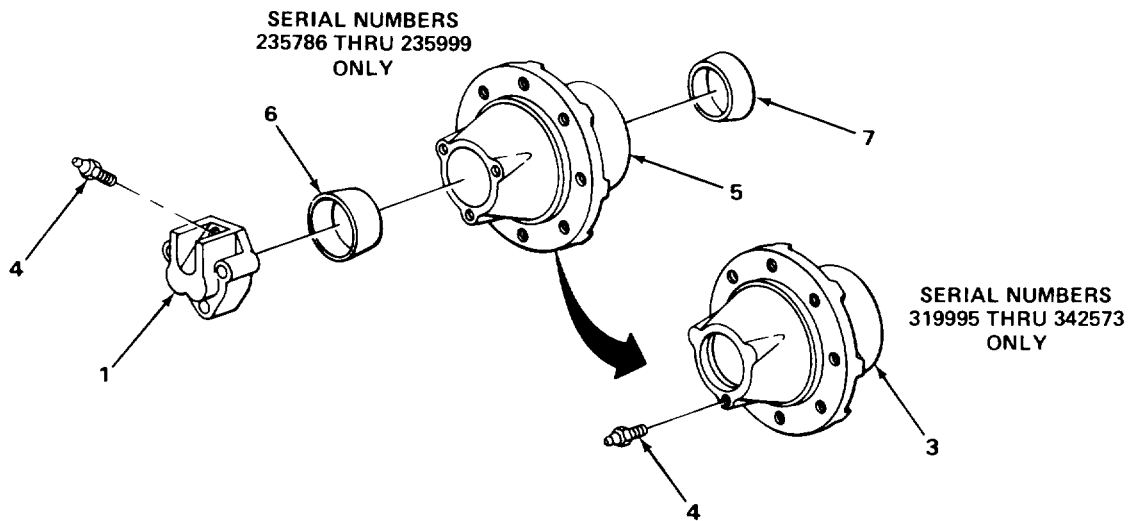
25. Hub cap (1)	Lubrication fitting (2)	Screw in and tighten using 5/16-inch, 1/2-inch drive socket and ratchet handle.
-----------------	-------------------------	---

NOTE

Step 26 only applies to loader backhoes with Serial Numbers 319995 thru 342576.

Replace lubrication port socket-head screw with new lubrication fitting during assembly.

26. Hub (3)	Lubrication fitting (4)	Screw in and tighten using 5/16-inch, 1/4-inch drive socket and ratchet handle.
27. Hub (3 or 5)	Outer cup (6) and inner cup (7)	Using 1-pound head ball-peen hammer and 3/4-inch brass-tipped driftpin, tap in.



FRONT WHEEL BEARINGS AND HUBS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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ASSEMBLY - CONTINUED

NOTE

Some loader backhoes are equipped with seal cup, some are not. Step 28 only applies to loader backhoes equipped with seal cup.

- | | | | |
|-----|-------------------|--------------|--|
| 28. | Inner bearing (1) | Seal cup (2) | a. Lubricate with grease.
b. Place in position. |
|-----|-------------------|--------------|--|

INSTALLATION

- | | | | |
|-----|---|--|---|
| 29. | Wheel spindle (3) | New plain seal (4) | Place in position. |
| 30. | | Inner bearing (1) with assembled seal cup (2) if present | a. Pack with grease (TM 9-214).
b. Place in position. |
| 31. | Wheel spindle (3) and inner bearing (1) | Hub (5 or 6) with assembled parts | Place in position. |
| 32. | Wheel spindle (3) and outer cup (7) | Outer bearing (8) | a. Pack with grease (TM 9-214).
b. Place in position. |
| 33. | Wheel spindle (3) and outer bearing(8) | Special washer (9) and slotted nut (10) | Screw on and tighten until snug using 1 1/2-inch, 3/4-inch drive socket and ratchet handle. |

NOTE

Only perform the following at location where maintenance is being performed.

- | | | | |
|-----|----------------|-------------------------------|--|
| 34. | Loader backhoe | Front tire and wheel Assembly | Install (page 2-899).
Leave loader backhoe up on 5-ton capacity motor vehicle trestles. Do not tighten hub bolts to specified torque at this time. |
|-----|----------------|-------------------------------|--|

ADJUSTMENT

NOTE

Steps 35 thru 40 only apply when adjustment is only part of task performed.

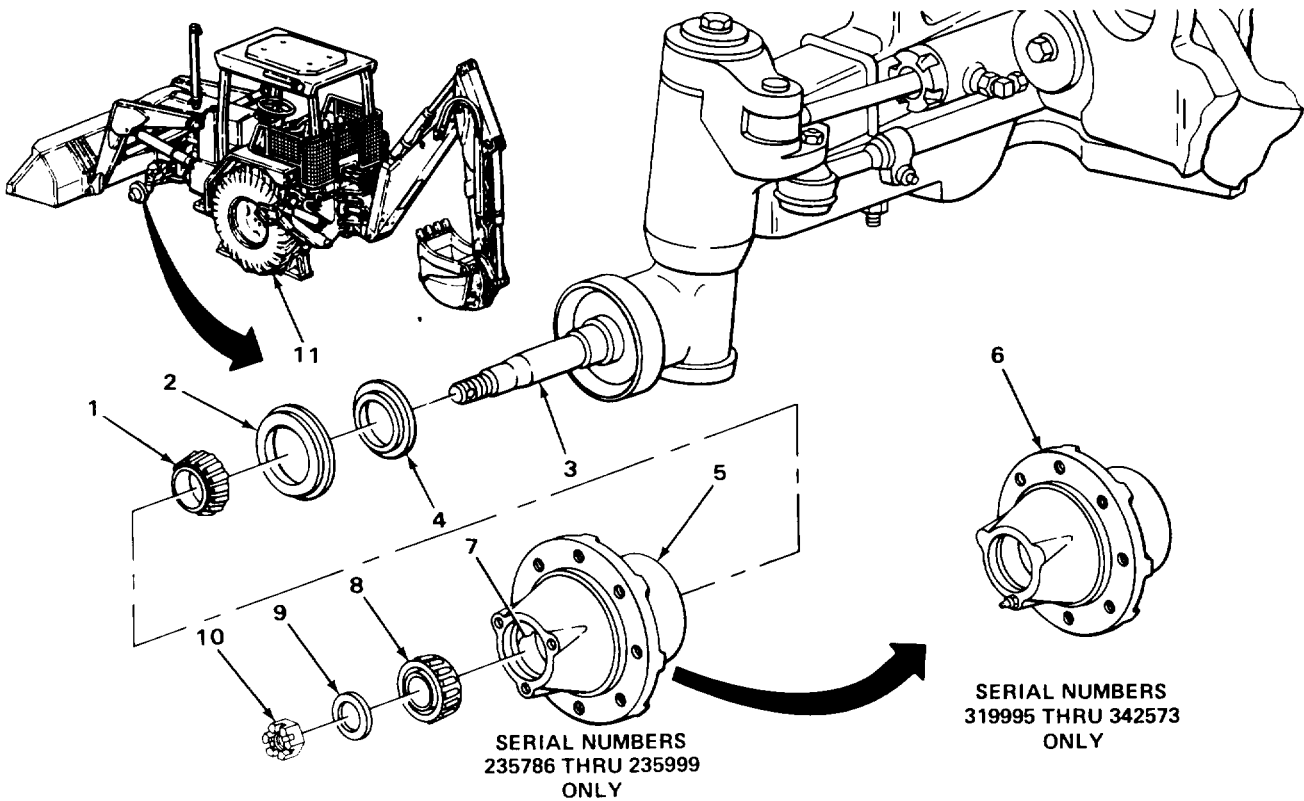
FRONT WHEEL BEARINGS AND HUBS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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WARNING

Lift loader backhoe on level ground or it may become unstable. Place wood blocks in front of and behind rear tires to keep loader backhoe from rolling in either direction. Do not get under loader backhoe or place feet or hands under wheels when wheels are off ground unless loader backhoe is securely in place on trestles or severe injury may result. Do not support more than two wheels off ground at one time or loader backhoe may become unstable.

- | | | | |
|-----|----------------|---------------------|---|
| 35. | Loader backhoe | Two rear tires (11) | Place wood blocks in front of and behind. |
|-----|----------------|---------------------|---|



FRONT WHEEL BEARINGS AND HUBS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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ADJUSTMENT - CONTINUED

WARNING

Lift loader backhoe on level ground or it may become unstable. Place wood blocks in front of and behind rear tires to keep loader backhoe from rolling in either direction. Do not get under loader backhoe or place feet or hands under wheels when wheels are off ground unless loader backhoe is securely in place on trestles or severe injury may result. Do not support more than two wheels off ground at one time or loader backhoe may become unstable.

- | | | |
|-----------------------|----------------|---|
| 36. Counterweight (1) | Front axle (2) | <ul style="list-style-type: none"> a. Using 10-ton capacity hydraulic dolly type jack at counterweight (1), lift until front tire (3) is off ground. b. Place 5-ton capacity motor vehicle trestle underneath set high enough to keep front tire (3) off ground when lowered. c. Using 10-ton capacity hydraulic dolly type jack, lower onto 5-ton capacity motor vehicle trestle. |
|-----------------------|----------------|---|

NOTE

Step 37 and 38 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

- | | | |
|-----------------------------|--|---|
| 37. Hub cap (4) and hub (5) | Three screws (6) and washers (7) | Using 1/2-inch, 1/2-inch drive socket and ratchet handle, unscrew and take out. |
| 38. Hub (5) | Hub cap (4) with assembled part and hub cap gasket (8) | <ul style="list-style-type: none"> a. Take off. b. Get rid of gasket (8). |

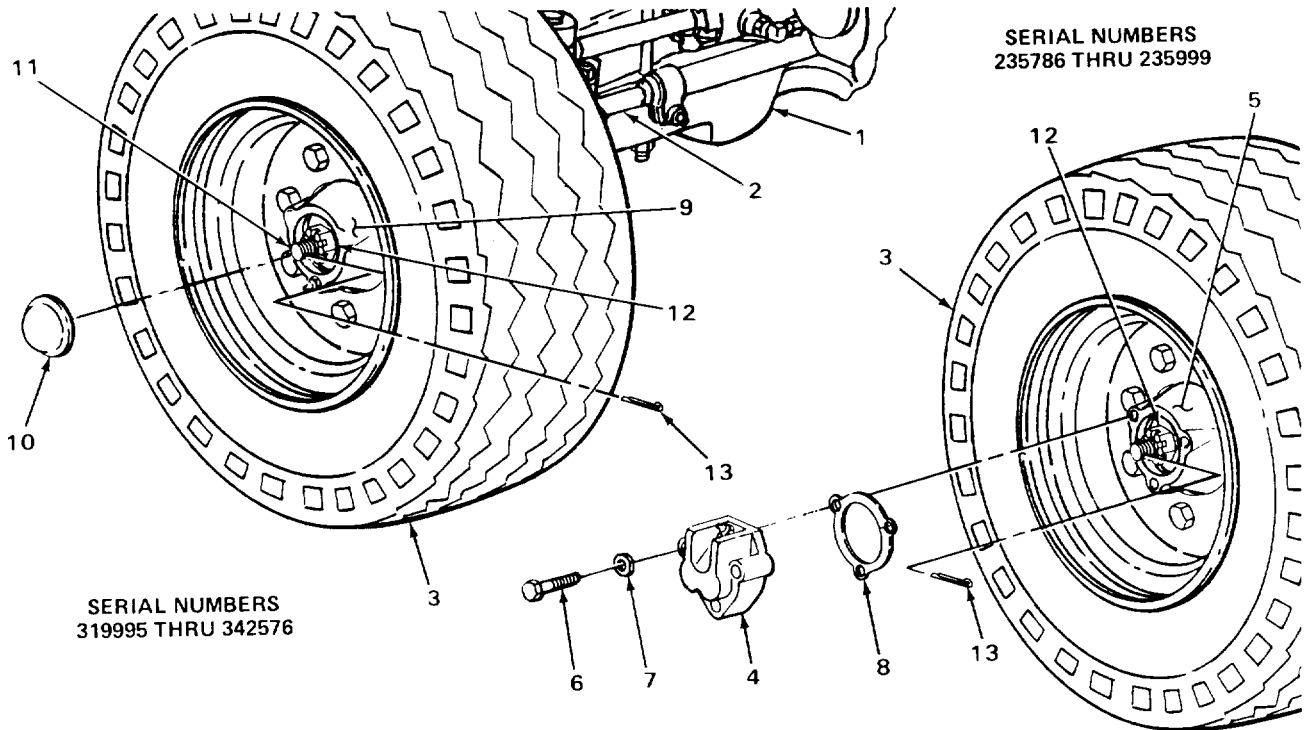
NOTE

Step 39 only applies to loader backhoes with Serial Numbers 319995 thru 342576.

- | | | |
|-------------|--------------|--|
| 39. Hub (9) | Hub cap (10) | Using 1-pound head ball-peen hammer and 1/2-inch cold chisel, tap off. |
|-------------|--------------|--|

FRONT WHEEL BEARINGS AND HUBS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
40. Wheel spindle (11) and slotted nut (12)	Cotter pin (13) and take out.	a. Using slip-joint pliers, straighten ends b. Get rid of.	



TA243169

FRONT WHEEL BEARINGS AND HUBS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
ADJUSTMENT - CONTINUED			
<u>CAUTION</u>			
<p>When performing adjustment on front wheel bearing and hub which has not been newly installed, slotted nut must not turn more than one-third turn (two slots) before specified torque is reached. If it does, wheel bearing and hub must be removed, cleaned, inspected, replaced if necessary, and installed as outlined in this task. Bearings will fail if not properly lubricated.</p>			
41.	Wheel spindle (1) and special washer (2)	Slotted nut (3)	Using 1 1/2-inch, 3/4-inch drive socket and 0 to 600 foot-pound capacity torque wrench, tighten to 35 foot-pounds (47 N.m) torque.
42.	Hub (4 or 5)	Wheel (6) with assembled tire (7)	Rotate several times to align bearings.
43.	Wheel spindle (1) and special washer (2)	Slotted nut (3)	<p>a. Using 1 1/2-inch, 3/4-inch drive socket and 0 to 600 foot-pound capacity torque wrench, tighten to 35 foot-pounds (47 N.m) torque.</p> <p>b. Using 1 1/2-inch, 3/4-inch drive socket and ratchet handle, back off so nearest slot lines up with hole in spindle (1).</p> <p style="text-align: center;">If slot and hole line up exactly after tightening to specified torque, back off one full slot.</p>
44.	Wheel spindle (1) and slotted nut (3)	New cotter pin (8)	<p>a. Push in.</p> <p>b. Using slip-joint pliers, bend ends back.</p>

NOTE

Steps 45 and 46 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

45.	Hub (5)	New hub cap gasket (9) and hub cap (10) with assembled part	Place in position.
46.	Hub cap (10) and hub (5)	Three screws (11) and washers (12)	Screw in and tighten using 1/2-inch, 1/2-inch drive socket and ratchet handle.

FRONT WHEEL BEARINGS AND HUBS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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NOTE

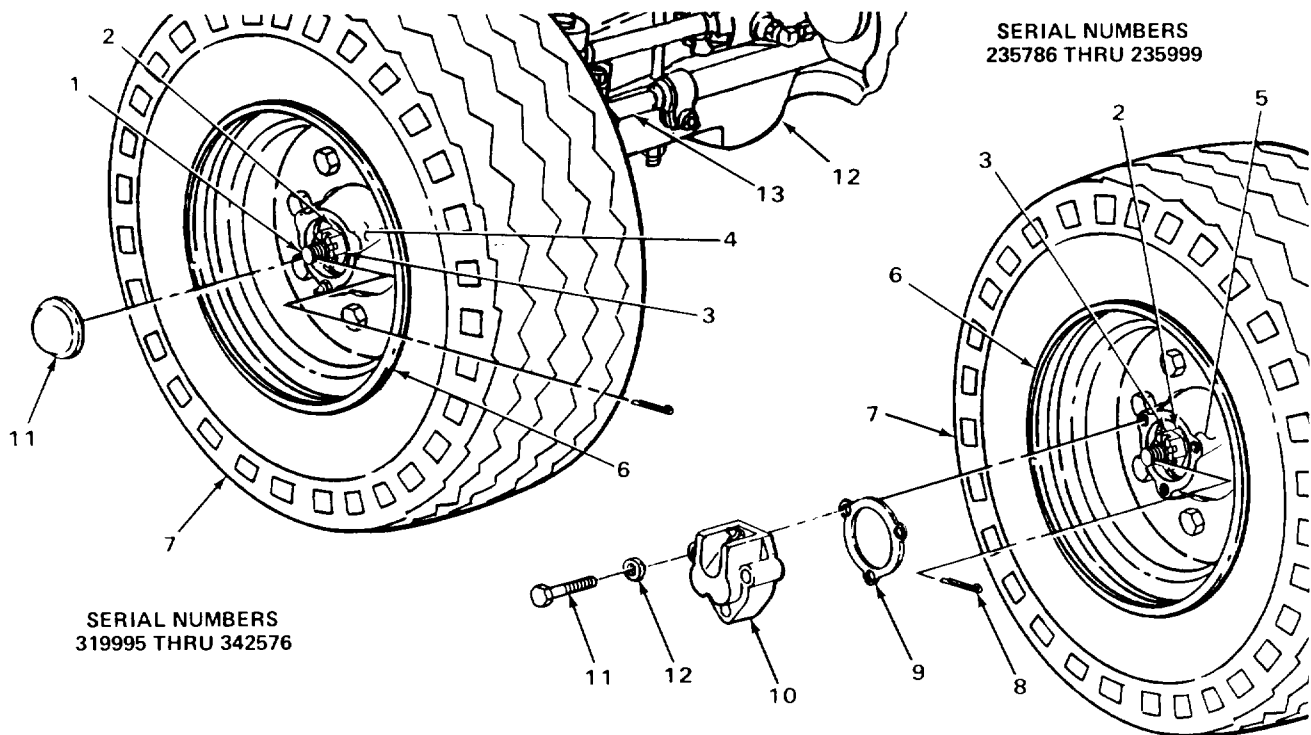
Step 47 only applies to loader backhoes with Serial Numbers 319995 thru 342576.

47. Hub (4)	Hub cap (11)	Tap in using 1-pound head ball-peen hammer.
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NOTE

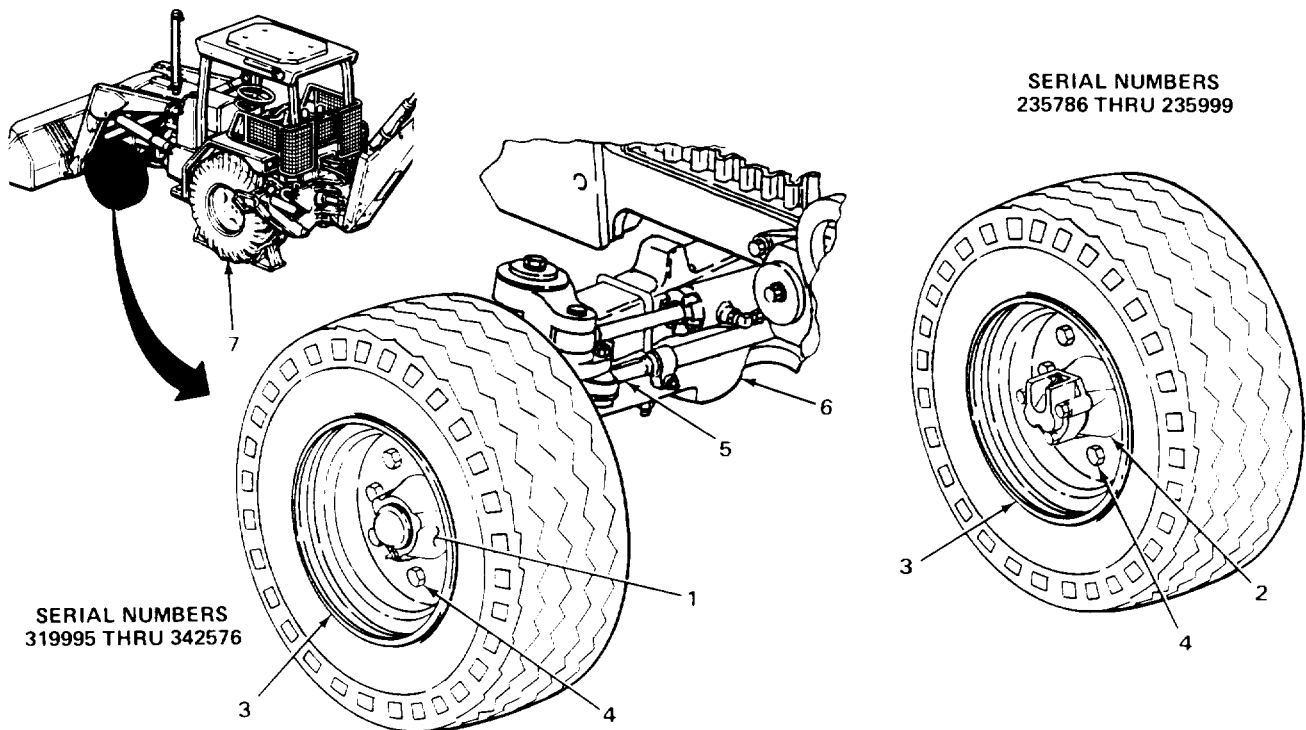
Skip steps 48 and 49 if adjustment is only part of task performed.

48. Counterweight (12)	Front axle (13)	<ol style="list-style-type: none"> Using 10-ton capacity hydraulic dolly type jack at counterweight (12), lift off of 5-ton capacity motor vehicle trestle. Take 5-ton capacity motor vehicle trestle out from underneath. Using 10-ton capacity hydraulic dolly type jack, lower just enough to keep wheel (6) with assembled tire (7) from rotating.
------------------------	-----------------	---



FRONT WHEEL BEARINGS AND HUBS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
ADJUSTMENT - CONTINUED			
49. Hub (1 or 2) and wheel (3)	Eight hub bolts (4)	Using 7/8-inch, 1/2-inch drive socket, 10-inch extension, and 0 to 175 foot-pound capacity torque wrench, tighten to 90-110 foot-pounds (122-149 N.m) torque.	
50. Front axle (5)	Counterweight (6)	a. Using 10-ton capacity hydraulic dolly type jack, lower all the way. b. Take 10-ton capacity hydraulic dolly type jack out from underneath.	
51. Loader backhoe	Two rear tires (7)	Take wood blocks out from in front of and behind.	



TASK ENDS HERE

Section XVI. STEERING

Page	Page
Accumulator Tee-to-Steering Valve	Steering Valve Oil Lines-to-Steering Cylinder Oil Hoses 319995 thru 342573 Only).....
Oil Line2-978	2-963
Special Elbow-to-Left Steering...(Serial Numbers Cylinder Oil Hose (Serial Numbers.....	Steering Valve-to-Transmission
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TIE ROD

This task covers:

- | | |
|--|------------------------------|
| a. Removal (page 2-928) | e. Repair (page 2-932) |
| b. Disassembly (page 2-930) | f. Assembly (page 2-932) |
| c. Cleaning (page 2-931) | g. Installation (page 2-934) |
| d. Inspection/Replacement (page 2-932) | h. Adjustment (page 2-936) |

INITIAL SETUP

Tools

Bar, pinch, 36-inch
 Bar, pry, 15 to 16-inch
 Block, wood (four required)
 Crayon, marking
 Drift pin, brass tipped, 3/4-inch
 Hammer, cross-peen, 3-pound head
 Handle, ratchet, 1/2-inch drive
 Jack, dolly type, hydraulic, 10-ton capacity
 Pliers, slip-joint, multiple tongue and groove
 Puller kit, mechanical, gear and bearing
 Scriber, machinist's
 Tape, measuring, 50-foot
 Threading set, screw
 Vice, machinist's
 Wrench, open-end, 7/16-inch
 Wrench, open-end, 15/16-inch
 Wrench, pipe, adjustable, 1/2 to 1 1/2-inch

Tools - Continued

Wrench, torque, 1/2-inch drive, 0 to 150 foot-pound capacity

NOTE

The following tools only apply to loader backhoes with Serial Numbers 235786 thru 235999.

Socket, 1/2-inch drive, 11/16-inch
 Wrench, box, 5/8-inch

NOTE

The following tools only apply to loader backhoes with Serial Numbers 319995 thru 342573.

Socket, 1/2-inch drive, 3/4-inch
 Wrench, box, 3/4-inch

TIE ROD - CONTINUED

INITIAL SETUP - CONTINUED

Materials/Parts

- Detergent, GP (item 7, Appendix C)
- Grease (LO 5-2420-222-12)
- Lockwasher, clamp screw
(two required)
- Pin, cotter, left steering cylinder
pin
- Pin, cotter, tie rod stud
(two required)
- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning
(item 28, Appendix C) One

Materials/Parts - Continued

NOTE

The following part only applies to loader back hoes with Serial Numbers 235786 thru 235999.

Pin, cotter, right steering cylinder pin

Personnel Required

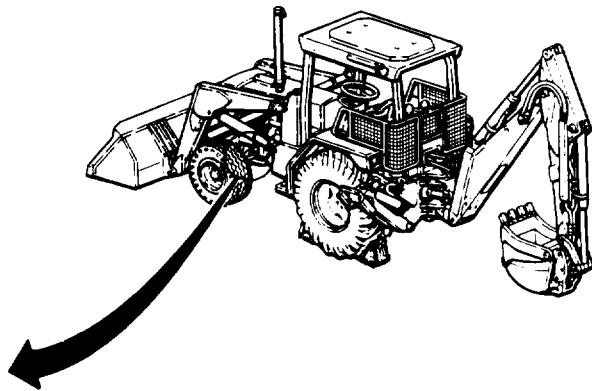
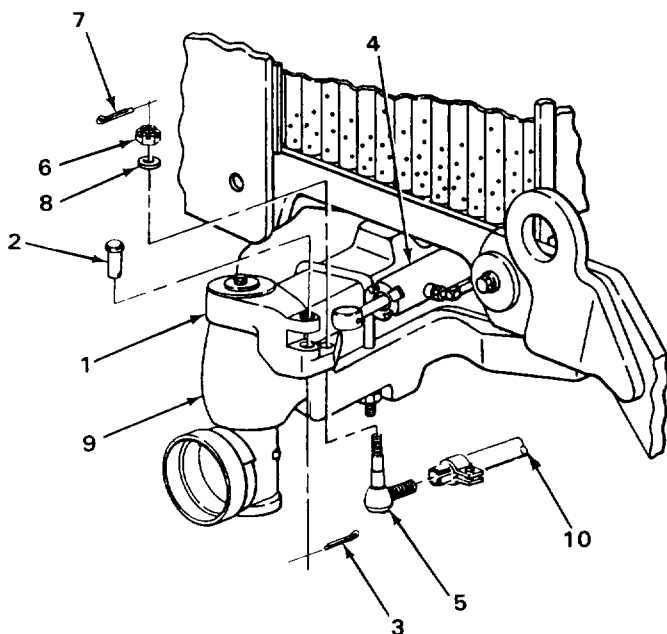
Equipment Condition

Hydraulic system pressure released
(page 2-1191)

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Loader backhoe	Front wheels	Turn all the way right (TM 5-2420-222-10).
NOTE			
<p>Loader backhoes with Serial Numbers 235786 thru 235999 have two steering cylinders. Loader backhoes with Serial Numbers 319995 thru 342573 have one on left side. Left side is shown. On loader backhoes with Serial Numbers 235786 thru 235999, repeat steps 2 thru 4 for right side.</p>			
2.	Steering arm (1) and pin (2)	Cotter pin (3)	<ul style="list-style-type: none"> a. Using multiple tongue and groove slip-joint pliers, straighten ends and take out. b. Get rid of.
3.	Steering arm (1) and steering cylinder (4)	Pin (2)	Using 3-pound cross-peen head hammer and 3/4-inch brass-tipped drift pin, drive out.
4.	Steering arm (1)	Steering cylinder (4)	Move out of way.
5.	Loader backhoe	Front wheels	<ul style="list-style-type: none"> a. On loader backhoes with Serial Numbers 235786 thru 235999, turn all the way left (TM 5-2420-222-10).

TIE ROD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
5. Continued		b. Repeat steps 2 thru 4 for right side.	
NOTE			
Both tie rod end sockets are removed in same way. Left side is shown. Repeat steps 6 thru 8 for right side.			
6. Tie rod end socket (5) and nut (6)	Cotter pin (7)	a. Using multiple tongue and groove slip-joint pliers, straighten ends and take out. b. Get rid of.	
7. Tie rod end socket (5) and steering arm (1)	Nut (6) and washer (8)	Using 15/16-inch open-end wrench, unscrew and take off.	
8. Steering arm (1)	Tie rod end socket (5) with assembled parts	a. Using gear and bearing mechanical puller kit, take off. b. Repeat steps 6 thru 8 for right side.	
9. Front axle (9)	Tube (10) with assembled parts	Using 36-inch pinch bar, take off.	



TIE ROD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
DISASSEMBLY			
10.	Tube (1) and two clamps (2)	Two screws (3), lockwashers (4), and nuts (5)	<ol style="list-style-type: none"> Position tube (4) in machinist's vise. On loader backhoes with Serial Numbers 235786 thru 235999, using 11/16-inch, 1/2-inch drive socket, ratchet handle, and 5/8-inch box wrench, unscrew and take apart. On loader backhoes with Serial Numbers 319995 thru 342573, using 3/4-inch, 1/2-inch drive socket, ratchet handle, and 3/4-inch box wrench, unscrew and take apart. Get rid of lockwashers (4)..
11.	Left and right tie rod end sockets (6 and 7)	Two dust covers (8)	Take off.
12.	Tube (1)	Two clamps (2)	<ol style="list-style-type: none"> Using 15 to 16-inch pry bar, spread apart. Using 3-pound head cross-peen hammer, tap off.

CAUTION

Be sure to matchmark tie rod end sockets and tube. Right side parts have right-hand threads, left side parts have left-hand threads. If tie rod end socket is installed in wrong end of tube, parts will be damaged.

13.	Left tie rod end socket (6)		<ol style="list-style-type: none"> Using machinist's scribe, matchmark tube (1) and socket (6) for proper placement during assembly. Note number of exposed threads and relative position for proper placement during assembly. Using 1/2 to 1 1/2-inch adjustable pipe wrench, unscrew by turning clockwise and take out.
14.	Right tie rod end socket (7)		<ol style="list-style-type: none"> Using machinist's scribe, matchmark tube (1) and socket (7) for proper placement during assembly. Note number of exposed threads and relative position for proper placement during assembly.

TIE ROD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
14.		c. Using 1/2 to 1 1/2-inch adjustable pipe wrench, unscrew by turning counter-clockwise and take out. d. Take tube (1) out of machinist's vise.	
15.	Left and right tie rod end sockets (6 and 7)	Two lubrication fittings (9)	Using 7/16-inch open-end wrench, unscrew and take out.

CLEANING

NOTE

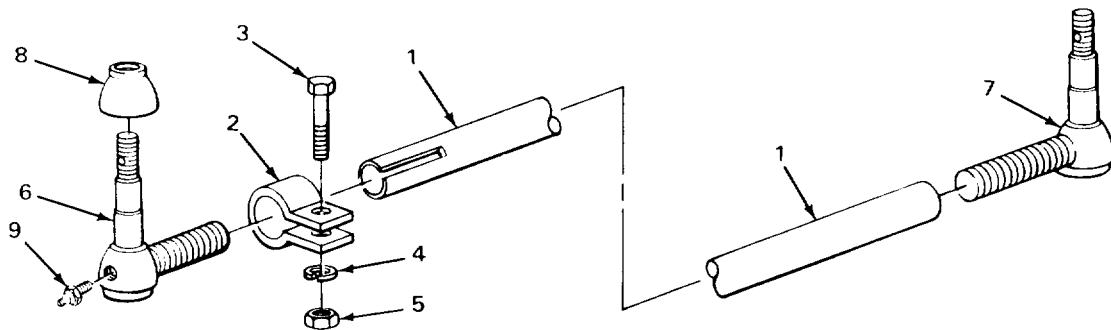
For more information on how to clean parts, go to **General Maintenance Instructions (page 2-137)**.

16.	Two dust covers (8)	a. Using clean rags dampened in solution of detergent and water, wipe clean. b. Rinse with clean water. c. Using clean, dry rags, wipe dry.	
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WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

17.	Tube (1)	a. Using clean rags dampened in dry-cleaning solvent, wipe clean. b. Using clean, dry rags, wipe dry.	
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TA243173

TIE ROD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|-----|-----------------------|---|--|
| 18. | All other metal parts | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. | |
|-----|-----------------------|---|--|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to **General Maintenance Instructions (page 2-137)**. Replace defective parts which cannot be repaired.

- | | | | |
|-----|--|--|--|
| 19. | Two dust covers (1) | Look for cracks, tears, and breaks. | |
| 20. | Left and right tie rod end sockets (2 and 3) | Look for excessive wear.
Ball stud should have a slight drag when moved to different positions. | |
| 21. | All metal parts | Look for cracks, breaks, and abnormal bends. | |
| 22. | All threaded parts | Look for damaged threads. | |

REPAIR

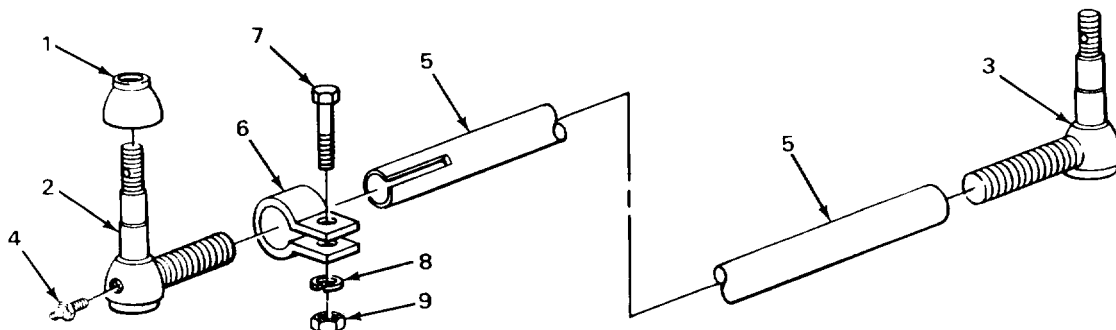
- | | | | |
|-----|--|---|--|
| 23. | Left and right tie rod end sockets (2 and 3) | If ball stud threads are damaged, using screw threading set, restore threads. | |
|-----|--|---|--|

ASSEMBLY

- | | | | |
|-----|--|------------------------------|---|
| 24. | Left and right tie rod end sockets (2 and 3) | Two lubrication fittings (4) | Screw in and tighten using 7/16-inch open-end wrench. |
| 25. | Tube (5) | Right tie rod end socket (3) | a. Position tube (5) in machinist's vise.
b. Look at matchmarks on tube (5) and socket (3) to ensure proper placement.
c. Using 1/2 to 1 1/2-inch adjustable pipe |

TIE ROD - CONTINUED

LOCATION	ITEM	ACTION REMARKS
25. Continued		wrench, screw in clockwise until same number of threads is showing and in same relative position as noted during disassembly. d. Lubricate with grease (LO 5-2420-222-12).
26.	Left tie rod	a. Look at matchmarks on tube (5) and socket (2) to ensure proper placement. b. Using 1/2 to 1 1/2-inch adjustable pipe wrench, screw in by counterclockwise until same number of threads is showing and in same relative position as noted during disassembly. c. Lubricate with grease (LO 5-2420-222-12).
27. Tube (5)	Two clamps (6)	a. Using 3-pound cross-peen head hammer, tap on. b. Using multiple tongue and groove slip-joint pliers, bend closed.
28. Tube (5) and two clamps (6)	Two screws (7), new lockwashers (8), and nuts (9)	a. On loader backhoes with Serial Numbers 235786 thru 235999, screw together and tighten using 11/16-inch, 1/2-inch drive socket, ratchet handle, and 5/8-inch box wrench. b. On loader backhoes with Serial Numbers 319995 thru 342573, screw together and tighten using 3/4-inch, 1/2-inch drive socket, ratchet handle, and 3/4-inch box wrench.
29. Left and right tie rod end	Two dust covers (1)	a. Place in position. b. Take tube (5) with assembled parts sockets (2 and 3) out of machinist's vise.



TIE ROD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION			
NOTE			
Look at matchmarks on tie rod tube and tie rod end sockets to ensure that tie rod tube with assembled parts is positioned correctly.			
30.	Front axle (1)	Tube (2) with assembled parts	Using 36-inch pinch bar, place in position.
NOTE			
Both tie rod ends are installed the same way. Left side is shown. Repeat steps 31 thru 33 for right side.			
31.	Steering arm (3)	Tie rod end socket (4) with assembled parts	Place in position.
32.	Tie rod end socket (4) and steering arm (3)	Nut (5) and washers (6)	Screw on and tighten using 15/16-inch open-end wrench. Make sure cotter pin hole in tie rod end sockets aligns with slots in nut.
33.	Tie rod end socket (4) and	New cotter pin (7)	a. Place in position. b. Using slip-joint pliers, bend ends nut (5) back. c. Repeat steps 31 thru 33 for right side.

WARNING

Lift loader backhoe on level ground or it may become unstable. Place wood blocks in front of and behind rear tires to keep loader backhoe from rolling in either direction. Do not get under loader backhoe or place feet or hands under wheels when wheels are off ground unless loader backhoe is securely in place on trestles or severe injury may result. Do not support more than two wheels off ground at one time or loader backhoe may become unstable.

NOTE

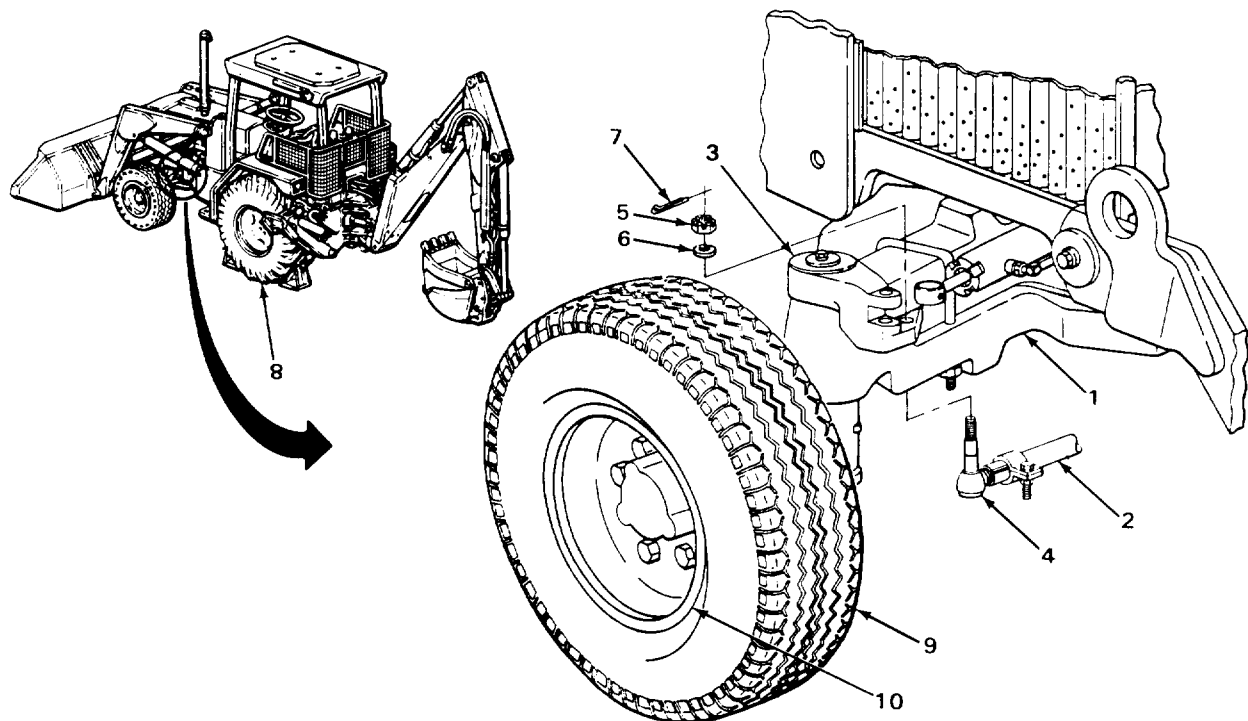
Steps 34 thru 37 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

TIE ROD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
34. Loader backhoe	Two rear tires (8)	Place wood blocks in front of and behind.	
35.	Front axle (1)	Using 10-ton capacity hydraulic dolly type jack, lift until two front tires (9) are off ground.	
36.	Two front wheels (10)	Turn all the way right.	
37.	Front axle (1)	Using 10-ton capacity hydraulic dolly type jack, lower until two front tires (8) are on ground.	

NOTE

Loader backhoes with Serial Numbers 235786 thru 235999 have two steering cylinders. Loader backhoes with Serial Numbers 31995 thru 342573 have one on left side. Left side is shown. Loader backhoes with Serial Numbers 235786 thru 235999, repeat steps 38 thru 40 for right side.



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TIE ROD - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
38.	Steering arm (1) Steering cylinder (2)	Move into position.
39.	Steering arm (1) and steering cylinder (2)	Using 3-pound head cross-peen hammer, drive in.
40.	steering arm (1) and pin (3)	a. Place in position. b. Using multiple tongue and groove slip-joint pliers, bend ends back.
41.	Loader backhoe Front wheels	a. Only on loader backhoes with Serial Numbers 235786 thru 235999, turn wheels all the way left (TM 5-2420-222-10). b. Repeat steps 38 thru 40 for right side.

ADJUSTMENT

42.	Loader backhoe Front wheels (TM 5-2420-222-10).	Turn to straight ahead position
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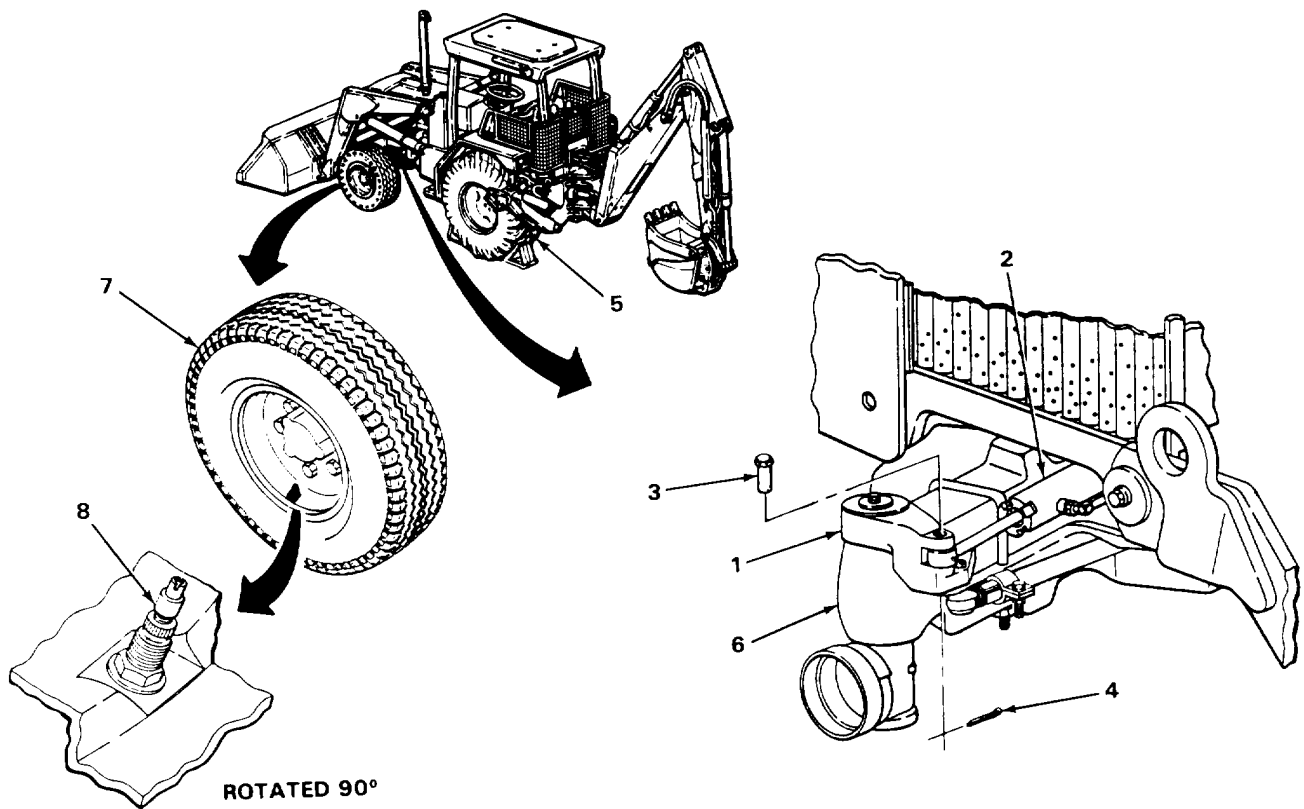
WARNING

Lift loader backhoe on level ground or it may become unstable. Place wood blocks in front of and behind rear tires to keep loader backhoe from rolling in either direction. Do not get under loader backhoe or place feet or hands under wheels when wheels are off ground unless loader backhoe is securely in place on trestles or severe injury may result. Do not support more than two wheels off ground at one time or loader backhoe may become unstable.

43.	Loader backhoe Two rear tires (5)	If not already blocked, place wood blocks in front of and behind.
44.	Front axle (6)	Using 10-ton capacity hydraulic dolly type jack, lift until two front tires (7) are off of ground.

TIE ROD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
45. Front axle (5)	Two front tires (7) with assembled pneumatic tire valves (8)	Rotate until two valves (8) are at bottom.	
46. Loader backhoe	Front axle (6)	Using 10-ton capacity hydraulic dolly type jack, lower until two front tires are on ground.	

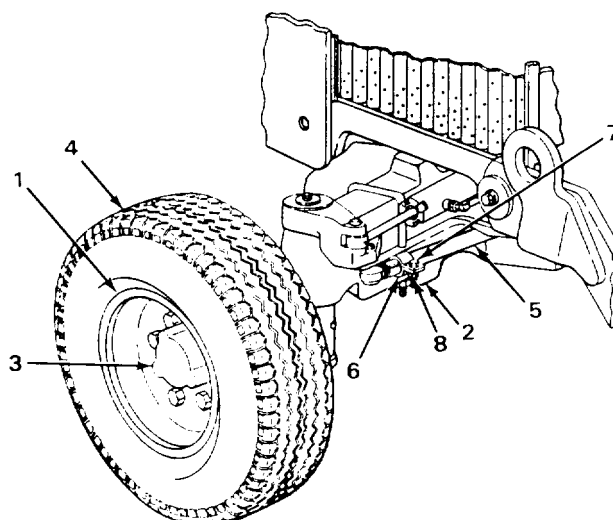


TIE ROD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
ADJUSTMENT - CONTINUED			
47.	Two front wheels (1) and front axle (2)	Two front hubs (3)	Using 50-foot measuring tape, measure and record distances from ground.
48.	Two front hubs (3) and tires (4)	Two front wheels (1)	<p>a. Using 50-foot measuring tape and marking crayon, mark inside front and rear at same distances from ground as measured in step 47.</p> <p>b. Using 50-foot measuring tape, measure and record distances between both front marks and both rear marks.</p> <p style="text-align: center;">Distance between front of wheels must be 118 to 318-inch (3.2 to 9.5 mm) less than distance between rear of wheels.</p>
NOTE			
If measurement in step 48b is correct, skip steps 49 and 50.			
49.	Tube (5) and two clamps (6)	Two screws (7) nuts (8)	<p>a. On loader backhoes with Serial Numbers 235786 thru 235999, using 11/16-inch, 1/2-inch drive socket, ratchet handle, and 5/8-inch box wrench, loosen.</p> <p>b. On loader backhoes with Serial Numbers 319995 thru 342573, using 3/4-inch, 1/2-inch drive socket, ratchet handle, and 3/4-inch box wrench, loosen.</p>
50.	Two tie rod end sockets (9)	Tube (5)	<p>a. If difference in distance, noted in step 48b, was more than 3/8-inch (9.5 mm), using 1/2 to 1 1/2-inch adjustable pipe wrench, turn to lengthen assembly and decrease distance between front of wheels.</p> <p>b. If difference in distance, noted in step 48b, was less than 1/8-inch (3.2 mm), using 1 1/2 to 1 1/2-inch adjustable pipe wrench, turn to shorten assembly and increase distance between front of wheels.</p>

TIE ROD - CONTINUED

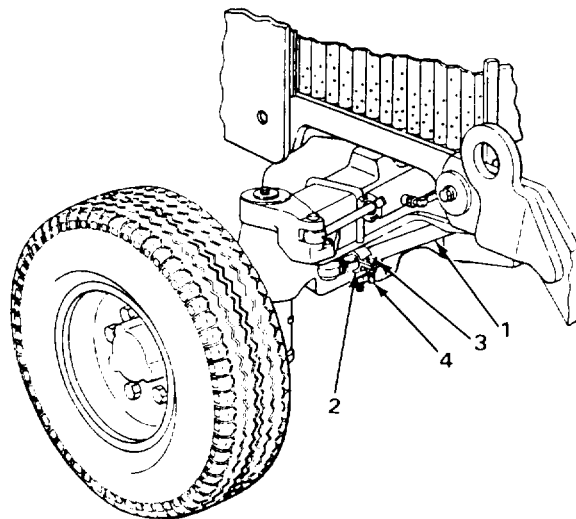
LOCATION	ITEM	ACTION	REMARKS
50. Continued		<ul style="list-style-type: none"> c. Using 1/2 to 1 1/2-inch adjustable pipe wrench, turn until slot is facing to the rear. d. Repeat step 48b and 50 as needed until difference in distance measured in step 48b is correct. 	
NOTE			
If measurement in step 48b is correct and tie rod assembly was not disassembled, skip steps 51 and 52.			
51. Tube (5)	Two clamps (6), screws (7), and nuts (8)		Using 1 1/2- to 1 3/4-inch adjustable pipe wrench and 3-pound cross-peen hammer, tap clamps (6) until openings are pointing down and screws (7) are horizontal.
52. Tube (5) and two clamps (6)	Two screws (7) nuts (8)	<ul style="list-style-type: none"> a. On loader backhoes with Serial Numbers 235786 thru 235999, using 11/16-inch, 1/2-inch drive socket, ratchet handle, and 5/8-inch box wrench, tighten until snug. b. On loader backhoes with Serial Numbers 235786 thru 235999, using 11/16-inch, 1/2-inch drive socket, 0 to 150 foot-pound capacity torque wrench, tighten to 40 foot-pounds (54 N.m) torque. 	



TA243177

TIE ROD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
52. Continued Tube (1) and two clamps (2)	Two screws (3) nuts (4)	<ul style="list-style-type: none"> c. On loader backhoes with Serial Numbers 319995 thru 342573, using 3/4-inch, 1/2-inch drive socket, ratchet handle, and 3/4-inch box wrench, tighten until snug. d. On loader backhoes with Serial Numbers 319995 thru 342573, using 3/4-inch, 1/2-inch drive socket, 0 to 150 foot-pound capacity torque wrench, and 3/4-inch box wrench, tighten to 70 foot-pounds (95 N.m) torque. 	



TASK ENDS HERE

TA243178

STEERING WHEEL

This task covers:

- a. Removal (page 2-941)
- b. Cleaning (page 2-942)
- c. Repair (page 2-942)
- d. Installation (page 2-943)

INITIAL SETUP

Tools

- Chisel, cold, 1/4-inch
- Hammer, ball-peen, 1-pound head
- Handle, ratchet, 1/2-inch drive
- Knife, pocket
- Puller, mechanical, steering wheel
- Socket, 1/2-inch drive, 1 1/4-inch
- Wrench, torque, 1/2-inch drive, 0 to 150 foot-pound capacity

Materials/Parts

- Detergent, GP (item 7, Appendix C)
- Packing, emblem
- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)
- Washer, special, steering column

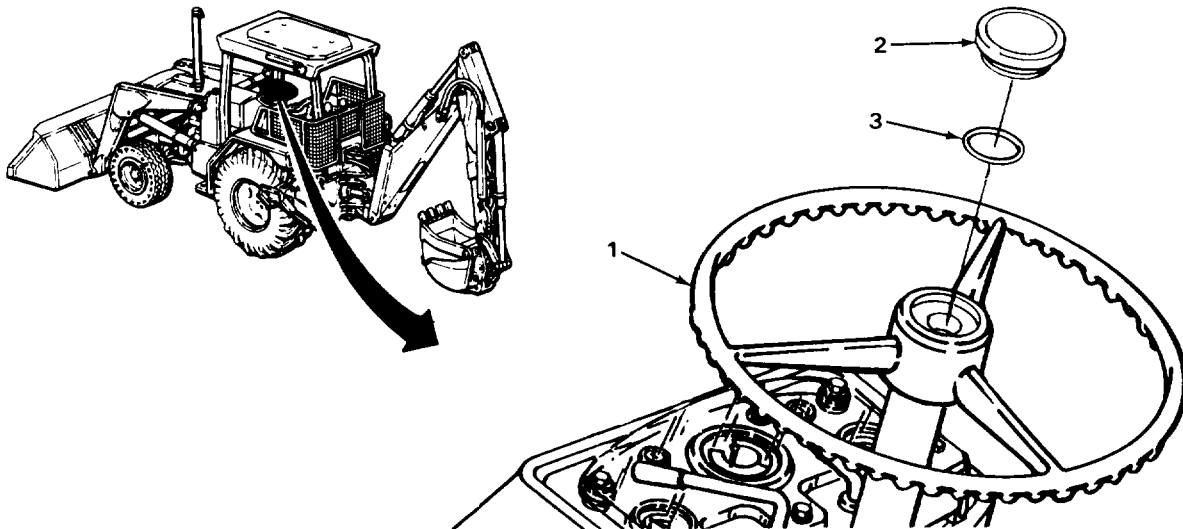
Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

- | | | | |
|----|--------------------|--------------------------------------|--|
| 1. | Steering wheel (1) | Emblem (2) with assembled o-ring (3) | Using pocket knife, take off. |
| 2. | Emblem (2) | Packing (3) | <ul style="list-style-type: none"> a. Using pocket knife, take off. b. Get rid of. |



TA243179

STEERING WHEEL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
3. Special nut (1) and steering wheel (2)	Special washer (3)	Using 1/4-inch cold chisel and 1-pound head ball-peen hammer, bend two lock tabs away from special nut (1).	
4. Special washer (3) and column (4)	Special nut (1)	Using 1 1/4-inch, 1/2-inch drive socket ratchet handle, unscrew and take off.	
5. Steering wheel (2) and column (4)	Special washer (3)	a. Take off. b. Get rid of.	
6. Column (4)	Steering wheel (2)	Using steering wheel mechanical puller, take off.	

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

7.	Special nut (1)	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.	
8.	Steering wheel (2) and emblem (5)	a. Using clean rags dampened in solution of detergent and water, wipe clean. b. Using clean rags dampened with clean water, rinse. c. Using clean, dry rags, wipe dry.	

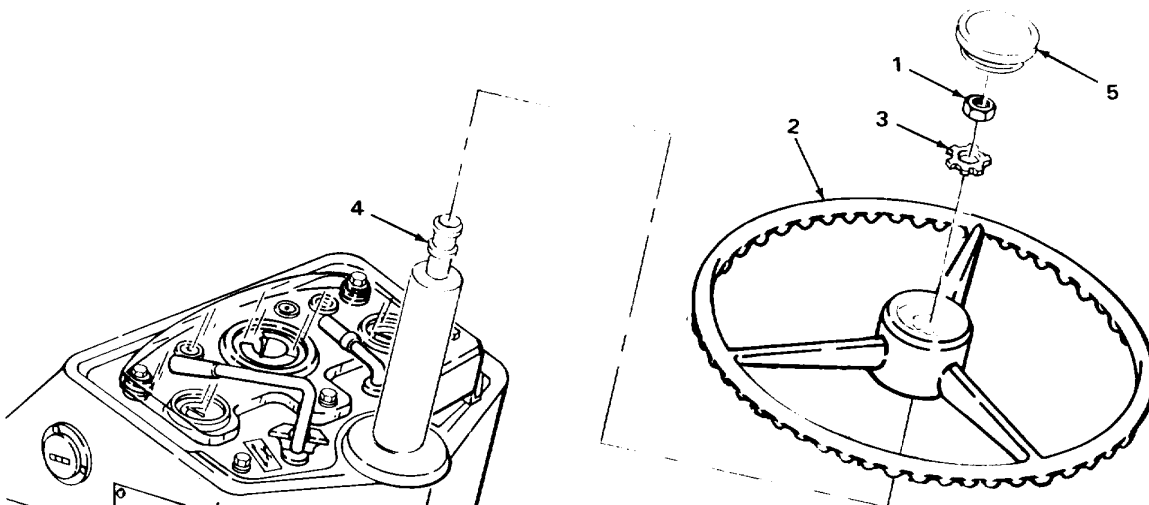
INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137). Replace defective parts as needed.

STEERING WHEEL - CONTINUED

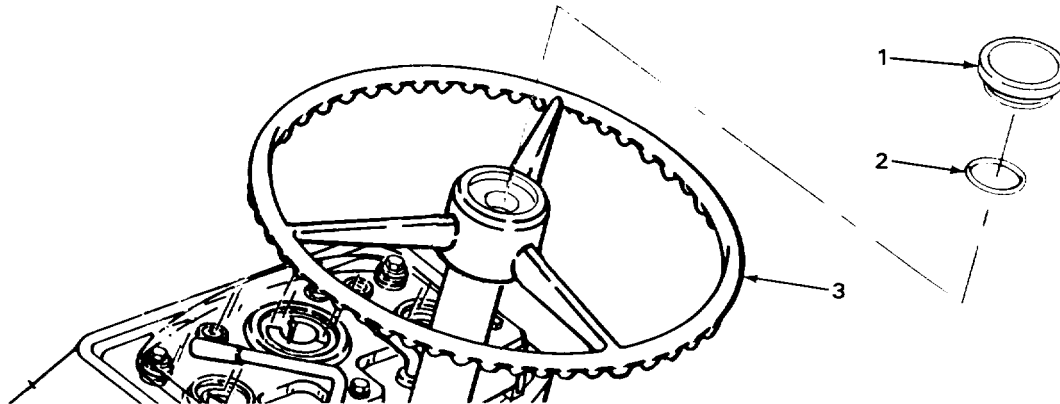
LOCATION	ITEM	ACTION	REMARKS
9.	Steering wheel (2)	a. Look for cracks, breaks, and abnormal bends. b. Look for damaged splines.	
10.	Special nut (1)	a. Look for cracks and breaks. b. Look for damaged threads.	
11.	Emblem (5)	Look for cracks and breaks.	
INSTALLATION			
12. Column (4)	Steering wheel (2)	a. Aline splines in column (4) and wheel (2). b. Place in position.	
13. Steering wheel (2) and column (4)	New special washer (3)	Put in position with lock tab placed in either threaded hole in wheel (2).	
14. Special washer (3) and column (4)	Special nut (1)	a. Screw on and tighten until snug using 1 1/4-inch, 1/2-inch drive socket and ratchet handle. b. Using 1 1/4-inch, 1/2-inch drive socket and 0 to 150 foot-pound capacity torque wrench, tighten to 50 foot-pounds (68 N.m) torque.	
15. Special nut (1) and steering wheel (2)	Special washer (3)	Using 1/4-inch cold chisel and 1-pound head ball-peen hammer, bend tabs up.	



TA243180

STEERING WHEEL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
16.	Emblem (1)	New packing (2)	Place in position.
17.	Steering wheel (3)	Emblem (1) with assembled packing (2)	Place in position.



2-XVI 10

TASK ENDS HERE

STEERING VALVE OIL LINE-TO-RIGHT STEERING CYLINDER OIL HOSE (SERIAL NUMBERS 235786 THRU 235999 ONLY)

This task covers:

- a. Removal (page 2-945)
- b. Cleaning (page 2-946)
- c. Inspection/Replacement (page 2-947)
- d. Installation (page 2-948)

INITIAL SETUP

Tools

- Knife, pocket
- Pan, drain
- Wrench, open-end

Materials/Parts

- Detergent, GP (item 7, Appendix C)
- Packing, special elbow-to cylinder
- Rags, wiping (item 21, Appendix C)

Materials/Parts - Continued

- Solvent, drycleaning (item 28, Appendix C)
- Tags, marking (item 30, Appendix C)

Personnel Required

One

Equipment Condition

Hydraulic system pressure released
(page 2-1191)

TA243181

STEERING VALVE OIL LINE-TO-RIGHT STEERING CYLINDER OIL HOSE (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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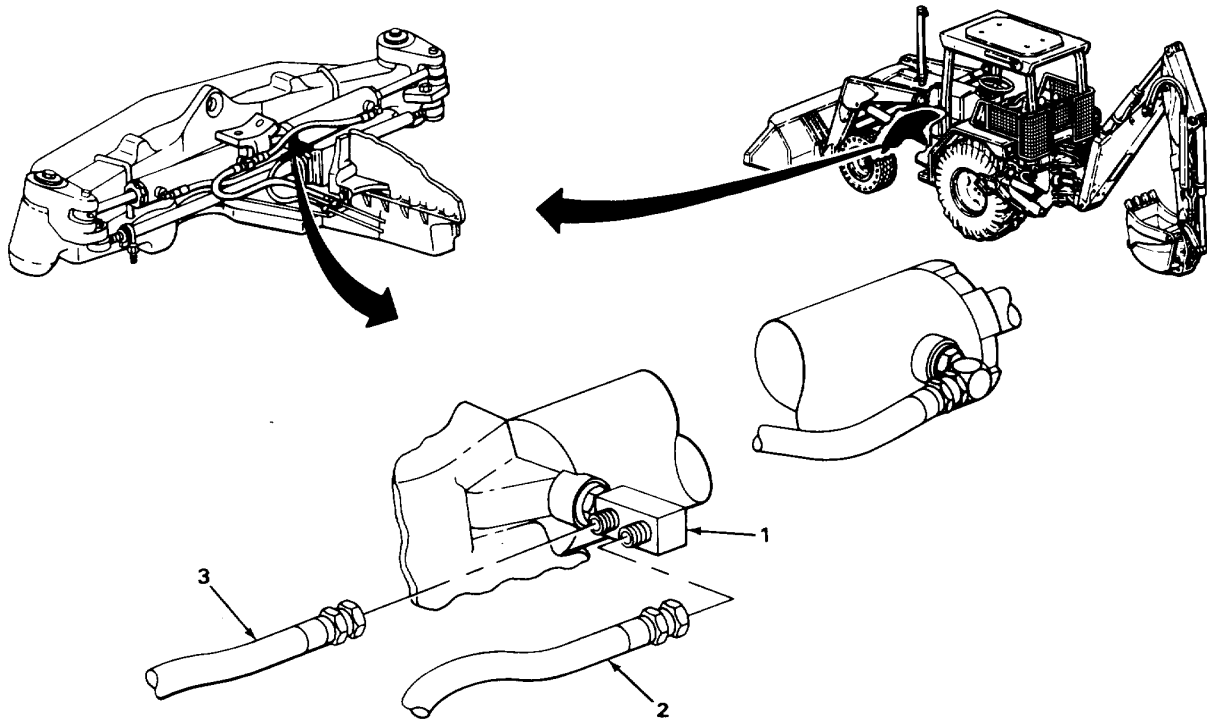
REMOVAL

WARNING

Do not attempt to disconnect hydraulic lines and fittings while engine is running or before hydraulic system pressure has been released. When engine is running, hydraulic system is under pressure. Hydraulic system pressure should be 0 psi (0 kPa) before lines are disconnected. A line or fitting disconnected under pressure will blow off with a lot of force and could cause serious injury to personnel.

Be careful when draining hot fluids. Wear gloves to protect your hands from hot parts and fluids or severe burns could result.

- | | | |
|----------------------|---------------------|---|
| 1. Special elbow (1) | Two hoses (2 and 3) | <ul style="list-style-type: none"> a. Place drain pan under elbow (1) to catch draining fluid. b. Using open-end wrench, unscrew and take off. c. Cap hose (3) (page 2-137). |
|----------------------|---------------------|---|



**STEERING VALVE OIL LINE-TO-RIGHT STEERING CYLINDER OIL HOSE (SERIAL NUMBERS 235786
THRU 235999 ONLY) - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
2.	Special elbow (1) and cylinder (2)	Nut (3) Using open-end wrench, loosen.
3.	Cylinder (2)	Special elbow (1) with assembled parts a. Note relative position for proper placement during assembly. b. Using open-end wrench, unscrew and take out. c. Cap cylinder (2) (page 2-137).
4.	Special elbow (1)	Packing (4) a. Using pocket knife, take off. b. Get rid of.
5.	Steering line (5)	Hose (6) a. Place drain pan underneath to catch draining fluid. b. Using open-end wrench, unscrew and take out. c. Cap line (5) (page 2-137). d. Get rid of drained fluid (page 2-137). e. Tag (page 2-137).

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

6.	Hose (6)	a. Using clean rags dampened in solution of detergent and water, wipe clean. b. Using clean rags dampened with clean water, rinse. c. Using clean, dry rags, wipe dry.
----	----------	--

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

7.	Special elbow (1)	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.
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STEERING VALVE OIL LINE-TO-RIGHT STEERING CYLINDER OIL HOSE (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

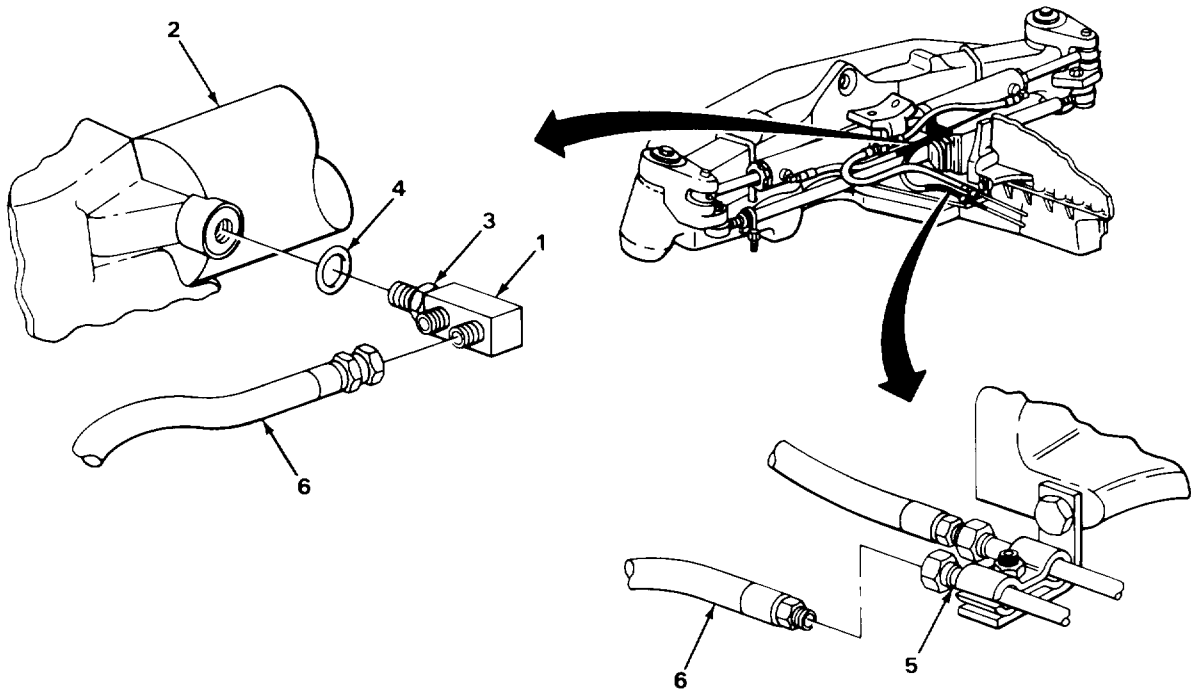
LOCATION	ITEM	ACTION	REMARKS
LOCATION	ITEM	REMARKS	
INSPECTION/REPLACEMENT			

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

- | | | |
|-----|--------------------|------------------------------------|
| 8. | Hose (6) | Look for cuts, cracks, and breaks. |
| 9. | Special elbow (1) | Look for cracks and breaks. |
| 10. | All threaded parts | Look for damaged threads. |

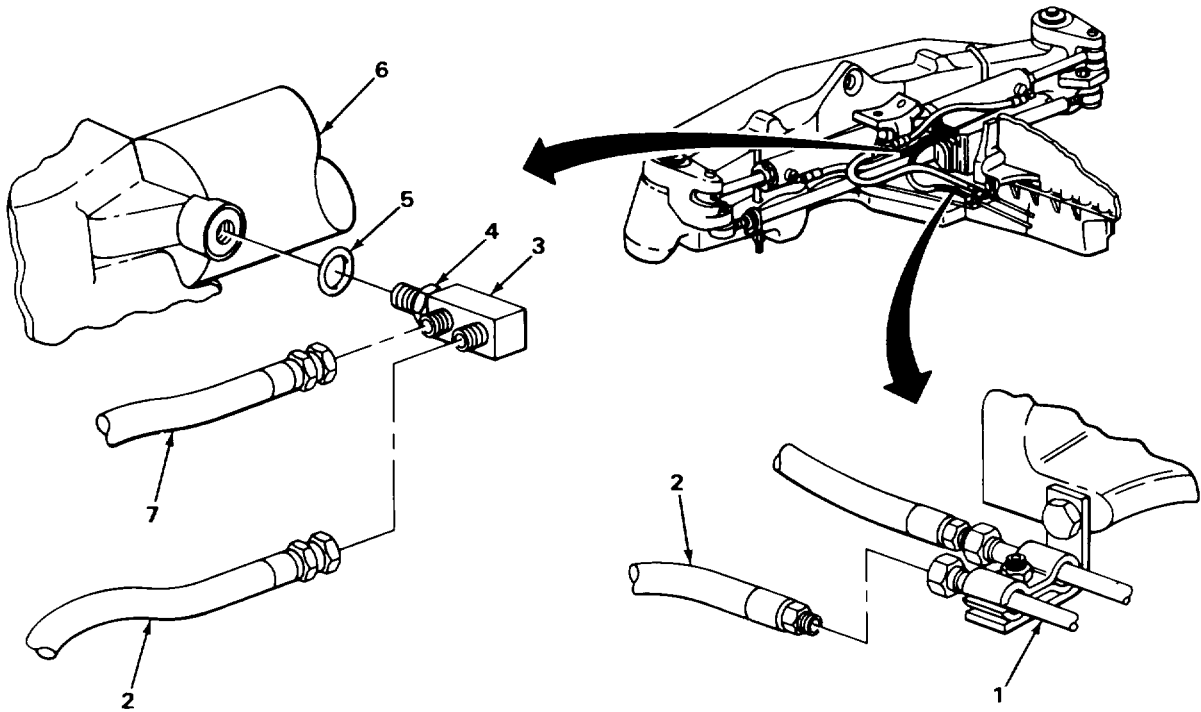


TA243183

**STEERING VALVE OIL LINE-TO-RIGHT STEERING CYLINDER OIL HOSE (SERIAL NUMBERS 235786
THRU 235999 ONLY) - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
11. Steering line(1)	Hose (2)	a. Take off tag. b. Uncap line (1). c. Screw in and tighten using open-end wrench.
12. Special elbow (3)	Nut (4)	Screw on all the way.
13.	New packing (5)	Place in position.
14. Cylinder (6)	Special elbow (3) with assembled parts	a. Uncap cylinder(6). b. Screw into same relative position noted during removal.
15. Special elbow (3) and cylinder (6)	Nut (4)	Using open-end wrench, tighten until seated against cylinder (6).
16. Special elbow (3)	Two hoses (2 and 7)	a. Uncap hose (7). b. Screw on and tighten using open-end wrench.
17. Loader backhoe	Transmission	Check fluid level and add proper amount and grade (TM 5-2420-222-10).
18.	Engine	Start and run at high idle (TM 5-2420-222-10).
19.	Steering valve oil line-to-right cylinder oil hose	a. Operate steering (TM 5-2420-222-10) and check for leaks. b. If leaking at any connection, tighten using open-end wrench. c. If leaking does not stop, shut down engine (TM 5-2420-222-10) and replace leaking connection packing or hose as outlined in this task. d. If leak was found, repeat step 17.
20.	Engine	If still running, shut down (TM 5-2420-222-10).

STEERING VALVE OIL LINE-TO-RIGHT STEERING CYLINDER OIL HOSE (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED



TASK ENDS HERE

TA243184

SPECIAL ELBOW-TO-LEFT STEERING CYLINDER OIL HOSE (SERIAL NUMBERS 235786 THRU 235999 ONLY)

This task covers:

- a. Removal (page 2-950)
- b. Cleaning (page 2-951)
- c. Inspection/Replacement (page 2-952)
- d. Installation (page 2-952)

INITIAL SETUP

Tools

- Knife, pocket
- Pan, drain
- Wrench, open-end

Materials/Parts

- Detergent, GP (item 7, Appendix C)
- Packing, hose elbow-to-cylinder
- Rags, wiping (item 21, Appendix C)

Materials/Parts - Continued

- Solvent, drycleaning (item 28, Appendix C)
- Tags, marking (item 30, Appendix C)

Personnel Required

One

Equipment Condition

Hydraulic system pressure released
(page 2-1191)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

WARNING

Do not attempt to disconnect hydraulic lines and fittings while engine is running or before hydraulic system pressure has been released. When engine is running, hydraulic system is under pressure. Hydraulic system pressure should be 0 psi (0 kPa) before lines are disconnected. A line or fitting disconnected under pressure will blow off with a lot of force and could cause serious injury to personnel.

Be careful when draining hot fluids. Wear gloves to protect your hands from hot parts and fluids or severe burns could result.

- | | | | |
|----|---------------------------------|----------|---|
| 1. | Hose elbow (1) | Hose (2) | <ul style="list-style-type: none"> a. Place drain pan underneath to catch draining fluid. b. Using open-end wrench, unscrew and take off. |
| 2. | Cylinder (3) and hose elbow (1) | Nut (4) | Using open-end wrenches, loosen. |

SPECIAL ELBOW-TO-LEFT STEERING CYLINDER OIL HOSE (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

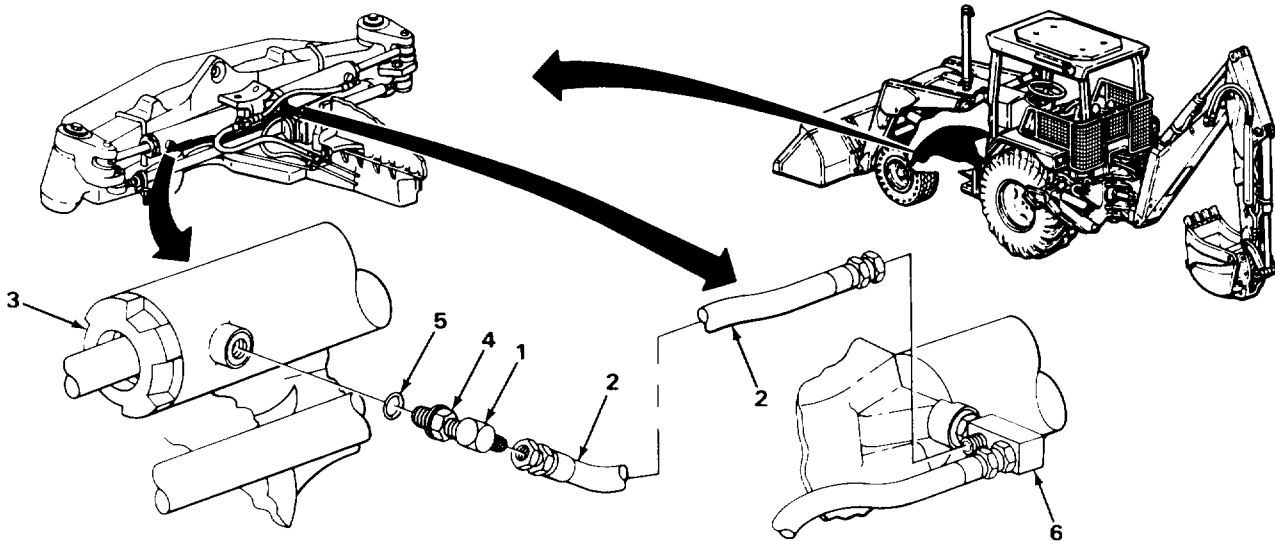
LOCATION	ITEM	ACTION	REMARKS
3. Cylinder (3)	Hose elbow (1) with assembled parts	a. Note relative position for proper placement during installation. b. Using open-end wrench, unscrew and take out. c. Cap cylinder (3) (page 2-137).	
4. Hose elbow (1)	Packing (5)	a. Using pocket knife, take off. b. Get rid of.	
5. Special elbow (6)	Hose (2)	a. Place drain pan underneath to catch draining fluid. b. Using open-end wrench, unscrew and take off. c. Cap elbow (6) (page 2-137). d. Get rid of drained fluid (page 2-137). e. Tag (page 2-137).	

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

- | | | |
|----|----------|--|
| 6. | Hose (2) | a. Using clean rags dampened with solution of detergent and water, wipe clean.
b. Using clean rags dampened with clean water, rinse.
c. Using clean, dry rags, wipe dry. |
|----|----------|--|



TA243185

SPECIAL ELBOW-TO-LEFT STEERING CYLINDER OIL HOSE (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|----|----------------|----------------------------------|-------------------------------------|
| 7. | Hose elbow (1) | a. Clean in drycleaning solvent. | b. Using clean, dry rags, wipe dry. |
|----|----------------|----------------------------------|-------------------------------------|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

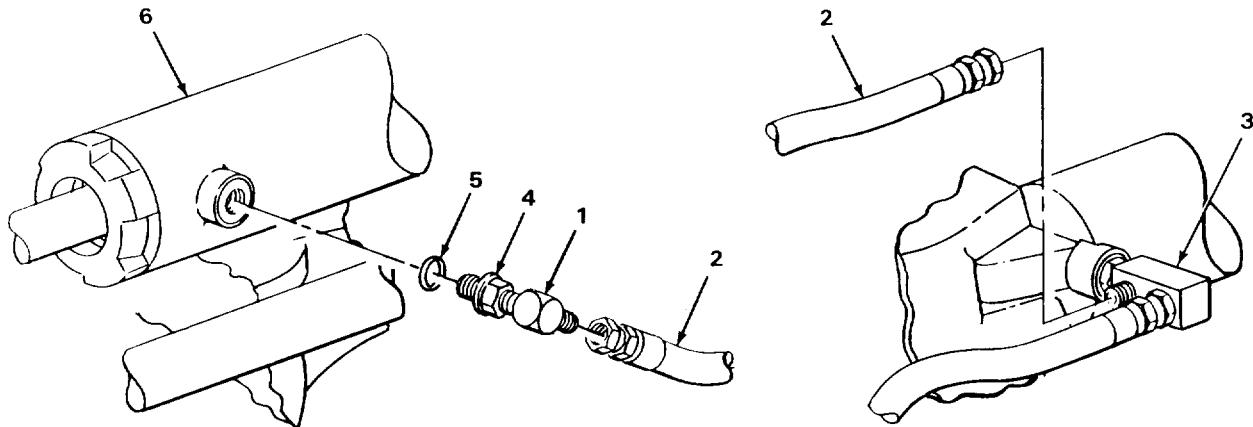
- | | | | |
|-----|--------------------|------------------------------------|--|
| 8. | Hose (2) | Look for cuts, cracks, and breaks. | |
| 9. | Hose elbow (1) | Look for cracks and breaks. | |
| 10. | All threaded parts | Look for damaged threads. | |

INSTALLATION

- | | | |
|-----------------------|--|--|
| 11. Special elbow (3) | Hose (2) | a. Remove tag.
b. Uncap elbow (3).
c. Screw on and tighten using open-end wrench. |
| 12. Hose elbow (1) | Nut (4) | Screw on all the way. |
| 13. | New packing (5) | Place in position. |
| 14. Cylinder (6) | Hose elbow (1)
with assembled parts | a. Uncap cylinder (6).
b. Screw into same relative position noted during removal using open-end wrench. |

SPECIAL ELBOW-TO-LEFT STEERING CYLINDER OIL HOSE (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

LOCATION	ITEM	ACTION REMARKS
15. Hose elbow (1) and cylinder (6)	Nut (4)	Using open-end wrench, tighten until seated against cylinder (6).
16. Hose elbow (1)	Hose (2)	Screw on and tighten using open-end wrench.
17. Loader backhoe	Transmission	Check fluid level and add proper amount and grade (TM 5-2420-222-10).
18.	Engine	Start and run at high idle (TM 5-2420-222-10).
19.	Special elbow-to-left steering cylinder oil hose	<ul style="list-style-type: none"> a. Operate steering (TM 5-2420-222-10) and check for leaks. b. If leaking at any connection, tighten using open-end wrench. c. If leaking does not stop, shut down engine (TM 5-2420-222-10) and replace leaking connection packing or hose as outlined in this task. d. If leak was found, repeat step 17.
20.	Engine	If still running, shut down (TM 5-2420-222-10).



TASK ENDS HERE

**STEERING VALVE OIL LINE-TO-LEFT STEERING CYLINDER OIL HOSE (SERIAL NUMBERS 235786
THRU 235999 ONLY)**

This task covers:

- | | |
|--------------------------|--|
| a. Removal (page 2-954) | c. Inspection/Replacement (page 2-956) |
| b. Cleaning (page 2-956) | d. Installation (page 2-956) |

INITIAL SETUP
Tools

Knife, pocket
Pan, drain
Wrench, open-end

Personnel Required

One

Equipment Condition
Materials/Parts

Detergent, GP (item 7, Appendix C)
Packing, tee-to-cylinder
Rags, wiping (item 21, Appendix C)
Solvent, drycleaning (item 28,
Appendix C)
Tags, marking (item 30, Appendix C)

Hydraulic system pressure released
(page 2-1191)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

WARNING

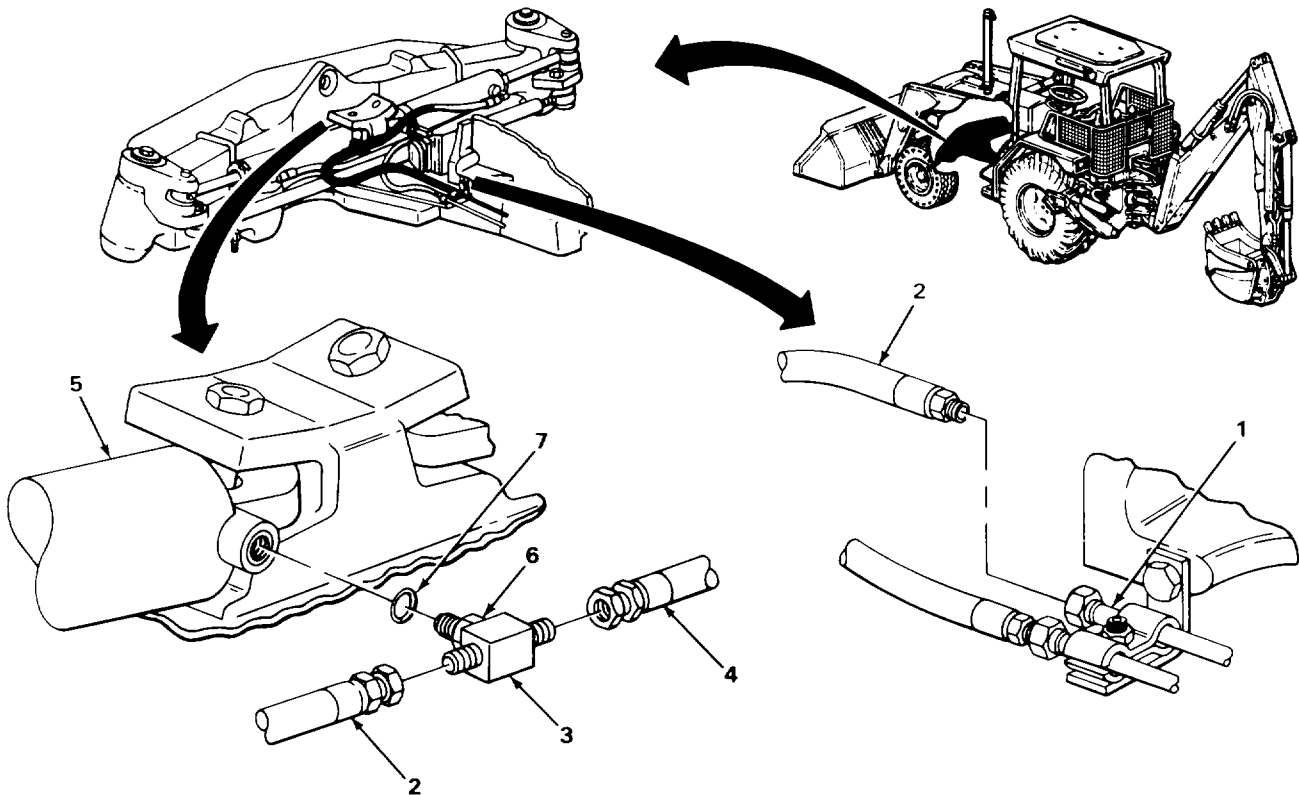
Do not attempt to disconnect hydraulic lines and fittings while engine is running or before hydraulic system pressure has been released. When engine is running, hydraulic system is under pressure. Hydraulic system pressure should be 0 psi (0 kPa) before lines are disconnected. A line or fitting disconnected under pressure will blow off with a lot of force and could cause serious injury to personnel.

Be careful when draining hot fluids. Wear gloves to protect your hands from hot parts and fluids or severe burns could result.

- | | | | |
|----|-------------------|----------|--|
| 1. | Steering line (1) | Hose (2) | <ul style="list-style-type: none"> a. Place drain pan underneath to catch draining fluid. b. Using open-end wrench, unscrew and take off. c. Cap line (1) (page 2-137). d. Tag (page 2-137). |
|----|-------------------|----------|--|

STEERING VALVE OIL LINE-TO-LEFT STEERING CYLINDER OIL HOSE (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

LOCATION	ITEM	ACTION REMARKS
2. Adjustable tee (3)	Two hoses (2 and 4)	a. Place drain pan underneath to catch draining fluid. b. Using open-end wrench, unscrew and take off. c. Cap hose (4) (page 2-137).
3. Adjustable tee (3) and cylinder (5)	Nut (6)	Using open-end wrench, loosen.
4. Cylinder (5)	Adjustable tee (3) with assembled parts	a. Note relative position for proper placement during installation. b. Using open-end wrench, unscrew and take out. c. Cap cylinder (5) (page 2-137). d. Get rid of drained fluid (page 2-137).
5. Adjustable tee (3)	Packing (7)	a. Using pocket knife, take off. b. Get rid of.



TA243187

**STEERING VALVE OIL LINE-TO-LEFT STEERING CYLINDER OIL HOSE (SERIAL NUMBERS 235786
THRU 235999 ONLY) - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

- | | | | |
|----|----------|----|---|
| 6. | Hose (1) | a. | Using clean rags dampened with solution of detergent and water, wipe clean. |
| | | b. | Using clean rags dampened with clean water, rinse. |
| | | c. | Using clean, dry rags, wipe dry. |

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|----|--------------------|----|----------------------------------|
| 7. | Adjustable tee (2) | a. | Clean in drycleaning solvent. |
| | | b. | Using clean, dry rags, wipe dry. |

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

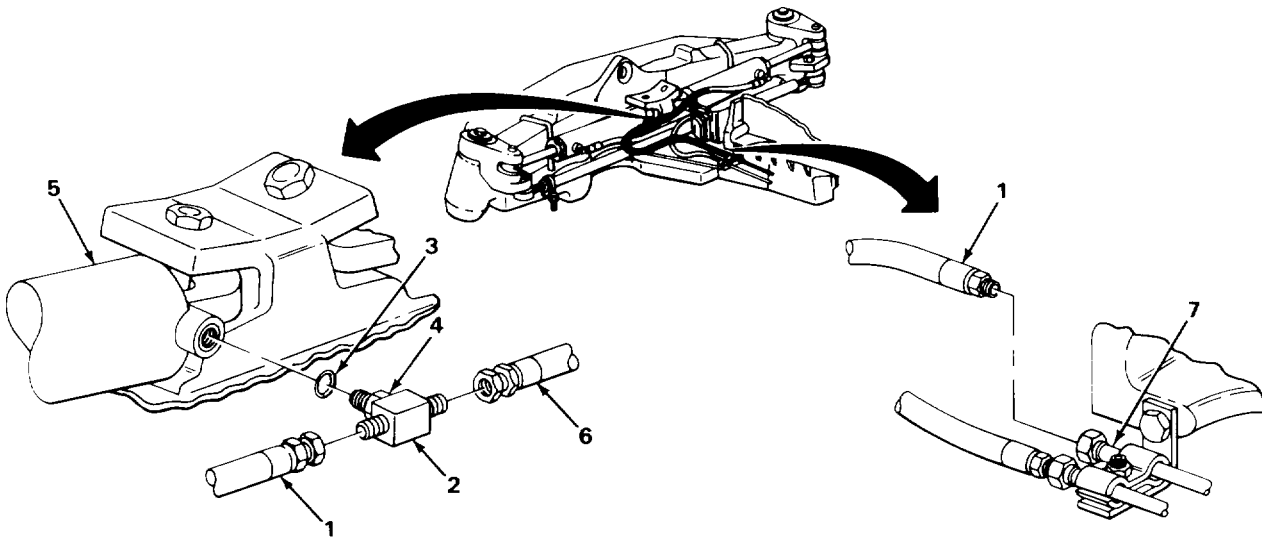
- | | | | |
|-----|--------------------|--|------------------------------------|
| 8. | Hose (1) | | Look for cuts, cracks, and breaks. |
| 9. | Adjustable tee (2) | | Look for cracks and breaks. |
| 10. | All threaded parts | | Look for damaged threads. |

INSTALLATION

- | | | | |
|------------------------|-----------------|--|-----------------------|
| 11. Adjustable tee (2) | New packing (3) | | Place in position. |
| 12. | Nut (4) | | Screw on all the way. |

STEERING VALVE OIL LINE-TO-LEFT STEERING CYLINDER OIL HOSE (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

LOCATION	ITEM	ACTION REMARKS
13. Cylinder(5)	Adjustable tee (2) with assembled parts	a. Uncap cylinder(5). b. Screw in and tighten to same relative position noted during removal using open-end wrench.
14. Cylinder (5) and adjustable tee (2)	Nut (4)	Using open-end wrench, tighten until seated against cylinder (5).
15. Adjustable tee (2)	Two hoses (2 and 6)	a. Uncap hose (6). b. Screw on and tighten using open-end wrench.
16. Steering line (7)	Hose (1)	a. Take off tag. b. Uncap line (7). c. Screw in and tighten using open-end wrench.
17. Loader backhoe	Transmission	Check fluid level and add proper amount and grade (TM 5-2420-222-10).
18.	Engine	Start and run at high idle (TM 5-2420-222-10).



TA243188

STEERING VALVE OIL LINE-TO-LEFT STEERING CYLINDER OIL HOSE (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
19.	Steering valve oil line-to-left steering cylinder oil hose	<ul style="list-style-type: none"> a. Operate steering (TM 5-2420-222-10) and check for leaks. b. If leaking at any connection, tighten using open-end wrench. c. If leaking does not stop, shut down engine (TM 5-2420-222-10) and replace leaking connection packing or hose as outlined in this task. d. If leak was found, repeat step 17. 	
20.	Engine	If still running, shut down (TM 5-2420-222-10).	

TASK ENDS HERE

TEE-TO-RIGHT STEERING CYLINDER OIL HOSE (SERIAL NUMBERS 235786 THRU 235999 ONLY)

This task covers:

- | | |
|--------------------------|--|
| a. Removal (page 2-959) | c. Inspection/Replacement (page 2-960) |
| b. Cleaning (page 2-960) | d. Installation (page 2-961) |

INITIAL SETUP

Tools

- Knife, pocket
- Pan, drain
- Wrench, open-end

Materials/Parts - Continued

- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)
- Tags, marking (item 30, Appendix C)

Materials/Parts

- Detergent, GP (item 7, Appendix C)
- Packing, hose elbow-to-cylinder

Personnel Required

One

Equipment Condition

Hydraulic system pressure released (page 2-1191)

2-958

TEE-TO-RIGHT STEERING CYLINDER OIL HOSE (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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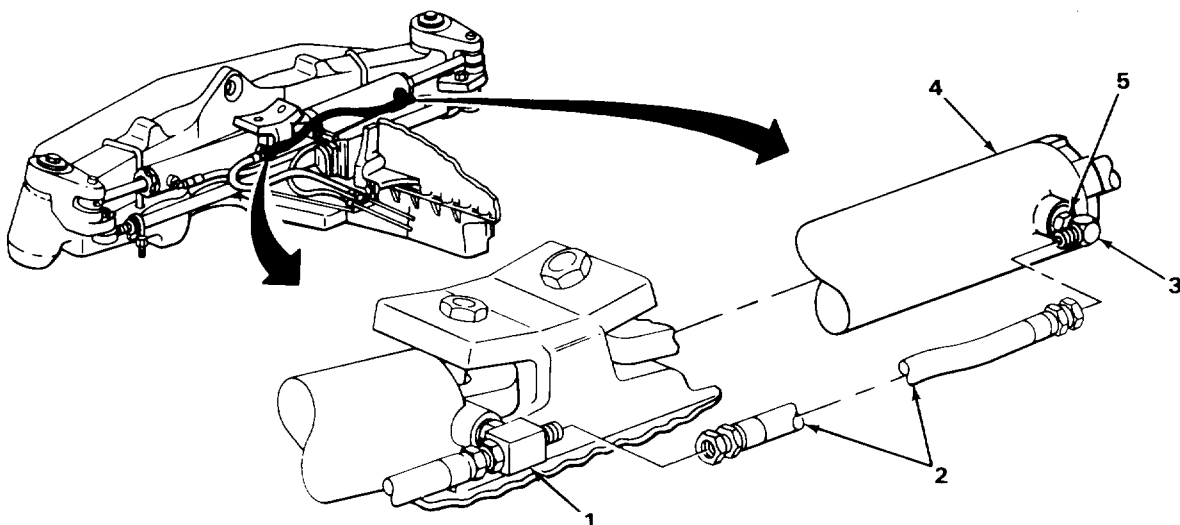
REMOVAL

WARNING

Do not attempt to disconnect hydraulic lines and fittings while engine is running or before hydraulic system pressure has been released. When engine is running, hydraulic system is under pressure. Hydraulic system pressure should be 0 psi (0 kPa) before lines are disconnected. A line or fitting disconnected under pressure will blow off with a lot of force and could cause serious injury to personnel.

Be careful when draining hot fluids. Wear gloves to protect your hands from hot parts and fluids or severe burns could result.

- | | | |
|------------------------------------|-----------|---|
| 1. Adjustable tee (1) | Hoses (2) | <ul style="list-style-type: none"> a. Place drain pan underneath to catch draining fluid. b. Using open-end wrench, unscrew and take off. c. Cap tee (1) (page 2-137). |
| 2. Hose elbow (3) | Hose (2) | <ul style="list-style-type: none"> a. Place drain pan underneath to catch draining fluid. b. Using open-end wrench, unscrew and take off. c. Tag (page 2-137). |
| 3. Cylinder (4) and hose elbow (3) | Nut (5) | Using open-end wrench, loosen. |



TA243189

**TEE-TO-RIGHT STEERING CYLINDER OIL HOSE (SERIAL NUMBERS 235786 THRU 235999 ONLY) -
CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
4. Cylinder (1)	Hose elbow (2) with assembled parts	a. Note relative position for proper placement during installation. b. Using open-end wrench, unscrew and take out. c. Cap cylinder (1) (page 2-137). d. Get rid of drained fluid (page 2-137).	
5. Hose elbow (2)	Packing (3)	a. Using pocket knife, take off. b. Get rid of.	

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

- | | | | |
|----|----------|--|--|
| 6. | Hose (4) | a. Using clean rags dampened with solution of detergent and water, wipe clean.
b. Using clean rags dampened with clean water, rinse.
c. Using clean, dry rags, wipe dry. | |
|----|----------|--|--|

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|----|----------------|---|--|
| 7. | Hose elbow (2) | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. | |
|----|----------------|---|--|

INSPECTION/REPLACEMENT

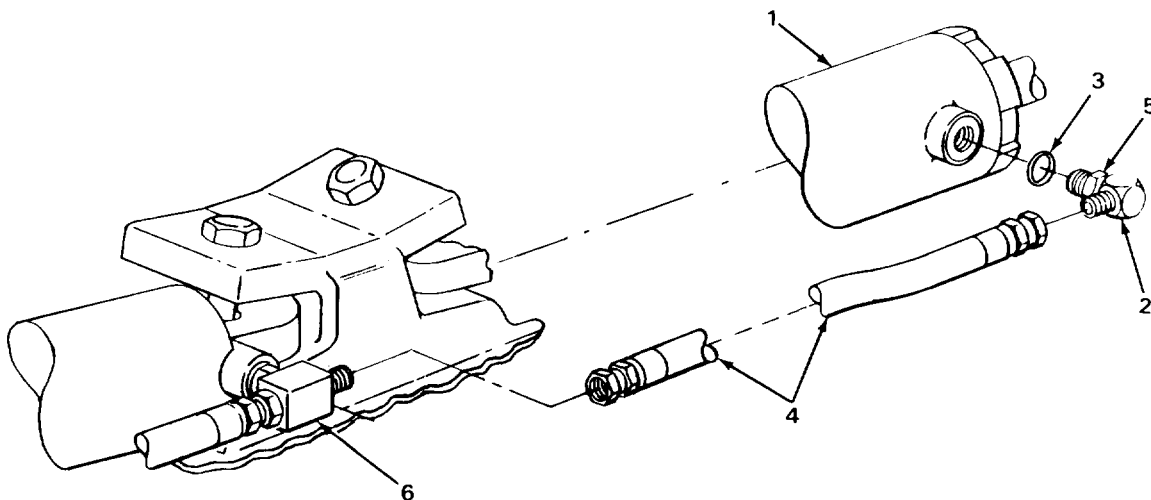
NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

TEE-TO-RIGHT STEERING CYLINDER OIL HOSE (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
8.	Hose (4)		Look for cuts, cracks, and breaks.
9.	Hose elbow (2)		Look for cracks and breaks.
10.	All threaded parts		Look for damaged threads.
INSTALLATION			
11.	Hose elbow (2)	Nut (5)	Screw on all the way.
12.		New packing (3)	Place in position.
13.	Cylinder (1)	Hose elbow (2) with assembled parts	a. Remove tag. b. Uncap cylinder (1). c. Screw in and tighten to same relative position noted during removal using open-end wrench.
14.	Cylinder (1) and hose elbow (2)	Nut (5)	Using open-end wrench, tighten until seated against cylinder (4).
15.	Hose elbow (2)	Hose (4)	Screw on and tighten using open-end wrench.
16.	Adjustable tee (6)	Hose (4)	a. Uncap tee (6). b. Screw in and tighten using open-end wrench.



TEE-TO-RIGHT STEERING CYLINDER OIL HOSE (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
17. Loader backhoe	Transmission	Check fluid level and add proper amount and grade (TM 5-2420-222-10).
18.	Engine	Start and run at high idle (TM 5-2420-222-10).
19.	Tee-to-right a. cylinder oil hose	Operate steering (TM 5-2420-222-10) and check for leaks. b. If leaking at any connection, tighten using open-end wrench. c. If leaking does not stop, shut down engine (TM 5-2420-222-10) and replace leaking connection packing or hose as outlined in this task. d. If leak was found, repeat step 17.
20.	Engine	If still running, shut down (TM 5-2420-222-10).

TASK ENDS HERE

STEERING VALVE OIL LINE-TO-STEERING CYLINDER OIL HOSES (SERIAL NUMBERS 319995 THRU 342573 ONLY)

This task covers:

- a. Removal (page 2-964)
- b. Cleaning (page 2-964)
- c. Inspection/Replacement (page 2-966)
- d. Installation (page 2-966)

INITIAL SETUP

Tools

- Knife, pocket
- Pan, drain
- Wrench, open-end, 5/8-inch
- Wrench, open-end, 11/16-inch

Materials/Parts

- Detergent, GP (item 7, Appendix C)
- Packing, hose elbow-to-cylinder

Materials/Parts - Continued

- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)
- Tags, marking (item 30, Appendix C)

Personnel Required

One

Equipment Condition

Hydraulic system pressure released
(page 2-1191)

LOCATION	ITEM	ACTION	REMARKS
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NOTE

Both steering valve oil line-to-steering cylinder oil hoses are maintained the same way. Left side is shown. Repeat procedures for right side as needed.

2-963

**STEERING VALVE OIL LINE-TO-STEERING CYLINDER OIL HOSES (SERIAL NUMBERS 319995
THRU 342573 ONLY) - CONTINUED**

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
<u>WARNING</u>			
Do not attempt to disconnect hydraulic lines and fittings while engine is running or before hydraulic system pressure has been released. When engine is running, hydraulic system is under pressure. Hydraulic system pressure should be 0 psi (0 kPa) before lines are disconnected. A line or fitting disconnected under pressure will blow off with a lot of force and could cause serious injury to personnel.			
Be careful when draining hot fluids. Wear gloves to protect your hands from hot parts and fluids or severe burns could result.			
1. Line (1)	Hose (2)	a. Place drain pan underneath to catch draining fluid. b. Using 5/8-inch and 11/16-inch open-end wrenches, unscrew and take out. c. Cap line (1) (page 2-137). d. Tag (page 2-137).	
2. Hose elbow (3)	Hose (2)	a. Place drain pan underneath to catch draining fluid. b. Using 11/16-inch open-end wrench, unscrew and take off.	
3. Hose elbow (3) and cylinder (4)	Nut (5)	Using 5/8-inch and 11/16-inch open-end wrenches, loosen.	
4. Cylinder (4)	Hose elbow (3) with assembled parts	a. Note relative position for proper placement during installation. b. Using 5/8-inch open-end wrench, unscrew and take out. c. Cap cylinder (4) (page 2-137). d. Get rid of drained fluid (page 2-137).	
5. Hose elbow (3)	Packing (6)	a. Using pocket knife, take off. b. Get rid of.	

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

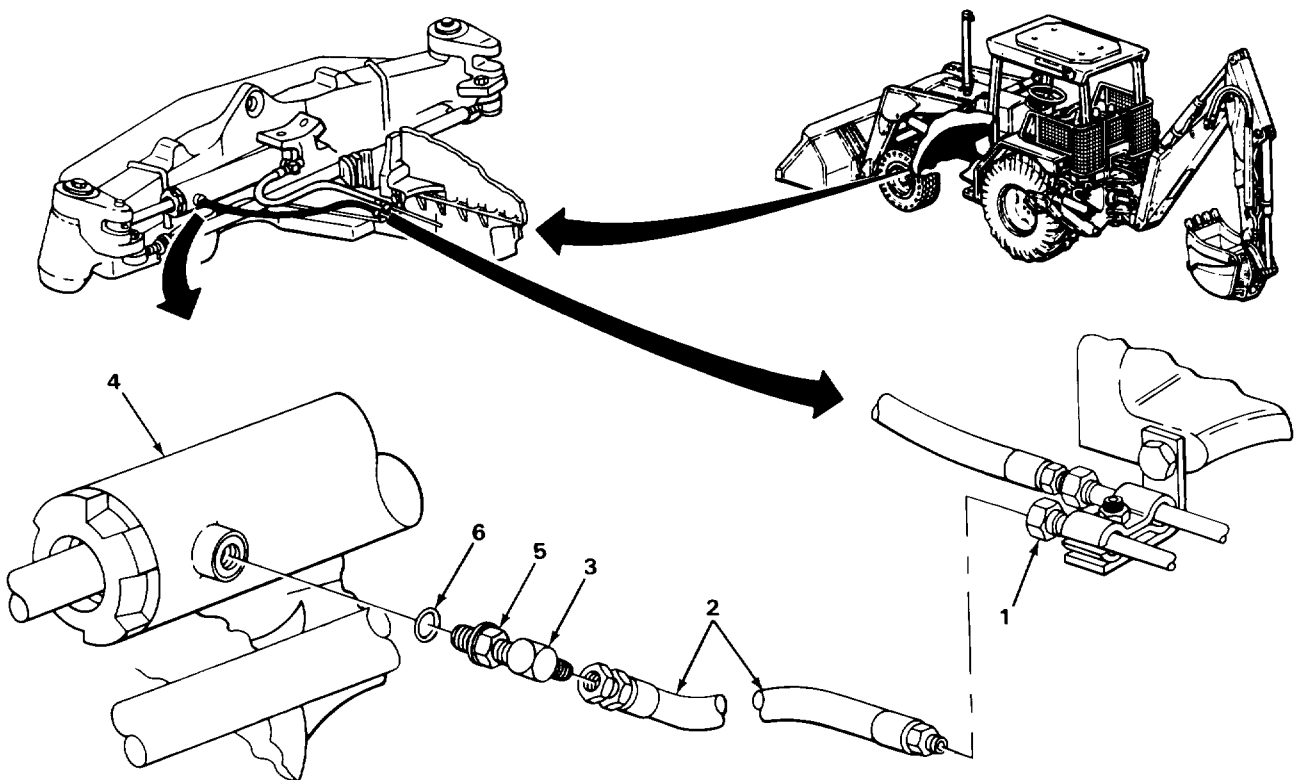
STEERING VALVE OIL LINE-TO-STEERING CYLINDER OIL HOSES (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
6.	Hose (4)	<ul style="list-style-type: none"> a. Using clean rags dampened with solution of detergent and water, wipe clean. b. Using clean rags dampened with clean water, rinse. c. Using clean, dry rags, wipe dry. 	

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

7.	Hose elbow (2)	<ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. 	
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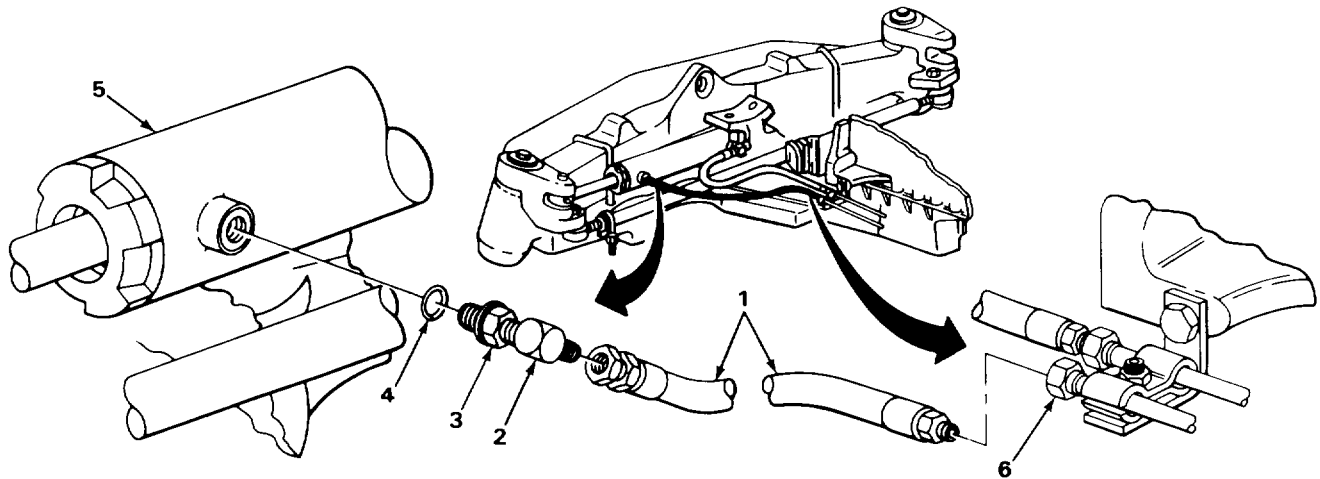
TA243191

**STEERING VALVE OIL LINE-TO-STEERING CYLINDER OIL HOSES (SERIAL NUMBERS 319995
THRU 342573 ONLY) - CONTINUED**

LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT		
NOTE		
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).		
Replace defective parts as needed.		
8.	Hose (1)	Look for cuts, cracks, and breaks.
9.	Hose elbow (2)	Look for cracks and breaks.
10.	All threaded parts	Look for damaged threads.
INSTALLATION		
11.	Hose elbow (2)	Nut (3)
Screw on all the way.		
12.	New packing (4)	
Place in position.		
13.	Cylinder (5)	Hose elbow (2) with assembled parts
a. Uncap cylinder (5). b. Screw in and tighten to same relative position noted during removal using 5/8-inch open-end wrench.		
14.	Cylinder (5) and hose elbow (2)	Nut (3)
Using 5/8-inch and 11/16-inch open-end wrenches, tighten until seated against cylinder (5).		
15.	Hose elbow (2)	Hose (1)
a. Take off tag. b. Screw on and tighten using 11/16-inch open-end wrench.		
16.	Line (6)	Hose (1)
a. Uncap line (6). b. Screw in and tighten using 5/8-inch and 11/16-inch open-end wrenches.		
17.	Loader backhoe	Transmission
Check fluid level and add proper amount and grade (TM 5-2420-222-10).		
18.		Engine
Start and run at high idle (TM 5-2420-222-10).		

STEERING VALVE OIL LINE-TO-STEERING CYLINDER OIL HOSES (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
19.	Steering valve oil line-to-steering cylinder oil hose	<ul style="list-style-type: none"> a. Operate steering (TM 5-2420-222-10) and check for leaks. b. If leaking at any connection, tighten using 5/8-inch and 11/16-inch open-end wrenches. c. If leaking does not stop, shut down engine (TM 5-2420-222-10) and replace leaking connection packing or hose as outlined in this task. d. If leak was found, repeat step 17. 	
20.	Engine	If still running, shut down (TM 5-2420-222-10).	



TASK ENDS HERE

STEERING VALVE OIL LINES

This task covers:

- a. Removal (page 2-968)
- b. Cleaning (page 2-972)
- c. Inspection/Replacement (page 2-972)
- d. Installation (page 2-973)

INITIAL SETUP

Tools

- Handle, ratchet, 3/8-inch drive
- Knife, pocket
- Pan, drain
- Socket, 3/8-inch drive, 9/16-inch
- Socket, 3/8-inch drive, 3/4-inch
- Wrench, box, 9/16-inch

Materials/Parts

- Lockwasher, bracket screw
- Lockwasher, clamp screw (two required)
- Packing, elbow-to-steering valve (two required)
- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)
- Tags, marking (item 30, Appendix C)

NOTE

The following tools only apply to loader backhoes with Serial Numbers 319995 thru 342573.

- Wrench, open-end, 5/8-inch
- Wrench, open-end, 11/16-inch
- Wrench, open-end, 7/8-inch

Personnel Required

One

Equipment Condition

1. Cowl front cover removed (page 2-1020)
2. Left outer platform ramp removed (page 2-1073)
3. Hydraulic system pressure released (page 2-1191)

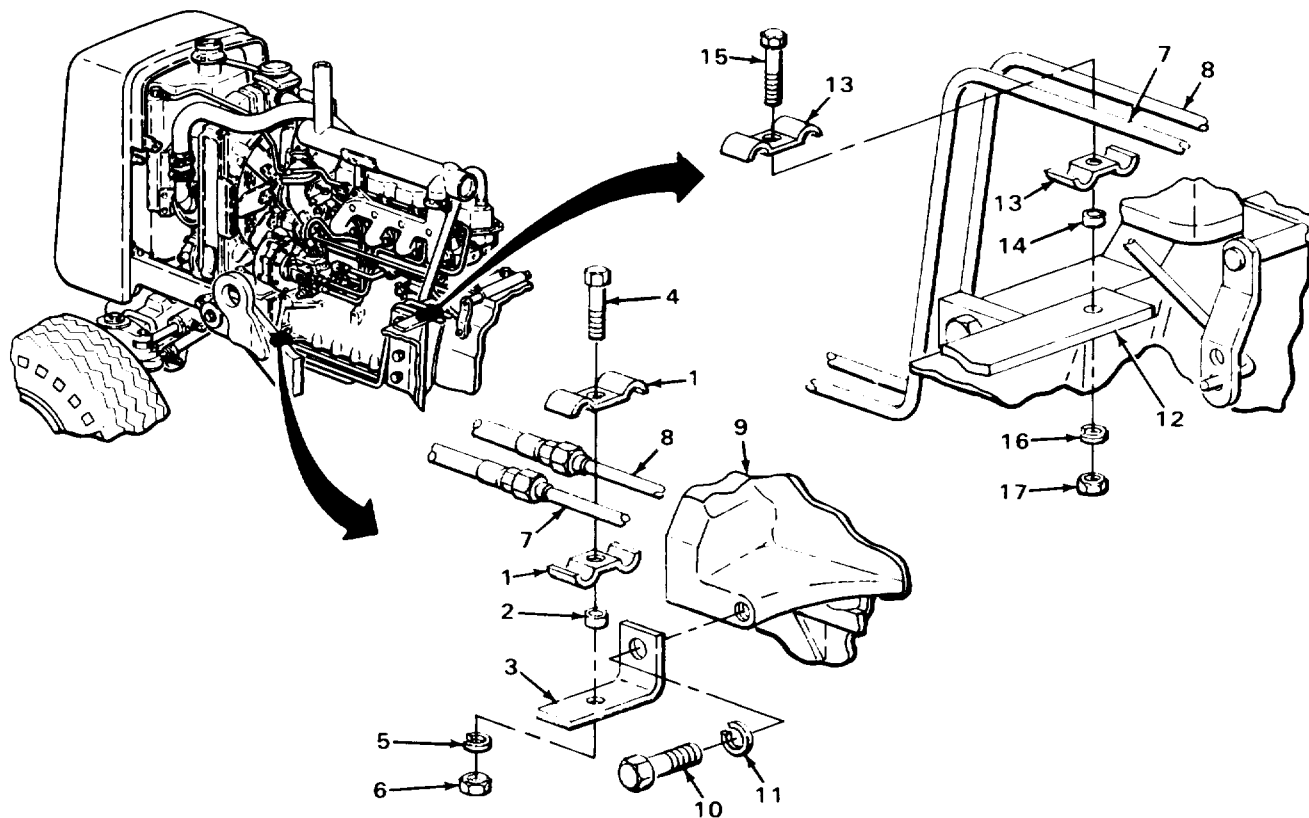
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

- | | | | |
|----|---|--|---|
| 1. | Two clamps (1), spacer (2), and bracket (3) | Screw (4), lockwasher (5), and nut (6) | <ul style="list-style-type: none"> a. Using 9/16-inch, 3/8-inch drive socket, ratchet handle, and 9/16-inch box wrench, unscrew and take apart. b. Get rid of lockwasher (5). |
| 2. | Two lines (7 and 8) and bracket (3) | Two clamps (1) and spacer (2) | Take off. |

STEERING VALVE OIL LINES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
3. Engine block (9) and bracket (3) apart.	Screw (10) and lockwasher (11)	a. Using 3/4-inch, 3/8-inch drive socket and ratchet handle, unscrew and take b. Get rid of lockwasher(11).	
4. Engine block (9)	Bracket (3)	Take off.	
5. Canopy support bracket (12), two clamps (13), and spacer (14)	Screw (15), lockwasher (16), and nut (17)	a. Using 9/16-inch, 3/8-inch drive socket, ratchet handle, and 9/16-inch box wrench, unscrew and take apart. b. Get rid of lockwasher (16).	
6. Canopy support bracket (12), and two lines (7 and 8)	Two clamps (13) and spacer (14)	Take off.	



TA243193

STEERING VALVE OIL LINES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL - CONTINUED

WARNING

Do not attempt to disconnect hydraulic lines and fittings while engine is running or before hydraulic system pressure has been released. When engine is running, hydraulic system is under pressure. Hydraulic system pressure should be 0 psi (0 kPa) before lines are disconnected. A line or fitting disconnected under pressure will blow off with a lot of force and could cause serious injury to personnel.

Be careful when draining hot fluids. Wear gloves to protect your hands from hot parts and fluids or severe burns could result.

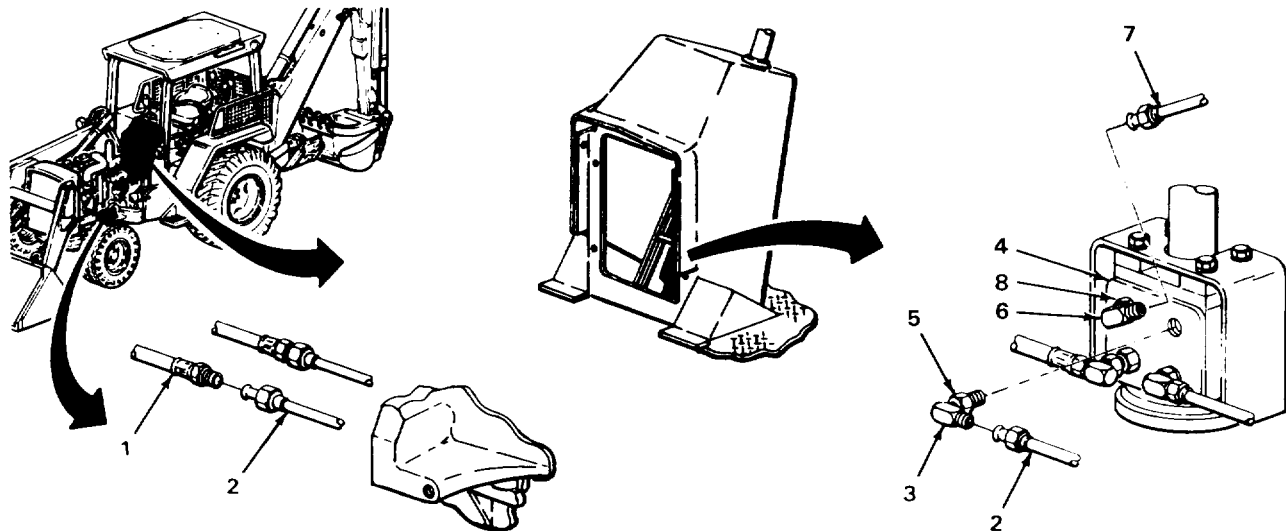
NOTE

Both steering valve oil lines are removed the same way except as noted. Left side is shown. Repeat steps 7 thru 14 for right side as needed.

7. Hose (1)	Line (2)	<ul style="list-style-type: none"> a. Place drain pan underneath to catch draining fluid. b. On loader backhoes with Serial Numbers 235786 thru 235999, using open-end wrench, unscrew and take off. c. On loader backhoes with Serial Numbers 319995 thru 342573, using 5/8-inch and 11/16-inch open-end wrenches, unscrew and take off. d. Cap hose (1) (page 2-137).
8. Elbow (3)	Line (2)	<ul style="list-style-type: none"> a. Place drain pan underneath to catch draining fluid. b. On loader backhoes with Serial Numbers 235786 thru 235999, using open-end wrench, unscrew and take off. c. On loader backhoes with Serial Numbers 319995 thru 342573, using 11/16-inch open-end wrench, unscrew and take off. d. Tag (page 2-137).
9. Elbow (3) and steering valve (4)	Nut (5)	<ul style="list-style-type: none"> a. On loader backhoes with Serial Numbers 235786 thru 235999, using open-end wrench, loosen.

STEERING VALVE OIL LINES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
9.		b. On loader backhoes with Serial Numbers 319995 thru 342573, using 5/8-inch and 7/8-inch open-end wrenches, loosen.	
NOTE			
If right steering valve oil line is being removed, skip steps 10 thru 12.			
10. Elbow (6)	Line (7)	a. Using 11/16-inch open-end wrench, unscrew and take off. b. Plug (page 2-137). c. Tag (page 2-137).	
11. Elbow (6) and steering valve (4)	Nut (8)	Using 5/8-inch and 7/8-inch open-end wrench, loosen.	
12. Steering valve (4)	Elbow (6)	a. Note relative position for proper placement during installation. b. Using 5/8-inch open-end wrench, move out of the way of elbow (3). c. Cap (page 2-137).	
13.	Elbow (6) with assembled parts	a. Note relative position for proper placement during installation. b. On loader backhoes with Serial Numbers 235786 thru 235999, using open-end wrench, unscrew and take out.	



TA243194

STEERING VALVE OIL LINES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
13. Continued	Elbow (1) with assembled parts	<ul style="list-style-type: none"> c. On loader backhoes with Serial Numbers 319956 thru 342573, using 5/8-inch open-end wrench, unscrew and take out. d. Plug steering valve (2) (page 2-137). e. Get rid of drained fluid (page 2-137).
14. Elbow (1)	Packing (3)	<ul style="list-style-type: none"> a. Using pocket knife, take off. b. Get rid of. c. Repeat steps 7 thru 14 for right side as needed.

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

15.	All metal parts	<ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.
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INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

16.	All metal parts	Look for cracks, breaks, and abnormal bends.
17.	All threaded parts	Look for damaged threads.

STEERING VALVE OIL LINES - CONTINUED

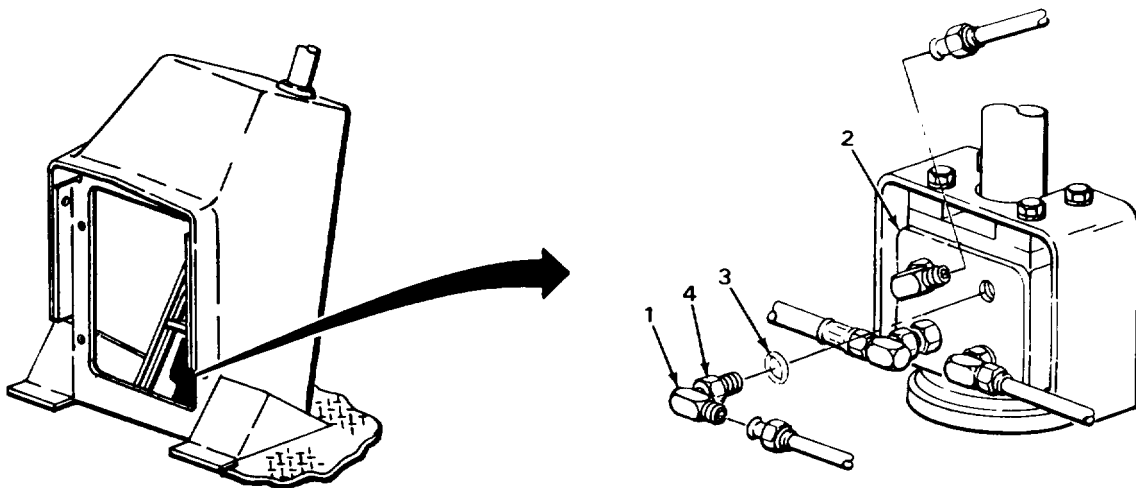
LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION

NOTE

Both steering valve oil lines are installed the same way except as noted. Left side is shown. Repeat steps 7 thru 14 for right side as needed.

18. Elbow (1)	Nut (4)	Screw on all the way.	
19.	New packing (3)	Place in position.	
20. Steering valve (2)	Elbow (1) with assembled parts	<ul style="list-style-type: none"> a. Unplug steering valve (2). b. On loader backhoes with Serial Numbers 235786 thru 235999, screw in and tighten to position noted during removal using open-end wrench. c. On loader backhoes with Serial Numbers 319995 thru 342573, screw in and tighten to position noted during removal using 5/8-inch open-end wrench. 	



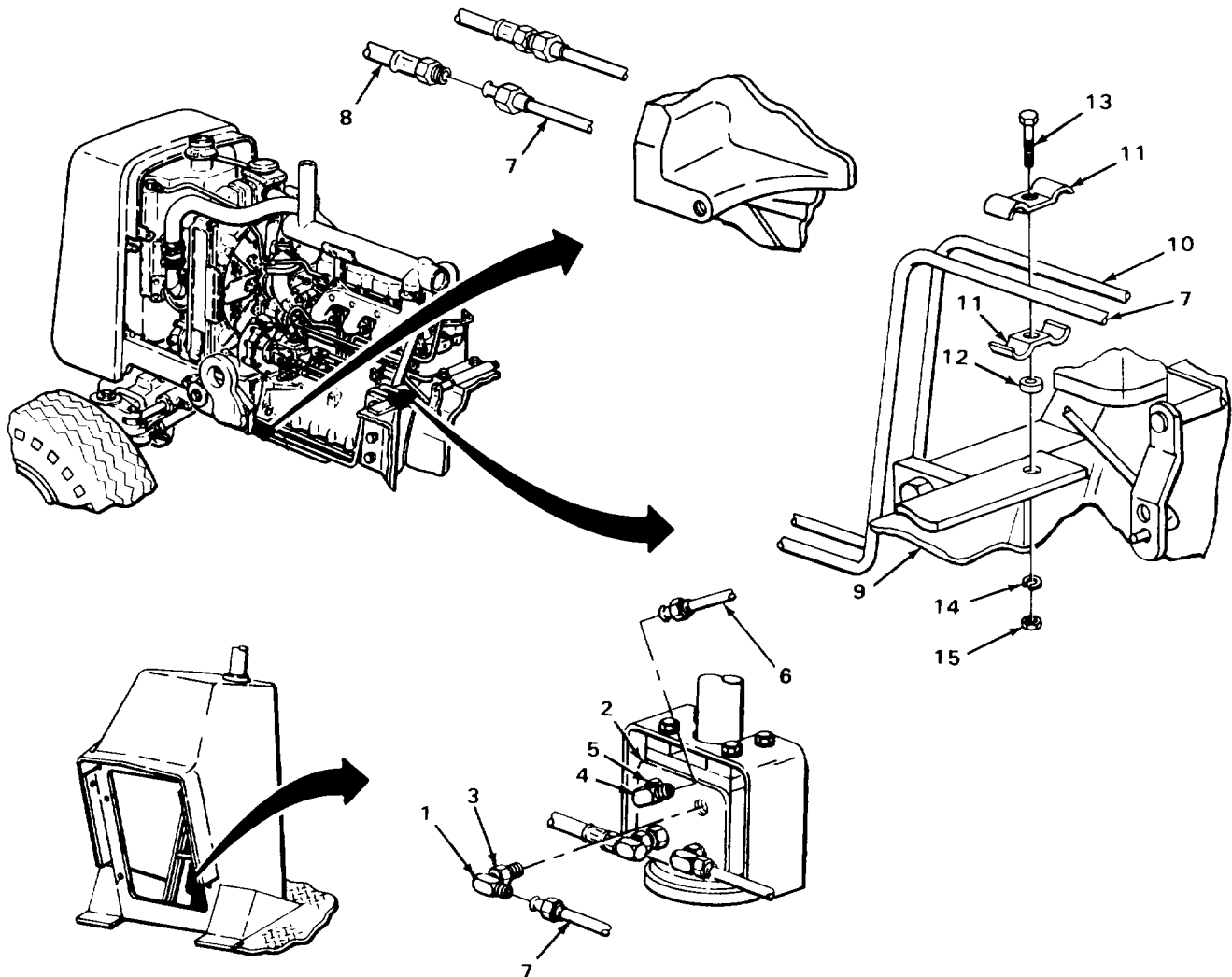
TA243195

STEERING VALVE OIL LINES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
21. Elbow (1) and steering valve (2)	Nut (3)	<ul style="list-style-type: none"> a. On loader backhoes with Serial Numbers 235786 thru 235999, using open-end wrench, tighten until seated against valve (2). b. On loader backhoes with Serial Numbers 319995 thru 342573, using 5/8-inch and 7/8-inch open-end wrenches, tighten until seated against valve (2).
NOTE		
If right steering valve oil line is being installed, skip steps 22 thru 24.		
22. Steering valve (2)	Elbow (4)	Using 5/8-inch open-end wrench, tighten to position noted during removal.
23. Steering valve (2) and elbow (4)	Nut (5)	Using 5/8-inch and 7/8-inch open-end wrenches, tighten until seated against valve (2).
24. Elbow (4)	Line (6)	<ul style="list-style-type: none"> a. Unplug. b. Take off tag. c. Screw on and tighten using 5/8-inch open-end wrench.
25. Elbow (1)	Line (7)	<ul style="list-style-type: none"> a. Take off tag. b. On loader backhoes with Serial Numbers 235786 thru 235999, screw on and tighten using open-end wrench. c. On loader backhoes with Serial Numbers 319995 thru 342573, screw on and tighten using 5/8-inch open-end wrench.
26. Hose (8)	Line (7)	<ul style="list-style-type: none"> a. Uncap hose (8). b. On loader backhoes with Serial Numbers 235786 thru 235999, screw on and tighten using open-end wrench. c. On loader backhoes with Serial Numbers 319995 thru 342573, screw on and tighten using 5/8-inch and 11/16-inch open-end wrenches. d. Repeat steps 18 thru 26 for right side as needed.

STEERING VALVE OIL LINES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
27. Canopy support bracket (9), and two lines (7 and 10)	Two clamps (11) and spacer (12)	Place in position.	
28. Canopy support bracket (9), two clamps (11), and spacer (12)	Screws (13), new lockwasher (14), and nuts (15)	Screw together and tighten using 9/16-inch, 3/8-inch drive socket, ratchet handle, and 9/16-inch box wrench.	

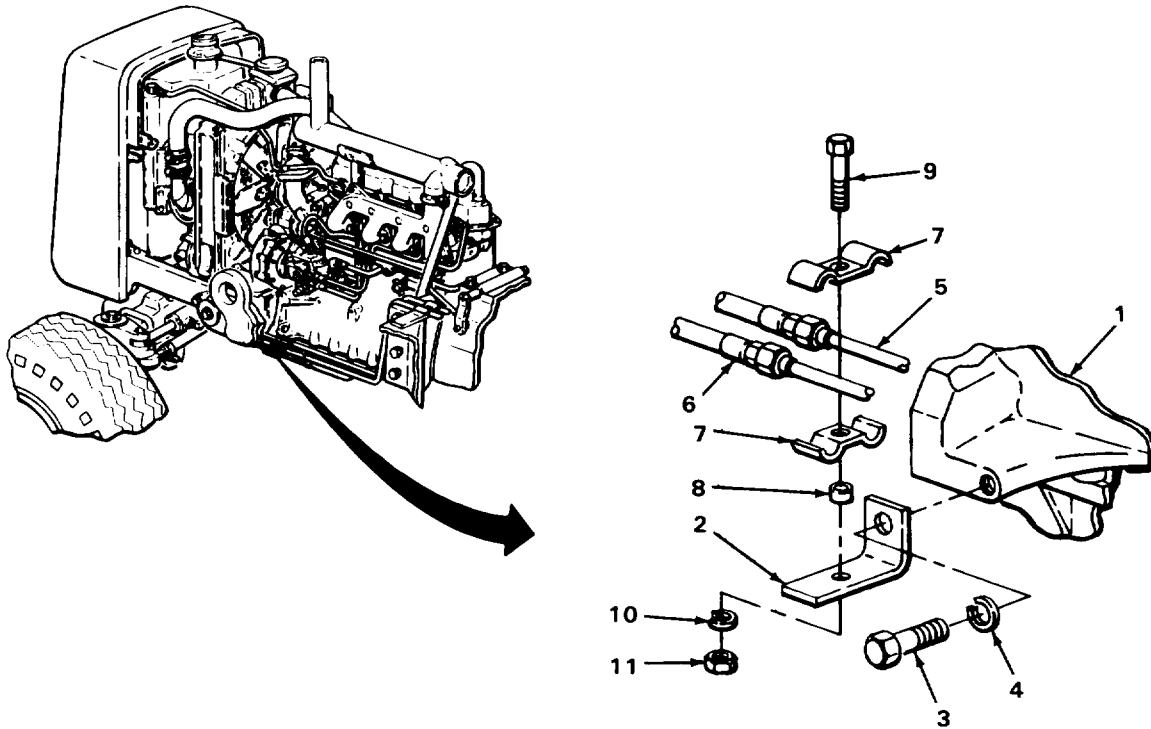


TA243196

STEERING VALVE OIL LINES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
29. Engine block (1)	Bracket (2)	Place in position.
30. Engine block (1) and bracket (2)	Screw (3) and new lockwasher (4)	Screw in and tighten using 3/4-inch, 3/8-inch drive socket and ratchet handle.
31. Two lines (5 and 6)	Two clamps (7) and spacer (8)	Place in position.
32. Bracket (2), two clamps (7), and spacer (8)	Screw (9), new lockwasher (10), and nut (11)	Screw together and tighten using 9/16- inch, 3/8-inch drive socket, ratchet handle, and 9/16-inch box wrench.
33. Loader backhoe	Transmission	Check fluid level and add proper amount and grade (TM 5-2420-222-10).
34.	Engine	Start and run at high idle (TM 5-2420-222-10).
35.	Steering valve oil lines	<ul style="list-style-type: none"> a. Operate steering (TM 5-2420-222-10) and check for leaks. b. If leaking at any connection on loader backhoes with Serial Numbers 235786 thru 235999, tighten using open-end wrench. c. If leaking at any connection on loader backhoes with Serial Numbers 319995 thru 342573, tighten using 5/8-inch and 11/16-inch open-end wrenches or 5/8-inch and 7/8-inch open-end wrenches. d. If leaking does not stop, shut down engine (TM 5-2420-222-10) and replace leaking connection packing or line as outlined in this task. e. If leak was found, repeat step 33.
36.	Engine	If still running, shut down (TM 5-2420-222-10).

STEERING VALVE OIL LINES - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Install left outer platform ramp (page 2-1073).
2. Install cowl front cover (page 2-1020).

TASK ENDS HERE

TA243197

ACCUMULATOR TEE-TO-STEERING VALVE OIL LINE

This task covers:

- a. Removal (page 2-978)
 - b. Cleaning (page 2-981)
 - c. Inspection/Replacement (page 2-982)
 - d. Installation (page 2-982)
-

INITIAL SETUP:

Tools

Extension, 1/2-inch drive, 5-inch
 Handle, ratchet, 1/2-inch drive
 Knife, pocket
 Pan, drain

NOTE

The following tools only apply to loader backhoes with Serial Numbers 319995 thru 342573.

Socket, 1/2-inch drive, 7/8-inch
 Wrench, open-end, 3/4-inch

Materials/Parts

Detergent, GP (item 7, Appendix C)
 Packing, check valve
 Rags, wiping (item 21, Appendix C)

Materials/Parts - Continued

Solvent, drycleaning (item 28, Appendix C)
 Tags, marking (item 30, Appendix C)

NOTE

The following part only applies to loader backhoes with Serial Numbers 235786 thru 235999.

Packing, elbow-to-check valve

Personnel Required

One

Equipment Condition

1. Hydraulic system pressure released (page 2-1191)
2. Cowl front cover removed (page 2-1020)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

WARNING

Do not attempt to disconnect hydraulic lines and fittings while engine is running or before hydraulic system pressure has been released. When engine is running, hydraulic system is under pressure. Hydraulic system pressure should be 0 psi (0 kPa) before lines are disconnected. A line or fitting disconnected under pressure will blow off with a lot of force and could cause serious injury to personnel.

Be careful when draining hot fluids. Wear gloves to protect your hands from hot parts and fluids or severe burns could result.

ACCUMULATOR TEE-TO-STEERING VALVE OIL LINE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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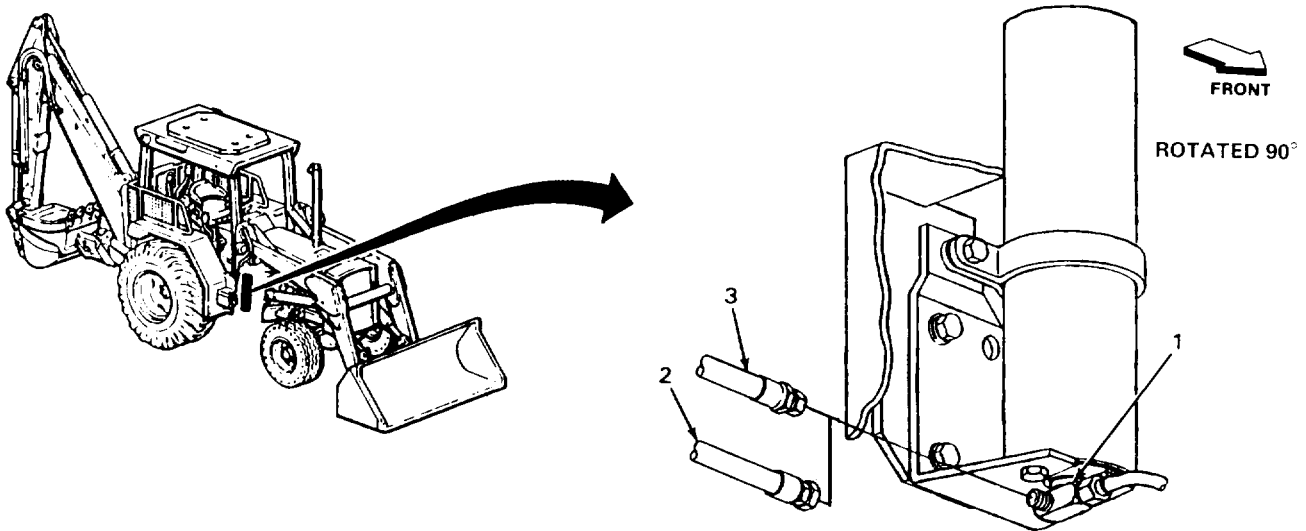
NOTE

Hoses on loader backhoes with Serial Numbers 235786 thru 235999 are different configuration from those on Serial Numbers 319995 thru 342573.

1. Tee (1) draining fluid.	Hose (2 or 3)	a. Place drain pan underneath to catch	b. On loader backhoes with Serial Numbers 235786 thru 235999 only, using open-end wrench, unscrew and take off. c. On loader backhoes with Serial Numbers 319995 thru 342573 only, using 3/4-inch open-end wrench, unscrew and take off. d. Cap tee (1) (page 2-137).
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NOTE

Steps 2 thru 7 only apply to loader backhoes with Serial Numbers 235786 thru 235999.



TA243198

ACCUMULATOR TEE-TO-STEERING VALVE OIL LINE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
2. Elbow (1)	Hose (2)	a. Place drain pan underneath to catch draining fluid. b. Using open-end wrench, unscrew and take off. c. Tag (page 2-137).
3.	Nut (3)	Using open-end wrench, loosen.
4. Check valve (4)	Elbow (1) with assembled parts	a. Note relative position for proper placement during installation. b. Using open-end wrench, unscrew and take out.
5. Elbow (1)	Packing (5)	a. Using pocket knife, take off. b. Get rid of.
6. Steering valve (6)	Check valve (4) with assembled packing (7)	a. Using 1/2-inch drive socket, 5-inch extension, and ratchet handle, unscrew and take out. b. Cap steering valve (6) (page 2-137). c. Get rid of drained fluid (page 2-137).
7. Check valve (4)	Packing (7)	a. Using pocket knife, take off. b. Get rid of.

NOTE

Steps 8 thru 10 only apply to loader backhoes with Serial Numbers 319995 thru 342573.

8. Check valve (8)	Hose (9)	a. Place drain pan underneath to catch draining fluid. b. Using 3/4-inch open-end wrench, unscrew and take off.
9. Steering valve (6)	Check valve (8) with assembled packing (10)	a. Using 7/8-inch, 1/2-inch drive socket, 5-inch extension, and ratchet handle, unscrew and take out. b. Cap steering valve (6) (page 2-137). c. Get rid of drained fluid (page 2-137).
10. Check valve (8)	Packing (10)	a. Using pocket knife, take off. b. Get rid of.

ACCUMULATOR TEE-TO-STEERING VALVE OIL LINE - CONTINUED

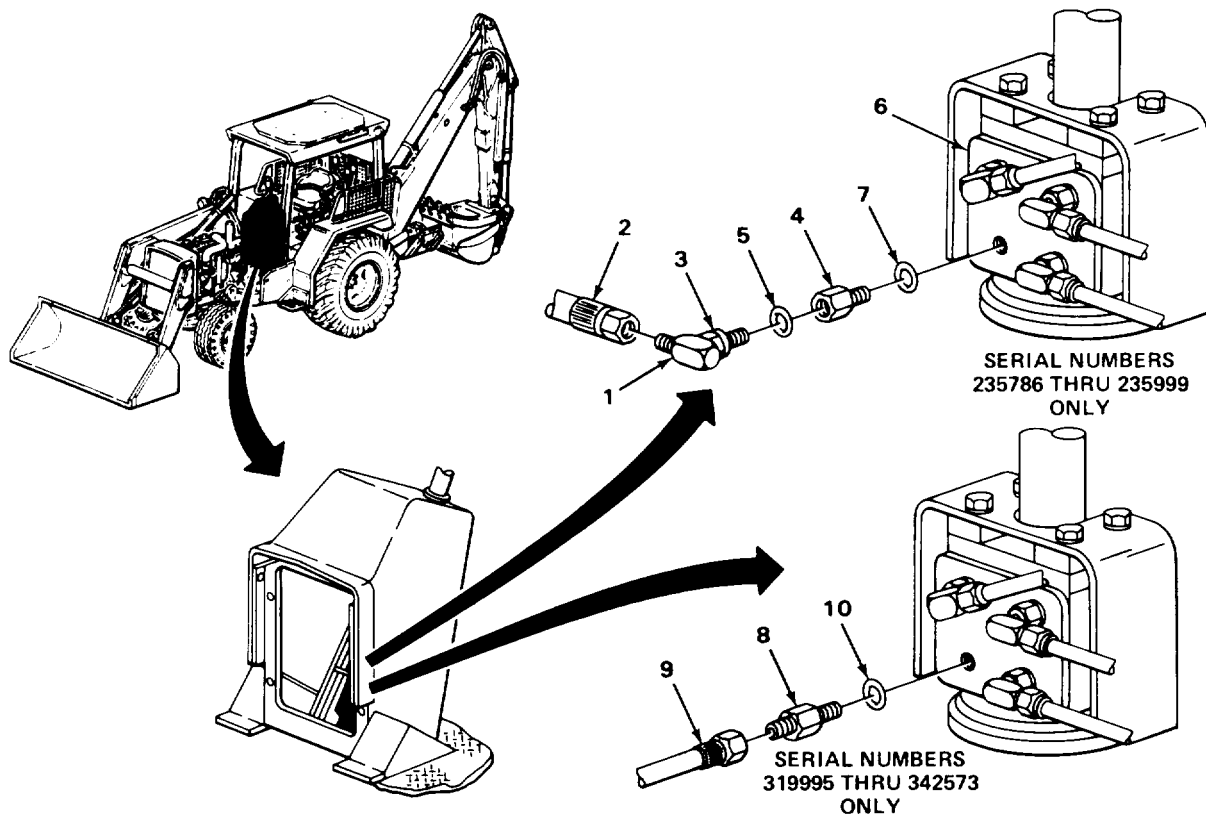
LOCATION	ITEM	ACTION	REMARKS
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CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

- | | | |
|-----|---------------|---|
| 11. | Hose (2 or 9) | a. Using clean rags dampened in solution of detergent and water, wipe clean.
b. Using clean, dry rags, wipe dry. |
|-----|---------------|---|



TA243199

ACCUMULATOR TEE-TO-STEERING VALVE OIL LINE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 138°F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|-----|-----------------|----------------------------------|-------------------------------------|
| 12. | All other parts | a. Clean in drycleaning solvent. | b. Using clean, dry rags, wipe dry. |
|-----|-----------------|----------------------------------|-------------------------------------|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

- | | | | |
|-----|--------------------|------------------------------------|--|
| 13. | Hose (1 or 2) | Look for cuts, cracks, and breaks. | |
| 14. | All other parts | Look for cracks and breaks. | |
| 15. | All threaded parts | Look for damaged threads. | |

INSTALLATION

NOTE

Steps 16 thru 22 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

- | | | | |
|------------------------|--|------------------------------|--|
| 16. Check valve (3) | New packing (4) | Place in position. | |
| 17. Steering valve (5) | Check valve (3)
with assembled
packing (4) | a. Uncap steering valve (5). | b. Screw in and tighten using 1/2-inch
drive socket, 5-inch extension, and
ratchet handle. |

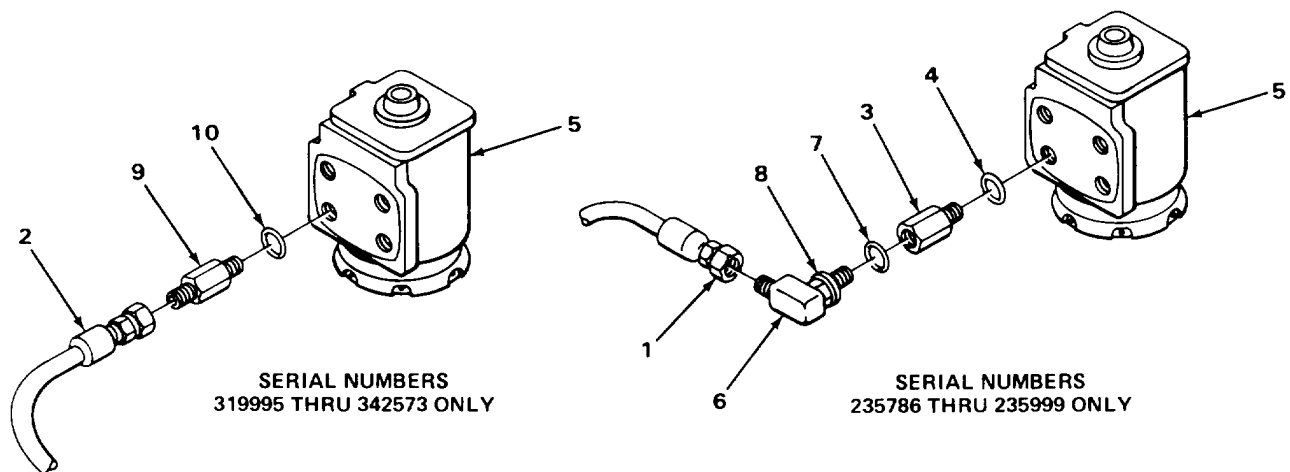
ACCUMULATOR TEE-TO-STEERING VALVE OIL LINE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
18. Elbow (6)	New packing (7)	Place in position.	
19.	Nut (8)	Screw on all the way.	
20. Check valve (3)	Elbow (6) with assembled parts	Screw in and tighten to same position as noted during removal using open-end wrench.	
21. Elbow (6) and check valve (3)	Nut (8)	Using open-end wrench, tighten until seated against check valve (3).	
22. Elbow (6)	Hose (1)	a. Takeoff tag. b. Screw on and tighten using xx-inch open-end wrench.	

NOTE

Steps 23 thru 26 only apply to loader backhoes with Serial Numbers 319995 thru 342573.

23. Check valve (9)	New packing (10)	Place in position.	
24. Steering valve (5)	Check valve (9) with assembled packing (10)	a. Uncap steering valve (5). b. Screw in and tighten using 7/8-inch, 1/2-inch drive socket, 5-inch extension, and ratchet handle.	
26. Check valve (9)	Hose (2)	a. Take off tag. b. Screw on and tighten using 3/4-inch open-end wrench.	

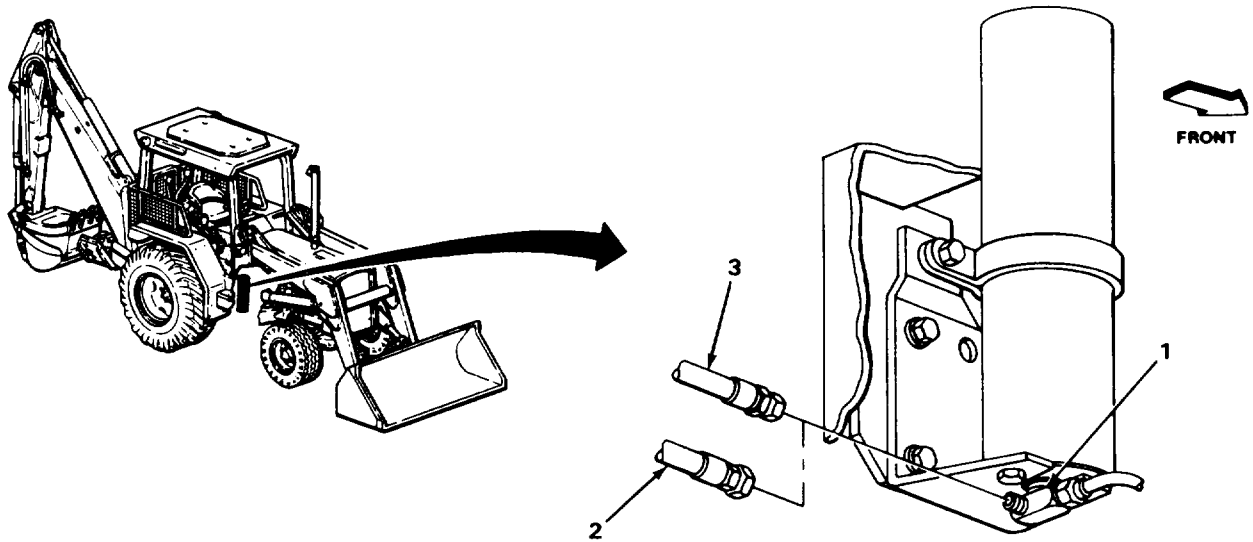


TA243200

ACCUMULATOR TEE-TO-STEERING VALVE OIL LINE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
NOTE			
Hoses on loader backhoes with Serial Numbers 235786 thru 235999 are different configuration from those on Serial Numbers 319995 thru 342573.			
27. Tee (1)	Hose (2 or 3)	<ul style="list-style-type: none"> a. Uncap tee (1). b. On loader backhoes with Serial Numbers 235786 thru 235999, screw on and tighten using open-end wrench. c. On loader backhoes with Serial Numbers 319995 thru 342573, screw on and tighten to position noted during removal using 3/4-inch open-end wrench. 	
28. Loader backhoe	Transmission		Check fluid level and add proper amount and grade (TM 5-2420-222-10).
29.	Engine		Start and run at high idle (TM 5-2420-222-10).
30.	Accumulator tee-to-steering valve oil line		<ul style="list-style-type: none"> a. Check for leaks. b. If leaking at any connection on loader backhoes with Serial Numbers 235786 thru 235999, tighten using open-end wrench. c. If leaking at any connection on loader backhoes with Serial Numbers 319995 thru 342573, tighten using 3/4-inch open-end wrench. d. If leaking does not stop, shut down engine (TM 5-2420-222-10) and replace leaking connection packing or line as outlined in this task. e. If leak was found, repeat step 28.
31.	Engine		If still running, shut down (TM 5-2420-222-10).

ACCUMULATOR TEE-TO-STEERING VALVE OIL LINE - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE: Install cowl front cover (page 2-1020).

TASK ENDS HERE

TA243201

STEERING VALVE-TO-TRANSMISSION RETURN OIL LINE

This task covers:

- a. Removal (page 2-986)
 - b. Cleaning (page 2-988)
 - c. Inspection/Replacement (page 2-989)
 - d. Installation (page 2-990)
-

INITIAL SETUP:

Tools

- Knife, pocket
- Pan, drain
- Pliers, slip-joint, multiple tongue and groove
- Screwdriver, flat-tip, 1/4-inch
- Wrench, open-end, 9/16-inch
- Wrench, open-end, 5/8-inch
- Wrench, open-end, 11/16-inch
- Wrench, open-end, 7/8-inch
- Wrench, box and open-end, combination, 1 1/8-inch (page 2-1073)

Materials/Parts

- Lockwasher, stop screw
- Packing, elbow-to-valve
- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)
- Tags, marking (item 30, Appendix C)

Personnel Required

Two

Equipment Condition

1. Hydraulic system pressure released (page 2-1191)
2. Cowl front cover removed (page 2-1020)
3. Battery ground cable removed (page 2-696)
4. Batteries removed (page 2-692)
5. Left outer platform ramp removed
6. Right inner platform ramp removed (page 2-1095)
7. Transmission drained (page 2-811)

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1. Stop (1) and speed gear assembly (2)	Screw (3) and lockwasher (4)	a. Using 9/16-inch open-end wrench, unscrew and take out. b. Get rid of lockwasher (4).	
2. Clamp (5), speed gear assembly (2), and clutch pedal (6)	Stop (1)	Take off.	
3. Clutch pedal (6) and strap (7)	Helical spring (8)	a. Pull pedal (6) back as far as possible. b. Using multiple tongue and groove slip-joint pliers, take off.	

STEERING VALVE-TO-TRANSMISSION RETURN OIL LINE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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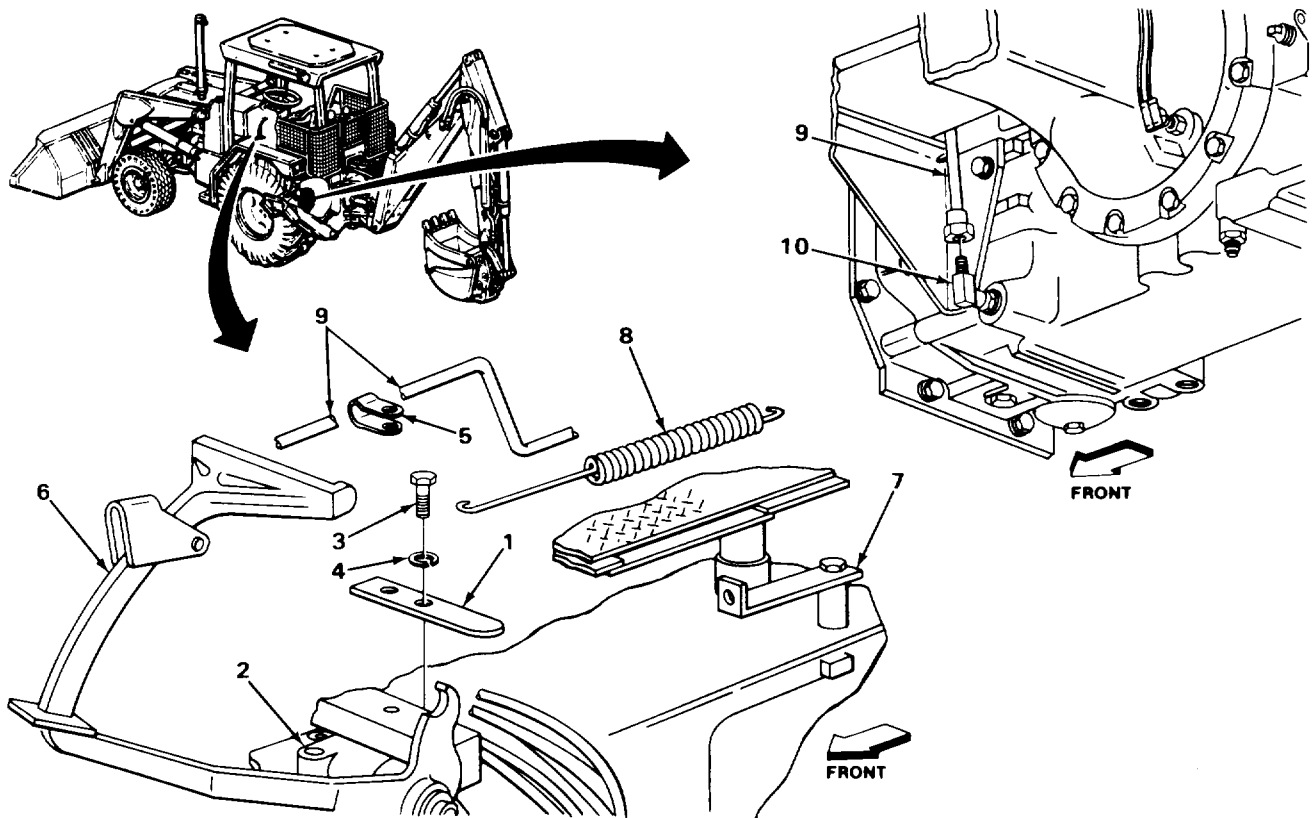
4. Line (9)	Clamp (5)	Using 1/4-inch flat-tip screwdriver, spread apart and take off.	
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WARNING

Do not attempt to disconnect hydraulic lines and fittings while engine is running or before hydraulic system pressure has been released. When engine is running, hydraulic system is under pressure. Hydraulic system pressure should be 0 psi (0 kPa) before lines are disconnected. A line or fitting disconnected under pressure will blow off with a lot of force and could cause serious injury to personnel.

Be careful when draining hot fluids. Wear gloves to protect your hands from hot parts and fluids or severe burns could result.

5. Elbow (10)	Line (9)	a. Place drain pan underneath to catch draining fluid. b. Using 11/16-inch open-end wrench, unscrew and take off.	
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TA243202

STEERING VALVE-TO-TRANSMISSION RETURN OIL LINE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
6. Reducer bushing (1)	Elbow (2)	<ul style="list-style-type: none"> a. Note relative position for proper placement during installation. b. Using 5/8-inch open-end and 1 1/8-inch combination box and open-end wrenches, unscrew and take out.
7. Transmission case (3)	Reducer bushing (1)	<ul style="list-style-type: none"> a. Using 1 1/8-inch combination box and open-end wrench, unscrew and take out. b. Plug transmission case (3) (page 2-137).
8. Elbow (4)	Line (5)	<ul style="list-style-type: none"> a. Position drain pan underneath to catch draining fluid. b. Using 11/16-inch open-end wrench, unscrew and take off. c. Tag (page 2-137).
9. Elbow (4) and steering valve (6)	Nut (7)	Using 5/8-inch and 7/8-inch open-end wrenches, loosen.
10. Steering valve (6)	Elbow (4) with	<ul style="list-style-type: none"> a. Note relative position for proper placement during installation. b. Using 5/8-inch open-end wrench, unscrew and take out. c. Plug steering valve (6) (page 2-137). d. Get rid of drained fluid (page 2-137).
11. Elbow (4)	Packing (8)	<ul style="list-style-type: none"> a. Using pocket knife, take off. b. Get rid of.

CLEANING**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

STEERING VALVE-TO-TRANSMISSION RETURN OIL LINE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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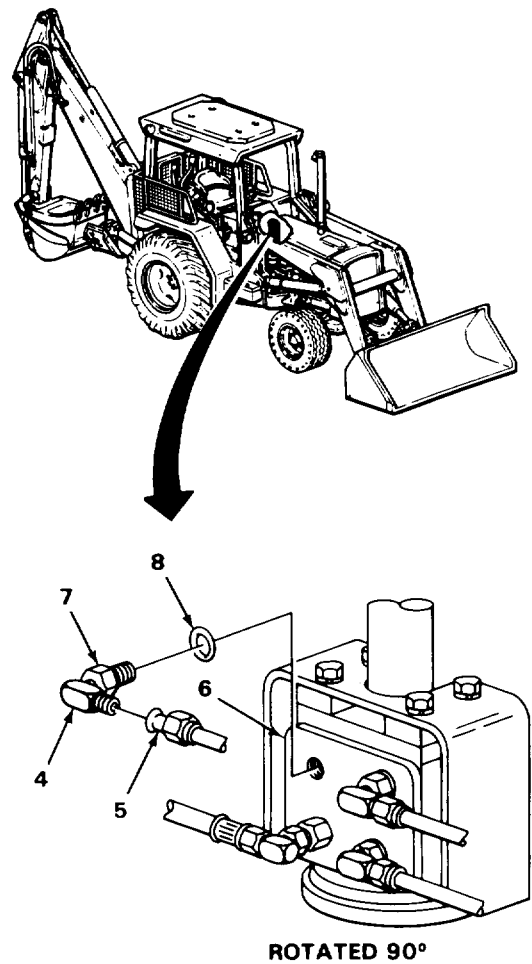
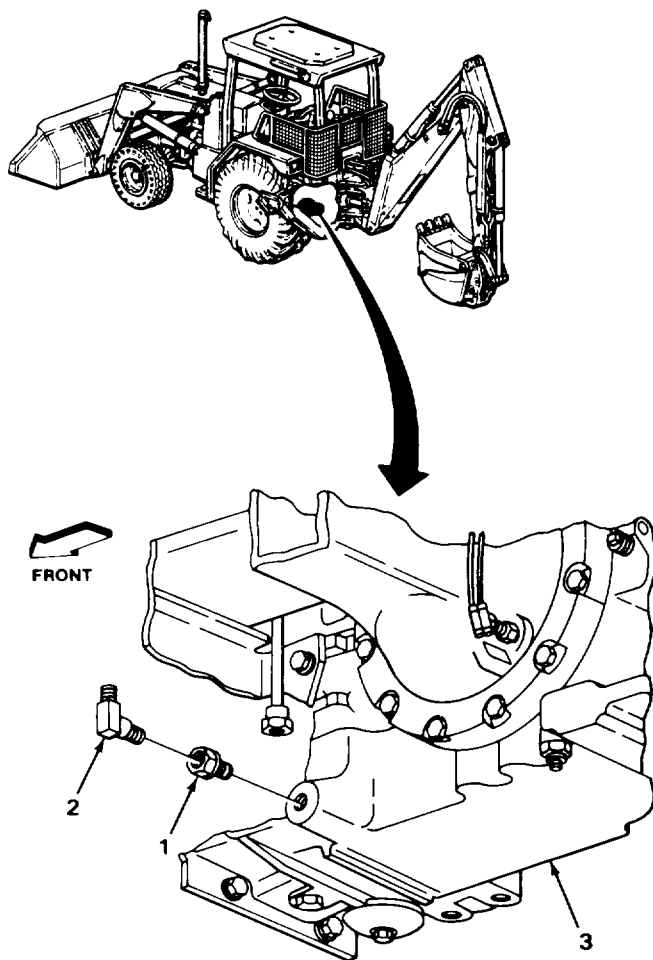
12. All metal parts a. Clean in drycleaning solvent.
 b. Using clean, dry rags, wipe dry.

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137). Replace defective parts as needed.

- | | | |
|-----|--------------------|-------------------------------------|
| 13. | Line (5) | Look for cracks, kinks, and breaks. |
| 14. | All other parts | Look for cracks and breaks. |
| 15. | All threaded parts | Look for damaged parts. |



TA243203

STEERING VALVE-TO-TRANSMISSION RETURN OIL LINE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION		
16. Elbow (1)	New packing (2)	Place in position.
17.	Nut (3)	Screw on all the way.
18. Steering valve (4)	Elbow (1) with assembled parts	a. Unplug steering valve (4). b. Screw in and tighten to position noted during removal using 5/8-inch open-end wrench.
19. Steering valve (4) and elbow (1)	Nut (3)	Using 5/8-inch and 7/8-inch open-end wrenches, tighten until seated against steering valve (4).
20. Elbow (1)	Line (5)	a. Take off tag. b. Screw on and tighten using 5/8-inch and 11/16-inch open-end wrenches.
21. Transmission case (6)	Reducer bushing (7)	a. Unplug transmission case (6). b. Screw in and tighten using 1 11/8-inch combination box and open-end wrench.
22. Reducer bushing (7)	Elbow (8)	Screw in and tighten to position noted during assembly using 5/8-inch open-end wrench.
23. Elbow (8)	Line (5)	Screw on and tighten using 11/16-inch open-end wrench.
24. Line (5)	Clamp (9)	a. Place in position. b. Using multiple tongue and groove slip-joint pliers, bend ends together.
25. Clutch pedal (10) and strap (11)	Helical spring (12)	a. Have assistant pull clutch pedal (10) back as far as possible. b. Using multiple tongue and groove slip-joint pliers, place in position with long hook on clutch pedal (10).
26. Clutch pedal (10), speed gear assembly (13), and clamp (9)	Stop (14)	a. Have assistant push down clutch pedal (10) and hold. b. Place in position.

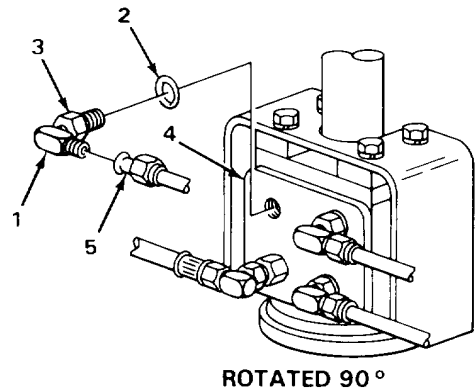
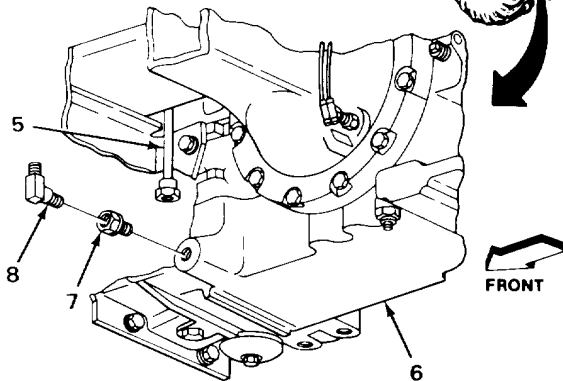
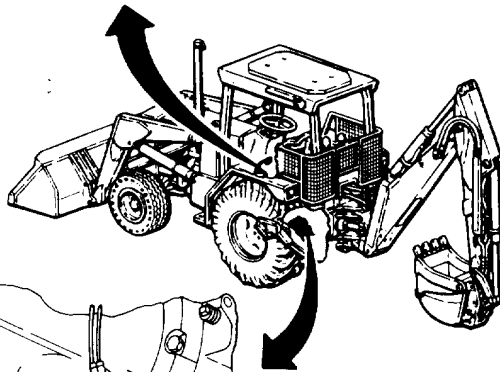
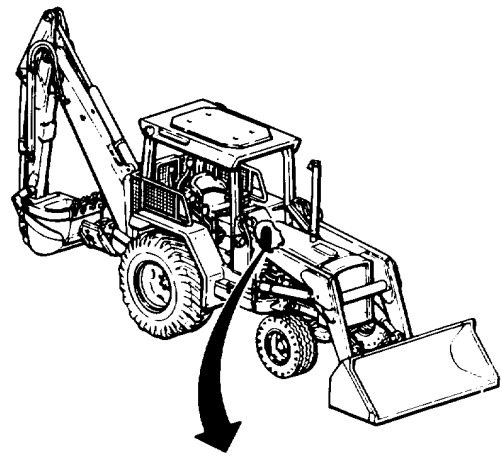
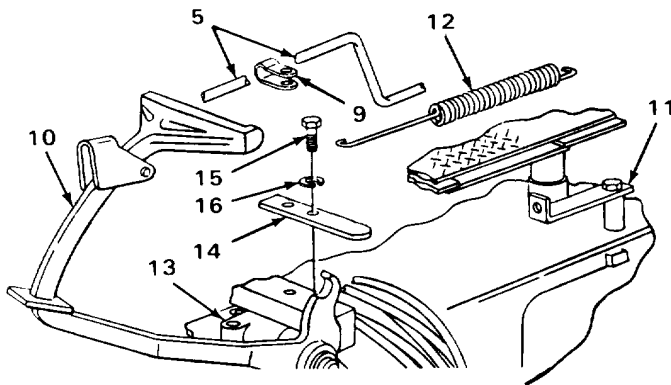
STEERING VALVE-TO-TRANSMISSION RETURN OIL LINE - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

27. Stop (14) and speed gear assembly (13)

Screw (15) and new lockwasher (16)

- a. Screw in and tighten using 9/16-inch open-end wrench.
Make sure remaining hole in stop is aligned with threads in speed gear assembly.
- b. Have assistant release clutch pedal (10).



TA243204

STEERING VALVE-TO-TRANSMISSION RETURN OIL LINE - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
28. Loader backhoe	Batteries	Install (page 2-692).
29.	Battery ground cable	Install (page 2-696).
30.	Transmission	Fill (page 2-811).
31.	Engine	Start and run at high idle (TM 5-2420-222-10).
32.	Steering valve-to-transmission return oil line	a. Check for leaks. b. If leaking at any connection, tighten using 5/8-inch and/or 11/16-inch and/or 7/8-inch open-end wrenches, or 1 1/8-inch combination box and open-end wrench. c. If leaking does not stop, shut down engine (TM 5-2420-222-10) and replace leaking connection packing or line as outlined in this task. d. If leak was found, repeat step 30.
33.	Engine	If still running, shut down (TM 5-2420-222-10).

NOTE**FOLLOW-ON MAINTENANCE:**

1. Install right inner platform ramp (page 2-1095).
2. Install left outer platform ramp (page 2-1073).
3. Install cowl front cover (page 2-1020).

TASK ENDS HERE

Section XVII. FRAME, TOWING ATTACHMENTS, DRAWBARS, AND ARTICULATION SYSTEMS

	Page
Counterweight	2-993

COUNTERWEIGHT

This task covers:

- | | |
|--------------------------|--|
| a. Removal (page 2-994) | c. Inspection/Replacement (page 2-995) |
| b. Cleaning (page 2-994) | d. Installation (page 2-996) |
-

INITIAL SETUP:

Tools

Blocks, wood
 Handle, ratchet, 1/2-inch drive
 Jack, dolly-type, hydraulic,
 10-ton capacity
 Socket, deep, 1/2-inch drive,

Materials/Parts

Lockwasher, U-bolt nut (four required)
 Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning
 (item 28, Appendix C)

Personnel Required

Three

Equipment Condition

Loader bucket support installed
 (page 2-1830)

COUNTERWEIGHT - CONTINUED

INITIAL SETUP:

REMOVAL

WARNING

Some parts are heavy. Be careful when handling them. Lifting equipment is needed when parts weigh over 50 pounds (23 kg) for a single person lift, over 100 pounds (45 kg) for a two person lift, and over 150 pounds (68 kg) for a three or more person lift. Do not try to handle heavy parts without lifting equipment. Keep clear of heavy parts supported only by lifting equipment. Failure to observe this precaution could cause serious injury or death of personnel.

- | | | |
|---|---|---|
| 1. Counterweight (1)
and two U-bolts (2) | Four nuts (3),
lockwashers (4),
and washers (5) | <ul style="list-style-type: none"> a. Using 10-ton capacity hydraulic dolly-type jack, support counterweight (1). b. Using 1 118-inch, 1/2-inch drive deep socket and ratchet handle, unscrew and take off. c. Get rid of lockwashers (4). |
| 2. Front axle (6) and
two U-bolts (2) | Counterweight (1) | With help of two assistants, using 10-ton capacity hydraulic dolly-type jack, lower, move out from underneath, and place on wood blocks. |
| 3. Front axle (6) | Two U-bolts (2) | Take off. |

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|-------------------|--|
| 4. | Counterweight (1) | <ul style="list-style-type: none"> a. Using clean rags dampened with dry-cleaning solvent, wipe clean. b. Using clean, dry rags, wipe dry. |
|----|-------------------|--|

COUNTERWEIGHT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
5.	All attaching hardware	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.	

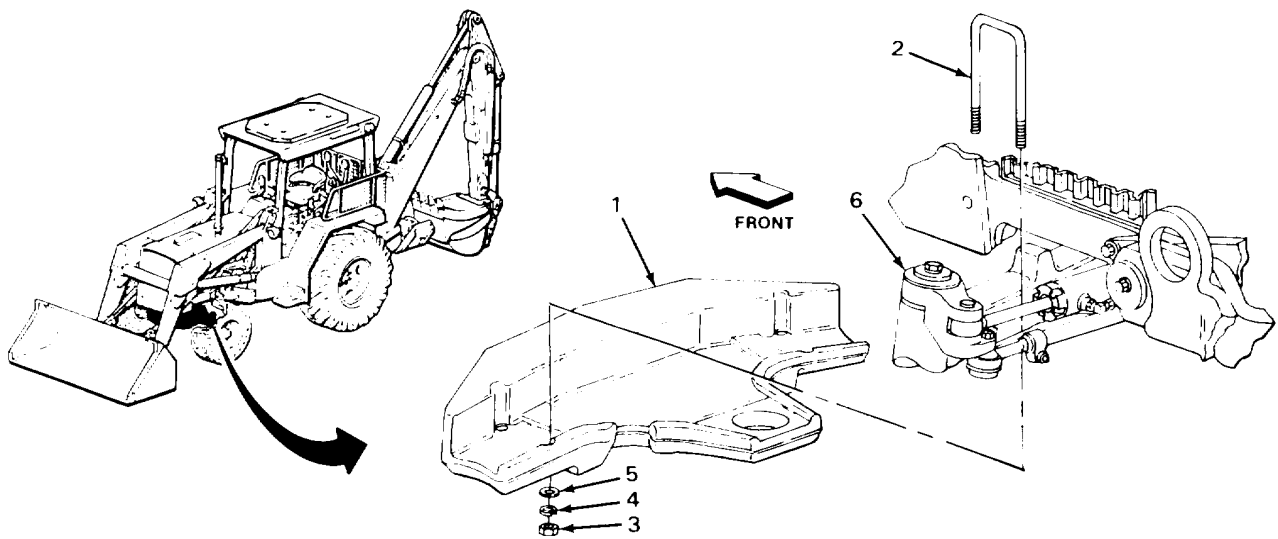
INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

- | | | |
|----|--------------------|--|
| 6. | All metal parts | Look for cracks, breaks, and abnormal bends. |
| 7. | All threaded parts | Look for damaged threads. |



TA243205

COUNTERWEIGHT - CONTINUED

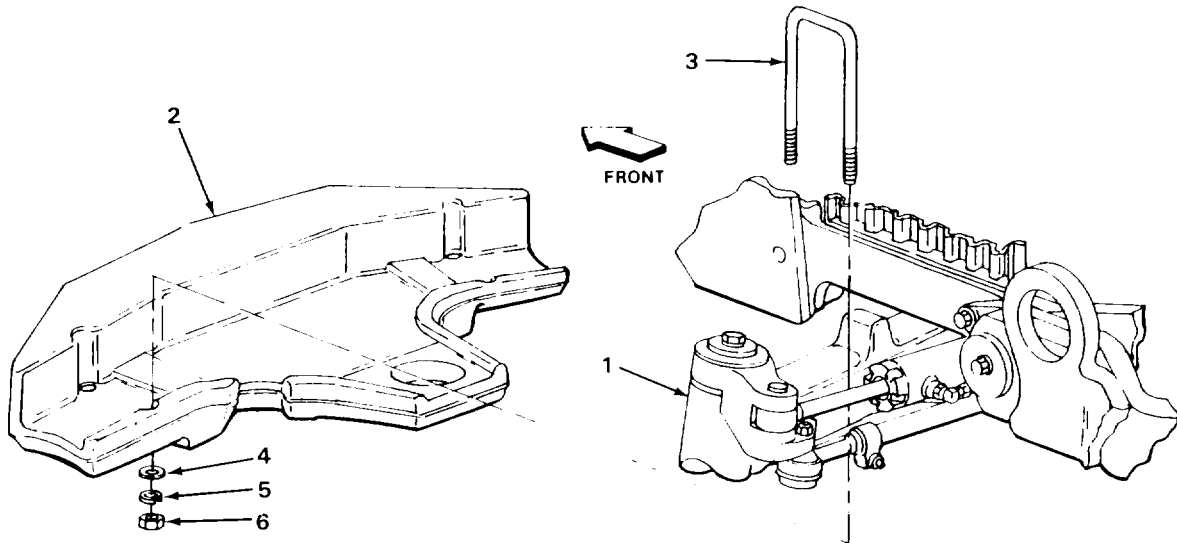
LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION

WARNING

Some parts are heavy. Be careful when handling them. Lifting equipment is needed when parts weigh over 50 pounds (23 kg) for a single person lift, over 100 pounds (45 kg) for a two person lift, and over 150 pounds (68 kg) for a three or more person lift. Do not try to handle heavy parts without lifting equipment. Keep clear of heavy parts supported only by lifting equipment. Failure to observe this precaution could cause serious injury or death of personnel.

- | | | |
|---|---|--|
| 8. Front axle (1) | Counterweight (2) | With help of two assistants, using 10-ton capacity hydraulic dolly-type jack, move underneath and raise into position. |
| 9. Front axle (1) and counterweight (2) | Two U-bolts (3) | Place in position. |
| 10. Counterweight (2) and two U-bolts (3) | Four washers (4), new lockwashers (5), and nuts (6) | <ul style="list-style-type: none"> a. Screw on and tighten using 1 1/8-inch, 1/2-inch drive deep socket and ratchet handle. b. Lower and move 10-ton capacity hydraulic dolly-type jack out from underneath counterweight (2). |



NOTE

FOLLOW-ON MAINTENANCE: Remove loader bucket support (page 2-1830).

TASK ENDS HERE

TA243206

Section XVIII. BODY, CAB, HOOD, AND HULL

Page Page

Backhoe Valve Bottom Cover	2-1154	Loader Control Box	2-1170
Backhoe Valve Box	2-1163	Loader Control Box Door	2-1167
Backhoe Valve Box Cover.....	2-1157	Rear Platform (Serial Numbers	
Battery Cover.....	2-1110	235786 thru 235999 Only)	2-1117
Center Backhoe Control Guard	2-1002	Right Inner Platform Ramp	2-1095
Center Platform	2-1099	Right Outer Platform Ramp.....	2-1088
Center Platform Support.....	2-1106	Right Platform	2-1079
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319995 thru 342573 Only).....	2-1114		

LEFT AND RIGHT BACKHOE CONTROL GUARDS

This task covers:

- | | |
|--|-------------------------------|
| a. Removal (page 2-998) | d. Repair(page 2-1000) |
| b. Cleaning (page 2-998) | e. Installation (page 2-1000) |
| c. Inspection/Replacement (page 2-999) | |

INITIAL SETUP:

Tools

Handle, ratchet, 1/2-inch drive
 Socket, 1/2-inch drive, 9/16-inch
 Threading set, screw

Personnel Required

One

Equipment Condition

Materials/Parts

Lockwashers, guard screw
 (six required)
 Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning
 (item 28, Appendix C)

NOTE

The following applies only on
 left backhoe control guard.

Reverse warning alarm removed
 (page 2-682)

LEFT AND RIGHT BACKHOE CONTROL GUARDS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

NOTE

Maintenance of left and right backhoe control guards is the same. Left backhoe control guard is shown. Repeat procedures for right backhoe control guard as needed. prevent possible injury.

REMOVAL

- | | | |
|--|-------------------------------------|---|
| 1. Left backhoe control guard (1) and center backhoe control guard (2) | Two screws (3) and lockwashers (4) | a. Using 9/16-inch, 1/2-inch drive socket and ratchet handle, unscrew and take out.
b. Get rid of lockwashers (4). |
| 2. Left backhoe control guard (1) and left fender (5) | Four screws (6) and lockwashers (7) | a. Using 9/16-inch, 1/2-inch drive socket and ratchet handle, unscrew and take out.
b. Get rid of lockwashers (7). |
| 3. Left fender (5) and center backhoe control guard (2) | Left backhoe control guard (1) | Take off. |

CLEANING**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

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- | | | |
|----|--------------------------------|--|
| 4. | Left backhoe control guard (1) | a. Using clean rags dampened with dry-cleaning solvent, wipe clean.
b. Using clean, dry rags, wipe dry. |
| 5. | All attaching hardware | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. |

LEFT AND RIGHT BACKHOE CONTROL GUARDS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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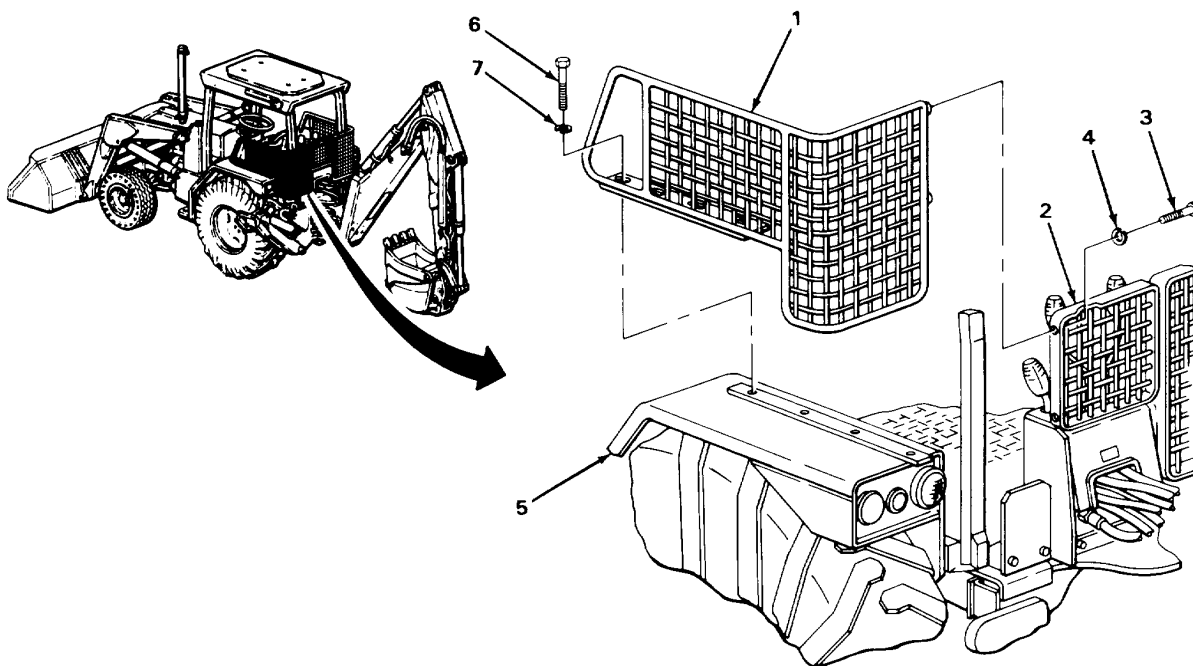
INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to **General Maintenance Instructions (page 2-137)**.

Replace defective parts which cannot be repaired.

- | | | | |
|----|--------------------------------|--|--|
| 6. | Left backhoe control guard (1) | Look for cracks, breaks, and abnormal bends. | Look for cracks, breaks, and abnormal bends. |
| 7. | All threaded parts | Look for damaged threads. | Look for damaged threads. |



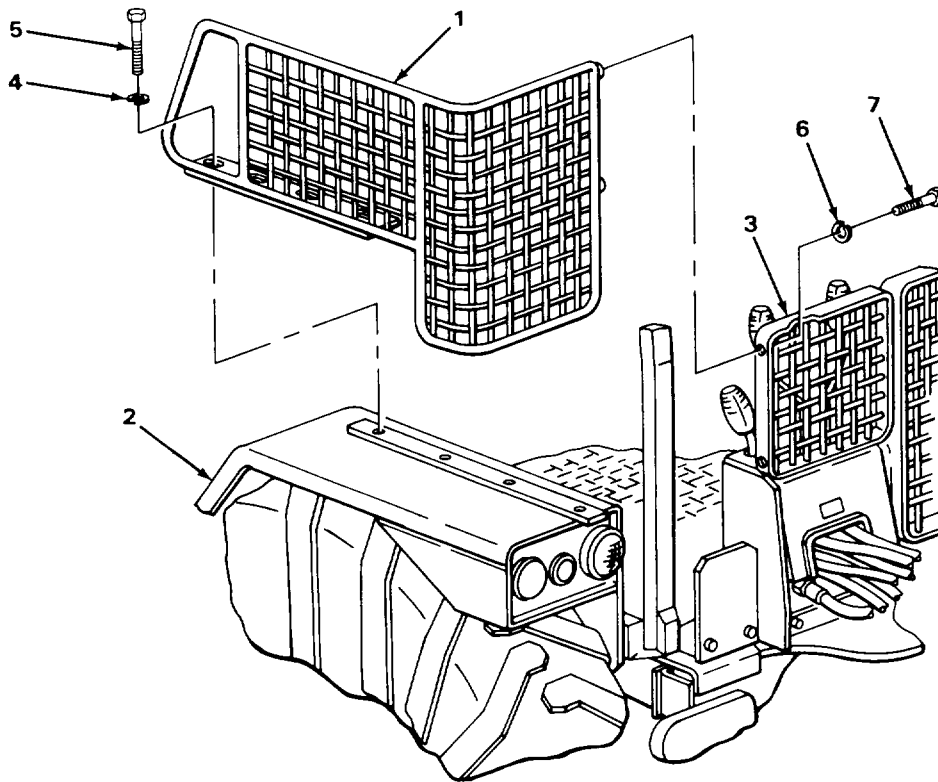
TA243207

LEFT AND RIGHT BACKHOE CONTROL GUARDS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REPAIR		
8.	Left backhoe control guard (1)	If threads are damaged, using screw threading set, restore threads.
INSTALLATION		
9.	Left fender (2) and center backhoe control guard (3)	Place in position.
10.	Left backhoe control guard (1) and left fender (2)	Four new lockwashers (4) and screws (5) Screw in part way.
11.	Left backhoe control guard (1) and center backhoe control guard (3)	Two new lockwashers (6) and screws (7) Screw in and tighten using 9/16-inch, 1/2-inch drive socket and ratchet handle.
12.	Left backhoe control guard (1) and left fender (2)	Four screws (5) Using 9/16-inch, 1/2-inch drive socket and ratchet handle, tighten.

2-1000

LEFT AND RIGHT BACKHOE CONTROL GUARDS - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Perform the following only on left backhoe control guard.
2. Install reverse warning alarm (page 2-682).

TASK ENDS HERE

TA243208

CENTER BACKHOE CONTROL GUARD

This task covers:

- a. Removal (page 2-1002)
- b. Cleaning (page 2-1003)
- c. Inspection/Replacement (page 2-1004)
- d. Installation (page 2-1004)

INITIAL SETUP:

Tools

Handle, ratchet, 1/2-inch drive
 Socket, 1/2-inch drive, 9/16-inch

Materials/Parts

Lockwasher, guard screw (four required)
 Rags, wiping (item 21, Appendix C)

Materials/Parts - Continued

Solvent, drycleaning (item 28, Appendix C)

Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Right backhoe control guard (1) and center backhoe control guard (2)	Two screws (3) and lockwashers (4)	a. Using 9/16-inch, 1/2-inch drive socket and ratchet handle, unscrew and take out. b. Get rid of lockwashers (4).
2.	Left backhoe control guard (5) and center backhoe control guard (2)	Two screws (6) and lockwashers (7)	a. Using 9/16-inch, 1/2-inch drive socket and ratchet handle, unscrew and take out. b. Get rid of lockwashers (7).
3.	Right backhoe control guard (1) and left backhoe control guard (5)	Center backhoe control guard (2)	Take off.

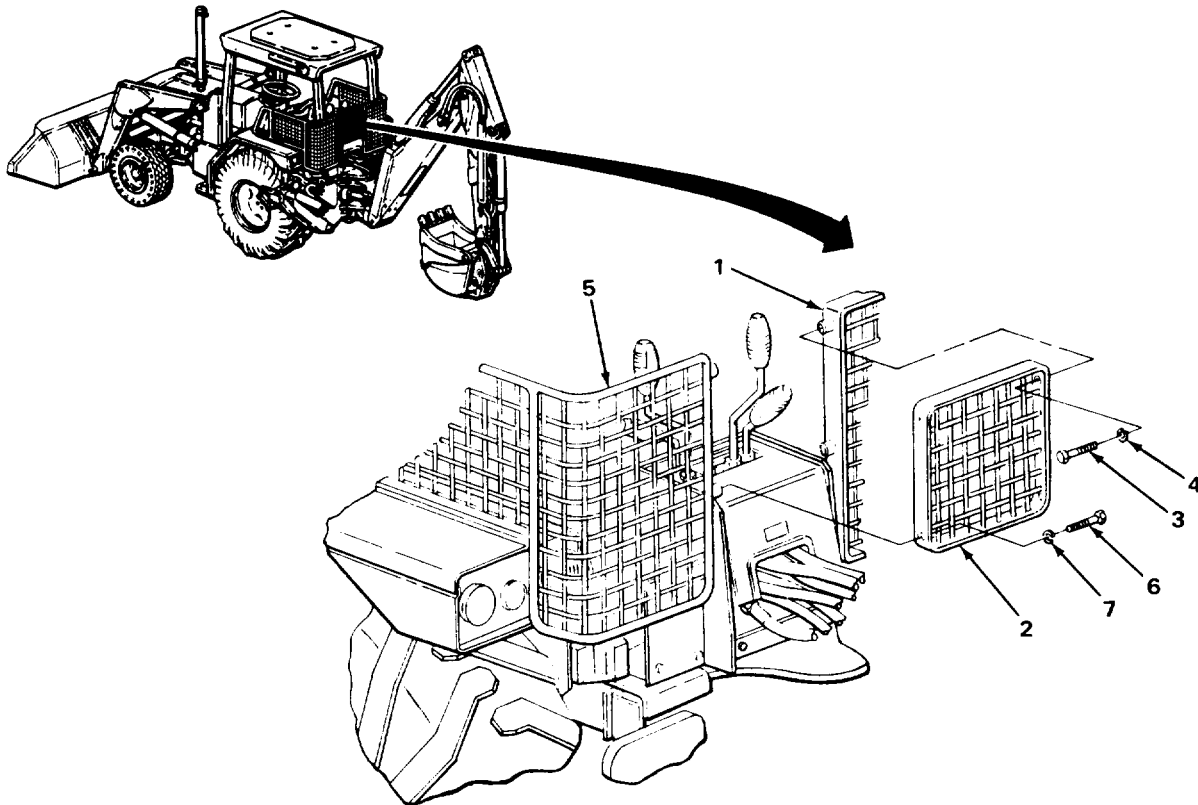
CENTER BACKHOE CONTROL GUARD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).



TA243209

CENTER BACKHOE CONTROL GUARD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CLEANING - CONTINUED

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|----------------------------------|--|
| 4. | Center backhoe control guard (1) | a. Using clean rags dampened with dry-cleaning solvent, wipe clean.
b. Using clean, dry rags, wipe dry. |
| 5. | All attaching hardware | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. |

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

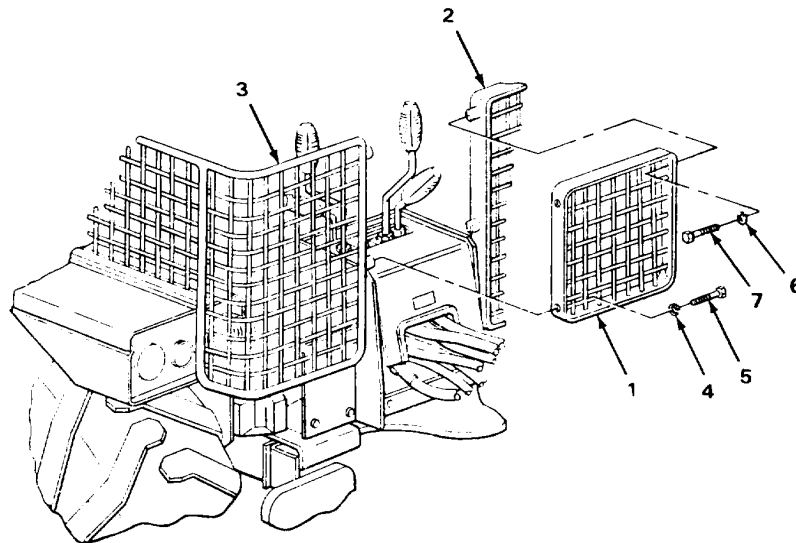
- | | | |
|----|----------------------------------|--|
| 6. | Center backhoe control guard (1) | Look for cracks, breaks, and abnormal bends. |
| 7. | All attaching hardware | Look for damaged threads. |

INSTALLATION

- | | | |
|---|----------------------------------|--------------------|
| 8. Right backhoe control guard (2) and left backhoe control guard (3) | Center backhoe control guard (1) | Place in position. |
|---|----------------------------------|--------------------|

CENTER BACKHOE CONTROL GUARD - CONTINUED

LOCATION	ITEM	ACTION REMARKS
9 Left backhoe control guard (3) and center backhoe control guard (1)	Two new lockwashers (4) and screws (5)	Screw in part way.
10 Right backhoe control guard (2) and center backhoe control guard (1)	Two new lockwashers (6) and screws (7)	Screw in and tighten using 9/16-inch, 1/2-inch drive socket and ratchet handle.
11. Center backhoe control guard (1)	Two screws (5)	Using 9/16-inch, 1/2-inch drive socket and ratchet handle, tighten.



TASK ENDS HERE

TA243210

COWL

This task covers:

- a. Removal (page 2-1006)
- b. Disassembly (page 2-1010)
- c. Cleaning (page 2-1013)
- d. Inspection/Replacement (page 2-1014)
- e. Assembly (page 2-1014)
- f. Installation (page 2-1016)

INITIAL SETUP:

Tools

- Handle, ratchet, 1/2-inch drive
- Knife, putty
- Pliers, slip-joint
- Screwdriver, flat-tip, 3/16-inch
- Socket, 1/2-inch drive, 9/16-inch
- Wrench, open-end, 11/32-inch
- Wrench, open-end, 5/16-inch
- Wrench, open-end, 9/16-inch
- Wrench, open-end, 5/8-inch

Materials/Parts

- Adhesive, metal bonding (item 1, Appendix C)
- Detergent, GP (item 7, Appendix C)
- Lockwasher, cigar lighter terminal nut
- Lockwasher, cowl screw nut (four required)
- Lockwasher, time total meter screw (three required)

Materials/Parts - Continued

- Lockwasher, lever screw
- Lockwasher, light switch nut
- Pin, cotter control shaft
- Rags, wiping (item 21, Appendix C)
- Solvent, cleaning compound (item 27, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)
- Tags, marking (item 30, Appendix C)

Personnel Required

One

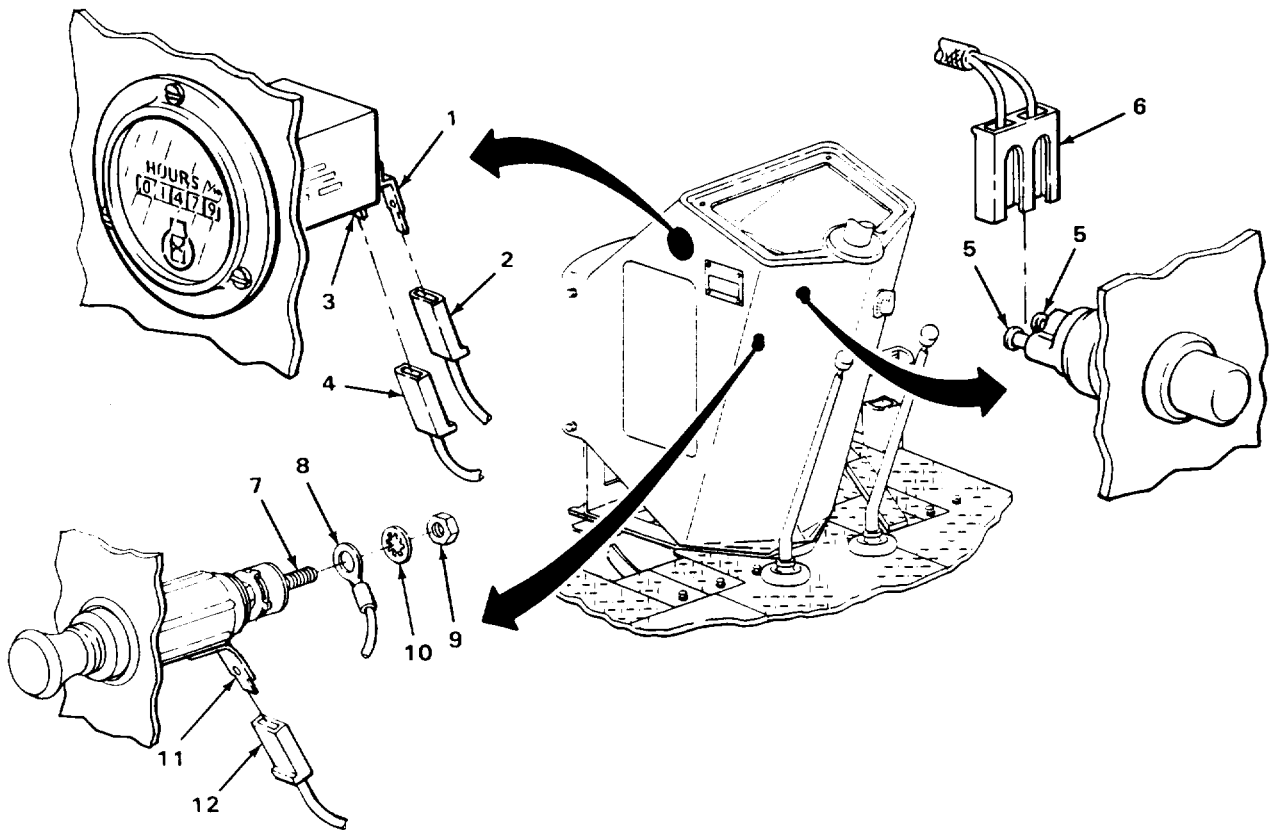
Equipment Condition

1. Dash removed (page 2-579)
2. Steering wheel removed (page 2-941)
3. Left outer platform ramp removed (page 2-1073)

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Time total meter terminal (1)	Connector (2)	a. Pull off. b. Tag (page 2-137).
2.	Time total meter terminal (3)	Connector (4)	a. Pull off. b. Tag (page 2-137).
3.	Two horn switch terminals (5)	Connector (6)	a. Pull off. b. Tag (page 2-137).

COWL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
4. Cigar lighter terminal (7) and terminal (8)	Nut (9) and lockwasher (10)	a. Using 11/32-inch open-end wrench, unscrew and take off. b. Get rid of lockwasher (10).	
5. Cigar lighter terminal (7)	Terminal (8)	a. Take off. b. Tag (page 2-137).	
6. Cigar lighter ground terminal (11)	Connector (12)	a. On loader backhoes with Serial Numbers 319995 thru 342573, pull off. b. Tag (page 2-137).	



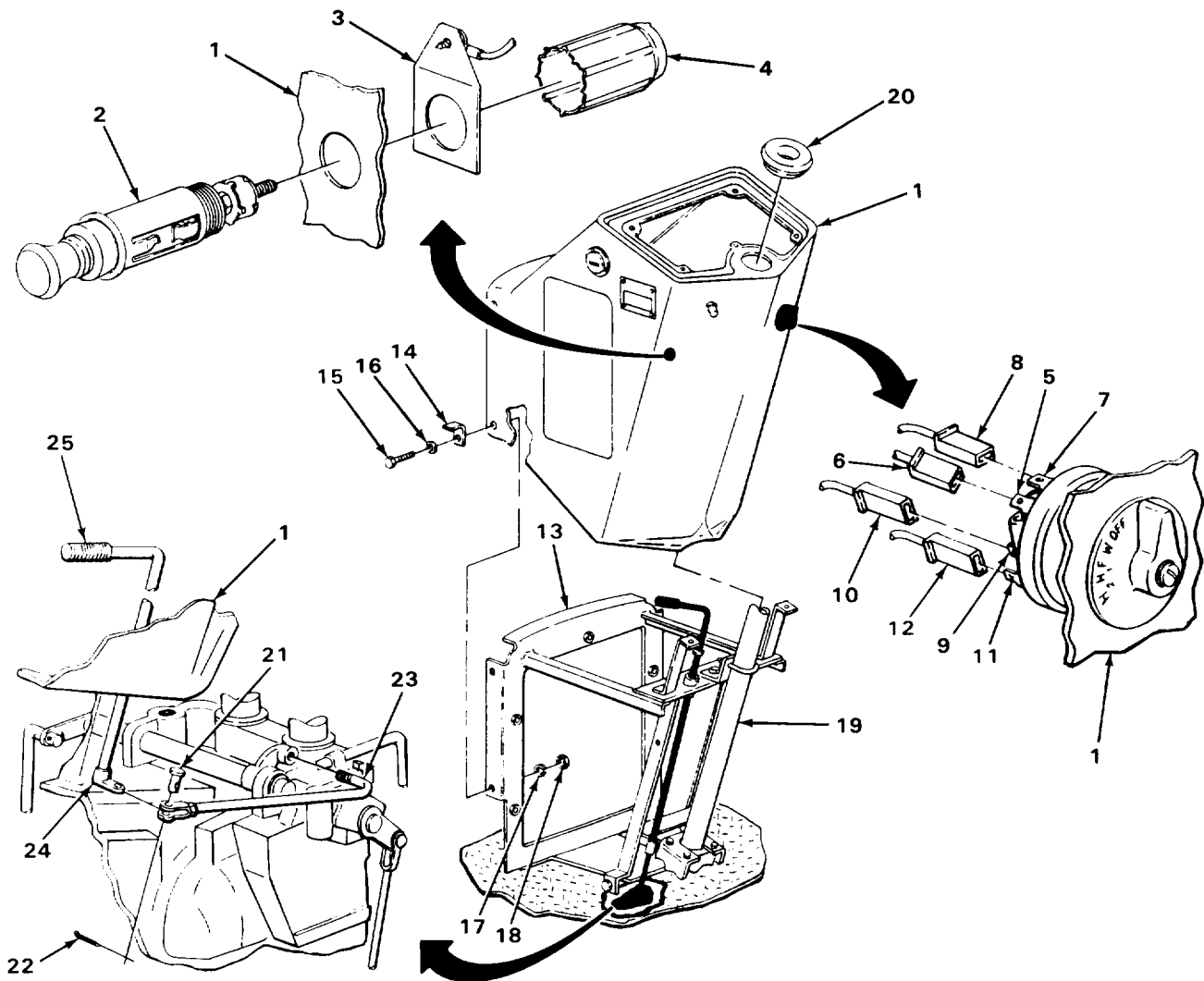
TA243211

COWL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
NOTE			
Steps 7 thru 9 only apply to loader backhoes with Serial Numbers 235786 thru 235999.			
7.	Cowl (1), bezel (2), and ground terminal (3)	Base (4)	Unscrew and take off.
8.	Cowl (1) and bezel (2)	Ground terminal (3) with assembled parts	Take off.
9.	Cowl (1)	Bezel (2) with assembled parts	Take out.
10.	Light switch terminal (5)	Connector (6)	a. Pull off. b. Tag (page 2-137).
11.	Light switch terminal (7)	Connector (8)	a. Pull off. b. Tag (page 2-137).
12.	Light switch terminal (9)	Connector (10)	a. Pull off. b. Tag (page 2-137).
13.	Light switch terminal (11)	Connector (12)	a. Pull off. b. Tag (page 2-137).
14.	Cowl (1), cowl support (13), and two hood retainers (14)	Four screws (15), washers (16), lockwashers (17), and nuts (18)	a. Using 9/16-inch open-end wrench and 9/16-inch, 1/2-inch drive socket and ratchet handle, unscrew and take apart. b. Get rid of lockwashers (17).
15.	Cowl (1)	Two hood retainers (14)	Take off.
16.	Cowl (1) and steering column (19)	Grommet (20)	Take off.
17.	Yoke pin (21)	Cotter pin (22)	a. Using slip-joint pliers, straighten ends and take out. b. Get rid of.

COWL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
18. Yoke (23) and control arm (24)	Yoke pin (21)	Take out.	
19. Yoke (23)	Control arm (24)	Turn clockwise until handle (25) will clear cowl (1) when cowl is removed.	



TA243212

COWL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
20.	Cowl support (1) and steering column (2)	Cowl (3) with assembled parts	Take off.
DISASSEMBLY			
21.	Time total meter (4) and cowl (3)	Three screws (5), washers (6), lockwashers (7), and nuts (8)	a. Using 5/16-inch open-end wrench, and 3/16-inch flat-tip screwdriver, unscrew and take apart. b. Get rid of lockwashers (7).
22.	Cowl (3)	Time total meter (4)	Take out.
23.	Cowl (3) and horn switch (9)	Horn switch cap (10)	Using slip-joint pliers, unscrew and take off.
24.	Cowl (3)	Horn switch (9)	Take out.

NOTE

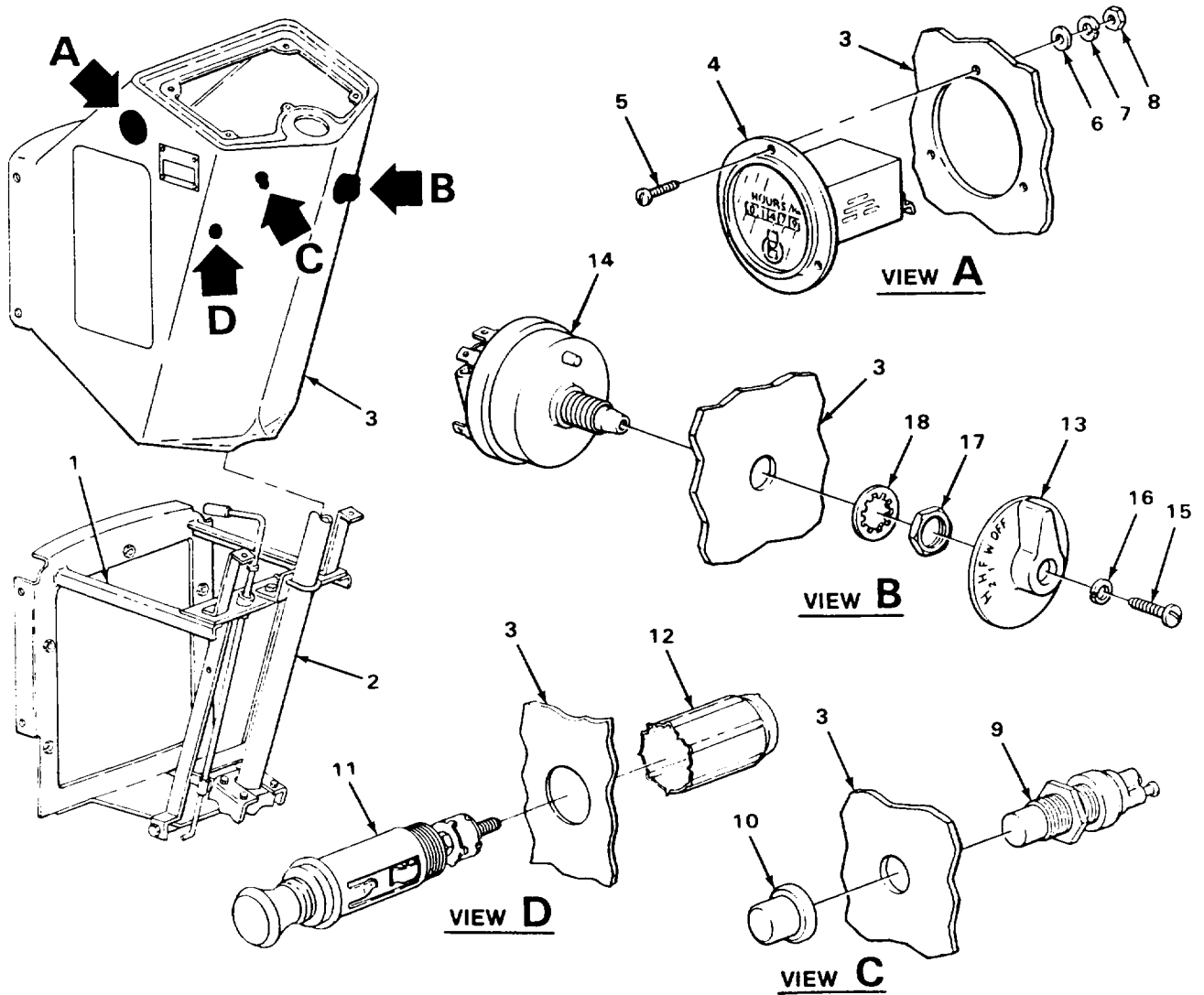
Steps 25 and 26 only apply to loader backhoes with Serial Numbers 319995 thru 342573.

25.	Cowl (3) and bezel (11)	Base (12)	Unscrew and take off.
26.	Cowl (3)	Base (11) with assembled parts	Take out.
27.	Light switch lever (13) and light switch (14)	Screw (15) and lockwasher (16)	a. Using 3/16-inch flat-tip screwdriver, unscrew and take out. b. Get rid of lockwasher (16).
28.	Light switch (14)	Light switch lever (13)	Take off.
29.	Light switch (14) and cowl (3)	Nut (17) and lockwasher (18)	a. Using 5/8-inch open-end wrench, unscrew and take off. b. Get rid of lockwasher (18).

COWL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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30. Cowl (3)	Light switch (14)	Take out.	
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TA243213

COWL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY - CONTINUED

CAUTION

Cowl bumpers, decals, and identification plates may be destroyed during removal. Do not remove bumpers, decals, or identification plates unless inspection shows need for replacement.

31. Cowl (1)	Decals and instruction labels	Remove (page 2-1186).	
32.	Identification and name plates	Remove (page 2-1182).	

WARNING

Water soluble cleaning compound solvent is flammable and fumes are toxic. Flashpoint is 220°F (104°C). Boiling point is 212°F (100°C). Do not store in temperatures above 150°F (65°C) or below 35°F (2°C). Do not use near open flame or excessive heat. Do not wear jewelry, wear rubber gloves and goggles, and use only in well ventilated area. Avoid contact with skin, eyes, and clothes, and don't breathe vapors. Avoid contact with acids, aluminum, or zinc; chemical reaction may result. If you become dizzy while using cleaning compound solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

33.	Upper bumper (2) and cowl bumper (3)	<ol style="list-style-type: none"> a. Note position for proper placement during installation. b. Using clean rags and cleaning compound solvent, dissolve adhesive. c. Using putty knife under edge, pull up corner. d. Wet with more cleaning compound solvent and continue to pull off. e. Repeat steps b thru d above until completely removed. f. Using clean rag dampened with cleaning compound solvent, remove all adhesive from cowl (1). g. Rinse cowl (1), upper bumper (2), and lower bumper (3) with clean water. h. Using clean, dry rags, wipe dry. 	
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COWL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

NOTE

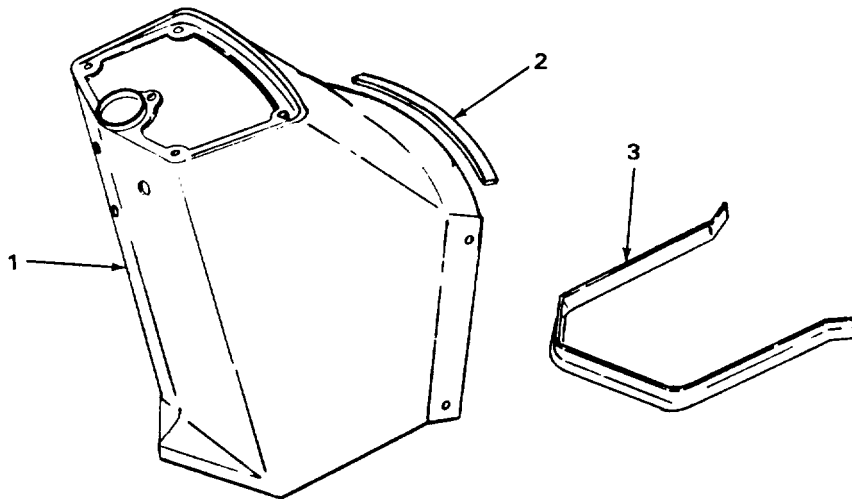
For more information on how to clean parts, go to **General Maintenance Instructions (page 2-137)**.

- | | | |
|-----|----------------------------------|--|
| 34. | Cowl (1) and any assembled parts | <ul style="list-style-type: none"> a. Using clean rags dampened with solution of detergent and water, wipe clean. b. Rinse with clean water. |
|-----|----------------------------------|--|

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-----|------------------------|---|
| 35. | All attaching hardware | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. |
|-----|------------------------|---|



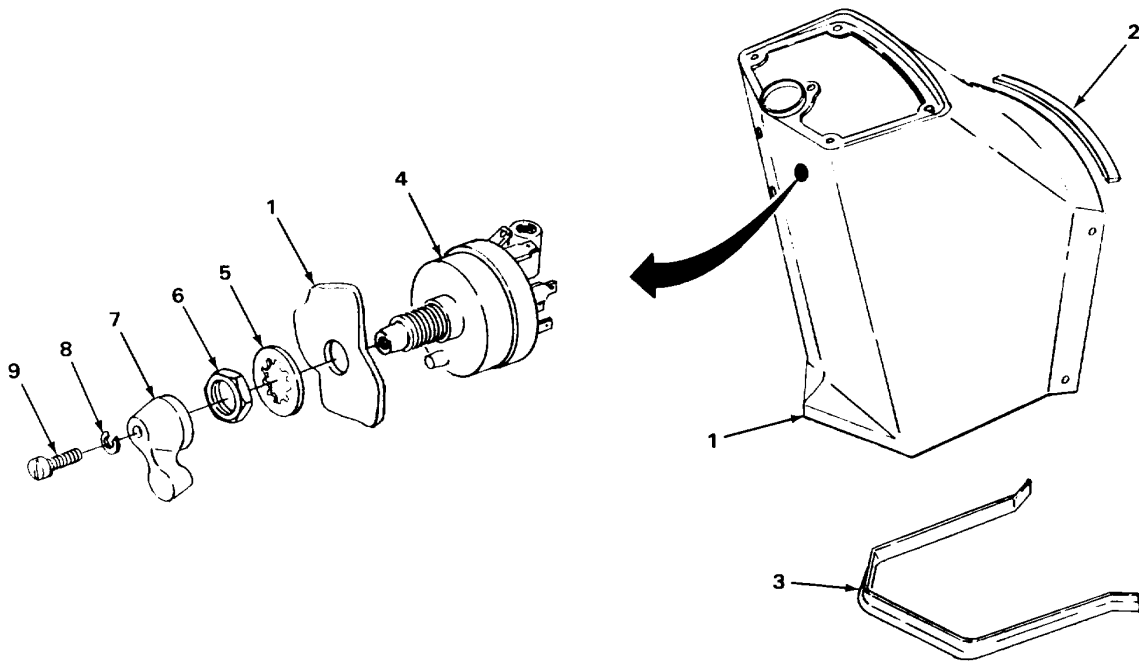
TA243214

COWL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT			
NOTE			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).			
Replace defective parts as needed.			
36.	Cowl (1)		Look for cracks, breaks, and abnormal bends.
37.	All decals, instruction labels, identification and name plates		Look for cracks, tears, and readability.
38.	All attaching hardware		look for damaged threads.
39.	Upper bumper (2) and cowl bumper (3)		Look for cracks, tears, and crumbling.
ASSEMBLY			
40. Cowl (1)	Decals and instruction labels		If removed, install (page 2-1186).
41.	Identification and name plates		If removed, install (page 2-1182).
42.	Upper bumper (2) a. and cowl bumper (3)		<p>If removed, apply metal adhesive in 0.06 to 0.18-inch (1.52 to 4.57 mm) wide beads, in 2.00-inch (50.8 mm) or smaller squares.</p> <p>Make sure that outside bead is within 0.25-inch (6.35 mm) of edge with no gaps.</p> <p>b. Line up and press into place to transfer some metal adhesive.</p> <p>c. Take off and allow metal adhesive to set for two minutes.</p> <p>d. Line up and press firmly into place.</p>

COWL - CONTINUED

LOCATION	ITEM	ACTION REMARKS
43.	Light switch (4)	Place in position.
44. Cowl (1) and light switch (4)	New lockwasher (5) and nut (6)	Screw on and tighten using 5/8-inch open-end wrench.
45. Light switch (4)	Light switch lever (7)	Place in position.
46. Light switch lever (7) and light switch (4)	New lockwasher (8) and screw (9)	Screw in and tighten using 3/16-inch flat-tip screwdriver.



TA243215

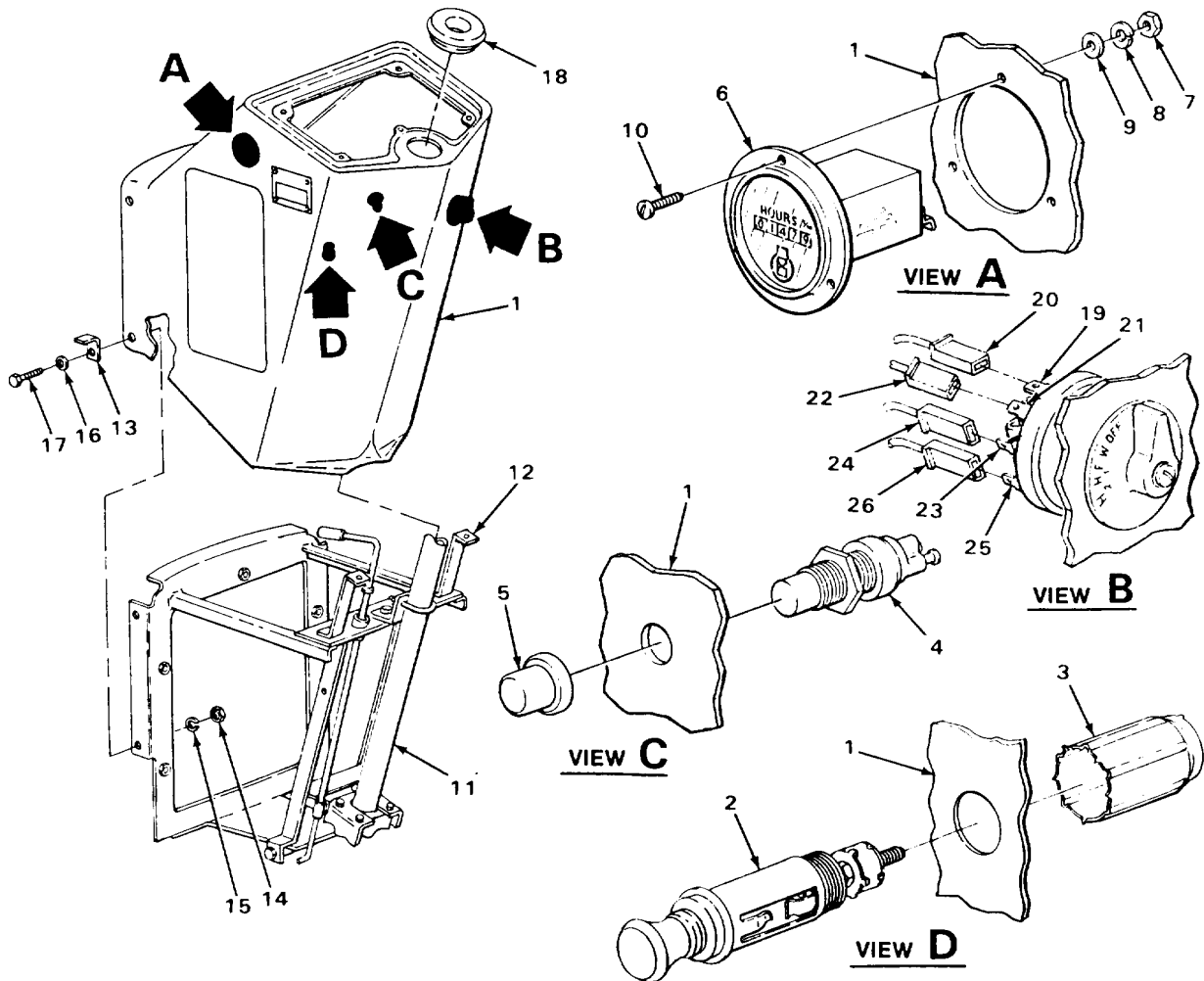
COWL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
ASSEMBLY - CONTINUED			
NOTE			
Steps 47 and 48 only apply to loader backhoes with Serial Numbers 319995 thru 342573.			
47.	Cowl (1)	Bezel (2) with assembled parts	Place in position.
48.	Cowl (1) and bezel (2)	Base (3)	Screw on and tighten.
49.	Cowl (1)	Horn switch (4)	Place in position.
50.	Cowl (1) and horn switch (4)	Horn switch caps (5)	Screw on and tighten using slip-joint pliers.
51.	Cowl (1)	Time total meter (6)	Place in position.
52.	Cowl (1) and time total meter (6)	Three nuts (7), new lockwashers (8), washers (9), and screws (10)	Screw together and tighten using 5/16-inch open-end wrench and 3/16-inch flat-tip screwdriver.
INSTALLATION			
53.	Steering column (11) and cowl support (12)	Cowl (1) with assembled parts	Place in position.
54.	Cowl (1)	Two hood retainers (13)	Place in position.
55.	Two hood retainers (13), cowl (1), and cowl support (12)	Four nuts (14), new lockwashers (15), washers (16), and screws (17)	a. Screw together part way. b. Using 9/16-inch open-end wrench and 9/16-inch, 1/2-inch drive socket and ratchet handle, tighten.
56.	Cowl (1) and steering column (11)	Grommet (18)	Place in position.
57.	Light switch terminal (19)	Connector (20)	a. Take off tag. b. Push on.

COWL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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58. Light switch terminal (21)	Connector (22)	a. Take off tag. b. Push on.	
59. Light switch terminal (23)	Connector (24)	a. Take off tag. b. Push on.	
60. Light switch terminal (25)	Connector (26)	a. Take off tag. b. Push on.	

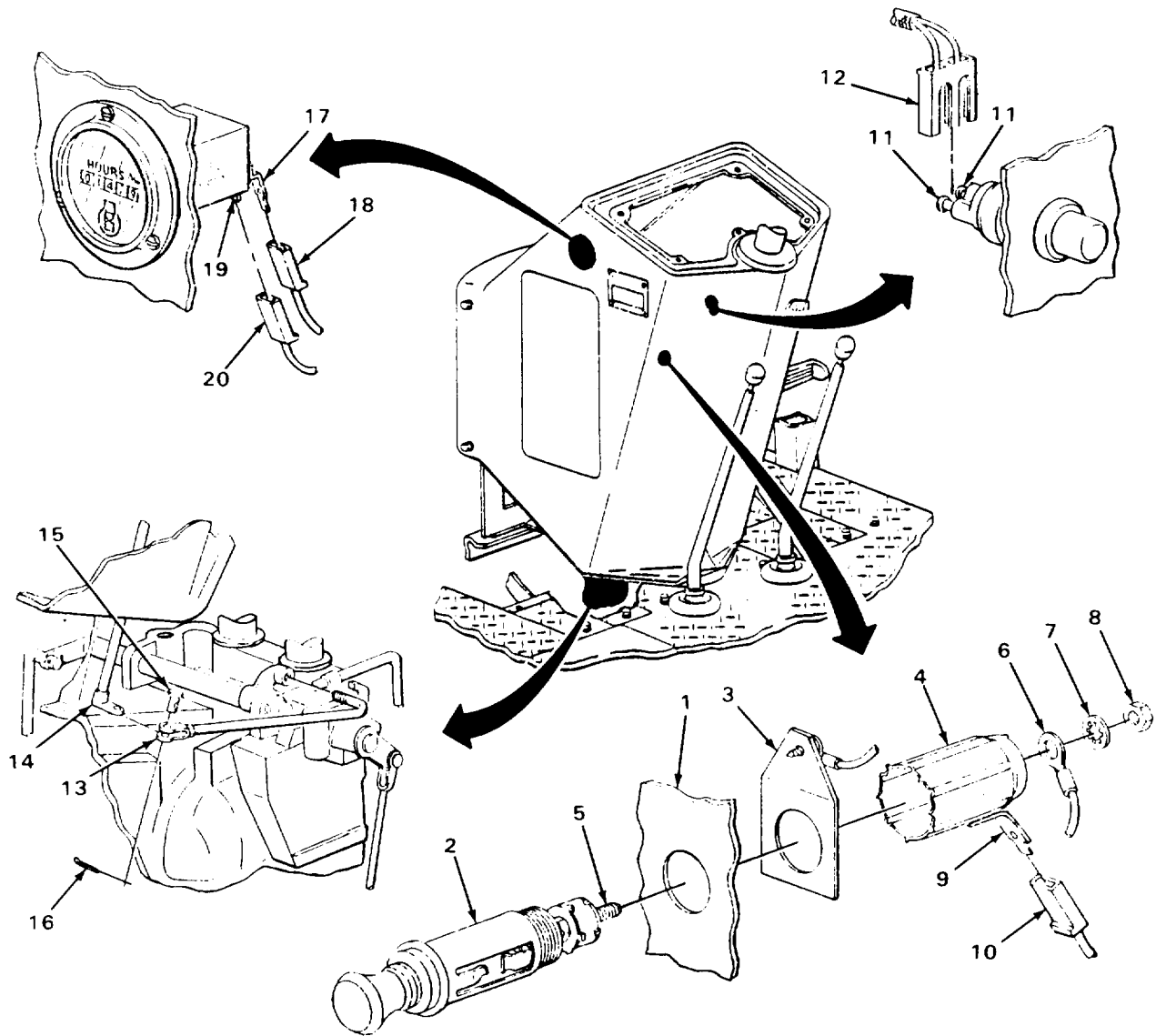


TA243216

COWL - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
NOTE			
Steps 61 and 63 only apply to loader backhoes with Serial Numbers 235786 thru 235999.			
61.	Cowl (1)	Brezel (2) with assembled parts	Place in position.
62.	Cowl (1) and bezel (2)	Ground terminal (3) with assembled parts	Place in position.
63.	Cowl (1), bezel (2), and ground terminal (3)	Base (4)	Screw on and tighten.
64.	Cigar lighter terminal (5)	Terminal (6)	a. Take off tag. b. Place in position.
65.	Cigar lighter terminal (5) and terminal (6)	New lockwasher (7) and nut (8)	Screw on and tighten using 11/32-inch open-end wrench.
66.	Cigar lighter ground terminal (9)	Connector (10)	a. On loader backhoes with Serial Numbers 319995 thru 342573, take off tag. b. Push on.
67.	Two horn switch terminals (11)	Connector (12)	a. Take off tag. b. Push on.
68.	Yoke (13)	Control arm (14)	Turn counterclockwise to place in position.
69.	Yoke (13) and control arm (14)	Yoke pin (15)	Place in position.
70.	Yoke pin (15)	New cotter pin (16)	a. Place in position. b. Using slip-joint pliers, bend ends back.
71.	Time total meter terminals (17)	Connector (18)	a. Take off tag. b. Push on.
72.	Time total meter terminals (19)	Connector (20)	a. Take off tag. b. Push on.

COWL - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Install left outer platform ramp (page 2-1073).
2. Install steering wheel (page 2-941).
3. Install dash (page 2-579).

TASK ENDS HERE

TA243217

COWL FRONT COVER

This task covers:

- | | |
|---|---|
| <ul style="list-style-type: none"> a. Removal (page 2-1020) b. Disassembly (page 2-1020) c. Cleaning (page 2-1022) | <ul style="list-style-type: none"> d. Inspection/Replacement (page 2-1023) e. Assembly (page 2-1023) f. Installation (page 2-1024) |
|---|---|
-

INITIAL SETUP:

Tools

- Handle, ratchet, 3/8-inch drive
- Knife, putty
- Socket, 3/8-inch drive, 7/16-inch

Materials/Parts

- Adhesive, metal bonding (item 1, Appendix C)
- Detergent, GP (item 7, Appendix C)
- Lockwasher, cowl support screw (six required)
- Solvent, cleaning compound (item 27, Appendix C)

Materials/Parts - Continued

- Solvent, drycleaning (item 28, Appendix C)
- Rags, wiping (item 30, Appendix C)

Personnel Required

One

Equipment Condition

Hood removed (page 2-1025)

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Cowl front cover (1) and cowl support (2)	Six screws (3) and a. lockwashers (4)	Using 7/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out. b. Get rid of lockwashers (4).
2.	Cowl support (2) and capillary tube grommet (5)	Cowl front cover (1) with assembled cowl barrier (6), if present	Take off.

DISASSEMBLY

NOTE

Step 3 only applies to loader backhoes with Serial Numbers 319995 thru 342573.

2-1020

COWL FRONT COVER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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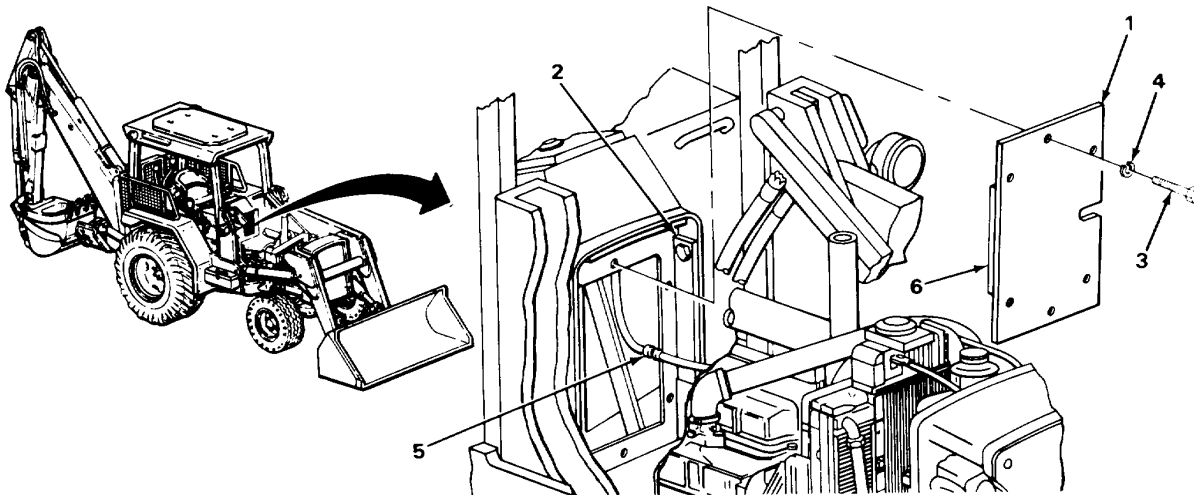
WARNING

Water soluble cleaning compound solvent is flammable and fumes are toxic. Flashpoint is 220°F (104°C). Boiling point is 212°F (100°C). Do not store in temperatures above 150°F (65°C) or below 35°F (2°C). Do not use near open flame or excessive heat. Do not wear jewelry, wear rubber gloves and goggles, and use only in well ventilated area. Avoid contact with skin, eyes, and clothes, and don't breathe vapors. Avoid contact with acids, aluminum, or zinc; chemical reaction may result. If you become dizzy while using cleaning compound solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

CAUTION

Do not remove cowl barrier unless inspection shows need for replacement. Barrier may be destroyed during removal.

- | | | |
|-------------------------|------------------|---|
| 3. Cowl front cover (1) | Cowl barrier (6) | <ul style="list-style-type: none"> a. Note position for proper placement during installation. b. Using clean rags and cleaning compound solvent, dissolve adhesive. c. Using putty knife under edge, pull up corner. |
|-------------------------|------------------|---|



TA243218

COWL FRONT COVER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY - CONTINUED

WARNING

Water soluble cleaning compound solvent is flammable and fumes are toxic. Flashpoint is 220°F (104°C). Boiling point is 212°F (100°C). Do not store in temperatures above 150°F (65°C) or below 35°F (2°C). Do not use near open flame or excessive heat. Do not wear jewelry, wear rubber gloves and goggles, and use only in well ventilated area. Avoid contact with skin, eyes, and clothes, and don't breathe vapors. Avoid contact with acids, aluminum, or zinc; chemical reaction may result. If you become dizzy while using cleaning compound solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|-------------------------------------|------------------|--|
| 3. Cowl front cover (1) - Continued | cowl barrier (2) | <ul style="list-style-type: none"> d. Wet with more cleaning compound solvent and continue to pull off. e. Repeat steps b thru d above until completely removed. f. Using clean rag dampened with cleaning compound solvent, remove all adhesive from cover (1). g. Rinse cover (1) and barrier (2) with clean water. h. Using clean, dry rags, wipe dry. |
|-------------------------------------|------------------|--|

CLEANING

NOTE

For more information on how to clean parts, go to **General Maintenance Instructions (page 2-137)**.

- | | | |
|----|--|---|
| 4. | Cowl front cover (1) and assembled barrier (2), if present | <ul style="list-style-type: none"> a. Using clean rags dampened with solution of detergent and water, wipe clean. b. Rinse with clean water. c. Using clean, dry rags, wipe dry. |
|----|--|---|

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

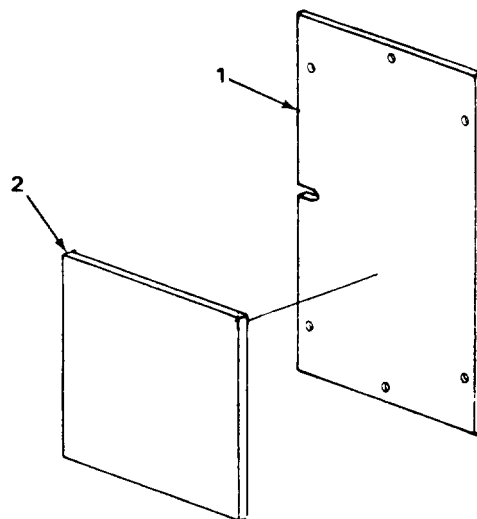
COWL FRONT COVER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
5.	All attaching hardware	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.	
INSPECTION/REPLACEMENT			
NOTE			
<p>For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).</p>			
<p>Replace defective parts as needed.</p>			
6.	Cowl front cover (1)	Look for cracks, breaks, and abnormal bends.	
7.	Cowl barrier (2), if present	Look for cracks, tears, and crumbling.	
8.	All attaching hardware	Look for damaged threads.	

ASSEMBLY

NOTE

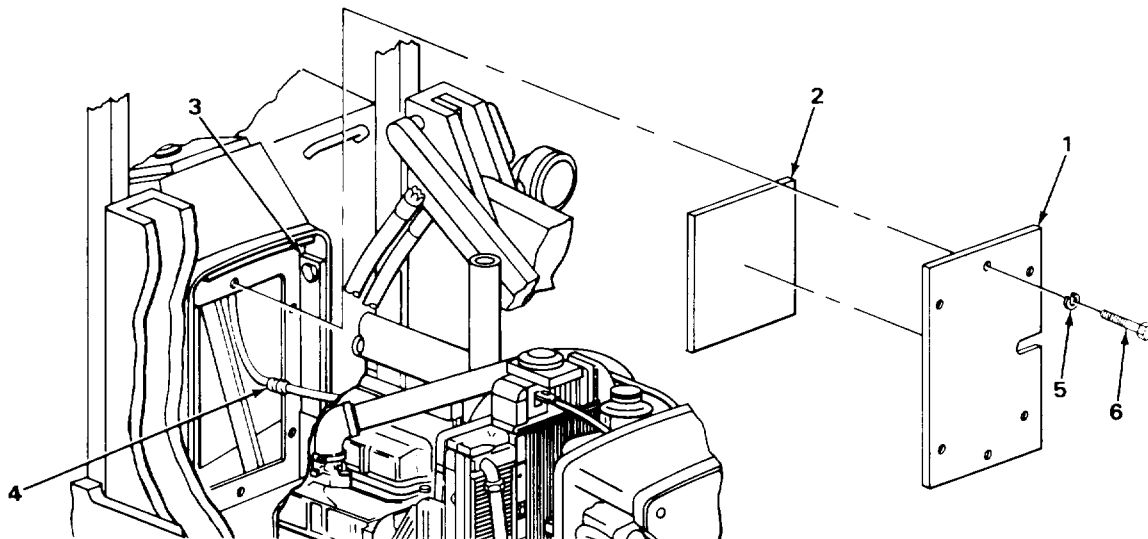
Step 9 only applies to loader backhoes with Serial Numbers 319995 thru 342573.



TA243219

COWL FRONT COVER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
ASSEMBLY - CONTINUED			
9. Cowl front cover (1)	Cowl barrier (2)	a. If removed, apply metal adhesive in 0.06 to 0.18-inch (1.52 to 4.57 mm) wide beads, in 2.00-inch (50.8 mm) or smaller squares. Make sure that outside bead is within 0.25-inch (6.35 mm) of edge with no gaps. b. Line up and press into place to transfer some metal adhesive. c. Take off and allow metal adhesive to set for two minutes. d. Line up and press firmly into place.	
INSTALLATION			
10. Cowl support (3) and capillary tube grommet (4)	Cowl front cover (1) with assembled cowl barrier (2), if present	Place in position.	
11. Cowl support (3) and cowl front cover (1)	Six new lockwashers (5) and screws (6)	a. Screw in part way. b. Using 7/16-inch, 3/8-inch drive socket and ratchet handle, tighten.	



TA243220

COWL FRONT COVER - CONTINUED

NOTE

FOLLOW-ON MAINTENANCE: Install hood (page 2-1025).

TASK ENDS HERE

HOOD

This task covers:

- | | |
|---|-------------------------------|
| a. Removal (page 2-1026) | e. Repair (page 2-1030) |
| b. Disassembly (page 2-1028) | f. Assembly (page 2-1031) |
| c. Cleaning (page 2-1029) | g. Installation (page 2-1032) |
| d. Inspection/Replacement (page 2-1030) | |
-

INITIAL SETUP:

Tools

Hammer, ball-peen, 1-pound head
 Handle, ratchet, 3/8-inch drive
 Knife, putty
 Punch, drive pin, straight, 1/8-inch
 Socket, 3/8-inch drive, 9116-inch
 Threading set, screw
 Wrench, open-end, 1/2-inch

Materials/Parts

Adhesive, metal bonding
 (item 1, Appendix C)
 Detergent, GP (item 7, Appendix C)
 Lockwasher, hood reinforcement
 screw (four required)
 Rags, wiping item 21, Appendix C)
 Screw, drive, vandal cover (four
 required)
 Solvent, cleaning compound (item 27,
 Appendix C)
 Solvent, drycleaning (item 28,
 Appendix C)

Personnel Required

Two

Equipment Conditions

1. Muffler extension stack assembly removed
 (page 2-347)
2. Side grilles removed (TM 5-2420-222-10)

NOTE

**The following only applies to
 loader backhoes with Serial Numbers
 319995 thru 342573.**

3. Engine starting aid fluid injection
 solenoid removed (page 2-296)

HOOD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Grille housing (1) and two eye bolts (2)	Two stop nuts (3) and washers (4)	Using 1/2-inch open-end wrench, unscrew and take off.
2.	Hood (5), two reinforcement plates (6), and two retainers (7)	Two screws (8) and lockwashers (9)	a. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out. b. Get rid of lockwashers (9).
3.	Hood (5)	Vandal cover (10)	Open.

WARNING

Be careful when removing radiator cap. If engine is hot, escaping steam could burn you. Use a rag to cover radiator cap to protect your hand. Unscrew cap just enough to allow any built-up steam to escape. When all pressure has been relieved, unscrew cap the rest of the way, and take it off of radiator.

4.	Radiator (11)	Filler opening cap (12)	a. Unscrew to radiator filler neck stop. b. Push down, unscrew and take off.
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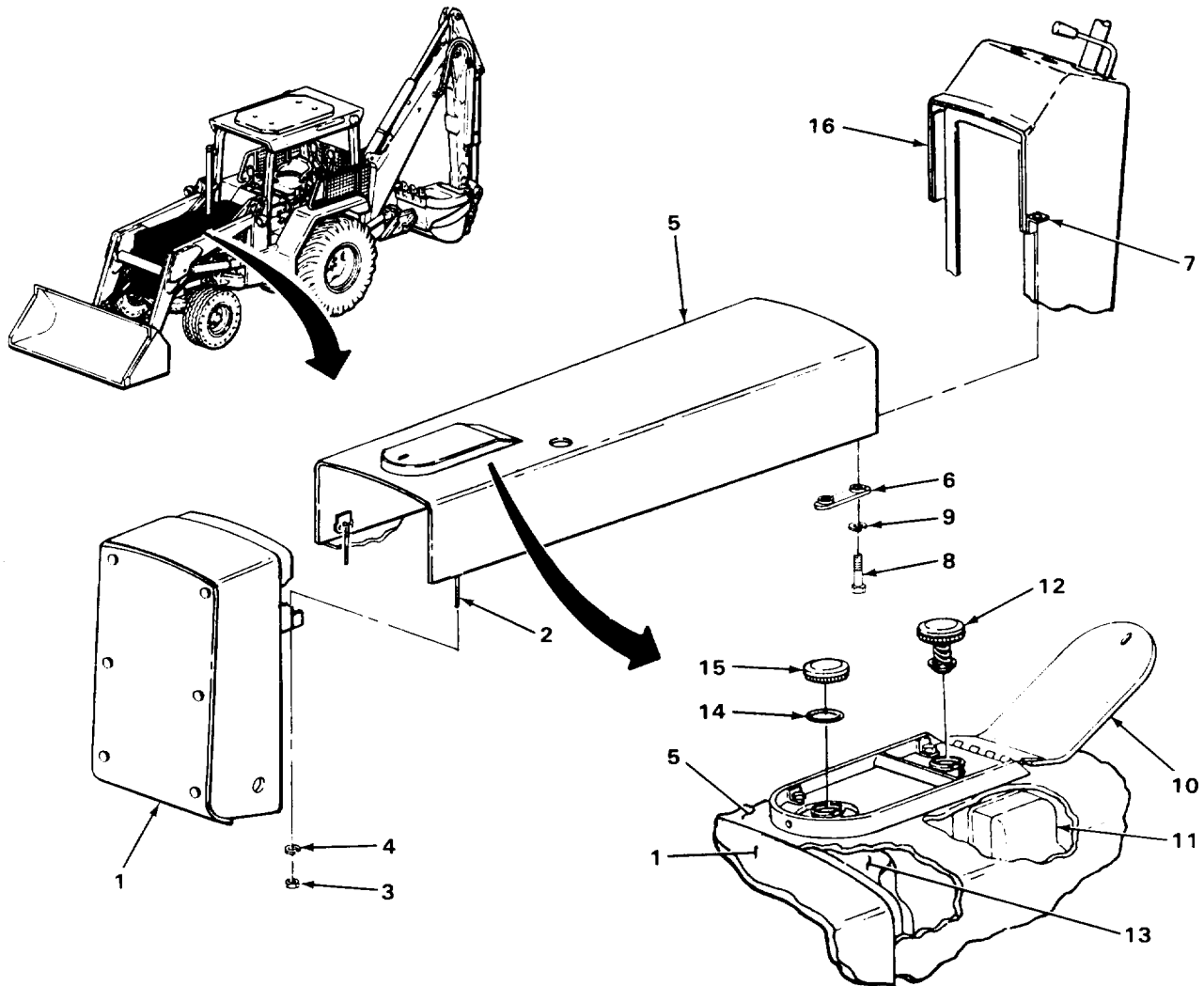
WARNING

No open flames, welding, grinding, smoking, or use of heat producing devices permitted near fuel tank and fuel lines during maintenance unless the fuel tank has been cleaned and purged of all flammable liquids and vapors. Fuel burns easily and fumes are explosive. Keep battery disconnected. Failure to observe these precautions could cause serious injury.

5.	Fuel tank (13) and grommet (14)	Fuel cap (15)	Unscrew and take off.
6.	Fuel tank (13) and hood (5)	Grommet (14)	Take off.
7.	Grille housing (1) and cowl (16)	Hood (5)	With help of assistant, take off.

HOOD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
8. Fuel tank (13)	Grommet (14)	Place in position.	
9.	Fuel cap (15)	a. Place in position. b. Screw on and tighten.	
10. Radiator (11)	Filler opening cap (12)	a. Place in position. b. Push down, screw on and tighten.	



TA243221

HOOD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
DISASSEMBLY			
11.	Hood (1) and vandal cover (2)	Four drive screws (3)	<ol style="list-style-type: none"> Using 1-pound head ball-peen hammer and 1/8-inch straight drive pin punch, drive out. Get rid of.
12.	Hood (1)	Vandal cover (2)	Take off.
13.	Hood (1) and two reinforcement plates (4)	Two screws (5) and lockwashers (6)	<ol style="list-style-type: none"> Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out. Get rid of lockwashers (6).
14.	Hood (1)	Two reinforcement plates (4)	Take off.

WARNING

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CAUTION

Do not remove packing strips unless inspection shows need for replacement. Packing strips may be destroyed during removal.

NOTE

Hood is equipped with three packing strips. All three packing strips are removed the same way. One is shown. Repeat step 15 as needed to remove remaining packing strips.

15.	Hood (1)	Packing strip (7)	<ol style="list-style-type: none"> Note position for proper placement during installation. Using clean rags and cleaning compound solvent, dissolve adhesive. Using putty knife under edge, pull up corner.
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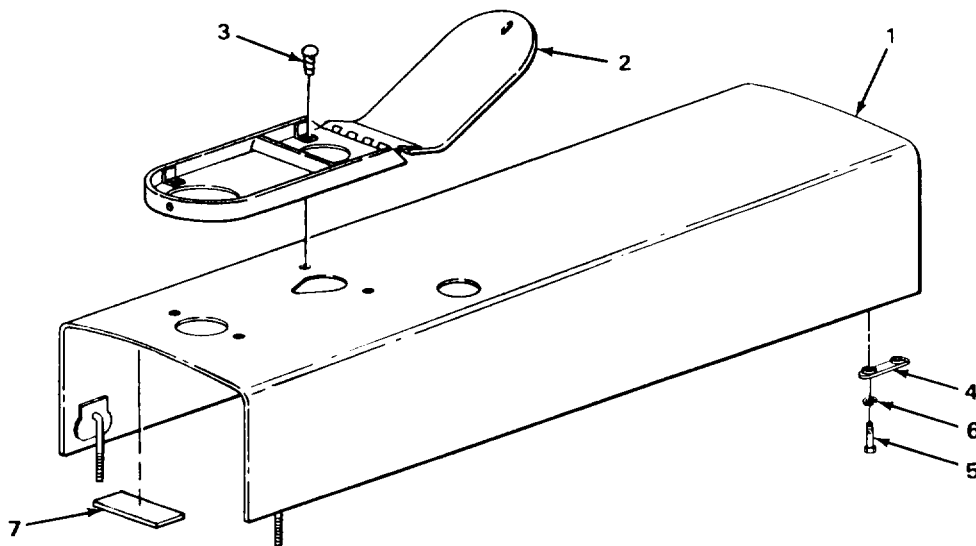
HOOD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
15. Continued		d. Wet with more cleaning compound solvent and continue to pull off. e. Repeat steps b thru d above until completely removed. f. Using clean rag dampened with cleaning compound solvent, remove all adhesive from hood (1). g. Rinse hood (1) with clean water. h. Using clean, dry rags, wipe dry. i. Repeat step 15 for remaining packing strips as needed.	
16. Vandal cover (2)	Instruction label	If necessary, remove (page 2-1186).	

CLEANING

NOTE

For more information on how to clean parts, go to **General Maintenance Instructions (page 2-137)**.



TA243222

HOOD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
CLEANING - CONTINUED			
17.	Hood (1), packing strips (2), and vandal cover (3) with assembled instruction label (4)	a. Using clean rags dampened with solution of detergent and water, wipe clean. b. Rinse with clean water. c. Using clean, dry rags, wipe dry.	

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

18.	All other metal parts	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.	
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INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

19.	All metal parts	Look for cracks, breaks, and abnormal bends.	
2.	All threaded parts	Look for damaged threads.	
21.	Packing strips (2)	Look for cracks, tears, and crumbling.	
REPAIR			
22.	Hood (1), two eye bolts (5), and reinforcement plates (6)	If threads are damaged, using screw threading set, restore threads.	

HOOD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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ASSEMBLY

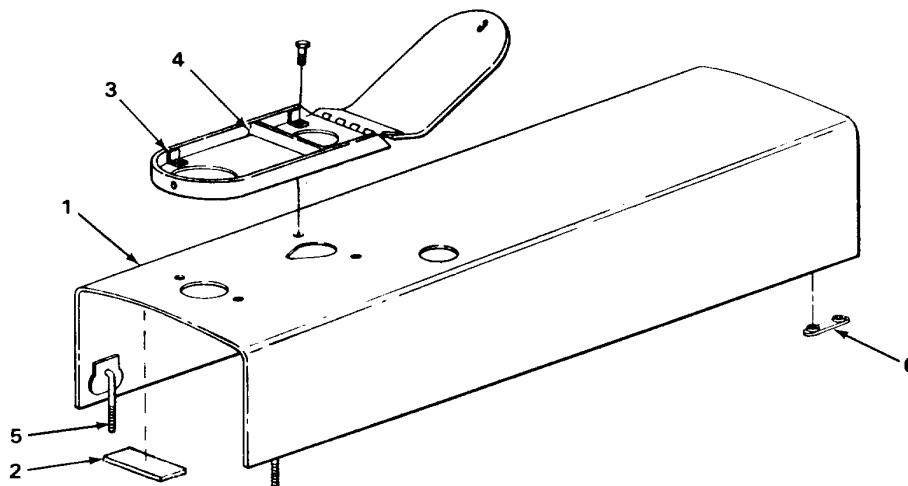
23. Vandal cover (3)	Instruction label	If removed, install (page 2-1186).	
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NOTE

Hood is equipped with three packing strips. All three packing strips are installed the same way. One is shown. Repeat step 24 as needed to install remaining packing strips,

24. Hood (1)	Packing strip (2)	<p>a. If removed, apply metal adhesive in 0.06 to 0.18-inch (1.52 to 4.57 mm) wide beads, in 2.00-inch (50.8 mm) or smaller squares.</p> <p>Make sure that outside bead is within 0.25-inch (6.35 mm) of edge with no gaps.</p> <p>b. Line up and press into place to transfer some metal adhesive.</p> <p>c. Take off and allow metal adhesive to set for two minutes.</p> <p>d. Line up and press firmly into place.</p> <p>e. Repeat step 24 for remaining packing strips as needed.</p>	
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25.	Two reinforcement plates (6)	Place in position.	
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TA243223

HOOD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
ASSEMBLY - CONTINUED			
26.	Hood (1) and two reinforcement plates (2)	Two new lockwashers (3) and screws (4)	Screw in until snug.
27.	Hood (1)	Vandal cover (5)	Place in position.
28.	Hood (1) and vandal cover (5)	Four new drive screws (6)	Using 1-pound head ball-peen hammer, drive in.

INSTALLATION**WARNING**

Be careful when removing radiator cap. If engine is hot, escaping steam could burn you. Use a rag to cover radiator cap to protect your hand. Unscrew cap just enough to allow any built-up steam to escape. When all pressure has been relieved, unscrew cap the rest of the way, and take it off of radiator.

29.	Radiator (7)	Filler opening cap (8)	a. Unscrew to radiator filler neck stop. b. Push down, unscrew and take off.
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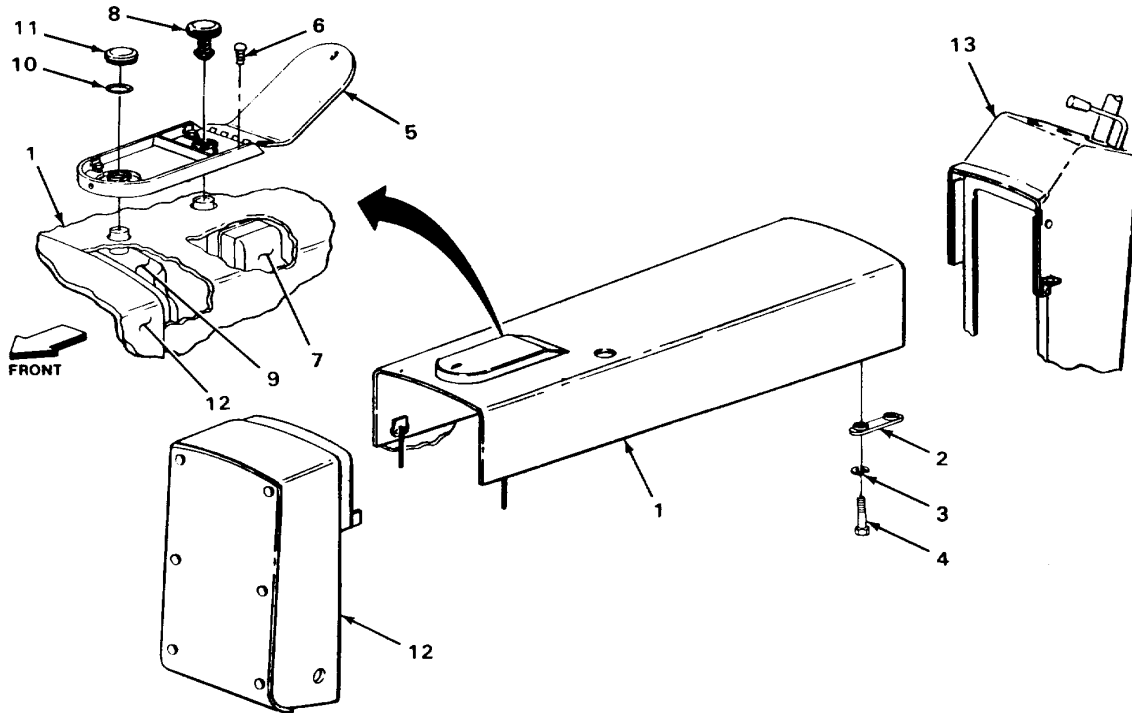
WARNING

No open flames, welding, grinding, smoking, or use of heat producing devices permitted near fuel tank and fuel lines during maintenance unless the fuel tank has been cleaned and purged of all flammable liquids and vapors. Fuel burns easily and fumes are explosive. Keep battery disconnected. Failure to observe these precautions could cause serious injury.

30.	Fuel tank (9) and grommet (10)	Fuel cap (11)	Unscrew and take off.
31.	Fuel tank (9)	Grommet (10)	Take off.
32.	Grille housing (12) and cowl (13)	Hood (1)	With help of assistant, place in position.

HOOD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
33. Hood (1)	Vandal cover (5)		If not already open, open.
34. Fuel tank (9) and hood (1)	Grommet (10)		Place in position.
35. Fuel tank (9) and grommet (10)	Fuel cap (11)	a. Place in position. b. Screw on and tighten.	
36. Radiator (7)	Filler opening cap (8)	a. Place in position. b. Push down, screw on and tighten.	
37. Hood (1)	Vandal cover (5)		Close.



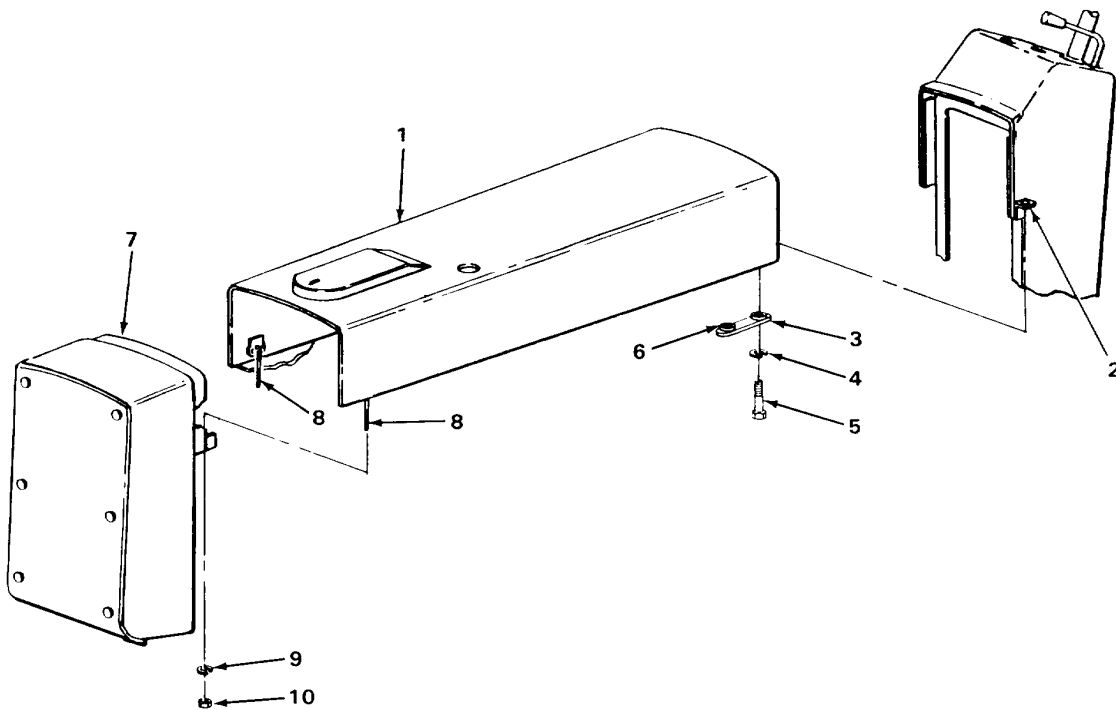
TA243224

HOOD - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION - CONTINUED

- | | | |
|---|---|---|
| 38. Hood (1), two retainers (2), and two reinforcement plates (3) | Two new lockwashers (4), and screws (5) | Screw in and tighten using 9/16-inch, 3/8-inch drive socket and ratchet handle. |
| 39. Hood (1) and two two reinforcement plates (3) | Two screws (6) | Using 9/16-inch, 3/8-inch drive socket and ratchet handle, tighten. |
| 40. Grille housing (7) and two eye bolts (8) | Two washers (9) and stop nuts (10) | Screw on and tighten using 1/2-inch open-end wrench. |



TA243225

HOOD - CONTINUED**NOTE****FOLLOW-ON MAINTENANCE:**

1. Install muffler extension stack assembly (page 2-347).
2. Install side grilles (TM 5-2420-222-10).

NOTE

Perform the following only on loader backhoes with Serial Numbers 319995 thru 342573.

Install engine starting aid injection solenoid (page 2-296)

TASK ENDS HERE**GRILLE HOUSING**

This task covers:

- | | |
|---|-------------------------------|
| a. Removal (page 2-1036) | e. Repair (page 2-1040) |
| b. Disassembly (page 2-1038) | f. Assembly (page 2-1040) |
| c. Cleaning (page 2-1038) | g. Installation (page 2-1040) |
| d. Inspection/Replacement (page 2-1040) | |

INITIAL SETUP:**Tools**

Extension, 3/8-inch drive, 5-inch
 Extension, 1/2-inch drive, 5-inch
 Handle, ratchet, 1/2-inch drive
 Handle, ratchet, 3/8-inch drive
 Knife, putty
 Socket, 3/8-inch drive, 3/4-inch
 Socket, 1/2-inch drive, 1 11/8-inch
 Socket, deep, 3/8-inch drive,
 9/16-inch
 Threading set, screw
 Wrench, open-end, 3/4-inch

Materials/Parts

Adhesive, metal bonding (item 1, Appendix C)
 Detergent, GP (item 7, Appendix C)
 Lockwasher, fuel tank housing screw (four
 required)
 Lockwasher, grille housing front support screw
 (two required)
 Rags, wiping (item 21, Appendix C)
 Solvent, cleaning (item 27, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)

2-1035

GRILLE HOUSING - CONTINUED

INITIAL SETUP - CONTINUED

Personnel Required

Two

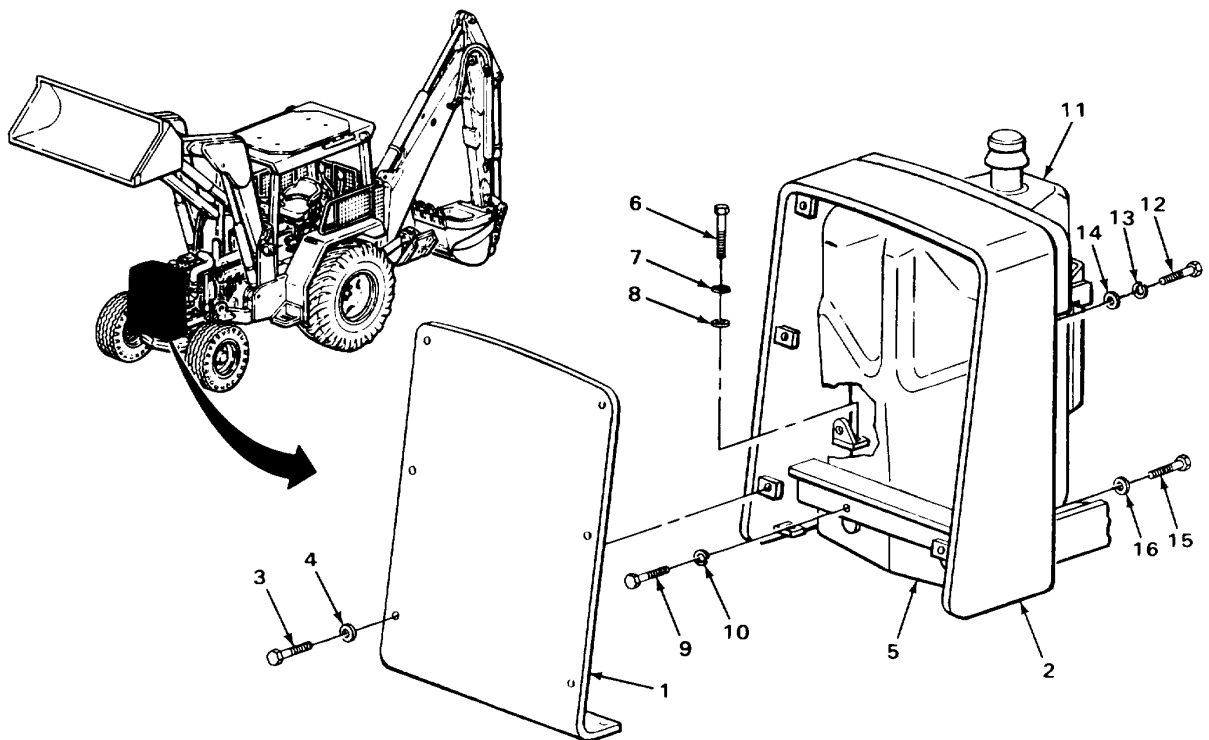
Equipment Condition

1. Hood removed (page 2-1025)
2. Fuel tank drained (page 2-250)
3. Loader bucket support installed (page 2-1830)

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Front plate (1) and grille housing (2)	Eight screws (3) and washers (4)	<ol style="list-style-type: none"> a. Have assistant hold front plate (1) in place. b. Using 3/4-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out.
2. Grille housing (2)	Front plate (1)	With help of assistant, take off.
3. Grille housing (2) and front support (5)	Two screws (6) and washers (7 and 8)	Using 3/4-inch open-end wrench, unscrew and take out.
4.	Two screws (9) and lockwashers (10)	<ol style="list-style-type: none"> a. Using 1 1/8-inch, 112-inch drive socket, 5-inch extension, and ratchet handle, unscrew and take out. b. Get rid of lockwashers (10).

GRILLE HOUSING - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
5. Grille housing (2) and fuel tank (11) and washers (14)	Four screws (12), lockwashers (13),	a. Using 9/16-inch, 3/8-inch drive deep socket, 5-inch extension, and ratchet handle, unscrew and take out. b. Get rid of lockwashers (13).	
6.	Two screws (15) and washers (16)	Using 9/16-inch, 3/8-inch drive deep socket, 5-inch extension, and ratchet handle, unscrew and take out.	



TA243226

GRILLE HOUSING - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL - CONTINUED

7. Front support (1)	Grille housing (2)	With help of assistant, take off.	
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DISASSEMBLY

WARNING

Water soluble cleaning compound solvent is flammable and fumes are toxic. Flashpoint is 220°F (104°C). Boiling point is 212°F (100°C). Do not store in temperatures above 150°F (65°C) or below 35°F (2°C). Do not use near open flame or excessive heat. Do not wear jewelry, wear rubber gloves and goggles, and use only in well ventilated area. Avoid contact with skin, eyes, and clothes, and don't breathe vapors. Avoid contact with acids, aluminum, or zinc; chemical reaction may result. If you become dizzy while using cleaning compound solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

CAUTION

Do not remove cushion unless inspection shows need for replacement. Cushion may be destroyed during removal.

8. Grille housing (2)	Cushion (3)	<ul style="list-style-type: none"> a. Note position for proper placement during installation. b. Using clean rags and cleaning compound solvent, dissolve adhesive. c. Using putty knife under edge, pull up corner. d. Wet with more cleaning compound solvent and continue to pull off. e. Repeat steps b thru d above until completely removed. f. Using clean rag dampened with cleaning compound solvent, remove all adhesive from grille housing (2). g. Rinse grille housing (2) with clean water. h. Using clean, dry rags, wipe dry. 	
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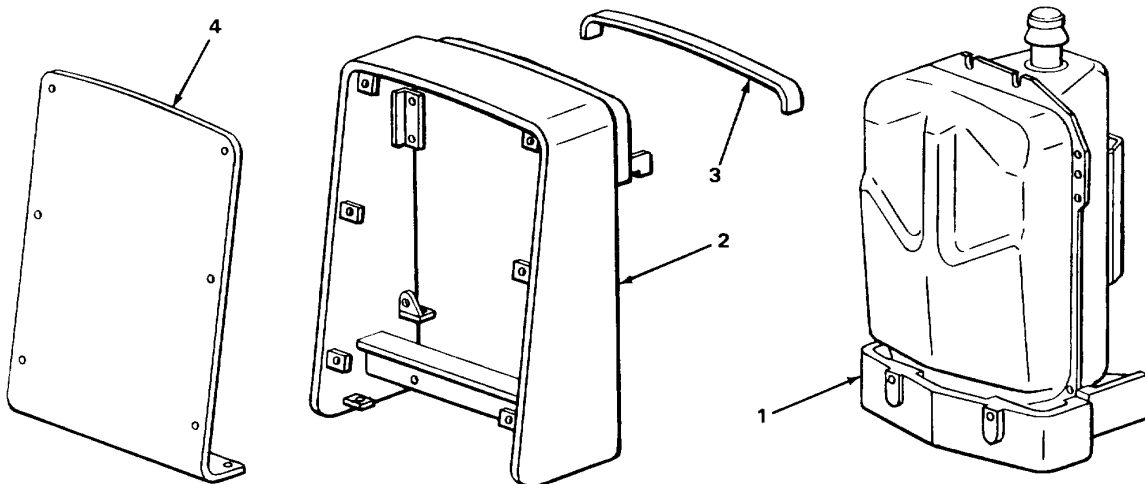
CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

GRILLE HOUSING - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
9.	Grille housing (2) and cushion (3)	a. Using clean rags dampened with solution of detergent and water, wipe clean. b. Rinse with clean water. c. using clean, dry rags, wipe dry.	
<u>WARNING</u>			
<p>Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.</p>			
10.	Front plate (4)	a. Using clean rags dampened with dry-cleaning solvent, wipe clean. b. Using clean, dry rags, wipe dry.	
11.	All attaching hardware	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.	



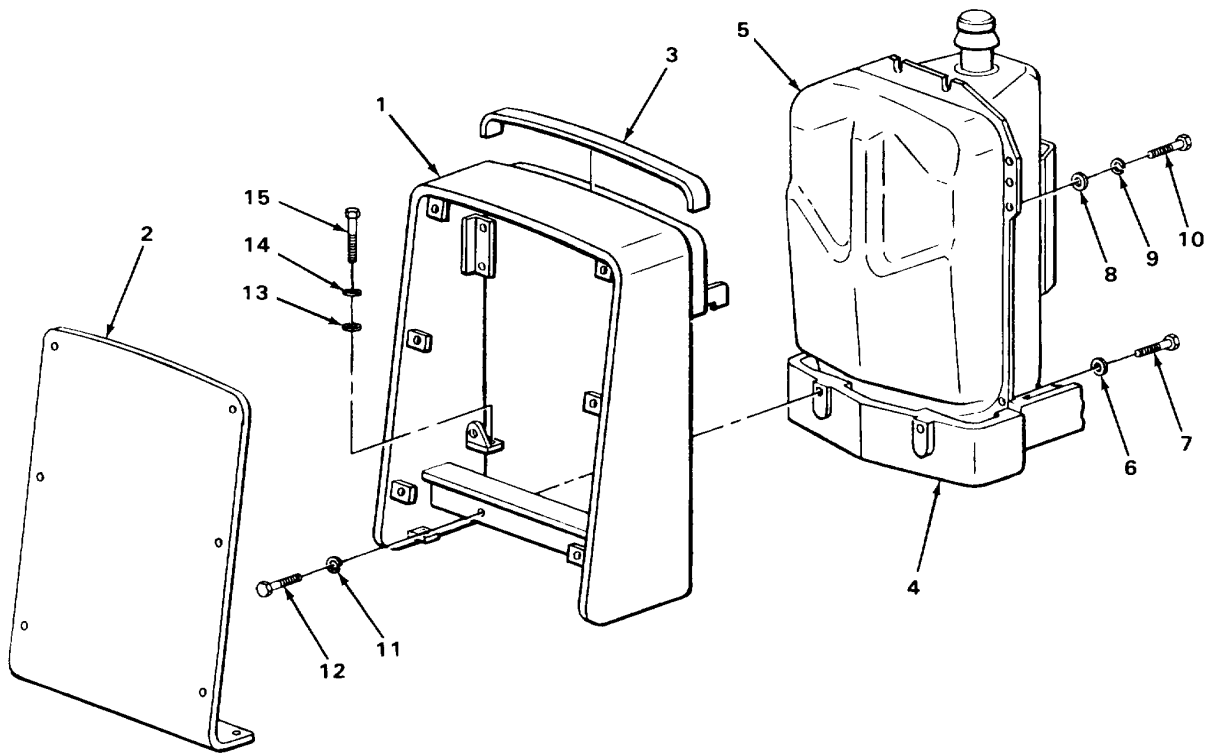
TA243227

GRILLE HOUSING - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT			
NOTE			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).			
Replace defective parts which cannot be repaired.			
12.	Grille housing (1) and front plate (2)		Look for cracks, breaks, and abnormal bends.
13.	All threaded parts		Look for damaged threads.
14.	Cushion (3)		Look for cracks, tears, and crumbling.
REPAIR			
15.	Grille housing (1)		If threads are damaged, using screw threading set, restore threads.
ASSEMBLY			
16. Grille housing (1)	Cushion (3)		<p>a. If removed, apply metal adhesive in 0.06 to 0.18-inch (1.52 to 4.57 mm) wide beads, in 2.00-inch (50.8 mm) or smaller squares.</p> <p style="text-align: center;">Make sure that outside bead is within 0.25-inch (6.35 mm) of edge with no gaps.</p> <p>b. Line up and press into place to transfer some metal adhesive.</p> <p>c. Take off and allow metal adhesive to set for two minutes.</p> <p>d. Line up and press firmly into place.</p>
INSTALLATION			
17. Front support (4)	Grille housing (1)		With help of assistant, place in position.

GRILLE HOUSING - CONTINUED

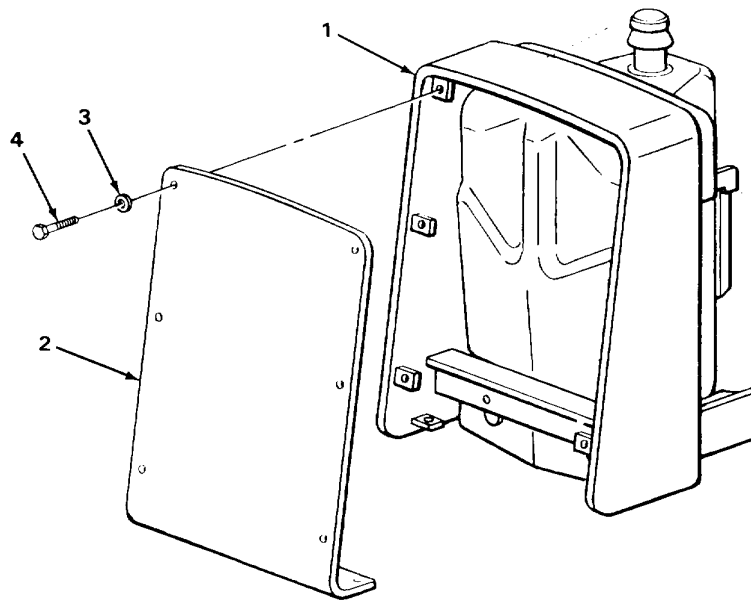
LOCATION	ITEM	ACTION	REMARKS
18. Grille housing (1) and fuel tank (5)	Two washers (6) and screws (7)	a. Screw in part way. b. Using 9/16-inch, 3/8-inch drive deep socket, 5-inch extension, and ratchet handle, tighten.	
19.	Four washers (8), new lockwashers (9), and screws (10)	a. Screw in part way. b. Using 9/16-inch, 3/8-inch drive socket, 5-inch extension, and ratchet handle, tighten.	
20. Grille housing (1) and front support (4)	Two new lockwashers (11) and screws (12)	a. Screw in part way. b. Using 1 1/8-inch, 1/2-inch drive socket, 5-inch extension, and ratchet handle, tighten.	
21.	Two washers (13 and 14), and screws (15)	Screw in and tighten using 3/4-inch open-end wrench.	



TA243228

GRILLE HOUSING - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
22. Grille housing (1)	Front plate (2)	With help of assistant, place in position.	
23. Grille housing (1) and front plate (2)	Eight washers (3) and screws (4)	a. With help of assistant, hold front plate (2) in place and screw in part way. b. Using 3/4-inch, 3/8-inch drive socket and ratchet handle, tighten.	



NOTE

FOLLOW-ON MAINTENANCE:

1. Install hood (page 2-1025).
2. Fill fuel tank (TM 5-2420-222-10).
3. Remove loader bucket support (page 2-1830).

TASK ENDS HERE

SIDE GRILLES

This task covers:
Replacement (page 2-1043)

SIDE GRILLES - CONTINUED

INITIAL SETUP:

Personnel Required

One

Equipment Condition

NOTE

The following applies only where maintenance is to be performed.

Side grille removed, cleaned, and inspected (TM 5-2420-222-10)

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REPLACEMENT

NOTE

If a side grille is defective, it must be replaced.

FOLLOW-ON MAINTENANCE:

1. Perform the following only where maintenance has been performed.
2. Install side grille (TM 5-2420-222-10).

TASK ENDS HERE

SIDE GRILLE SPRINGS

This task covers:

- | | |
|---|--|
| <ul style="list-style-type: none"> a. Removal (page 2-1044) b. Cleaning (page 2-1044) | <ul style="list-style-type: none"> c. Inspection/Replacement (page 2-1044) d. Installation (page 2-1045) |
|---|--|

INITIAL SETUP:

Tools

- Pliers, long roundnose
- Screwdriver, flat-tip, 3/8-inch

Materials/Parts

- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)

Personnel Required

One

Equipment Condition

NOTE

The following applies only at location where maintenance is to be performed.

Side grille removed (TM 5-2420-222-10)

2-1043

SIDE GRILE SPRINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

NOTE

Both side grille springs are removed the same way. Left spring is shown. Repeat procedures for right spring as needed.

REMOVAL

1. Front support (1)	Spring (2)	<ul style="list-style-type: none"> a. Using long roundnose pliers and 3/8-inch flat-tip screwdriver, bend enough to clear front support (1). b. Take out. 	
----------------------	------------	---	--

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

2.	Spring (2)	<ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. 	
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INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

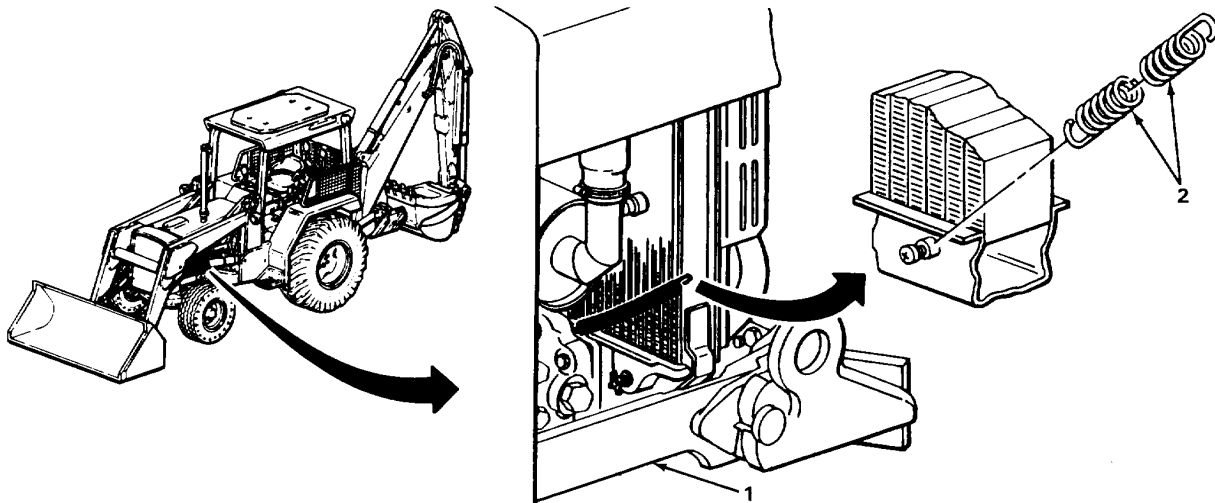
3.	Spring (2)	Look for cracks, breaks, and abnormal bends.	
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SIDE GRILLE SPRINGS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

INSTALLATION

- | | | | |
|----------------------|------------|---|--|
| 4. Front support (1) | Spring (2) | <ul style="list-style-type: none"> a. Place in position. b. Using long roundnose pliers and 3/8-inch flat-tip screwdriver, bend and close around front support (1). | |
|----------------------|------------|---|--|



NOTE

FOLLOW-ON MAINTENANCE:

1. Perform the following only at location where maintenance was performed.
2. Install side grille (TM 5-2420-222-10).

TASK ENDS HERE

TA243230

STEP

This task covers:

- a. Removal (page 2-1046)
- b. Cleaning (page 2-1046)
- c. Inspection/Replacement (page 2-1047)
- d. Installation (page 2-1048)

INITIAL SETUP:

Tools

Handle, ratchet, 1/2-inch drive
 Socket, 11/2-inch drive, 9116-inch
 Wrench, open-end, 9116-inch

Materials/Parts - Continued

Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)

Materials/Parts

Lockwasher, fender step screw
 (four required)

Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

- | | | | |
|----|------------------------------|---|---|
| 1. | Left fender (1) and step (2) | Four screws (3), lockwashers (4), washers (5), and nuts (6) | <ul style="list-style-type: none"> a. Using 9/16-inch open-end wrench, 9/16-inch, 1/2-inch drive socket, and ratchet handle, unscrew and take apart. b. Get rid of lockwashers (4). |
| 2. | Left fender (1) | Step (2) | Take off. |

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

2-1046

STEP - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

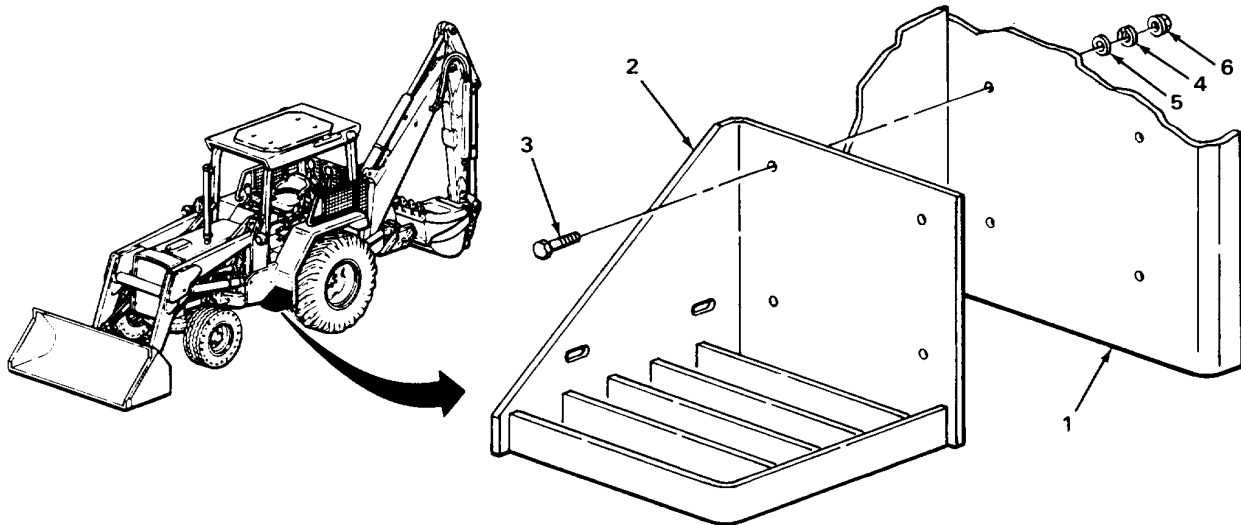
- | | | |
|----|------------------------|--|
| 3. | Step (2) | <ul style="list-style-type: none"> a. Using clean rags dampened with dry-cleaning solvent, wipe clean. b. Using clean, dry rags, wipe dry. |
| 4. | All attaching hardware | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. |

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

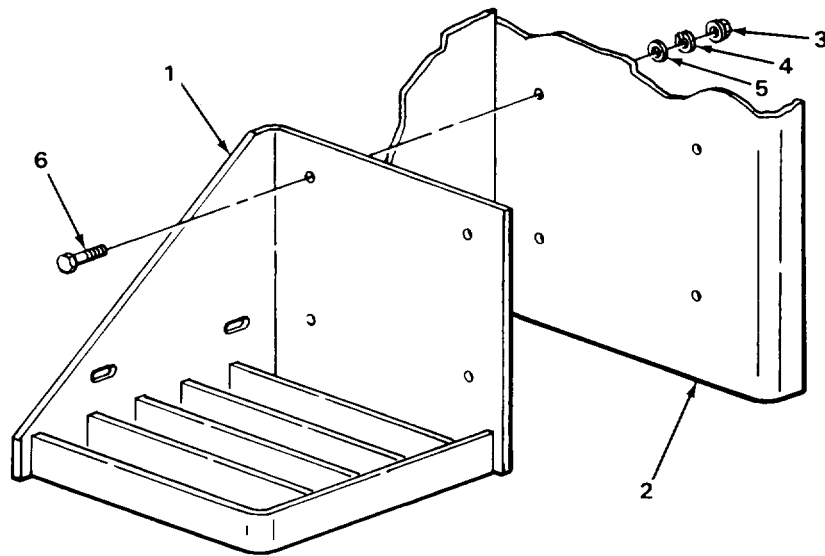
Replace defective parts as needed.



TA243231

STEP - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT - CONTINUED			
5.	Step (1)		Look for cracks, breaks, and abnormal bends.
6.	All attaching hardware		Look for damaged threads.
INSTALLATION			
7. Left fender (2)	Step (1)	Place in position.	
8. Left fender (2) and step (1)	Four nuts (3), new lockwashers (4), washers (5), and screws (6)		Screw together and tighten using 9/16-inch open-end wrench, 9116-inch, 1/2-inch drive socket, and ratchet handle.



TASK ENDS HERE

TA243232

STABILIZERS

This task covers:

- | | |
|---|-------------------------------|
| a. Removal | e. Repair (page 2-1054) |
| b. Disassembly (page 2-1052) | f. Assembly (page 2-1055) |
| c. Cleaning (page 2-1054) | g. Installation (page 2-1056) |
| d. Inspection/Replacement (page 2-1054) | |

INITIAL SETUP:

Tools

- Bar, pinch, 26-inch
- Blocks, wood
- Chisel, cold, 1/2-inch
- Driftpin, brass-tipped, 3/4-inch
- Hammer, ball-peen, 2-pound head
- Hammer, cross-peen, 3-pound head Two
- Handle, ratchet, 1/2-inch drive
- Jack, dolly-type, hydraulic, 10-ton capacity
- Pliers, slip-joint, mutiple tongue and groove
- Socket, 1/2-inch drive, 3/4-inch
- Wrench, open-end, 11/16-inch
- Wrench, open-end, 3/4-inch
- Wrench, open-end, 7/8-inch

Materials/Parts

- Locknut, stabilizer cylinder rod end
- Pin, cotter, main frame stabilizer (two required)
- Pin, cotter, stabilizer foot (two required)

Materials/Parts - Continued

- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)

Personnel Required

Equipment Condition

NOTE

The following applies only at location where maintenance is to be performed.

1. Stabilizers lowered (TM 5-2420-222-10)
2. Hydraulic system pressure released (page 2-1191).

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

NOTE

Both stabilizers are maintained the same way. Right stabilizer is shown. Repeat procedures for left stabilizer as needed.

2-1049

STABILIZERS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

WARNING

Do not attempt to disconnect hydraulic lines and fittings while engine is running or before hydraulic system pressure has been released. When engine is running, hydraulic system is under pressure. Hydraulic system pressure should be 0 psi (0 kPa) before lines are disconnected. A line or fitting disconnected under pressure will blow off with a lot of force and could cause serious injury to personnel.

Be careful when draining hot fluids. Wear gloves to protect your hands from hot parts and fluids or severe burns could result.

- | | | |
|---|---------------------------|--|
| 1. Adapter (1) | Hydraulic hose (2) | Using 11/16-inch and 7/8-inch open-end wrenches, loosen. |
| 2. Adapter (3) | Hydraulic hose (4) | Using 11/16-inch and 7/8-inch open-end wrenches, loosen. |
| 3. Stabilizer (5) and stabilizer cylinder rod end pin (6) | Screw (7) and locknut (8) | a. Using 3/4-inch open-end wrench, 3/4-inch, 1/2-inch drive socket, and ratchet handle, unscrew and take apart.
b. Get rid of locknut (8). |
| 4. Stabilizer (5) | Cylinder rod end (9) | a. Place 26-inch pinch bar in position between rod end (9) and stabilizers (5).
b. Move up and down in order to relieve hydraulic pressure from cylinder rod end pin (6).
If hydraulic fluid has not leaked from hoses, repeat steps 1, 2, and 4. |

CAUTION

Do not operate hydraulic components when stabilizer is disconnected from stabilizer cylinder rod. Do not move loader backhoe with cylinder rod disconnected. Damage to parts may result.

- | | | |
|--|--------------------------|---|
| 5. Stabilizer (5) and cylinder rod end (9) | Cylinder rod end pin (6) | Using 3-pound head cross-peen hammer and 3/4-inch brass-tipped driftpin, drive out. |
|--|--------------------------|---|

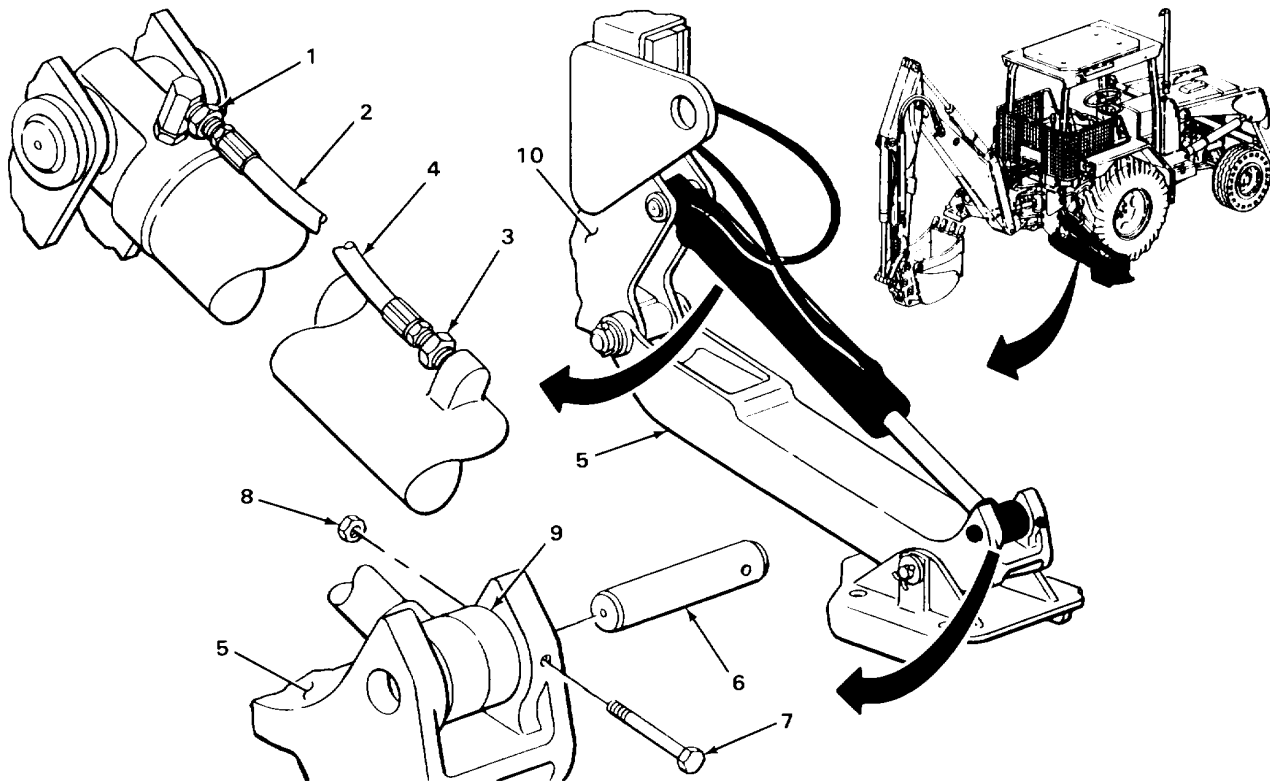
STABILIZERS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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WARNING

Some parts are heavy. Be careful when handling them. Lifting equipment is needed when parts weigh over 50 pounds (23 kg) for a single person lift, over 100 pounds (45 kg) for a two person lift, and over 150 pounds (68 kg) for a three or more person lift. Do not try to handle heavy parts without lifting equipment. Keep clear of heavy parts supported only by lifting equipment. Failure to observe this precaution could cause serious injury or death of personnel.

6. Main frame (10)	Stabilizer (5)	Using 10-ton capacity hydraulic dolly-type jack, support near main frame (11).
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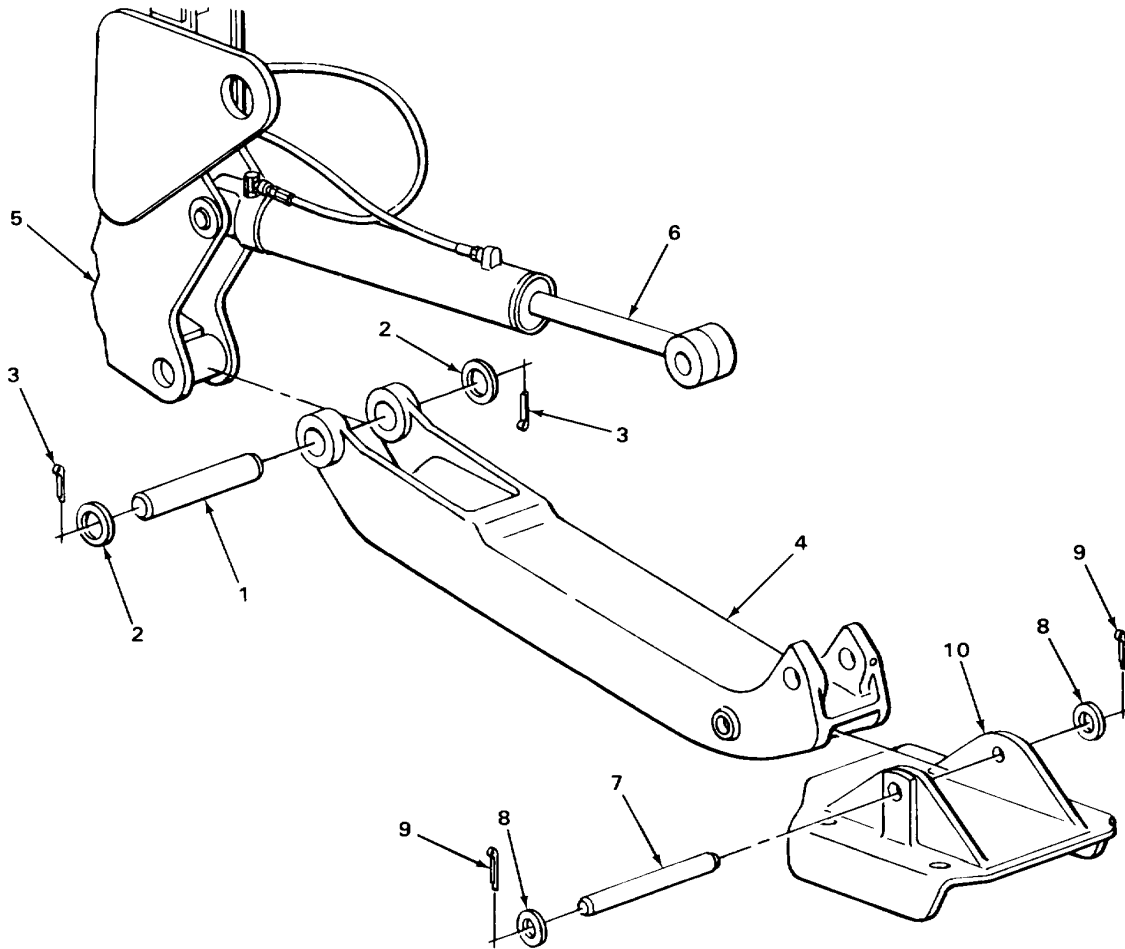
TA243233

STABILIZERS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
7.	Main frame stabilizer pin (1) and washers (2)	Two cotter pins (3)	<ol style="list-style-type: none"> Using multiple tongue and groove slip-joint pliers, straighten ends. Using 2-pound head ball-peen hammer and 1/2-inch cold chisel, drive out. Get rid of.
8.	Main frame stabilizer pin (1) and stabilizer (4)	Two washers (2)	Take off.
9.	Main frame (5) and stabilizer (4)	Main frame stabilizer pin (1)	Using 3-pound head cross-peen hammer and 3/4-inch brass-tipped driftpin, drive out.
10.		Stabilizer (4) with assembled parts	<ol style="list-style-type: none"> Have assistant lift cylinder rod end (6) from stabilizer (4). Using 10-ton capacity hydraulic dolly-type jack, lower and move out from underneath. Have assistant set down cylinder rod end (6). With help of assistant, using 10-ton capacity hydraulic dolly-type jack, place on wood blocks.
DISASSEMBLY			
11.	Stabilizer foot pivot pin (7) and washers (8)	Two cotter pins (9)	<ol style="list-style-type: none"> Using multiple tongue and groove slip-joint pliers, straighten ends. Using 2-pound head ball-peen hammer and 1/2-inch cold chisel, drive out. Get rid of.
12.	Stabilizer foot (10) and stabilizer foot pivot pin (7)	Two washers (8)	Take off.

STABILIZERS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
13. Stabilizer (4) and stabilizer foot (10)	Stabilizer foot pivot pin (6)	Using 3-pound head cross-peen hammer and 3/4-inch brass tipped driftpin, drive out.	
14. Stabilizer (4)	Stabilizer foot (10)	Take off.	



2-1053

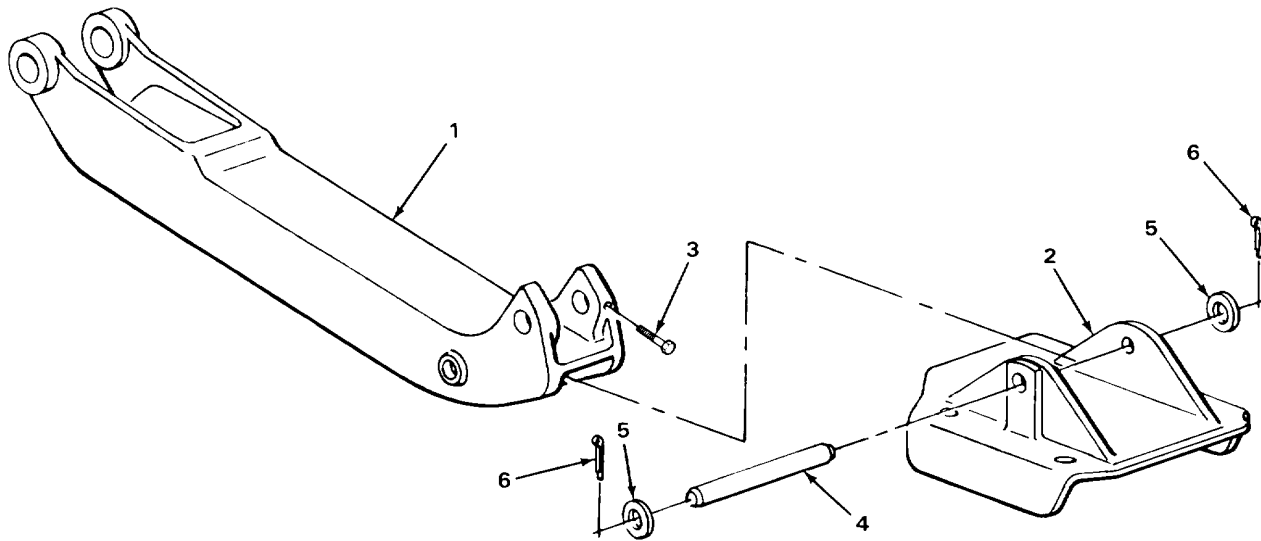
TA243234

STABILIZERS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
CLEANING			
NOTE			
For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).			
<u>WARNING</u>			
Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.			
15.	Stabilizer (1) and stabilizer foot (2)	a. Using clean rags dampened with dry- cleaning solvent, wipe clean. b. Using clean, dry rags, wipe dry.	
16.	All attaching hardware	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.	
INSPECTION/REPLACEMENT			
NOTE			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).			
Replace defective parts which cannot be repaired.			
17.	All metal parts	Look for cracks, breaks, and abnormal bends.	
18.	Screw (3)	Look for damaged threads.	
REPAIR			
19.	Stabilizer (1) and stabilizer foot (2)	If cracked or broken, weld (TM 9-237).	

STABILIZERS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
ASSEMBLY		
20. Stabilizer (1)	Stabilizer foot (2)	Place in position.
21. Stabilizer (1) and stabilizer foot (2)	Stabilizer foot pivot pin (4)	a. With help of assistant, aline pivot pin holes in stabilizer (1) and stabilizer foot (2). b. Using 3-pound head cross-peen hammer and 3/4-inch brass tipped driftpin, drive out.
22. Stabilizer foot pivot pin (4) and stabilizer foot (2)	Two washers (5)	Place in position.
23. Stabilizer foot pivot pin (4) and two washers (5)	Two new cotter pins (6)	a. Place in position. b. Using multiple tongue and groove slip-joint pliers, bend ends back.



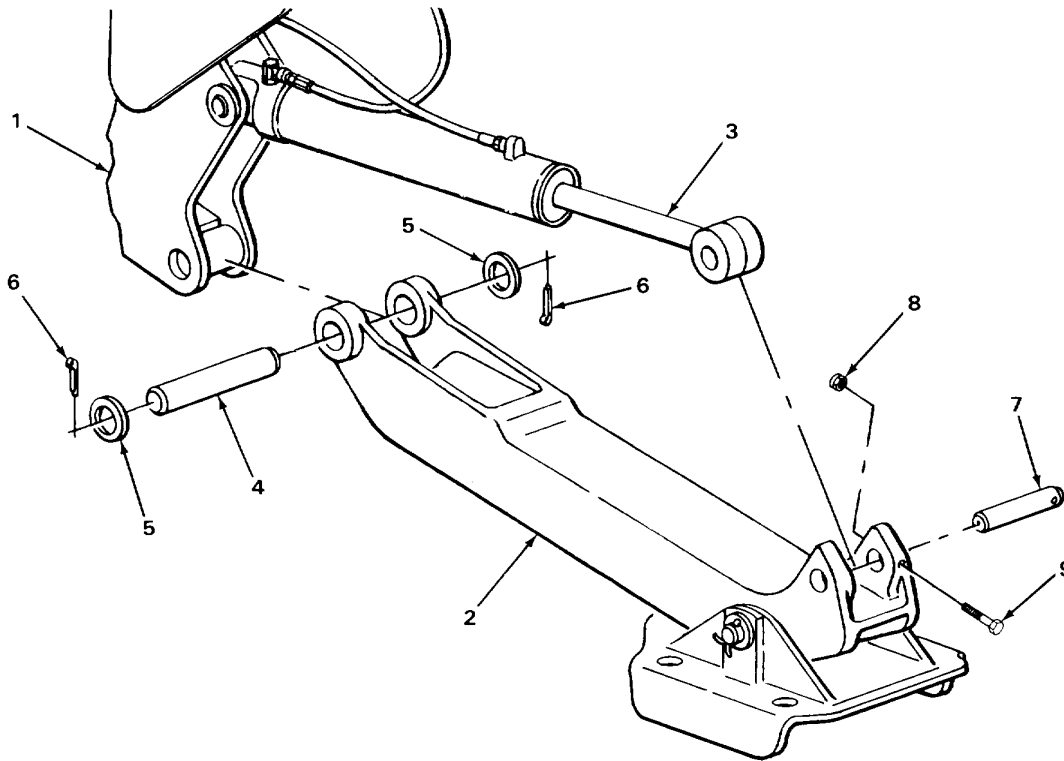
TA243235

STABILIZERS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION			
<u>WARNING</u>			
Some parts are heavy. Be careful when handling them. Lifting equipment is needed when parts weigh over 50 pounds (23 kg) for a single person lift, over 100 pounds (45 kg) for a two person lift, and over 150 pounds (68 kg) for a three or more person lift. Do not try to handle heavy parts without lifting equipment. Keep clear of heavy parts supported only by lifting equipment. Failure to observe this precaution could cause serious injury or death of personnel.			
24. Main frame (1)	Stabilizer (2) with assembled parts	<ul style="list-style-type: none"> a. With help of assistant, move cylinder rod end (3) out of the way using 10-ton capacity hydraulic dolly-type jack, move and raise into position. b. Set cylinder rod end (3) down. 	
25. Main frame (1) and stabilizer (2)	Main frame stabilizer pin (4)	<ul style="list-style-type: none"> a. With help of assistant, aline holes in main frame (1) and stabilizer (2). b. Using 3-pound head cross-peen hammer and 3/4-inch brass-tipped driftpin, tap into position. 	
26. Stabilizer (2) and main frame stabilizer pin (4)	Two washers (5)	Place in position.	
27. Main frame stabilizer pin (4) and two washers (5)	Two new cotter pins (6)	<ul style="list-style-type: none"> a. Place in position. b. Using multiple tongue and groove slip-joint pliers, bend ends back. 	
28. Main frame (1)	Stabilizer (2))	Lower 10-ton capacity hydraulic dolly-type jack and move out from underneath.	
29. Stabilizer (2)	Cylinder rod end (3)	Place in position.	

STABILIZERS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
30. Stabilizer (2) and cylinder rod end (3)	Cylinder rod end pin (7)	a. With help of assistant, aline pin holes in stabilizer (2) and rod end (3). b. Using 3-pound head cross-peen hammer and 3/4-inch brass tipped driftpin, tap into position. Make sure to aline holes in pin and stabilizer.
31. Stabilizer (2) and cylinder rod end pin (7)	New locknut (8) and screw (9)	Screw together and tighten using 3/4-inch open end wrench, 3/4-inch, 1/2-inch drive socket and ratchet handle.

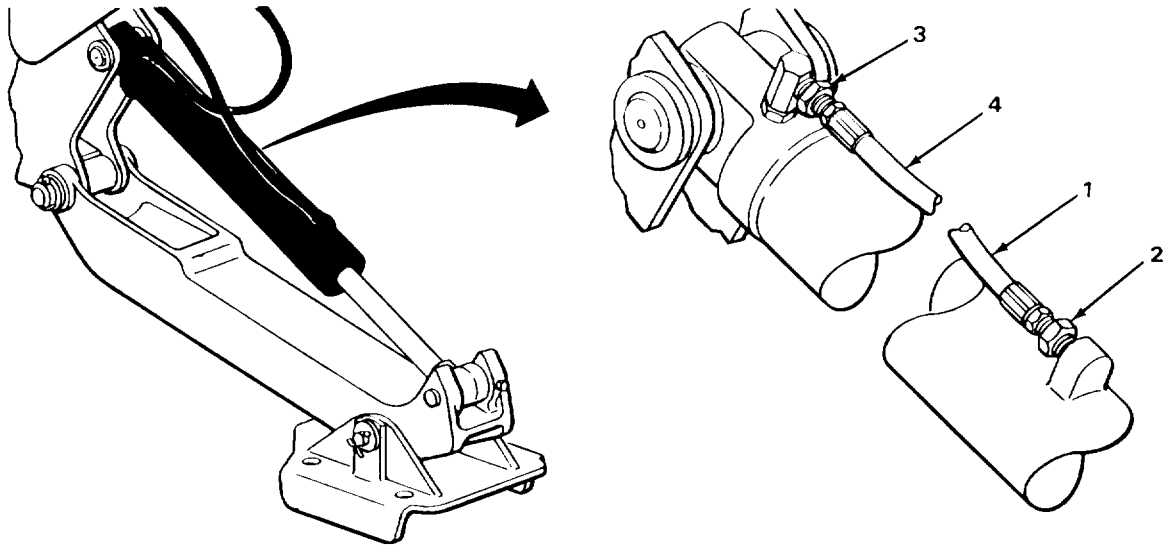


TA243236

STABILIZERS - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
32. Adapter (1)	Hydraulic hose (2)	Using 11/16-inch and 7/8-inch open-end wrenches, tighten.
33. Adapter (3)	Hydraulic hose (4)	Using 11/16-inch and 7/8-inch open-end wrenches, tighten.
34. Loader backhoe	Transmission	Check oil level and add proper amount and grade if required (TM 5-2420-222-10). Do not shut down engine at this time.
35.	Engine	Run at high idle (TM 5-2420-222-10).
36.	Two hydraulic hoses (2 and 4) and adapters (1 and 3)	<ul style="list-style-type: none"> a. Operate stabilizer (TM 5-2420-222-10). b. If leaking at any connection, tighten using 11/16-inch and 7/8-inch open-end wrenches. c. If leaking does not stop, shut down engine (TM 5-2420-222-10) and replace defective hydraulic lines or adapters as outlined in Backhoe Control Valve-to-Backhoe Stabilizer Cylinder Oil Lines (page 2-1622).
37.	Engine	If still running, shut down (TM 5-2420-222-10).

STABILIZERS - CONTINUED



NOTE

FOLLOW-ON MAINTENANCE:

1. Perform the following only at location where maintenance was performed.
2. Raise stabilizer(TM 5-2420-222-10).

TASK ENDS HERE

LEFT PLATFORM

This task covers:

- | | |
|---|---|
| <ul style="list-style-type: none"> a. Removal (page 2-1060) b. Disassembly (page 2-1061) c. Cleaning (page 2-1062) | <ul style="list-style-type: none"> d. Inspection/Replacement (page 2-1063) e. Assembly (page 2-1064) f. Installation (page 2-1064) |
|---|---|

INITIAL SETUP:

Tools

Handle, ratchet, 3/8-inch drive
 Socket, 3/8-inch drive, 9/16-inch

NOTE

The following tool only applies to loader backhoes with Serial Numbers 319995 thru 342573.

Knife, putty

Materials/Parts Appendix C)

Detergent, GP (item 7, Appendix C)
 Lockwashers (two required)

Materials/Parts - Continued

Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)

NOTE

The following materials only apply to loader backhoes with Serial Numbers 319995 thru 342573.

Adhesive, metal bonding (item 1, Appendix C)
 Solvent, cleaning compound (item 27,

Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1. Center platform support (1) and left platform (2)	Screw (3) and lockwasher (4)	a. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out. b. Get rid of lockwasher (4).	
2. Front cross member (5) and left platform (2)	Screw (6), lockwasher (7), and washer (8)	a. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out. b. Get rid of lockwasher (7).	

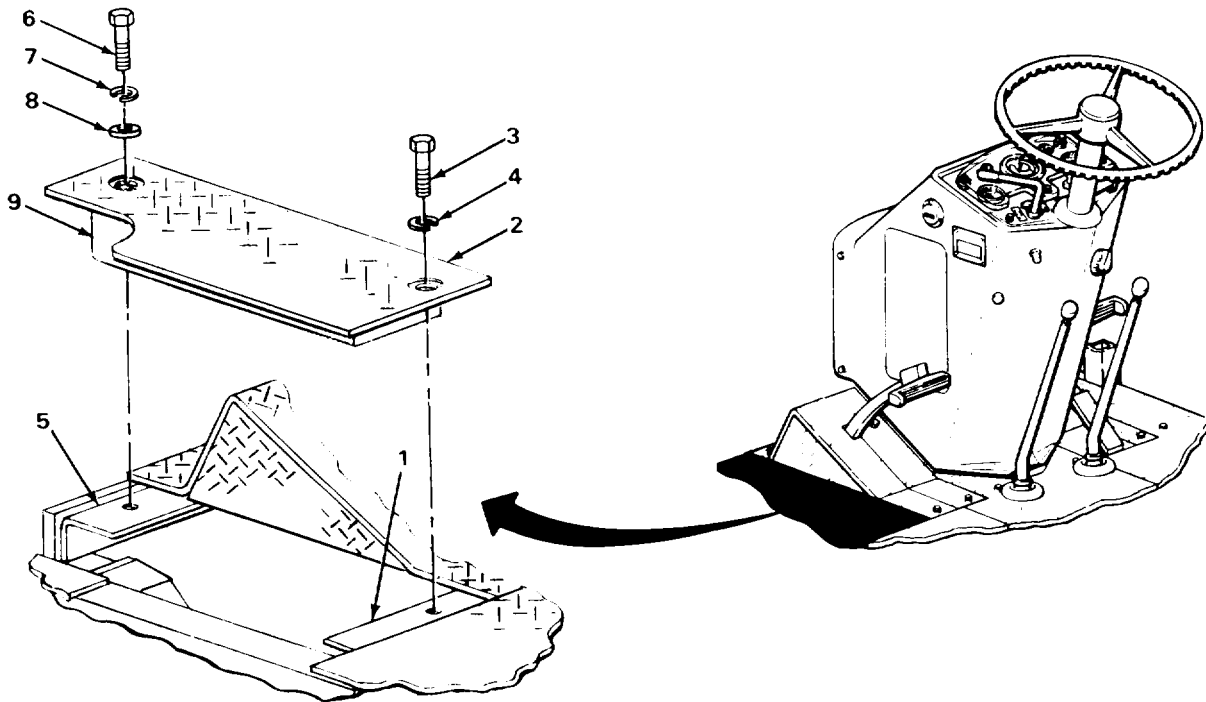
LEFT PLATFORM - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
3. Front cross member (5) and center platform support (1)	Left platform (2) with assembled pad (9), if present	Take off.	

DISASSEMBLY

NOTE

Step 4 only applies to loader backhoes with Serial Numbers 319995 thru 342573.



2-1061

LEFT PLATFORM - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY - CONTINUED

WARNING

Water soluble cleaning compound solvent is flammable and fumes are toxic. Flashpoint is 2200F (1040C). Boiling point is 212°F (100°C). Do not store in temperatures above 1500F (650C) or below 350F (20C). Do not use near open flame or excessive heat. Do not wear jewelry, wear rubber gloves and goggles, and use only in well ventilated area. Avoid contact with skin, eyes, and clothes, and don't breathe vapors. Avoid contact with acids, aluminium, or zinc; chemical reaction may result. If you become dizzy while using cleaning compound solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

CAUTION

Do not remove left platform pad unless inspection shows need for replacement. Pad may be destroyed during removal.

- | | | |
|----------------------|---------|---|
| 4. Left platform (1) | Pad (2) | <ul style="list-style-type: none"> a. Note position for proper placement during assembly. b. Using clean rags and cleaning compound solvent, dissolve adhesive. c. Using putty knife under edge, pull up corner. d. Wet with more cleaning compound solvent and continue to pull off. e. Repeat steps b thru d above until completely removed. f. Using clean rag dampened with cleaning compound solvent, remove all adhesive from platform (1). g. Rinse platform (1) and pad (2) with clean water. h. Using clean, dry rags, wipe dry. |
|----------------------|---------|---|

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

LEFT PLATFORM - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
5.	Left platform (1) and assembled pad (2), if present	<ul style="list-style-type: none"> a. Using clean rags dampened with solution of detergent and water, wipe clean. b. Rinse with clean water. c. Using clean, dry rags, wipe dry. 	

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

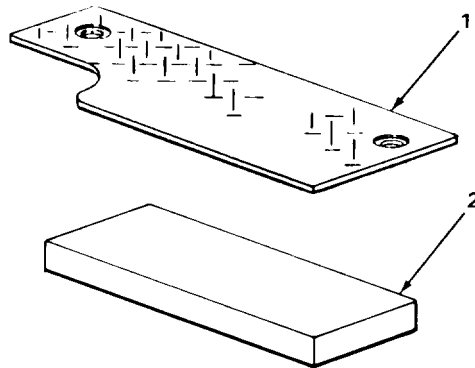
6.	All attaching hardware	<ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. 	
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INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.



2-1063

LEFT PLATFORM - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT - CONTINUED			
7.	Left platform (1)	Look for cracks, breaks, and abnormal bends.	
8.	All attaching hardware	Look for damaged threads.	
9.	Pad (2), if present	Look for cracks, tears, and crumbling.	

ASSEMBLY

NOTE

Step 10 only applies to loader backhoes with Serial Numbers 319995 thru 342573.

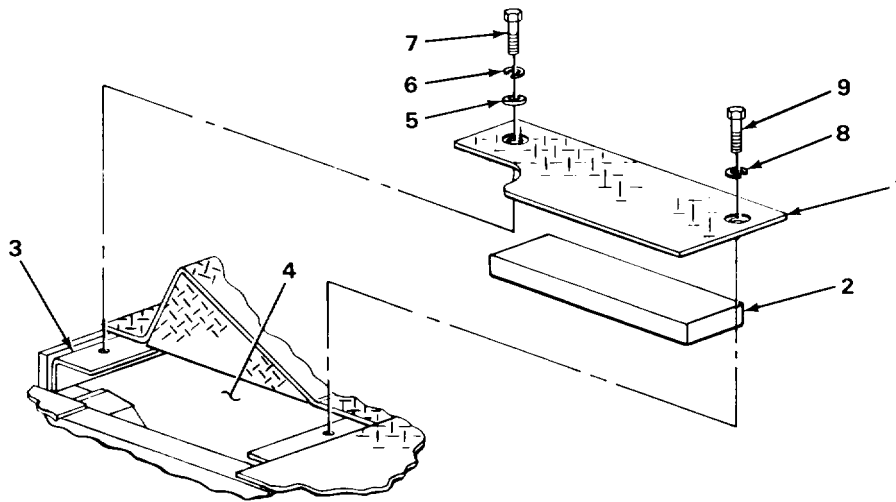
10. Left platform (1)	Pad (2)	<ol style="list-style-type: none"> a. If removed, apply metal adhesive in 0.06 to 0.18-inch (1.52 to 4.57 mm) wide beads, in 2.00-inch (50.8 mm) or smaller squares. Make sure that outside bead is within 0.25-inch (6.35 mm) of edge with no gaps. b. Line up and press into place to transfer some metal adhesive. c. Take off and allow metal adhesive to set for two minutes. d. Line up and press firmly into place. 	
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INSTALLATION

11. Front cross member (3) and center platform support (4)	Left platform (1) with assembled pad (2), if present	Place in position.	
12. Front cross member (3) and left platform (1)	Washer (5), new lockwasher (6), and screw (7)	Screw in part way.	

LEFT PLATFORM - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
13. Center platform support (4) and left platform (1)	New lockwasher (8) and screw (9)	Screw in and tighten using 9/16-inch, 3/8-inch drive socket and ratchet handle.	
14. Front cross member (3) and platform (1)	Screw (7)	Using 9/16-inch, 3/8-inch drive socket and ratchet handle, tighten.	



TASK ENDS HERE

LEFT INNER PLATFORM RAMP

This task covers:

- a. Removal (page 2-1066)
- b. Disassembly (page 2-1068)
- c. Cleaning (page 2-1069)
- d. Inspection/Replacement (page 2-1070)
- e. Assembly (page 2-1070)
- f. Installation (page 2-1070)

INITIAL SETUP

Tools

Handle, ratchet, 3/8-inch drive
 Socket, 3/8-inch drive, 9/16-inch

NOTE

The following tool only applies to loader backhoes with Serial Numbers 319995 thru 342573.

Knife, putty

Materials/Parts

Detergent, GP (item 7, Appendix C)
 Lockwasher, ramp screw (two required)

Materials/Parts - Continued

Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)

NOTE

The following materials only apply to loader backhoes with Serial Numbers 319995 thru 342573.

Adhesive, metal bonding (item 1, Appendix C)
 Solvent, cleaning compound (item 27, Appendix C)

Personnel Required

One

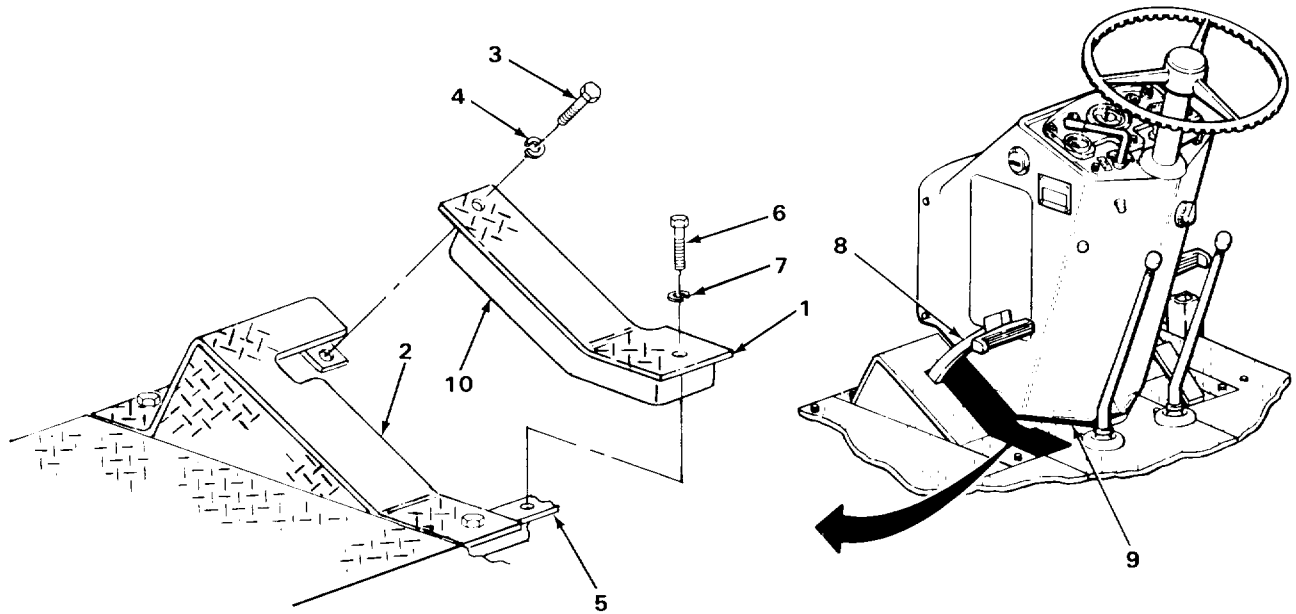
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

- | | | | |
|--|------------------------------|--|--|
| 1. Left inner platform ramp (1) and left outer platform ramp (2) | Screw (3) and lockwasher (4) | a. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out.
b. Get rid of lockwasher (4). | |
| 2. Left inner platform ramp (1) and center platform support (5) | Screw (6) and lockwasher (7) | a. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out.
b. Get rid of lockwasher (7). | |

LEFT INNER PLATFORM RAMP - CONTINUED

LOCATION	ITEM	ACTION REMARKS
3. Left inner platform ramp (1) and left outer platform ramp (2)	Clutch pedal (8)	Push down about 2 inches (50.8 mm) and hold.
4. Left outer platform ramp (2), center platform support (5), and cowl bumper (9)	Left inner platform ramp (1) with assembled pad (10), if present	Reach behind and take off.
5. Left outer platform ramp (2)	Clutch pedal (8)	Release.



LEFT INNER PLATFORM RAMP - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY

NOTE

Step 6 only applies to loader backhoes with Serial Numbers 319995 thru 342573.

WARNING

Water soluble cleaning compound solvent is flammable and fumes are toxic. Flashpoint is 2200F (1040C). Boiling point is 212°F (100C). Do not store in temperatures above 1500F (650C) or below 35°F (20C). Do not use near open flame or excessive heat. Do not wear jewelry, wear rubber gloves and goggles, and use only in well ventilated area. Avoid contact with skin, eyes, and clothes, and don't breathe vapors. Avoid contact with acids, aluminum, or zinc; chemical reaction may result. If you become dizzy while using cleaning compound solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

CAUTION

Left inner platform ramp pad may be destroyed when removed. Do not remove pad unless inspection shows need for replacement, and pad replacement is available.

- | | | |
|-------------|---------|---|
| 6. Ramp (1) | Pad (2) | <ul style="list-style-type: none"> a. Note position for proper placement during installation. b. Using clean rags and cleaning compound solvent, dissolve adhesive. c. Using putty knife under edge, pull up corner. d. Wet with more cleaning compound solvent and continue to pull off. e. Repeat steps b thru d above until completely removed. f. Using clean rag dampened with cleaning compound solvent, remove all adhesive from ramp (1). g. Rinse ramp (1) and pad (2) with clean water. h. Using clean, dry rags, wipe dry. |
|-------------|---------|---|

LEFT INNER PLATFORM RAMP - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

NOTE

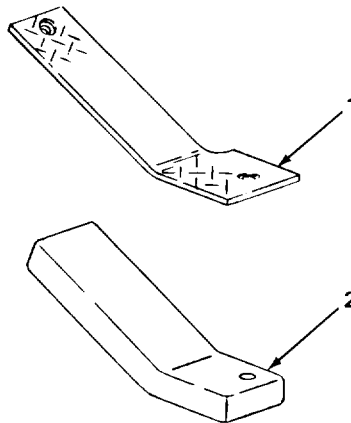
For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

- | | | |
|----|--|---|
| 7. | Ramp (1) and assembled pad (2), if present | <ul style="list-style-type: none"> a. Using clean rags dampened with solution of detergent and water, wipe clean. b. Using clean, dry rags, wipe dry. |
|----|--|---|

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|------------------------|---|
| 8. | All attaching hardware | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. |
|----|------------------------|---|



LEFT INNER PLATFORM RAMP - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

9.	Ramp (1)		Look for cracks, breaks, and abnormal bends.
10.	Pad (2), if present		Look for cracks, tears, and crumbling.
11.	All attaching hardware		Look for damaged threads.

ASSEMBLY

NOTE

Step 12 only applies to loader backhoes with Serial Numbers 319995 thru 342573.

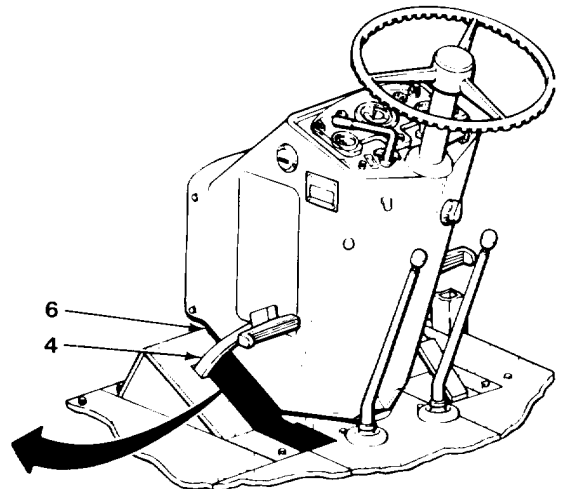
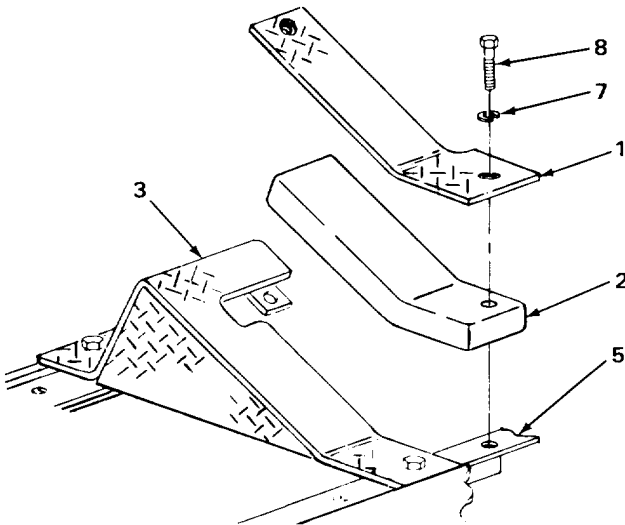
12. Ramp (1)	Pad (2)		<ol style="list-style-type: none"> If removed, apply metal adhesive in 0.06 to 0.18-inch (1.52 to 4.57 mm) wide beads, in 2.00-inch (50.8 mm) or smaller squares. Make sure that outside bead is within 0.25-inch (6.35 mm) of edge with no gaps. Line up and press into place to transfer some metal adhesive. Take off and allow metal adhesive to set for two minutes. Line up and press firmly into place.
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INSTALLATION

13. Left outer platform ramp (3)	Clutch pedal (4) hold.		Push down about 2 inches (50.8 mm) and
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LEFT INNER PLATFORM RAMP - CONTINUED

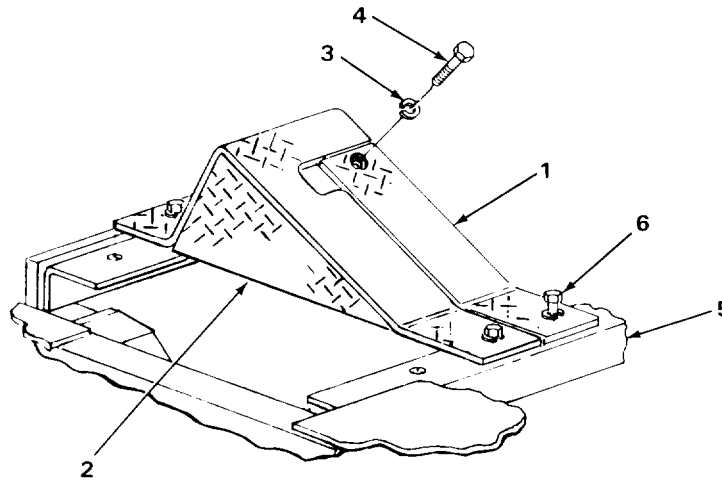
LOCATION	ITEM	ACTION REMARKS
14. Left outer platform ramp (3), center platform support (5) and cowl bumper (6)	Left inner platform ramp (1) with assembled pad (2), if present	Place in position.
15. Left outer platform ramp (3) and left inner platform ramp (1)	Clutch pedal (4)	Release.
16. Left inner platform ramp (1) and center platform support (5)	New lockwasher (7) and screw (8)	Screw in part way.



2-1071

LEFT INNER PLATFORM RAMP - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
17. Left inner platform ramp (1) and left outer platform ramp (2)	New lockwasher (3) and screw (4)	Screw in and tighten using 9/16-inch, 3/8-inch drive socket and ratchet handle.	
18. Left inner platform ramp (1) and center platform support (5)	Screw (6) and ratchet handle, tighten.	Using 9/16-inch, 3/8-inch drive socket	



TASK ENDS HERE

LEFT OUTER PLATFORM RAMP

This task covers:

- | | |
|---|-------------------------------|
| a. Removal (page 2-1074) | e. Repair (page 2-1076) |
| b. Disassembly (page 2-1074) | f. Assembly (page 2-1077) |
| c. Cleaning (page 2-1076) | g. Installation (page 2-1077) |
| d. Inspection/Replacement (page 2-1076) | |

INITIAL SETUP

Tools

Handle, ratchet, 3/8-inch drive
 Socket, 3/8-inch drive, 9/16-inch
 Threading set, screw

NOTE

The following tool only applies to loader backhoes with Serial Numbers 319995 thru 342573.

Knife, putty

Materials/Parts

Detergent, GP (item 7, Appendix C)
 Lockwasher, ramp screw (two required)
 Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)

Materials/Parts - Continued

NOTE

The following materials only apply to loader backhoes with Serial Numbers 319995 thru 342573.

Adhesive, metal bonding (item 1, Appendix C)
 Solvent, cleaning compound (item 27, Appendix C)

Personnel Required

One

Equipment Condition

Left inner platform ramp removed (page 2-1066)

LEFT OUTER PLATFORM RAMP - CONTINUED

LOCATION	ITEM	ACTION REMARKS
REMOVAL		
1. Ramp (1) and front cross member (2)	Screw (3), lockwasher (4), and washer (5)	a. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out. b. Get rid of lockwasher (4).
2. Ramp (1) and center platform support (6)	Screw (7) and lockwasher (8)	a. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out. b. Get rid of lockwasher (8).
3. Front cross member (2) and center platform support (6) if present	Ramp (1) with assembled pads (9, 10, and 11)	Take off.

DISASSEMBLY**NOTE**

Step 4 only applies to loader backhoes with Serial Numbers 319995 thru 342573.

WARNING

Water soluble cleaning compound solvent is flammable and fumes are toxic. Flashpoint is 2200F (1040C). Boiling point is 2120F (1000C). Do not store in temperatures above 1500F (650C) or below 350F (20C). Do not use near open flame or excessive heat. Do not wear jewelry, wear rubber gloves and goggles, and use only in well ventilated area. Avoid contact with skin, eyes, and clothes, and don't breathe vapors. Avoid contact with acids, aluminum, or zinc; chemical reaction may result. If you become dizzy while using cleaning compound solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

CAUTION

Ramp pads may be destroyed during removal. Do not remove them unless inspection shows need for replacement.

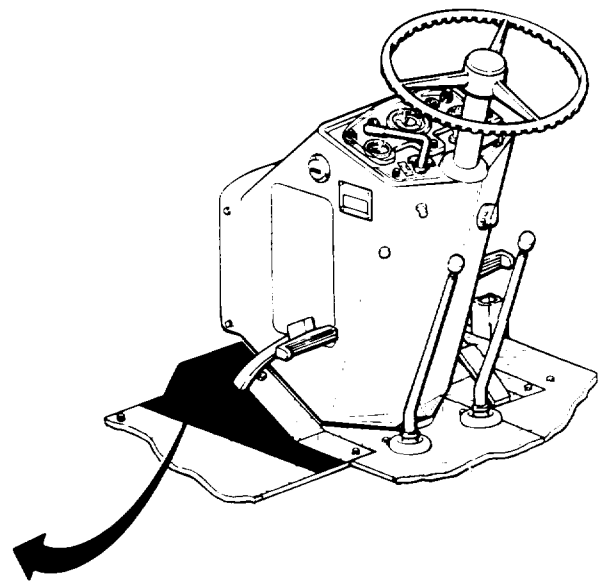
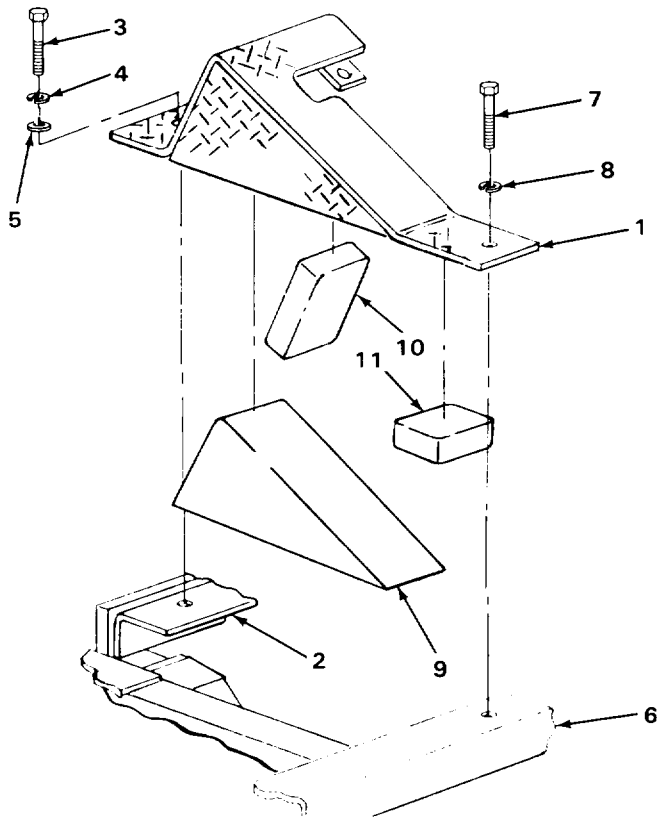
- | | | |
|-------------|----------------------|--|
| 4. Ramp (1) | Pads (9, 10, and 11) | a. Note position for proper placement during installation. |
|-------------|----------------------|--|

LEFT OUTER PLATFORM RAMP - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

4. Continued

- b. Using clean rags and cleaning compound solvent, dissolve adhesive.
- c. Using putty knife under edge, pull up corner.
- d. Wet with more cleaning compound solvent and continue to pull off.
- e. Repeat steps b thru d above until completely removed.
- f. Using clean rag dampened with cleaning compound solvent, remove all adhesive from ramp (1).
- g. Rinse ramp (1) and pad (9) with clean water.
- h. Using clean, dry rags, wipe dry.



LEFT OUTER PLATFORM RAMP - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

- | | | | |
|----|--|--|--|
| 5. | Ramp (1) and assembled pads (2, 3, and 4) if present | <ul style="list-style-type: none"> a. Using clean rags dampened with solution of detergent and water wipe clean. b. Rinse with clean water. c. Using clean, dry rags, wipe dry. | |
|----|--|--|--|

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 138°F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|----|------------------------|---|--|
| 6. | All attaching hardware | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. | |
|----|------------------------|---|--|

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

- | | | | |
|----|-------------------------------|--|--|
| 7. | Ramp (1) | Look for cracks, breaks, and abnormal bends. | |
| 8. | Pads (2, 3, and 4) if present | Look for cracks, tears, and crumbling. | |
| 9. | All metal parts | Look for damaged threads. | |

REPAIR

- | | | | |
|-----|----------|---|--|
| 10. | Ramp (1) | If threads are damaged, using screw threading set, restore threads. | |
|-----|----------|---|--|

LOCATION	ITEM	ACTION	REMARKS
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ASSEMBLY

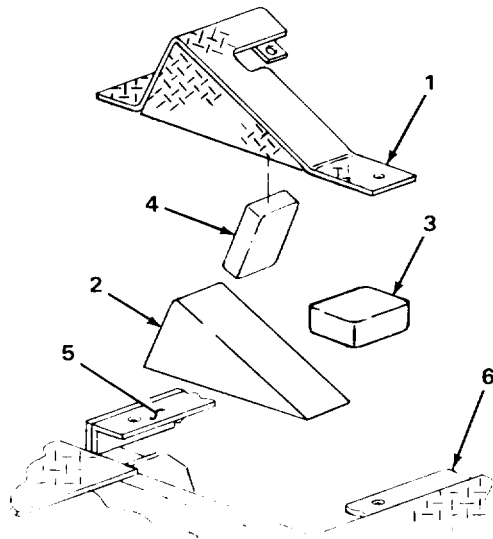
NOTE

Step 11 only applies to loader backhoes with Serial Numbers 319995 thru 342573.

11. Ramp (1)	Pads (2, 3, and 4)	<ul style="list-style-type: none"> a. If removed, apply metal adhesive in 0.06 to 0.18-inch (1.52 to 4.57 mm) wide beads, in 2.00-inch (50.8 mm) or smaller squares. Make sure that outside bead is within 0.25-inch (6.35 mm) of edge with no gaps. b. Line up and press into place to transfer some metal adhesive. c. Take off and allow metal adhesive to set for two minutes. d. Line up and press firmly into place.
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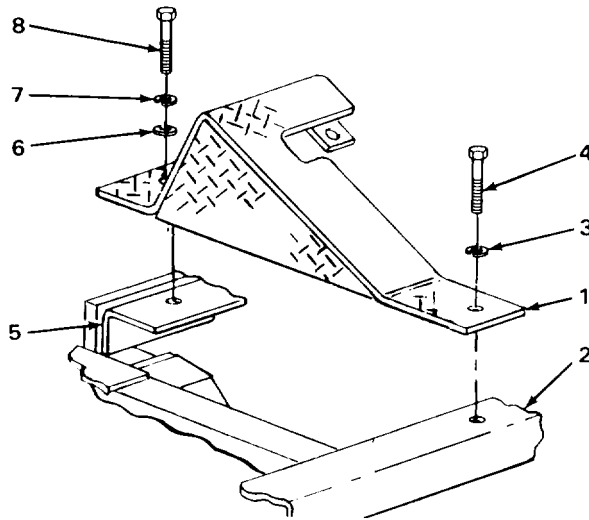
INSTALLATION

12. Front cross member (5) and center platform support (6) if present	Ramp (1) with assembled pads (2, 3, and 4)	Place in position.
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LEFT OUTER PLATFORM RAMP - CONTINUED

LOCATION	ITEM	ACTION REMARKS
13. Ramp (1) and center platform support (2)	New lockwasher (3) and screw (4)	Screw in part way.
14. Ramp (1) and front cross member (5)	Washer (6), new lockwasher (7), and screw (8)	Screw in and tighten using 9/16-inch, 3/8-inch drive socket and ratchet handle.
15. Ramp (1) and center platform support (2)	Screw (4)	Using 9/16-inch, 3/8-inch drive socket and ratchet handle, tighten.



NOTE

FOLLOW-ON MAINTENANCE: Install left inner platform ramp (page 2-1066).

TASK ENDS HERE

RIGHT PLATFORM

This task covers:

- | | |
|---|---|
| <ul style="list-style-type: none"> a. Removal (page 2-1080) b. Disassembly (page 2-1081) c. Cleaning (page 2-1082) | <ul style="list-style-type: none"> d. Inspection/Replacement (page 2-1083) e. Assembly (page 2-1084) f. Installation (page 2-1084) |
|---|---|

INITIAL SETUP

Tools

Handle, ratchet, 3/8-inch drive
 Pliers, long roundnose
 Socket, 3/8-inch drive, 9/16-inch

Personnel Required

One

Equipment Conditions

NOTE

The following tool only applies to loader backhoes with Serial Numbers 319995 thru 342573

Knife, putty

Materials/Parts

Detergent, GP (item 7, Appendix C)
 Lockwasher, platform screw NOTE (three required)
 Pin, cotter, brake rod pin
 Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)

NOTE

The following materials only apply to loader backhoes with Serial Numbers 319995 thru 342573.

Adhesive, metal bonding (item 1, Appendix C)
 Solvent, cleaning compound (item 27, Appendix C)

NOTE

The following only apply to loader backhoes with Serial Numbers 319995 thru 342573.

1. Left rear platform removed (page 2-1114)
2. Right rear platform removed (page 2-1110)

The following only applies to loader backhoes with Serial Numbers 235786 thru 235999.

3. Rear platform removed (page 2-1117).

RIGHT PLATFORM - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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WARNING

Make sure that loader bucket and backhoe bucket are lowered to ground, or wheels are blocked, to keep loader backhoe from rolling before performing maintenance on parking brake.

REMOVAL

- | | | | |
|---|---|---|--|
| 1. Brake rod (1) and pin (2) | Cotter pin (3) | a. Using long roundnose pliers, straighten ends and take out.
b. Get rid of. | |
| 2. Brake rod (1) and parking brake arm (4) | Pin (2) | Pull out. | |
| 3. Brake lever (5) | Brake latch button (6) | Push in and hold. | |
| 4. Parking brake support (7) and parking brake arm (4) | Brake lever (5) and brake rod (1) | Move as far up and back as they will go. | |
| 5. Brake lever (5) | Brake latch button (6) | Release. | |
| 6. Platform (8) and center platform support (9) | Two screws (10) and lockwashers (11) out. | a. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out.
b. Get rid of lockwashers (11). | |
| 7. Platform (8) and front cross member (12) | Screw (13), lockwasher (14), washer (15) | a. If present, using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out.
b. Get rid of lockwasher (14). | |
| 8. Front cross member (12), rear cross member (16), center platform (9), and center platform (17) | Platform (8) with assembled parts, if present support | Take off. | |

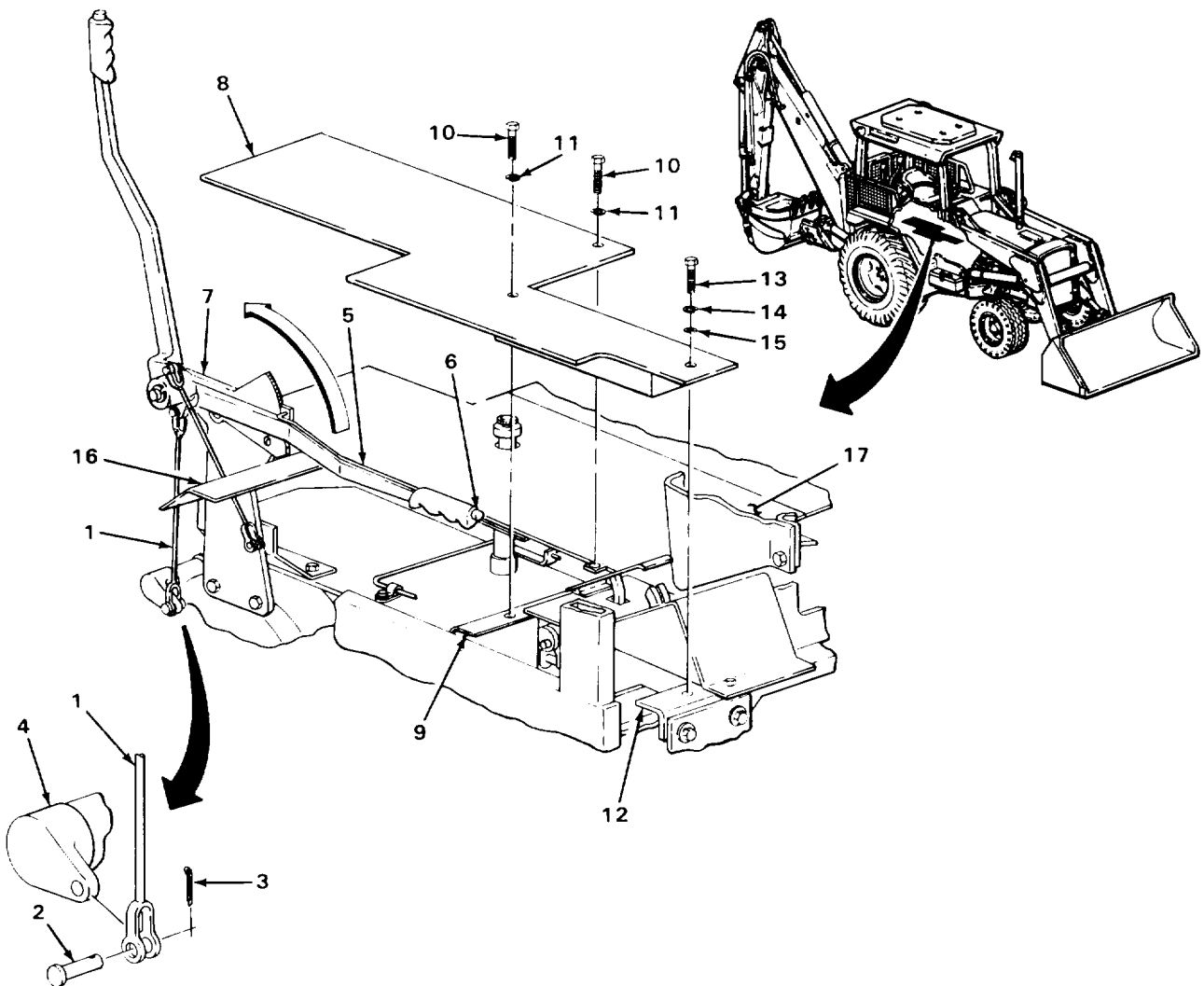
LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY

NOTE

Step 9 only applies to loader backhoes with Serial Numbers 319995 thru 342573.

Right platform has two platform pads. Both are removed the same way. One pad is shown. Repeat step 9 for remaining pad as needed.



RIGHT PLATFORM - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY - CONTINUED

WARNING

Water soluble cleaning compound solvent is flammable and fumes are toxic. Flashpoint is 220°F (104°C). Boiling point is 212°F (100°C). Do not store in temperatures above 150°F (65°C) or below 35°F (20°C). Do not use near open flame or excessive heat. Do not wear jewelry, wear rubber gloves and goggles, and use only in well ventilated area. Avoid contact with skin, eyes, and clothes, and don't breathe vapors. Avoid contact with acids, aluminium, or zinc; chemical reaction may result. If you become dizzy while using cleaning compound solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

CAUTION

Platform pads may be destroyed during removal. Do not remove platform pads unless inspection shows need for replacement.

- | | | | |
|----|--------------|---------|--|
| 9. | Platform (1) | Pad (2) | <ul style="list-style-type: none"> a. Note position for proper placement during installation. b. Using clean rags and cleaning compound solvent, dissolve adhesive. c. Using putty knife under edge, pull up corner. d. Wet with more cleaning compound solvent and continue to pull off. e. Repeat steps b thru d above until completely removed. f. Using clean rag dampened with cleaning compound solvent, remove all adhesive from platform (1). g. Rinse platform (1) with clean water. h. Using clean, dry rags, wipe dry. i. Repeat step 9 for remaining pad. |
|----|--------------|---------|--|

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

- | | | |
|-----|--------------------------------------|--|
| 10. | Platform (1) and pad (2), if present | <ul style="list-style-type: none"> a. Using clean, dry rags and solution of detergent and water, wipe clean. b. Using clean, dry rags, wipe dry. |
|-----|--------------------------------------|--|

LOCATION	ITEM	ACTION	REMARKS
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WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

11.	All attaching hardware	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.	
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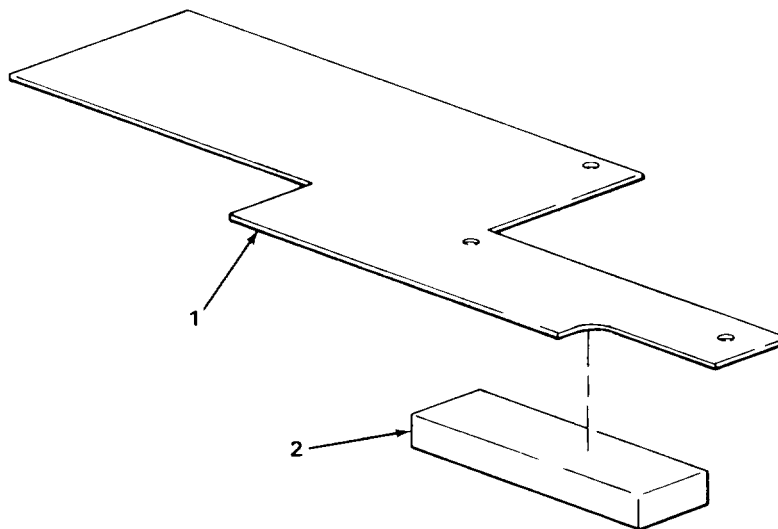
INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

12.	Platform (1)	Look for cracks, breaks, and abnormal bends.	
13.	Pad (2), if present	Look for cracks, tears, and crumbling.	
14.	All attaching hardware	Look for damaged threads.	



RIGHT PLATFORM - CONTINUED

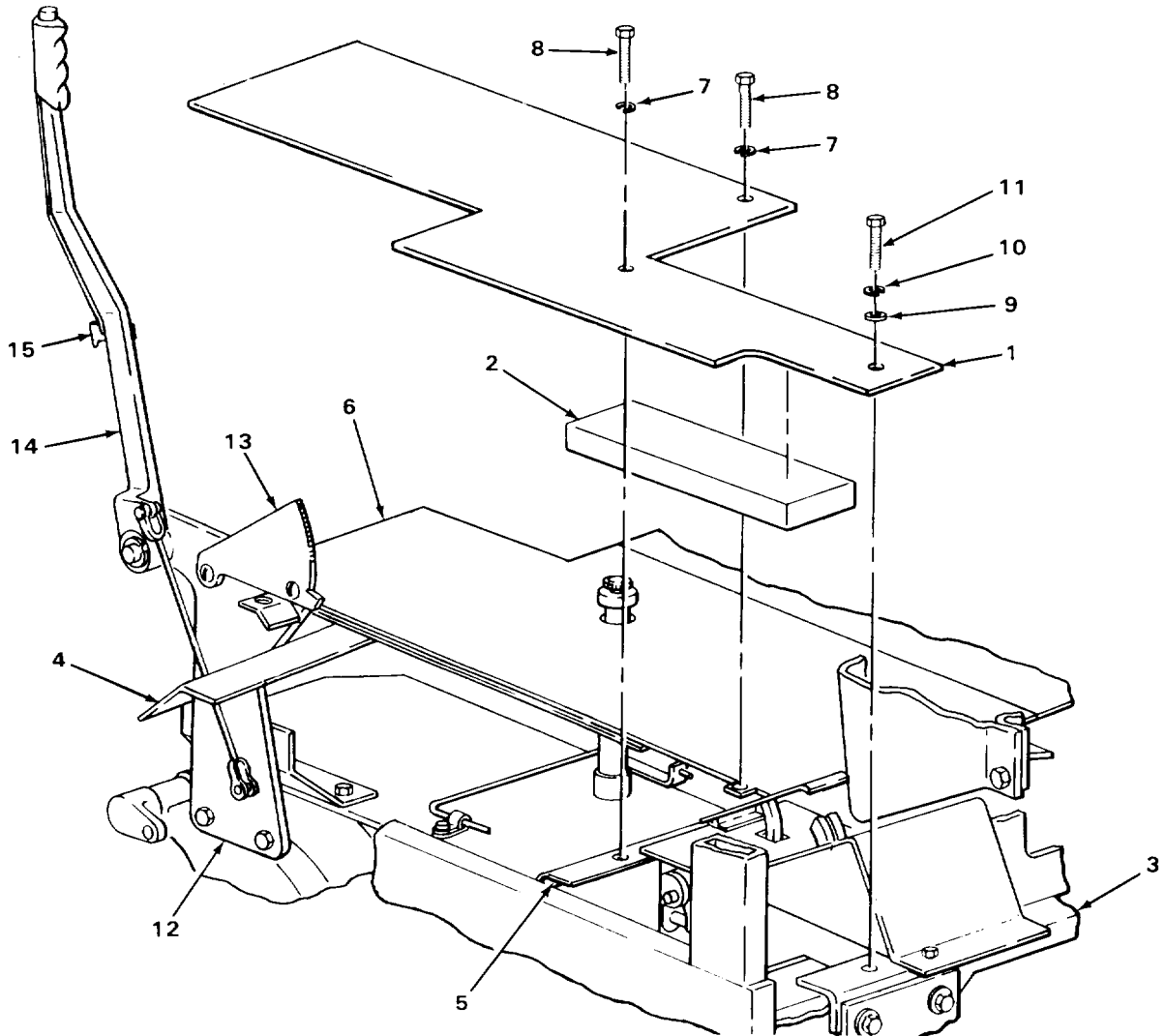
LOCATION	ITEM	ACTION	REMARKS
ASSEMBLY			
NOTE			
Step 15 only applies to loader backhoes with Serial Numbers 319995 thru 342573.			
Right platform has two pads. Both are assembled the same way. Front platform pad is shown. Repeat step 15 for remaining pad as needed.			
15. Platform (1)	Pad (2)	<ol style="list-style-type: none"> a. If removed, apply metal adhesive in 0.06 to 0.18-inch (1.52 to 4.57 mm) wide beads, in 2.00-inch (50.8 mm) or smaller squares. Make sure that outside bead is within 0.25-inch (6.35 mm) of edge with no gaps. b. Line up and press into place to transfer some metal adhesive. c. Take off and allow metal adhesive to set for two minutes. d. Line up and press firmly into place. e. Repeat step 15 for remaining pad. 	
INSTALLATION			
16. Front cross member (3), rear cross member (4), center platform support (5), and center platform (6)	Platform (1) with assembled parts, if present	Place in position.	
17. Platform (1) and center platform support (5)	Two new lockwashers (7) and screws (8)	Screw in part way.	
18. Platform (1) and front cross member (3)	Washer (9), new lockwasher (10), and screw (11)	If present, screw in and tighten using 9/16-inch, 3/8-inch drive socket and ratchet handle.	
19. Platform (1) and center platform support (5)	Two screws (8)	Using 9/16-inch, 3/8-inch drive socket and ratchet handle, tighten.	

LOCATION	ITEM	ACTION	REMARKS
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20. Parking brake support (12) and brake latch plate (13)

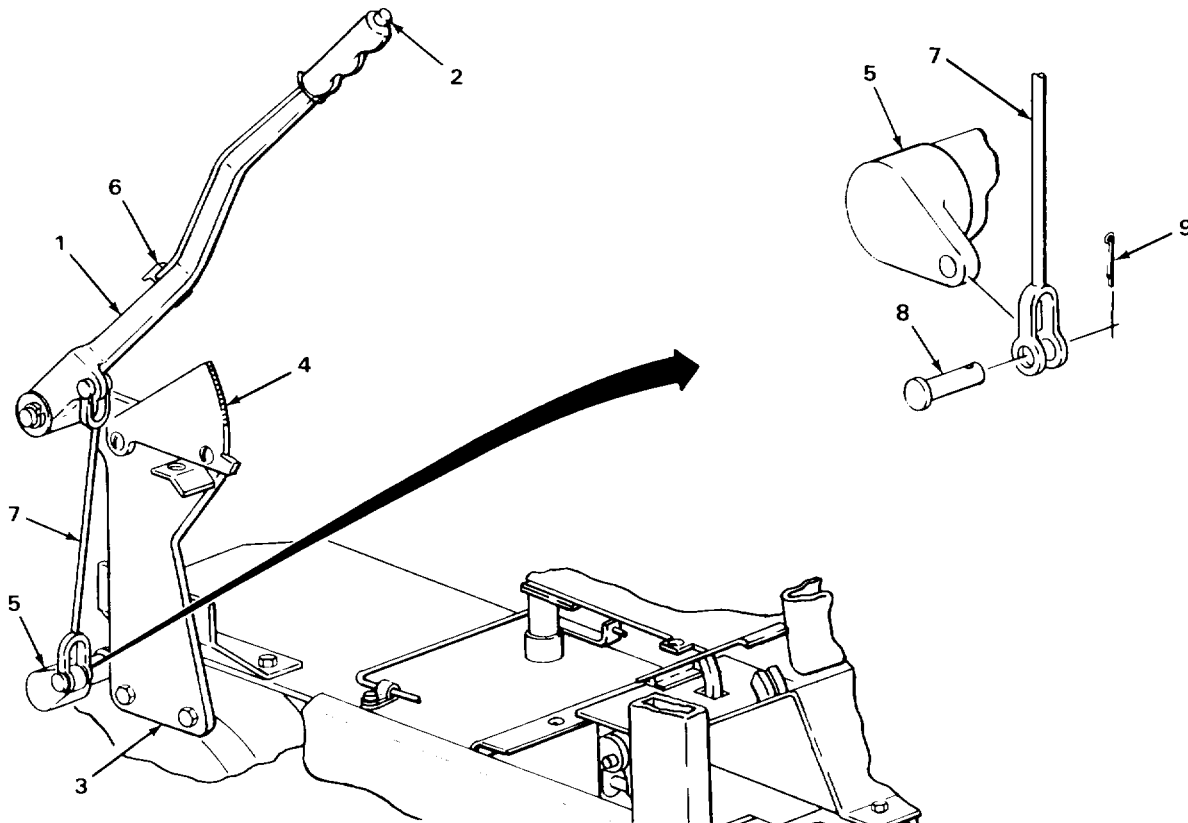
Brake lever (14) and brake latch (15)

Move forward and down until latch (15) contacts plate (13).



RIGHT PLATFORM - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
21. Brake lever (1)	Brake latch button (2)	Push in and hold.	
22. Parking brake support (3), brake latch plate (4), and parking brake arm (5)	Brake lever (1), brake latch (6), and brake rod (7)	Moving down, guiding latch (6) past teeth of plate (4), until rod (7) is positioned on arm (5).	
23. Brake lever (1)	Brake latch button (2)	Release.	
24. Brake rod (7) and and parking brake arm (5)	Pin (8)	a. Aline holes in brake rod (7) and brake arm (5). b. Place in position.	
25. Brake rod (7) and pin (8)	New cotter pin (9)	a. Place in position. b. Using long roundnose pliers, bend ends back.	



RIGHT PLATFORM - CONTINUED

INSTALLATION - CONTINUED

NOTE

FOLLOW-ON MAINTENANCE:

Perform the following only on loader backhoes with Serial Numbers 319995 thru 342573.

1. Install right rear platform (page 2-110).
2. Install left rear platform (page 2-1114).

Perform the following only on loader backhoes with Serial Numbers 235786 thru 235999.

3. Install rear platform (page 2-1117).

TASK ENDS HERE

RIGHT OUTER PLATFORM RAMP

This task covers:

- a. Removal (page 2-1074)
- b. Disassembly (page 2-1074)
- c. Cleaning (page 2-1076)
- d. Inspection/Replacement (page 2-1076)
- e. Repair (page 2-1076)
- f. Assembly (page 2-1077)
- g. Installation (page 2-1077)

INITIAL SETUP

Tools

Handle, ratchet, 3/8-inch drive
 Socket, 3/8-inch drive, 9/16-inch
 Threading set, screw

NOTE

The following tool only applies to loader backhoes with Serial Numbers 319995 thru 342573.

Knife, putty

Materials/Parts

Detergent, GP (item 7, Appendix C)
 Lockwasher, ramp screw (three required)
 Rags, wiping (item 21, Appendix C)

Materials/Parts - Continued

Solvent, drycleaning (item 28, Appendix C)

NOTE

The following materials only apply to loader backhoes with Serial Numbers 319995 thru 342573.

Adhesive, metal bonding (item 1, Appendix C)
 Solvent, cleaning compound (item 27, Appendix C)

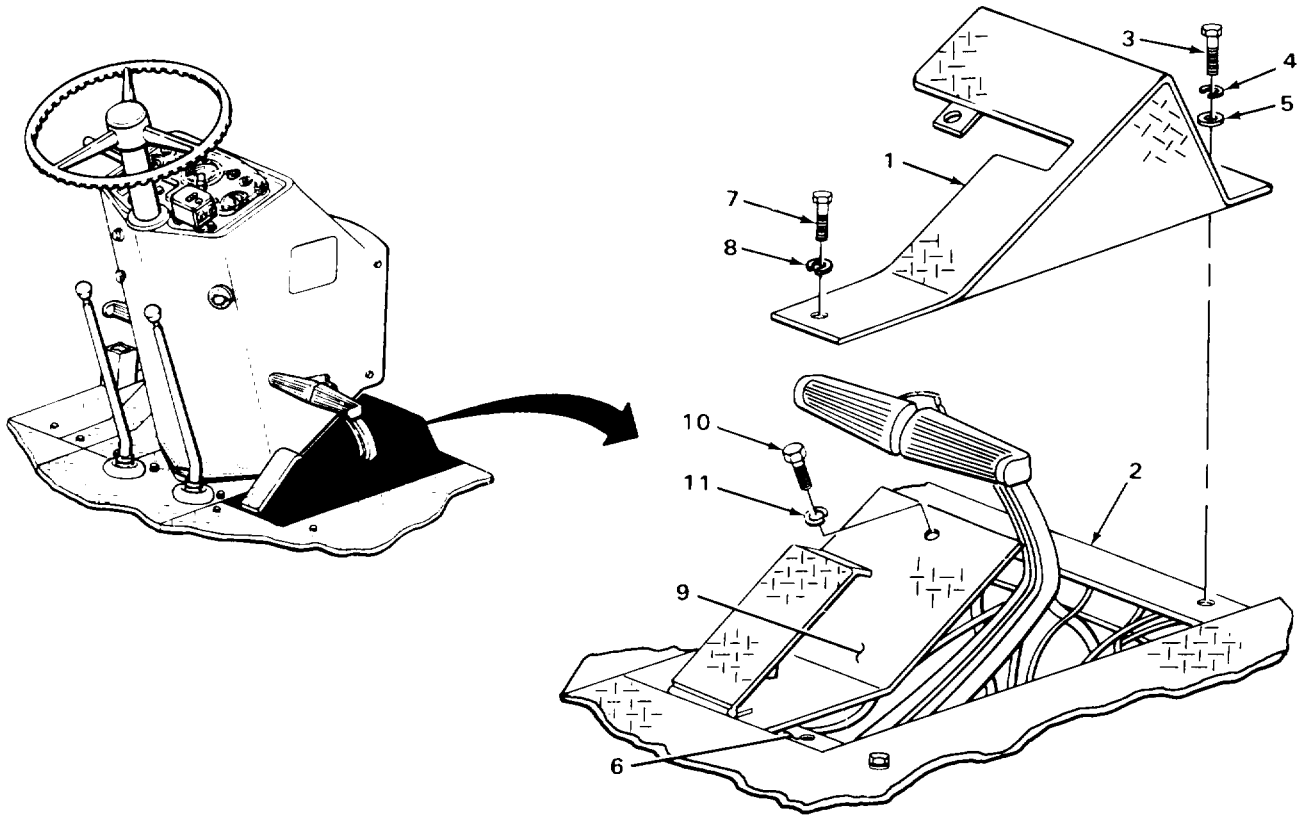
Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1. Right outer platform ramp (1) and front cross member (2)	Screw (3), lockwasher (4), and washer (5)	a. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out. b. Get rid of lockwasher (4).	
2. Right outer platform ramp (1) and center platform support (6)	Screw (7) and lockwasher (8)	a. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out. b. Get rid of lockwasher (8).	

RIGHT OUTER PLATFORM RAMP - CONTINUED

LOCATION	ITEM	ACTION REMARKS
3. Right outer platform ramp (1) and right inner platform ramp (9)	Screw (10) and lockwasher (11)	a. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out. b. Get rid of lockwasher (11).
4. Front cross member (2), center platform support (6), and inner platform ramp (9)	Right outer platform ramp (1)	Take off.



TA243252

RIGHT OUTER PLATFORM RAMP - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY

NOTE

Step 5 only applies to loader backhoes with Serial Numbers 319995 thru 342573.

WARNING

Water soluble cleaning compound solvent is flammable and fumes are toxic. Flashpoint is 220°F (104°C). Boiling point is 212°F (100°C). Do not store in temperatures above 150°F (65°C) or below 35°F (2°C). Do not use near open flame or excessive heat. Do not wear jewelry, wear rubber gloves and goggles, and use only in well ventilated area.

Avoid contact with skin, eyes, and clothes, and don't breathe vapors. Avoid contact with acids, aluminium, or zinc; chemical reaction may result. If you become dizzy while using cleaning compound solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

CAUTION

Do not remove ramp pad unless inspection shows need for replacement. Pad may be destroyed during removal.

- | | | |
|-------------|---------|---|
| 5. Ramp (1) | Pad (2) | <ul style="list-style-type: none"> a. Note position for proper placement during installation. b. Using clean rags and cleaning compound solvent, dissolve adhesive. c. Using putty knife under edge, pull up corner. d. Wet with more cleaning compound solvent and continue to pull off. e. Repeat steps b thru d above until completely removed. f. Using clean rag dampened with cleaning compound solvent, remove all adhesive from ramp (1). g. Rinse ramp (1) and pad (2) with clean water. h. Using clean, dry rags, wipe dry. |
|-------------|---------|---|

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

RIGHT OUTER PLATFORM RAMP - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
6.	Ramp (1) and pad (2) if present	<ul style="list-style-type: none"> a. Using clean rags dampened with solution of detergent and water, wipe clean b. Rinse with clear water. c. Using clean, dry rags, wipe dry. 	

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

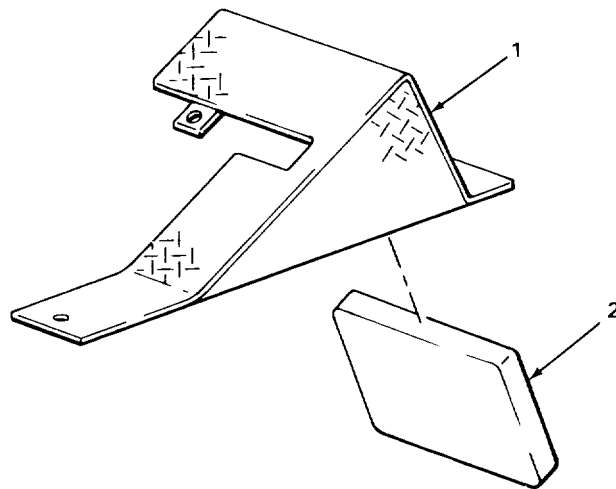
7.	All attaching hardware	<ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. 	
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INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.



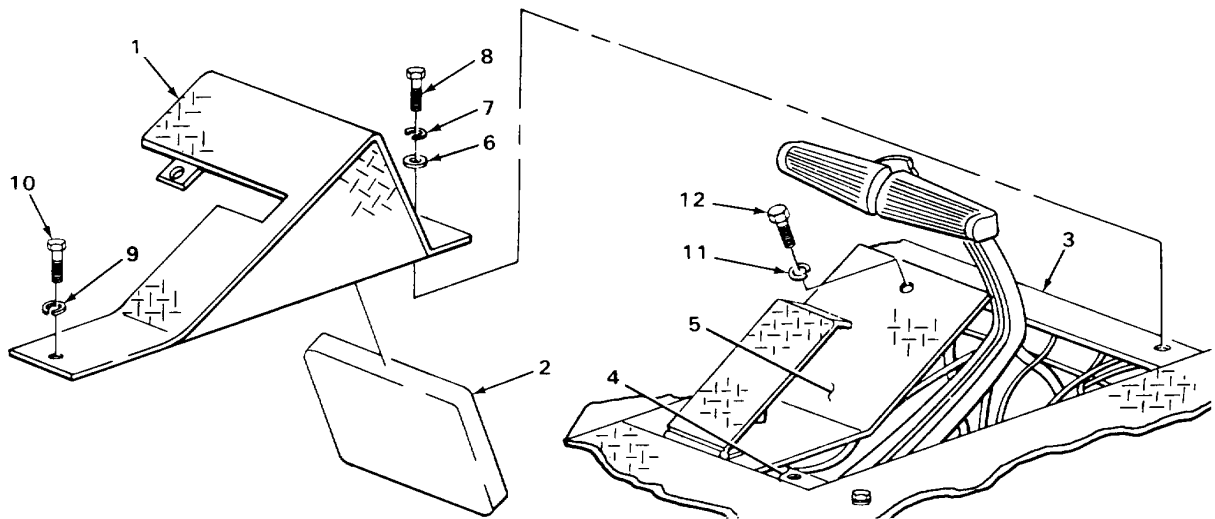
TA243253

RIGHT OUTER PLATFORM RAMP - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT - CONTINUED		
8.	Right outer ramp (1)	Look for cracks, breaks, and abnormal bends.
9.	Pad (2)	Look for cracks, tears, and crumbling.
10.	All threaded parts	Look for damaged threads.
REPAIR		
11.	Right outer ramp (1)	If threads are damaged, using screw threading set, restore.
ASSEMBLY		
NOTE		
Step 12 only applies to loader backhoes with Serial Numbers 319995 thru 342573.		
12.	Right outer ramp (1)	Pad (2)
		<p>a. If removed, apply metal adhesive in 0.06 to 0.18-inch (1.52 to 4.57 mm) wide beads, in 2.00-inch (50.8 mm) or smaller squares. Make sure that outside bead is within 0.25-inch (6.35 mm) of edge with no gaps.</p> <p>b. Line up and press into place to transfer some metal adhesive.</p> <p>c. Take off and allow metal adhesive to set for two minutes.</p> <p>d. Line up and press firmly into place.</p>
INSTALLATION		
13.	Front cross member (3), center platform support (4), and inner platform ramp (5)	Right outer ramp (1)
		Place in position.
14.	Right outer ramp (1) and front cross member (3)	Washer (6), new lockwasher (7), and screw (8)
		Screw in part way.

RIGHT OUTER PLATFORM RAMP - CONTINUED

LOCATION	ITEM	ACTION REMARKS
15. Right outer ramp (1) and center platform support (4)	New lockwasher (9) and screw (10)	Screw in part way.
16. Right inner ramp (5) and right outer ramp (1)	New lockwasher (11) and screw (12)	Screw in and tighten using 9/16-inch, 3/8-inch drive socket and ratchet handle.
17. Right outer ramp (1) and front cross member (3)	Screw (8)	Using 9/16-inch, 3/8-inch drive socket and ratchet handle, tighten.



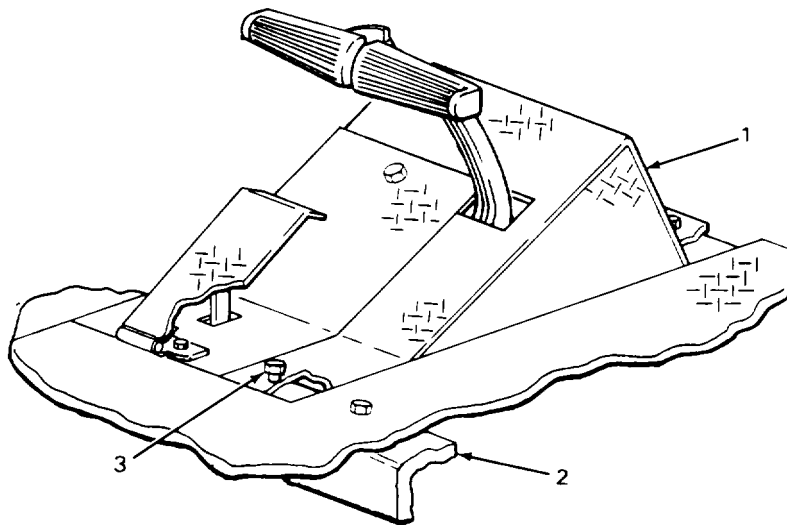
TA243254

RIGHT OUTER PLATFORM RAMP - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION - CONTINUED

- | | | | |
|--|-----------|---|--|
| 18. Right outer ramp (1) and center platform support (2) | Screw (3) | Using 9/16-inch, 3/8-inch drive socket and ratchet handle, tighten. | |
|--|-----------|---|--|



TASK ENDS HERE

TA243255

RIGHT INNER PLATFORM RAMP

This task covers:

- a. Removal (page 2-1096)
 - b. Cleaning (page 2-1096)
 - c. Repair (page 2-1097)
 - d. Installation (page 2-1098)
-

INITIAL SETUP**Tools**

Pliers, long roundnose
Wrench, open-end, 7/16-inch
(two required)

Materials/Parts

Lockwasher, pedal and ramp screw
(two required)
Pin, cotter, yoke pin
Rags, wiping (item 21, Appendix C)

Materials/Parts - Continued

Solvent, drycleaning (item 28, Appendix C)

Personnel Required

One

Equipment Condition

Right outer platform ramp removed
(page 2-1088)

2-1095

RIGHT INNER PLATFORM RAMP - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Accelerator pedal (1), center platform support (2), and ramp (3)	Two screws (4), lockwashers (5), and nuts (6)	a. Using two 7/16-inch open-end wrenches, unscrew and take apart. b. Get rid of lockwashers (5).
2.	Yoke (7) and pin (8)	Cotter pin (9)	a. Using long roundnose pliers, bend ends straight and take out. b. Get rid of.
3.	Accelerator pedal (1) and yoke (7)	Pin (8)	Take out.
4.	Ramp (3)	Pedal (1)	Take off.
5.	Center platform support (2)	Ramp (3)	Take off.

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

6.	Ramp (3)	a. Using clean rags dampened with dry-cleaning solvent, wipe clean. b. Using clean, dry rags, wipe dry.
7.	All attaching hardware	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.

LOCATION	ITEM	ACTION	REMARKS
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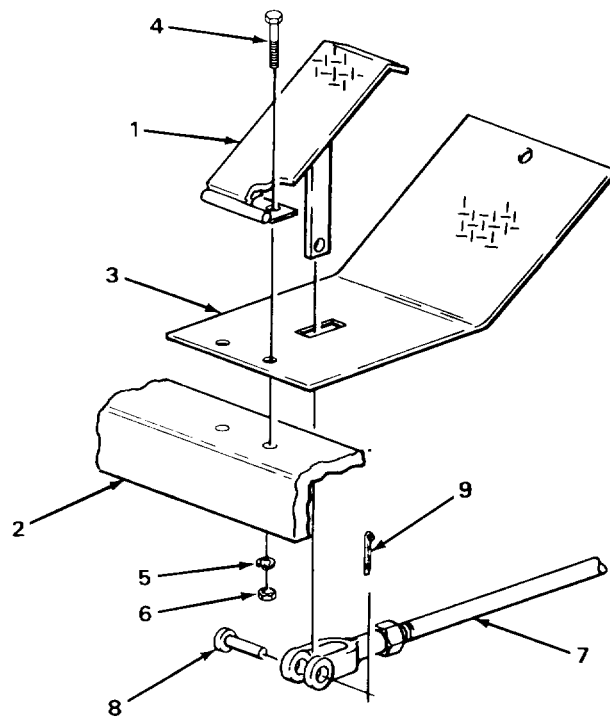
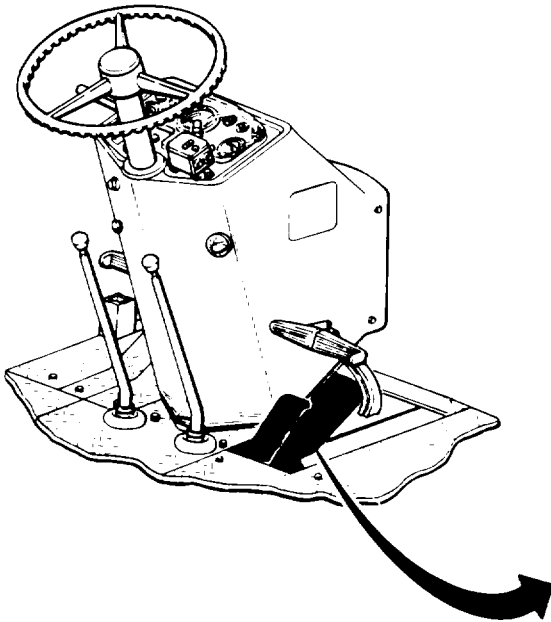
INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

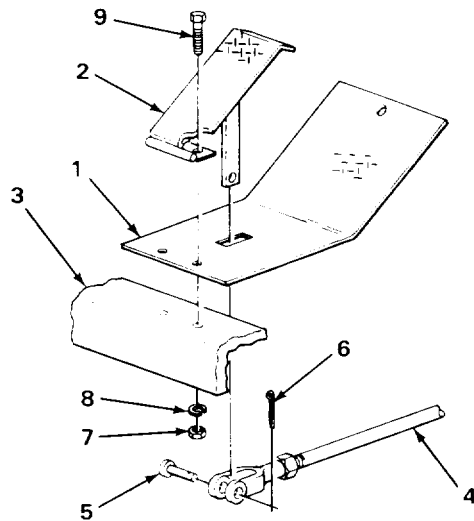
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|----|------------------------|--|--|
| 8. | Ramp (3) | | Look for cracks, breaks, and abnormal bends. |
| 9. | All attaching hardware | | Look for damaged threads. |



TA243256

RIGHT INNER PLATFORM RAMP - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION			
10. Ramp (1)	Accelerator pedal (2)	Place in position.	
11. Center platform support (3) and yoke (4)	Ramp (1) and accelerator pedal (2)	Place in position.	
12. Accelerator pedal (2) and yoke (4)	Pin (5)	Place in position.	
13. Yoke (4) and pin (5)	New cotter pin (6)	a. Place in position. b. Using long roundnose pliers, bend ends back.	
14. Accelerator pedal (2), ramp (1), and center platform support (3)	Two nuts (7), new lockwashers (8), and screws (9)	a. Screw together part way. b. Using two 7/16-inch open-end wrenches, tighten.	



NOTE

FOLLOW-ON MAINTENANCE: Install right outer platform ramp (page 2-1088).

TASK ENDS HERE

TA243257

CENTER PLATFORM

This task covers:

- | | |
|------------------------------|---|
| a. Removal (page 2-1100) | d. Inspection/Replacement (page 2-1103) |
| b. Disassembly (page 2-1100) | e. Assembly (page 2-1104) |
| c. Cleaning (page 2-1102) | f. Installation (page 2-1104) |

INITIAL SETUP**Tools**

Handle, ratchet, 3/8-inch drive
 Pliers, slip-joint
 Socket, 3/8-inch drive, 9/16-inch
 Wrench, open-end, 3/4-inch

NOTE

The following tool only applies to loader backhoes with Serial Numbers 319995 thru 342573.

Knife, putty

Materials/Parts

Detergent, GP (item 7, Appendix C)
 Lockwasher, platform screw
 (two required)
 Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning
 (item 28, Appendix C)

Materials/Parts - Continued**NOTE**

The following materials only apply to loader backhoes with Serial Numbers 319995 thru 342573.

Adhesive, metal bonding (item 1, Appendix C)
 Solvent, cleaning compound (item 27, Appendix C)

Personnel Required

One

Equipment Conditions

1. Seat removed (page 2-1120)
2. Right platform removed (page 2-1079)
3. Battery cover removed
 (TM 5-2420-222-10)

2-1099

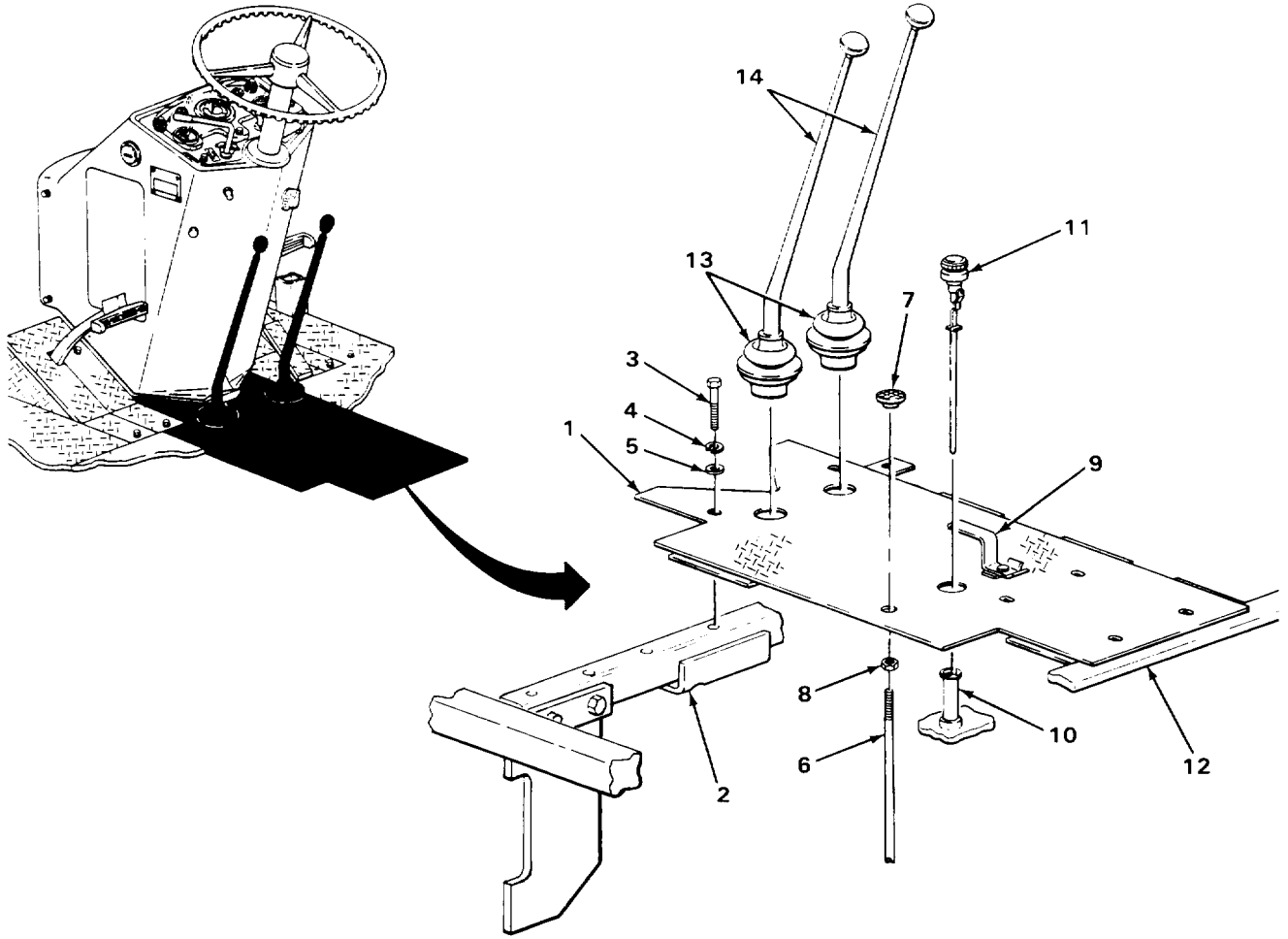
CENTER PLATFORM - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Center platform (1) and center platform support (2)	Two screws (3), lockwasher (4), and washer (5)	<ol style="list-style-type: none"> Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out. Get rid of lockwasher (4).
2.	Differential lock rod (6) and differential lock pedal (7)	Jam nut (8)	Using 3/4-inch open-end wrench, loosen.
3.	Differential lock rod (6)	Differential lock pedal (7)	Using slip-joint pliers, unscrew and take off.
4.	Differential lock rod (6)	Jam nut (8)	Unscrew and take off.
5.	Center platform (1)	Filler lock (9)	Move aside.
6.	Filler tube (10)	Dipstick (11)	<ol style="list-style-type: none"> Loosen. Pull out.
7.	Center platform support (2), rear cross member (12), lever boots (13)	Center platform (1)	<ol style="list-style-type: none"> Note position of boots (13) for proper placement during installation. Push boots (13) through holes while and two gear shift lifting up. Guiding gear shift levers (14) through holes.
8.	Filler tube (10)	Dipstick (11)	<ol style="list-style-type: none"> Place in position. Tighten.

DISASSEMBLY

NOTE

Step 9 only applies to loader backhoes with Serial Numbers 319995 thru 342573.



2-1101

TA243258

CENTER PLATFORM - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY - CONTINUED

WARNING

Water soluble cleaning compound solvent is flammable and fumes are toxic. Flashpoint is 220°F (104°C). Boiling point is 212°F (100°C). Do not store in temperatures above 150°F (65°C) or below 35°F (2°C). Do not use near open flame or excessive heat. Do not wear jewelry, wear rubber gloves and goggles, and use only in well ventilated area. Avoid contact with skin, eyes, and clothes, and don't breathe vapors. Avoid contact with acids, aluminium, or zinc; chemical reaction may result. If you become dizzy while using cleaning compound solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

CAUTION

Do not remove center platform pad unless inspection shows need for replacement. Pad may be destroyed during removal.

- | | | |
|------------------------|---------|---|
| 9. Center platform (1) | Pad (2) | <ul style="list-style-type: none"> a. Note position for proper placement during installation. b. Using clean rags and cleaning compound solvent, dissolve adhesive. c. Using putty knife under edge, pull up corner. d. Wet with more cleaning compound solvent and continue to pull off. e. Repeat steps b thru d above until completely removed. f. Using clean rag dampened with cleaning compound solvent, remove all adhesive from center platform (1). g. Rinse platform (1), and pad (2) with clean water. h. Using clean, dry rags, wipe dry. |
|------------------------|---------|---|

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

CENTER PLATFORM - CONTINUED

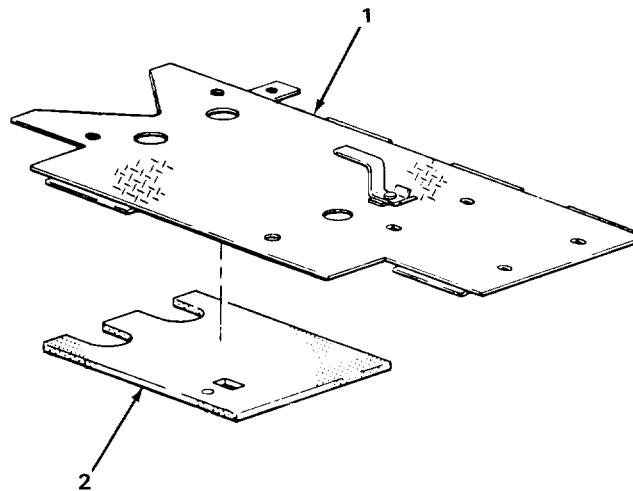
LOCATION	ITEM	ACTION	REMARKS
10.	Center platform (1) and pad (2), if present	a. Using clean rags dampened with solution of detergent and water, wipe clean. b. Rinse with clean water. c. Using clean, dry rags, wipe dry.	
<u>WARNING</u>			
Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.			
11.	All attaching hardware	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.	

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.



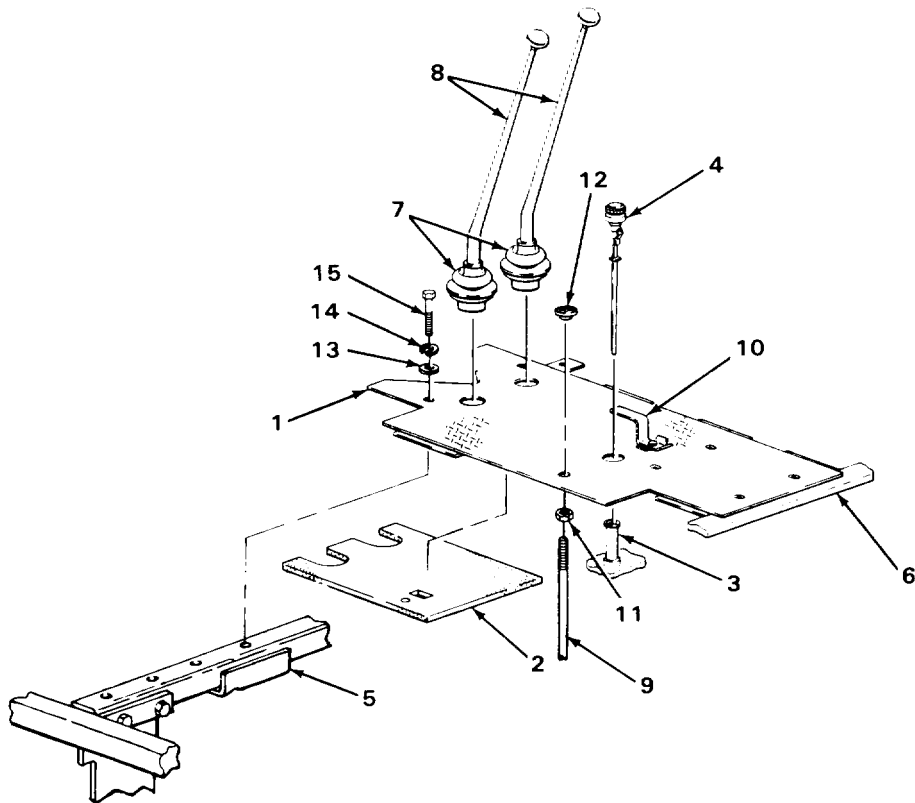
2-1103

CENTER PLATFORM - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT - CONTINUED			
12.	Center platform (1)		Look for cracks, breaks, and abnormal bends.
13.	All attaching hardware		Look for damaged threads.
14.	Pad (2), if present		Look for cracks, tears, and crumbling.
ASSEMBLY			
NOTE			
Step 15 only applies to loader backhoes with Serial Numbers 319995 thru 342573.			
15.	Center platform (1)	Pad (2)	<p>a. If removed, apply metal adhesive in 0.06 to 0.18-inch (1.52 to 4.57 mm) wide beads, in 2.00-inch (50.8 mm) or smaller squares.</p> <p style="text-align: center;">Make sure that outside bead is within 0.25-inch (6.35 mm) of edge with no gaps.</p> <p>b. Line up and press into place to transfer some metal adhesive.</p> <p>c. Take off and allow metal adhesive to set for two minutes.</p> <p>d. Line up and press firmly into place.</p>
INSTALLATION			
16.	Filler tube (3)	Dipstick (4)	<p>a. Loosen.</p> <p>b. Pull out.</p>
17.	Center platform support (5), rear cross member (6), and two gear shift lever boots (7)	Center platform (1)	<p>a. Guide gear shift levers (8) through holes.</p> <p>b. Guide differential lock rod (9) through hole.</p> <p>c. Pushing boots (7) through holes, place in position.</p>
18.	Filler tube (3)	Dipstick (4)	<p>a. Place in position.</p> <p>b. Tighten.</p>

CENTER PLATFORM - CONTINUED

LOCATION	ITEM	ACTION REMARKS
19. Center platform (1)	Filler lock (10)	Move into position.
20. Differential lock rod (9)	Jam nut (11)	Screw on all the way. Do not tighten.
21.	Differential lock pedal (12)	Screw on until top is flush with top of rod (8).
22. Differential lock rod (9) and differential lock pedal (12)	Jam nut (11)	Using 3/4-inch open-end wrench, tighten against pedal (12).
23. Center platform (1) and center platform support (5)	Two washers (13), new lockwasher (14), and screws (15)	a. Screw in part way. b. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, tighten.



CENTER PLATFORM - CONTINUED

INSTALLATION - CONTINUED

NOTE

FOLLOW-ON MAINTENANCE:

1. Install battery cover (TM 5-2420-222-10).
2. Install right platform (page 2-1079).
3. Install seat (page 2-1120).

TASK ENDS HERE

CENTER PLATFORM SUPPORT

This task covers:

- | | |
|--|--|
| <ol style="list-style-type: none"> a. Removal (page 2-1106) b. Cleaning (page 2-1107) c. Inspection/Replacement (page 2-1108) | <ol style="list-style-type: none"> d. Repair (page 2-1108) e. Installation (page 2-1108) |
|--|--|

INITIAL SETUP

Tools

- Bar, pinch, 36-inch
- Handle, ratchet, 1/2-inch drive
- Socket, 1/2-inch drive, 3/4-inch
- Threading set, screw
- Wrench, open-end, 3/4-inch

Personnel Required

One

Equipment Condition

1. Center platform removed (page 2-1099)
2. Left platform removed (page 2-1060)
3. Left outer platform ramp removed (page 2-1073)
4. Right inner platform ramp removed (page 2-1095)

Materials/Parts

- Lockwasher, support screw nut (four required)
- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

NOTE

Loader backhoes with Serial Numbers 235786 thru 235999 have canopy. Loader backhoes with Serial Numbers 319995 thru 342573 have rollover protective structure.

2-1106

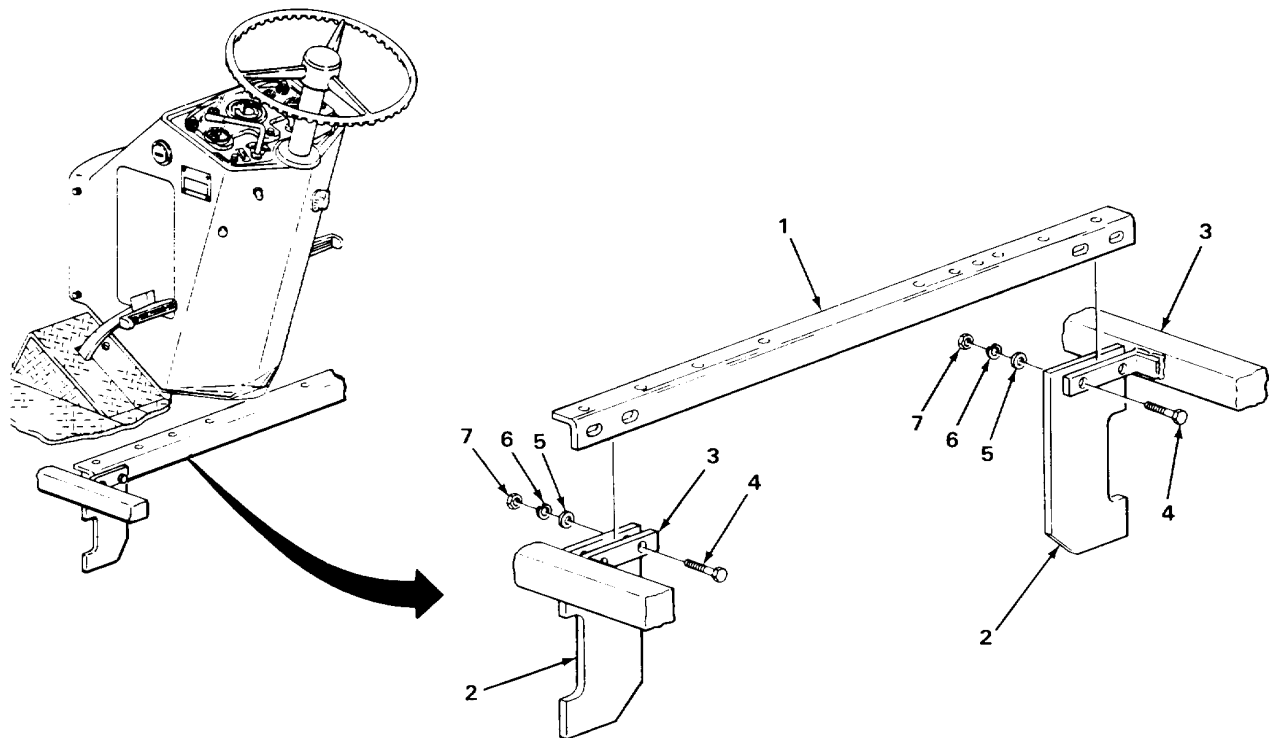
CENTER PLATFORM SUPPORT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
1. Center platform support (1), two fender braces (2), and canopy or roll-over protective structure (3)	Four screws (4), washers (5), lockwashers (6), and nuts (7)	a. Using 3/4-inch open-end wrench, 3/4-inch, 1/2-inch drive socket and ratchet handle, unscrew and take out. b. Get rid of lockwashers (6).	
2. Two fender braces (2) and canopy or rollover protective structure (3)	Center platform support (1)	Using 36-inch pinch bar, take out.	

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).



TA243261

CENTER PLATFORM SUPPORT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|-----------------------------|--|
| 3. | Center platform support (1) | a. Using clean rags dampened with dry-cleaning solvent, wipe clean.
b. Using clean, dry rags, wipe dry. |
| 4. | All attaching hardware | a. Clean in dry cleaning solvent.
b. Using clean, dry rags, wipe dry. |

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

- | | | |
|----|-----------------------------|--|
| 5. | Center platform support (1) | Look for cracks, breaks, and abnormal bends. |
| 6. | All metal parts | Look for damaged threads. |

REPAIR

- | | | |
|----|-----------------------------|---|
| 7. | Center platform support (1) | If threads are damaged, using screw threading set, restore threads. |
|----|-----------------------------|---|

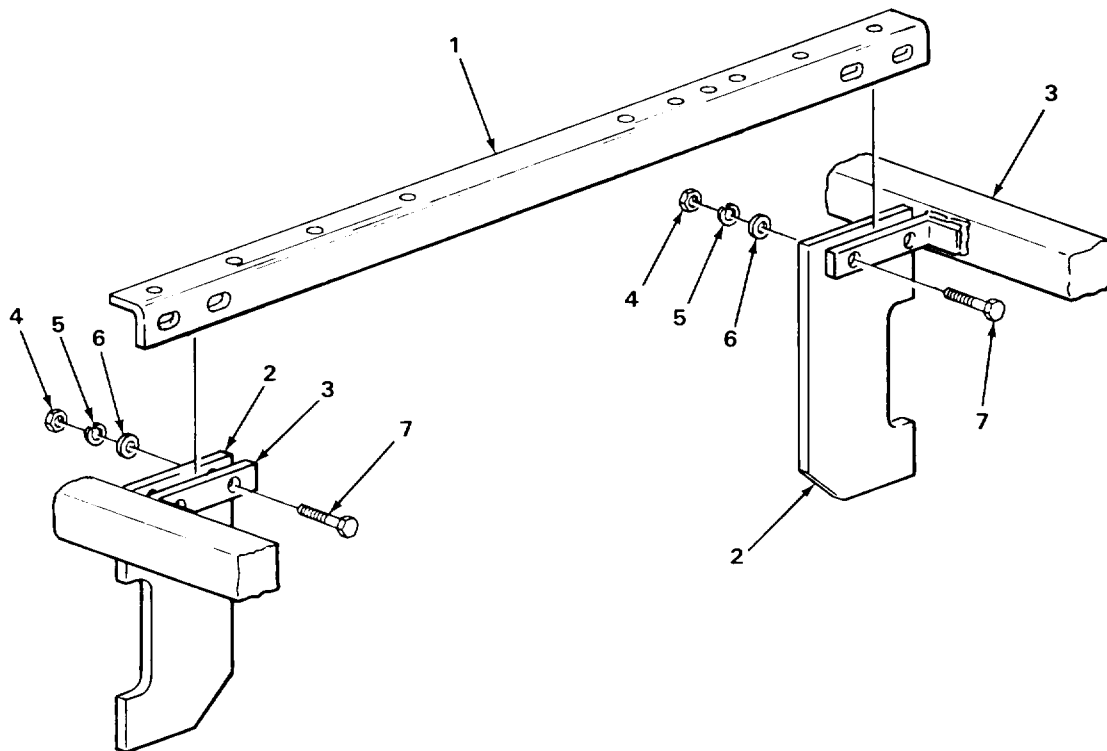
INSTALLATION

NOTE

Loader backhoes with Serial Numbers 235786 thru 235999 have canopy. Loader backhoes with Serial Numbers 319995 thru 342573 have rollover protective structure.

CENTER PLATFORM SUPPORT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
8. Two fender braces (2), and canopy or rollover protective structure (3)	Center platform support (1)	Using 36-inch pinch bar, place in position. Make sure to align screw holes.	
9. Center platform support (1), two fender braces (2) and canopy or roll-over protective structure (3)	Four nuts (4), lockwashers (5), washers (6), and screws (7)	a. Screw together part way. b. Using 3/4-inch, 1/2-inch drive socket and ratchet handle, tighten.	



NOTE

FOLLOW-ON MAINTENANCE:

1. Install right inner platform ramp (page 2-1095).
2. Install left outer platform ramp (page 2-1073).
3. Install left platform (page 2-1060).
4. Install center platform (page 2-1099).

TASK ENDS HERE

TA243262

BATTERY COVER

This task covers:
Replacement (page 2-1110)

INITIAL SETUP

Personnel Required

One

Equipment Condition

Battery cover removed, cleaned, and inspected (TM 5-2420-222-10)

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REPLACEMENT

NOTE

If battery cover is defective, it must be replaced.

FOLLOW-ON MAINTENANCE: Install battery cover (TM 5-2420-222-10).

TASK ENDS HERE

RIGHT REAR PLATFORM (SERIAL NUMBERS 319995 THRU 342573 ONLY)

This task covers:

- | | |
|---------------------------|---|
| a. Removal (page 2-1111) | c. Inspection/Replacement (page 2-1112) |
| b. Cleaning (page 2-1112) | d. Installation (page 2-1112) |

INITIAL SETUP

Tools

Handle, ratchet, 3/8-inch drive
Socket, 3/8-inch drive, 9/16-inch

Personnel Required

One

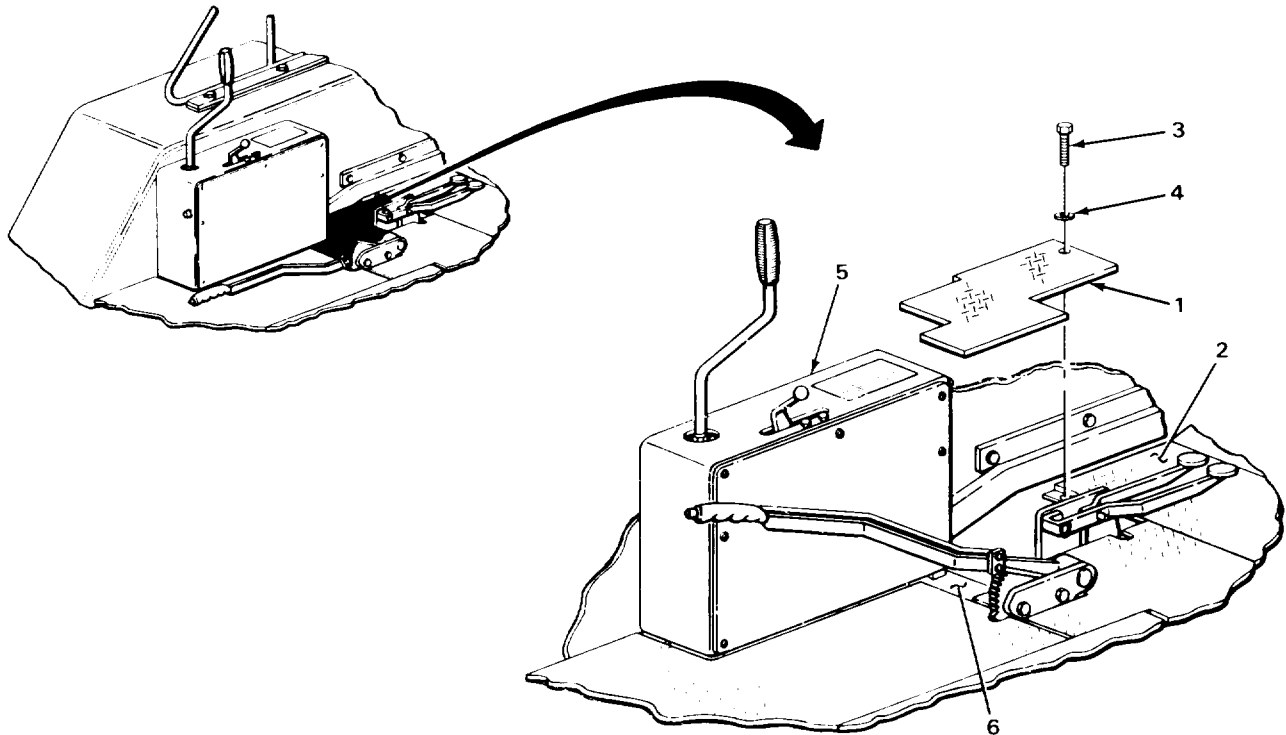
Materials/Parts

Rags, wiping (item 21, Appendix C)
Solvent, drycleaning
(item 28, Appendix C)

2-1110

RIGHT REAR PLATFORM (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1. Right rear platform (1) and main frame (2)	Screw (3) and washer (4)	Using 9/16-inch, 3/8-inch drive socket, and ratchet handle, unscrew and take out.	
2. Main frame (2), loader control box (5), and rear cross member (6)	Right rear platform (1)	Take out.	



TA243263

RIGHT REAR PLATFORM (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | | |
|----|-------------------------|--|--|
| 3. | Right rear platform (1) | a. Using clean rags dampened with dry-cleaning solvent, wipe clean.
b. Using clean, dry rags, wipe dry. | |
| 4. | All attaching Hardware | a. Clean in dry cleaning solvent.
b. Using clean, dry rags, wipe dry. | |

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

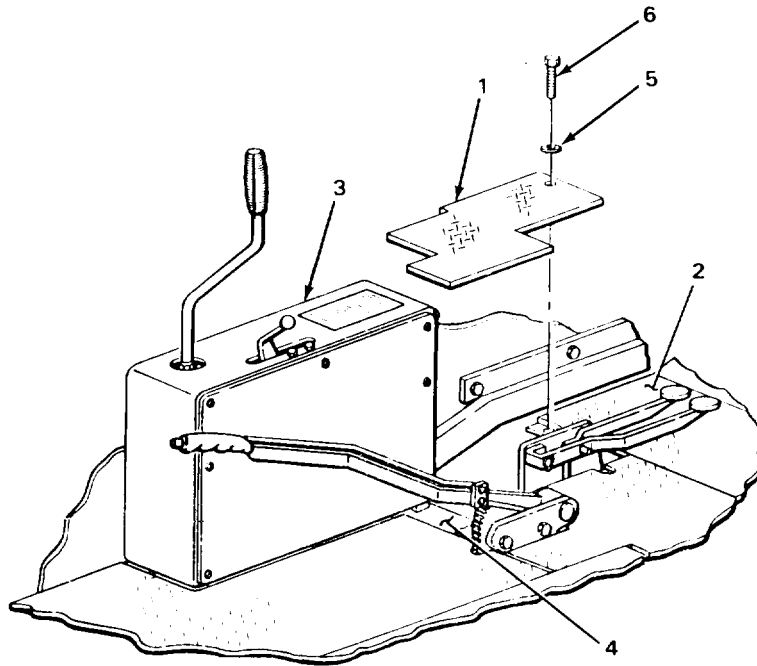
- | | | | |
|----|-------------------------|--|--|
| 5. | Right rear platform (1) | Look for cracks, breaks, and abnormal bends. | |
| 6. | All attaching hardware | Look for damaged threads. | |

INSTALLATION

- | | | | |
|----|---|-------------------------|--------------------|
| 7. | Main frame (2), loader control box (3), and rear cross member (4) | Right rear platform (1) | Place in position. |
|----|---|-------------------------|--------------------|

RIGHT REAR PLATFORM (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
8. Right rear platform (1) and main frame (2)	Washer (5) and screw (6)	Screw in and tighten using 9/16-inch, 3/8-inch drive socket and ratchet handle.	



TASK ENDS HERE

TA243264

LEFT REAR PLATFORM (SERIAL NUMBERS 319995 THRU 342573 ONLY)

This task covers:

- a. Removal (page 2-1114)
- b. Cleaning (page 2-1114)
- c. Inspection/Replacement (page 2-1115)
- d. Installation (page 2-1116)

INITIAL SETUP

Tools

Handle, ratchet, 3/8-inch drive
 Socket, 3/8-inch drive, 9/16-inch

Materials/Parts

Rags, wiping (item 21, Appendix C)

Materials/Parts - Continued

Solvent, drycleaning (item 28, Appendix C)

Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Left rear platform (1) and main frame (2)	Screw (3) and washer (4)	Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out.
2.	Main frame (2) and center platform (5)	Left rear platform (1)	Take off.

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

LEFT REAR PLATFORM (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

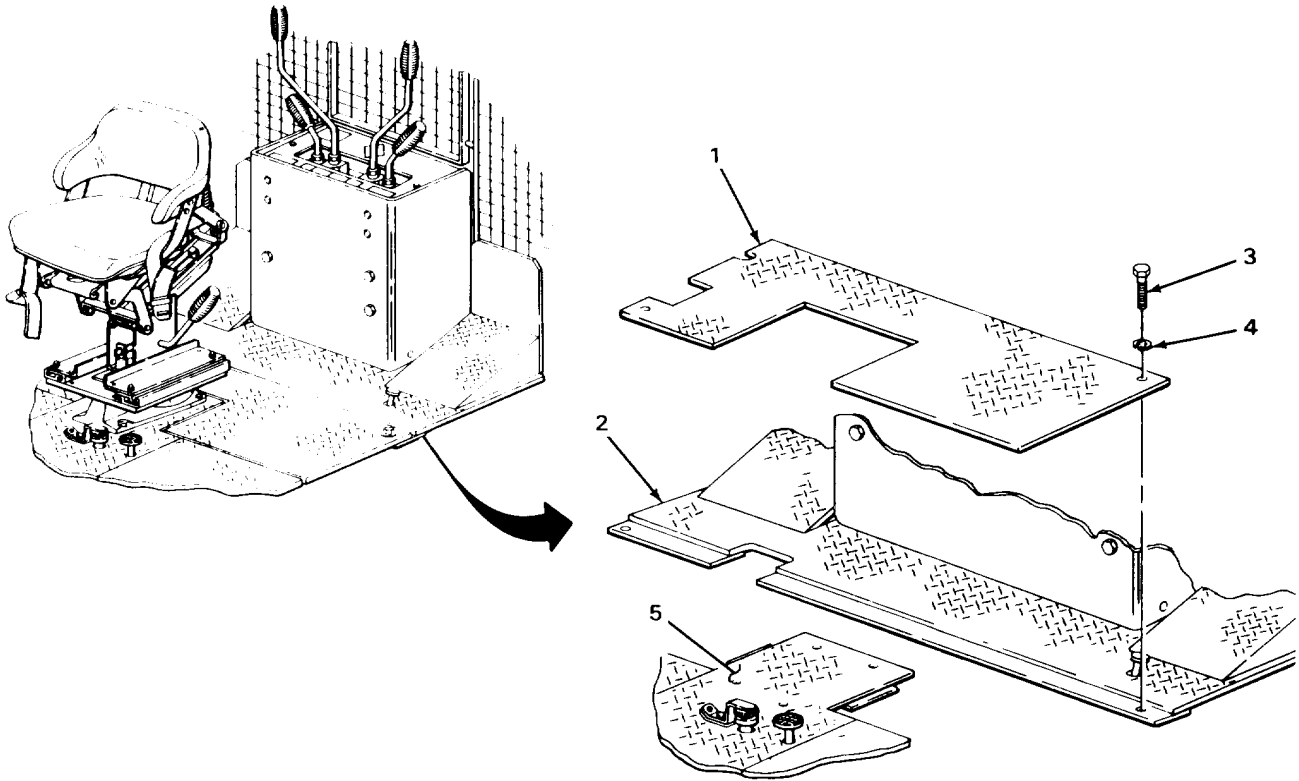
LOCATION	ITEM	ACTION	REMARKS
3.	Left rear platform (1)	a. Using clean rags dampened with dry-cleaning solvent, wipe clean. b. Using clean, dry rags, wipe dry.	
4.	All attaching hardware	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.	

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

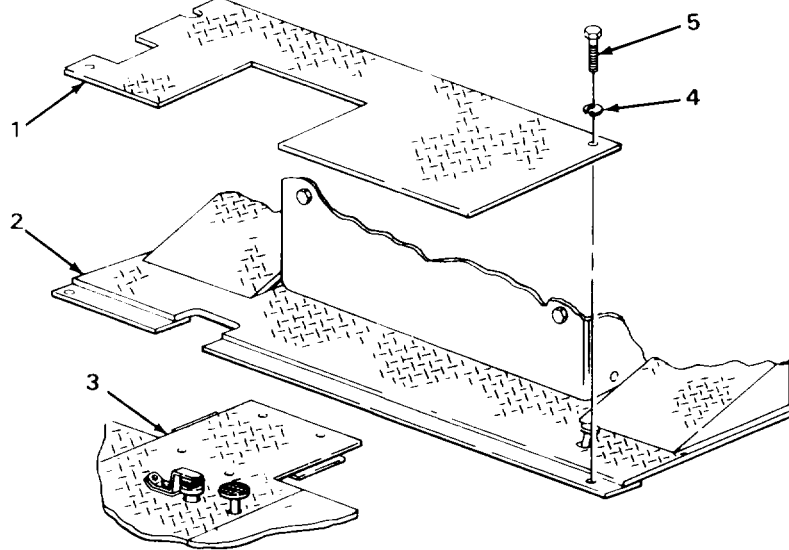
Replace defective parts as needed.



TA243265

LEFT REAR PLATFORM (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT - CONTINUED			
5.	Left rear platform (1)		Look for cracks, breaks, and abnormal bends.
6.	All attaching hardware		Look for damaged threads.
INSTALLATION			
7. Main frame (2) and center platform (3)	Left rear platform (1)		Place in position.
8. Left rear platform (1) and main frame (2)	Washer (4) and screw (5)		Screw in and tighten using 9/16-inch, 3/8-inch drive socket and ratchet handle.



TASK ENDS HERE

TA243206

REAR PLATFORM (SERIAL NUMBERS 235786 THRU 235999 ONLY)

This task covers:

- a. Removal (page 2-1117)
- b. Cleaning (page 2-1118)
- c. Inspection/Replacement (page 2-1118)
- d. Installation (page 2-1119)

INITIAL SETUP

Tools

Handle, ratchet, 3/8-inch drive
 Socket, 3/8-inch drive, 9/16-inch

Materials/Parts

Rags, wiping (item 21, Appendix C)

Materials/Parts - Continued

Solvent, drycleaning (item 28, Appendix C)

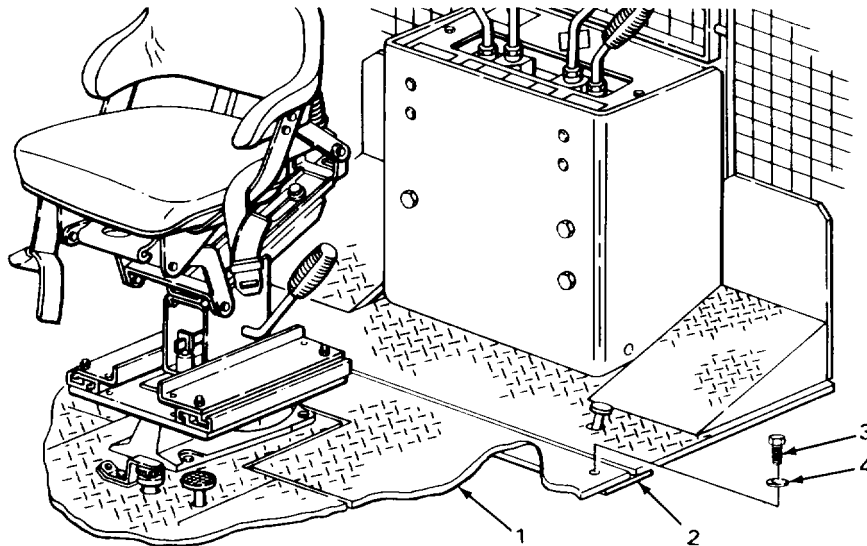
Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
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REMOVAL

- | | | | |
|----|--------------------------------------|--------------------------------|--|
| 1. | Rear platform (1) and main frame (2) | Two screws (3) and washers (4) | Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out. |
|----|--------------------------------------|--------------------------------|--|



TA243267

REAR PLATFORM (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL - CONTINUED			
2.	Main frame (1), center platform (2), loader control box (3), and rear cross member (4)	Rear platform (5)	Take off.

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 138°F (38° to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

3.		Rear platform (5)	<ul style="list-style-type: none"> a. Using clean rags dampened with dry-cleaning solvent, wipe clean. b. Using clean, dry rags, wipe dry.
4.		All attaching hardware	<ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.

INSPECTION/REPLACEMENT

NOTE

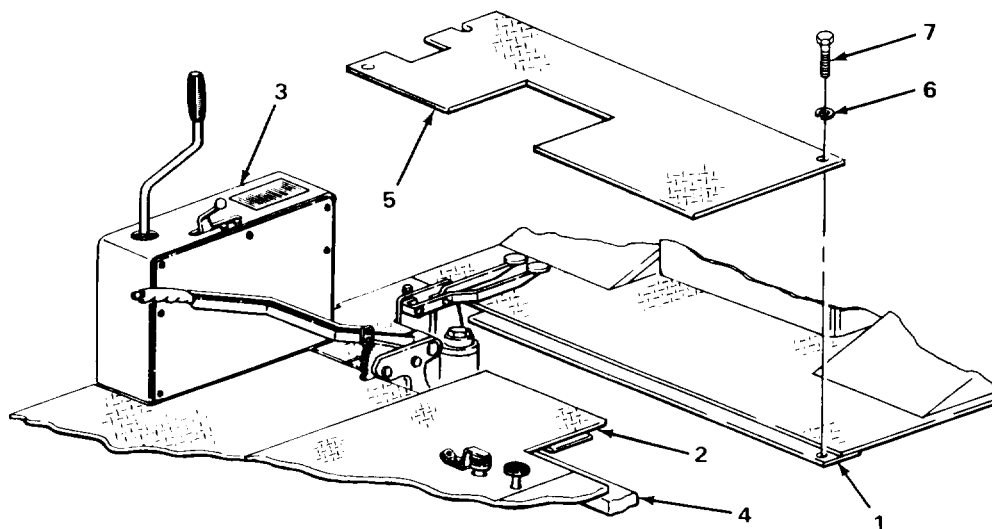
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

5.		Rear platform (5)	Look for cracks, breaks, and abnormal bends.
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REAR PLATFORM (SERIAL NUMBERS 235786 THRU 235999 ONLY) - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
6.	All attaching hardware	Look for damaged threads.	
INSTALLATION			
7.	Main frame (1), center platform (2), loader control box (3), and rear cross member (4)	Rear platform (5)	Place in position.
8.	Rear platform (5) and main frame (1)	Two washers (6) and screws (7)	Screw in and tighten using 9/16-inch, 3/8-inch socket and ratchet handle.



TASK ENDS HERE

SEAT

This task covers:

- | | |
|---|-------------------------------|
| a. Removal (page 2-1121) | e. Repair (page 2-1136) |
| b. Disassembly (page 2-1122) | f. Assembly (page 2-1136) |
| c. Cleaning (page 2-1134) | g. Installation (page 2-1148) |
| d. Inspection/Replacement (page 2-1135) | |
-

INITIAL SETUP**Tools**

Caps, vise jaw
 Hammer, ball-peen, 1-pound head
 Handle, ratchet, 1/2-inch drive
 Handle, ratchet, 3/8-inch drive
 Lifter, valve spring, C-frame style
 Pliers, long roundnose
 Pliers, slip-joint
 Pliers, slip-joint, multiple tongue
 and groove
 Press, arbor
 Punch, drive-pin, straight, 3/8-inch
 Punch, drive-pin, straight, 3/16-inch
 Remover and installer, 7/8-inch
 outside diameter
 Screwdriver, flat-tip, 7/32-inch
 Socket, 1/2-inch drive, 3/4-inch
 Socket, 3/8-inch drive, 9/16-inch
 Threading set, screw
 Vise, machinist's
 Wrench, open-end, 1/2-inch
 Wrench, open-end, 9/16-inch
 Wrench, open-end, 11/16-inch
 Wrench, open-end, 3/4-inch

NOTE

The following tool only applies to loader backhoes with Serial Numbers 235786 thru 235999.

Wrench, open-end, 1/2-inch

Materials/Parts

Detergent, GP (item 7, Appendix C)
 Lockwasher, seat belt bracket screw nut
 (two required)
 Lockwasher, seat base screw
 (four required)
 Lockwasher, seat adjuster screw
 (eight required)
 Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning (item 28, Appendix C)

NOTE

The following parts only apply to loader backhoes with Serial Numbers 235786 thru 235999.

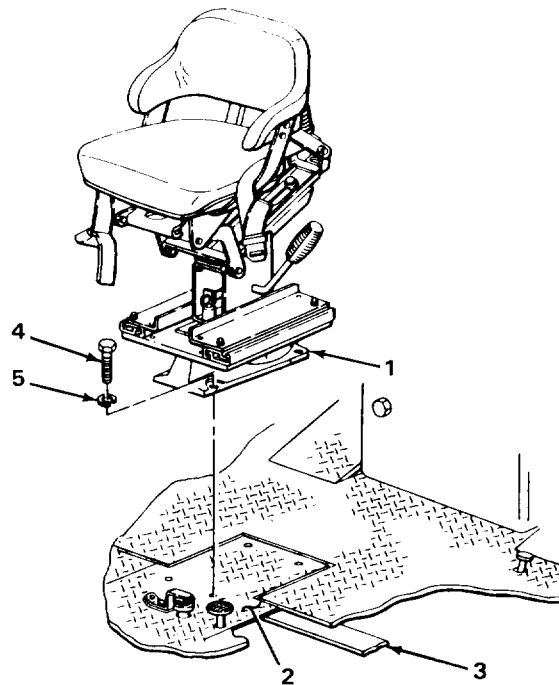
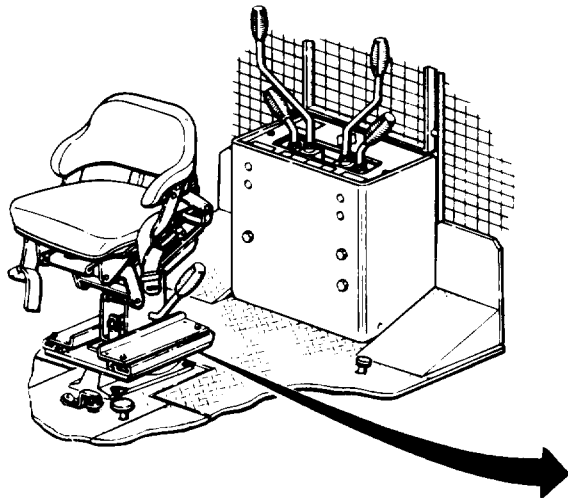
Lockwasher, adapter adjuster screw
(four required)

Personnel Required

Three

SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1. Seat base (1), center platform (2), and rear cross member (3)	Four screws (4) and lockwashers (5)	a. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out. b. Get rid of lockwashers (5).	
2. Center platform (2)	Seat base (1) with assembled parts	With help of two assistants, take off.	



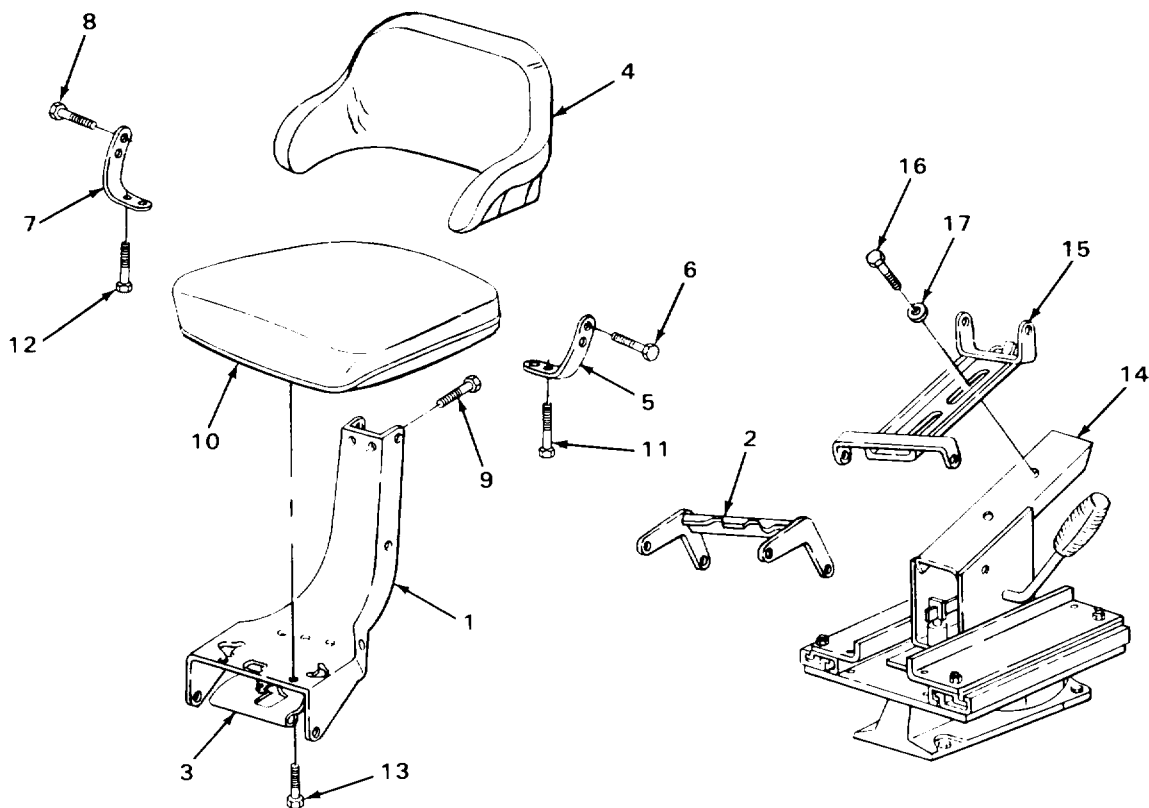
TA243269

SEAT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY		
3. Seat frame (1) and link (2)	Latch (3)	While pushing down on seat, release. This action helps to release tension in shock absorber spring. Make sure latch does not return to its original position when removing pressure from seat.
4. Back seat cushion (4) and left hand support (5)	Two screws (6)	Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out.
5. Back seat cushion (4) and right hand support (7)	Two screws (8)	Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out.
6. Back seat cushion (4) and seat frame (1)	Two screws (9)	Using 9/16-inch open-end wrench, unscrew and take out.
7. Seat frame (1), left hand support (5), and right hand support (7)	Back seat cushion (4)	Take off.
8. Left hand support (5) and seat cushion (10)	Two screws (11)	Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out.
9. Seat cushion (10)	Left hand support (5)	Take off.
10. Right hand support (7) and seat cushion (10)	Two screws (12)	Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out.
11. Seat cushion (10) support (7)	Right hand	Take off.
12. Seat cushion (10) and seat frame (1)	Three screws (13)	Using 9/16-inch open-end wrench, unscrew and take out.
13. Seat frame (1)	Seat cushion (10)	Take off.

SEAT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
14. Lower seat support (14) and adjustable support (15)	Two screws (16) and washers (17)	Using 3/4-inch, 1/2-inch drive socket and ratchet handle, unscrew and take out.
15. Lower seat support (14)	Adjustable support (15) with assembled Parts	a. Note position for proper placement during assembly. b. Take off.



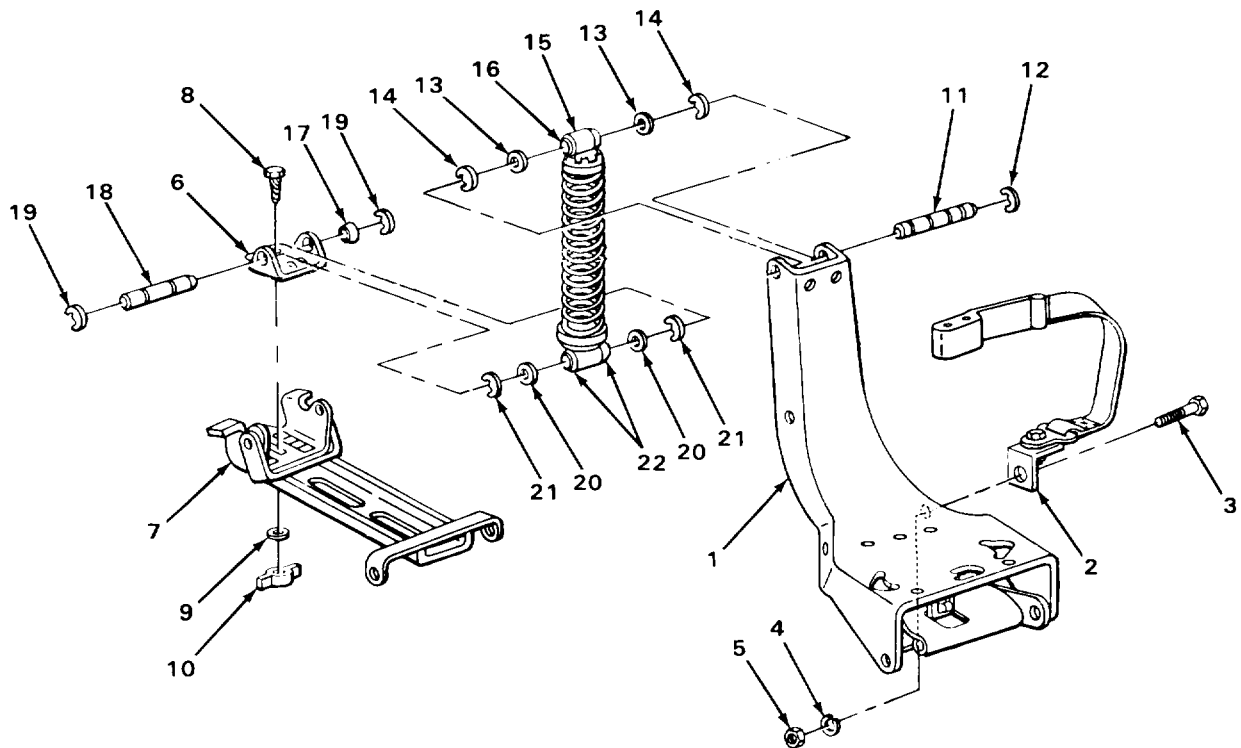
TA243270

SEAT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
DISASSEMBLY - CONTINUED		
16. Seat frame (1) and two seat belt brackets (2) apart.	Two screws (3), two lockwashers (4), and two nuts (5)	a. Using 3/4-inch, 1/2-inch drive socket and ratchet handle, and 3/4-inch open-end wrench, unscrew and take b. Get rid of lockwashers (4).
17. Seat frame (1)	Two seat belt brackets (2) with attached seat belts	Take off.
18. Shock absorber support (6) and link (7)	Two bolts (8), washers (9), and wing nuts (10)	Using slip-joint pliers, unscrew and take apart One bolt will stay with shock absorber support.
19. Seat frame (1) and shock absorber shaft (11)	Two rings (12)	Using 7/32-inch flat-tip screwdriver, take off.
20. Shock absorber shaft (11) and two washers (13)	Two rings (14)	Using 7/32-inch flat-tip screwdriver, take off.
21. Seat frame (1), shock absorber (15), two washers (13), and two shock absorber bushings (16)	Shock absorber shaft (11)	Using 3/8-inch straight drive-pin punch, and 1-pound head ball-peen hammer, drive out.
22. Two shock absorber bushings (16)	Two washers (13)	Take off.
23. Seat frame (1) and link (7)	Shock absorber support (6) with assembled parts	a. Take out. b. Place in machinist's vise with vise jaw caps.
24. Shock absorber support (6), bushing (17), and shaft (18)	Two rings (19)	Using 7/32-inch flat-tip screwdriver, take off.

SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
25. Shaft (18) and two washers (20)	Two rings (21)	Using 7/32-inch flat-tip screwdriver, take off.	
26. Shock absorber support (6) shock absorber (15), bushing (17), two washers (20), and two shock absorber bushings (22)	Shaft (18)	While assistant holds shock absorber steady, using 3/8-inch straight drive-pin punch and 1-pound head ball-peen hammer, drive out.	



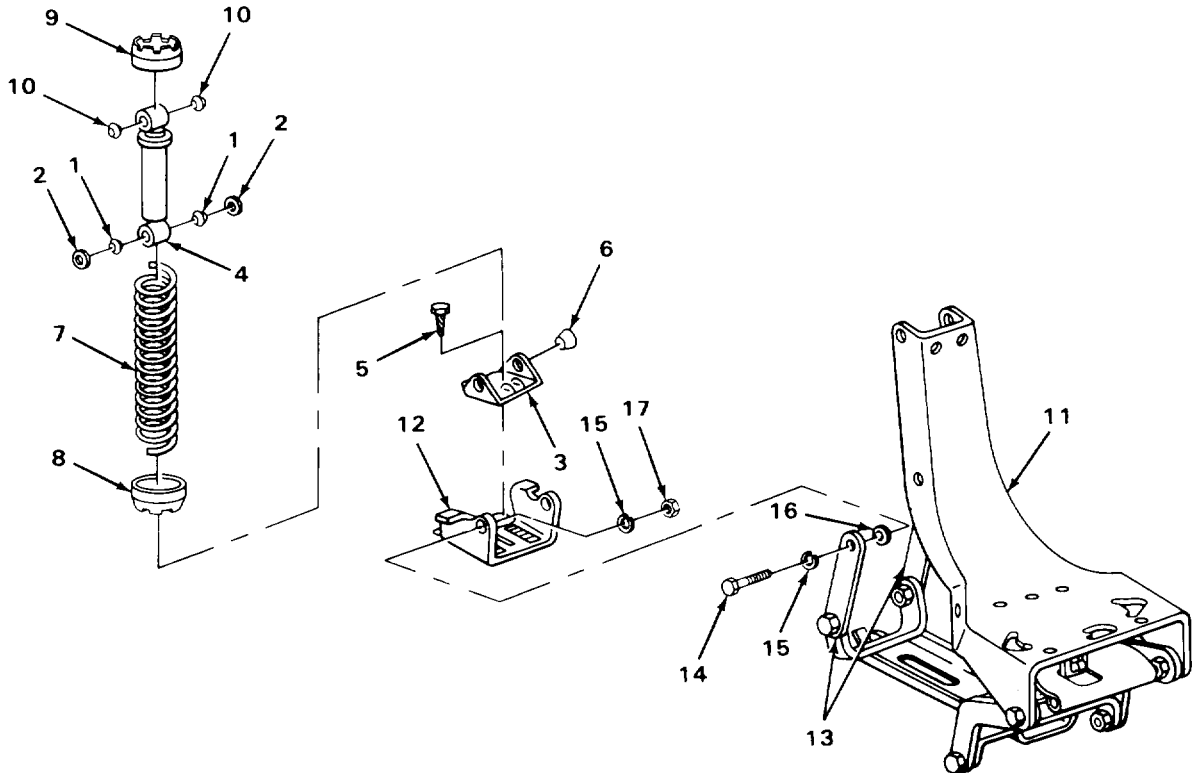
TA243271

SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
DISASSEMBLY - CONTINUED			
27.	Two shock absorber bushings (1)	Two washers (2)	Take off.
28.	Shock absorber support (3)	Shock absorber (4) with assembled parts	Take out.
29.		Bolt (5)	a. Take out. b. Take support (3) out of machinist's vise with vise jaw caps.
30.		Bushing (6)	Take out.
<u>WARNING</u>			
Shock absorber is under strong spring tension. Release tension slowly to avoid injury.			
31.	Shock absorber (4) and spring (7)	Lower cap (8)	a. Place shock absorber (4) with assembled parts in arbor press and compress spring (7). b. Using multiple tongue and groove slip-joint pliers, turn shock absorber (4) clockwise one-quarter turn. c. Take shock absorber (4) with assembled parts out of arbor press. d. Take off.
32.	Shock absorber (4)	Spring (7) and upper cap (9)	Take off.
33.		Two shock absorber bushings (1)	Take out.
34.		Two shock absorber bushings (10)	Take out.
35.	Seat frame (11), shock absorber link (12), and two upper links (13)	Two screws (14), four washers (15), two washers (16), and two nuts (17)	Using 9/16-inch, 3/8-inch drive socket and ratchet handle, and 9/16-inch open-end wrench, unscrew and take apart.

SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
36. Seat frame (11)	Shock absorber link (12) with assembled parts	Take off.	



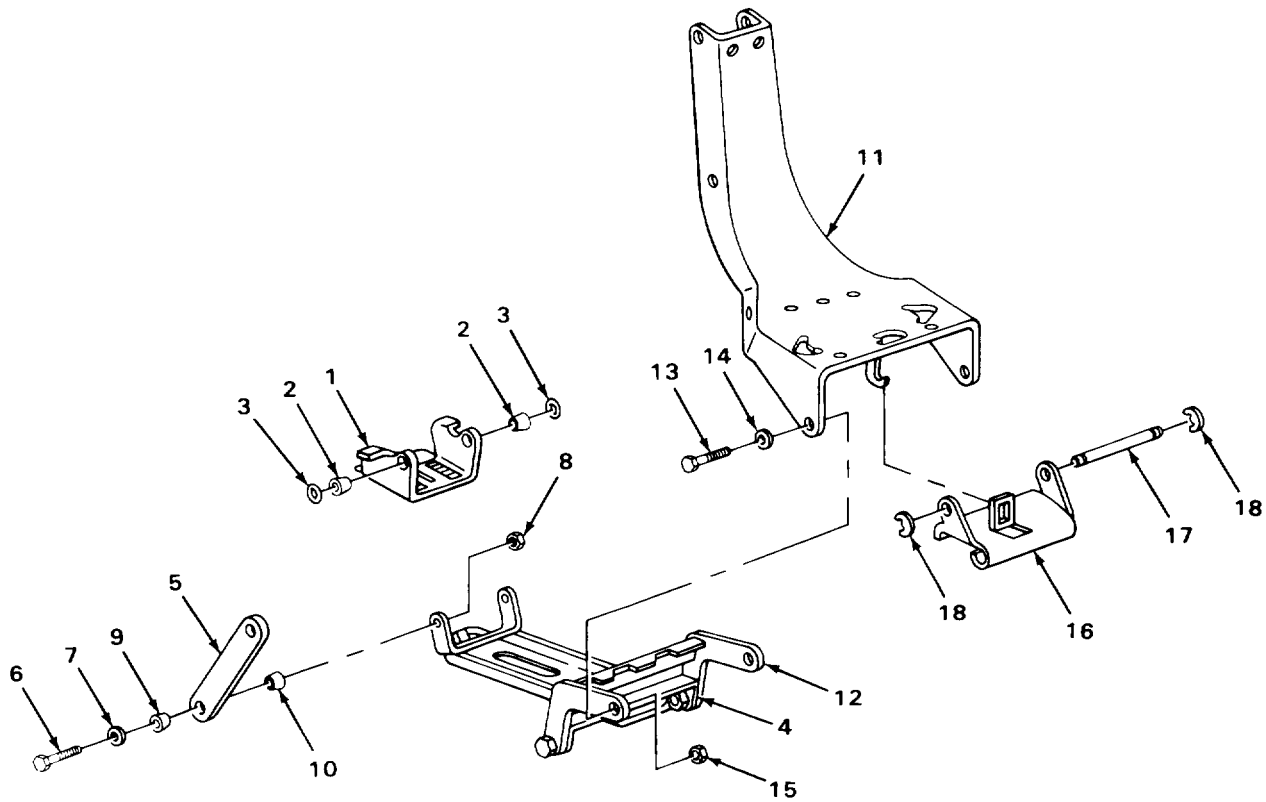
TA243272

SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
DISASSEMBLY - CONTINUED			
37. Shock absorber link (1) and two outer bushings (2)	Two inner bushings (3)	Take out.	
<u>CAUTION</u>			
Do not remove outer bushings unless inspection shows need for replacement. Removal may damage parts.			
38. Shock absorber link (1)	Two outer bushings (2)	Using arbor press and 7/8-inch outside diameter remover and installer, press out.	
39. Adjustable support (4) and two upper links (5)	Two screws (6), washers (7), and nuts (8)	Using 9/16-inch, 3/8-inch drive socket and ratchet handle, and 9/16-inch open-end wrench, unscrew and take apart.	
40. Adjustable support (4)	Two upper links (5) with assembled parts	Take off.	
41. Two upper links (5) and four outer bushings (9)	Four inner bushings (10)	Take out.	
<u>CAUTION</u>			
Do not remove outer bushing unless inspection shows need for replacement. Removal may damage parts.			
42. Two upper links (5)	Four outer bushings (9)	Using arbor press and 7/8-inch outside diameter remover and installer, press out.	
43. Seat frame (11) and link (12)	Two screws (13), washers (14), and nuts (15)	Using 9/16-inch, 3/8-inch drive socket and ratchet handle, and 9/16-inch open-end wrench, unscrew and take apart.	
44. Link (12)	Seat frame (11) with assembled parts	Take off.	

SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
45. Latch (16) and pin (17)	Two rings (18)	Using 7/32-inch flat-tip screwdriver, take off.	
46. Seat frame (11) and latch (16)	Pin (17)	Take out.	
47. Seat frame (11)	Latch (16)	Take off.	



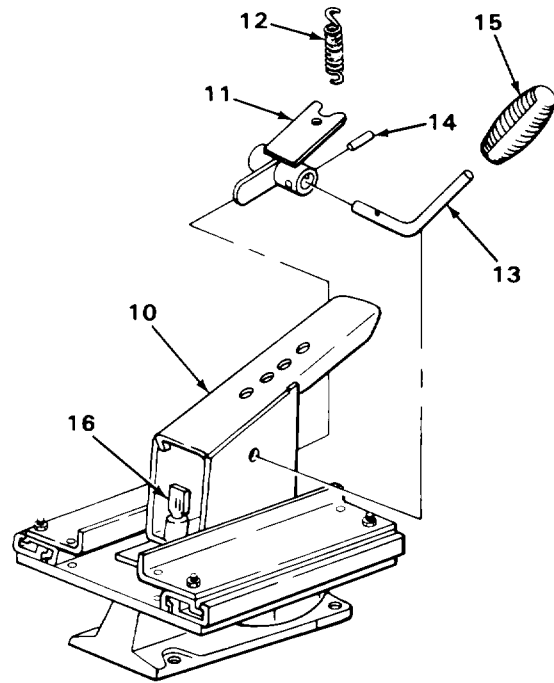
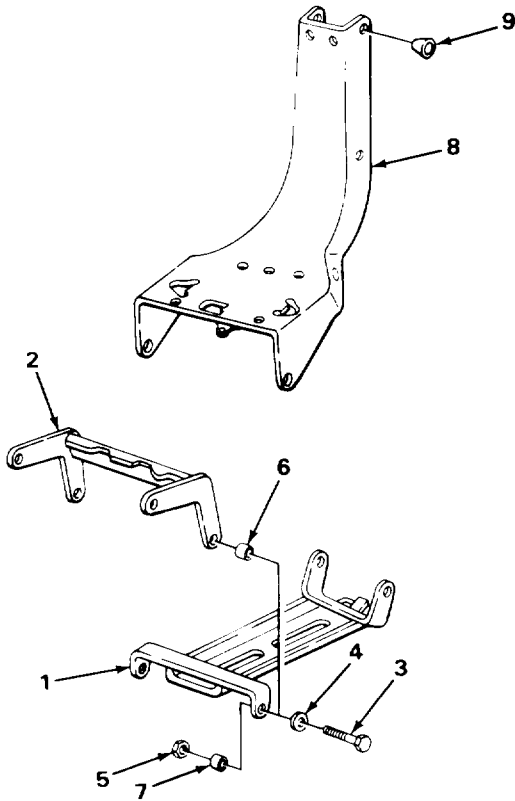
TA243273

SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
DISASSEMBLY			
48.	Adjustable support (1) and link (2)	Two screws (3), washers (4), and nuts (5)	Using 9/16-inch, 3/8-inch drive socket and ratchet handle, and 9/16-inch open-end wrench, unscrew and take apart.
49.	Adjustable support (1)	Link (2) with assembled parts	Take off.
50.	Link (2) and four outer bushings (6)	Four inner bushings (7)	Take out.
<u>CAUTION</u>			
Do not remove outer bushings unless inspection shows need for replacement. Removal may damage parts.			
51.	Link (2) Four inner bushings (6)	Using arbor press and 7/8-inch outside diameter remover and installer, press out.	
52.	Seat frame (8)	Bushing (9)	Take out.
53.	Lower seat support (10) and pivot control lever (11)	Spring (12)	Using 7/32-inch flat-tip screwdriver, take off.
54.	Pivot control lever (11) and seat control handle (13)	Spring pin (14)	Using 3/16-inch straight drive-pin punch and 1-pound head ball-peen hammer, drive out.
55.	Lower seat support (10), and pivot control lever (11)	Seat control handle (13) with assembled grip (15)	Using 3/8-inch straight drive-pin punch and 1-pound head ball-peen hammer, drive out.
56.	Lower seat support (10) and pin (16)	Pivot control lever (11)	Take out.
57.	Seat control handle (13)	Grip (15)	Twist off.

SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
58. Lower seat support (10) and pivot plate (17)	Pin (16)	Take out.	



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TA243274

SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
DISASSEMBLY - CONTINUED			
59.	Lower seat support (1) and two seat adjusters (4)	Four nuts (5), lockwashers (6), and screws (7)	a. Using 1/2-inch open-end wrench, unscrew and take apart. Slide seat adjusters forward and backward to access screws. b. Get rid of lockwashers (6).
60.	Two seat adjusters (4)	Lower seat support (1)	Take off.

NOTE

Steps 61 thru 64 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

61.	Two seat adjusters (4) and two adjuster adapters (8)	Four flat machine screws (9), lockwashers (10), and nuts (11)	a. Using 7/32-inch flat-tip screwdriver and 11/16-inch open-end wrench, unscrew and take apart. Slide seat adjusters forward and backward to access screws. b. Get rid of lockwashers (10).
62.	Two adjuster adapters (8))	Two seat adjusters (4)	Take off.
63.	Pivot plate (2) and two adjuster adapters (8)	Four screws (12), lockwashers (13), and nuts (14)	a. Using two 1/2-inch open-end wrenches, unscrew and take apart. b. Get rid of lockwashers (13).
64.	Pivot plate (2)	Two adjuster adapters (8)	Take off.

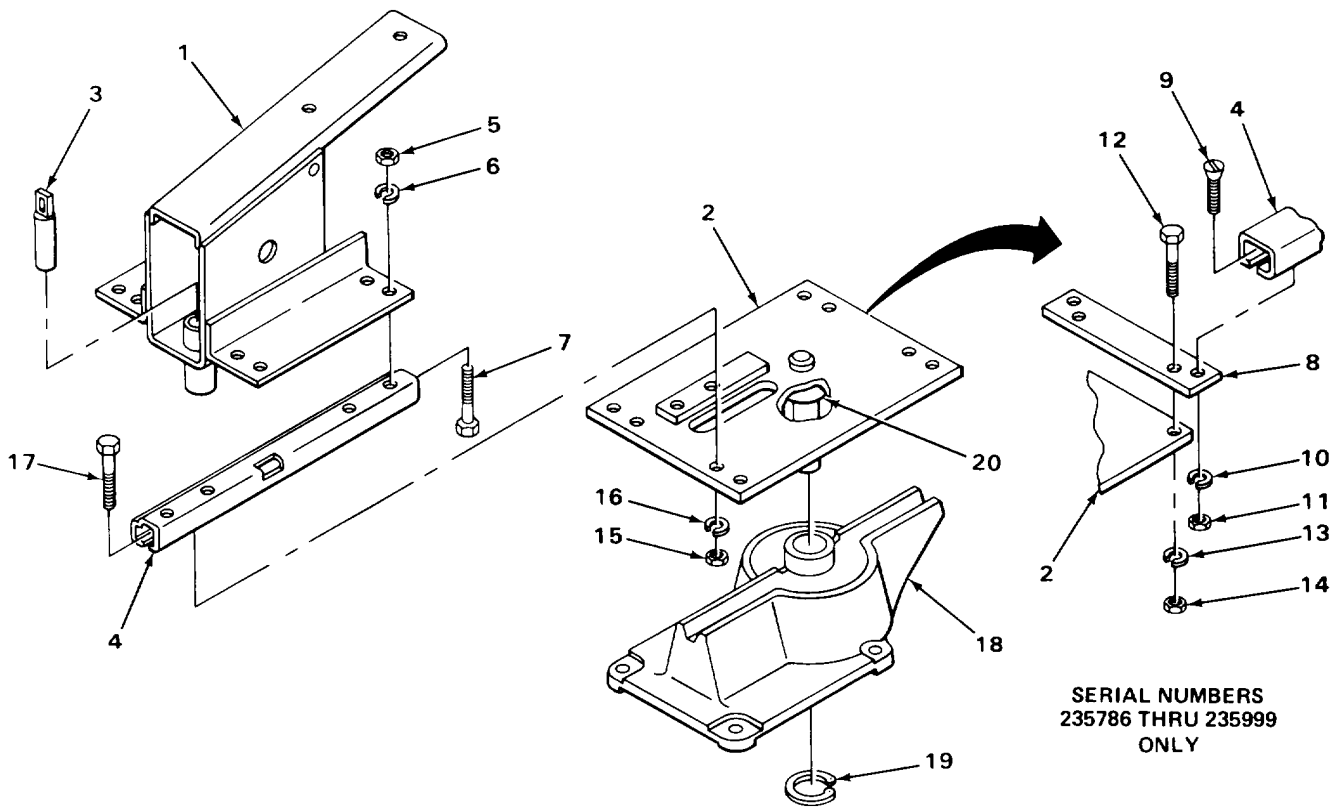
NOTE

Steps 65 thru 66 only apply to loader backhoes with Serial Numbers 319995 thru 342573.

65.	Pivot plate (2) and two seat adjusters (4)	Four nuts (15), lockwashers (16), and screws (17)	a. Using 1/2-inch open-end wrench, unscrew and take apart. Slide seat adjusters forward and backward to access screws. b. Get rid of lockwashers (16).
66.	Pivot plate (2)	Two seat adjusters (4)	Take off.

SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
67. Pivot plate (2) and seat base (18)	Ring (19)	Using retaining ring pliers, take off.	
68. Seat base (18)	Pivot plate (2) with attached thrust roller bearing (20)	Take off.	



TA243275

SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
DISASSEMBLY - CONTINUED			
69.	Pivot plate (1)	Thrust roller bearing (2)	Take off.

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

70.	Four shock absorber bushing (3), grip (4), back seat cushion (5), and cushion (6)		<ul style="list-style-type: none"> a. Using clean rags dampened with solution of detergent and water, wipe clean. b. Using clean water, rinse. c. Using clean, dry rags, wipe dry.
71.	Thrust roller bearing (2)		Clean (TM 9-214).

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 138°F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

72.	Seat frame (7), adjustable support (8), seat base (9), pivot plate (1), lower seat support (10), and shock absorber (11)		<ul style="list-style-type: none"> a. Using clean rags dampened with dry-cleaning solvent, wipe clean. b. Using clean, dry rags, wipe dry.
73.	All other metal parts		<ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.

SEAT - CONTINUED

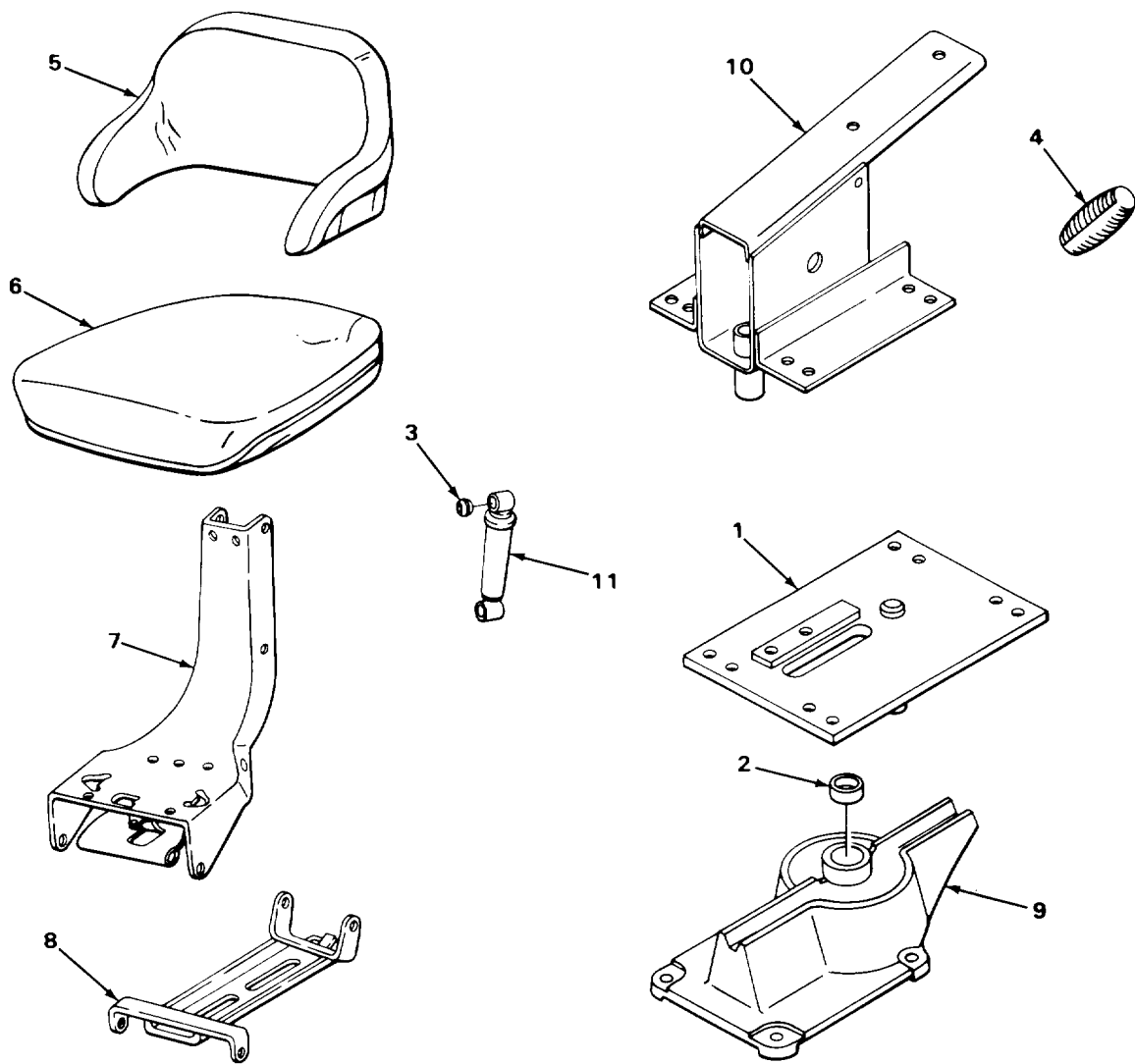
LOCATION	ITEM	ACTION	REMARKS
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INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.



SEAT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSPECTION/REPLACEMENT- CONTINUED		
74.	Four shock absorber bushing (1), grip (2), back seat cushion (3), and cushion (4)	Look for cracks, tears, and crumbling.
75.	Thrust roller bearing (5)	Inspect (TM 9-214).
76.	All other metal parts	Look for cracks, breaks, and abnormal bends.
77.	All threaded parts	Look for damaged threads.
REPAIR		
78.	Lower seat support (6)	If threads are damaged, using screw threading set, restore threads.
79.	Seat frame (7), link (8), lower seat support (6), pivot plate (9), and seat base (10)	If cracked or broken, weld (TM 9-237).
ASSEMBLY		
80. Pivot plate (9)	Trust roller bearing (5)	Place in position.
81. Pivot plate (9) and thrust roller bearing (5)	Seat base (10)	Place in position.
82. Seat base (10) and pivot plate (9)	Ring (11)	Using retaining ring pliers, place in position.

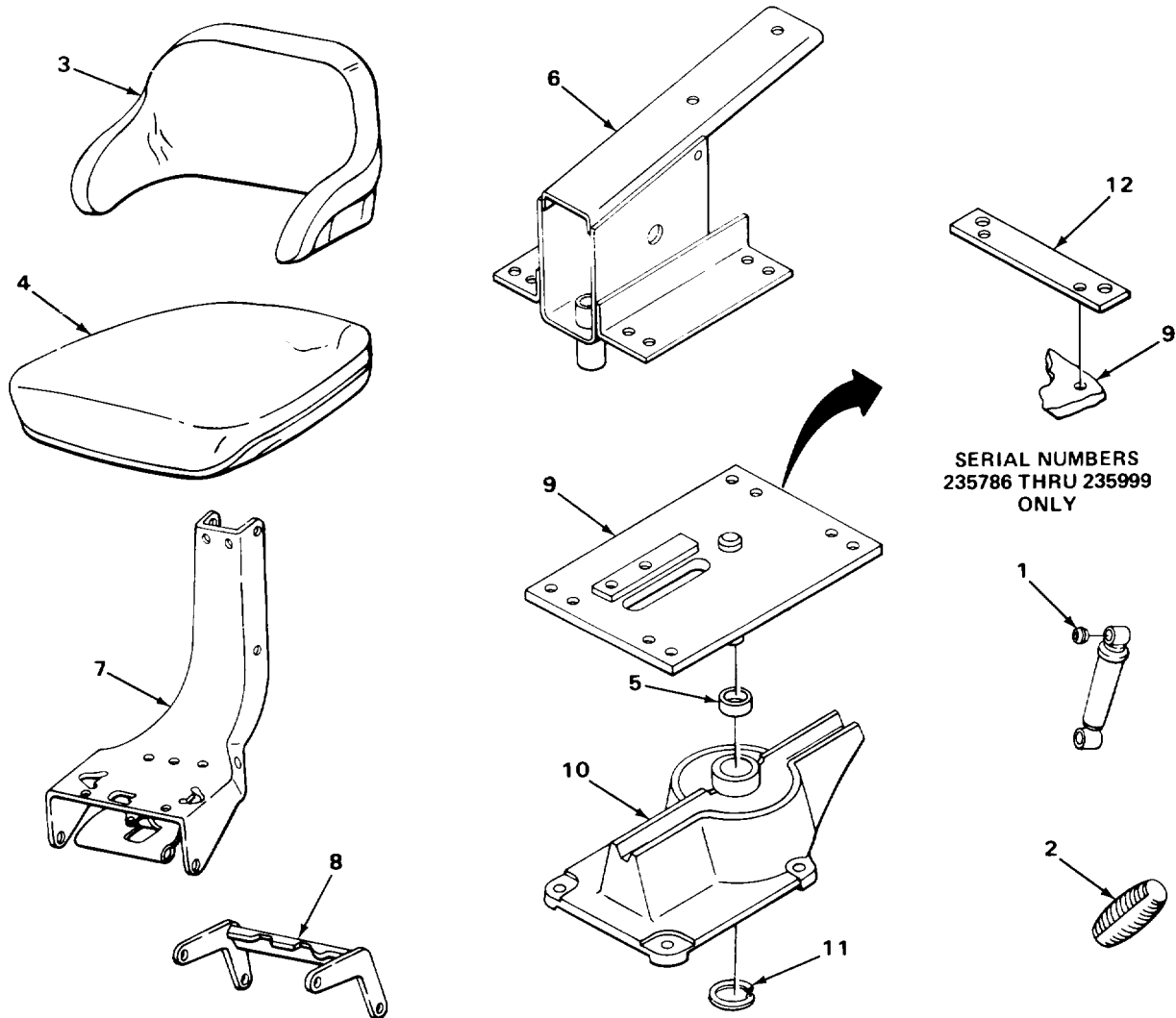
SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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NOTE

Steps 83 thru 86 only apply to loader backhoes with Serial Numbers 235786 thru 235999.

83. Pivot plate (9)	Two adjuster adapters (12)	Place in position.	
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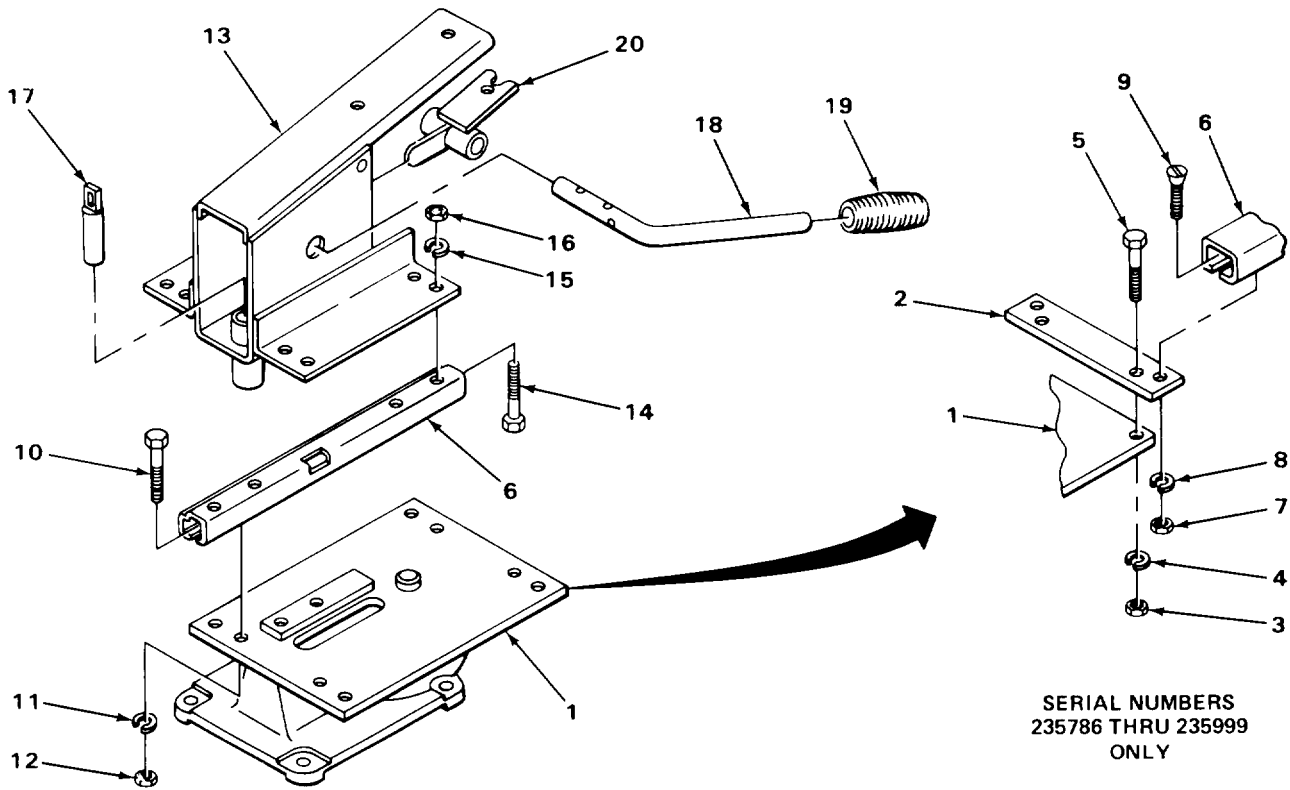
SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
ASSEMBLY - CONTINUED			
84.	Pivot plate (1) and two adjuster adapters (2)	Four nuts (3), new lockwashers (4), and screws (5)	a. Screw together part way. b. Using two 1/2-inch open-end wrenches, tighten.
85.	Two adjuster adapters (2)	Two seat adjusters (6)	Place in position.
86.	Two seat adjusters (6) and two adjuster adapters (2)	Four nuts (7), new lockwashers (8), and flat machine screws (9)	a. Screw together part way. Slide seat adjusters forward and backward to access and aline holes. b. Using 7/32-inch flat-tip screwdriver and 1/2-inch open-end wrench, tighten.
NOTE			
Steps 87 thru 88 only apply to loader backhoes with Serial Numbers 319995 thru 342573.			
87.	Pivot plate (1)	Two seat adjusters (6)	Place in position.
88.	Pivot plate (1) and two seat adjusters (6)	Four screws (10), new lockwashers (11), and nuts (12)	a. Screw together part way. Slide seat adjusters forward and backward to access and aline holes. b. Using 1/2-inch open-end wrench, tighten.
89.	Two seat adjusters (6)	Lower seat support (13)	Place in position.
90.	Lower seat support (13) and two seat adjusters (6)	Four screws (14), new lockwashers (15), and nuts (16)	a. Screw together part way. Slide seat adjusters forward and backward to access and aline holes. b. Using 1/2-inch open-end wrench, tighten.
91.	Lower seat support (13) and pivot plate (1)	Pin (17)	Place in position.
92.	Seat control handle (18)	Grip (19)	Twist on.

SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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93. Lower seat support (13) and pin (17)	Pivot control lever (20)	Place in position.	
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TA243278

SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
94.	Lower seat support (4) and pivot control lever (1)	Seat control handle (2)	With help of assistant, aline openings in parts and place in position. If needed, use 3116-inch straight drive-pin punch to aline spring pin holes.
95.	Pivot control lever (1) and seat control handle (2)	Spring pin (3)	Using 3/16-inch straight drive-pin punch and 1-pound head ball-peen hammer, tap into position.
96.	Lower seat support (4) and pivot control lever (1)	Spring (5)	Using 7/32-inch flat-tip screwdriver, place in position.
97.	Link (6)	Four outer bushings (7)	If removed, using arbor press and 7/8-inch outside diameter remover and installer, press in place.
98.	Link (6) and four outer bushings (7)	Four inner bushings (8)	Place in position.
99.	Adjustable support (9)	Link (6) with assembled parts	Place in position.
100.	Adjustable support (9) and link (6)	Two nuts (10), washers (11), and screws (12)	Screw together and tighten using 9/16-inch, 3/8-inch drive socket and ratchet handle and 9/16-inch open-end wrench.
101.	Seat frame (13)	Latch (14)	Place in position.
102.	Seat frame (13) and and latch (14)	Pin (15)	Place in position.
103.	Latch (14) and pin (15)	Two rings (16) position.	Using long roundnose pliers, place in
104.	Link (6)	Seat frame (13) with assembled parts	Place in position.

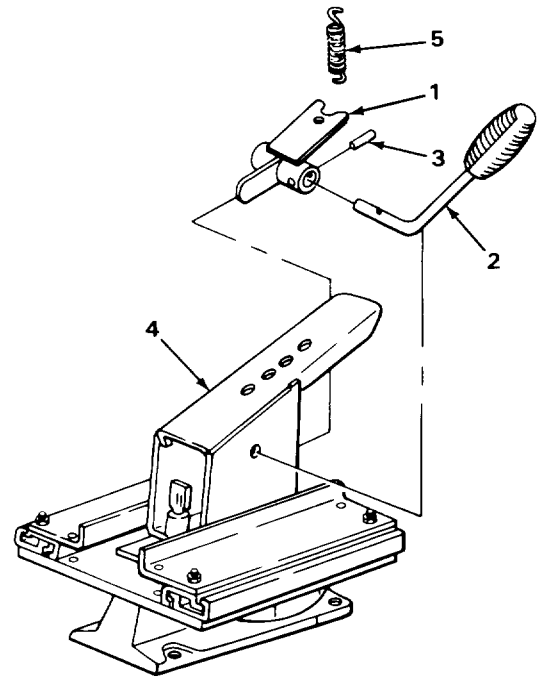
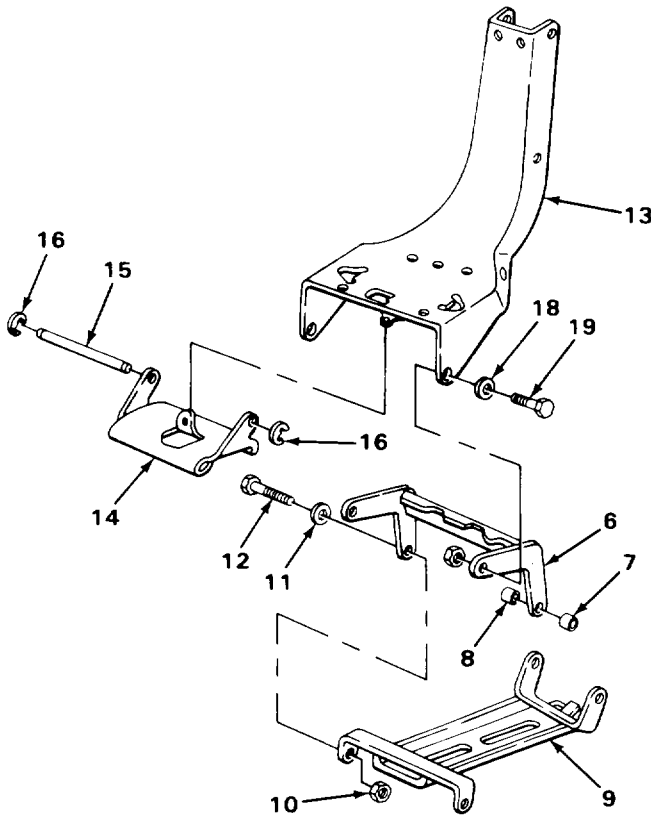
SEAT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
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105. Seat frame (13)
and link (6)

Two nuts (17),
washers (18), and
screws (19)

Screw together and tighten using 9/16-
inch, 3/8-inch drive socket and ratchet
handle, and 9/16-inch open-end wrench.



SEAT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
ASSEMBLY - CONTINUED		
106. Two upper links (1)	Four outer bushings (2)	If removed, using arbor press and 7/8-inch outside diameter remover and installer, press in position.
107. Two upper links (1) and four outer bushings (2)	Four inner bushings (3)	Place in position.
108. Adjustable support (4)	Two upper links (1) with assembled parts	Place in position.
109. Adjustable support (4) and two upper links (1)	Two nuts (5), washers (6), and screws (7)	Screw together and tighten using 9/16-inch, 3/8-inch drive socket and ratchet handle, and 9/16-inch open-end wrench.
110. Shock absorber link (8)	Two outer bushings (9)	If removed, using arbor press and 7/8-inch outside diameter remover and installer, press in position.
111. Shock absorber link (8) and two outer bushings (9)	Two inner bushings (10)	Place in position.
112. Seat frame (11)	Shock absorber link (8) with assembled parts	Place in position.
113. Seat frame (11), shock absorber link (8), and two upper links (1)	Two nuts (12), two washers (13), four washers (14), and two screws (15)	Screw together and tighten using 9/16-inch, 3/8-inch drive socket and ratchet handle, and 9/16-inch open-end wrench.
114. Shock absorber (16)	Four shock absorber bushings (17 and 18)	Place in position.
115.	Upper cap (19) and spring (20)	Place in position.

SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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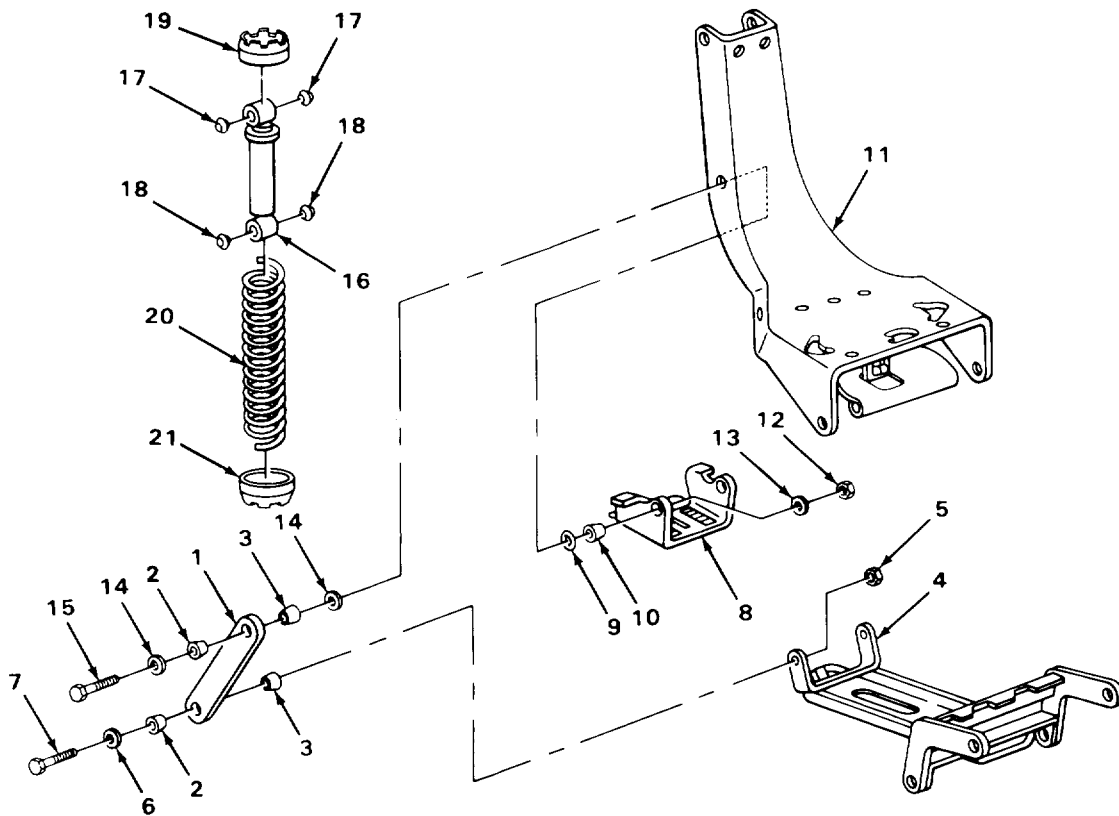
WARNING

Shock absorber is under strong spring tension. Release tension slowly to avoid injury.

116. Shock absorber (16)
and spring (20)

Lower cap (21)

- a. Place in position against spring (20).
- b. Place shock absorber (16) with assembled parts in arbor press and compress spring (20).
- c. With help of assistant, using multiple tongue and groove slip-joint pliers, turn cap (21) one-quarter turn counter-clockwise.



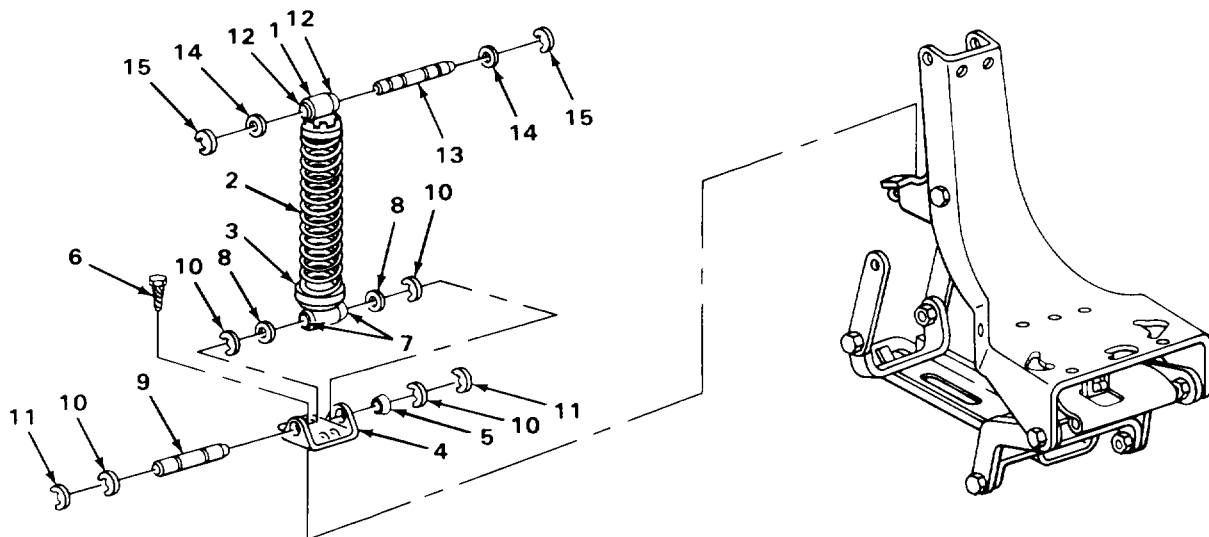
TA243280

SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
ASSEMBLY - CONTINUED			
<u>WARNING</u>			
Shock absorber is under strong spring tension. Release tension slowly to avoid injury.			
116. Shock absorber (1) and spring (2) - Continued	Lower cap (3)	d. Release pressure on spring (2) so that it seats in cap (3). e. Take shock absorber (1) with assembled parts out of arbor press.	
117. Shock absorber support (4)	Bushing (5)	Place in position.	
118.	Bolt (6)	Place in position in forward hole of support (4).	
119.	Shock absorber (1) with assembled parts	Place in position.	
120. Two shock absorber bushings (7)	Two washers (8)	Place in position.	
121. Shock absorber support (4), shock absorber (1), bushing (5), two washers (8), and two shock absorber bushings (7)	Shaft (9)	Place in position.	Make sure bolt gets trapped in position in shock absorber support.
122. Shaft (9) and two washers (8)	Two rings (10)	a. Using C-frame style valve spring lifter, compress bushings (7). b. Using long roundnose pliers, place rings (10) in position on shaft (9). c. Release pressure on bushings (7) and take off C-frame style valve spring lifter.	
123. Shock absorber support (4), bushing (5), and shaft (9)	Two rings (11) position.	Using long roundnose pliers, place in	

SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
124. Shock absorber (1) and two shock absorber bushings (12)	Shock absorber shaft (13)	Place in position.	
125. Shock absorber shaft (13) and two shock absorber bushings (12)	Two washers (14)	Place in position.	
126. Shock absorber shaft (13) and two washers (14)	Two rings (15)	<ol style="list-style-type: none"> a. Using C-frame style valve spring lifter, compress bushings (12). b. Using long roundnose pliers, place rings (15) on shaft (13). c. Release pressure on bushings (12) and take off C-frame style valve spring lifter. 	



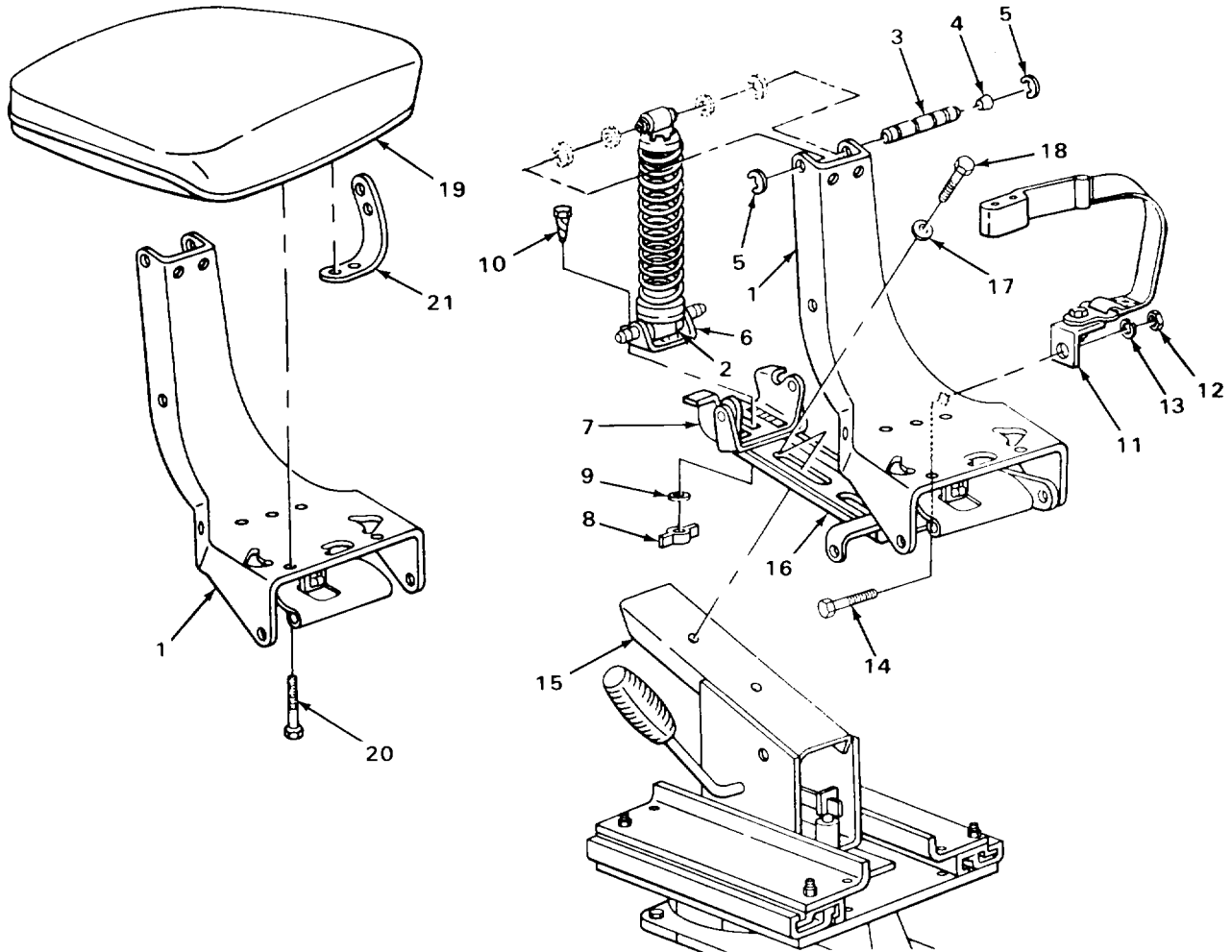
SEAT - CONTINUED

LOCATION	ITEM	ACTION REMARKS
ASSEMBLY - CONTINUED		
127. Seat frame (1)	Shock absorber (2) with assembled parts	Place in position. Make sure bolt in shock absorber support goes through slot in link.
128. Seat frame (1) and shock absorber shaft (3)	Bushing (4)	Place in position.
129.	Two rings (5)	Using long roundnose pliers, place in position.
130. Link (6)	Shock absorber support (7) with assembled parts	Place in position.
131. Shock absorber support (7) and link (6)	Two wing nuts (8), washers (9), and bolt (10)	Screw together and tighten using slip-joint pliers.
132. Seat frame (1)	Two seat belt brackets (11) with attached seat belts	Place in position.
133. Seat frame (1) and two seat belt brackets (11)	Two nuts (12), two new lockwashers (13), and two screws (14)	Screw together and tighten using 3/4-inch, 1/2-inch drive socket and ratchet handle, and 3/4-inch open-end wrench. Make sure washers are located properly.
134. Lower seat support (15)	Adjustable support (16) with assembled parts	Place in position noted during disassembly.
135. Lower seat support (15) and adjustable support (16)	Two washers (17) and screws (18)	Screw in and tighten using 3/4-inch, 1/2-inch drive socket and ratchet handle.
136. Seat frame (1)	Seat cushion (19)	Place in position.
137. Seat cushion (19) and seat frame (1)	Three screws (20)	a. Screw in part way. b. Using 9/16-inch open-end wrench, tighten.

SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

138. Seat cushion (19)	Right hand support (21)	Place in position.	
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SEAT - CONTINUED

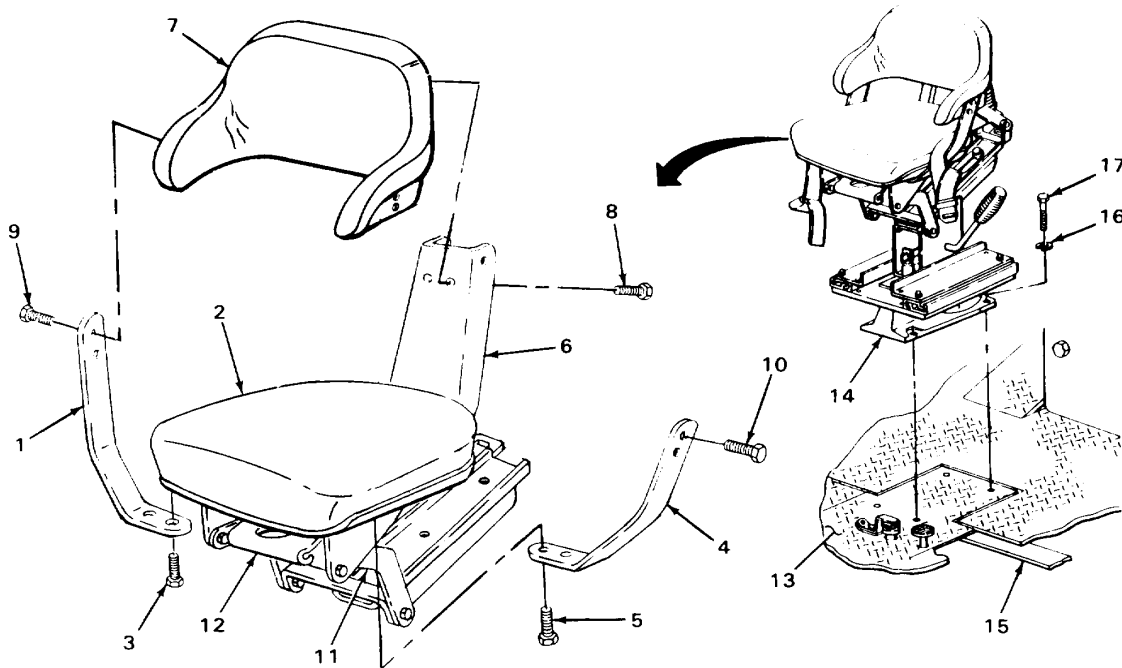
LOCATION	ITEM	ACTION REMARKS
ASSEMBLY - CONTINUED		
139. Right hand support (1) and seat cushion (2)	Two screws (3)	a. Screw in part way. b. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, tighten.
140. Seat cushion (2)	Left hand support (4)	Place in position.
141. Left hand support (4) and seat cushion (2)	Two screws (5)	a. Screw in part way. b. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, tighten.
142. Seat frame (6), right hand support (1) and left hand support (4)	Back seat cushion (7)	Place in position.
143. Back seat cushion (7) and seat frame (6) tighten.	Two screws (8)	a. Screw in part way. b. Using 9/16-inch open-end wrench,
144. Back seat cushion (7) and right hand support (1)	Two screws (9)	a. Screw in part way. b. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, tighten.
145. Back seat cushion (7) and left hand support (4)	Two screws (10)	a. Screw in part way. b. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, tighten.
146. Seat frame (6) and link (11)	Latch (12) (12) to seat frame (6).	While pushing down on seat, connect latch
147. Center platform (13)	Seat base (14) with assembled parts	With help of two assistants, place in position.

SEAT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

INSTALLATION

- | | | |
|--|--|--|
| <p>148. Seat base (14), center platform (13), and rear cross member (15)</p> | <p>Four new lockwashers (16) and screws (17)</p> | <p>a. With help of assistant, aline openings in parts.
 b. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, tighten.</p> |
|--|--|--|



TASK ENDS HERE

SEAT BELT

This task covers:

- | | |
|---|---|
| <ul style="list-style-type: none"> a. Removal (page 2-1150) b. Disassembly (page 2-1150) c. Cleaning (page 2-1150) | <ul style="list-style-type: none"> d. Inspection/Replacement (page 2-1152) e. Assembly (page 2-1152) f. Installation (page 2-1152) |
|---|---|

INITIAL SETUP:

Tools

- Handle, ratchet, 1/2-inch drive
- Socket, 1/2-inch drive, 3/4-inch
- Socket, 1/2-inch drive, 7/8-inch
- Wrench, open-end, 11/16-inch
- Wrench, open-end, 3/4-inch

Materials/Parts

- Detergent, GP (item 7, Appendix C)
- Lockwasher, seat belt bracket screw and nut (four required)

Materials/Parts - Continued

- Lockwasher, seat belt screw (two required)
- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)

Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

- | | | |
|--|--|--|
| <ul style="list-style-type: none"> 1. Seat frame (1) and two seat belt brackets (2) | <ul style="list-style-type: none"> Two screws (3), lockwashers (4), and nuts (5) | <ul style="list-style-type: none"> a. Using 3/4-inch, 1/2-inch drive socket and ratchet handle, and 3/4-inch open-end wrench, unscrew and take apart. b. Get rid of lockwashers (4). |
| <ul style="list-style-type: none"> 2. Seat frame (1) | <ul style="list-style-type: none"> Two seat belt brackets (2) with attached seat belt (6) | <ul style="list-style-type: none"> Take off. |

DISASSEMBLY

- | | | |
|---|--|--|
| <ul style="list-style-type: none"> 3. Seat belt (6) and two seat belt brackets (2) | <ul style="list-style-type: none"> Two screws (7), four washers (8), two lockwashers (9), and two nuts (10) | <ul style="list-style-type: none"> a. Using 7/8-inch, 1/2-inch drive socket and ratchet handle, and 11/16-inch open-end wrench, unscrew and take apart. b. Get rid of lockwashers (9). |
| <ul style="list-style-type: none"> 4. Seat belt (6) | <ul style="list-style-type: none"> Two seat belt brackets (2) | <ul style="list-style-type: none"> Take off. |

LOCATION	ITEM	ACTION	REMARKS
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CLEANING

NOTE

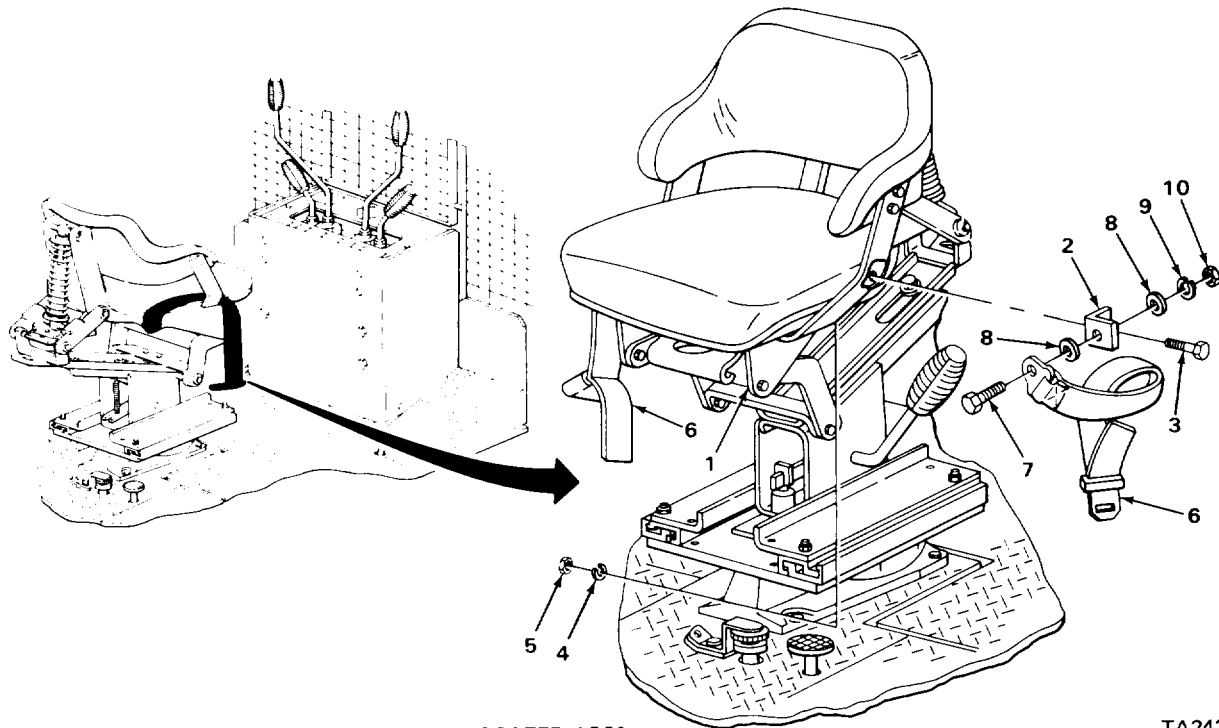
For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

- | | | |
|----|---------------|--|
| 5. | Seat belt (6) | <ul style="list-style-type: none"> a. Using clean rags dampened with solution of detergent and water, wipe clean. b. Using clean rags dampened with clean water, rinse. c. Using clean, dry rags, wipe dry. |
|----|---------------|--|

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 100°F to 1380F (380 to 59°C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|------------------------|---|
| 6. | All attaching hardware | <ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry. |
|----|------------------------|---|

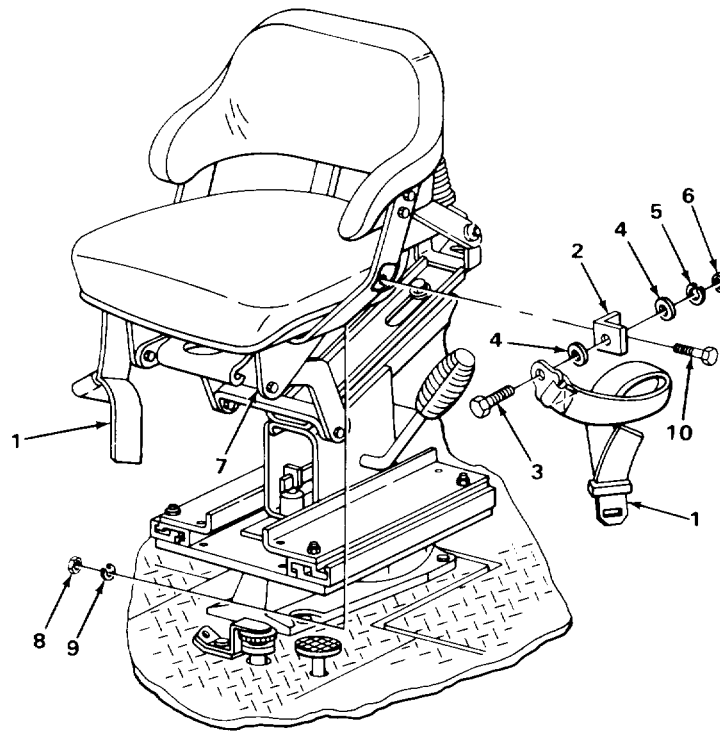


ROTATED 180°

TA243284

SEAT BELT - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
INSPECTION/REPLACEMENT			
NOTE			
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).			
Replace defective parts as needed.			
7.	Seat belt (1)		Look for tears and wear.
8.	All metal parts		Look for cracks, breaks, and abnormal bends.
9.	All attaching hardware		Look for damaged threads.
ASSEMBLY			
10. Seat belt (1)	Two seat belt brackets (2)		Place in position.
11. Seat belt (1) and two seat belt brackets (2)	Two screws (3), four washers (4), two new lockwashers (5), and two nuts (6)		Screw together and tighten using 7/8-inch, 1/2-inch drive socket and ratchet handle, 3/4-inch open-end wrench.
INSTALLATION			
12. Seat frame (7)	Two seat belt brackets (2) with attached seat belt (1)		Place in position.
13. Seat frame (7) and two seat belt brackets (2)	Two nuts (8), new lockwashers (9), and screws (10)		Screw together and tighten using 3/8-inch, 1/2-inch drive socket and ratchet handle, and 3/4-inch open-end wrench.



TASK ENDS HERE

TOOLBOX

This task covers:
Replacement (page 2-1153)

INITIAL SETUP:

Personnel Required

One

Equipment Condition

Toolbox removed, cleaned, and inspected
(TM 5-2420-222-10)

LOCATION	ITEM	ACTION	REMARKS
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REPLACEMENT

NOTE

If toolbox parts are found to be defective, they must be replaced.

FOLLOW-ON MAINTENANCE: Install toolbox (TM 5-2420-222-10).

TASK ENDS HERE

BACKHOE VALVE BOTTOM COVER

This task covers:

- | | |
|---------------------------|---|
| a. Removal (page 2-1154) | c. Inspection/Replacement (page 2-1155) |
| b. Cleaning (page 2-1154) | d. Installation (page 2-1156) |

INITIAL SETUP:

Tools

Handle, ratchet, 3/8-inch drive
Socket, 3/8-inch drive, 7/16-inch

Materials/Parts

Lockwasher, cover screw
(two required)

Materials/Parts - Continued

Rags, wiping (item 21, Appendix C)
Solvent, drycleaning (item 28, Appendix C)

Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

REMOVAL

- | | | | |
|---|--|---|--|
| 1. Backhoe valve box (1) and valve bottom cover (2) | Two screws (3), lockwashers (4), and washers (5) | a. Using 7/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out. | |
| 2. Backhoe valve box (1) | Valve bottom cover (2) | b. Get rid of lockwashers (4).
Take off. | |

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

LOCATION	ITEM	ACTION	REMARKS
3.	All metal parts	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.	

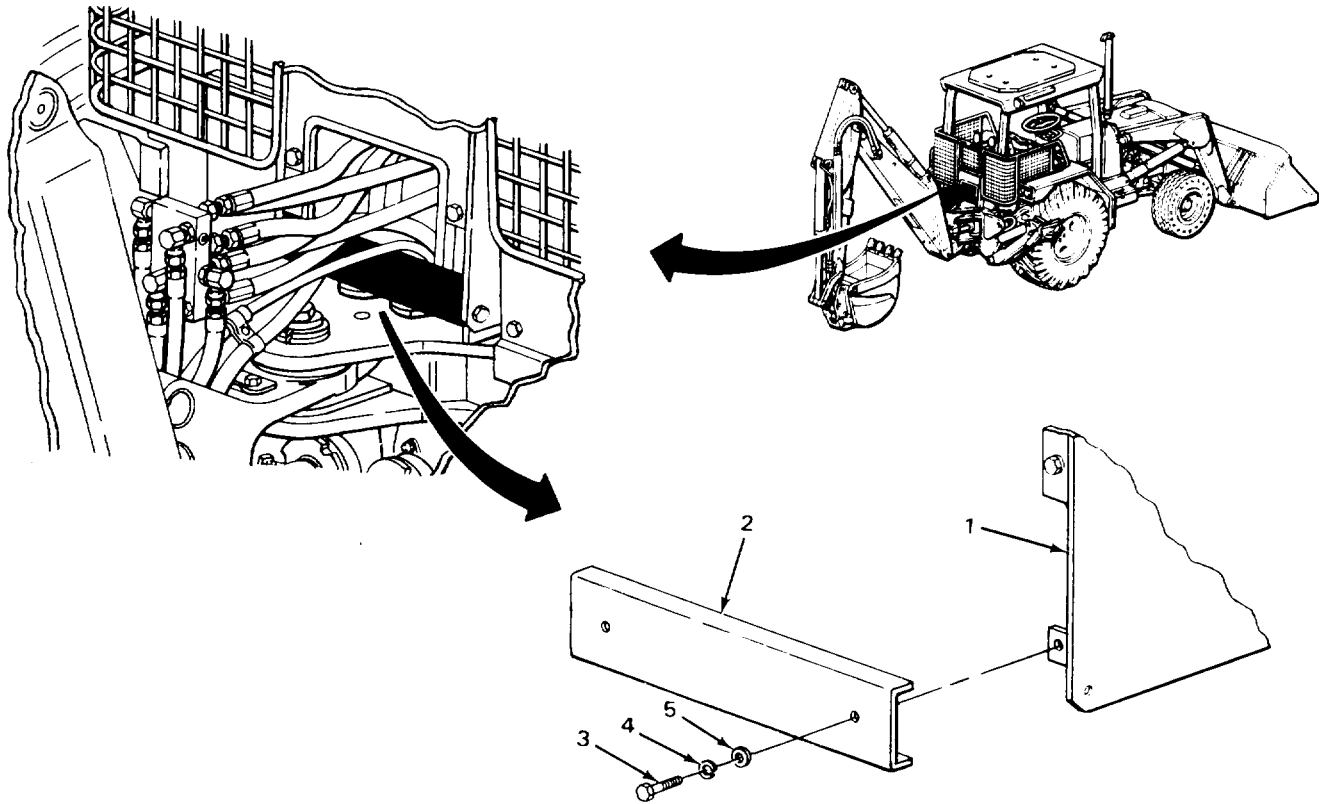
INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to **General Maintenance Instructions (page 2-137)**.

Replace defective parts as needed.

- | | | |
|----|------------------------|--|
| 4. | Cover (2) | Look for cracks, breaks, and abnormal bends. |
| 5. | All attaching hardware | Look for damaged threads. |



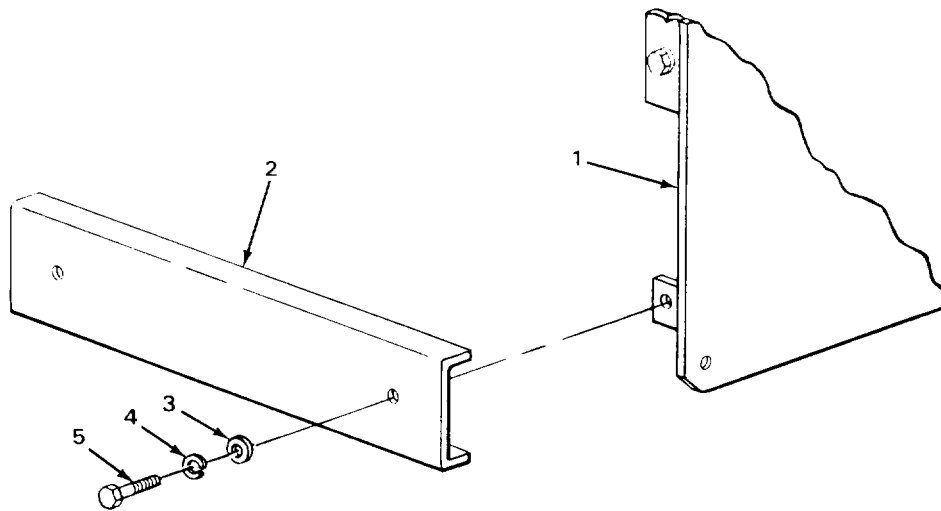
TA243286

BACKHOE VALVE BOTTOM COVER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

INSTALLATION

- | | | | |
|---|--|---|--|
| 6. Backhoe valve box (1) | Cover (2) | Place in position. | |
| 7. Backhoe valve box (1) and cover (2) and screws (5) | Two washers (3), new lockwashers (4), and screws (5) | <ul style="list-style-type: none"> a. Screw in part way. b. Using 7/16-inch, 3/8-inch drive socket and ratchet handle, tighten. | |



TA243287

TASK ENDS HERE

BACKHOE VALVE BOX COVER

This task covers:

- | | |
|---|---|
| <ul style="list-style-type: none"> a. Removal (page 2-1158) b. Disassembly (page 2-1158) c. Cleaning (page 2-1158) | <ul style="list-style-type: none"> d. Inspection/Replacement (page 2-1160) e. Assembly (page 2-1160) f. Installation (page 2-1161) |
|---|---|

INITIAL SETUP:

Tools

- Handle, ratchet, 3/8-inch drive
- Socket, 3/8-inch drive, 7/16-inch
- Wrench, open-end, 3/4-inch
- Wrench, open-end, 15/16-inch

Materials/Parts

- Detergent, GP (item 7, Appendix C)
- Lockwasher, cover screw
(four required)
- Rags, wiping (item 21, Appendix C)

Materials/Parts - Continued

- Solvent, drycleaning (item 28, Appendix C)

Personnel Required

One

Equipment Condition

- Center backhoe control guard removed
(page 2-1002)

LOCATION	ITEM	ACTION	REMARKS
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NOTE

Backhoe valve box cover for loader backhoes with Serial Numbers 235786 thru 235999 may look slightly different. Maintenance procedures are the same.

BACKHOE VALVE BOX COVER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Two four-way levers (1) and handle mounts (2)	Two nuts (3) loosen.	Using 15/16-inch open-end wrench,
2.	Two handle mounts (2)	Two four-way levers (1)	Noting position for proper placement during installation, unscrew and take out.
3.	Two stabilizer control levers (4) and handle mounts (5)	Two nuts (6)	Using 3/4-inch open-end wrench, loosen.
4.	Two handle mounts (5)	Two stabilizer control levers (4)	Noting position for proper placement during installation, unscrew and take out.
5.	Backhoe valve box (7) and cover (8) and washers (11)	Four screws (9), lockwashers (10),	a. Using 7/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take out. b. Get rid of lockwashers (10).
6.	Backhoe valve box (7)	Cover (8) with assembled parts	Take off.

DISASSEMBLY**CAUTION**

Do not remove edging and decals unless inspection shows need for replacement. Removal may damage parts.

- | | | | |
|----|-------------|-------------------------------|-----------------------|
| 7. | Cover (8) | Decals and instruction labels | Remove (page 2-1186). |
| 8. | Edging (12) | Take off. | |

CLEANING**NOTE**

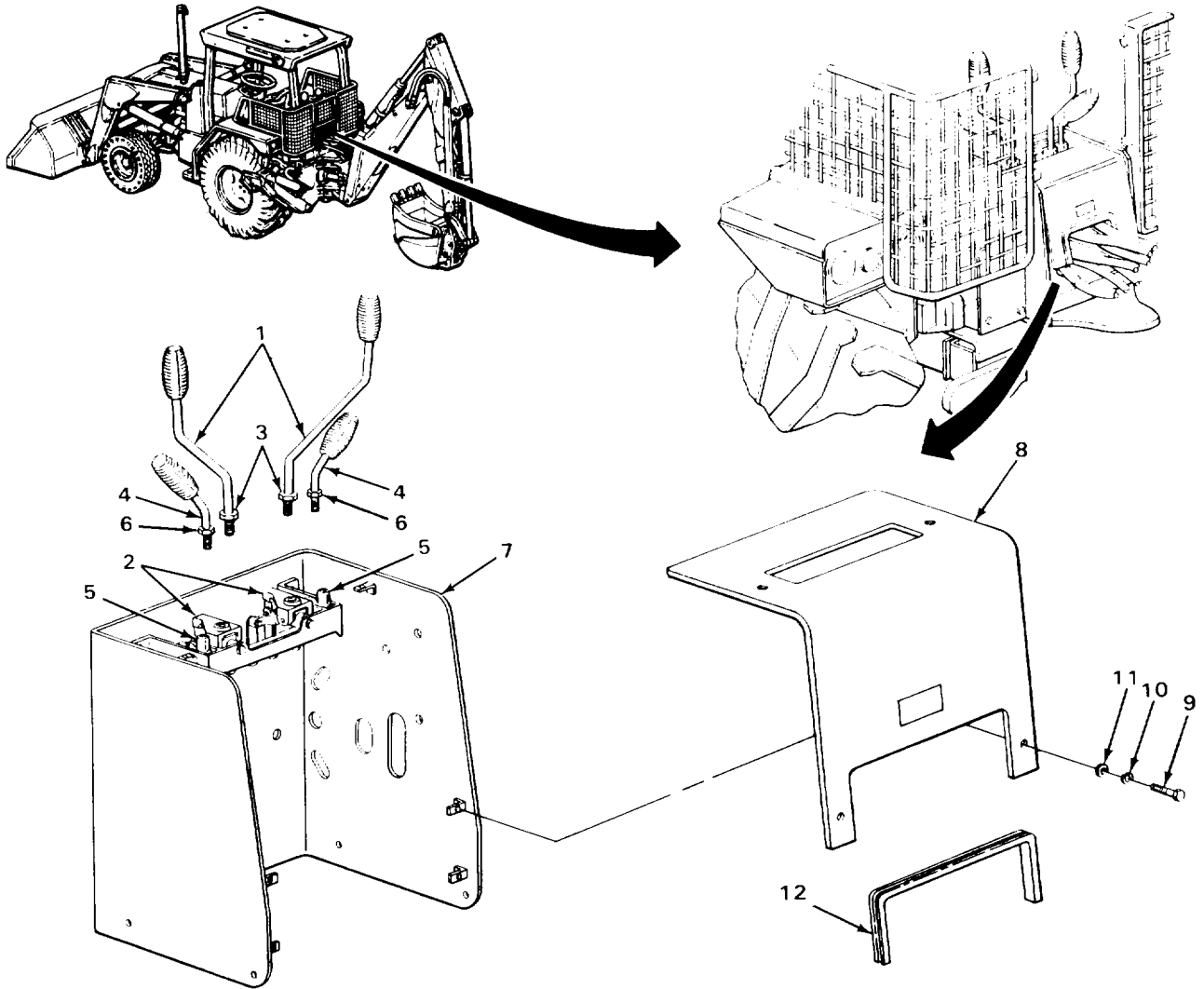
For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

LOCATION	ITEM	ACTION	REMARKS
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9.

Cover (8) and attached parts if present

- a. Using clean rags and solution of detergent and water, wipe clean.
- b. Rinse with clean water.
- c. Using clean, dry rags, wipe dry.



TA243288

BACKHOE VALVE BOX COVER - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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CLEANING - CONTINUED

WARNING

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10.	All attaching hardware	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.	
-----	------------------------	---	--

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

11.	Cover (1)	Look for cracks, breaks, and abnormal bends.	
12.	All attaching hardware	Look for damaged threads.	
13.	All decals and instruction labels	Look for cracks, tears, and readability.	
14.	Edging (2)	Look for cracks, tears, and crumbling.	

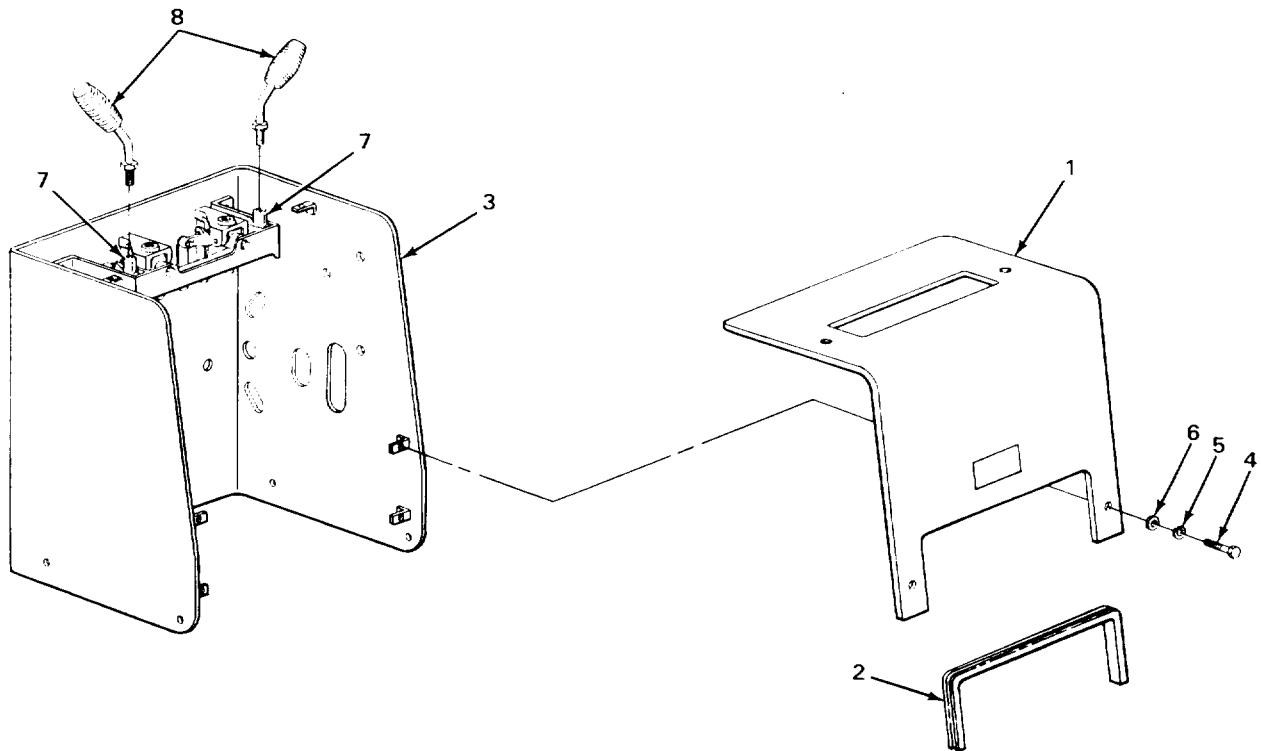
ASSEMBLY

15. Cover (1)	Edging (2)	If removed, place in position.	
16.	Decals and instruction labels	If removed, install (page 2-1186).	

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

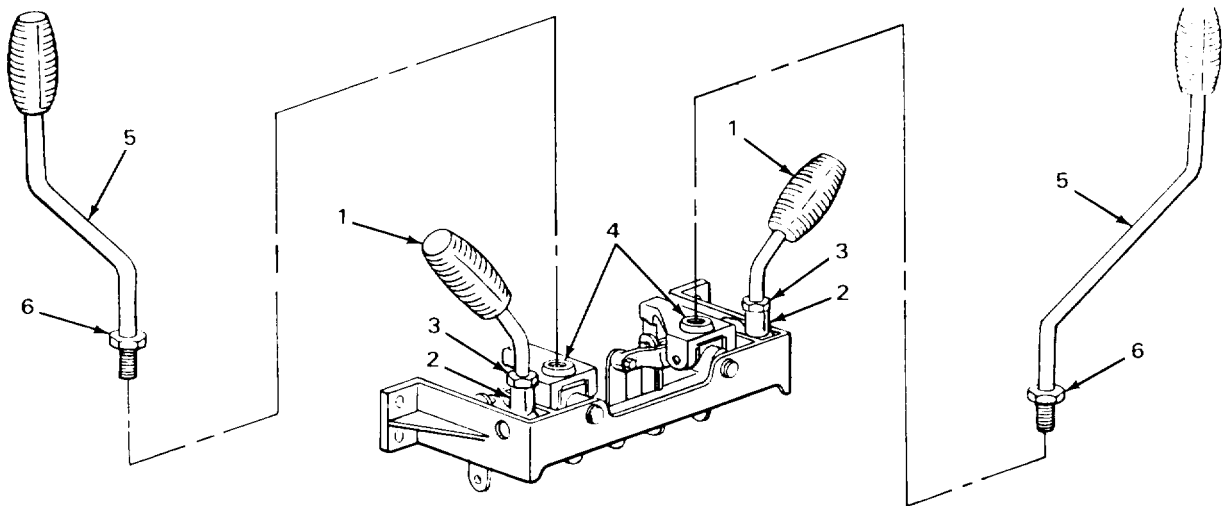
INSTALLATION

- | | | | |
|---|---|---|--|
| 17. Backhoe valve box (3) | Cover (1) with assembled parts | Place in position. | |
| 18. Backhoe valve box (3) and cover (1) | Four screws (4), new lockwashers (5), and washers (6) | a. Screw in part way.
b. Using 7/16-inch, 3/8-inch drive socket and ratchet handle, tighten. | |
| 19. Two handle mounts (7) | Two stabilizer control levers (8) | Screw into position noted during removal. | |



TA243289

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
20. Two stabilizer control levers (1) and handle mounts (2)	Two nuts (3)	Using 3/4-inch open-end wrench, tighten.	
21. Two handle mounts (4)	Two four-way levers (5)	Screw into position noted during removal.	
22. Two four-way levers (5) and handle mounts (4)	Two nuts (6) tighten.	Using 15/16-inch open-end wrench,	



NOTE

FOLLOW-ON MAINTENANCE: Install center backhoe control guard (page 2-1002).

TASK ENDS HERE

BACKHOE VALVE BOX**This task covers:**

- | | |
|---|-------------------------------|
| a. Removal (page 2-1164) | d. Repair (page 2-1166) |
| b. Cleaning (page 2-1164) | e. Installation (page 2-1166) |
| c. Inspection/Replacement (page 2-1164) | |

INITIAL SETUP:**Tools**

Handle, ratchet, 3/8-inch drive
 Socket, 3/8-inch drive, 9/16-inch
 Threading set, screw
 Wrench, open-end, 9/16-inch

Materials/Parts

Lockwasher, valve box nut
 (four required)
 Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning
 (item 28, Appendix C)

Personnel Required

One

Equipment Conditions

1. Backhoe valve bottom cover removed
 (page 2-1154)
2. Backhoe control valve levers and linkage
 removed (page 2-1189)
3. Backhoe control valve removed
 (page 2-1260)

BACKHOE VALVE BOX - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Backhoe valve box (1) and main frame (2)	Four screws (3), lockwashers (4), and nuts (5)	a. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, and 9/16-inch open-end wrench, unscrew and take apart. b. Get rid of lockwashers (4).
2.	Main frame (2)	Backhoe valve box (1)	Take off.

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

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3.	Backhoe valve box (1)	a. Using clean rags dampened with dry-cleaning solvent, wipe clean. b. Using clean, dry rags, wipe dry.
4.	All attaching hardware	a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

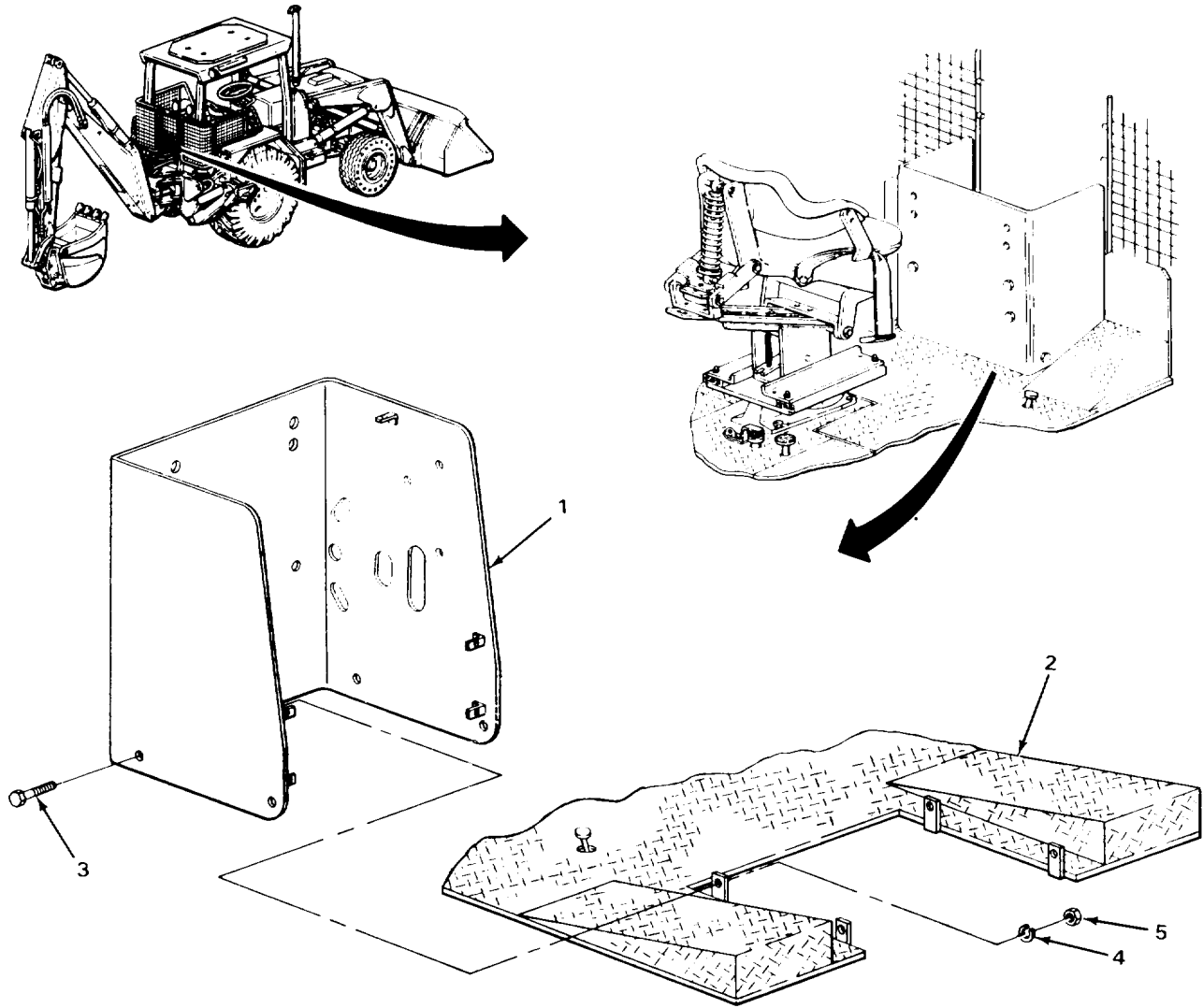
5.	Backhoe valve box(1)	Look for cracks, breaks, and abnormal bends.
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LOCATION	ITEM	ACTION	REMARKS
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6.

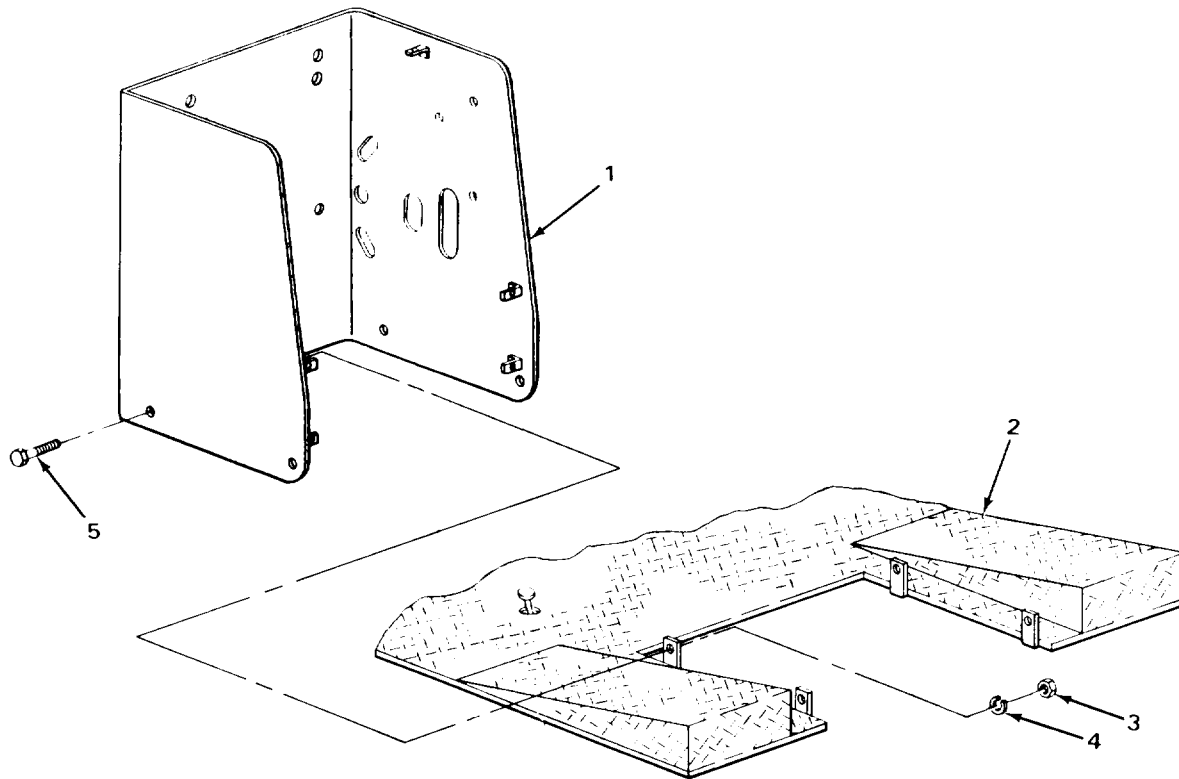
All threaded parts

Look for damaged threads.



TA243291

LOCATION	ITEM	ACTION	REMARKS
REPAIR			
7.	Backhoe valve box (1)	a. If cracked or broken, weld (TM 9-237). b. If threads are damaged, using screw threading set, restore threads.	
INSTALLATION			
8. Main frame (2)	Backhoe valve box (1)	Place in position.	
9. Backhoe valve box (1) and main frame (2)	Four nuts (3), new lockwashers (4), and screws (5)	a. Screw together part way. b. Using 9/16-inch, 3/8-inch drive socket and ratchet handle and 9/16-inch open-end wrench, tighten.	



TA243292

BACKHOE VALVE BOX - CONTINUED**NOTE****FOLLOW-ON MAINTENANCE:**

1. Install backhoe control valve (page 2-1260).
2. Install backhoe control valve levers and linkages (page 2-1189).
3. Install backhoe valve bottom cover (page 2-1154).

TASK ENDS HERE**LOADER CONTROL BOX DOOR****This task covers:**

- | | |
|---|--|
| <ol style="list-style-type: none"> a. Removal (page 2-1154) b. Cleaning (page 2-1154) | <ol style="list-style-type: none"> c. Inspection/Replacement (page 2-1155) d. Installation (page 2-1156) |
|---|--|

INITIAL SETUP:

Tools

Screwdriver, flat-tip, 1/4-inch

Personnel Required

One

Materials/Parts

Rags, wiping (item 21, Appendix C)
 Solvent, drycleaning
 (item 28, Appendix C)

LOADER CONTROL BOX DOOR - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1.	Loader control box (1) and door (2)	Seven screws (3) unscrew and take out.	Using 1/4-inch flat-tip screwdriver,
2.	Loader control box (1)	Door (2)	Take off.

CLEANING**NOTE**

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

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- | | | |
|----|------------------------|--|
| 3. | Door (2) | a. Using clean rags dampened with dry-cleaning solvent, wipe clean.
b. Using clean, dry rags, wipe dry. |
| 4. | All attaching hardware | a. Clean in drycleaning solvent.
b. Using clean, dry rags, wipe dry. |

INSPECTION/REPLACEMENT**NOTE**

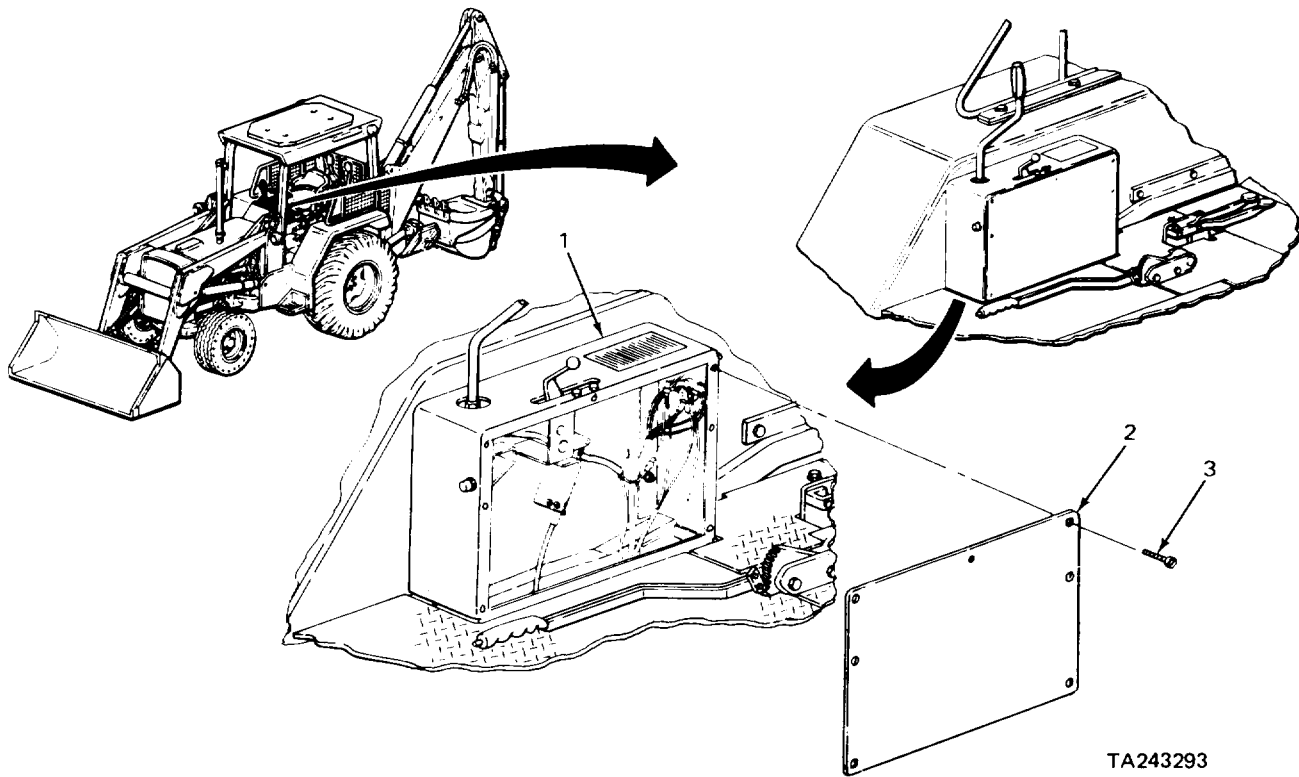
For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

- | | | |
|----|----------|---|
| 5. | Door (2) | Look for crack, breads, and abnormal bends. |
|----|----------|---|

LOADER CONTROL BOX DOOR - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
6.	All attaching hardware	Look for damaged threads.	
INSTALLATION			
7. Loader control box (1)	Door (2)	Place in position.	
8. Loader control box (1) and door (2)	Seven screws (3)	Screw in and tighten using 1/4-inch flat-tip screwdriver.	



TASK ENDS HERE

LOADER CONTROL BOX

This task covers:

- | | |
|---|-------------------------------|
| a. Removal (page 2-1170) | e. Repair (page 2-1175) |
| b. Disassembly (page 2-1174) | f. Assembly (page 2-1175) |
| c. Cleaning (page 2-1174) | g. Installation (page 2-1176) |
| d. Inspection/Replacement (page 2-1174) | |

INITIAL SETUP:

Tools

- Handle, ratchet, 3/8-inch drive
- Pliers, slip-joint
- Socket, 3/8-inch drive, 9/16-inch
- Wrench, box, 9/16-inch
- Wrench, open-end, 7/16-inch
- Wrench, open-end, 15/16-inch
- Wrench, open-end, 11/8-inch

Materials/Parts

- Detergent, GP (item 7, Appendix C)
- Lockwasher, control box (two required)
- Lockwasher, control box screw (five required)
- Lockwasher, pivot control screw (two required)
- Lockwasher, throttle lever screw

Materials/Parts - Continued

- Rags, wiping (item 21, Appendix C)
- Solvent, drycleaning (item 28, Appendix C)

Personnel Required

Two

Equipment Condition

1. Battery ground cable disconnected (page 2-696)
2. Loader control box door removed (page 2-1167)

LOCATION	ITEM	ACTION	REMARKS
REMOVAL			
1. Handle (1) and handle mount (2)	Nut (3)		Using 15/16-inch open-end wrench, loosen.
2. Handle mount (2)	Handle (1)	a. Note position for proper placement during installation. b. Unscrew and take out.	
3. Control box (4) and control pivot (5)	Two screws (6) and lockwashers (7)	a. Using 9/16-inch box wrench, unscrew and take out. b. Get rid of lockwashers (7).	

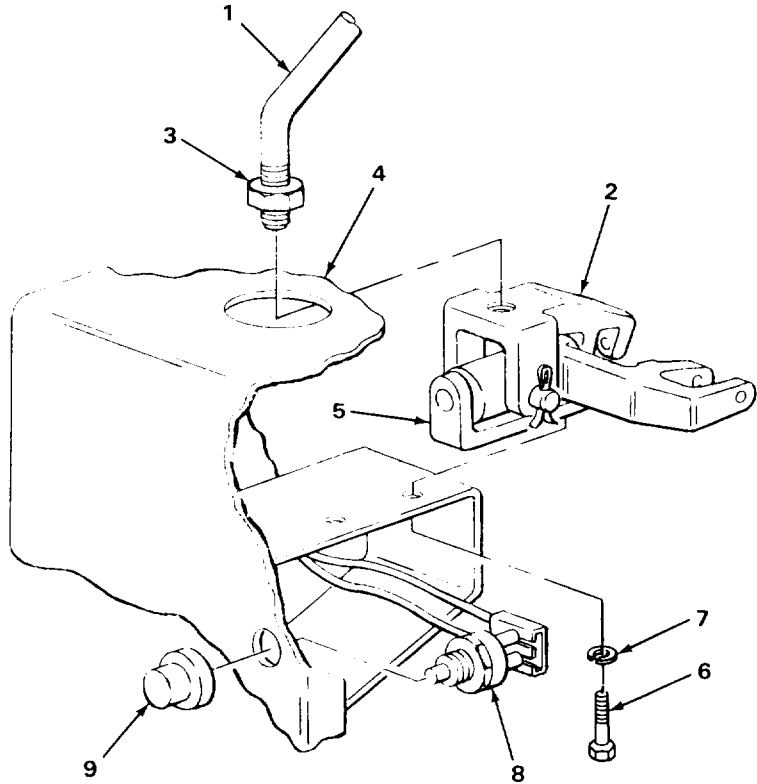
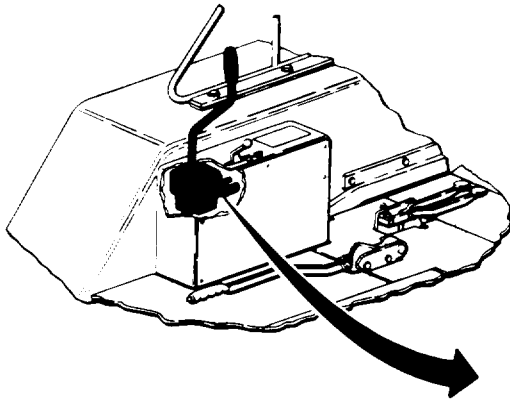
LOCATION	ITEM	ACTION	REMARKS
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4. Control box (4)	Control pivot (5) with assembled parts	Move aside.	
--------------------	---	-------------	--

CAUTION

Unscrew cap by metal base to keep from tearing.

5. Control box (4) and engine starting aid solenoid switch (8)	Cap (9)	Using slip-joint pliers, unscrew and take off.	
6. Control box (4)	Engine starting aid solenoid switch (8)	Take out.	



TA243294

LOADER CONTROL BOX - CONTINUED

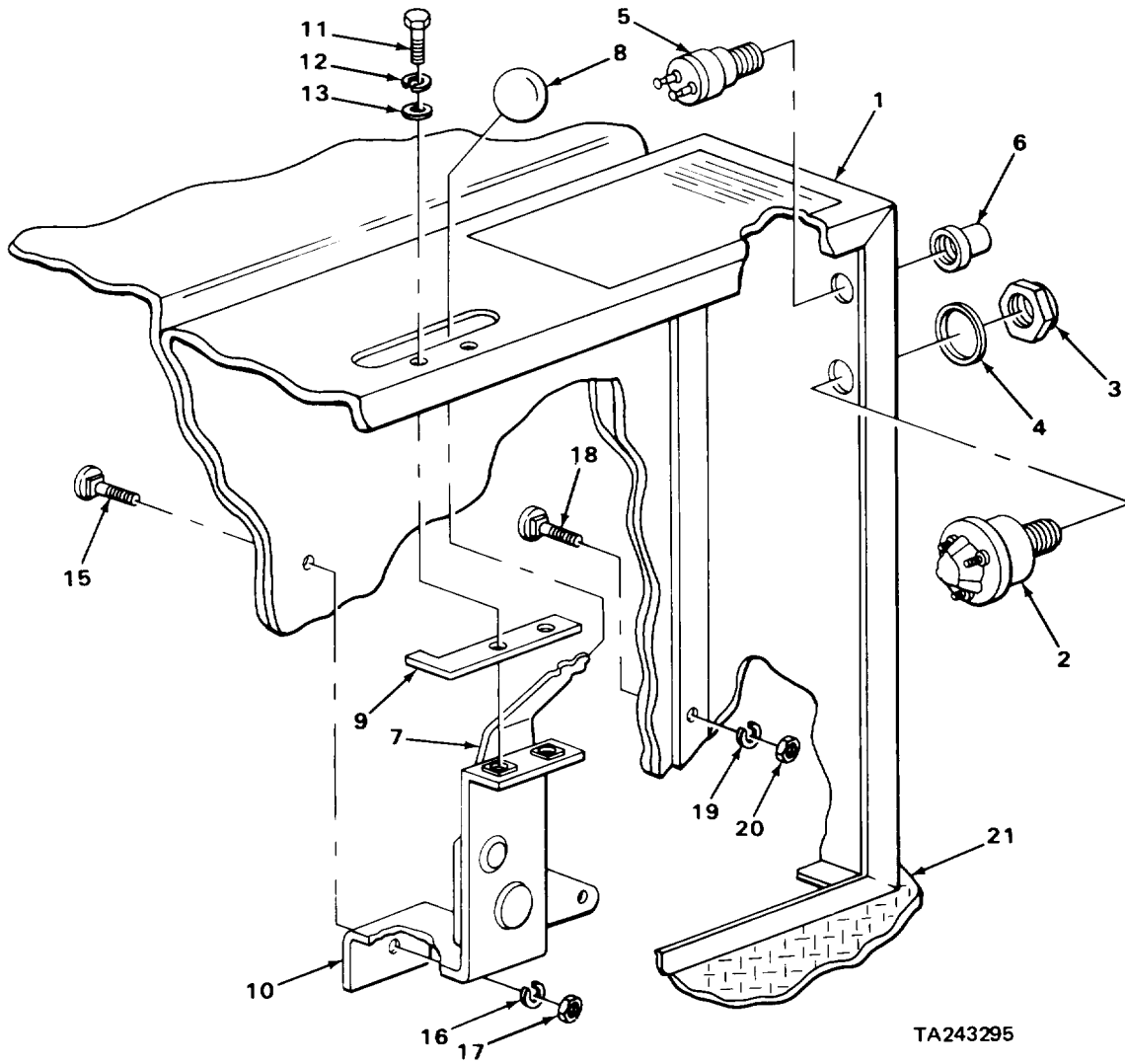
LOCATION	ITEM	ACTION REMARKS
REMOVAL - CONTINUED		
7. Control box (1) and ignition lock switch (2)	Special nut (3) and washer (4)	Holding switch (2) to keep it from turning, using 1 1/8-inch open-end wrench, unscrew and take off.
8. Control box (1)	Ignition lock switch (2)	Take out.
<u>CAUTION</u>		
Unscrew cap by metal base to keep from tearing.		
9. Control box (1) and starter switch (5)	Cap (6)	Using slip-joint pliers, unscrew and take off.
10. Control box (1)	Starter switch (5)	Take out.
11. Throttle lever (7)	Knob (8)	Take off.
12. Control box (1), throttle stop (9), and throttle lever bracket (10)	Two screws (11), lockwashers (12), and washers (13)	<ol style="list-style-type: none"> a. Note position of throttle stop (9) for proper placement during installation. b. Using 7/16-inch open-end wrench, unscrew and take out. c. Get rid of lockwashers (12).
13. Control box (1), throttle lever bracket (10), and right fender (14)	Bolt (15), lockwasher (16), and nut (17)	<ol style="list-style-type: none"> a. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take apart. b. Get rid of lockwasher (16).
14. Control box (1) and throttle lever bracket (10)	Throttle stop (9)	Take off.
15. Control box (1) and right fender (14)	Throttle lever (7) with attached parts	Take out.
16. Control box (1) and right fender (14)	Five bolts (18), lockwashers (19), and nuts (20)	<ol style="list-style-type: none"> a. Using 9/16-inch, 3/8-inch drive socket and ratchet handle, unscrew and take apart. b. Get rid of lockwasher (4).

LOCATION	ITEM	ACTION	REMARKS
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17. Right fender (14)
and right
platform (21)

Control box (1)

Take off.



TA243295

LOADER CONTROL BOX - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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DISASSEMBLY

NOTE

Do not remove decal unless inspection shows need for replacement. Removal may damage parts.

18.	Decals and instruction labels		If damaged, remove (page 2-1186).
-----	-------------------------------	--	-----------------------------------

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

19.	Control box (1) and decal, if present		<ul style="list-style-type: none"> a. Using clean rags and solution of detergent and water, wipe clean. b. Rinse with clean water. c. Using clean, dry rags, wipe dry.
-----	---------------------------------------	--	---

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

20.	All other metal parts		<ul style="list-style-type: none"> a. Clean in drycleaning solvent. b. Using clean, dry rags, wipe dry.
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INSPECTION/REPLACEMENT

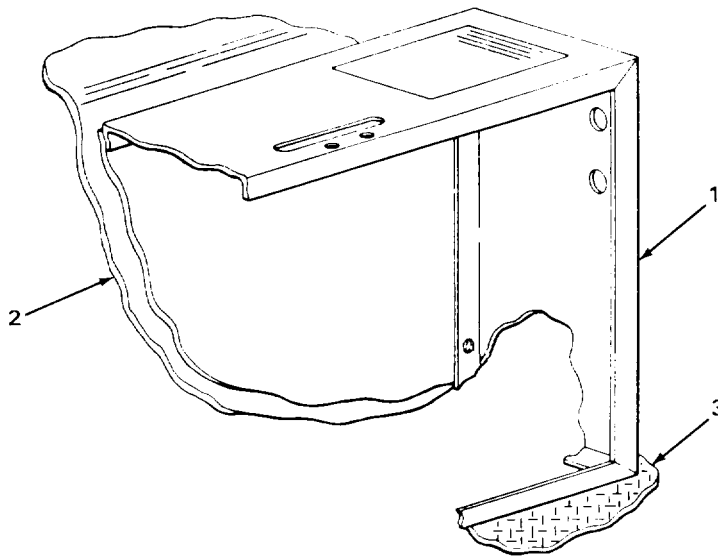
NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts which cannot be repaired.

LOADER CONTROL BOX - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
21.	All metal parts		Look for cracks, breaks, and abnormal bends.
22.	Decals and instruction labels		Look for cracks, tears, and readability.
23.	All attaching hardware		Look for damaged threads.
REPAIR			
24.	Control box (1)		If cracked or broken, weld (TM 9-237).
ASSEMBLY			
25. Control box (1)	Decals and instruction labels		If removed, install (page 2-1186).
INSTALLATION			
26. Right fender (2) and right platform (3)	Control box (1)		Place in position with lower lip under platform (3).



TA243296

LOADER CONTROL BOX - CONTINUED

LOCATION	ITEM	ACTION REMARKS
INSTALLATION - CONTINUED		
27. Right fender (1) and control box (2) and bolts (5)	Five nuts (3), new lockwashers (4), drive socket and ratchet handle.	With help of assistant, screw together and tighten using 9/16-inch, 3/8-inch
28. Control box (2) and right fender (1)	Throttle lever (6) with attached parts	Place in position.
29. Control box (2) and throttle lever bracket (7)	Throttle stop (8)	Place in position.
30. Control box (2), throttle lever bracket (7), and right fender (1)	Nut (9), new lockwasher (10), and bolt (11)	With help of assistant, screw together and tighten using 9/16-inch, 3/8-inch drive socket and ratchet handle.
31. Control box (2), throttle stop (8), and throttle lever bracket (7)	Two washers (12), new lockwashers (13), and screws (14)	Positioning throttle stop (8) as noted during removal, screw in and tighten using 7/16-inch open-end wrench.
32. Throttle lever (6)	Knob (15)	Place in position.
33. Control box (2)	Starter switch (16)	Place in position.
<u>CAUTION</u>		
Tighten cap by metal base to keep from tearing.		
34. Control box (2) and starter switch (16)	Cap (17)	Screw on and tighten using slip-joint pliers.
35. Control box (2)	Ignition lock switch (18)	Place in position.
36. Control box (2) and ignition lock switch (18)	Washer (19) and special nut (20)	Screw on and tighten using 1 1/8-inch open-end wrench. Switch may need to be held to keep from turning.
37. Control box (2)	Engine starting aid solenoid switch (21)	Place in position.

LOCATION	ITEM	ACTION	REMARKS
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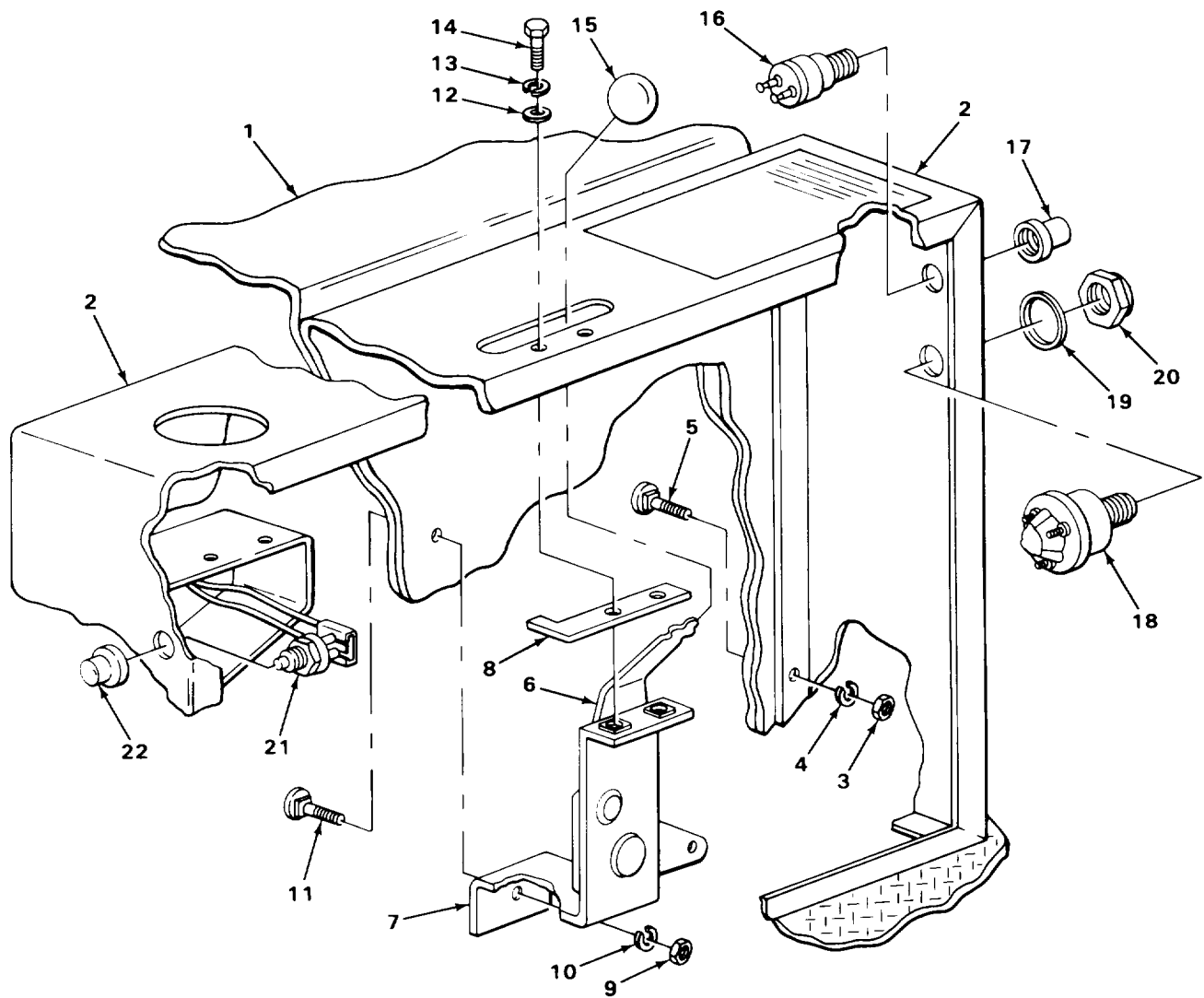
CAUTION

Tighten cap by metal base to keep from tearing.

38. Control box (2) and engine starting aid solenoid switch (21)

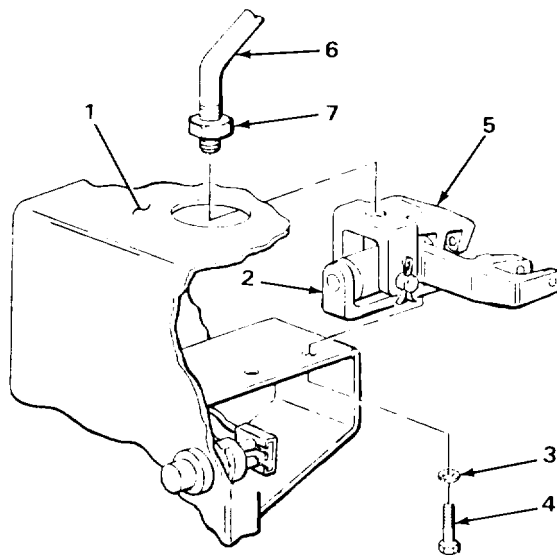
Cap (22)

Screw on and tighten using slip-joint pliers.



TA243297

LOCATION	ITEM	ACTION	REMARKS
INSTALLATION - CONTINUED			
39. Control box (1)	Control pivot (2) with assembled parts	Move into position.	
40. Control box (1) and control pivot (2)	Two new lockwashers (3) and screws (4)	a. Screw in part way. b. Using 9/16-inch box wrench, tighten.	
41. Handle mount (5)	Handle (6)	Screw into position as noted during removal.	
42. Handle (6) and handle mount (5)	Nut (7)	While holding handle (6) in position, using 15/16-inch open-end wrench, tighten.	



NOTE

FOLLOW-ON MAINTENANCE:

1. Install loader control box door (page 2-1167).
2. Install battery ground cable (page 2-696).

TASK ENDS HERE

Section XIX. BODY, CHASSIS, AND HULL ACCESSORY ITEMS

	Page		Page
Decals and Instruction Labels	2-1186	Reflectors (Serial Numbers 319995	
Identification and Name Plates.....	2-1182	thru 342573 Only)	2-1179

REFLECTORS (SERIAL NUMBERS 319995 THRU 342573 ONLY)

This task covers:

- | | |
|---|-------------------------------|
| a. Cleaning (page 2-1179) | c. Removal (page 2-1180) |
| b. Inspection/Replacement (page 2-1180) | d. Installation (page 2-1181) |
-

INITIAL SETUP:

Materials/Parts

Personnel Required

- Adhesive, metal bonding
(item 1, Appendix C)
- Detergent, GP (item 7, Appendix C)
- Rags, wiping (item 21, Appendix C)
- Solvent, cleaning compound
(item 28, Appendix C)

One

LOCATION	ITEM	ACTION	REMARKS
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NOTE

Maintenance of two reflectors is the same. One is shown. Repeat procedures for other reflector as needed.

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

REFLECTORS (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

LOCATION	ITEM	ACTION REMARKS
CLEANING - CONTINUED		
1. Lamp plate (1)	Reflector (2)	a. Using clean rag dampened with solution of detergent and water, wipe clean. b. Rinse with clean water. c. Using clean, dry rags, wipe dry.

INSPECTION/REPLACEMENT**NOTE**

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

2. Lamp plate (1)	Reflector (2)	Look for cracks and breaks.
-------------------	---------------	-----------------------------

REMOVAL**NOTE**

Do not remove reflectors unless inspection shows need for replacement.

WARNING

Water soluble cleaning compound solvent is flammable and fumes are toxic. Flashpoint is 2200F (104°C). Boiling point is 212°F (100°C). Do not store in temperatures above 150°F (65°C) or below 35°F (2°C). Do not use near open flame or excessive heat. Do not wear jewelry, wear rubber gloves and goggles, and use only in well ventilated area. Avoid contact with skin, eyes, and clothes, and don't breathe vapors. Avoid contact with acids, aluminum, or zinc; chemical reaction may result. If you become dizzy while using cleaning compound solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

3. Lamp plate (1)	Reflector (2)	a. Note position for proper placement during installation. b. Using cleaning compound solvent, dissolve adhesive and take off. c. Using clean rag soaked in cleaning compound solvent, remove all adhesive from lamp plate (1) and reflector (2). d. Rinse lamp plate (1) and reflector (2) with water. e. Using clean, dry rags, wipe dry.
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REFLECTORS (SERIAL NUMBERS 319995 THRU 342573 ONLY) - CONTINUED

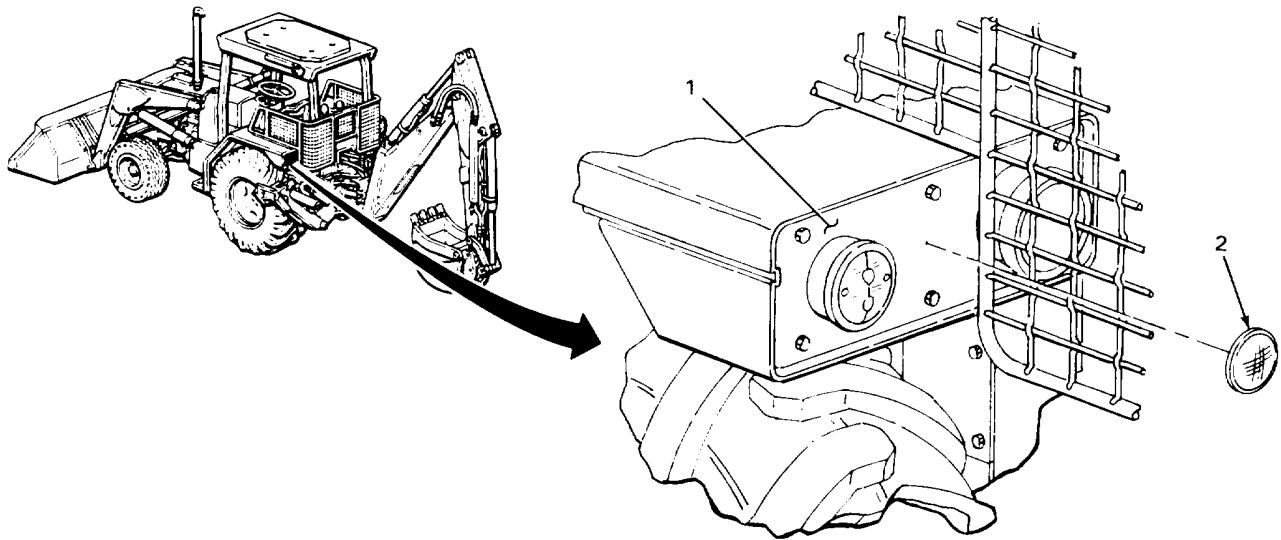
LOCATION	ITEM	ACTION	REMARKS
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INSTALLATION

4. Lamp plate (1)

Reflector (2)

- a. If removed, apply metal adhesive in 0.06 to 0.18-inch (1.52 to 4.57 mm) wide beads in 2.00-inch (50.8 mm) or smaller squares.
Make sure that outside bead is within 0.25-inch (6.35 mm) of edge with no gaps.
- b. Line up and press into place to transfer some metal adhesive.
- c. Take off and allow metal adhesive to set for two minutes.
- d. Line up and press firmly into place.



TASK ENDS HERE

TA243299

IDENTIFICATION AND NAME PLATES

This task covers:

- a. Cleaning (page 2-1182)
 - b. Inspection/Replacement (page 2-1183)
 - c. Removal (page 2-1183)
 - d. Installation (page 2-1184)
-

INITIAL SETUP:

Tools

Chisel, cold, 1/2-inch
 Drill, electric, portable, 1/2-inch
 Drill set, twist
 Hammer, ball-peen, 1-pound head
 Punch, drive-pin, straight, 3/32-inch
 Punch, drive-pin, straight, 1/8-inch
 Riveter, blind

Materials/Parts

Rags, wiping (item 21, Appendix C)

Materials/Parts - Continued

Rivet, blind (item 22, Appendix C)
 (as required)
 Screw, drive (as required)
 Solvent, drycleaning (item 28, Appendix C)

Personnel Required

One

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

WARNING

Drycleaning solvent P-D-680 is toxic and flammable. Wear protective goggles and gloves and use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors. Do not use near open flame or excessive heat. The flashpoint is 1000F to 1380F (380 to 590C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

- | | | |
|----|------------------------------------|--|
| 1. | All identification and name plates | <ul style="list-style-type: none"> a. Using clean rags dampened with dry-cleaning solvent, wipe clean. b. Using clean, dry rags, wipe dry. |
|----|------------------------------------|--|

IDENTIFICATION AND NAME PLATES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

- | | | |
|----|------------------------------------|---|
| 2. | All identification and name plates | <ul style="list-style-type: none"> a. Look to see if they can be read. b. Look for cracks and breaks. |
|----|------------------------------------|---|

REMOVAL

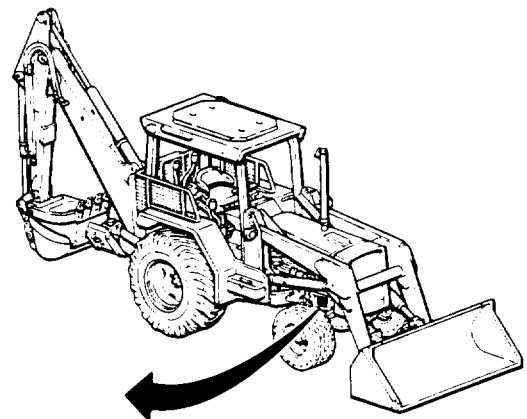
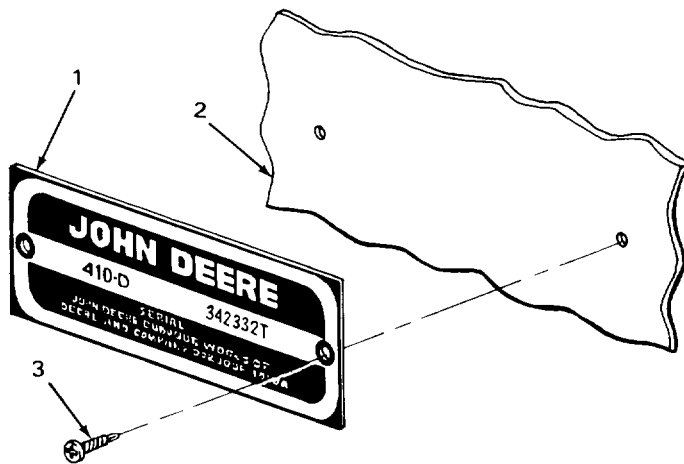
CAUTION

Do not remove identification plates unless inspection shows need for replacement. Removal will damage parts.

NOTE

Identification and name plates are mounted two ways. Some identification plates are mounted with drive screws, some with blind rivets. One identification plate mounted with drive screws is shown. Repeat steps 3 and 4 as necessary for other plates mounted with drive screws. Number of drive screws may vary.

- | | | |
|---|----------------------|---|
| 3. Identification plate (1) and front support (2) | Two drive screws (3) | a. Using 1/2-inch cold chisel and 1-pound head ball-peen hammer, cut off heads. |
|---|----------------------|---|



TA243300

IDENTIFICATION AND NAME PLATES - CONTINUED

LOCATION	ITEM	ACTION REMARKS
3. Identification plate (1) and front support (2) - Continued	Two drive screws (3)	<ul style="list-style-type: none"> b. If holes go all the way through mounting surface, using 3/32-inch straight drive-pin punch and 1-pound head ball-peen hammer, drive out shafts. c. If holes do not go all the way through mounting surface, using twist drill set and 1/2-inch portable electric drill, drill out shafts. d. Get rid of.
4. Front support (2)	Identification plate (1)	Take off.

NOTE

Some identification and name plates are mounted with blind rivets. One name plate is shown. Repeat steps 5 and 6 as necessary for other plates mounted with blind rivets. Number of rivets may vary.

5. Name plate (4) and loader boom (5)	Three blind rivets (6)	<ul style="list-style-type: none"> a. Using 1/2-inch cold chisel and 1-pound head ball-peen hammer, cut off heads. b. Using 1/8-inch straight drive-pin punch and 1-pound head ball-peen hammer, drive out shafts. c. Get rid of.
6. Loader boom (5)	Name plate (4)	Take off.

INSTALLATION**NOTE**

Identification and name plates are mounted two ways. Some identification plates are mounted with drive screws, some with blind rivets. One identification plate is shown. Repeat steps 7 and 8 as necessary for other plates mounted with drive screws. Number of drive screws may vary.

7. Front support (2)	Identification plate (1)	Place in position.
8. Identification plate (1) and front support (2)	Two new drive screws (3)	Using 1-pound head ball-peen hammer, drive in.

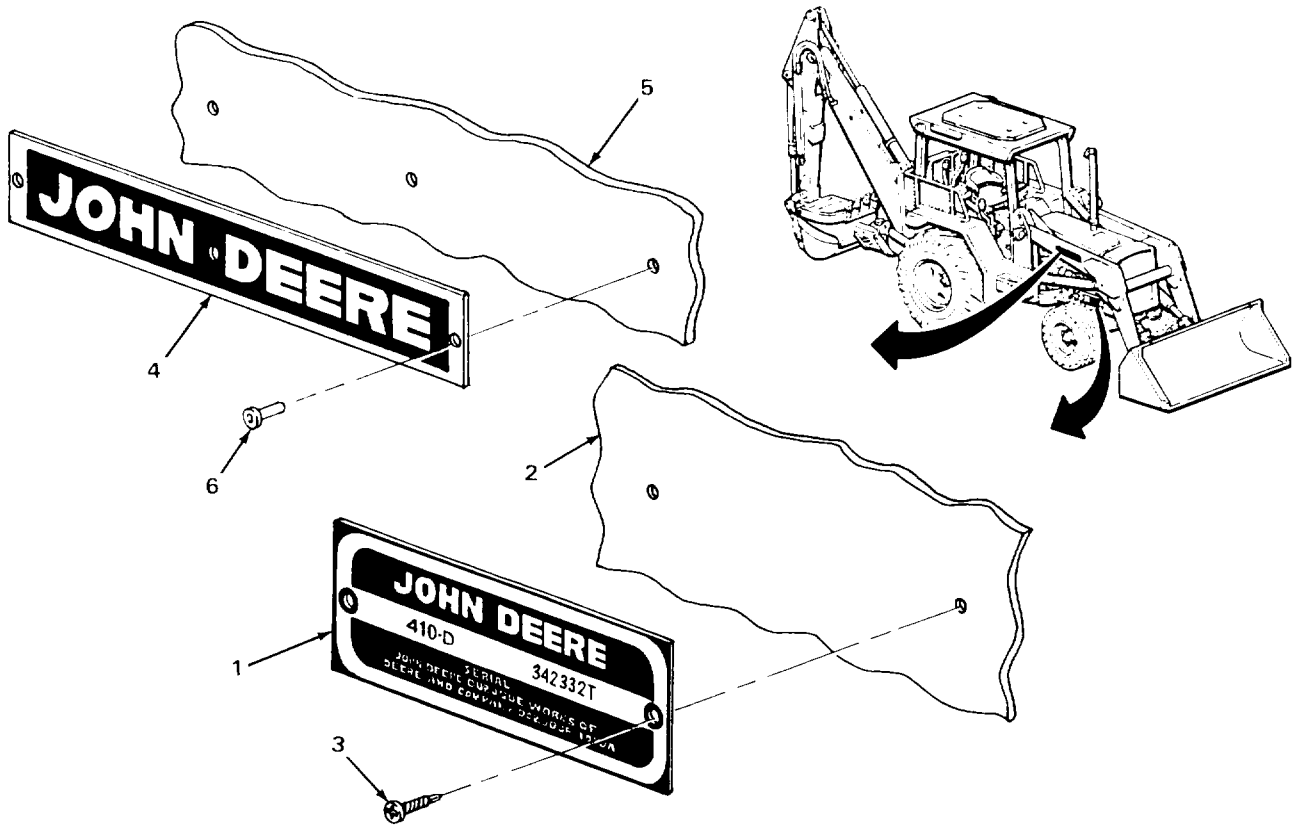
IDENTIFICATION AND NAME PLATES - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
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NOTE

Some identification and name plates are mounted with blind rivets. One name plate is shown. Repeat steps 9 and 10 as necessary for other plates mounted with blind rivets. Number of rivets may vary.

- | | | | |
|--|----------------------|-------------------------------|--|
| 9. Loader boom (5) | Name plate (4) | Place in position. | |
| 10. Name plate (4) and loader boom (5) | Three new rivets (6) | Using blind riveter, install. | |



TASK ENDS HERE

TA243301

DECALS AND INSTRUCTION LABELS

This task covers:

- a. Cleaning (page 2-1186)
 - b. Inspection/Replacement (page 2-1187)
 - c. Removal (page 2-1187)
 - d. Installation (page 2-1188)
-

INITIAL SETUP:

Tools

Knife, putty

Materials/Parts

Alcohol, denatured
 (item 2, Appendix C)
 Decals (as required)
 Detergent, G.P. (item 7, Appendix C)
 Rags, wiping (item 21, Appendix C)

Personnel Required

One

Equipment Condition

NOTE

The following applies only for decal inside vandal cover.

Vandal cover Open (TM 5-2420-222-10)

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

NOTE

All decals are maintained the same way. One decal is shown. Repeat procedures for other decals as needed.

CLEANING

NOTE

For more information on how to clean parts, go to General Maintenance Instructions (page 2-137).

- | | | |
|--|---|--|
| <ul style="list-style-type: none"> 1. Backhoe dipperstick (1) | <ul style="list-style-type: none"> Decal (2) | <ul style="list-style-type: none"> a. Using clean rag dampened with solution of detergent and water, wipe clean. b. Rinse with clean water. c. Using clean, dry rags, wipe dry. |
|--|---|--|

DECALS AND INSTRUCTION LABELS - CONTINUED

LOCATION	ITEM	ACTION	REMARKS
----------	------	--------	---------

INSPECTION/REPLACEMENT

NOTE

For more information on how to inspect parts, go to General Maintenance Instructions (page 2-137).

Replace defective parts as needed.

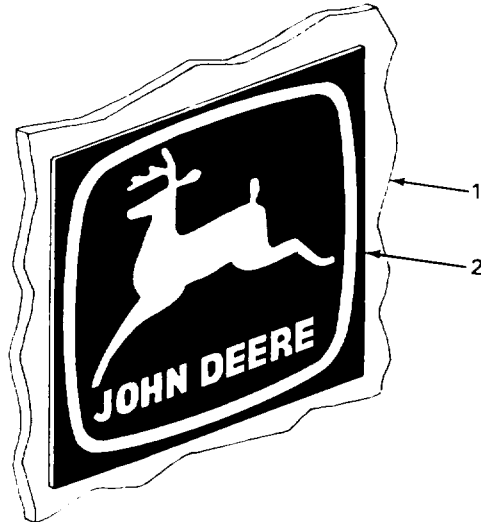
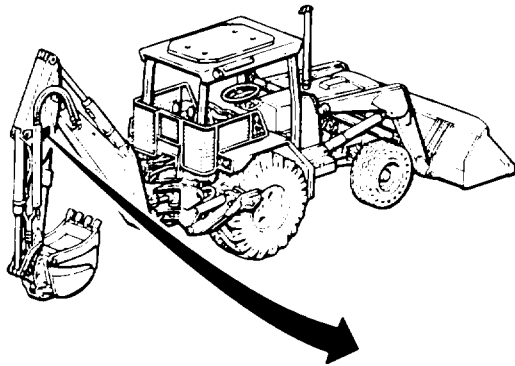
2. Backhoe dipperstick (1)	Decal (2)	Look to see if it can be read.
----------------------------	-----------	--------------------------------

REMOVAL

CAUTION

Self-adhesive decals cannot be removed without being destroyed. Do not remove decals unless inspection shows need for replacement.

3. Backhoe dipperstick (1)	Decal (2) during installation.	<ul style="list-style-type: none"> a. Note position for proper placement b. Using clean rag dampened with denatured alcohol, wet corner. c. Using putty knife under edge, pull up corner.
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TA243302

DECALS AND INSTRUCTION LABELS - CONTINUED

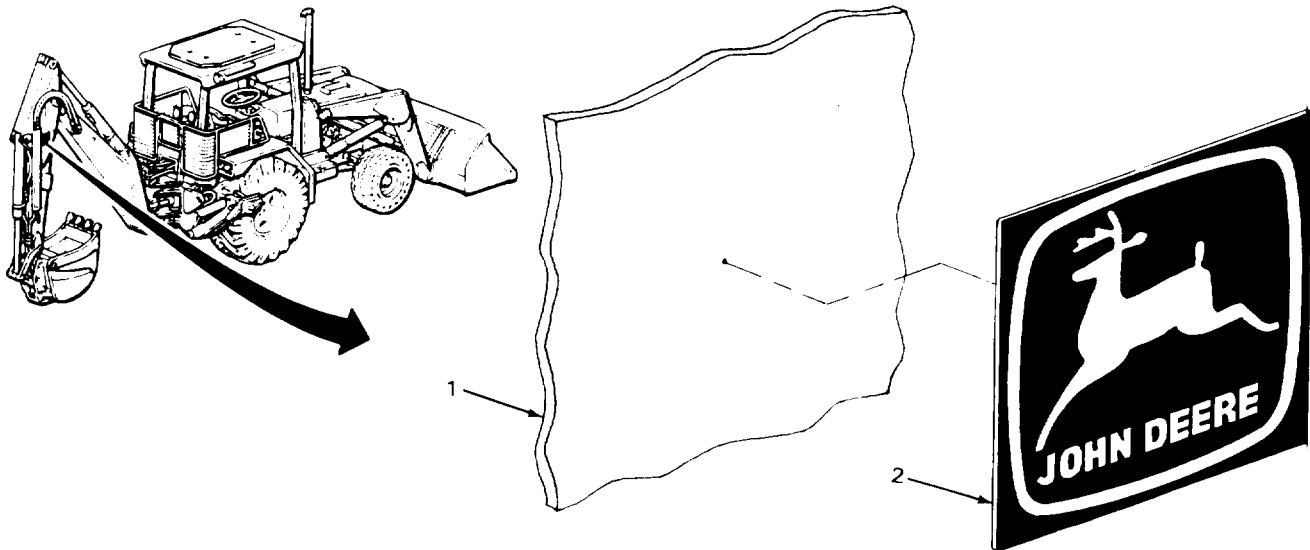
LOCATION	ITEM	ACTION	REMARKS
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REMOVAL - CONTINUED

3. Backhoe dipperstick (1) - Continued	Decal (2)	<ul style="list-style-type: none"> d. Wet with more denatured alcohol and continue to pull off. e. Repeat steps b thru d until completely removed. f. Get rid of. g. Using clean rag dampened with denatured alcohol, remove adhesive from backhoe dipperstick (1). h. Using clean, dry rags, wipe dry. 	
--	-----------	--	--

INSTALLATION

4. Backhoe dipperstick (1)	New decal (2)	Mount according to instructions provided, in exact position noted during removal.	
----------------------------	---------------	---	--



NOTE

FOLLOW-ON MAINTENANCE:

1. Perform the following only for decal inside vandal cover.
2. Close vandal cover (TM 5-2420-222-10).

TASK ENDS HERE

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By Order of the Secretary of the Army:

CARL E. VUONO
General, United States Army
Official: Chief of Staff

R.L. DILWORTH
Brigadier General, United States Army
The Adjutant General

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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 = 1,000 Millimeters = 39.37 Inches
- 1 Kilometer = 1,000 Meters = 0.621 Miles

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 = 1,000 Cu Millimeters = 0.06 Cu Inches
- 1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet

LIQUID MEASURE

- 1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
- 1 Liter = 1,000 Milliliters = 33.82 Fluid Ounces

TEMPERATURE

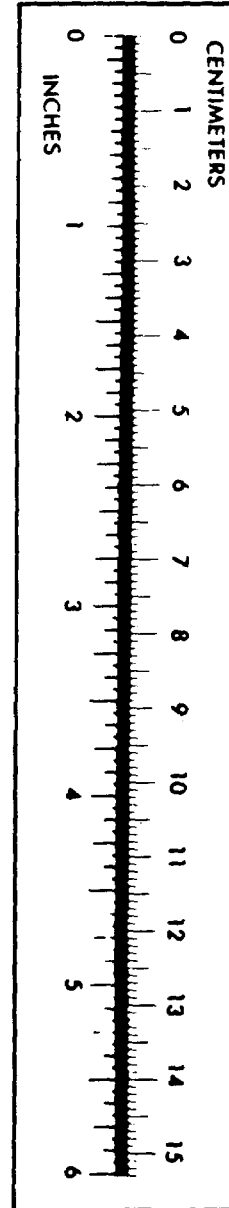
- $5/9 (^{\circ}\text{F} - 32) = ^{\circ}\text{C}$
- 212° Fahrenheit is equivalent to 100° Celsius
- 90° Fahrenheit is equivalent to 32.2° Celsius
- 32° Fahrenheit is equivalent to 0° Celsius
- $9/5 \text{ } ^{\circ}\text{C} + 32 = \text{ } ^{\circ}\text{F}$

WEIGHTS

- 1 Gram = 0.001 Kilograms = 1,000 Milligrams = 0.035 Ounces
- 1 Kilogram = 1,000 Grams = 2.2 lb.
- 1 Metric Ton = 1,000 Kilograms = 1 Megagram = 1.1 Short Tons

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



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