
AIR BRAKE ARM REPLACEMENT

0076 00

THIS WORK PACKAGE COVERS:

Removal, Installation, Operational Checks

INITIAL SETUP:

Maintenance Level

Field

Materials/Parts

Seal, Grease (2) (Item 51, WP 0168 00)

Washer, Lock (4) (Item 6, WP 0168 00)

Tools and Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Goggles, Industrial (Item 8, WP 0167 00)

Equipment Conditions

Trailer uncoupled (WP 0043 24, TM 2320-392-10-1).

Air brake chamber removed (WP 0081 00).

Wheel hub removed (WP 0085 00).

GENERAL

This work package contains information and instructions to replace the Load Handling System Trailer (LHST) air brake arm.

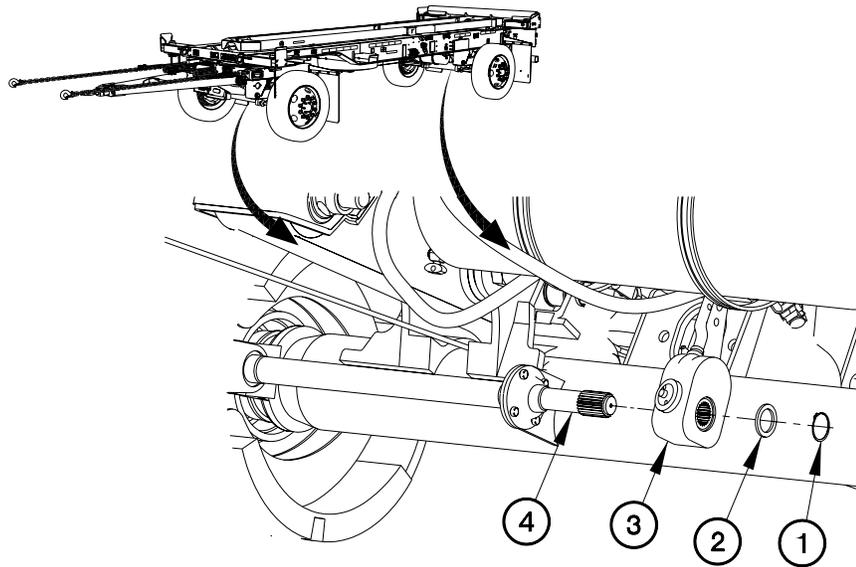
WARNING

Wear appropriate eye protection when working under trailer due to the possibility of falling debris. Failure to comply may result in injury to personnel.

REMOVAL**WARNING**

Retaining rings are under tension and can act as projectiles when released causing severe eye injury. Use care when removing retaining rings. Failure to comply may result in injury to personnel.

1. Remove snap ring (1), washer (2), and slack adjuster (3) from air brake arm (4).



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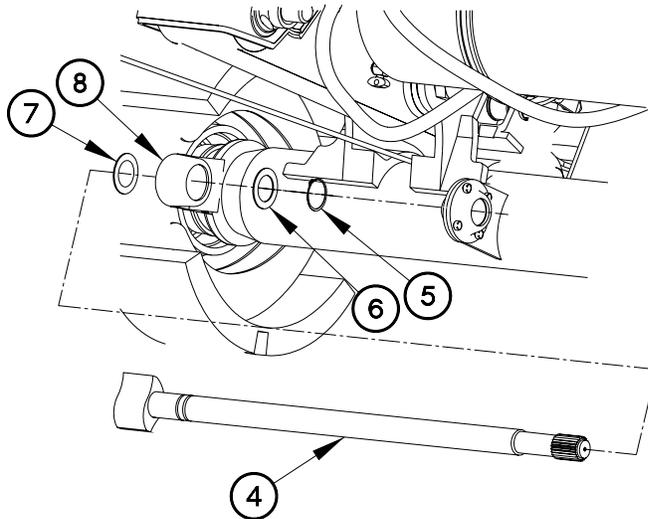
REMOVAL - Continued

2. Release snap ring (5) on air brake arm (4).

CAUTION

Match mark cam end of air brake arm and axle prior to removal. Transfer match mark to new air brake arm. Failure to comply may result in damage to equipment.

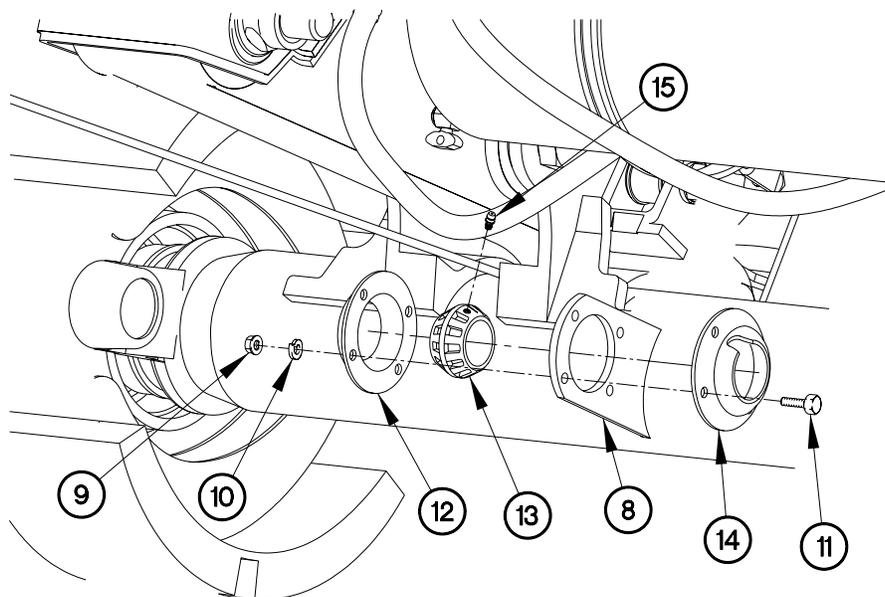
3. Remove snap ring (5), washer (6), air brake arm (4), and washer (7) from axle (8).



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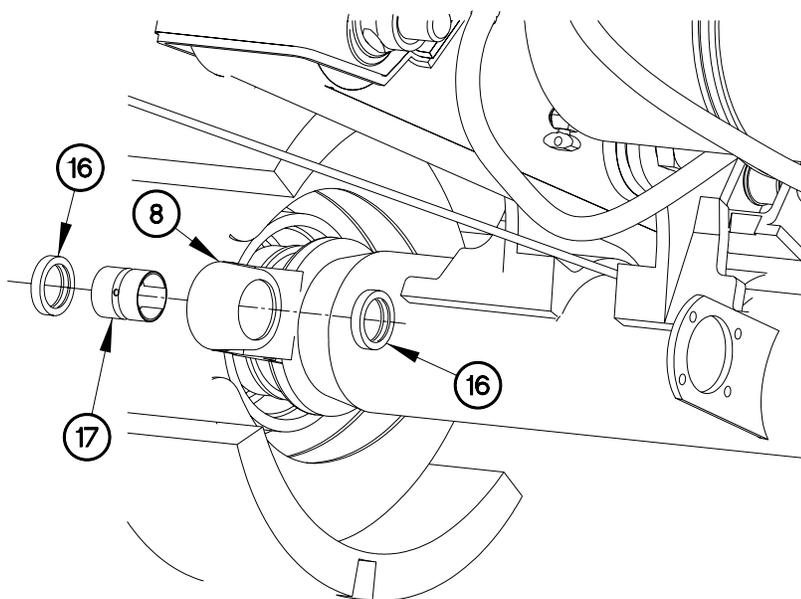
AIR BRAKE ARM REPLACEMENT - Continued**0076 00****REMOVAL - Continued**

4. Remove four nuts (9), lockwashers (10), bolts (11), bushing retainer plate (12), bushing (13), and bushing retainer plate (14) from axle (8). Discard lockwashers.
5. Remove grease fitting (15) from bushing (13).



CD076R03

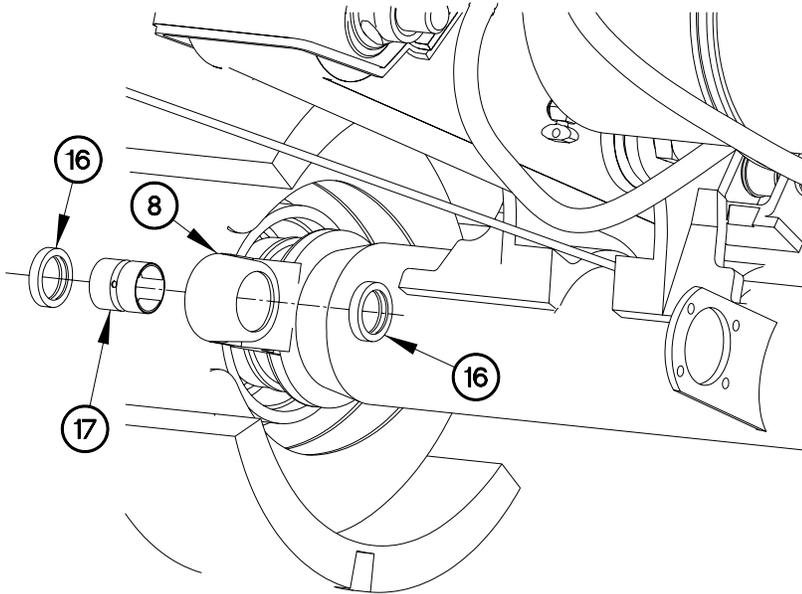
6. Remove two seals (16) and bushing (17) from axle (8). Discard seals.



CD076R04

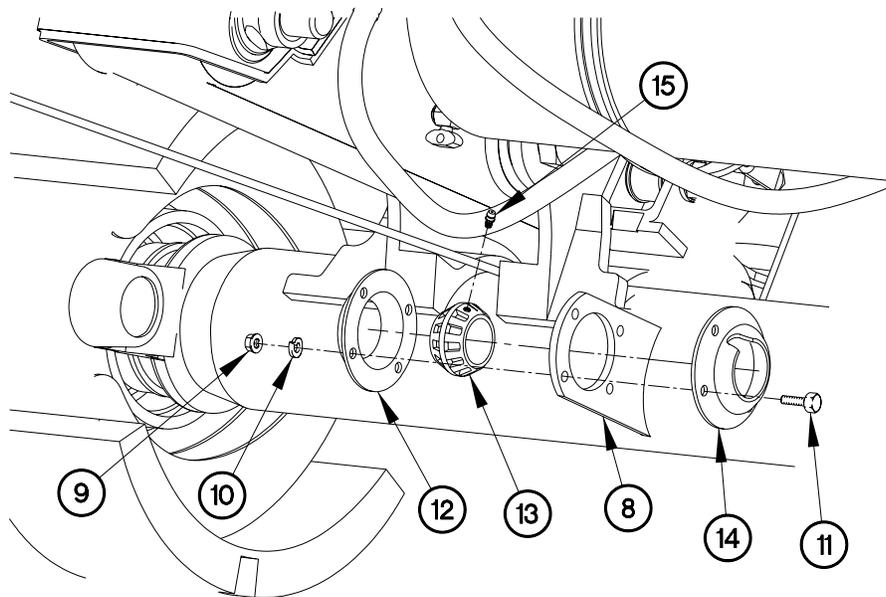
INSTALLATION

1. Install bushing (17) and two seals (16) on axle (8).



CD076R04

2. Install grease fitting (15) on bushing (13).
3. Install bushing (13) and bushing retainer plates (14 and 12) on axle (8) with four bolts (11), lockwashers (10), and nuts (9).

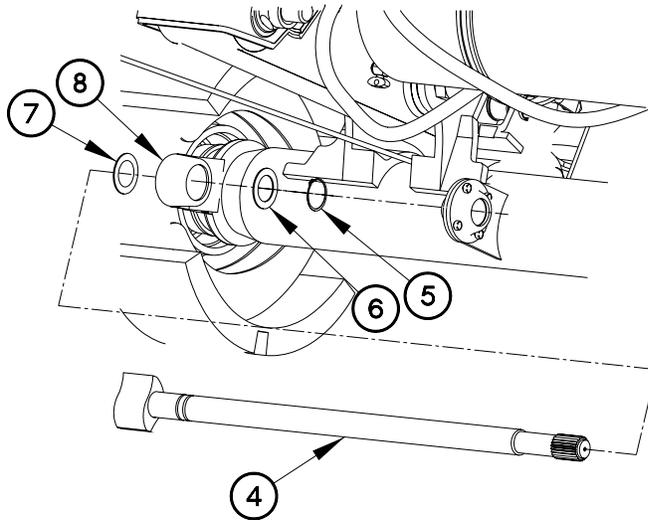


CD076R03

INSTALLATION – Continued**CAUTION**

Line up match marks on cam end of air brake arm and axle during installation.
Failure to comply may result in damage to equipment.

4. Position washer (7) air brake arm (4), washer (6), and snap ring (5) on axle (8).
5. Install snap ring (5) on air brake arm (4).

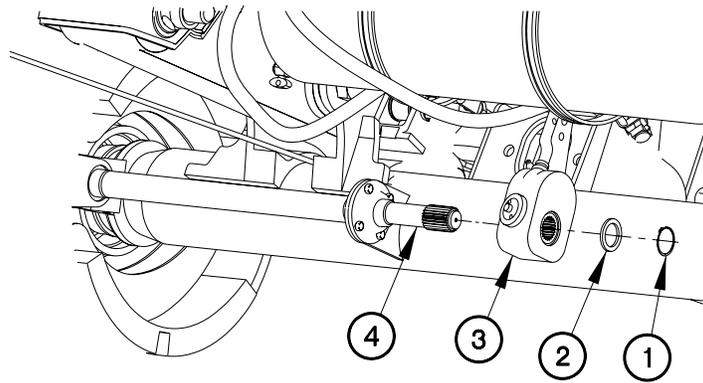


CD076R02

INSTALLATION - Continued**WARNING**

Retaining rings are under tension and can act as projectiles when released causing severe eye injury. Use care when installing retaining rings. Failure to comply may result in injury to personnel.

6. Install slack adjuster (3) on air brake arm (4) with washer (2) and snap ring (1).



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OPERATIONAL CHECKS

1. Install wheel hub (WP 0085 00).
2. Install air brake chamber (WP 0081 00).
3. Couple trailer (WP 0043 23, TM 2320-392-10-1, Coupling Trailer).
4. Operate trailer and check for normal brake operation (WP 0011 00, TM 9-2320-392-10-1).
5. Uncouple trailer (WP 0043 24, TM 2320-392-10-1, Uncoupling Trailer).

END OF WORK PACKAGE

**ANTI-LOCK BRAKING SYSTEM (ABS) DIAGNOSTIC
LIGHT ASSEMBLY REPLACEMENT**

0077 00

THIS WORK PACKAGE COVERS:

Removal, Installation, Operational Checks

INITIAL SETUP:

Maintenance Level

Field

Tools and Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)
Wrench, Torque, 0-200 lb-in. (Item 33, WP
0167 00)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape
(Item 6, WP 0165 00)

Materials/Parts (Cont)

Ties, Cable, Plastic (Item 20, WP 0165 00)
Washer, Lock (Item 15, WP 0168 00)
Nut, Self-Locking (2) (Item 27, WP 0168 00)

Equipment Conditions

Trailer uncoupled (WP 0043 24, TM 2320-
293-10-1).

GENERAL

This work package contains information and instructions to replace the Load Handling System Trailer (LHST) Anti-Lock Braking System (ABS) diagnostic light assembly.

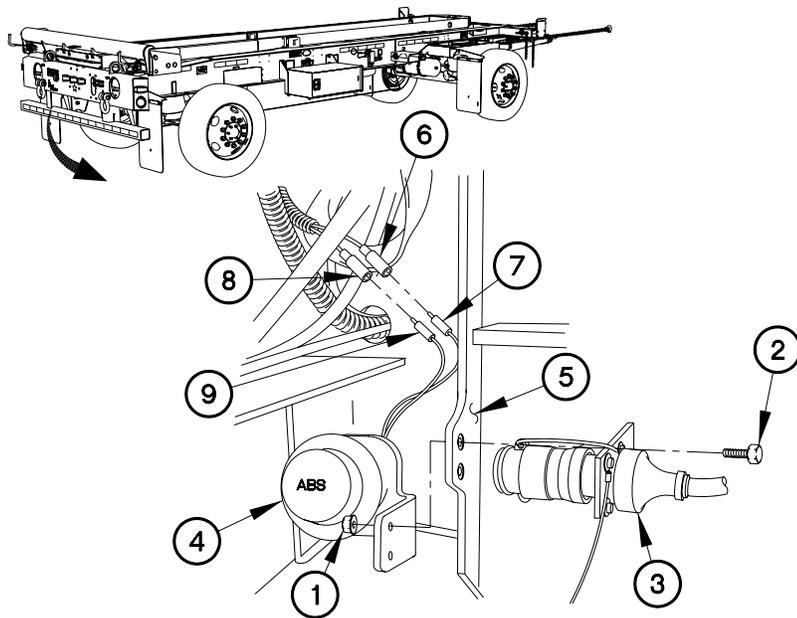
**ANTI-LOCK BRAKING SYSTEM (ABS) DIAGNOSTIC
LIGHT ASSEMBLY REPLACEMENT - Continued**

REMOVAL

NOTE

Remove plastic cable ties as required.

1. Remove two self-locking nuts (1), bolts (2), ABS power and diagnostic cable and tool (3), and ABS diagnostic light (4) from rear panel assembly (5). Discard self-locking nuts.
2. Disconnect bullet connector TL610 (6) from ABS diagnostic light ground connector (7).
3. Disconnect bullet connector TL612 (8) from ABS diagnostic light power connector (9).

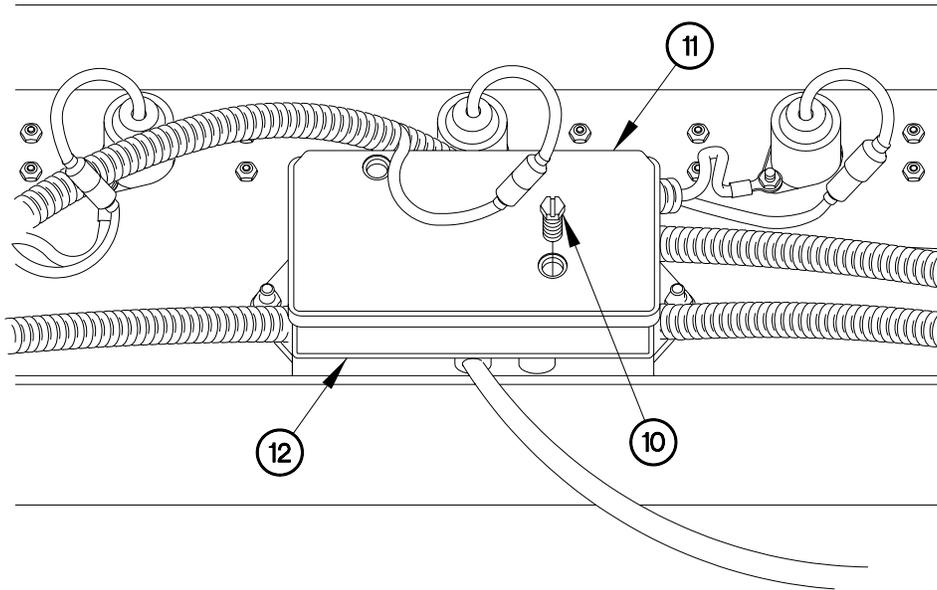


CD077R01

**ANTI-LOCK BRAKING SYSTEM (ABS) DIAGNOSTIC
LIGHT ASSEMBLY REPLACEMENT - Continued**

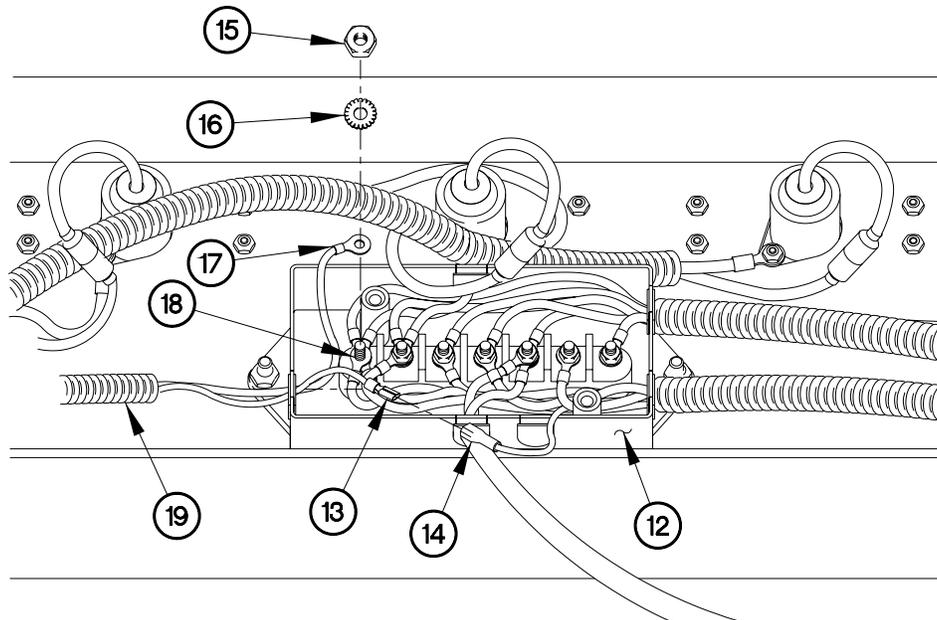
REMOVAL - Continued

4. Remove two bolts (10) and cover (11) from junction box (12).



CD077R02

5. Disconnect terminal lug TL611 (13) from ABS power and diagnostic cable lead (14).
6. Remove nut (15), lockwasher (16), and terminal lug TL609 (17) from junction box terminal stud 1 GND (18). Discard lockwasher.
7. Remove ABS diagnostic light cable assembly (19) from junction box (12).

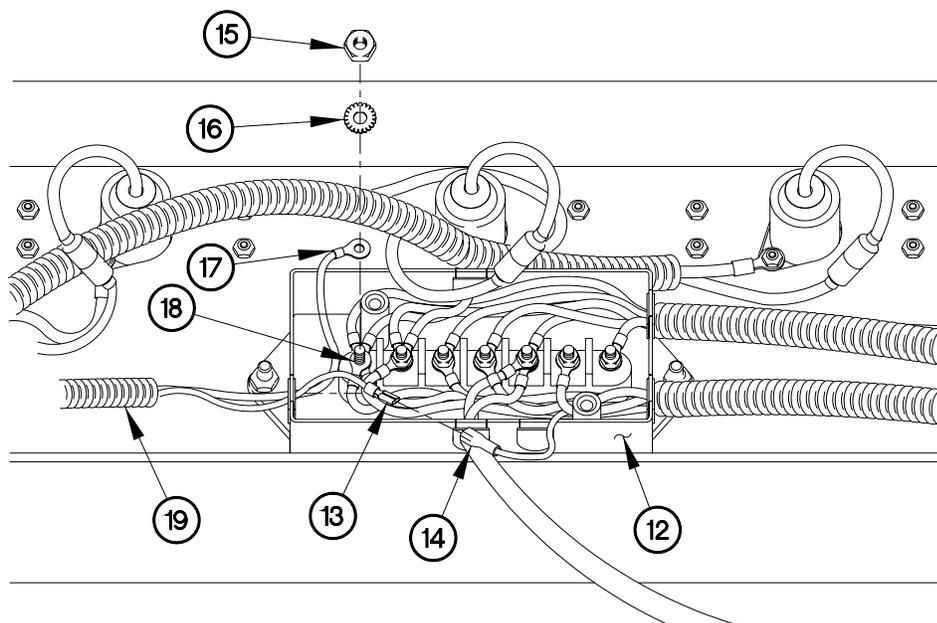


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**ANTI-LOCK BRAKING SYSTEM (ABS) DIAGNOSTIC
LIGHT ASSEMBLY REPLACEMENT - Continued****0077 00****INSTALLATION****NOTE**

Install plastic cable ties as required.

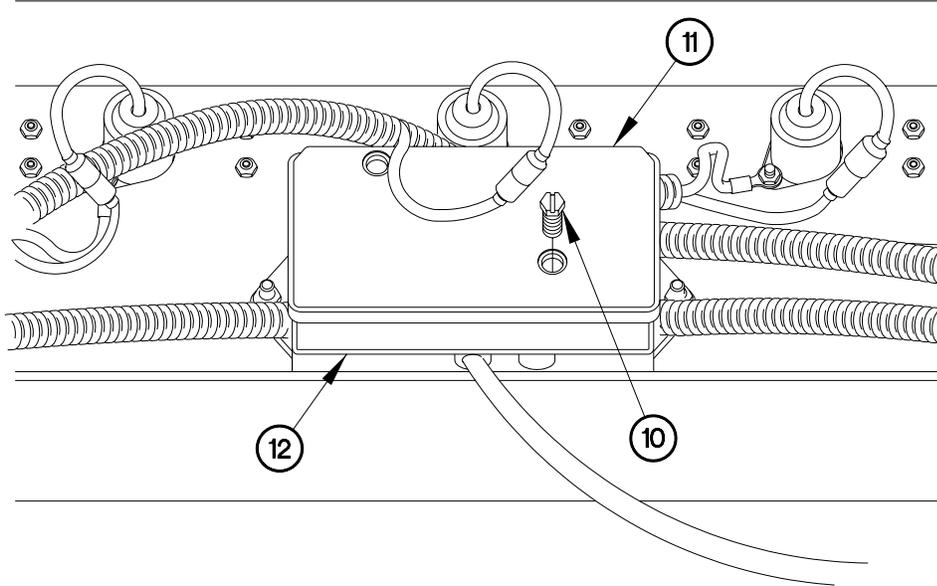
1. Position ABS diagnostic cable assembly (19) in junction box (12).
2. Install terminal lug TL609 (17) on junction box terminal stud 1 GRN (18) with lockwasher (16) and nut (15).
3. Connect terminal lug TL611 (13) to ABS power and diagnostic cable lead (14).



CD077R03

**ANTI-LOCK BRAKING SYSTEM (ABS) DIAGNOSTIC
LIGHT ASSEMBLY REPLACEMENT - Continued****0077 00****INSTALLATION-Continued**

4. Install cover (11) on junction box (12) with two bolts (10).

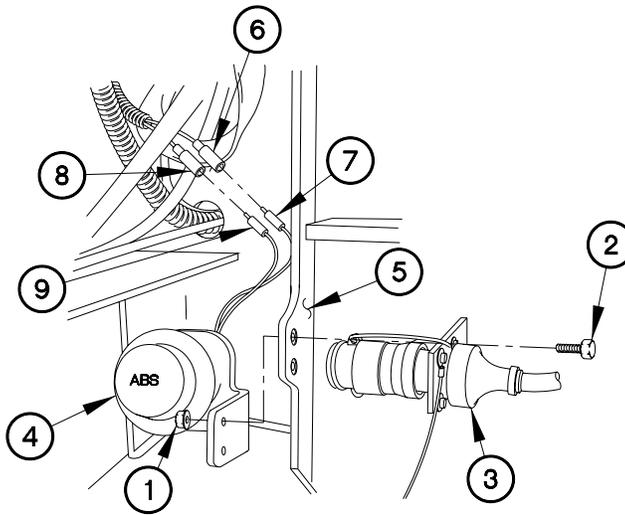


CD077R02

**ANTI-LOCK BRAKING SYSTEM (ABS) DIAGNOSTIC
LIGHT ASSEMBLY REPLACEMENT - Continued**

INSTALLATION - Continued

5. Connect bullet connector TL612 (8) to ABS diagnostic light power connector (9).
6. Disconnect bullet connector TL610 (6) from ABS diagnostic light ground connector (7).
7. Position ABS diagnostic light (4) and ABS power and diagnostic cable and tool (3) on rear panel assembly (5) with two bolts (2) and self-locking nuts (1).
8. Tighten two self-locking nuts (1) to 60-84 lb-in. (7-9 N•m).



CD077101

OPERATIONAL CHECKS

1. Remove one of the ABS wheel speed sensors.
2. Couple trailer (WP 0043 23, TM 2320-392-10-1, Trailer Coupling).
3. Check for ABS warning light illumination.
4. Replace ABS wheel speed sensor.
5. Operate trailer over 4 mph.
6. ABS light should go out.
7. Uncouple trailer (WP 0043 24, TM 2320-392-10-1, Uncoupling Trailer).

END OF WORK PACKAGE

AIR TANK REPLACEMENT

0078 00

THIS WORK PACKAGE COVERS:

Removal, Installation, Operational Check

INITIAL SETUP:

Maintenance Level

Field

Materials/Parts

Sealing Compound (Item 15, WP 0165 00)

Tools and Special Tools

Goggles, Industrial (Item 8, WP 0167 00)
Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer uncoupled (WP 0043 24, TM 2320-392-10-1).
Relay valve removed (0075 00).
Brake protection valve removed (0075 00).

GENERAL

This work package contains information and instructions to replace the Load Handling System Trailer (LHST) air tanks and drain valves.

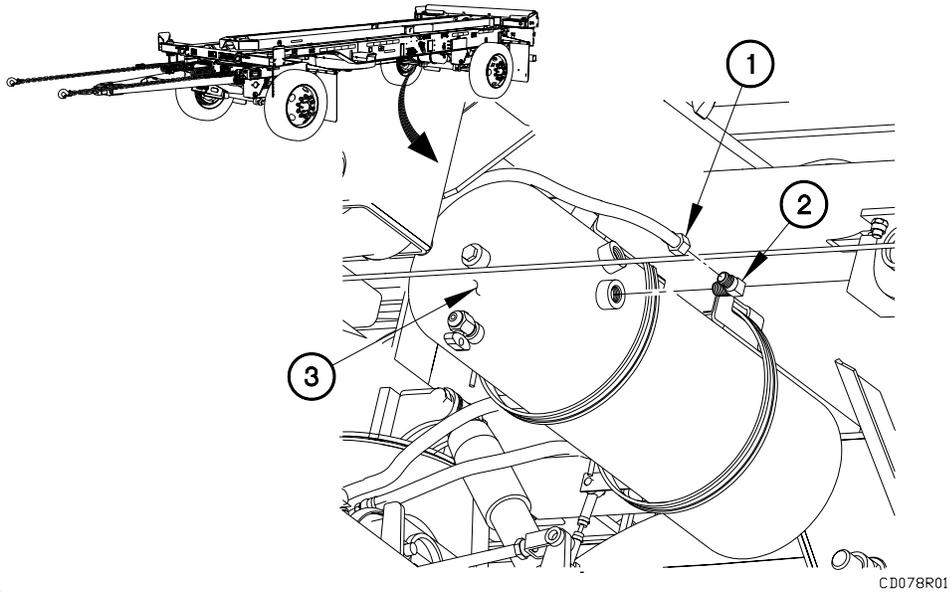
WARNING

Wear appropriate eye protection when working under trailer due to the possibility of falling debris. Failure to comply may result in injury to personnel.

REMOVAL**NOTE**

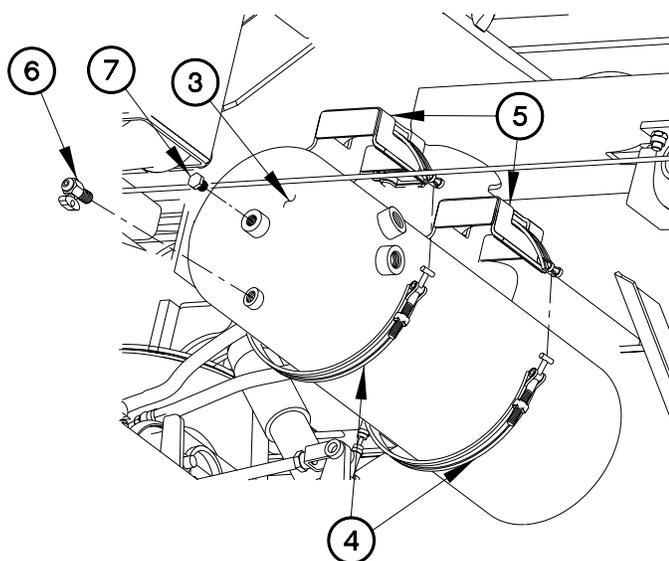
Perform the following two steps on rear air tank.

1. Disconnect hose (1) from fitting (2).
2. Remove 90-degree fitting (2) from air tank (3).



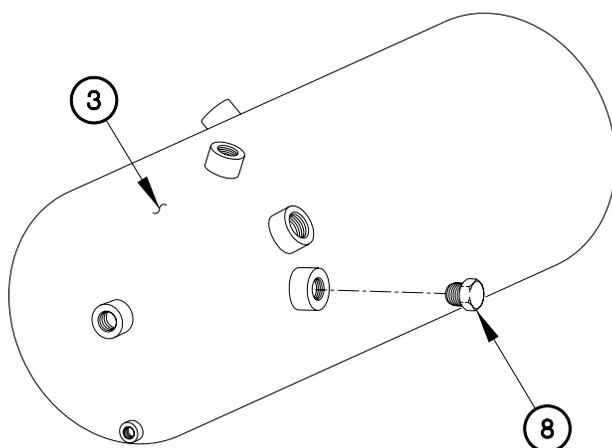
REMOVAL-Continued

3. Remove two clamps (4) and air tank (3) from brackets (5).
4. Remove drain valve (6) from air tank (3).
5. Remove fitting (7) from air tank (3).



C.D078R02

6. Remove plug (8) from air tank (3).

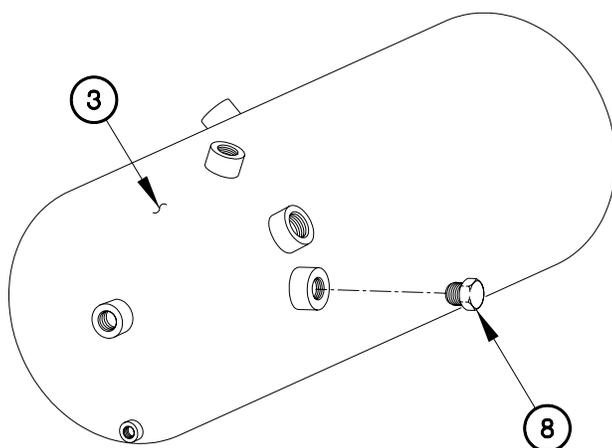


C.D078R03

INSTALLATION**WARNING**

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

1. Apply sealing compound to plug (8) prior to installation.
2. Install plug (8) in air tank (3).

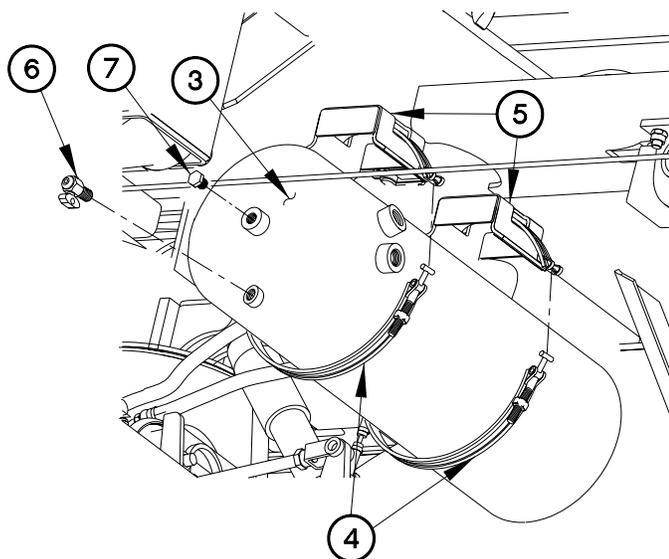


C0078R03

INSTALLATION-Continued**WARNING**

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

3. Apply sealing compound to threads of fitting (7) and drain valve (6).
4. Install fitting (7) in air tank (3).
5. Install drain valve (6) in air tank (3).
6. Install air tank (3) on brackets (5) with two clamps (4).



CD078R02

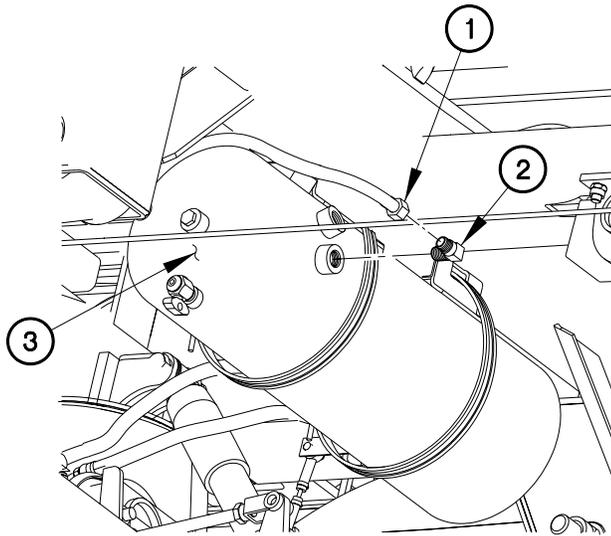
INSTALLATION-Continued**WARNING**

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

NOTE

Perform the following two steps on rear air tank.

7. Apply sealing compound to threads of 90-degree fitting (2).
8. Install 90-degree fitting (2) in air tank (3).
9. Connect hose (1) to 90-degree fitting (2).



CD078101

OPERATIONAL CHECK

1. Couple trailer (WP 0043 23, TM 2320-392-10-1, Coupling Trailer). Allow towing vehicle time for air pressure to reach normal operating pressure.
2. Uncouple trailer (WP 0043 24, TM 2320-392-10-1, Uncoupling Trailer). Do not drain air tank as part of trailer uncoupling task.
3. Check around drain valve and fittings for air leaks.

OPERATIONAL CHECK-Continued

4. Couple trailer (WP 0043 23, TM 2320-392-10-1, Coupling Trailer).
5. Road-test trailer and check for proper brake operation.
6. Uncouple trailer (WP 0043 24, TM 2320-392-10-1, Uncoupling Trailer).

END OF WORK PACKAGE

EMERGENCY/SERVICE GLADHAND AND HOSE REPLACEMENT

0079 00

THIS WORK PACKAGE COVERS:

Removal, Installation, Operational Checks

INITIAL SETUP:

Maintenance Level

Field

Materials/Parts

Sealing Compound (Item 15, WP 0165 00)

Tools and Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer uncoupled (WP 0043 24, TM 2320-293-10-1).

GENERAL

This work package contains information and instructions to replace the Load Handling System Trailer (LHST) emergency/service gladhands and hoses.

EMERGENCY/SERVICE GLADHAND HOSE REPLACEMENT - Continued 0079 00

REMOVAL-Continued

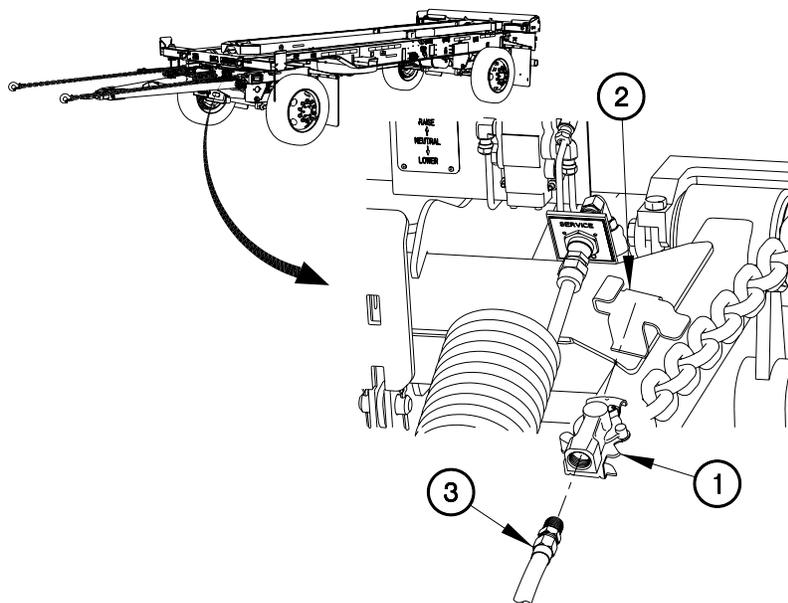
WARNING

Vent air system before disconnecting air hoses. Pressurized air can blow dirt and debris with sufficient force to cause injury. Safety goggles must be worn when working with compressed air. Failure to comply may result in injury to personnel.

NOTE

Perform the following seven steps on EMERGENCY/SERVICE gladhand hoses. Both EMERGENCY and SERVICE gladhand hoses are removed the same way. SERVICE gladhand hose shown.

1. Remove SERVICE gladhand (1) from bracket (2).
2. Remove SERVICE gladhand (1) from SERVICE gladhand hose (3).

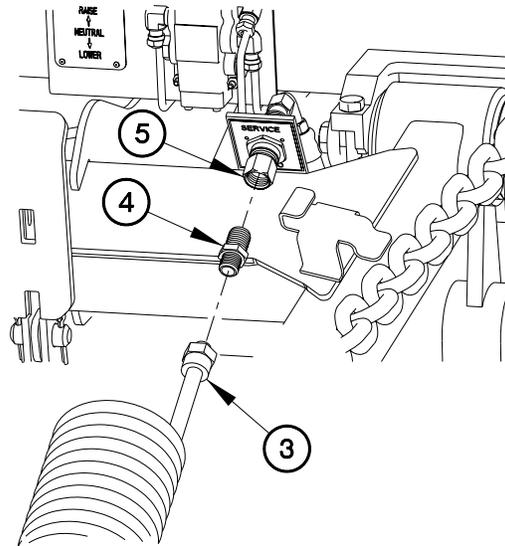


CD079R01

EMERGENCY/SERVICE GLADHAND HOSE REPLACEMENT - Continued 0079 00

REMOVAL-Continued

3. Remove SERVICE gladhand hose (3) from adapter (4).
4. Remove adapter (4) from coupling (5).

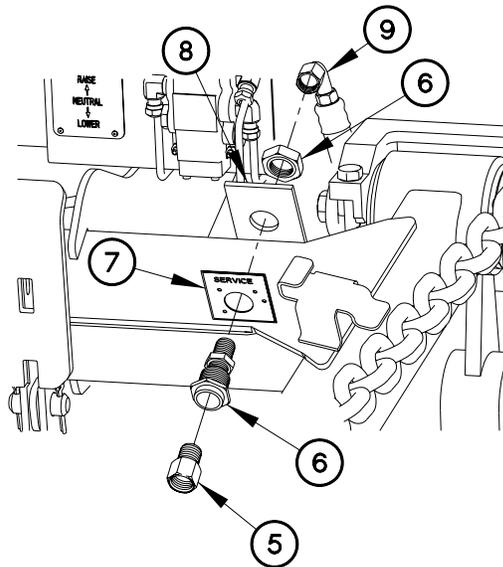


C.D079R02

EMERGENCY/SERVICE GLADHAND HOSE REPLACEMENT - Continued 0079 00

REMOVAL – Continued

5. Remove coupling (5) from tubing connector (6).
6. Remove tubing connector (6) and data plate (7) from frame rail (8).
7. Remove tubing connector (6) from hose (9).



C.D079R03

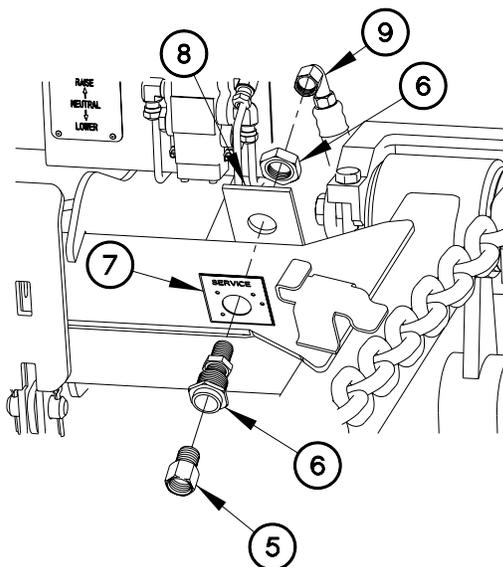
EMERGENCY/SERVICE GLADHAND HOSE REPLACEMENT - Continued 0079 00**INSTALLATION****WARNING**

Adhesives and compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive or compound get on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

NOTE

Perform the following eight steps on EMERGENCY/SERVICE gladhand hoses. Both EMERGENCY and SERVICE gladhand hoses are installed the same way. SERVICE gladhand hose shown.

1. Apply sealant to tubing connector (6).
2. Install tubing connector (6) in hose (9).
3. Install data plate (7) and tubing connector (6) on frame rail (8).
4. Install coupling (5) in tubing connector (6).

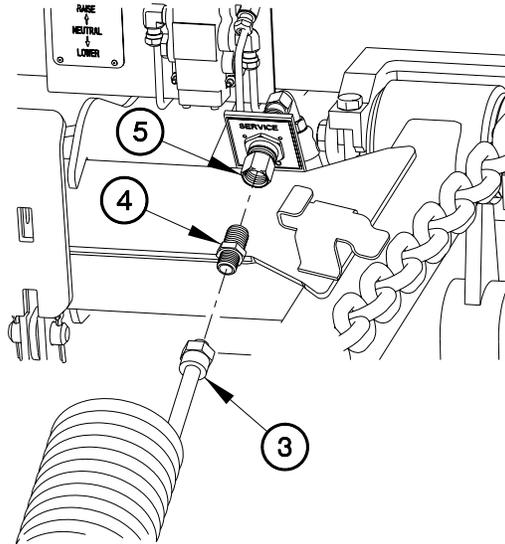


CD079R03

EMERGENCY/SERVICE GLADHAND HOSE REPLACEMENT - Continued 0079 00

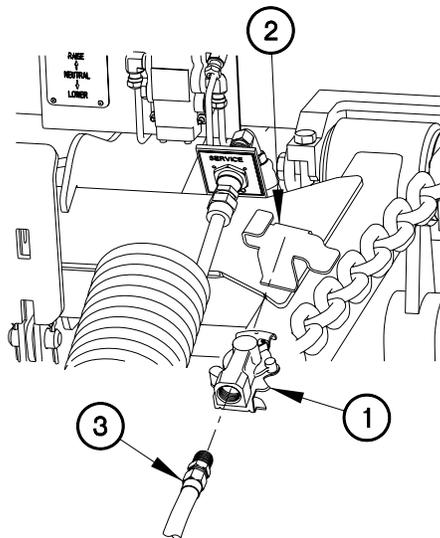
INSTALLATION-Continued

5. Install adapter (4) in coupling (5).
6. Connect SERVICE gladhand hose (3) to adapter (4).



C.D079R02

7. Install SERVICE gladhand hose (3) in SERVICE gladhand (1).
8. Install SERVICE gladhand (1) in bracket (2).



CD079101

EMERGENCY/SERVICE GLADHAND HOSE REPLACEMENT - Continued 0079 00

OPERATIONAL CHECKS

1. Couple trailer (WP 0043 23, TM 2320-392-10-1, Coupling Trailer).
2. Check Emergency/Service gladhand air hoses for leaks.
3. Check for proper operation of Emergency/Service gladhands (WP 0013 00).
4. Uncouple trailer (WP 0043 24, TM 2320-392-10-1, Uncoupling Trailer).

END OF WORK PACKAGE

AIR RIDE CONTROL VALVE REPLACEMENT

0080 00

THIS WORK PACKAGE COVERS:

Removal, Installation, Operational Checks

INITIAL SETUP:

Maintenance Level

Field

Tools and Special Tools

Goggles, Industrial (Item 8, WP 0167 00)
Tool Kit, Genl Mech (Item 22, WP 0167 00)
Wrench, Torque, 0-200 lb-in. (Item 33, WP 0167 00)

Materials/Parts (Cont)

Dispenser, Pressure Sensitive Adhesive Tape (Item 6, WP 0165 00)
Sealing Compound (Item 15, WP 0165 00)
Nut, Self-Locking (4) (Item 27, WP 0168)

Equipment Conditions

Trailer uncoupled (WP 0043 24, TM 2320-392-10-1).

GENERAL

This work package contains information and instructions to replace the Load Handling System Trailer (LHST) air ride control valve.

WARNING

Wear appropriate eye protection when working under trailer due to the possibility of falling debris. Failure to comply may result in injury to personnel.

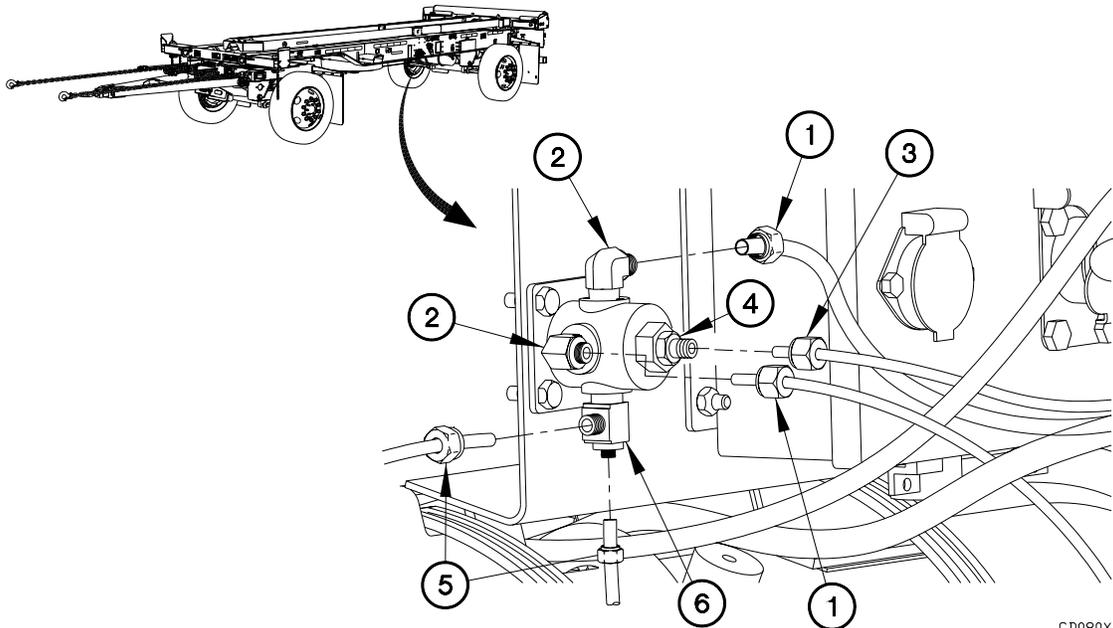
WARNING

Vent air system before disconnecting air lines. Pressurized air can blow dirt and debris with sufficient force to cause injury. Safety goggles must be worn when working with compressed air. Failure to comply may result in injury to personnel.

REMOVAL**NOTE**

Tag air hoses and connection points prior to disconnecting.

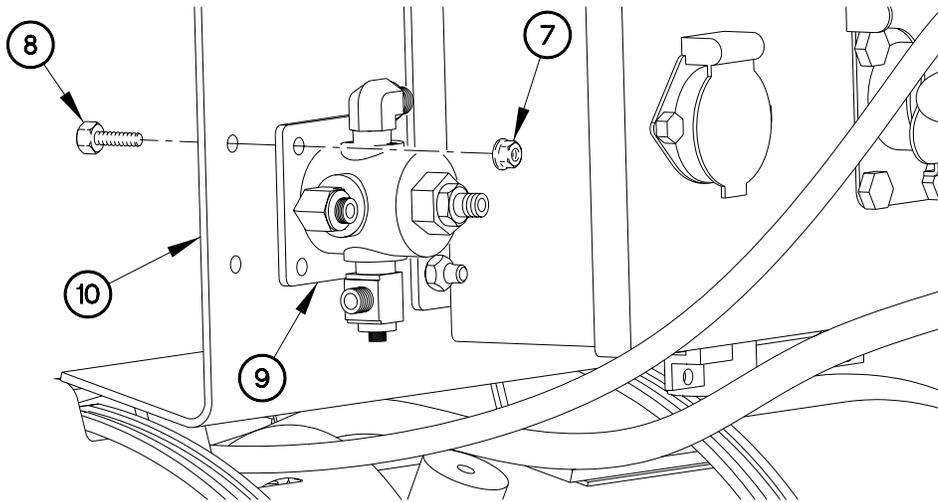
1. Drain air tanks.
2. Disconnect two hoses (1) from 90-degree fittings (2).
3. Disconnect hose (3) from fitting (4).
4. Disconnect two hoses (5) from tee-fitting (6).



CD080X01

REMOVAL - Continued

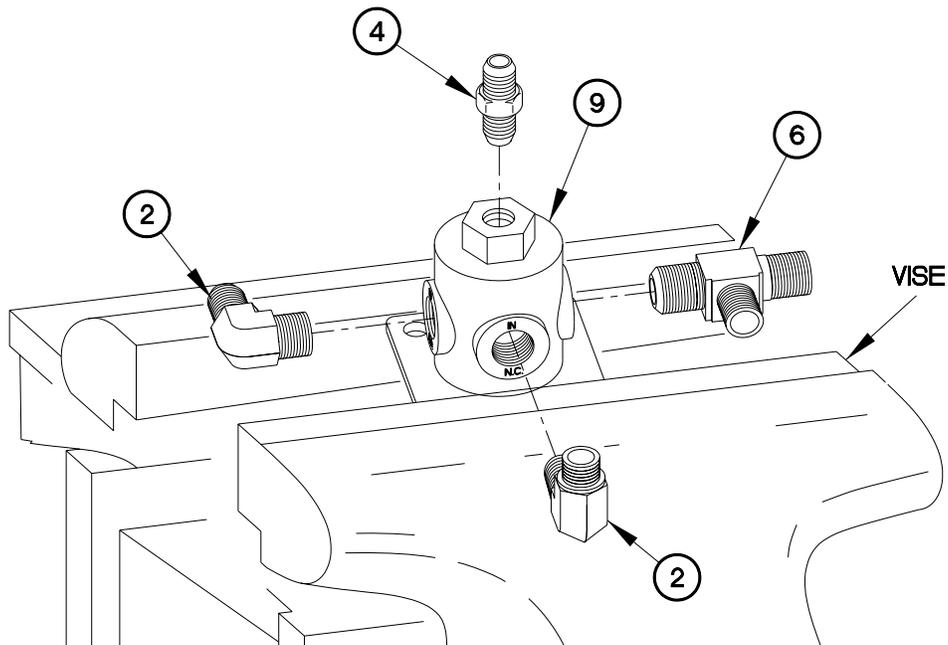
5. Remove four self-locking nuts (7), bolts (8), and air ride control valve (9) from bracket (10). Discard self-locking nuts.



CD080R02

REMOVAL - Continued

6. Place air ride control valve (9) in a vise.
7. Remove two 90-degree fittings (2) from air ride control valve (9).
8. Remove fitting (4) from air ride control valve (9).
9. Remove tee-fitting (6) from air ride control valve (9).

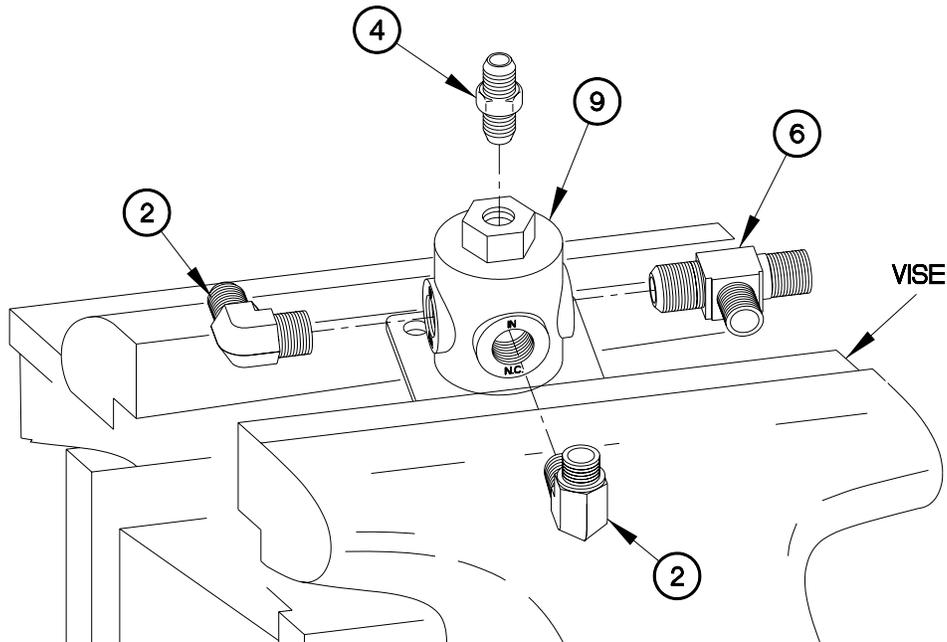


CD080R03

INSTALLATION**WARNING**

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

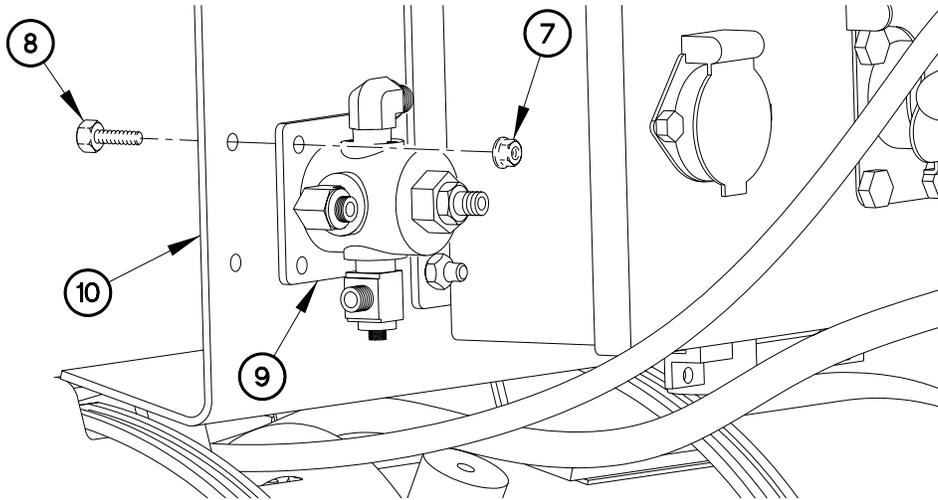
1. Apply sealing compound to threads of tee-fitting (6), fitting (4), and two 90-degree fittings (2).
2. Place air ride control valve (9) in a vise.
3. Install tee-fitting (6) on air ride control valve (9).
4. Install fitting (4) on air ride control valve (9).
5. Install two 90-degree fittings (2) on air ride control valve (9).



C.D080R03

INSTALLATION - Continued

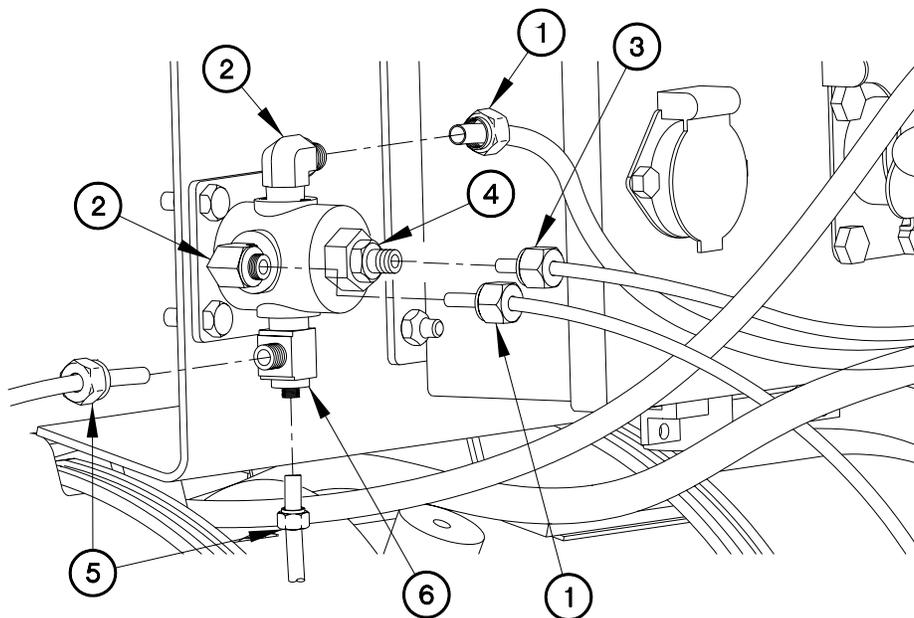
6. Position air ride control valve (9) on bracket (10) with four bolts (8) and self-locking nuts (7).
7. Tighten self-locking nuts (7) to 96-120 lb-in. (11-13 N•m).



CD080R02

INSTALLATION - Continued

8. Connect two hoses (5) to tee-fitting (6).
9. Connect hose (3) to fitting (4).
10. Connect two hoses (1) to 90-degree fittings (2).



CD080R01

OPERATIONAL CHECKS

1. Couple trailer (WP 0043 23, TM 2320-392-10-1, Coupling Trailer).
2. Check air ride control valve air hoses for leaks.
3. Uncouple trailer (WP 0043 24, TM 2320-392-10-1, Uncoupling Trailer).

END OF WORK PACKAGE

AIR BRAKE CHAMBER REPLACEMENT

0081 00

THIS WORK PACKAGE COVERS:

Removal, Installation, Operational Checks

INITIAL SETUP:

Maintenance Level

Field

Materials/Parts (Cont)

Pin, Cotter (Item 41, WP 0168 00)

Pin, Cotter (Item 43, WP 0168 00)

Tools and Special Tools

Tool Kit, Genl Mech (Item 22, WP 00 0167)

Goggles, Industrial (Item 8, WP 0167 00)

Equipment Conditions

Trailer uncoupled (WP 0043 24, TM 2320-392-10-1).

Spring brakes caged (WP 0055 00).

Materials/Parts

Washer, Lock (2) (Item 18, WP 0168 00)

GENERAL

This work package contains information and instructions to replace the Load Handling System Trailer (LHST) air brake arms.

WARNING

Wear appropriate eye protection when working under trailer due to the possibility of falling debris. Failure to comply may result in injury to personnel.

Spring brakes must be caged prior to removal of air chamber. Failure to comply may result in serious injury or death to personnel.

CAUTION

Avoid pinching air hoses when positioning trestles. Failure to comply may result in damage to equipment.

NOTE

LH and RH air brake chambers are installed the same way. LH air brake chamber shown.

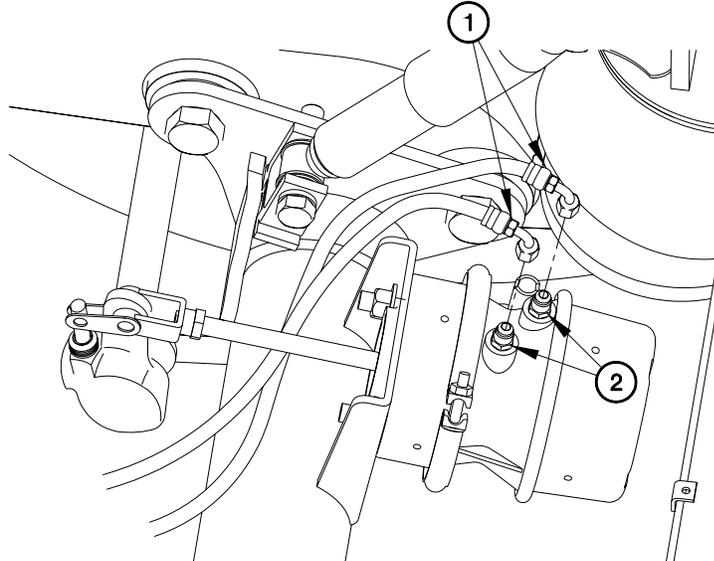
REMOVAL

1. Drain air tanks.

NOTE

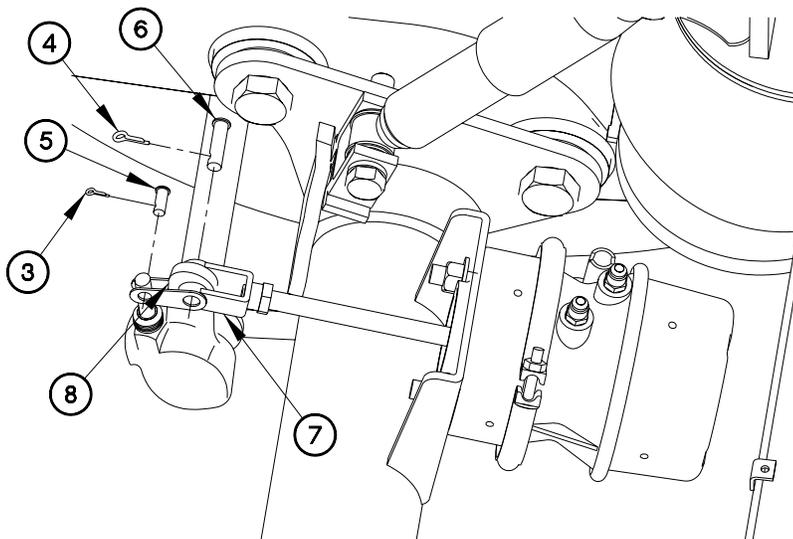
Tag hoses and connection points prior to removal.

2. Disconnect two hoses (1) from fittings (2).



CD081R01

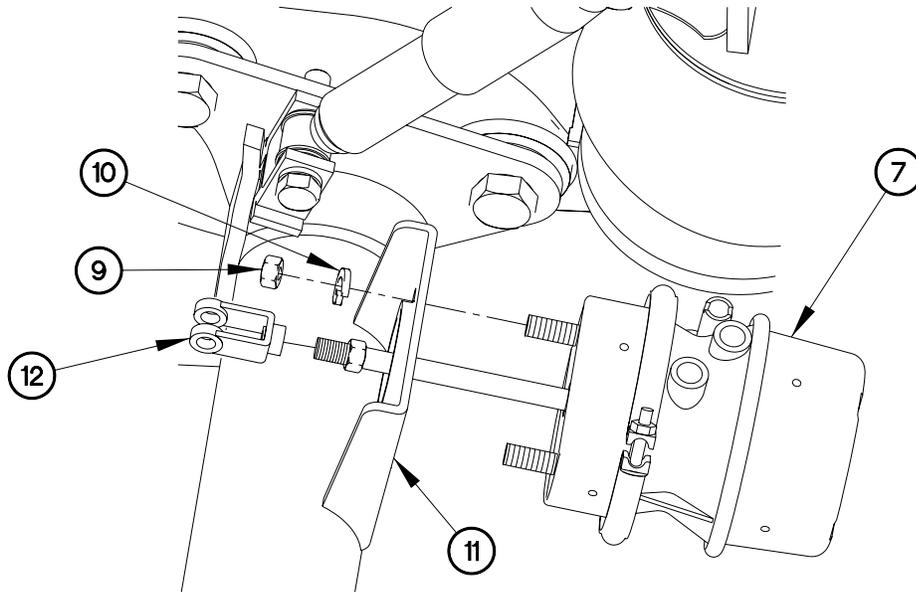
3. Remove cotter pins (3 and 4) from clevis pins (5 and 6). Discard cotter pins.
4. Remove clevis pins (5 and 6) from air brake chamber (7) and slack adjuster (8).



CD081R02

REMOVAL - Continued

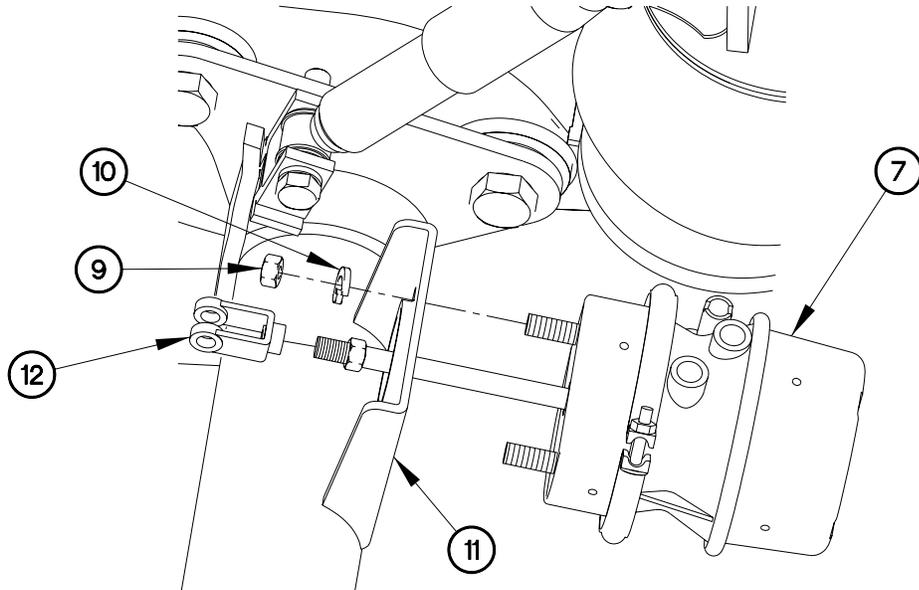
5. Remove two nuts (9), lockwashers (10), and air brake chamber (7) from axle (11). Discard lockwashers.
6. Remove clevis (12) from air brake chamber (7).



CD081R03

INSTALLATION

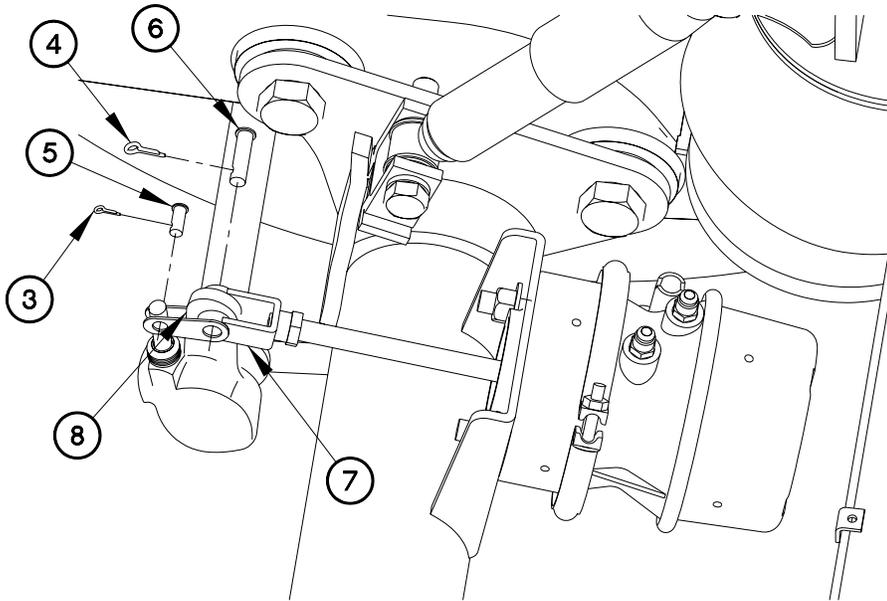
1. Install clevis (12) on air brake chamber (7).
2. Install air brake chamber (7) on axle (11) with two lockwashers (10) and nuts (9).



CD081R03

INSTALLATION - Continued

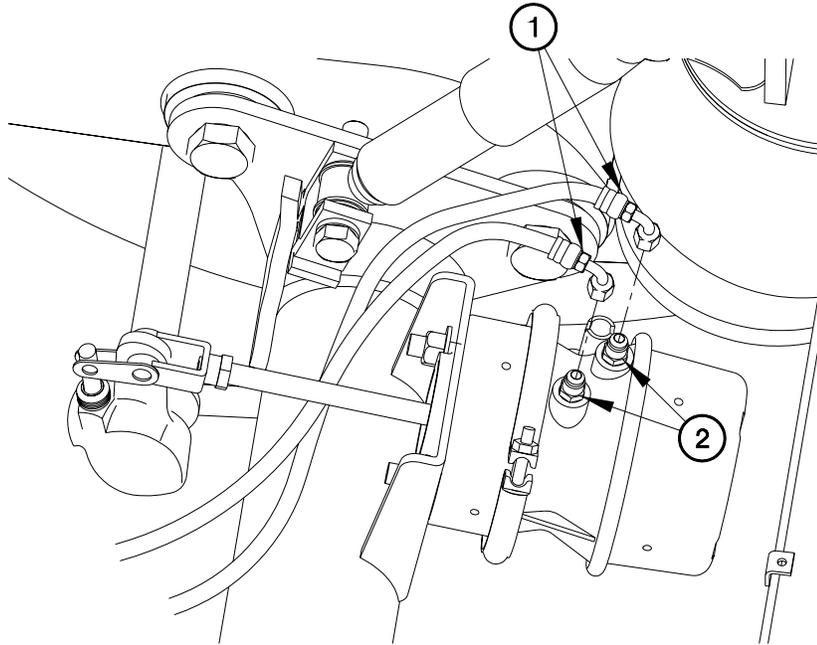
3. Install air brake chamber (7) on slack adjuster (8) with clevis pins (5 and 6).
4. Install cotter pins (3 and 4) on clevis pins (5 and 6).



C0081R02

INSTALLATION - Continued

5. Connect two hoses (1) to fittings (2).



CD081R01

OPERATIONAL CHECKS

1. Uncage spring brakes. (WP 0055 00).
2. Couple trailer (WP 0043 23, TM 2320-392-10-1, Coupling Trailer).
3. Operate trailer and check for normal brake operation (WP 0011 00, TM 9-2320-392-10-1).
4. Uncouple trailer (WP 0043 24, TM 2320-392-10-1, Uncoupling Trailer).

END OF WORK PACKAGE

BREATHER VALVE REPLACEMENT

0082 00**THIS WORK PACKAGE COVERS:**Removal, Installation. Operational Checks

INITIAL SETUP:**Maintenance Level**

Field

Materials/Parts (Cont)

Sealing Compound (Item 2, WP 0165 00)

Tools and Special Tools

Tool Kit, Genl Mech (Item 22, WP 00 0167)
Goggles, Industrial (Item 8, WP 0167 00)
Wrench, Torque 0-200 lb-in. (Item 33, WP
0167 00)

Equipment Conditions

Turntable removed for access (WP 0099 00)
(front breather valve only).
Composite taillight assembly removed (WP
0060 00) (rear breather valve only)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape
(Item 6, WP 0165 00)

GENERAL

This work package contains information and instructions to replace the Load Handling System Trailer (LHST) breather valve.

WARNING

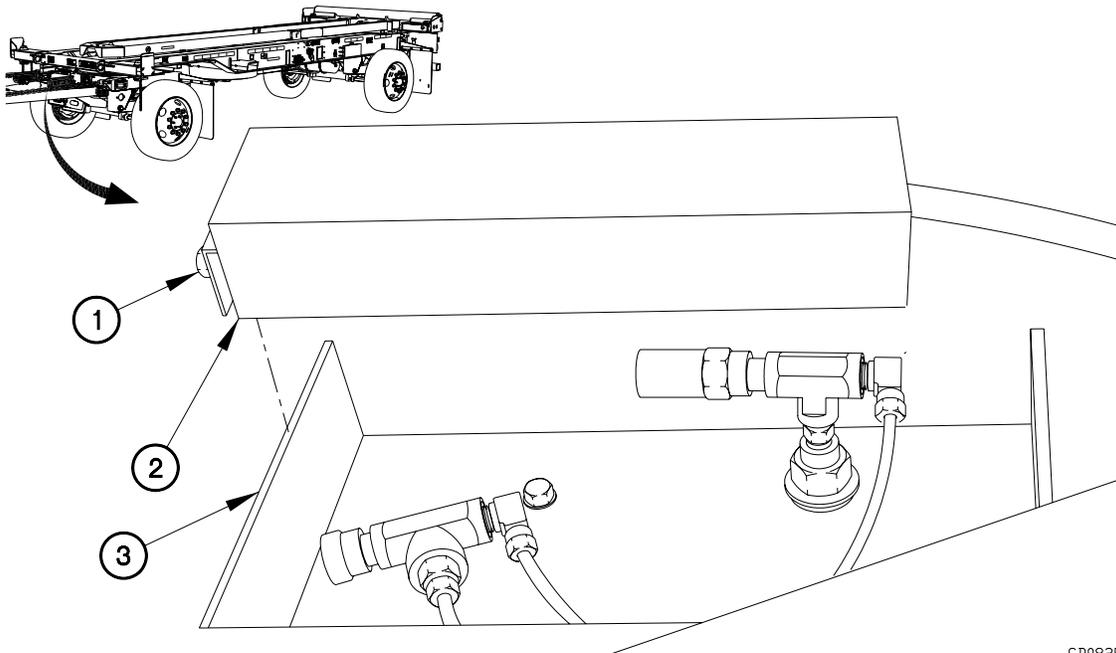
Wear appropriate eye protection when working under trailer due to the possibility of falling debris. Failure to comply may result in injury to personnel.

Use extreme caution when working in between frame rail and turntable assembly. Make sure multiple precautions have been taken to support frame rail from turntable assembly (jack stands, cargo sling, wooden blocks, etc). Failure to comply may result in serious injury or death to personnel or damage to equipment.

REMOVAL**NOTE**

Perform the following two steps if replacing the front breather valve.

1. Loosen four screws (1) on cover (2).
2. Remove cover (2) from trailer (3).

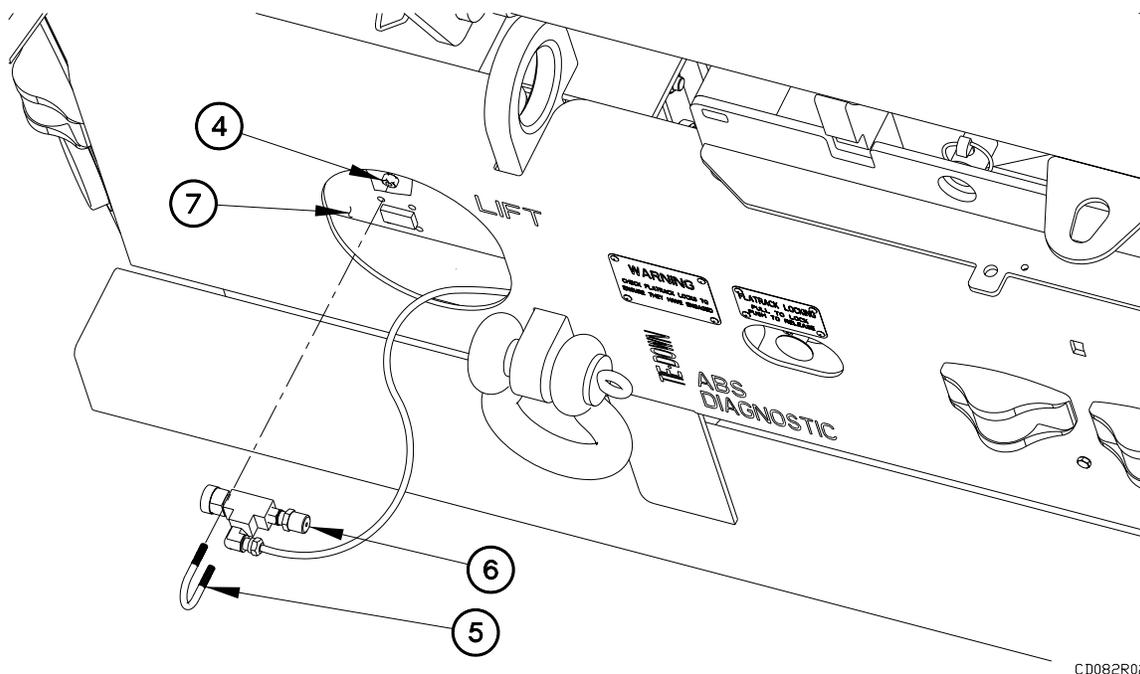


CD082R01

REMOVAL - Continued**NOTE**

Perform the following step if replacing rear breather valve.

3. Remove four self-locking nuts (4), two u-bolts (5), and breather valve assembly (6) from rear crossmember (7). Discard self-locking nuts.

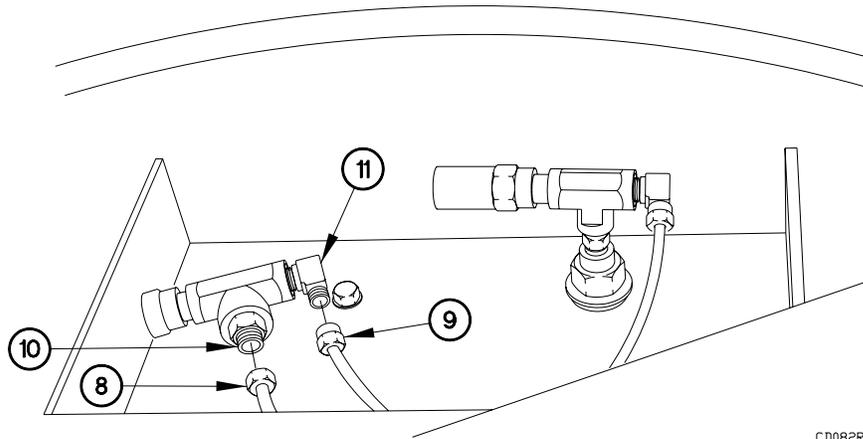


REMOVAL - Continued

NOTE

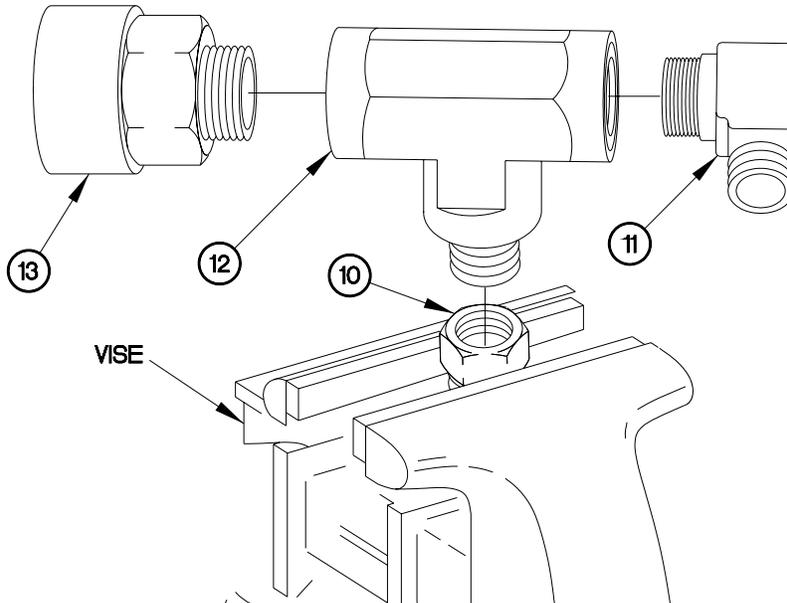
Tag hoses and connection points prior to disconnecting.

4. Disconnect hoses (8 and 9) from adapter (10) and 90-degree fitting (11).



CD082R03

5. Remove adapter (10) and 90-degree fitting (11) from tee fitting (12).
6. Remove breather valve (13) from tee fitting (12).

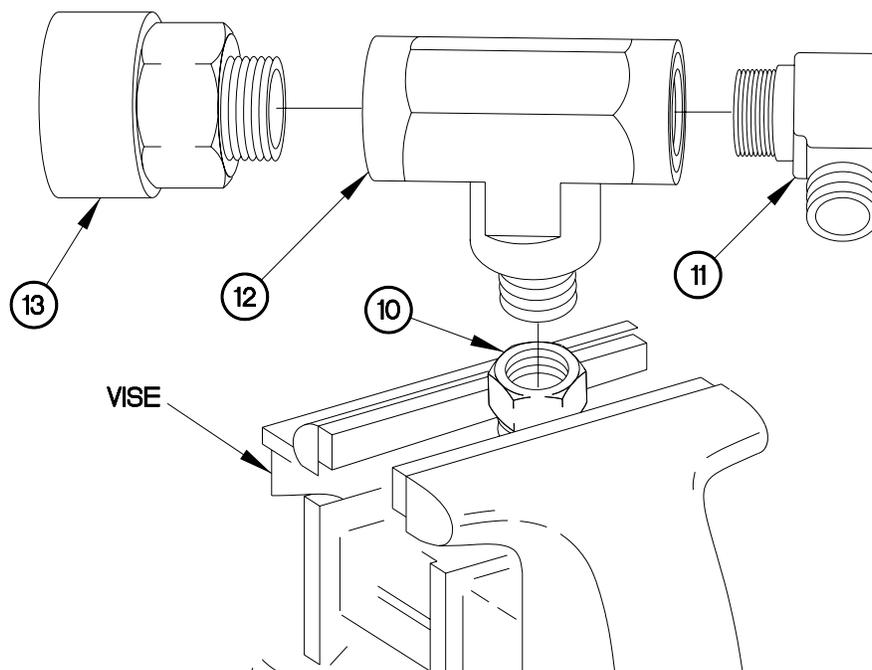


CD082R04

INSTALLATION**WARNING**

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

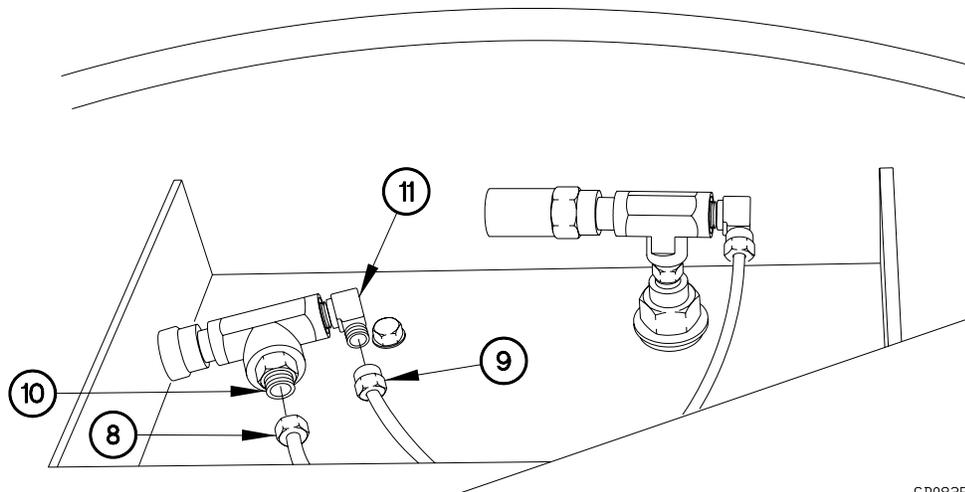
1. Apply sealing compound to threads of adapter (10), 90-degree fitting (11), and breather valve (13).
2. Install breather valve (13) in tee fitting (12).
3. Install adapter (10) and 90-degree fitting (11) in tee fitting (12).



CD082R04

INSTALLATION – Continued

7. Connect hoses (8 and 9) to adapter (10) and 90-degree fitting (11).

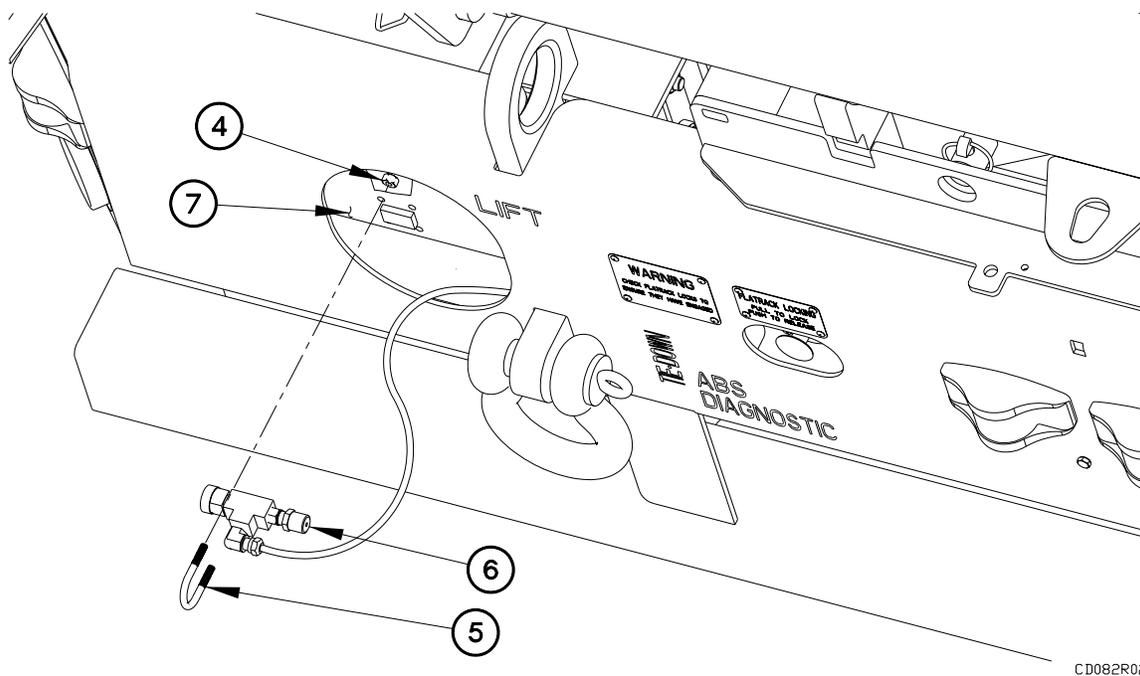


C.D082R03

INSTALLATION – Continued**NOTE**

Perform the following step if installing rear breather valve.

8. Install breather valve assembly (6) on rear crossmember (7) with two u-bolts (5) and four self-locking nuts (4).

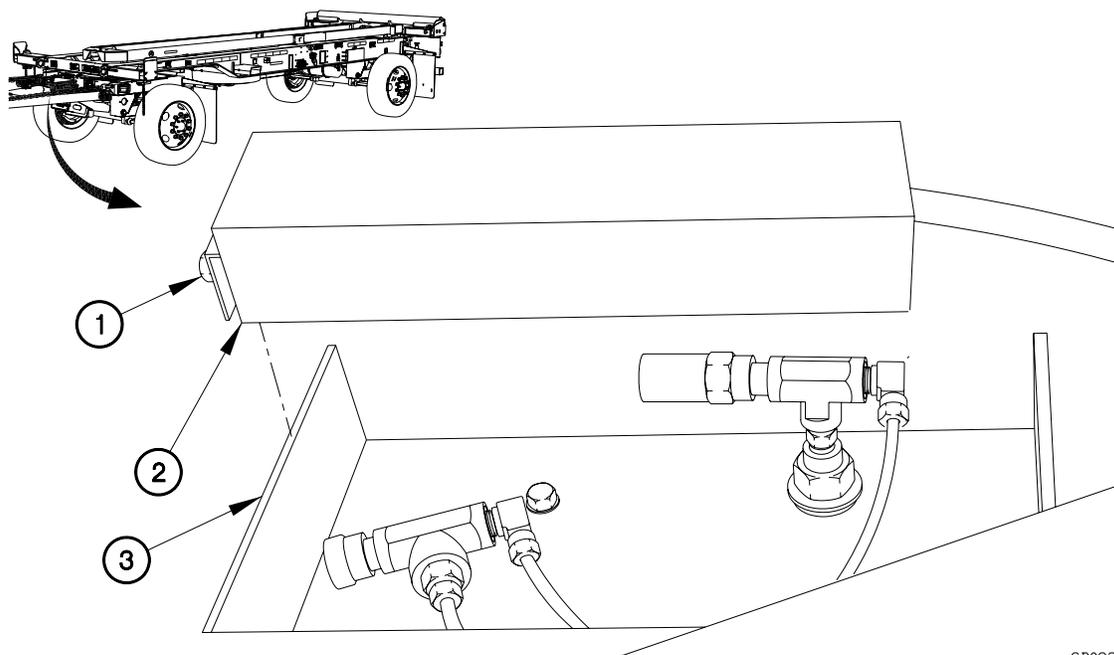


C.D082R02

BREATHER VALVE REPLACEMENT - Continued**0082 00****INSTALLATION – Continued****NOTE**

Perform the following two steps if installing the front breather valve.

9. Position cover (2) on trailer (3).
10. Tighten four screws (1) to 96-120 lb-in. (11-14 N•m).



CD082R01

OPERATIONAL CHECKS

1. Install composite taillights (WP 0060 00) (rear breather valve only).
2. Install turntable (WP 0099 00) (front breather valve only).
3. Couple trailer (WP 0043 23, TM 2320-392-10-1, Coupling Trailer).
4. Check breather valve air hoses for leaks.
5. Uncouple trailer (WP 0043 24, TM 2320-392-10-1, Uncoupling Trailer).

END OF WORK PACKAGE

SUSPENSION ASSEMBLY REPLACEMENT

0083 00**THIS WORK PACKAGE COVERS:**Removal, Installation, Operational Checks

INITIAL SETUP:**Maintenance Level**

Field

Materials/Parts

Nut, Self-locking (3) (Item 25, WP 0168 00)

Tools and Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)
Goggles, Industrial (Item 8, WP 0167 00)
Wrench, Torque, 0-175 lb-ft (Item 32, WP 0167 00)
Wrench, Torque, 0-600 lb-ft (Item 34, WP 0167 00)
Multiplier, Torque Wrench (Item 13, WP 0167 00)
Jack, Leveling Support (2) (Item 11, WP 0167 00)
Jack, Dolly Type, Hydraulic (Item 10, WP 0167 00)
Wrench Set, Socket (Item 26, WP 1068 00)

Personnel Required

Two

Equipment Conditions

Tires removed (on both sides suspension assembly is being replaced) (WP 0053 00).
Air brake air chamber removed (on side suspension assembly is being replaced) (WP 0081 00).

REMOVAL

WARNING

Wear appropriate eye protection when working under trailer due to the possibility of falling debris. Failure to comply may result in injury to personnel.

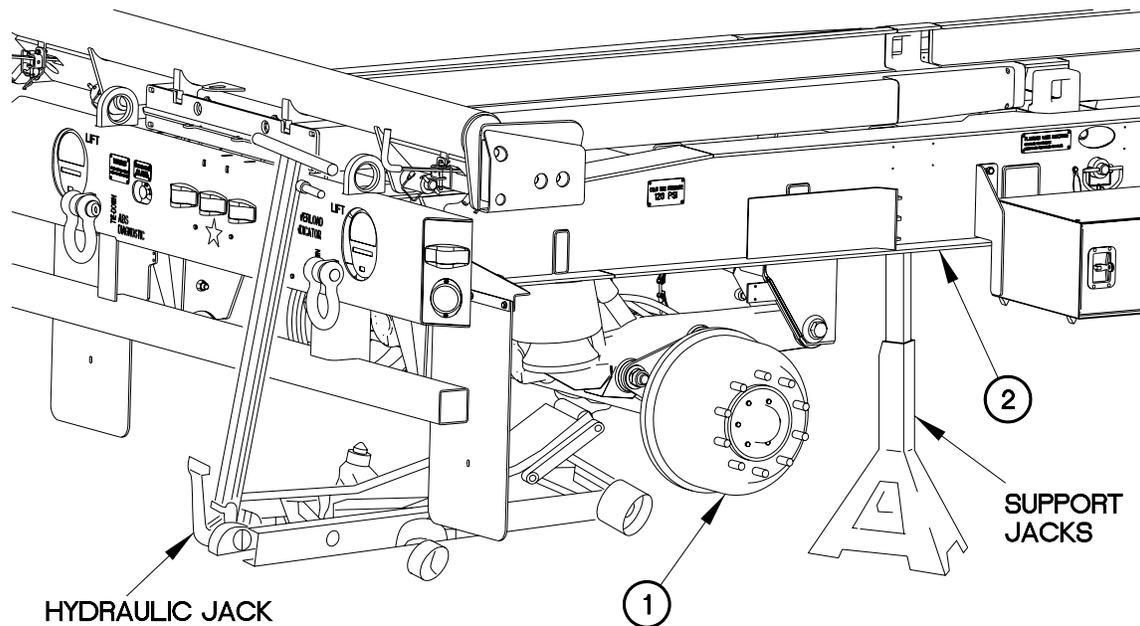
REMOVAL - Continued**CAUTION**

Raise trailer so that swing arm is fully extended before positioning vehicle leveling support jacks. Failure to comply may result in damage to equipment.

NOTE

Front and rear suspension assemblies are removed the same way. Rear right suspension assembly assembly shown.

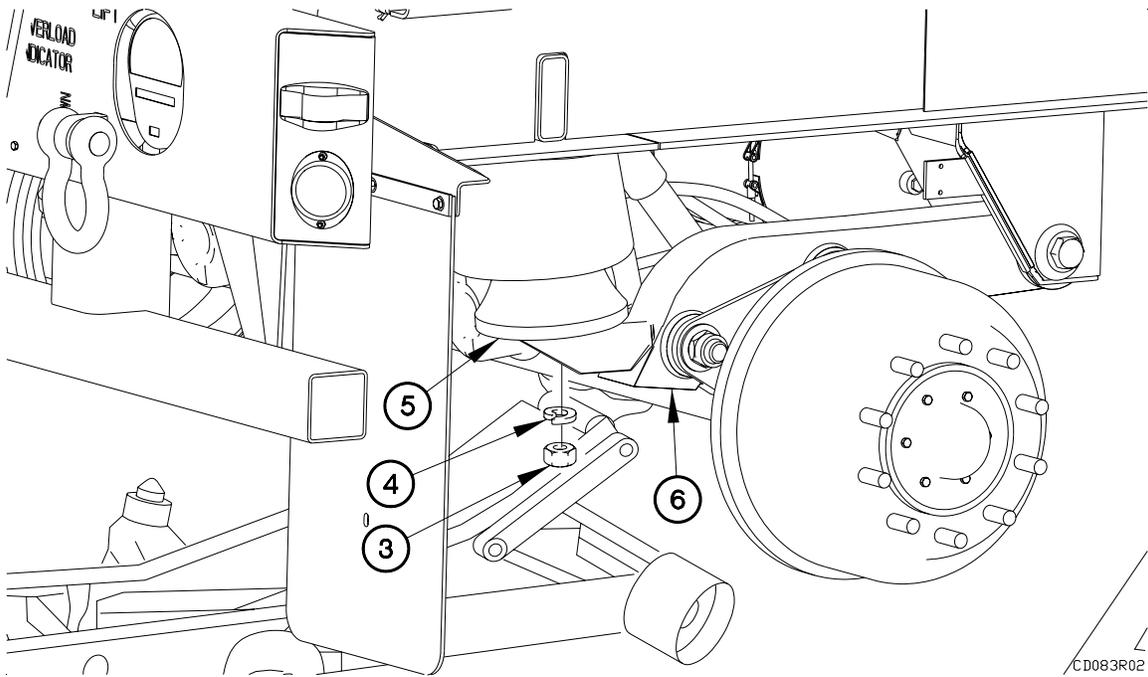
1. Position hydraulic jack under axle assembly (1).
2. Position two leveling support jacks under frame rail (2).



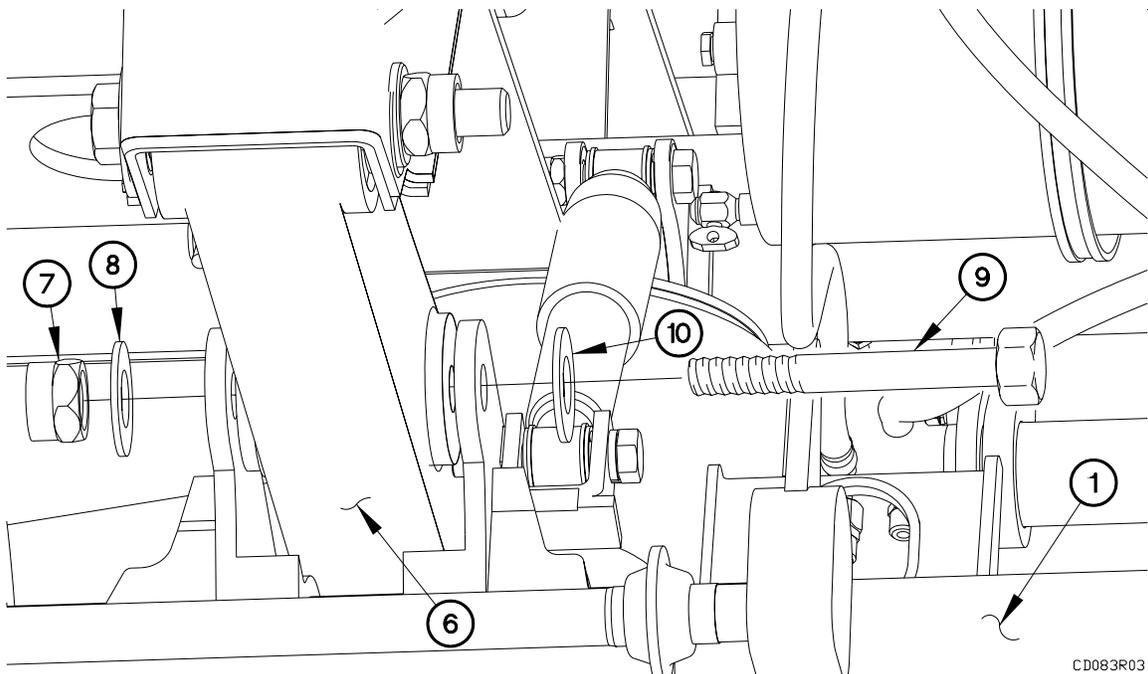
CD083R01

REMOVAL - Continued

3. Remove nut (3), lockwasher (4), and air bag base (5) from equalizing beam (6). Discard lockwasher.

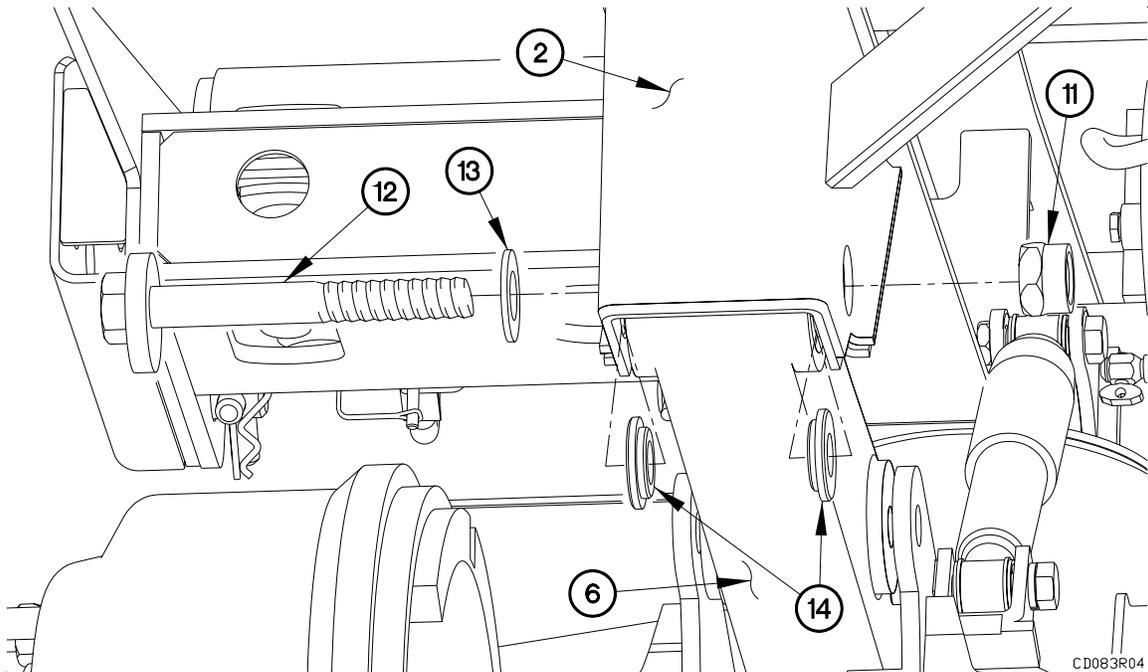


4. Remove two self-locking nuts (7), washers (8), bolts (9), washers (10), and equalizing beam (6) from axle assembly (1). Discard self-locking nuts.



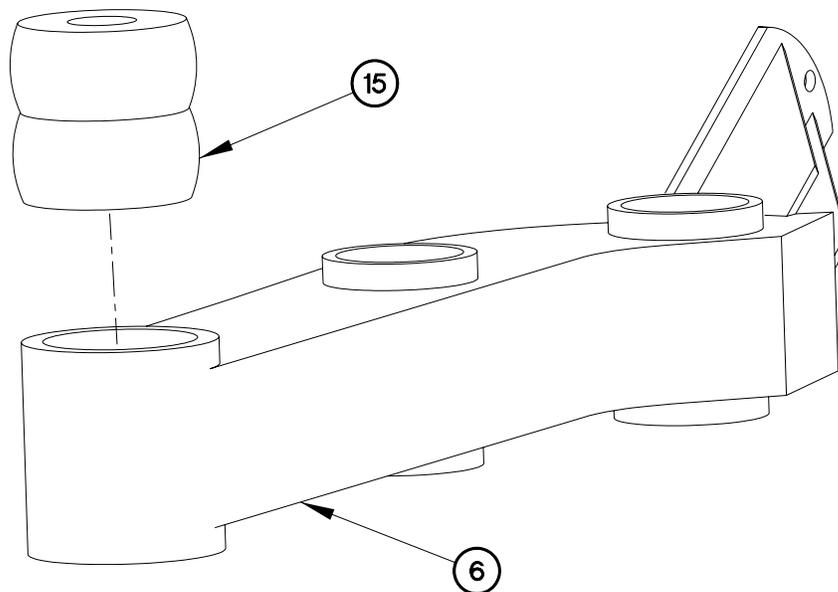
REMOVAL - Continued

- Remove self-locking nut (11), bolt (12), spacer (13), two washers (14) and equalizing beam (6) from frame rail (2). Discard self-locking nut.



C0083R04

- Remove three rubber bushings (15) from equalizing beam (6).



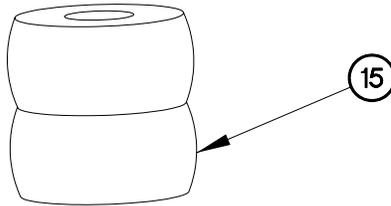
C0083R05

INSPECTION

NOTE

Replace a bushing if it fails any of the visual inspections.

1. Inspect three rubber bushings (15) for cracks, wear, or deformation.

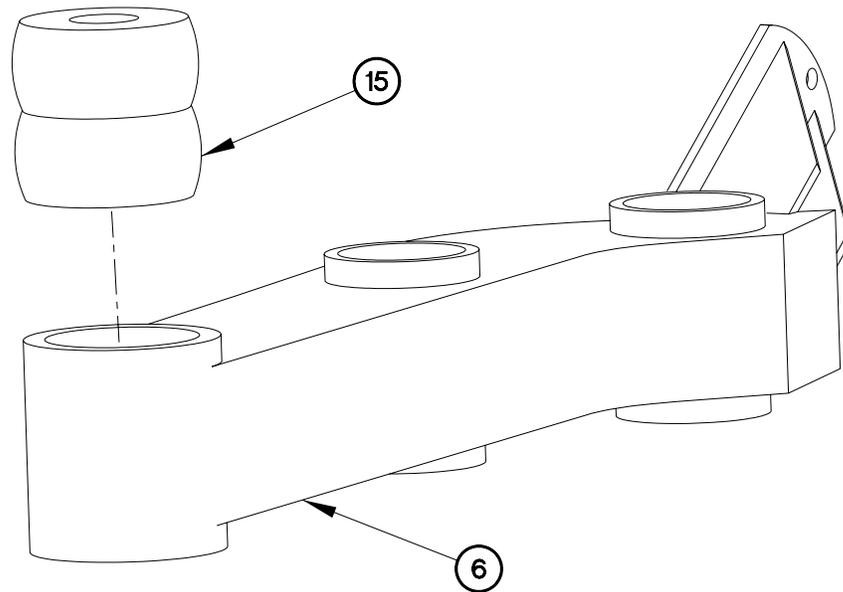


CD083n01

INSTALLATION**NOTE**

Front and rear suspension assemblies are installed the same way. Rear right suspension assembly assembly shown.

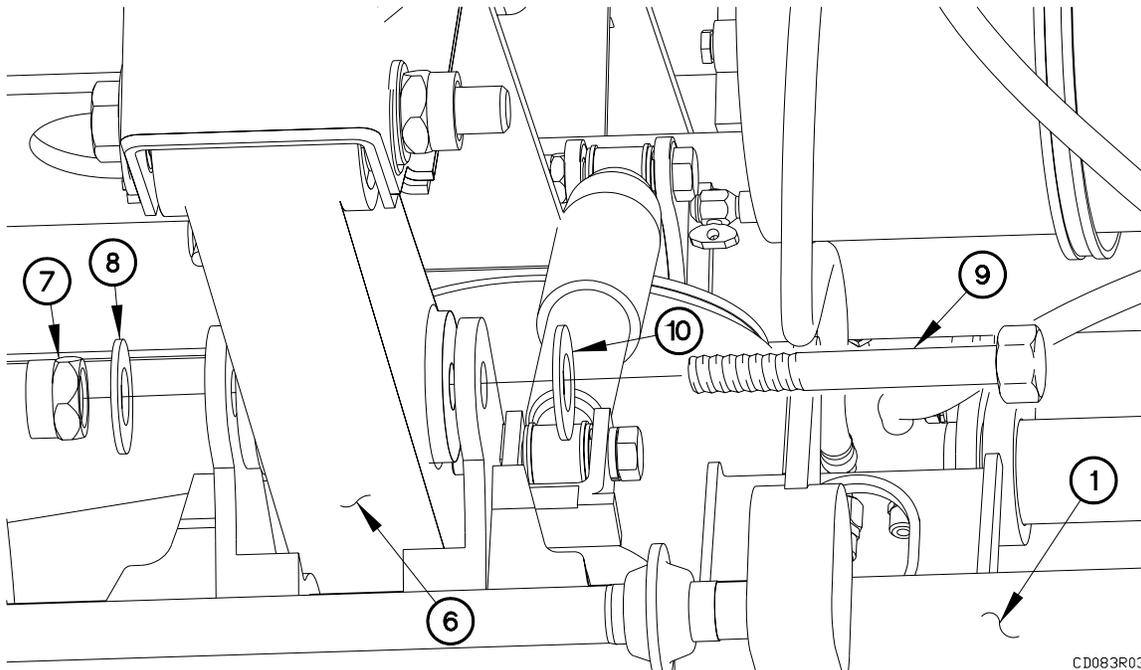
1. Install three rubber bushings (15) in equalizing beam (6).



CD083R05

INSTALLATION - Continued

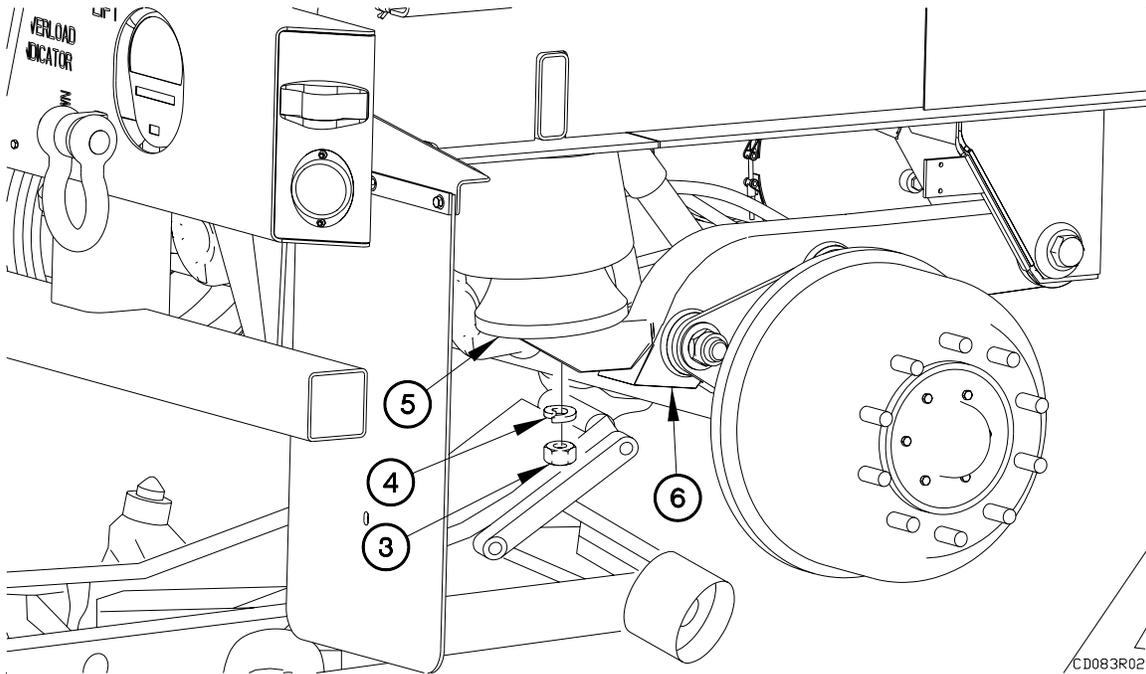
4. Position equalizing beam (6) on axle assembly (1) with two washers (10), bolts (9), washers (8), and self-locking nuts (7).
5. Tighten two self-locking nuts (7) to 760-840 lb-ft (1030-1139 N•m).



CD083R03

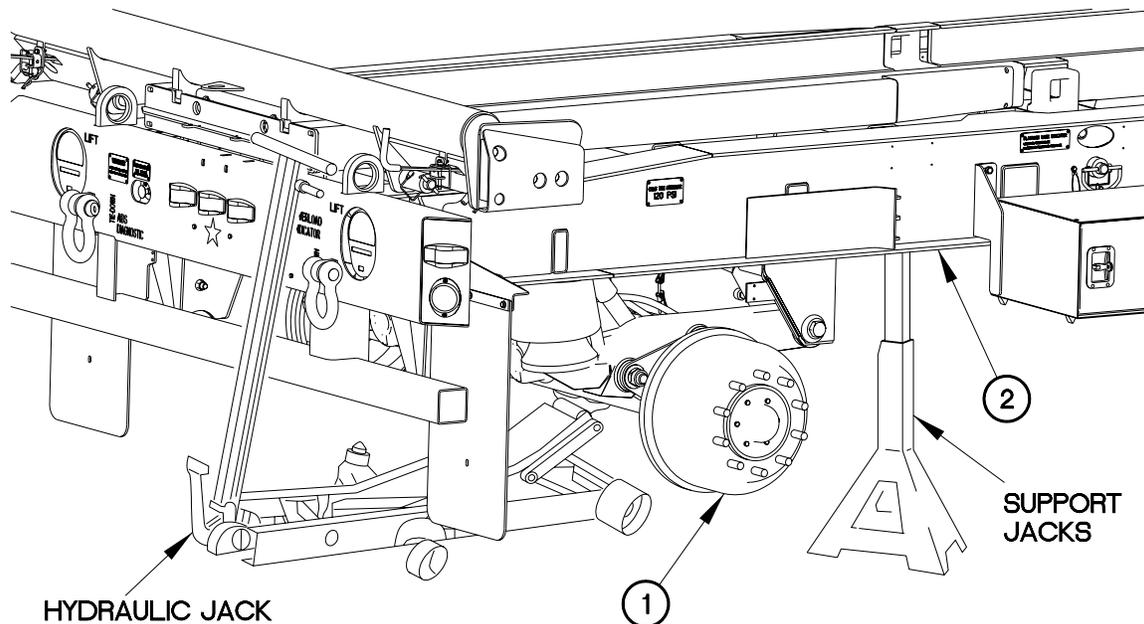
INSTALLATION - Continued

6. Position air bag base (5) on equalizing beam (6) with lockwasher (4) and nut (3).
7. Tighten nut (3) to 33-37 lb-ft (45-50 N•m).



INSTALLATION - Continued

8. Position hydraulic jack under axle assembly (1).
9. Remove two leveling support jacks from frame rail (2).
10. Remove hydraulic jack.



CD083R01

OPERATIONAL CHECK

1. Install air brake air chamber (on side suspension assembly was replaced) (WP 0081 00).
2. Install tires (on both sides suspension assembly was replaced) (WP 0053 00).

END OF WORK PACKAGE

HEIGHT CONTROL VALVE AND LINKAGE REPLACEMENT

0084 00**THIS WORK PACKAGE COVERS:**Removal, Installation, Operational Checks

INITIAL SETUP:**Maintenance Level**

Field

Tools and Special Tools

Goggles, Industrial (Item 8, WP 0167 00)
Tool Kit, Genl Mech (Item 22, WP 0167 00)
Wrench, Torque, 0-200 lb-in. (Item 33, WP 0167 00)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape
(Item 6, WP 0165 00)

Materials/Parts (Cont)

Sealing Compound (Item 15, WP 0165 00)
Nut, Self-Locking (2) (Item 26, WP 0168 00)
Nut, Self-Locking (2) (Item 34, WP 0168 00)

Equipment Conditions

Trailer uncoupled (WP 0043 24, TM 2320-392-10-1).

GENERAL

This work package contains information and instructions to replace the Load Handling System Trailer (LHST) height control valve and linkage.

WARNING

Wear appropriate eye protection when working under trailer due to the possibility of falling debris. Failure to comply may result in injury to personnel.

Vent air system before disconnecting air hoses. Pressurized air can blow dirt and debris with sufficient force to cause injury. Safety goggles must be worn when working with compressed air. Failure to comply may result in injury to personnel.

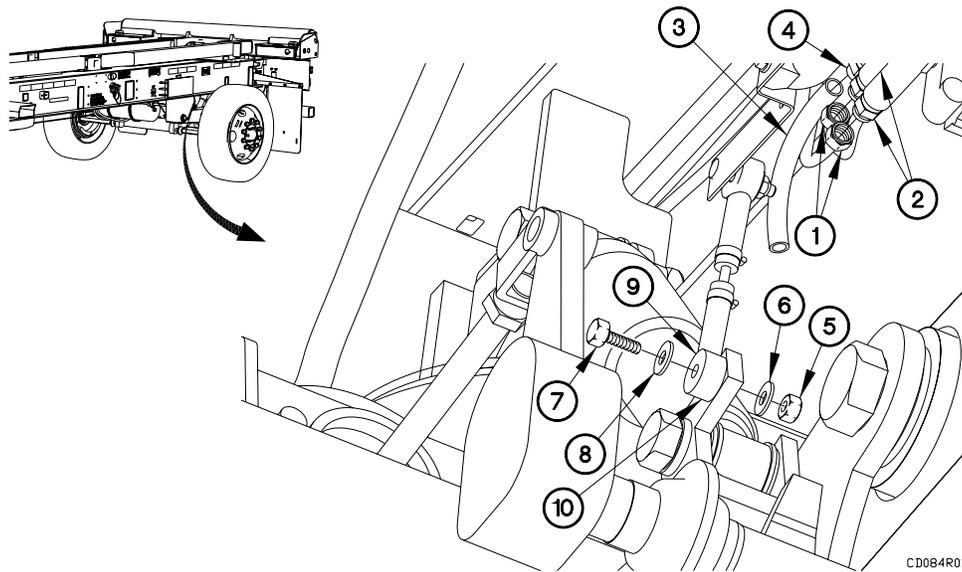
NOTE

Tag air hoses and connection points prior to disconnecting.

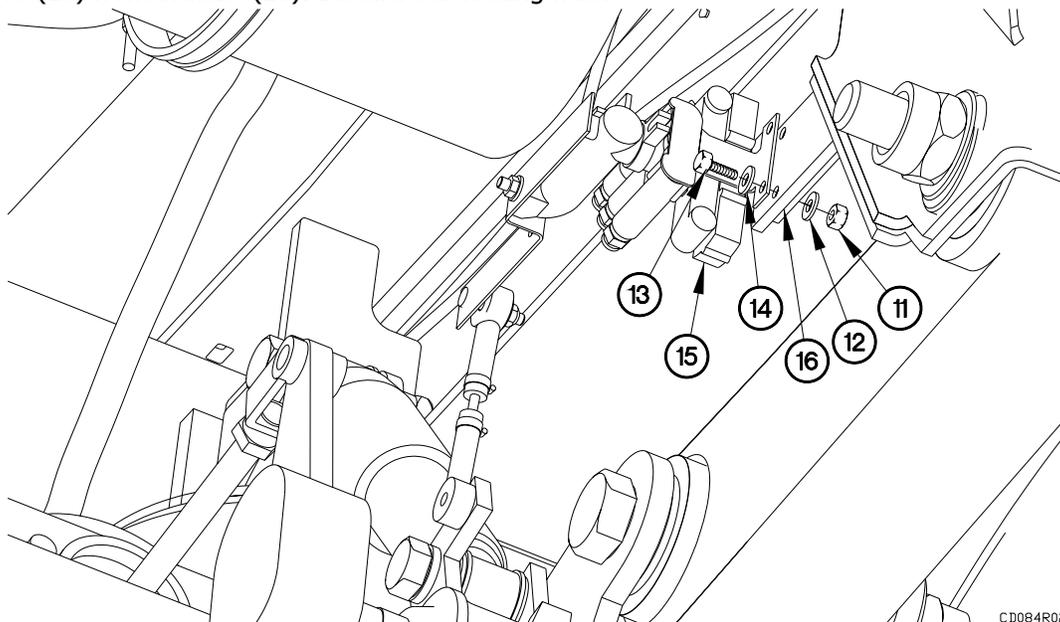
HEIGHT CONTROL VALVE AND LINKAGE REPLACEMENT - Continued 0084 00

REMOVAL

1. Drain air tanks.
2. Disconnect two hoses (1) from fittings (2).
3. Disconnect hose (3) from nylon fitting (4).
4. Remove self-locking nut (5), washer (6), bolt (7), washer (8), and height control linkage (9) from lower shock bracket (10). Discard self-locking nut.



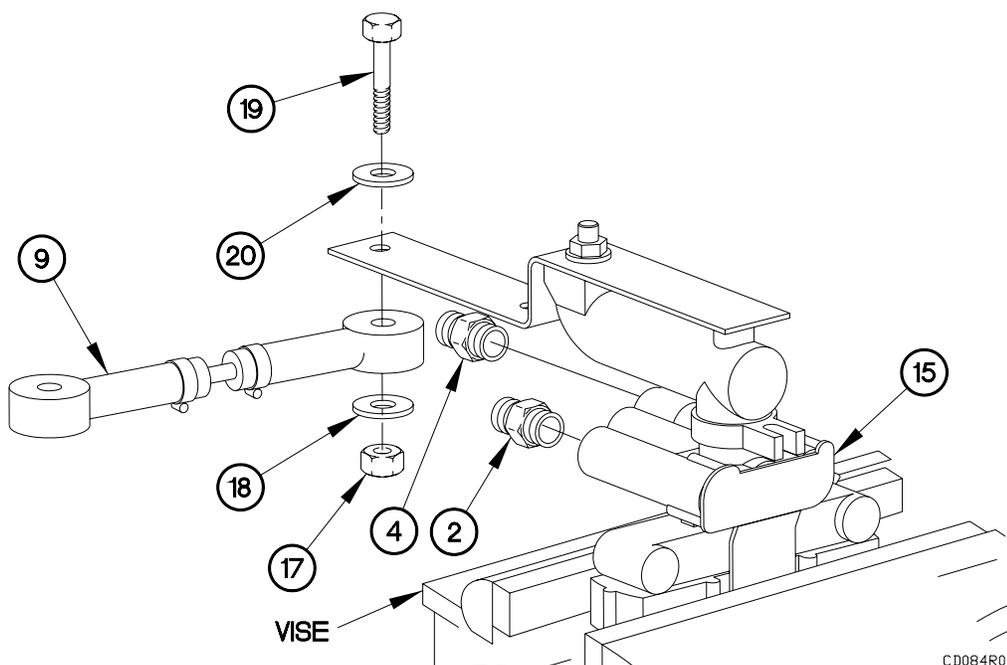
5. Remove two self-locking nuts (11), washers (12), screws (13), washers (14), and height control valve (15) from bracket (16). Discard self-locking nuts.



HEIGHT CONTROL VALVE AND LINKAGE REPLACEMENT - Continued 0084 00

REMOVAL - Continued

6. Place height control valve (15) in vise.
7. Remove two fittings (2) from height control valve (15).
8. Remove nylon fitting (4) from height control valve (15).
9. Remove self-locking nut (17), washer (18), bolt (19), washer (20), and height control linkage (9) from height control valve (15). Discard self-locking nut.



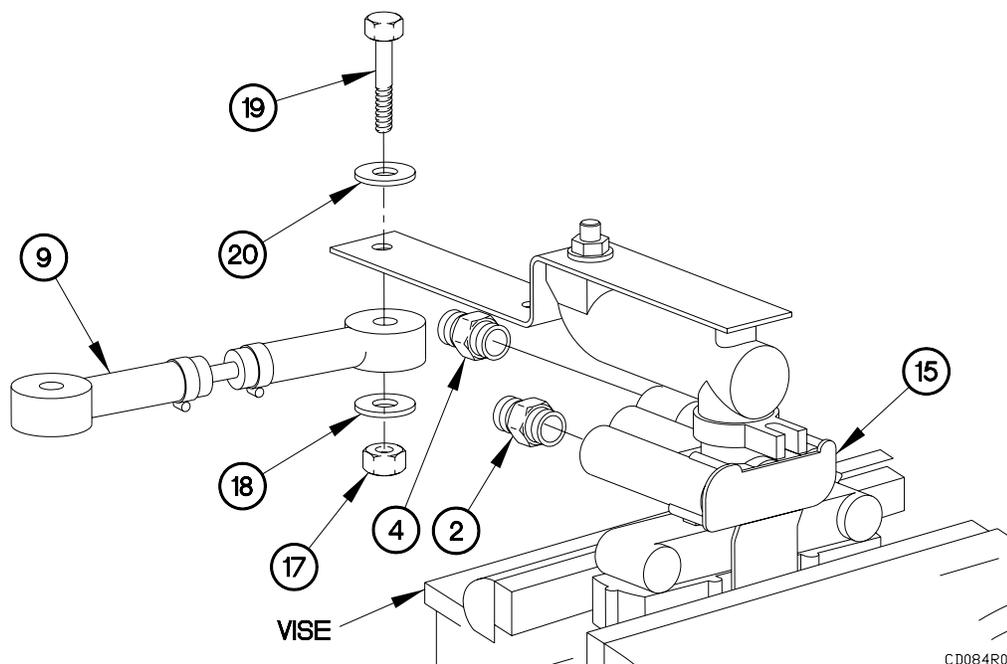
HEIGHT CONTROL VALVE AND LINKAGE REPLACEMENT - Continued 0084 00**INSTALLATION**

1. Position height control linkage (9) on height control valve (15) with washer (20), bolt (19), washer (18), and self-locking nut (17).

WARNING

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

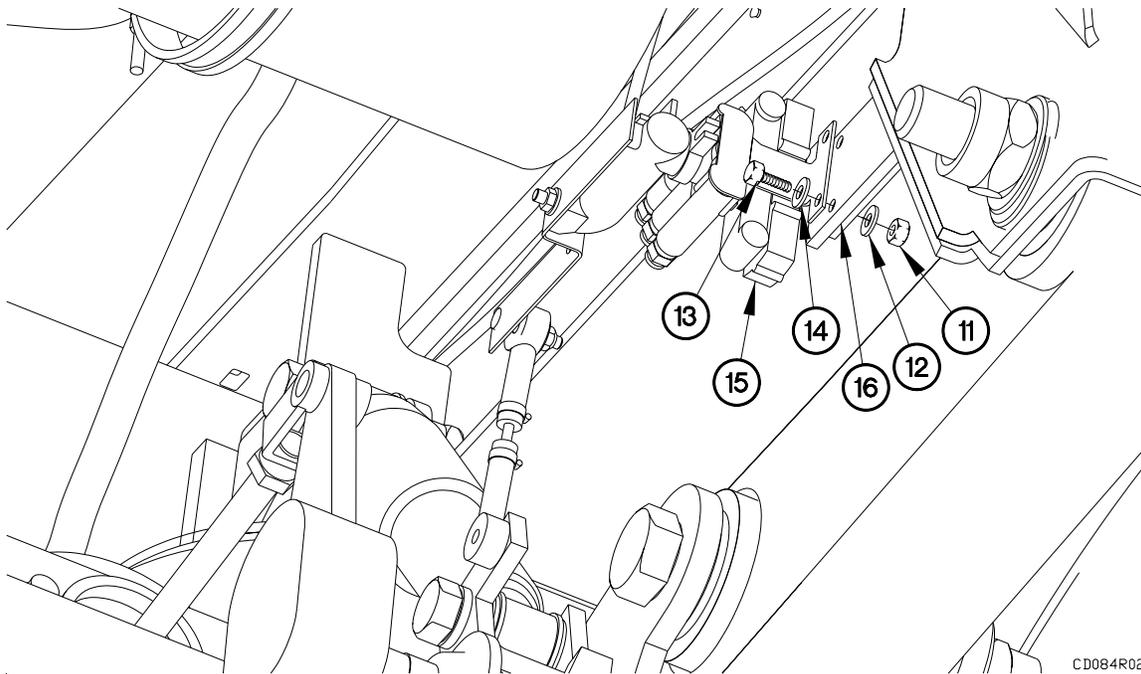
2. Apply sealing compound to threads of two fittings (2).
3. Install two fittings (2) on height control valve (15).
4. Install nylon fitting (4) on height control valve (15).



HEIGHT CONTROL VALVE AND LINKAGE REPLACEMENT - Continued 0084 00

INSTALLATION - Continued

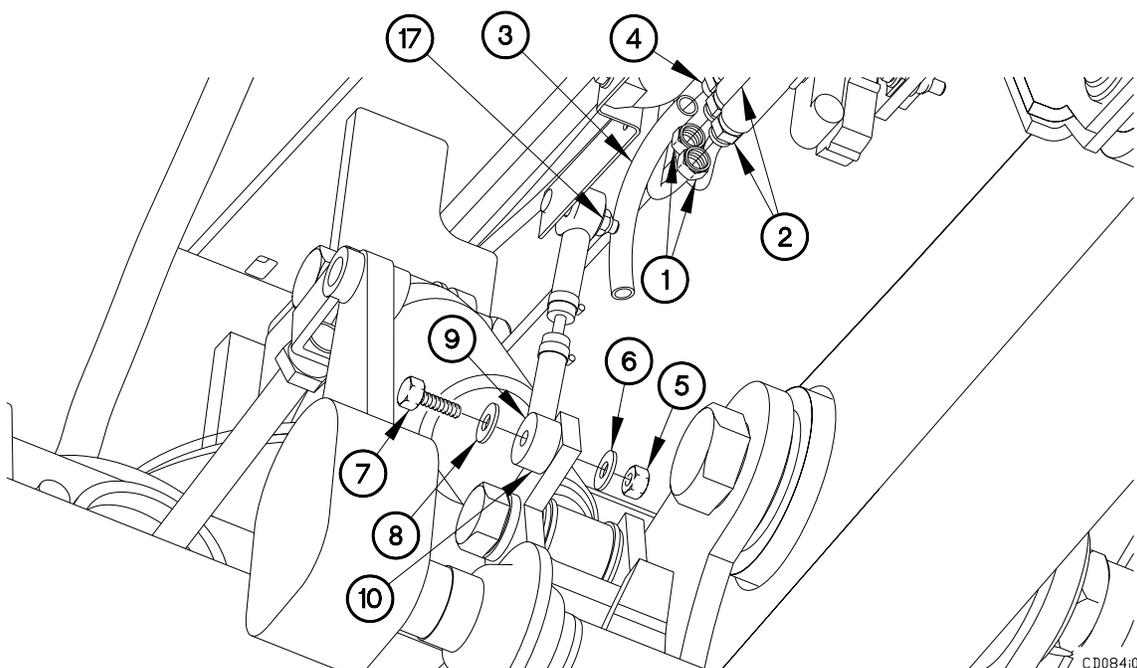
5. Position height control valve (15) on bracket (16) with two washers (14), screws (13), washers (12), and self-locking nuts (11).
6. Tighten self-locking nuts (11) to 96-120 lb-in. (11-14 N•m).



HEIGHT CONTROL VALVE AND LINKAGE REPLACEMENT - Continued 0084 00

INSTALLATION - Continued

7. Position height control linkage (9) on lower shock bracket (10) with washer (8), bolt (7), washer (6), and self-locking nut (5).
8. Tighten self-locking nuts (5) and (17) to 24-48 lb-in. (3-5 N•m).
9. Connect hose (3) to nylon fitting (4).
10. Connect two hoses (1) to fittings (2).



CD084:01

OPERATIONAL CHECKS

1. Couple trailer (WP 0043 23, TM 2320-392-10-1, Coupling Trailer).
2. Operate trailer and check for normal suspension operation (WP 0013 00).
3. Uncouple trailer (WP 0043 24, TM 2320-392-10-1, Uncoupling Trailer).

END OF WORK PACKAGE

WHEEL BEARING/HUB SEAL REPLACEMENT

0085 00

THIS WORK PACKAGE COVERS:

Removal, Cleaning/Inspection, Installation, Operational Check

INITIAL SETUP:

Maintenance Level

Field

Tools and Special Tools

Gloves, Rubber (Item 6, WP 0167 00)
Goggles, Industrial (Item 8, WP 0167 00)
Jack, Dolly Type, Hydraulic, (Item 10, WP 0167 00)
Wrench Set, Socket (Item 26, WP 0167 00)
Socket Set, Socket Wrench (Item 19, WP 0167 00)
Tool Kit, Genl Mech (Item 22, WP 0167 00)
Wrench, Torque, 0-175 lb-ft (Item 32, WP 0167 00)
Wrench, Torque, 0-600 lb-ft (Item 34, WP 0167 00)

Materials/Parts

Grease, Automotive and Artillery (GAA) (Item 7, WP 0165 00)
Tape, Duct (Item 19, WP 0165 00)
Gasket, Hub Cap (Item 2, WP 0168 00)
Washer, Lock (6) (Item 7, WP 0168 00)
Seal, Unitized (Item 52, WP 0168 00)
Solvent, Dry Cleaning (Item 18, WP 0165 00)
Rag, Wiping (Item 11, WP 0165 00)

Equipment Conditions

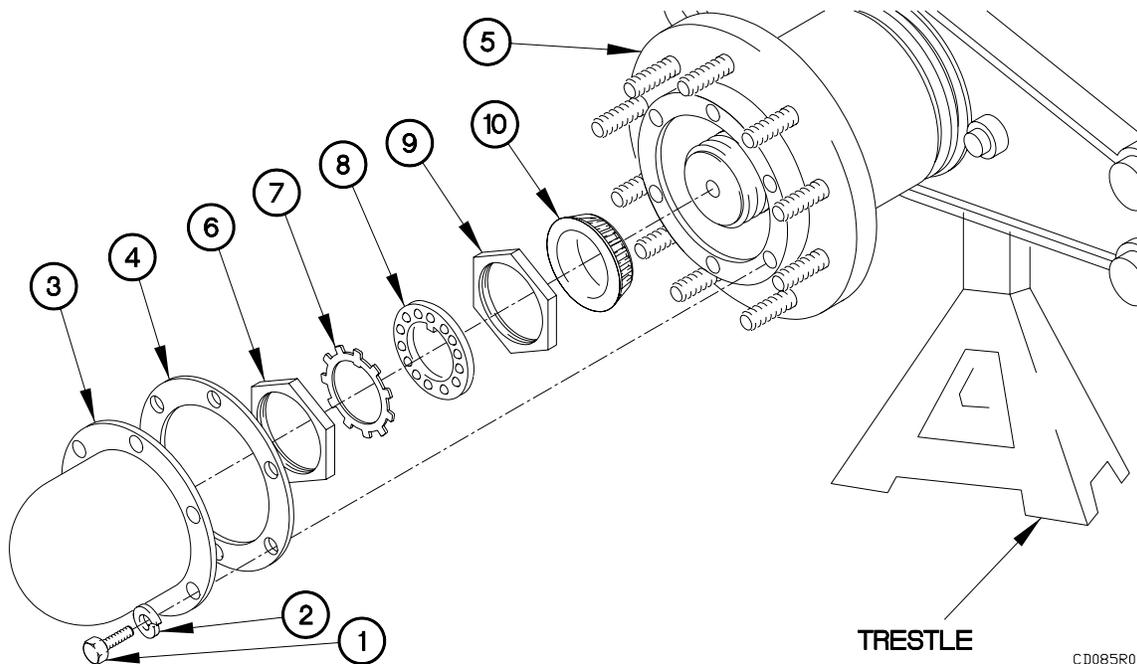
Brake shoes removed (WP 0069 00).

GENERAL

This work package contains information and instructions to replace the Load Handling System Trailer (LHST) wheel hub, bearing, and seal.

REMOVAL

1. Remove six bolts (1) lockwashers (2), hubcap (3), and gasket (4) from wheel end hub (5). Discard lockwashers and gasket.
2. Remove outer wheel bearing nut (6), locking tang washer (7), tab lockwasher (8), inner wheel bearing nut (9), and outer wheel bearing cone (10) from wheel end hub (5).



CD085R01

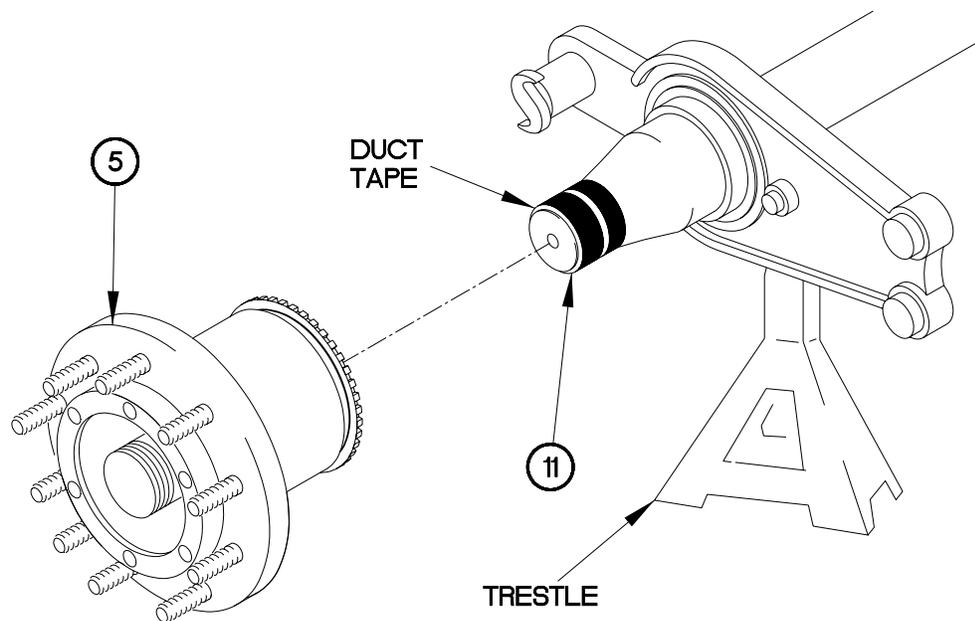
REMOVAL - Continued

3. Apply two wraps of duct tape to splined and threaded portions of spindle (11).

CAUTION

Use care when removing wheel end hub from spindle. Failure to comply may damage hub seal and cause early failure of hub seal.

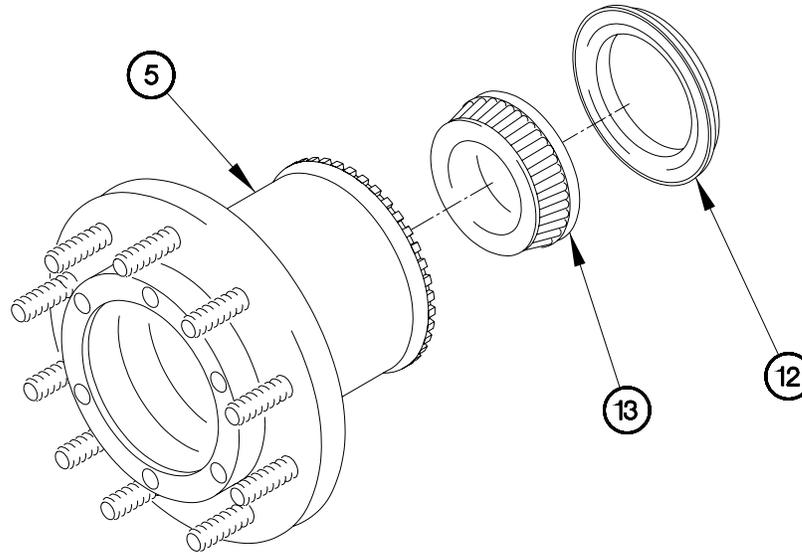
4. Remove wheel end hub (5) from spindle (11).



CD085101

REMOVAL – Continued

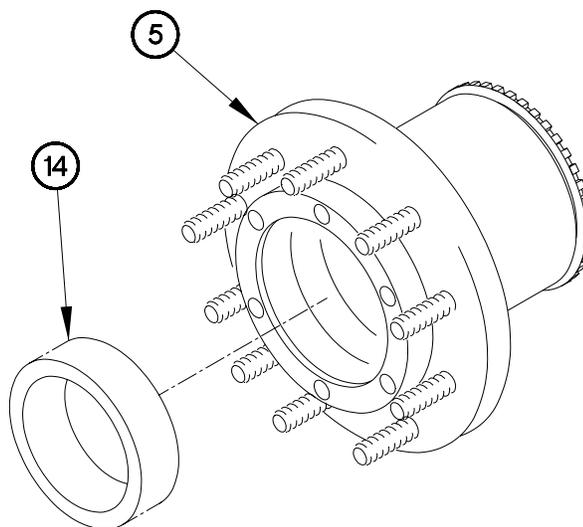
5. Remove hub seal (12) from wheel end hub (5). Discard hub seal.
6. Remove inner wheel bearing cone (13) from wheel end hub (5).



CD085R03

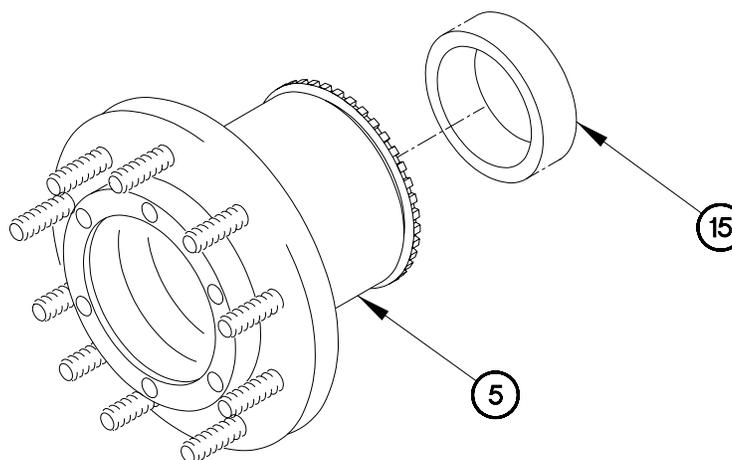
REMOVAL – Continued

7. Remove cup (14) from wheel end hub (5).



CD085R04

8. Remove cup (15) from wheel end hub (5).



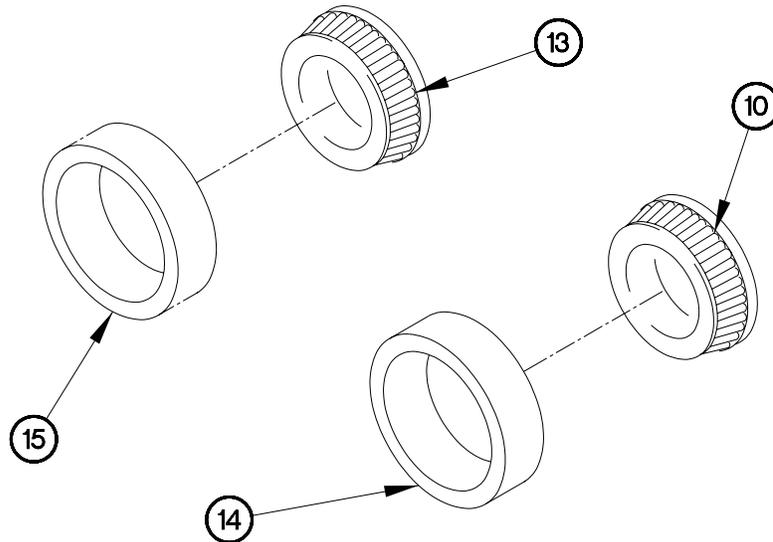
CD085R05

CLEANING/INSPECTION**WARNING**

Dry Cleaning Solvent (P-D-680) is TOXIC and flammable. Wear protective goggles and gloves; use only in well-ventilated area; avoid contact with skin, eyes, and clothes, and do not breath vapors. Keep away from heat or flame. Never smoke when using Dry Cleaning Solvent; the flashpoint for Type I Dry Cleaning Solvent is 100 °F (38 °C) and for Type II is 138 °F (50 °C). Failure to comply may result in serious injury or death to personnel.

If personnel become dizzy while using Dry Cleaning Solvent, immediately get fresh air and medical help. If Dry Cleaning Solvent contacts skin or clothes, flush with cold water. If Dry Cleaning Solvent contacts eyes, immediately flush eyes with water and get medical attention. Failure to comply may result in serious injury or death to personnel.

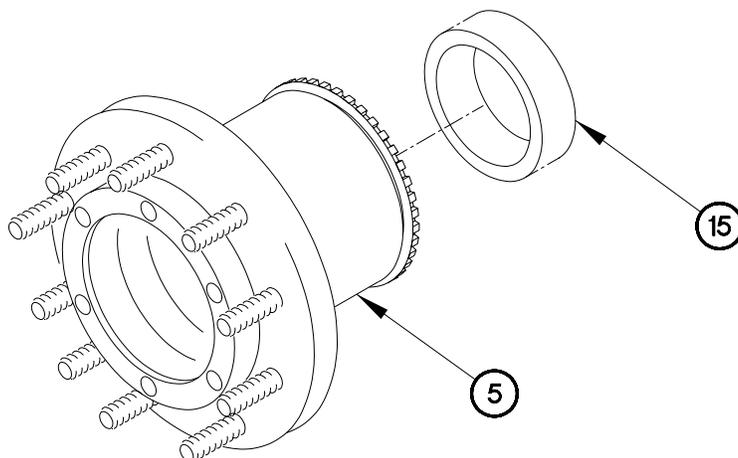
1. Thoroughly clean all metal parts with Dry Cleaning Solvent and dry with wiping rag prior to inspection.
2. Inspect inner wheel bearing cone (13), outer wheel bearing cone (10), cup (15), and cup (14) for scoring, pitting, corrosion, and excessive wear. Replace both wheel bearing cones and cups if either fails visual inspection.



C0085N01

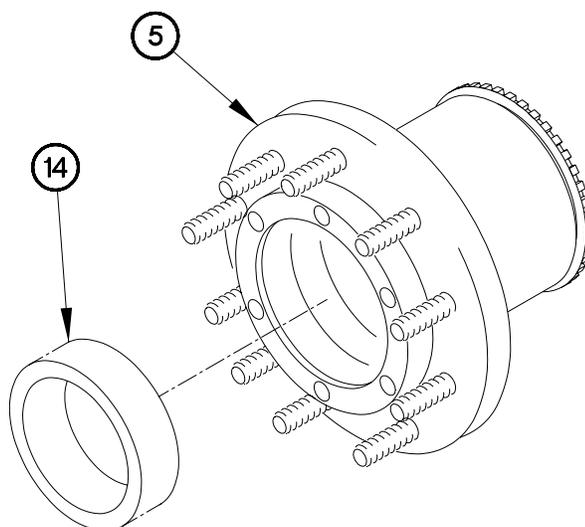
INSTALLATION

1. Install cup (15) in wheel end hub (5).



CD085R05

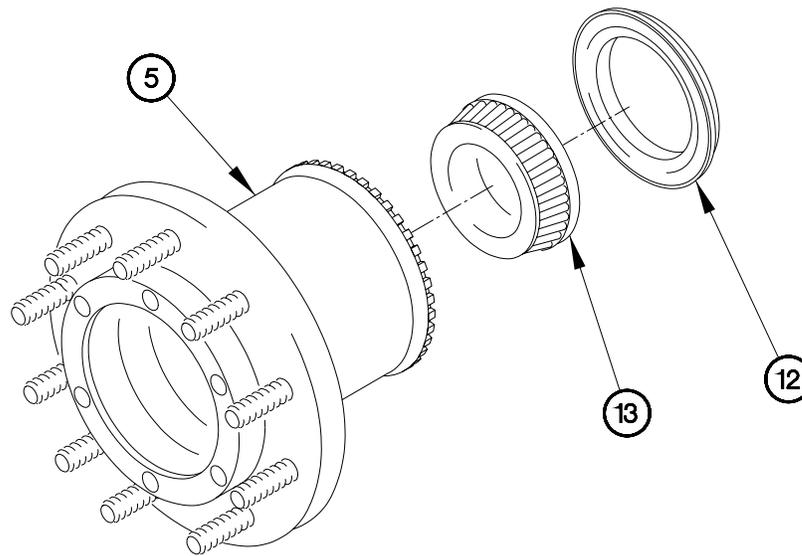
2. Install cup (14) in wheel end hub (5).



CD085R04

INSTALLATION - Continued

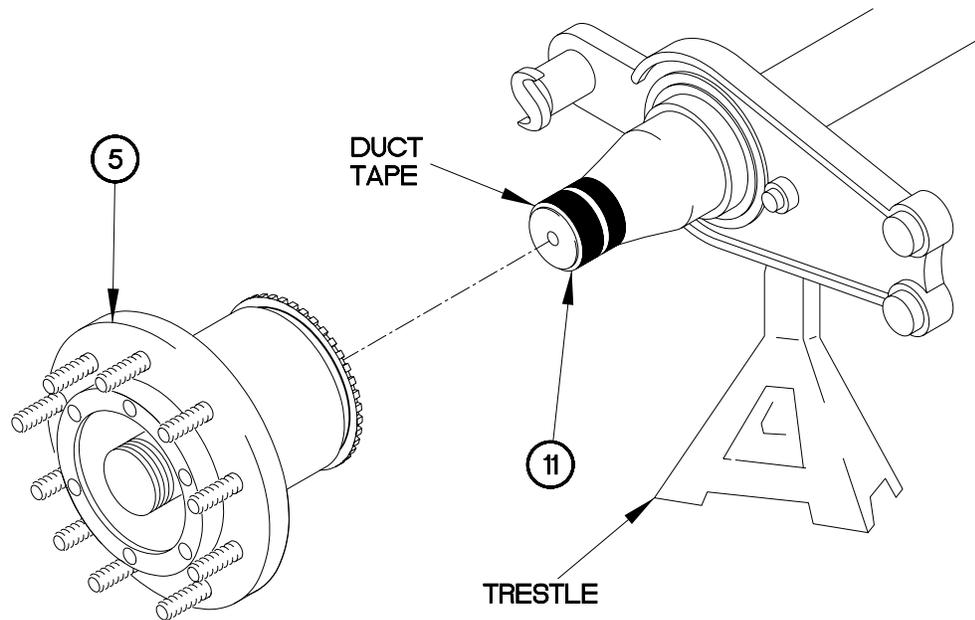
3. Pack inner wheel bearing cone (13) with grease.
4. Install inner wheel bearing cone (13) in wheel end hub (5).
5. Install hub seal (12) into wheel end hub (5).



CD085R03

INSTALLATION - Continued

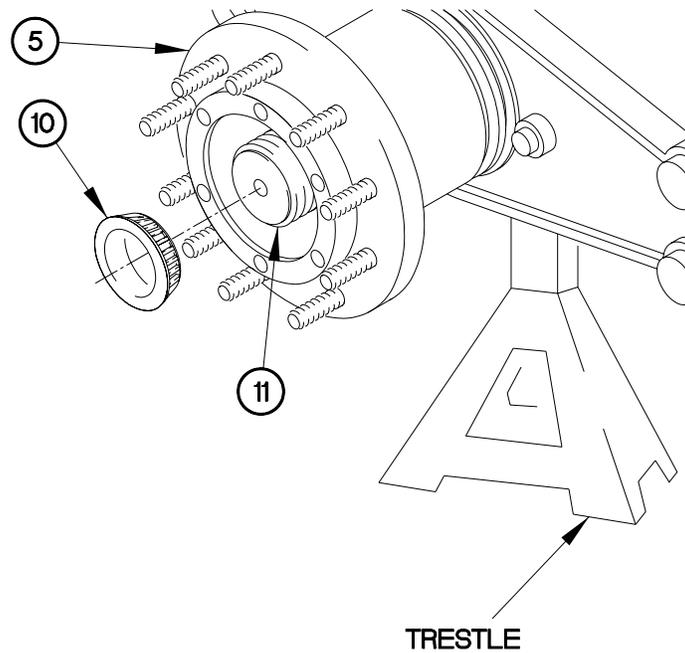
6. Install wheel end hub (5) on spindle (11).
7. Remove duct tape from spindle (11).



CD085101

INSTALLATION - Continued

8. Pack outer wheel bearing cone (10) with grease.
9. Install outer wheel bearing cone (10) in wheel end hub (5).



C0085102

INSTALLATION - Continued**NOTE**

Ensure inner wheel bearing nut is installed on spindle with nub facing out from wheel end hub.

10. Position inner wheel bearing nut (9) on spindle (11).

CAUTION

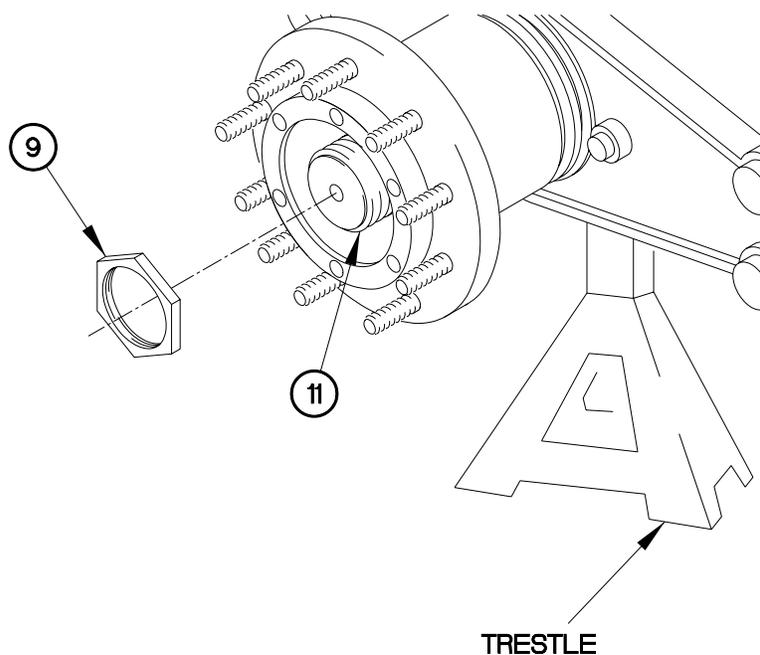
Rotate wheel end hub to the left and to the right while tightening wheel bearing nut. Failure to comply may result in damage to equipment.

11. Tighten inner wheel bearing nut (9) to 100 lb-ft (136 N•m).
12. Loosen inner wheel bearing nut (9) one full turn (360 degrees).

CAUTION

Do not over tighten inner wheel bearing nut. Failure to comply may result in damage to equipment.

13. Hand-tighten inner wheel bearing nut (9).



CD085103

INSTALLATION - Continued

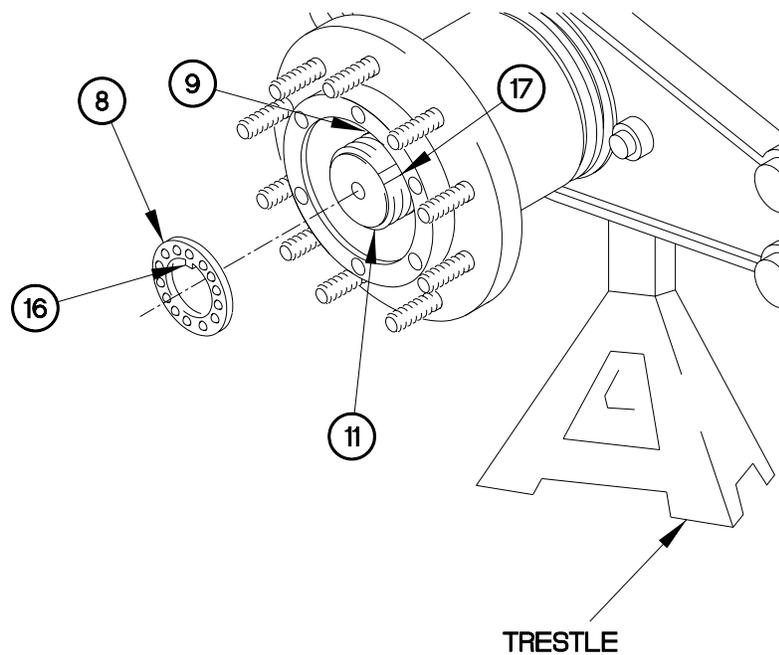
14. Position tab lockwasher (8) on spindle (12) with tab (16) inserted in spindle groove (17).

NOTE

Loosen inner wheel bearing nut only enough to align nub of inner wheel bearing nut with hole in tab lockwasher but no more than 1/4 turn.

15. Loosen inner wheel bearing nut (9) to align nub with hole in tab lockwasher (8).

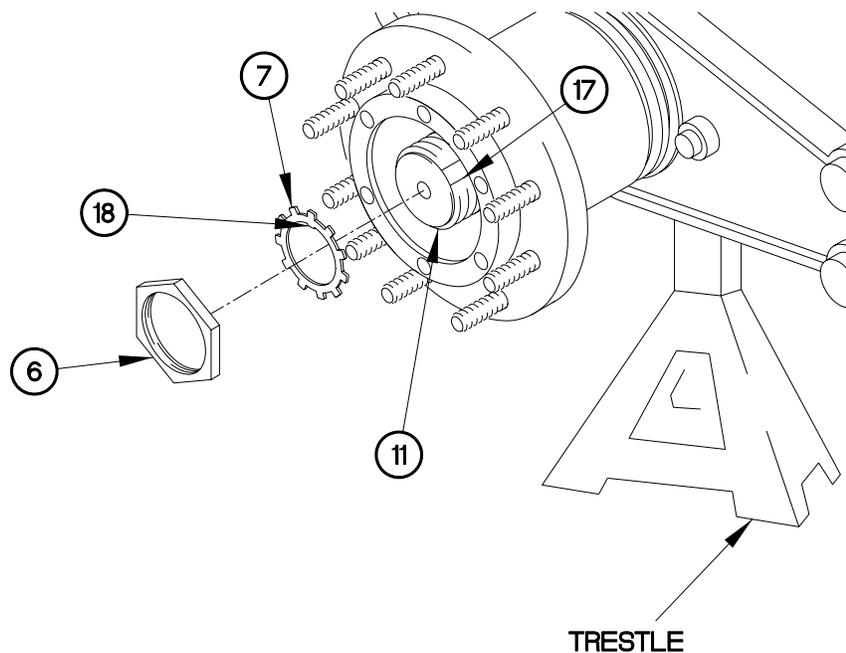
16. Install tab lockwasher (8) over nub on inner wheel bearing nut (9).



CD085104

INSTALLATION - Continued

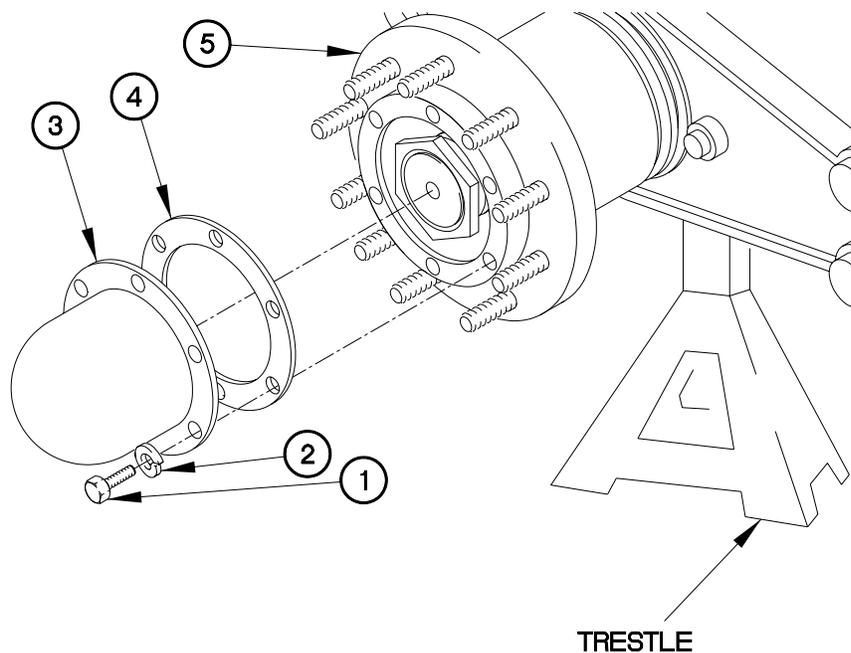
17. Position locking tang washer (7) on spindle (11) with tab (18) inserted in spindle groove (17).
18. Position outer wheel bearing nut (6) on spindle (12).
19. Tighten outer wheel bearing nut (6) to 250-300 lb-ft (339-407 N•m).
20. Bend three tabs on locking tang washer (7) over outer wheel bearing nut (6).



C0085105

INSTALLATION - Continued

21. Position gasket (4) and hubcap (3) on wheel end hub (5) with six lockwashers (2) and bolts (1).
22. Tighten six bolts (1) to 15-20 lb-ft (20-27 N•m).



CD085106

OPERATIONAL CHECK

1. Install and adjust brake shoes (WP 0069 00, Installation).
2. Couple trailer (WP 0043 23, TM 2320-392-10-1, Coupling Trailer).
3. Road test trailer and check for proper tracking and excessive wheel end vibration.
4. Uncouple trailer (WP 0043 24, TM 2320-392-10-1, Uncoupling Trailer).

END OF WORK PACKAGE

TIEDOWN RING REPLACEMENT

0086 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Maintenance Level

Field

Materials/Parts

Pin, Cotter (Item 47, WP 0168 00)

Tools and Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Equipment Conditions

Trailer uncoupled (WP 0043 24, TM 2320-392-10-1).

GENERAL

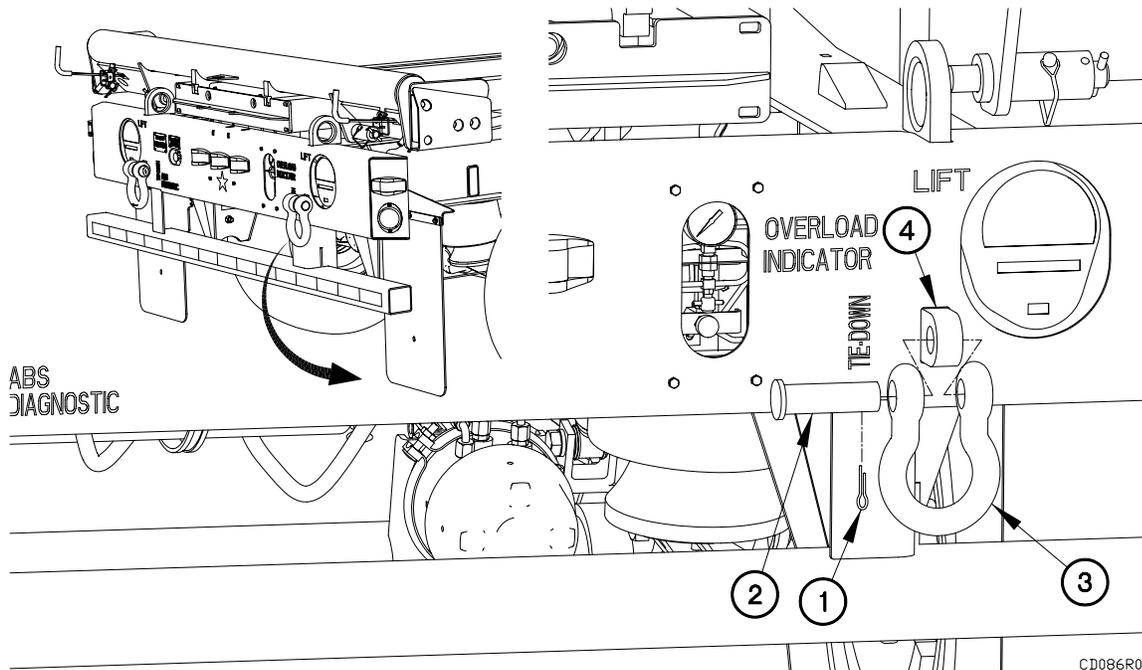
This work package contains information and instructions to replace the Load Handling System Trailer (LHST) tiedown rings.

REMOVAL

NOTE

LH and RH rear tiedown rings are removed the same way. RH rear shown.

1. Remove cotter pin (1), pin (2), and tiedown ring (3) from tiedown bracket (4). Discard cotter pin.

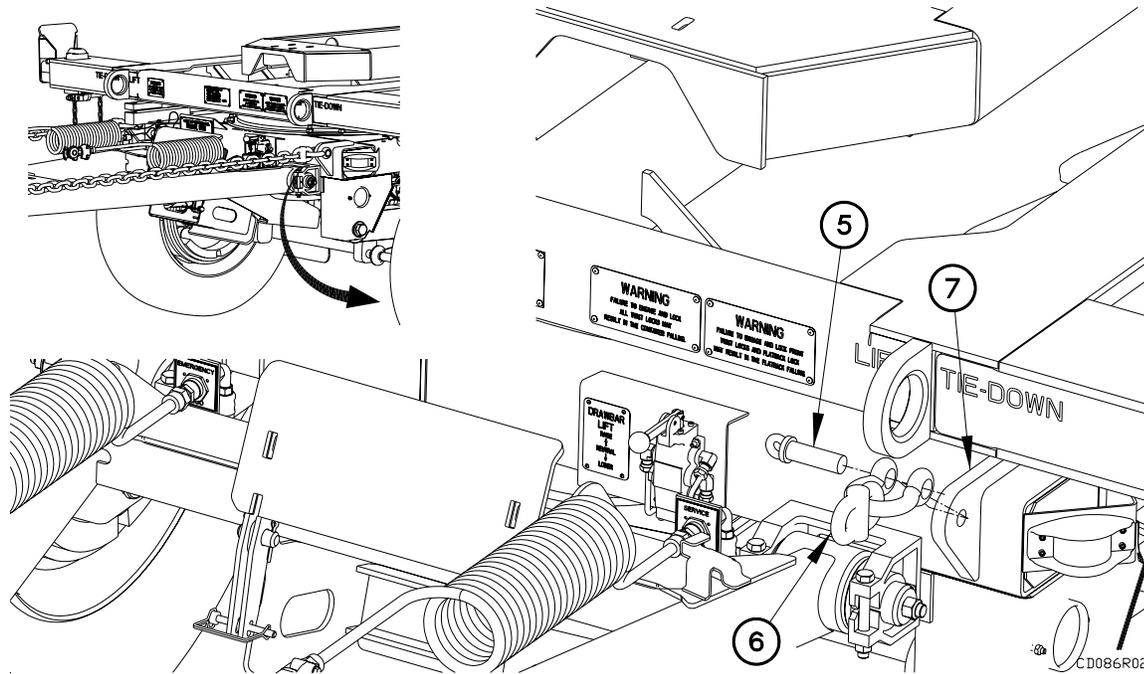


REMOVAL - Continued

NOTE

LH and RH front tiedowns are removed the same way. LH front tiedown shown.

2. Remove pin (5) and tiedown ring (6) from bracket (7).

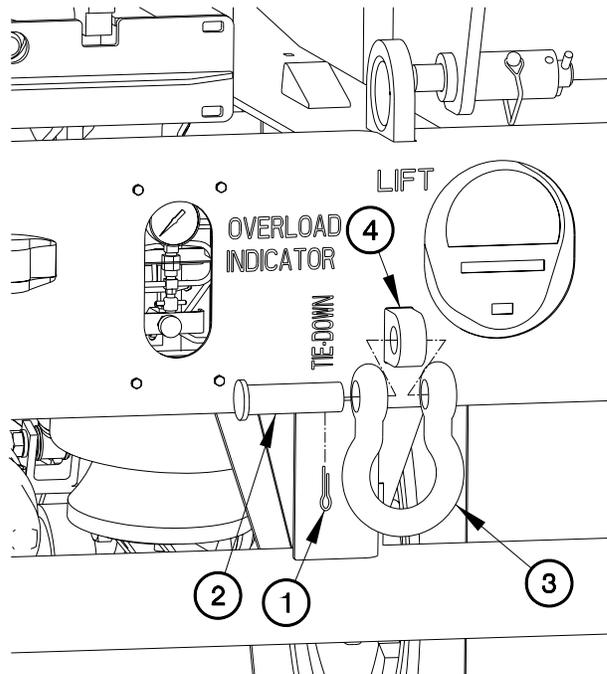


INSTALLATION

NOTE

LH and RH rear tiedown rings are installed the same way. RH rear shown.

1. Install tiedown ring (3) on tiedown bracket (4) with pin (2).
2. Install cotter pin (1) in pin (2).



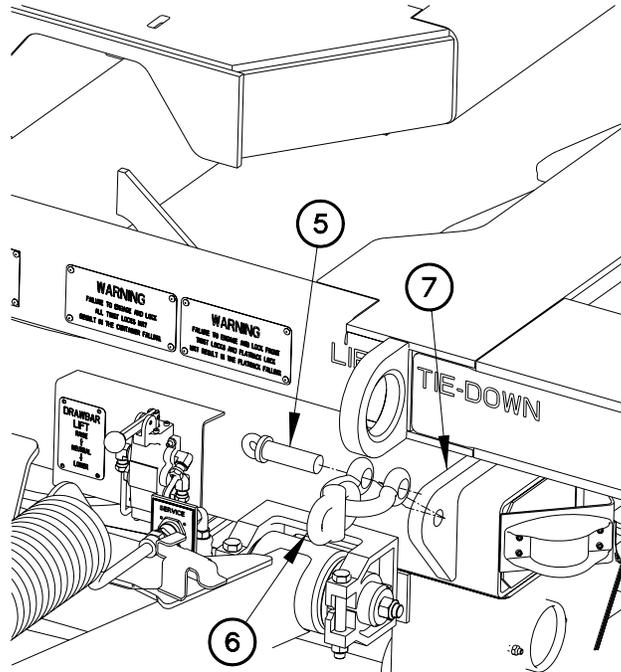
CD086:01

INSTALLATION - Continued

NOTE

LH and RH front tiedown rings are installed the same way. LH front shown.

3. Install tiedown ring (6) on bracket (7) with pin (5).



CD086:02

END OF WORK PACKAGE

FRAME RAIL REPLACEMENT

0087 00

THIS WORK PACKAGE COVERS:

Removal, Installation, Operational Checks

INITIAL SETUP:

Maintenance Level

Field

Tools and Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)
 Sling, Multiple Leg (Item 17, WP 0167 00)
 Wrench, Torque, 0-175 lb-ft (Item 32, WP 0167 00)
 Goggles, Industrial (Item 8, WP 0167 00)
 Multiplier, Torque Wrench (Item 13, WP 0167 00)
 Jack, Leveling Support, Vehicular (Item 11, WP 0167 00)
 Jack, Dolly Type, Hydraulic (Item 10, WP 0167 00)
 Wrench Set, Socket (Item 26, WP 0167 00)

Materials/Parts

Washer, Lock (2) (Item 4, WP 0168 00)
 Nut, Self-Locking (2) (Item 25, WP 0168 00)
 Sealing Compound (Item 2, WP 0165 00)

Equipment Conditions

Flatrack rail and pivots removed (WP 0089 00).
 Main electrical harness removed (WP 0066 00).
 Composite taillights removed (WP 0060 00).
 Rear marker lights removed (WP 0061 00).
 Rear air tank removed (WP 0078 00).

Equipment Conditions (Cont)

Overload indicator removed (WP 0106 00).
 Flatrack lock Push/Pull valve removed (WP 0108 00).
 Height Actuation Valve removed (WP 0110 00).
 ABS ECU valve removed (WP 0071 00).
 ABS Relay Valve Harness Removed (WP 0072 00).
 ABS Power and Diagnostic Cable and Diagnostic Tool removed (WP 0074 00).
 Rear Electrical Harness Removed (WP 0065 00).
 Left rear electrical harness removed (WP 0064 00).
 Right rear electrical harness removed (WP 0063 00).
 Junction box removed (WP 0059 00).
 Rear Breather Valve removed (WP 0082 00).
 Tire carrier removed (WP 0093 00).
 Spare tire carrier winch removed (WP 0103 00).
 Rear splashguards removed (WP 0097 00).
 Toolbox removed (WP 0098 00).
 Rear shock absorbers removed (WP 0095 00).

GENERAL

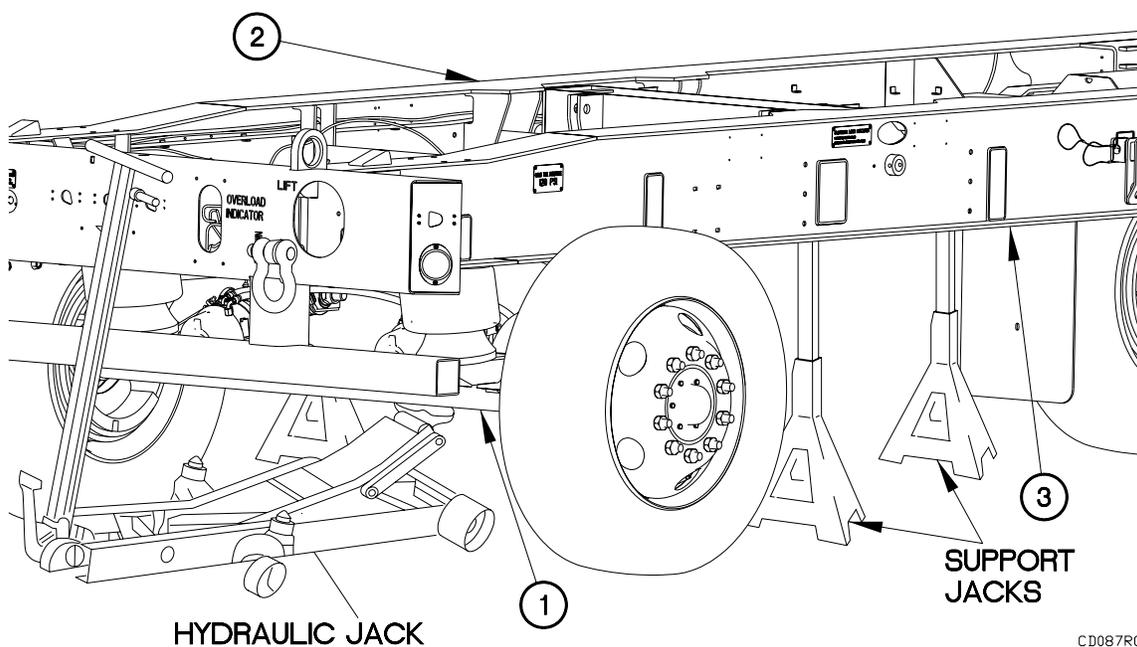
This work package contains information and instructions to frame rail on the Load Handling System Trailer (LHST).

REMOVAL**NOTE**

Rear of trailer must be positioned on jack stands to remove weight from rear suspension.

LH and RH sides of rear of trailer are positioned the same way. LH side shown.

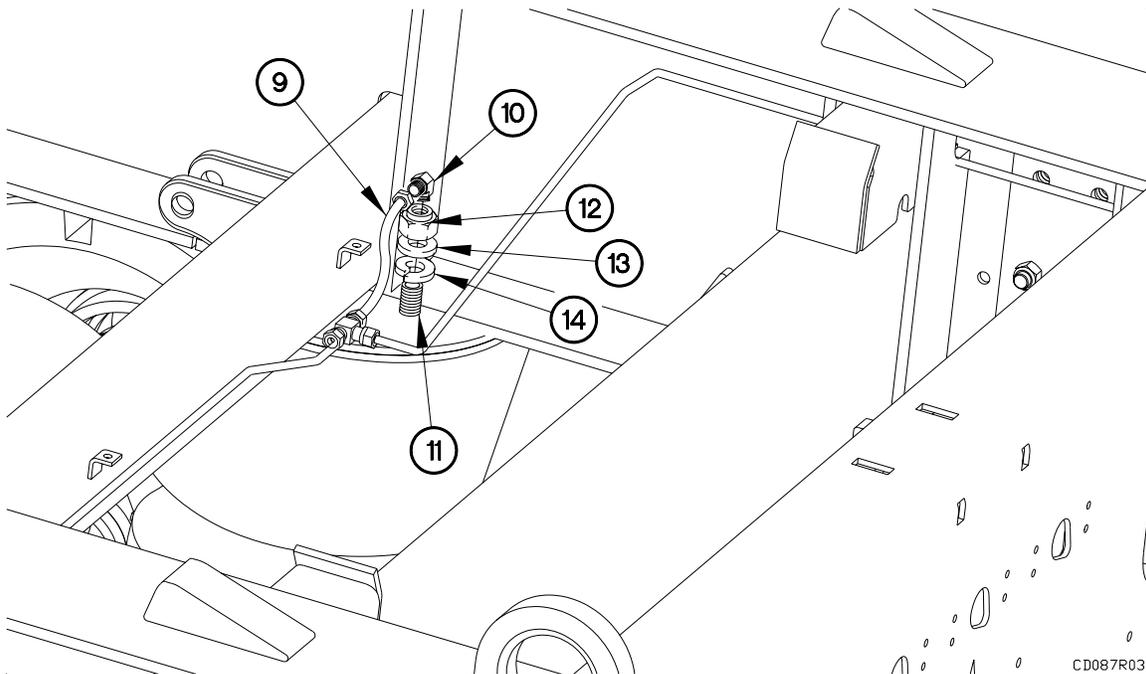
1. Position floor jack under rear axle (1).
2. Raise rear of trailer (2).
3. Position jack stand under frame rail (3).
4. Lower rear of trailer (2).
5. Perform previous four steps on RH side of trailer



CD087R01

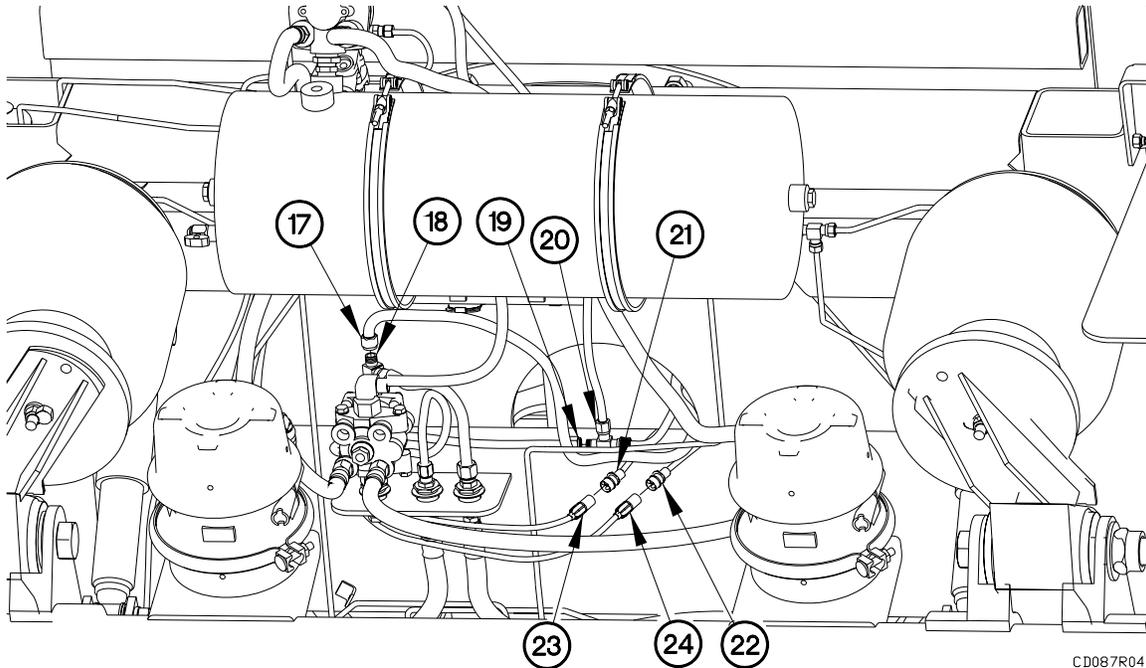
REMOVAL - Continued

7. Disconnect air hose (9) from 90-degree fitting (10).
8. Remove 90-degree fitting (10) from air bladder (11).
9. Remove nut (12), washer (13), and lockwasher (14) from air bladder (11). Discard lockwasher.
10. Perform the previous four steps on RH side of suspension.



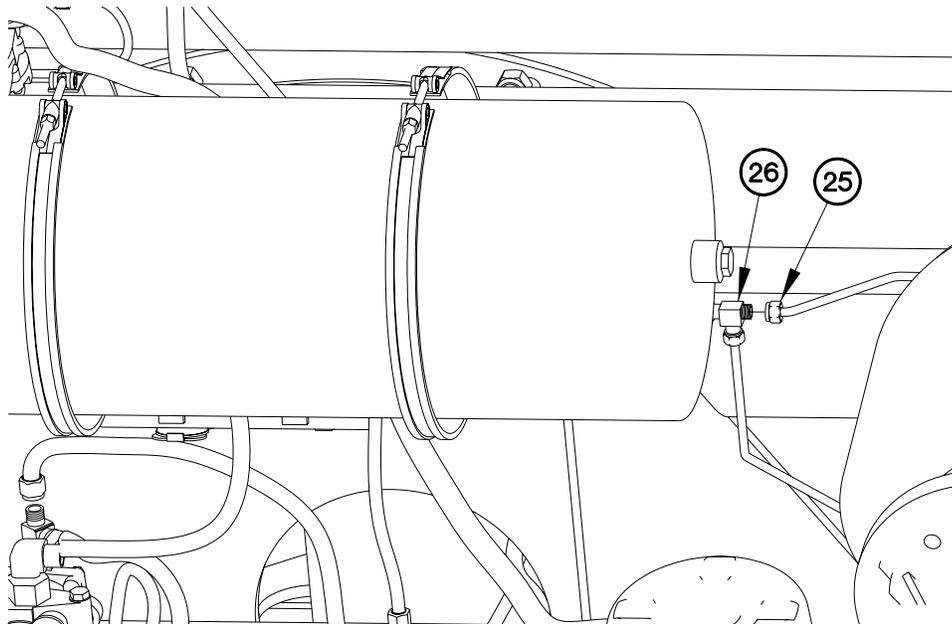
REMOVAL - Continued

11. Disconnect hose (17) from tee fitting (18).
12. Disconnect hose (19) from tee fitting (20).
13. Disconnect ABS sensor connectors (21 and 22) from ABS sensor connectors (23 and 24).



REMOVAL - Continued

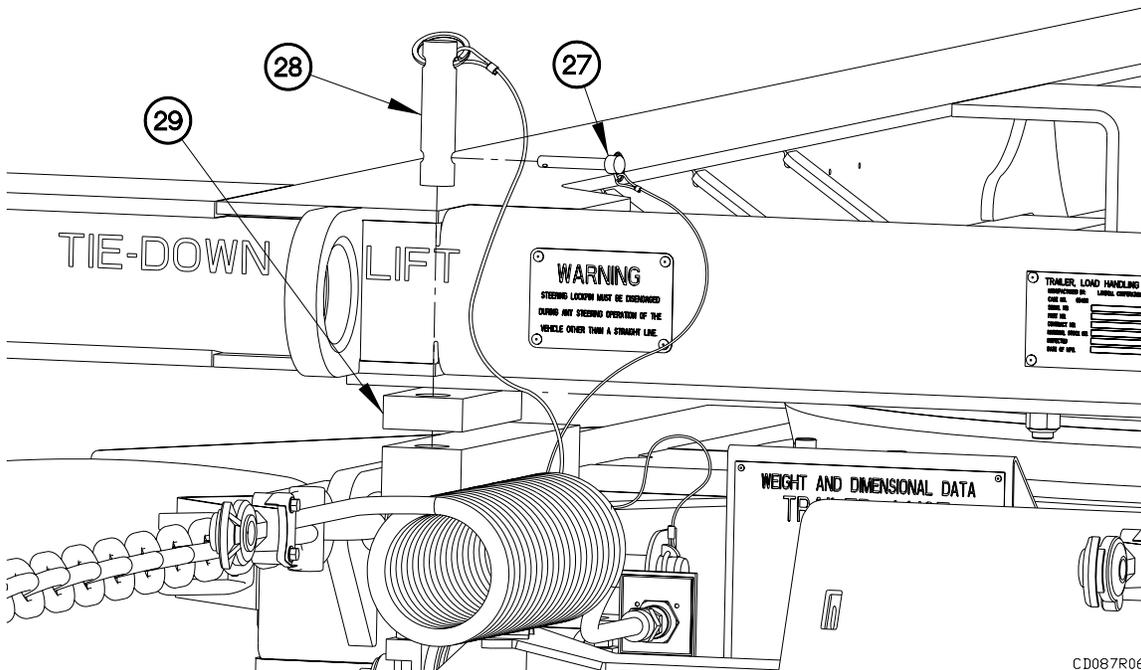
14. Disconnect hose (25) from tee fitting (26).



C.D087R05

15. Remove pin (27) from turntable pin (28).

16. Remove turntable pin (28) from turntable (29).



C.D087R06

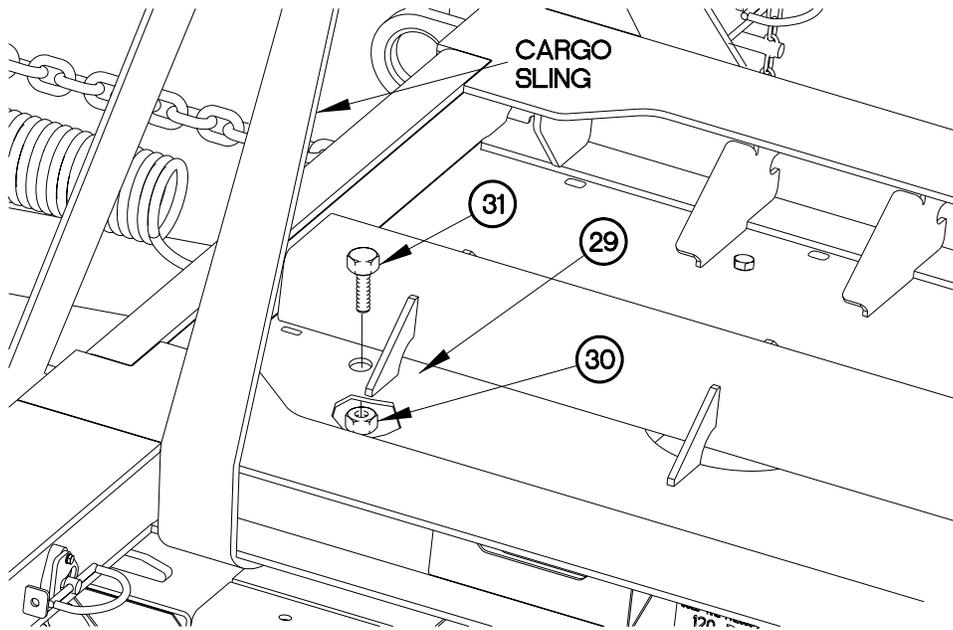
REMOVAL - Continued

17. Attach two cargo slings to trailer (2), as shown.

CAUTION

Ensure loose hoses and cables are removed from top of turntable prior to removal.
Failure to comply may result in damage to equipment.

18. Remove eight self-locking nuts (30) and bolts (31) from turntable (29). Discard self-locking nuts.

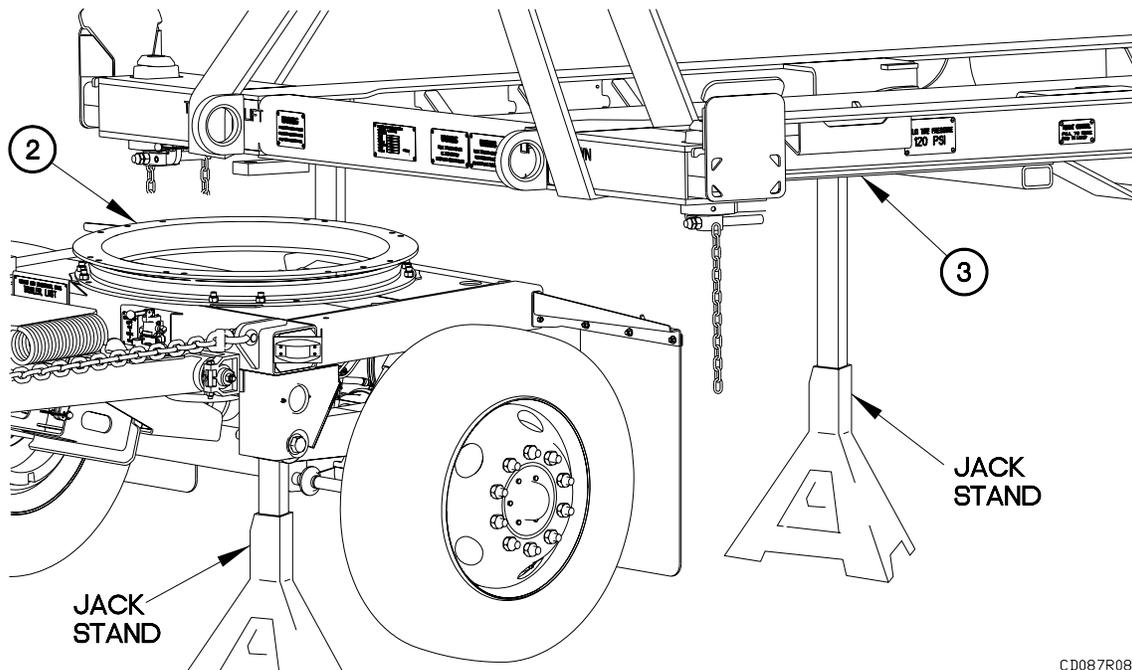


CD087R07

REMOVAL - Continued**WARNING**

Frame rail weighs approximately 4000 lbs (1814 kgs). Attach a suitable lifting device to frame rail prior to removal from turntable assembly and from jack stands. Failure to comply may result in serious injury or death to personnel or damage to equipment.

19. Remove frame rail (3) from turntable (2) and jack stands.

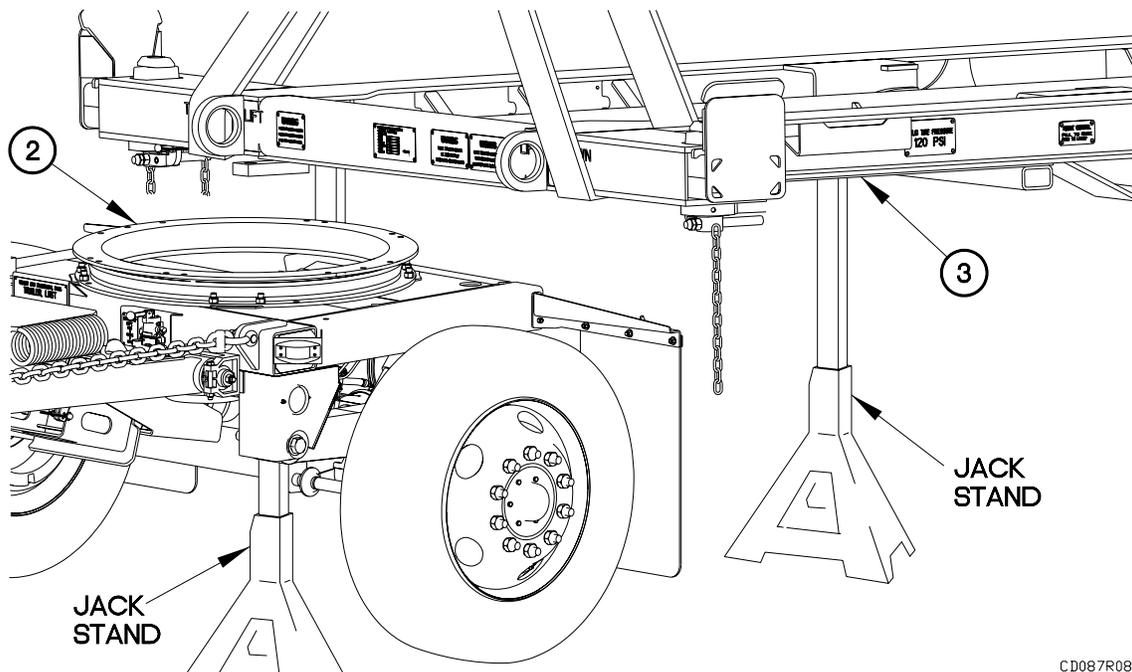


CD087R08

INSTALLATION**WARNING**

Frame rail weighs approximately 4000 lbs (1814 kgs). Attach a suitable lifting device to frame rail prior to installation on turntable assembly and jack stands. Failure to comply may result in serious injury or death to personnel or damage to equipment.

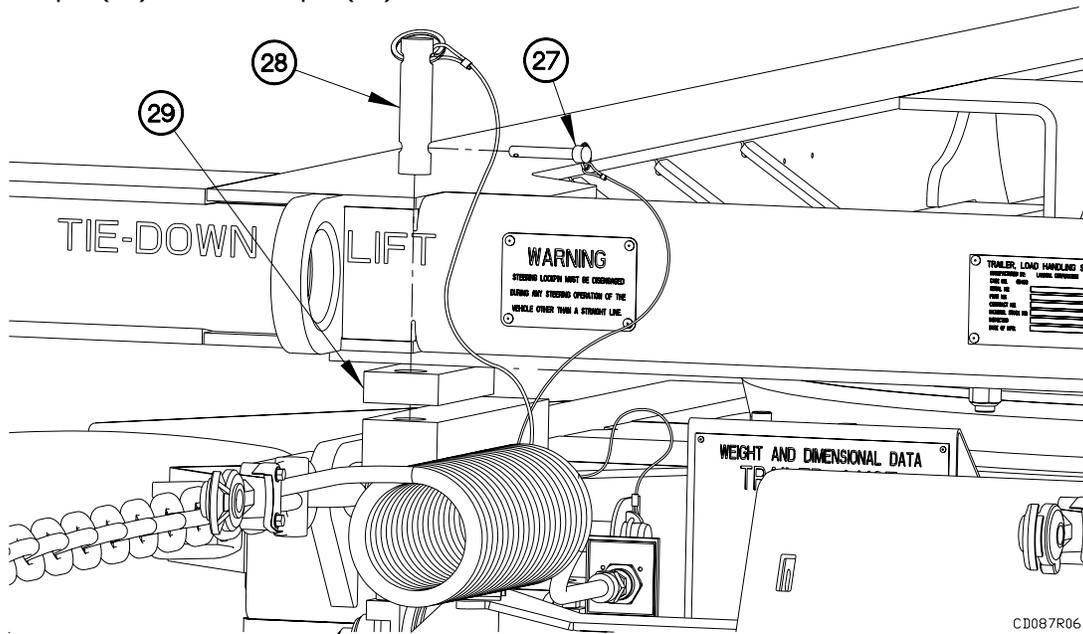
1. Position frame rail (3) on turntable (2) and jack stands.



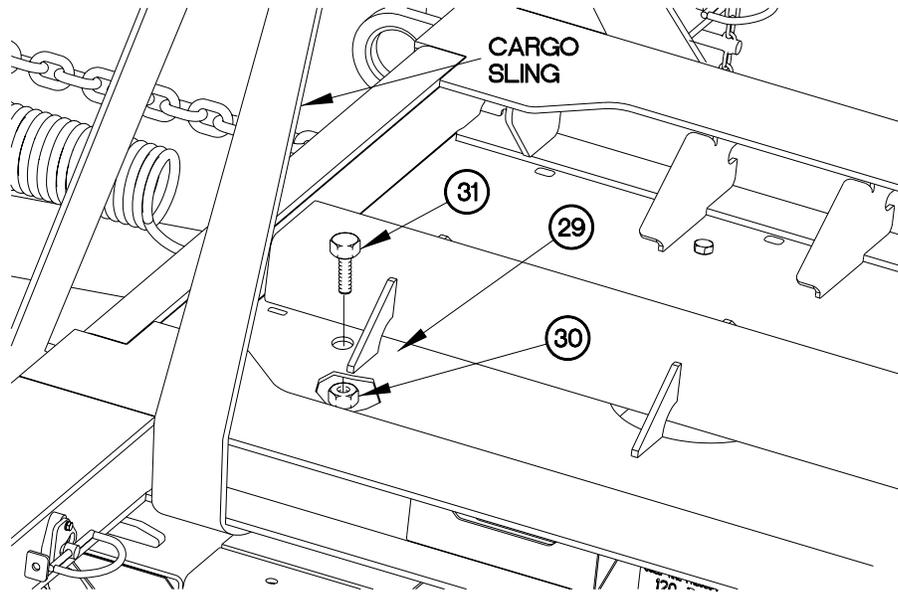
CD087R08

INSTALLATION - Continued

2. Install turntable pin (28) in turntable (29).
3. Install pin (27) in turntable pin (28).

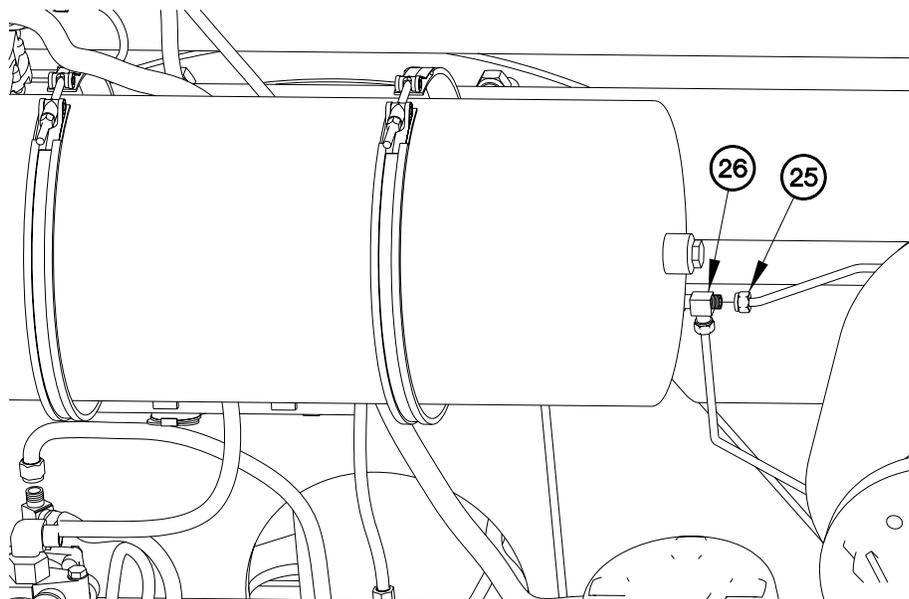


4. Position eight bolts (31) and self-locking nuts (30) in turntable (29).
5. Tighten eight self-locking nuts (30) to 155-185 lb-ft (210-251 N•m).



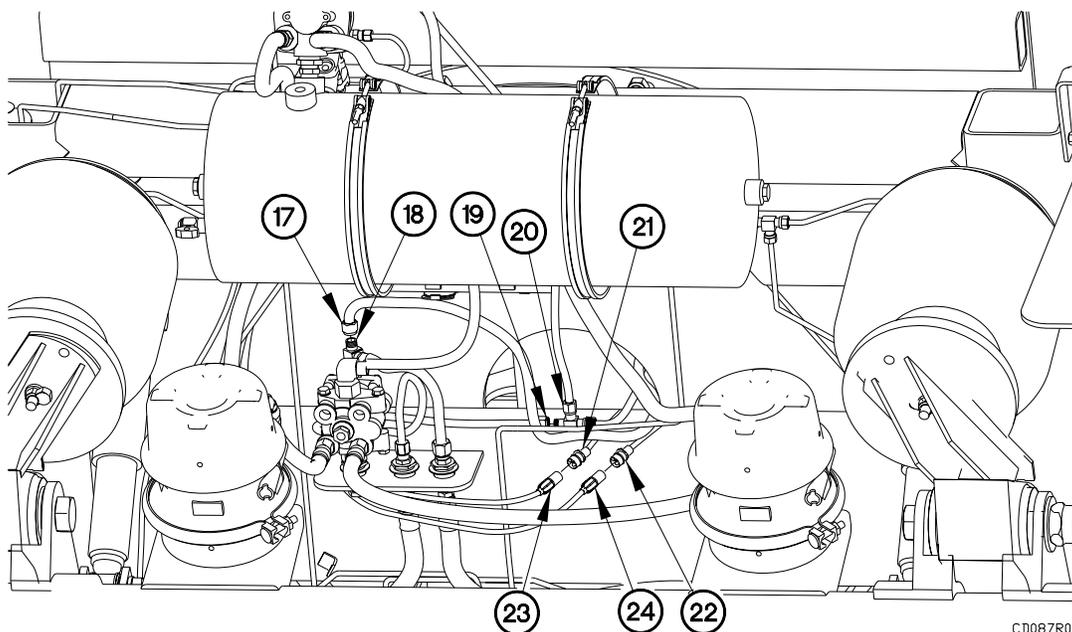
INSTALLATION - Continued

6. Connect hose (25) to tee fitting (26).



CD087R05

7. Connect ABS sensor connectors (21 and 22) to ABS sensor connectors (23 and 24).
8. Connect hose (19) to tee fitting (20).
9. Connect hose (17) to tee fitting (18).



CD087R04

INSTALLATION – Continued**WARNING**

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

NOTE

LH and RH sides of suspension is installed on axle the same way. LH side shown.

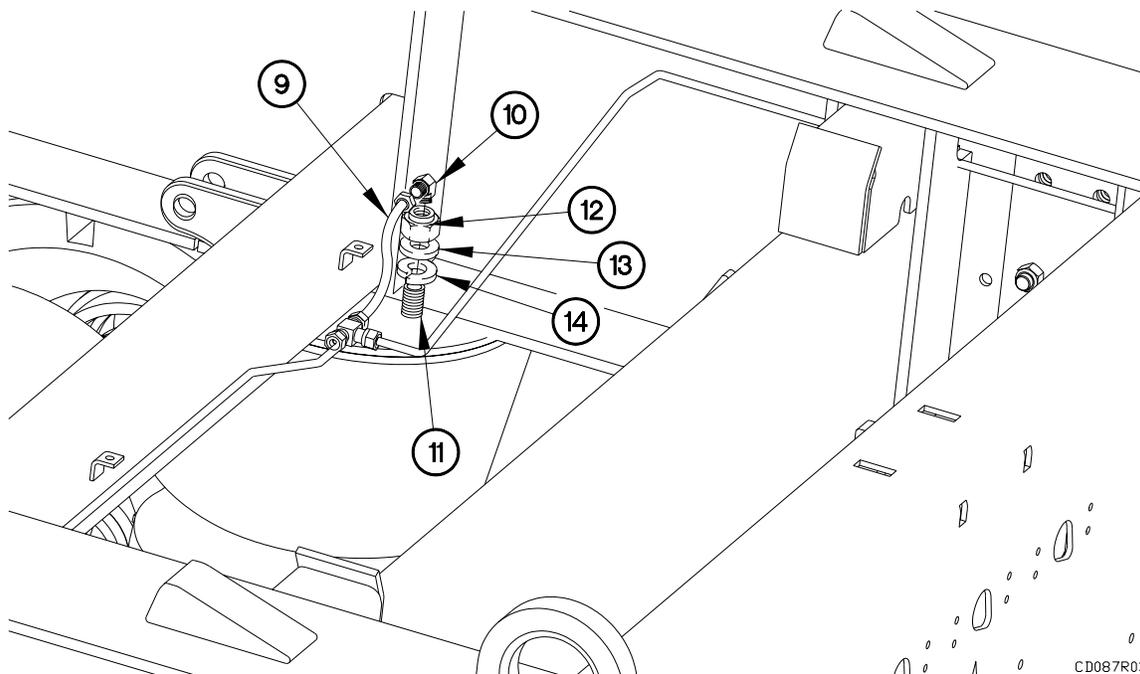
10. Position lockwasher (14), washer (13), and nut (12) on air bladder (11).

11. Tighten nut (12) to 35 lb-ft (47 N•m).

12. Apply sealing compound to threads of 90-degree fitting (10).

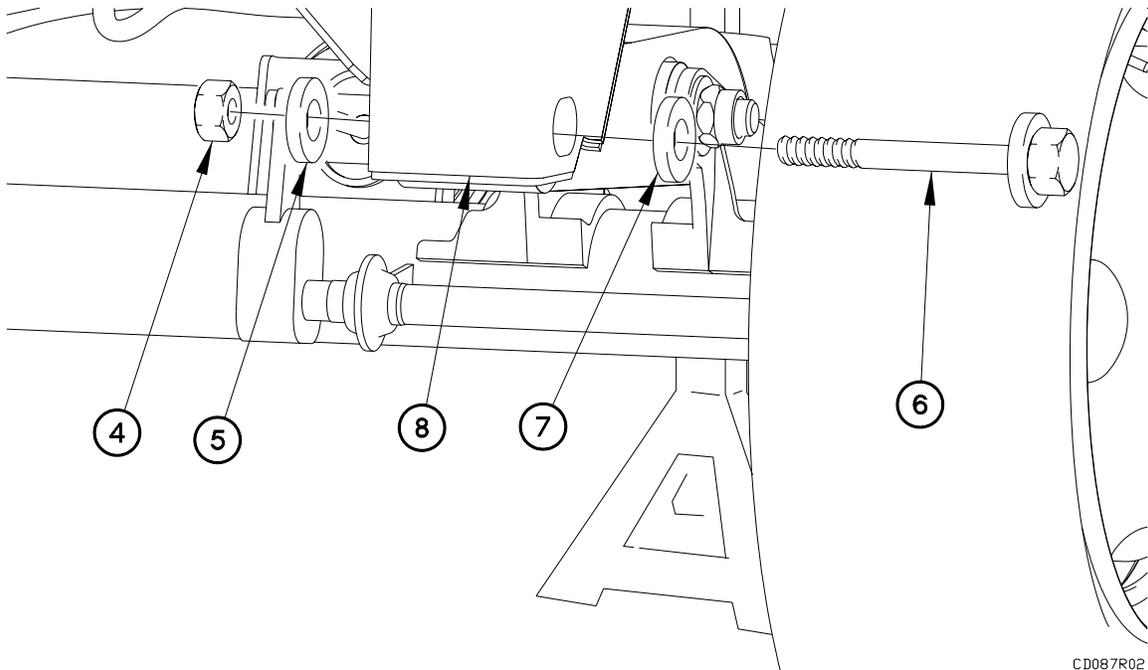
13. Install 90-degree fitting (10) in air bladder (11).

14. Connect air hose (9) to 90-degree fitting (10).



INSTALLATION – Continued

15. Position washer (7) and bolt (6) in suspension arm (8) with washer (5) and self-locking nut (4).
16. Tighten self-locking nut (4) to 493-577 lb-ft (668-782 N•m).
17. Perform previous seven steps on RH side of suspension.

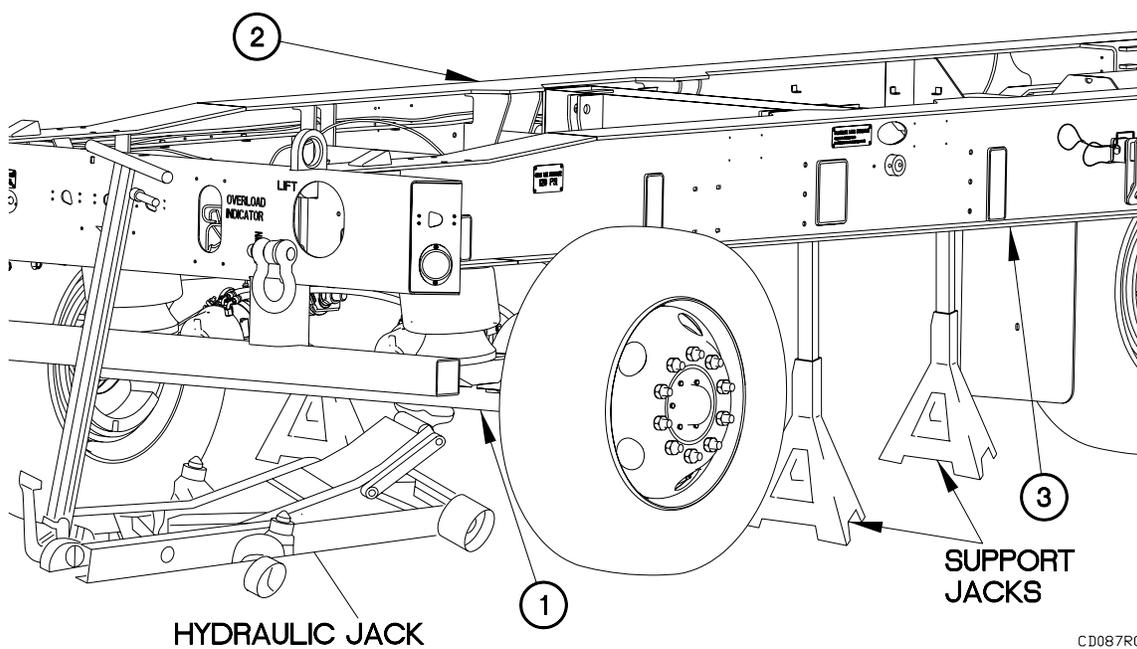


CD087R02

INSTALLATION – Continued**NOTE**

LH and RH side jack stands are removed the same way. LH side shown.

18. Position floor jack under rear axle (1).
19. Raise rear of trailer (2).
20. Remove jack stand from frame rail (3).
21. Lower rear of trailer (2).
22. Perform previous four steps on RH side of trailer



CD087R01

OPERATIONAL CHECKS

1. Install rear shock absorbers (WP 0095 00).
2. Install toolbox (WP 0098 00).
3. Install rear splashguards (WP 0097 00).
4. Install spare tire carrier winch (WP 0103 00).
5. Install spare tire carrier (WP 0093 00).
6. Install rear breather valve (WP 0082 00).
7. Install junction box (WP 0059 00).
8. Install right rear electrical harness (WP 0063 00).
9. Install left rear electrical harness (WP 0064 00).
10. Install rear electrical harness (WP 0065 00).
11. Install ABS power and diagnostic cable and diagnostic tool (WP 0074 00).
12. Install ABS relay valve harness (WP 0072 00).
13. Install ABS ECU valve (WP 0071 00).
14. Install height actuation valve (WP 0110 00).
15. Install flatrack lock push/pull valve (WP 0108 00).
16. Install overload indicator (WP 0106 00).
17. Install rear air tank (WP 0078 00).
18. Install rear marker lights (WP 0061 00).
19. Install composite taillights (WP 0060 00).
20. Install main electrical harness (WP 0066 00).
21. Install flatrack rail and pivots (WP 0089 00).

END OF WORK PACKAGE.

TWIST LOCK ASSEMBLY REPLACEMENT**0088 00****THIS WORK PACKAGE COVERS:**

Removal, Installation

INITIAL SETUP:**Maintenance Level**

Field

Materials/Parts

Nut, Self-locking (Item 37, WP 0168 00)

Nut, Self-locking (Item 39, WP 0168 00)

Tools and Special Tools

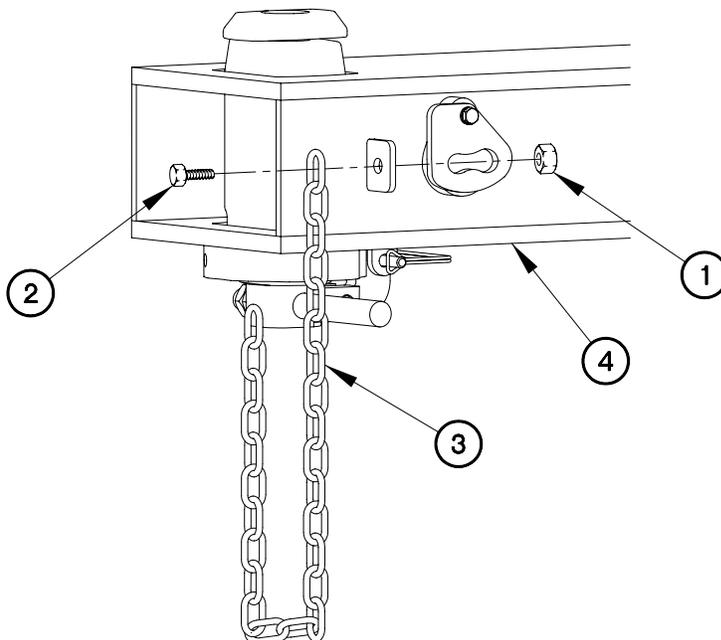
Tool Kit, Genl Mech (Item 22, WP0167 00)

Equipment Conditions

Trailer uncoupled (WP 0043 24, TM 2320-392-10-1).

WARNING**Use caution when removing ISO locks. Failure to comply may result in injury to personnel.****REMOVAL**

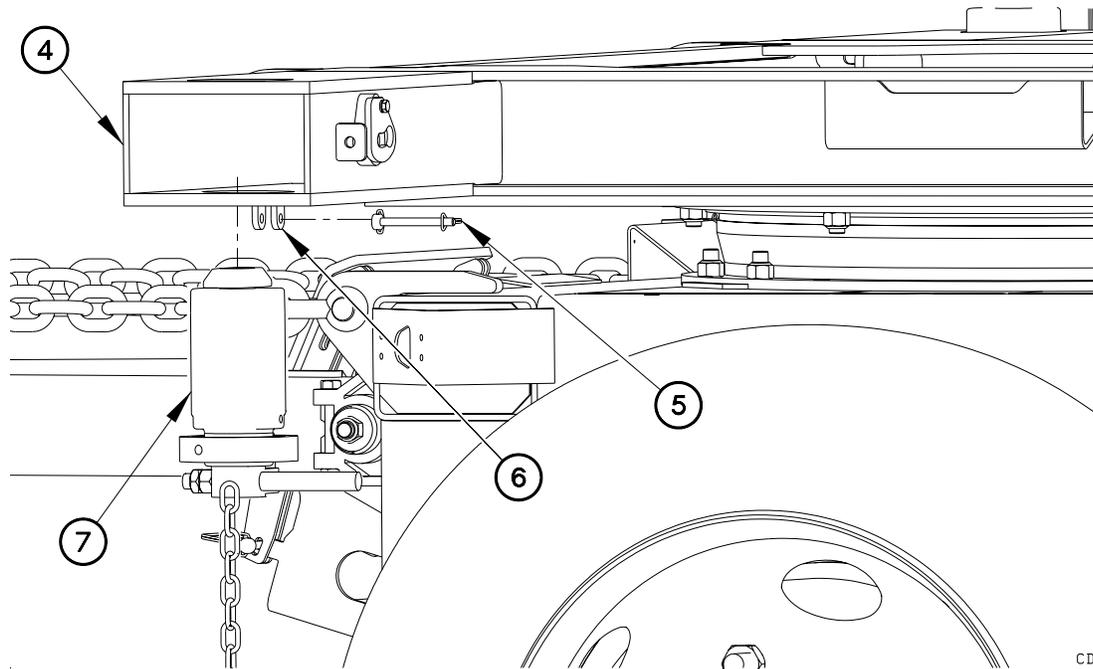
1. Remove nut (1) from bolt (2).
2. Remove bolt (2) from chain (3) and trailer crossmember (4).



CD088R01

REMOVAL – Continued

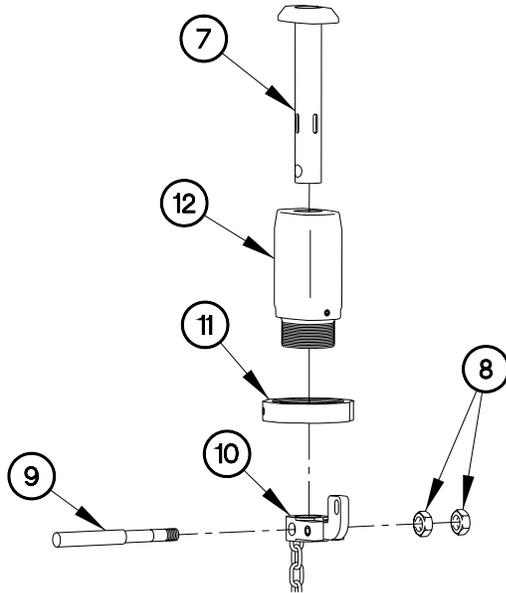
3. Remove retaining pin (5) from cap (6).
4. Rotate bottom of ISO lock (7) 90 degrees.
5. Remove ISO lock from trailer crossmember (4).



C.D088R02

REMOVAL – Continued

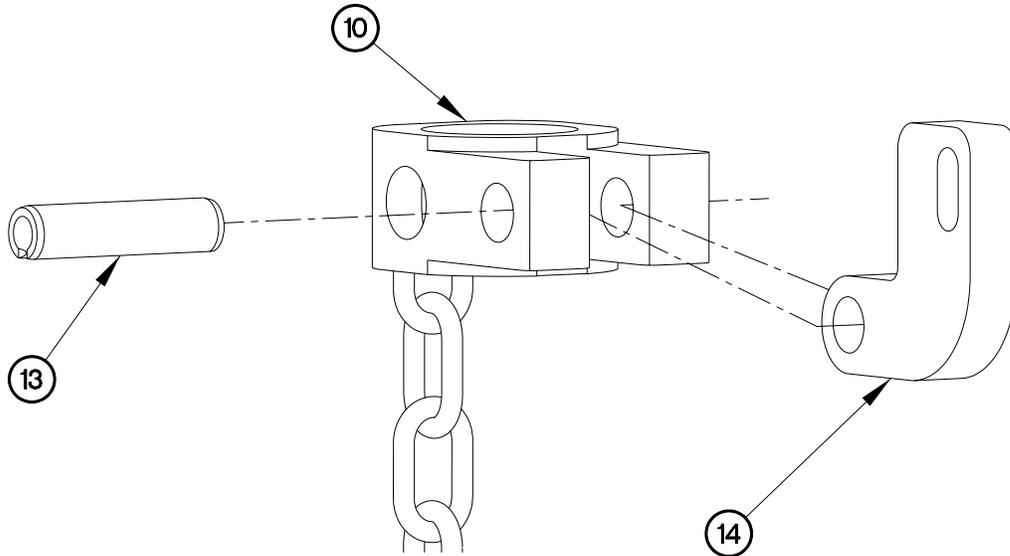
6. Remove nuts (8) from retaining pin (9).
7. Remove retaining pin (9) and lock handle (7) from cap (10).
8. Remove lock handle (7) from lock body (12).
9. Remove hand screw (11) from lock body (12).



CD088R03

REMOVAL – Continued

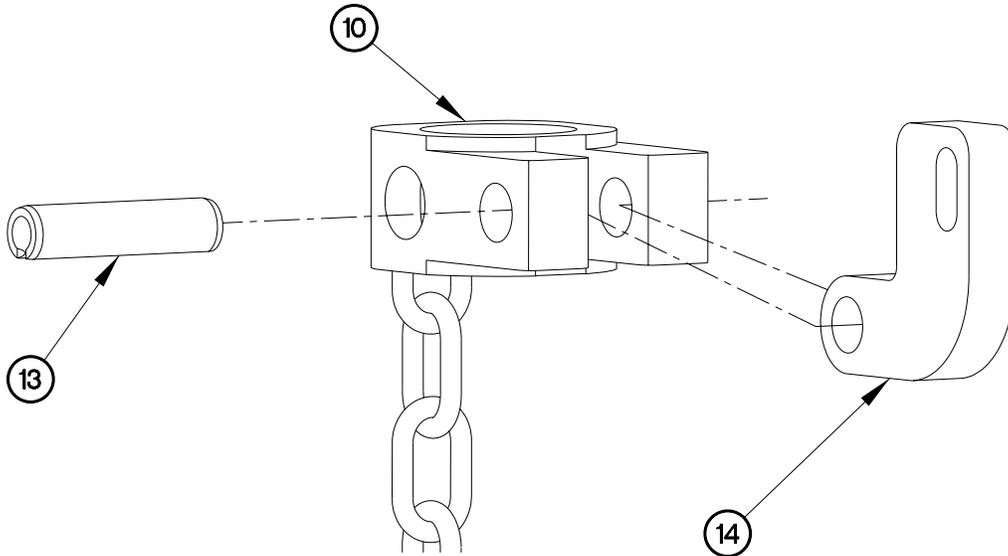
10. Remove roll pin (13) and retaining bracket (14) from cap (10).



C.D088R04

INSTALLATION

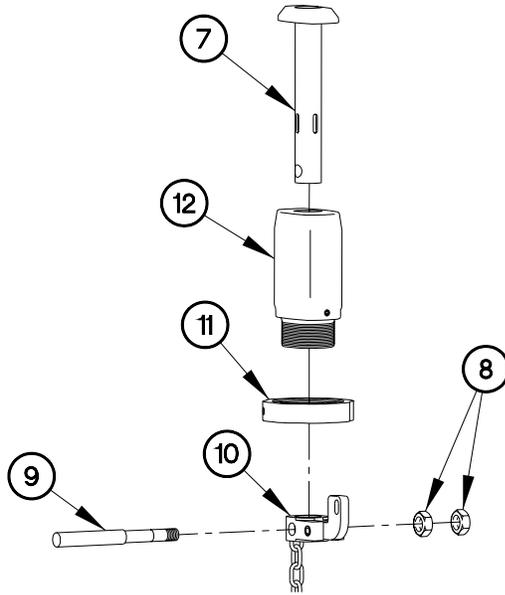
1. Install roll pin (13) in retaining pin (14) and cap (10).



C0088R04

INSTALLATION – Continued

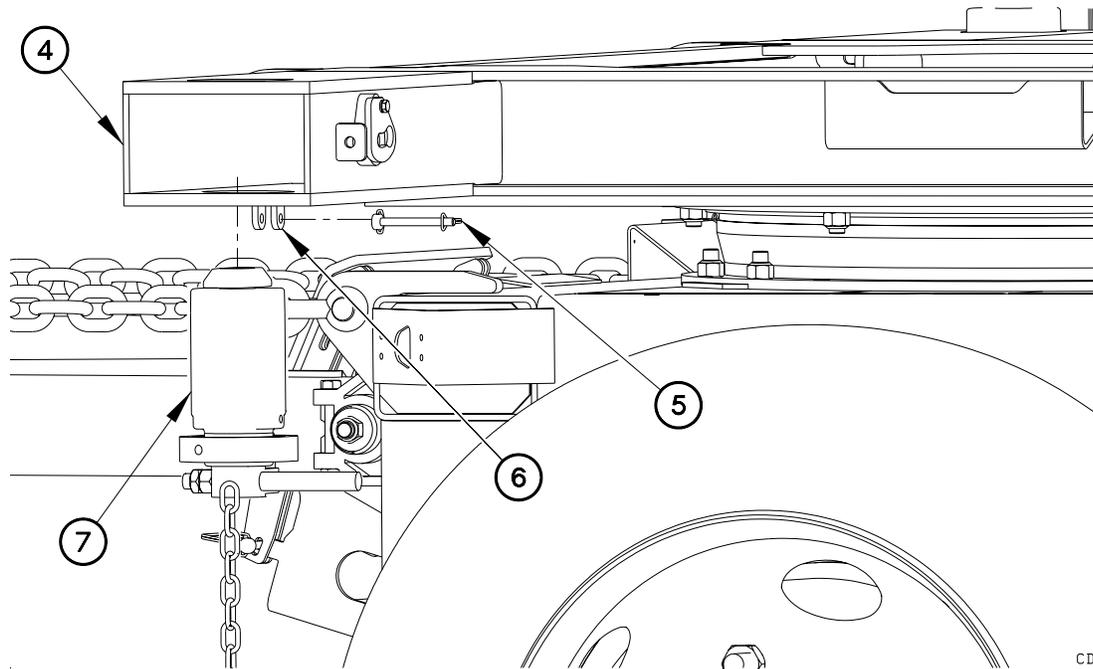
2. Install hand screw (11) to lock body (12).
3. Install lock handle (7) into lock body (12).
4. Install retaining pin (9) into lock handle (7).
5. Install nuts (8) to retaining pin (9).



CD088R03

INSTALLATION – Continued

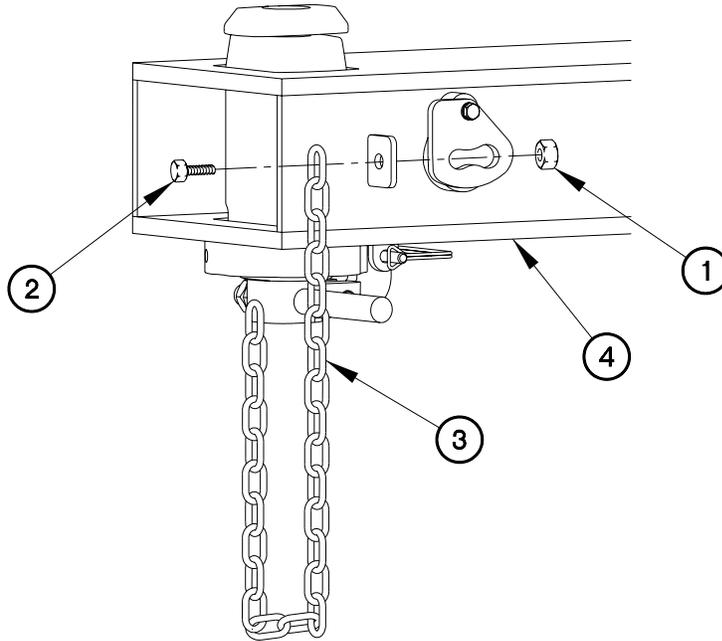
6. Insert lock handle (7) into LHST frame (4).
7. Rotate bottom of ISO lock 90 degrees.
8. Attach retaining pin (5) to cap (6).



C0088R02

INSTALLATION – Continued

9. Insert bolt (2) into chain (3) and trailer crossmember (4).
10. Attach nut (1) to bolt (2).



CD088R01

END OF WORK PACKAGE

FLATRACK RAIL AND PIVOT BRACKETS REPLACEMENT

0089 00

THIS WORK PACKAGE COVERS:

Removal, Installation, Operational Checks

INITIAL SETUP:

Maintenance Level

Field

Tools and Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)
 Wrench, Torque 50-250 lb-ft (Item 31, WP 0167 00)
 Sling, Cargo (Item 16, WP 0167 00)

Materials/Parts

Pin, Cotter (4) (Item 46, WP 0168 00)

Materials/Parts (Cont)

Washer, Lock (6) (Item 23, WP 0168 00)
 Nut, Self-Locking (Item 31, WP 0168 00)
 Nut, Self-Locking (2) (Item 38, WP 0168 00)
 Anaerobic Adhesive (Item 1, WP 0165 00)

Equipment Conditions

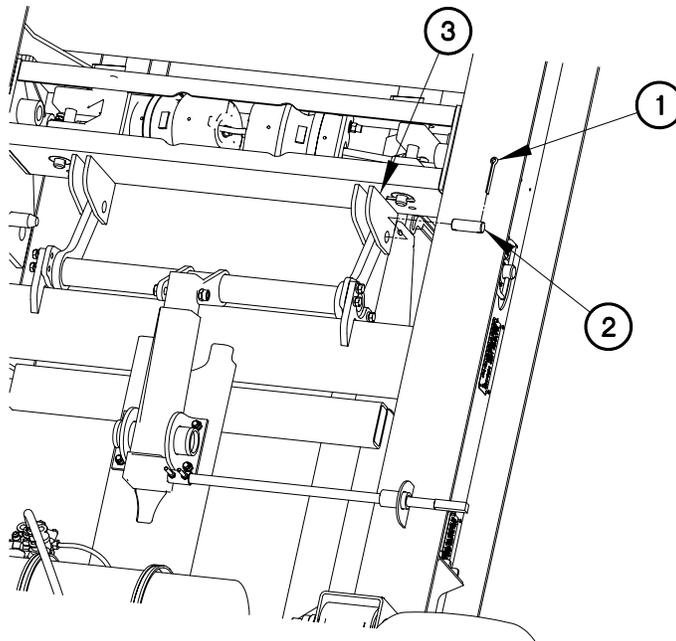
Shuttle removed (WP 0100 00).
 Flatrack Air Chambers and Locks removed (WP 0107 00).

REMOVAL

NOTE

All four retaining pins are removed the same way. One shown.

1. Remove two cotter pins (1) and retaining pin (2) from flatrack rail (3). Discard cotter pin.
2. Perform previous step on remaining retaining pins.



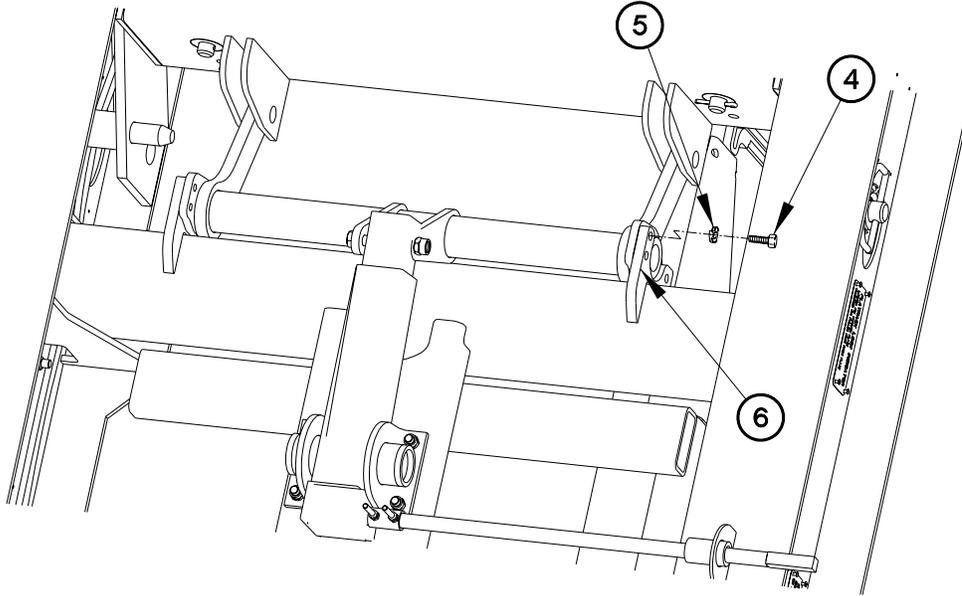
CD089R01

FLATRACK RAIL AND PIVOT BRACKETS REPLACEMENT

0089 00

REMOVAL - Continued

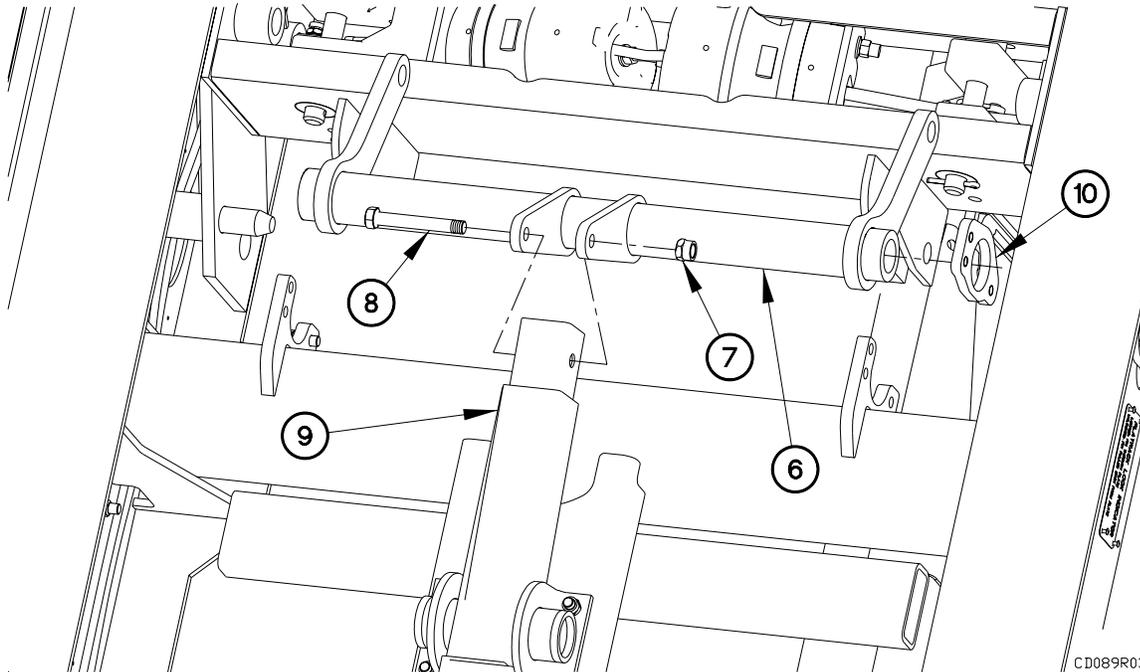
3. Remove six bolts (4) and lockwashers (5) from pivot bracket (6). Discard lockwashers.



C0809R02

4. Remove self-locking nut (7), bolt (8), and pivot bracket (6) from rail lift jack (9). Discard self-locking nut.

5. Remove two retaining plates (10) from pivot bracket (6).

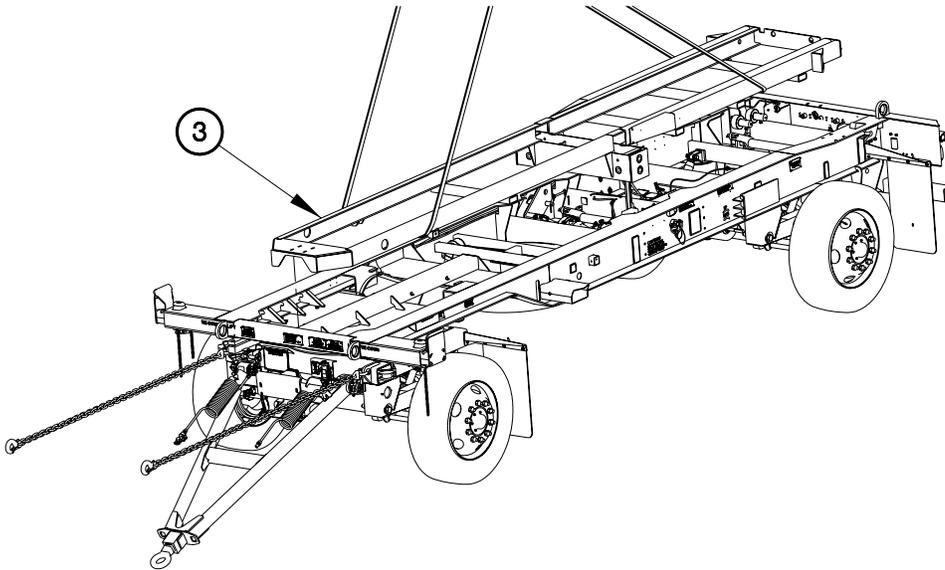


C0809R03

REMOVAL - Continued**WARNING**

Flatrack rail weighs approximately 600 lbs (272 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in serious injury or death to personnel or damage to equipment.

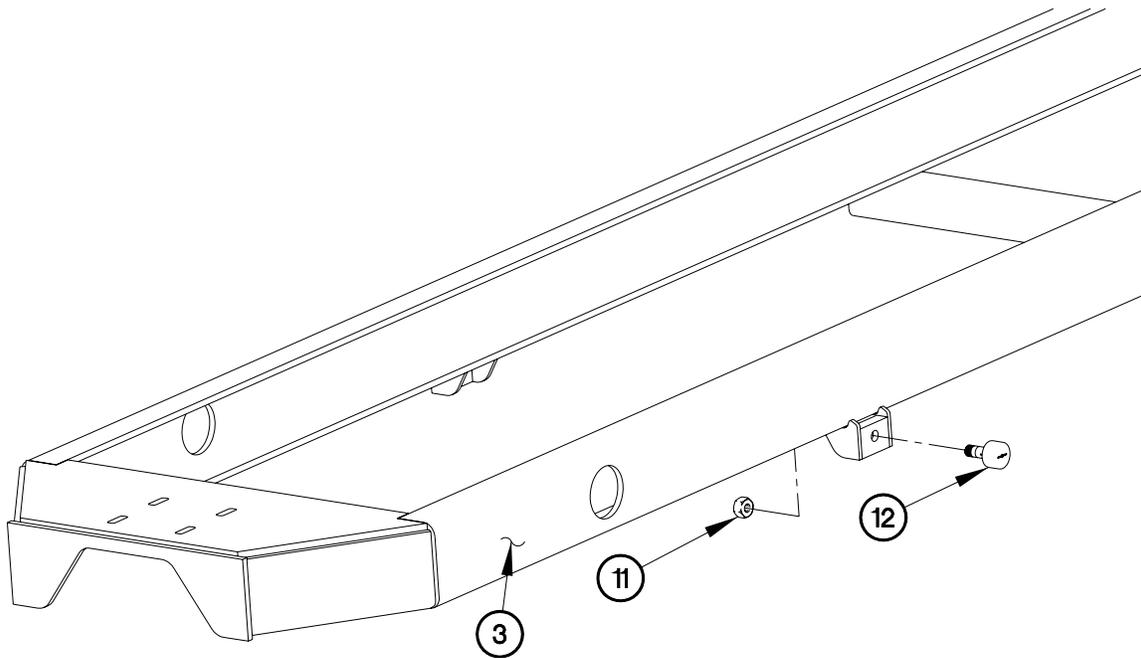
6. Remove flatrack rail (3) from vehicle.



CD089R04

REMOVAL - Continued

7. Remove two self-locking nuts (11) and cam followers (12) from flatrack rail (3). Discard self-locking nuts.

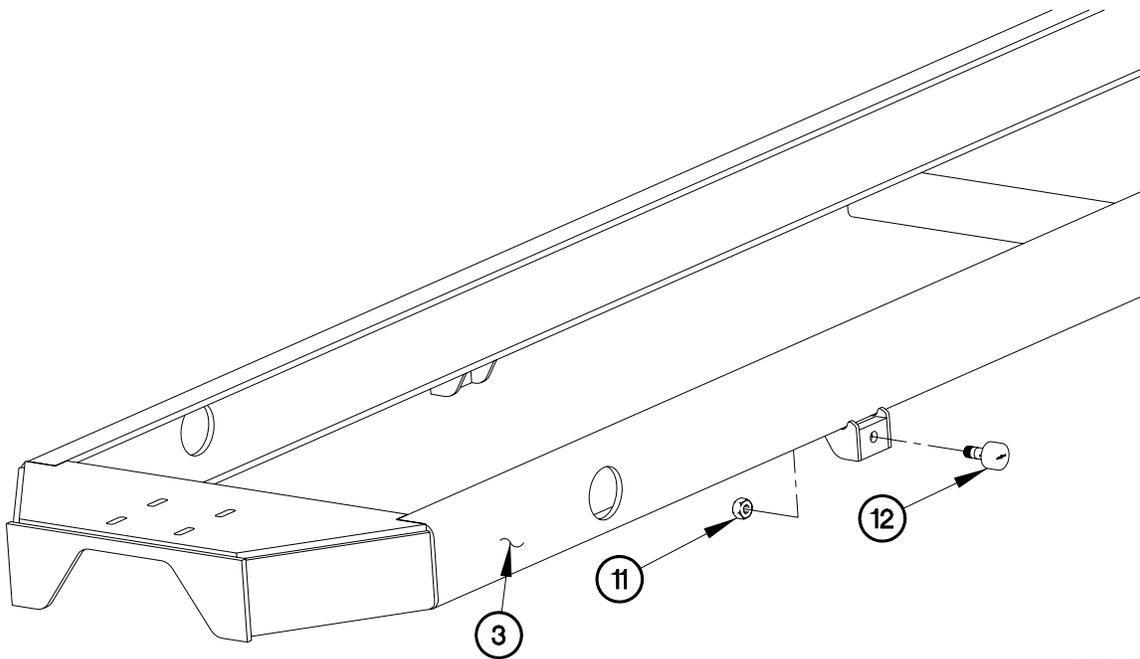


CD089R05

INSTALLATION**WARNING**

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

1. Apply adhesive to threads of two cam followers (12).
2. Position two cam followers (12) on flatrack rail (3) with two self-locking nuts (11).
3. Tighten two self-locking nuts (11) to 29-35 lb-ft (39-47 N•m).

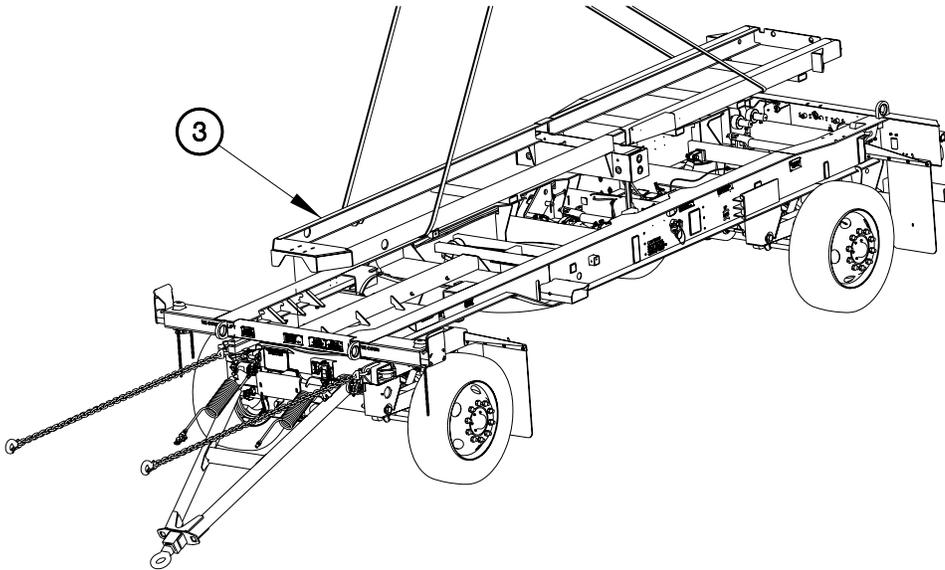


CD089R05

INSTALLATION - Continued**WARNING**

Flatrack rail weighs approximately 600 lbs (272 kgs). Attach a suitable lifting device prior to installation. Failure to comply may result in serious injury or death to personnel or damage to equipment.

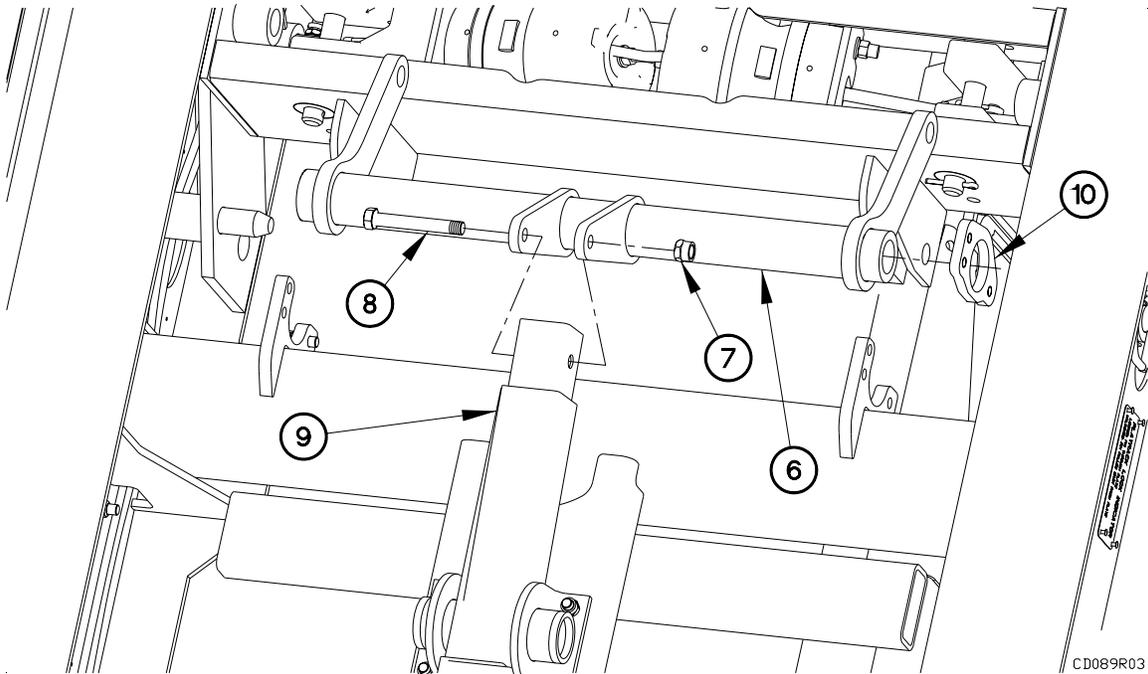
4. Position flatrack rail (3) on vehicle.



CD089R04

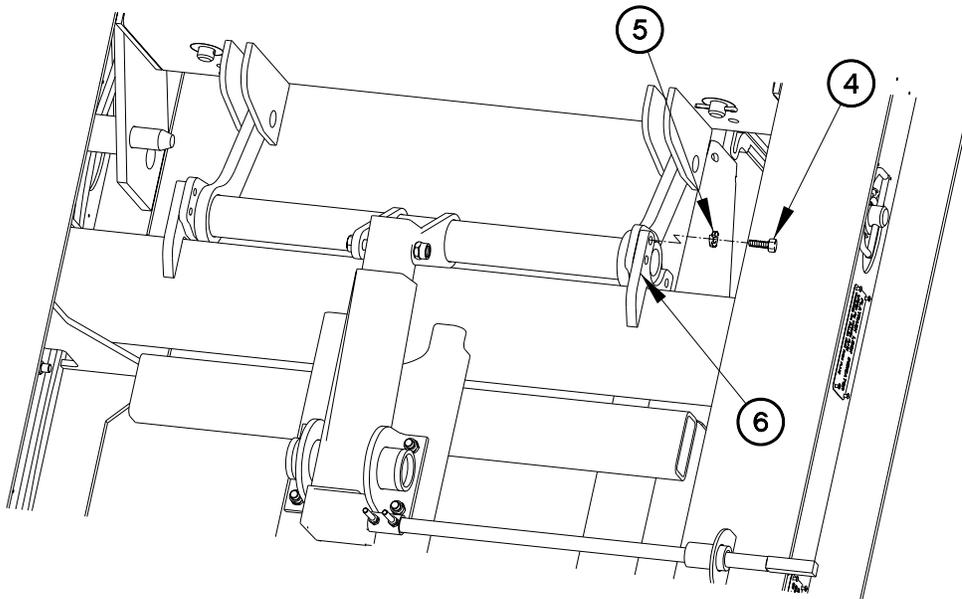
INSTALLATION - Continued

5. Position two retaining plates (10) on pivot bracket (6).
6. Position pivot bracket (6) on rail lift jack (9) with bolt (8) and self-locking nut (7).
7. Tighten self-locking nut (7) to 150-190 lb-ft (203-257 N•m).



INSTALLATION - Continued

8. Position six lockwashers (5) and bolts (4) in pivot bracket (6).
9. Tighten six bolts (4) to 70-90 lb-ft (95-122 N•m).

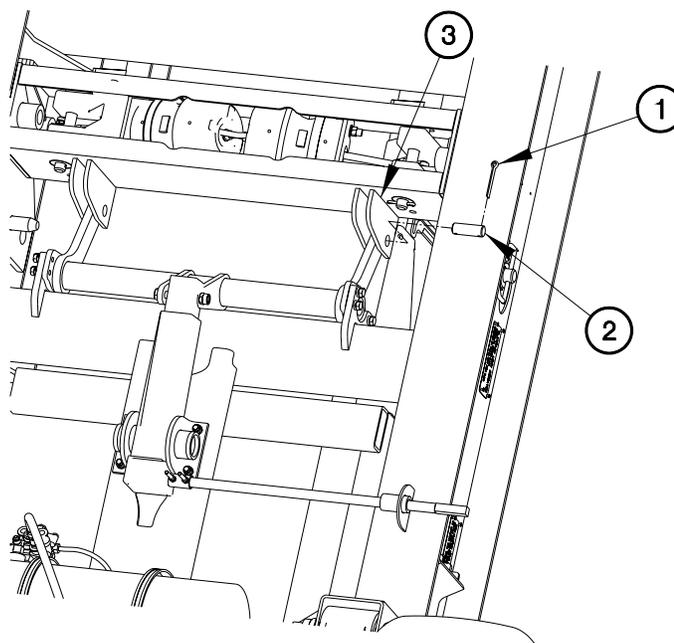


CD089R02

**FLATRACK RAIL AND PIVOT BRACKETS REPLACEMENT
- CONTINUED****0089 00****INSTALLATION - Continued****NOTE**

All four retaining pins are installed the same way. One shown.

10. Install retaining pin (2) in flatrack rail (3) with two cotter pins (1).
11. Perform previous step on remaining retaining pins.



CD089R01

OPERATIONAL CHECKS

1. Install flatrack air chambers and locks (WP 0107 00).
2. Install shuttle (WP 0100 00).
3. Perform flatrack loading and unloading procedures (WP 0043 13 and WP 0043 14, TM 9-2320-392-10-1).

END OF WORK PACKAGE

DRAWBAR REPLACEMENT

0090 00

THIS WORK PACKAGE COVERS:

Removal, Installation, Operational Checks

INITIAL SETUP:

Maintenance Level

Field

Tools/Special Tools

Gloves, Rubber (Item 6, WP 0167 00)
 Goggles, Industrial (Item 8, WP 0167 00)
 Sling, Cargo (Item 16, WP 0167 00)
 Tool Kit, Genl Mech (Item 22, WP 0167 00)
 Wrench, Impact, Pneumatic (Item 30, WP 0167 00)
 Socket Set, Impact (Item 18, WP 0167 00)
 Wrench, Torque, 0-175 lb-ft (Item 32, WP 0167 00)

Materials/Parts

Bolt and Self-Locking Nut (4) (Item 1, WP 0168 00)

Materials/Parts (Cont)

Washer, Lock (4) (Item 17, WP 0168 00)
 Nut (2) (Item 9, WP 0165 00)
 Nut, Self-Locking (2) (Item 33, WP 0168 00)
 Screw (2) (Item 12, WP 0165 00)
 Washer (8) (Item 21, WP 0165 00)

Personnel Required

Two

Equipment Conditions

Gladhand hoses removed (WP 0079 00).
 Bump stop and bump stop extension removed (WP 0104 00).
 Drawbar lift valve removed (WP 0094 00).
 Drawbar eye removed (WP 0092 00).

GENERAL

This work package contains information and instructions to replace the Load Handling System Trailer (LHST) drawbar.

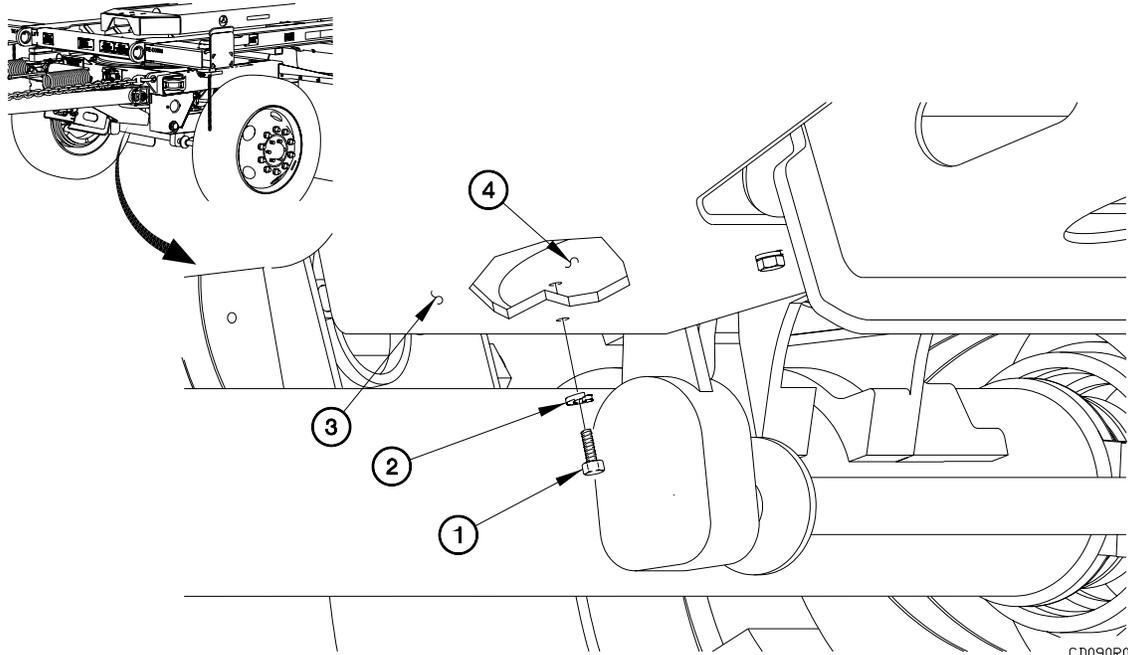
WARNING

Drawbar weighs approximately 215 lbs (97 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

Wear appropriate eye protection when working under trailer due to the possibility of falling debris. Failure to comply may result in injury to personnel.

DRAWBAR REPLACEMENT - Continued**0090 00****REMOVAL**

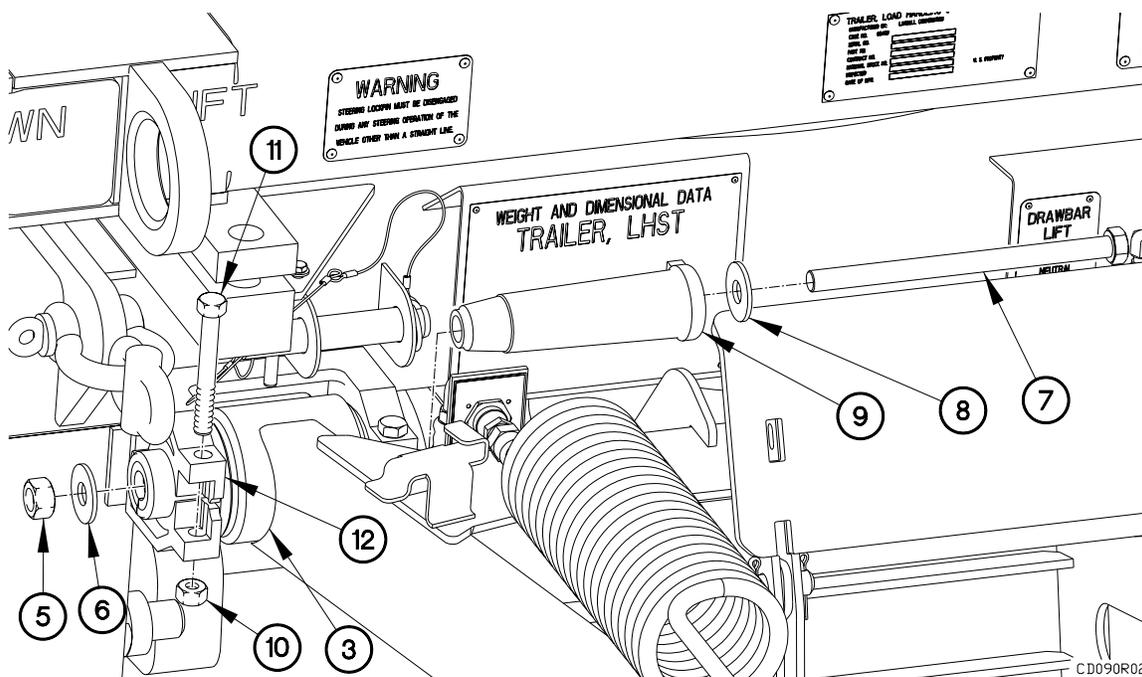
1. Drain air tanks.
2. Remove two bolts (1) and lockwashers (2) from drawbar (3) and air bladder (4). Discard lockwashers.



DRAWBAR REPLACEMENT - Continued**0090 00****REMOVAL - Continued****NOTE**

LH and RH drawbar hinges are removed the same way. RH drawbar hinge shown.

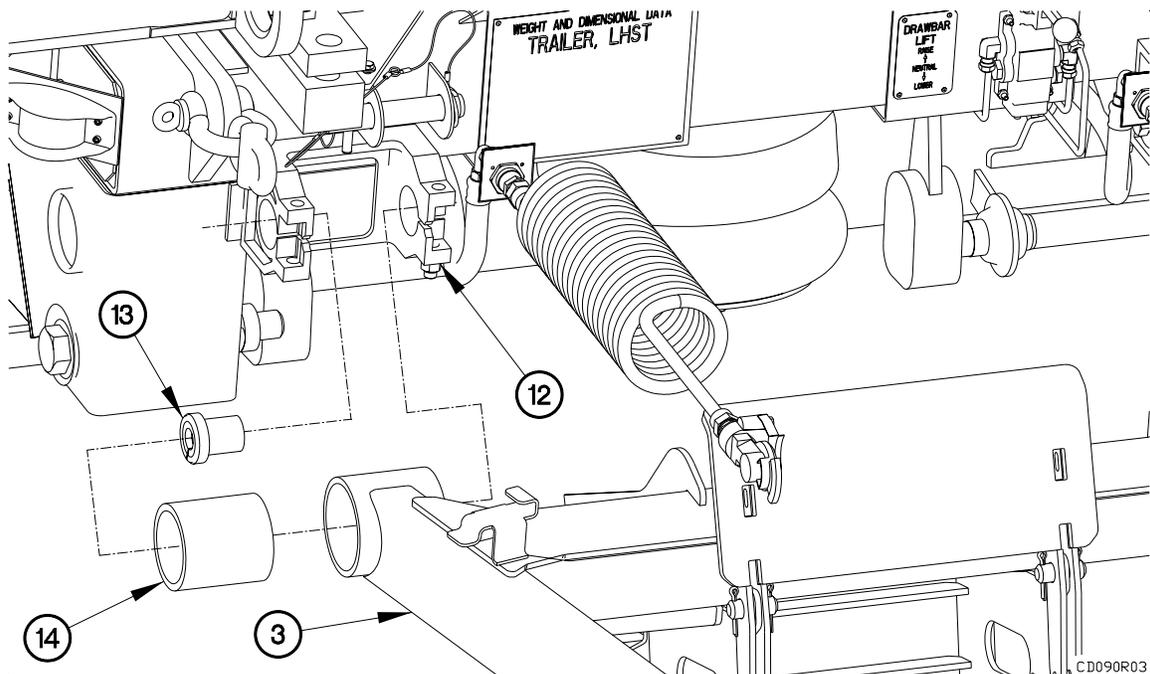
3. Remove self-locking nut (5), washer (6), bolt (7), and washer (8) from taper pin (9). Discard self-locking nut.
4. Remove two self-locking nuts (10) and bolts (11) from drawbar hinge bracket (12). Discard self-locking nuts.
5. Remove taper pin (9) from drawbar (3) and drawbar hinge bracket (12).
6. Perform the previous three steps on LH drawbar hinge.



DRAWBAR REPLACEMENT - Continued**0090 00****REMOVAL - Continued****NOTE**

The following step requires the aid of an assistant.

7. Remove drawbar (3) from two drawbar hinge brackets (12).
8. Remove two flanges (13) from drawbar hinge brackets (12).
9. Remove two drawbar hinge bushings (14) from drawbar (3).



INSTALLATION**WARNING**

Drawbar weighs approximately 215 lbs (97 kgs). Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel or damage to equipment.

CAUTION

Drawbar hinge bushing openings are tapered to fit taper pins. Be sure to install bushings with wider opening towards the inside of the drawbar. Failure to comply may result in damage to equipment.

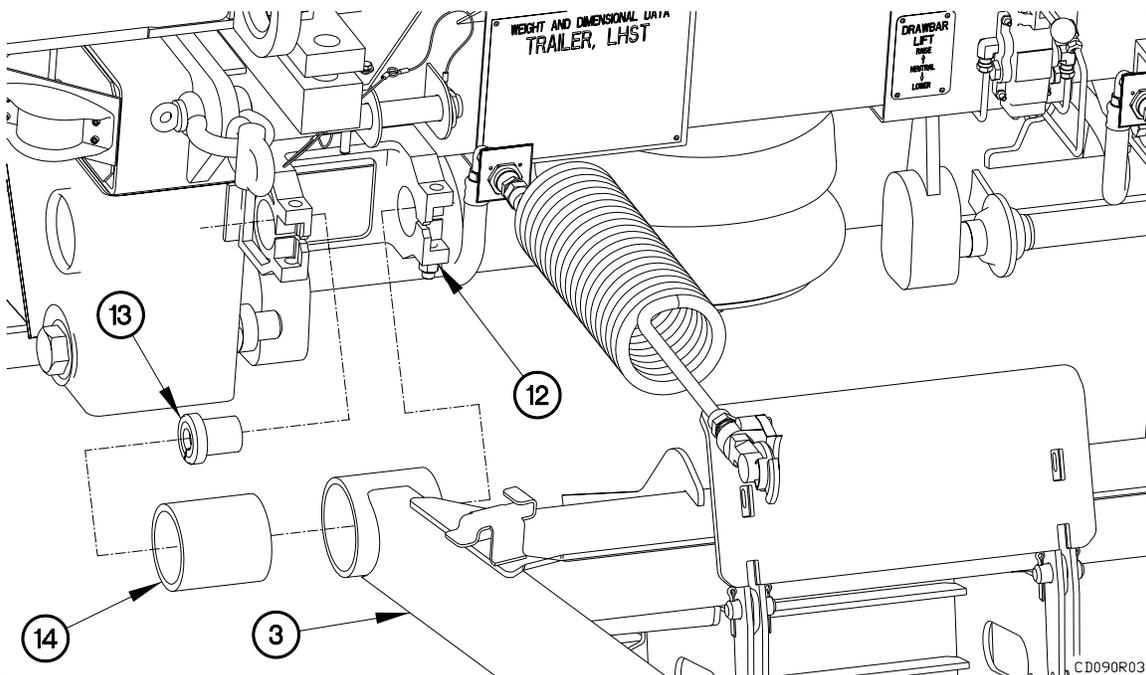
Line up slots on drawbar hinge flanges with slots on drawbar hinge brackets. Failure to comply may result in damage to equipment.

1. Install two drawbar hinge bushings (14) on drawbar (3).
2. Install two flanges (13) on drawbar hinge brackets (12).

NOTE

The following step requires the aid of an assistant.

3. Position drawbar (3) on two drawbar hinge brackets (12).

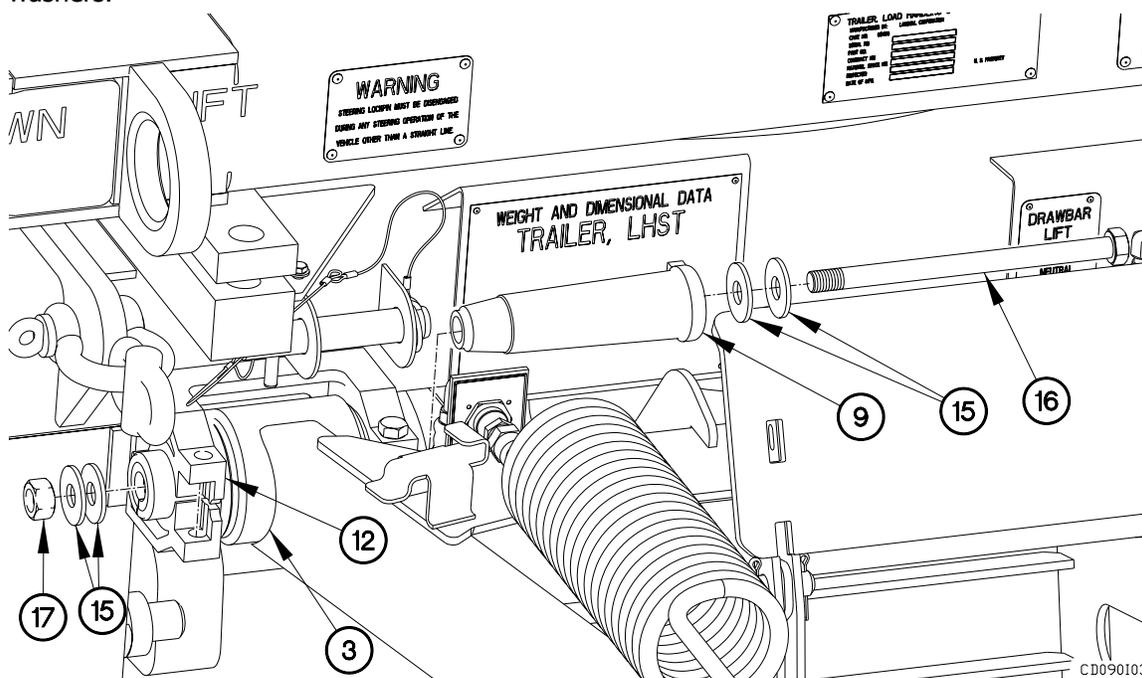


INSTALLATION – Continued**NOTE**

LH and RH drawbar hinges are installed the same way. RH drawbar hinge shown.

Line up flat spot on taper pin with flat spot on drawbar hinge bracket.

4. Position taper pin (9) on drawbar hinge bracket (12) and drawbar (3).
5. Position four washers (15), bolt (16), and nut (17) on taper pin (9).
6. Tighten nut (17) until the head of the taper pin (9) is flush with the drawbar hinge bracket (12).
7. Remove nut (17), bolt (16), and four washers (15) from taper pin (9). Discard nut, bolt, and washers.

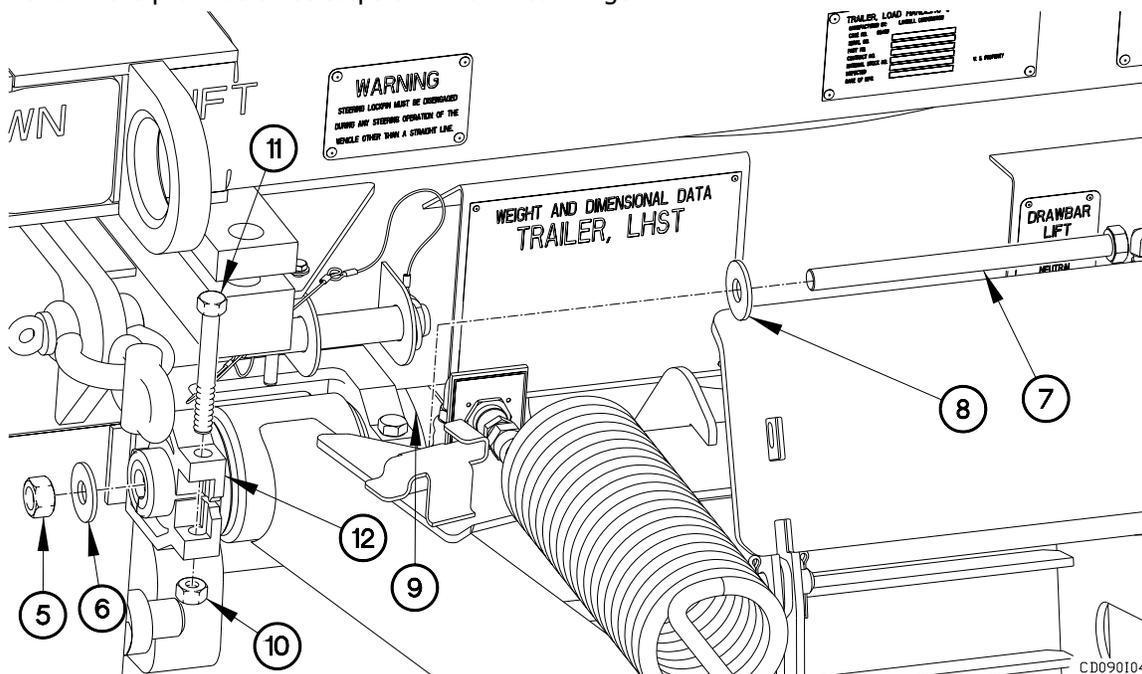


DRAWBAR REPLACEMENT - Continued

0090 00

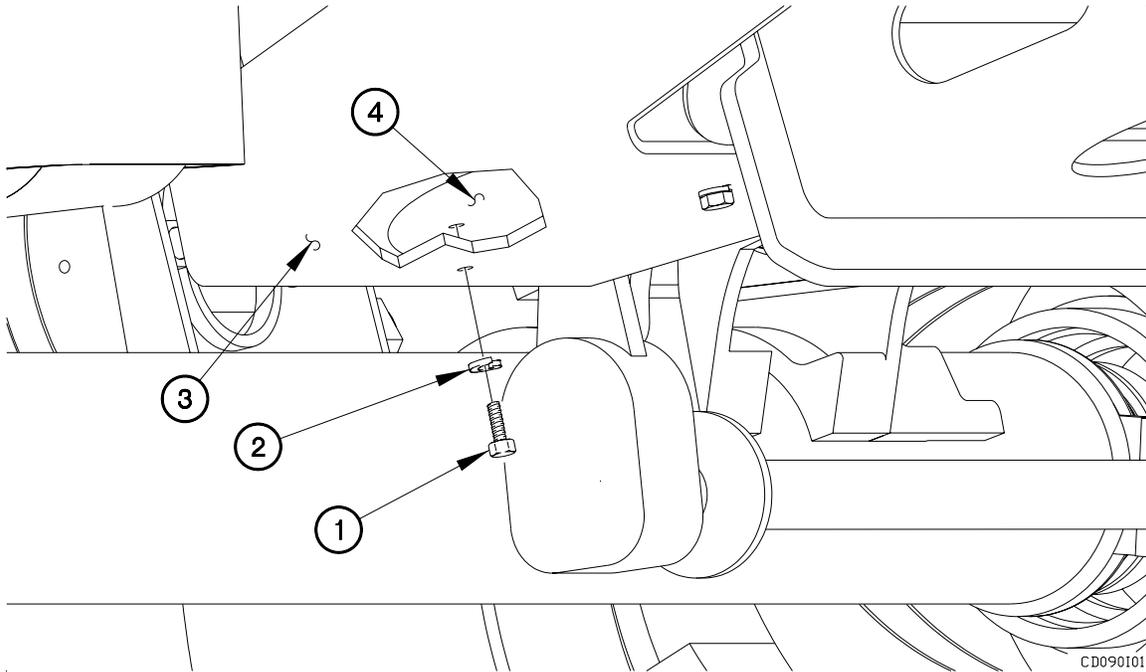
INSTALLATION – Continued

8. Position two bolts (11) on drawbar hinge bracket (12) with two self-locking nuts (10).
9. Position washer (8) and bolt (7) on taper pin (9) with washer (6) and self-locking nut (5).
10. Perform the previous three steps on LH drawbar hinge.



DRAWBAR REPLACEMENT - Continued**0090 00****DRAWBAR INSTALLATION - Continued**

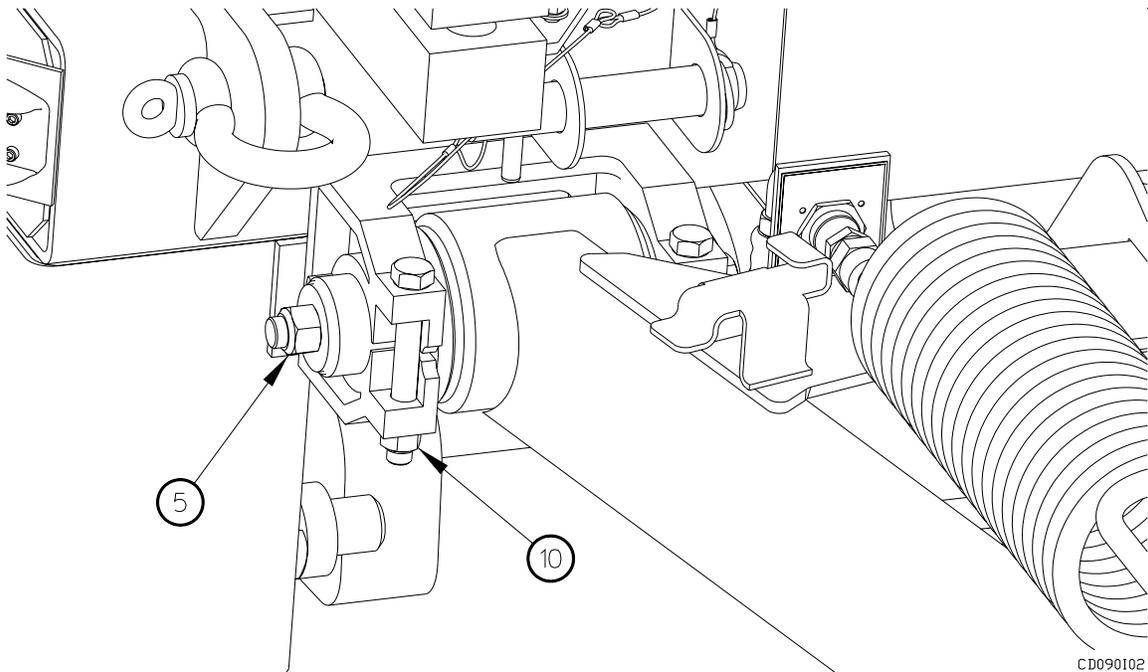
11. Position two lockwashers (2) and screws (1) in drawbar (3) and air bladder (4).
12. Tighten two screws (1) to 33-37 lb-ft (45-50 N•m).



DRAWBAR INSTALLATION - Continued**NOTE**

Tighten self-locking nuts until bushing is visible around the edges of drawbar hinge bushing.

13. Tighten two self-locking nuts (5).
14. Tighten four self-locking nuts (10) to 106-118 lb-ft (144-160 N•m).



OPERATIONAL CHECKS

1. Install drawbar eye (WP 0092 00, Installation).
2. Install drawbar lift valve (WP 0094 00, Installation).
3. Install bump stop and bump stop extension (WP 0104 00, Installation).
4. Install gladhand hoses (WP 0079 00, Installation).
5. Fill air tanks.

END OF WORK PACKAGE

SAFETY CHAIN ASSEMBLY REPLACEMENT

0091 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Maintenance Level

Field

Equipment Conditions

Trailer uncoupled (WP 0043 24, TM 2320-392-10-1).

Tools and Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

GENERAL

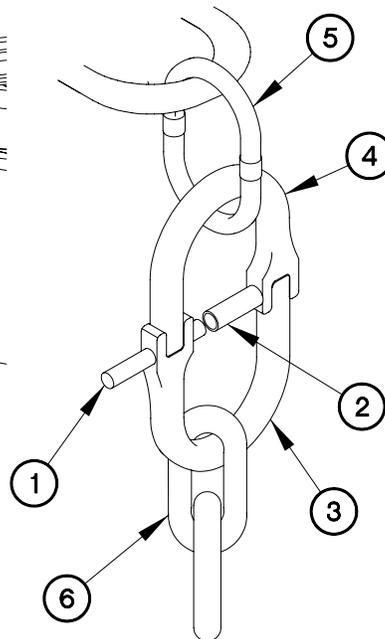
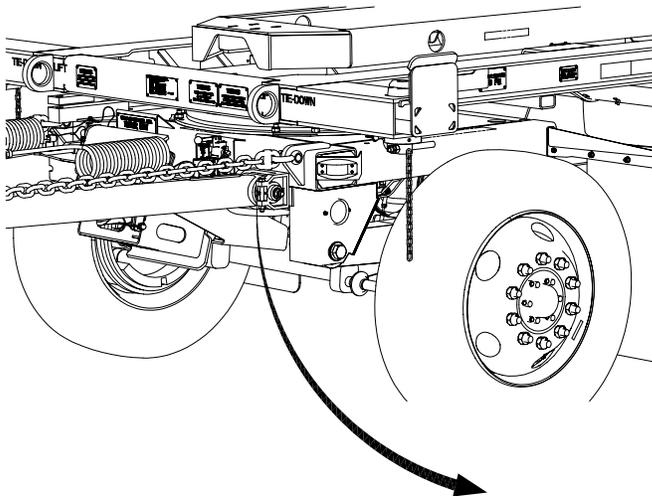
This work package contains information and instructions to replace the Load Handling System Trailer (LHST) safety chain assembly.

REMOVAL

NOTE

Left and right safety chain assemblies are removed the same way. Left safety chain assembly shown.

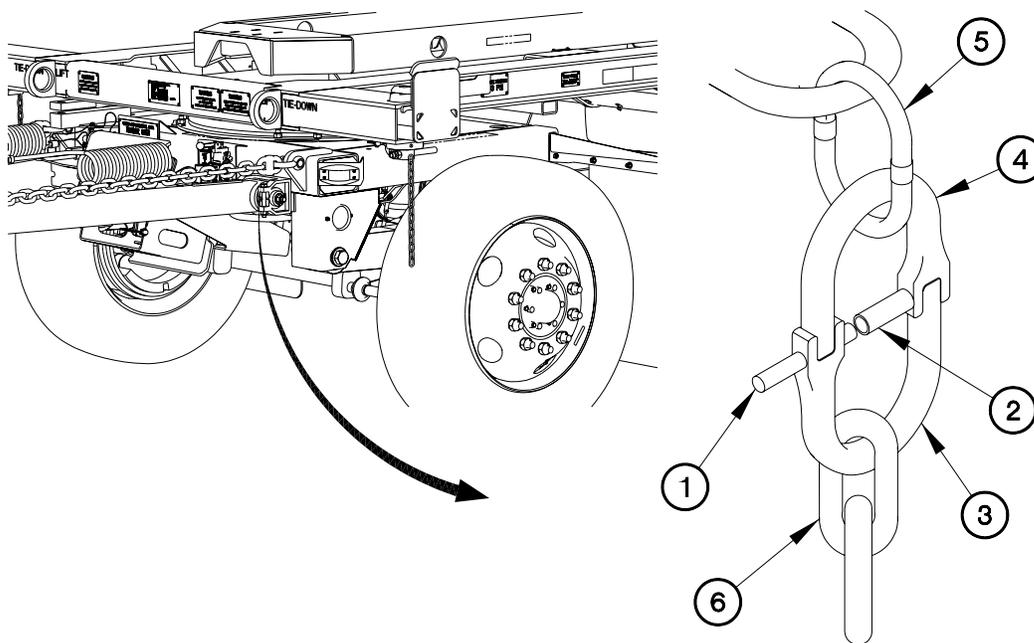
1. Remove pin (1), spring collar (2), and clamp half (3) from clamp half (4).
2. Remove clamp half (4) from chain link (5).
3. Remove clamp half (3) from safety chain assembly (6).



INSTALLATION**NOTE**

Left and right safety chain assemblies are installed the same way. Left safety chain assembly shown.

1. Position clamp half (3) in safety chain assembly (6).
2. Position clamp half (4) in chain link (5).
3. Install clamp half (4) in clamp half (3) with spring collar (2) and pin (1).



CD091R01

END OF WORK PACKAGE

DRAWBAR EYE REPLACEMENT

0092 00**THIS WORK PACKAGE COVERS:**Removal, Installation, Operational Checks

INITIAL SETUP:**Maintenance Level**

Field

Materials/PartsPin, Cotter (Item 48, WP 0168 00)
Grease, Automotive and Artillery (GAA)
(Item 7, WP 0165 00)**Tools and Special Tools**Goggles, Industrial (Item 8, WP 0167 00)
Multiplier, Torque Wrench (Item 13, WP 0167 00)
Tool Kit, Genl Mech (Item 22, WP 0167 00)
Bar, Wrecking (Item 2, WP 0167 00)
Wrench, Torque, 0-600 lb-ft (Item 34, WP 0167 00)
Socket Set, Socket Wrench (Item 19, WP 0167 00)**Personnel Required**

Two

Equipment Conditions

Trailer uncoupled (WP 0043 24, TM 2320-392-10-1).

GENERAL

This work package contains information and instructions to replace the Load Handling System Trailer (LHST) drawbar eye.

WARNING

Wear appropriate eye protection when working under trailer due to the possibility of falling debris. Failure to comply may result in injury to personnel.

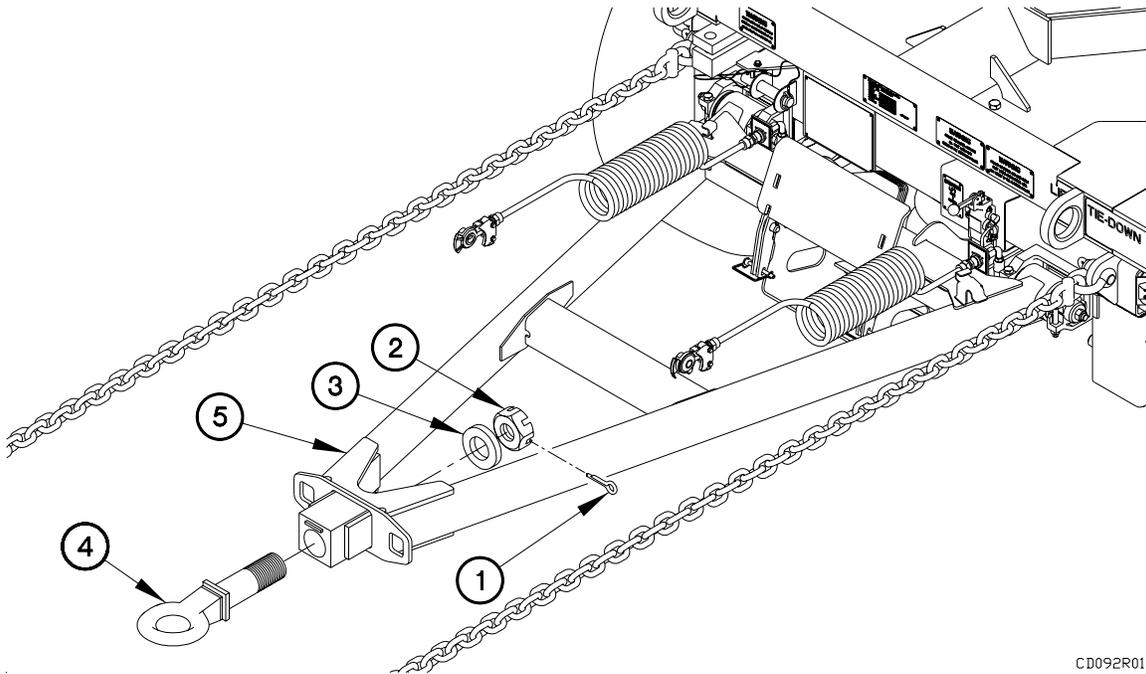
DRAWBAR EYE REPLACEMENT - Continued**0092 00****REMOVAL**

1. Remove cotter pin (1) from nut (2). Discard cotter pin.

NOTE

The following step requires an assistant.

2. Remove nut (2), washer (3), and drawbar eye (4) from drawbar (5).



CD092R01

DRAWBAR EYE REPLACEMENT - Continued**0092 00****INSTALLATION**

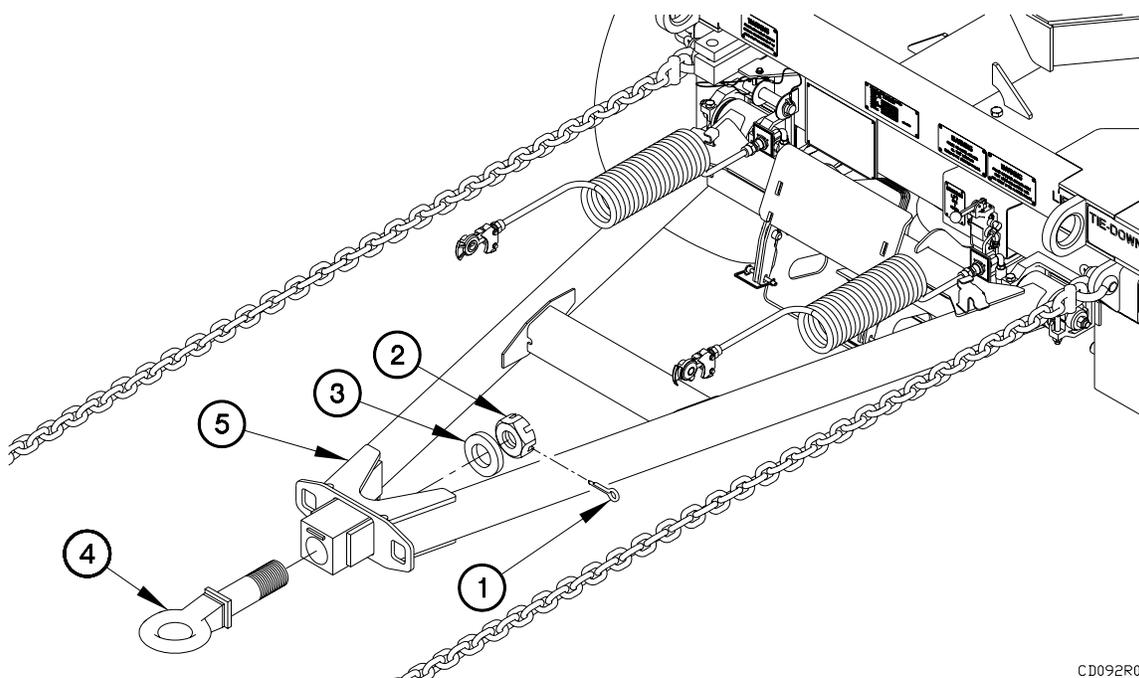
1. Position drawbar eye (4) on drawbar (5) with washer (3) and nut (2).

NOTE

Ensure slot in nut aligns to hole in drawbar eye while tightening to proper torque to allow cotter pin to be inserted.

Step (2) requires the aid of an assistant.

2. Tighten nut (2) to 450-650 lb-ft (610-881 N•m).
3. Install cotter pin (1) in nut (2).



CD092R01

OPERATIONAL CHECKS

1. Couple trailer (WP 0043 23, TM 2320-392-10-1, Coupling Trailer).
2. Tow trailer and check for proper operation.
3. Uncouple trailer (WP 0043 24, TM 2320-392-10-1, Uncoupling Trailer).

END OF WORK PACKAGE

SPARE TIRE CARRIER REPLACEMENT

0093 00

THIS WORK PACKAGE COVERS:

Removal, Installation, Operational Checks

INITIAL SETUP:

Maintenance Level

Field

Materials/Parts References

Nut, Self-Locking (4) (Item 30, WP 0168 00)

Tools and Special Tools

Goggles, Industrial (Item 8, WP 0167 00)
Tool Kit, Genl Mech (Item 22, WP 0167 00)
Wrench, Torque, 0-175 lb-ft (Item 32, WP 0167 00)
Wrench Set, Crowfoot, Ratcheting (Item 27, WP 0167 00)

Equipment Conditions

Trailer uncoupled (WP 0043 24, TM 2320-392-10-1).
Spare tire lowered (WP 0053 00).

GENERAL

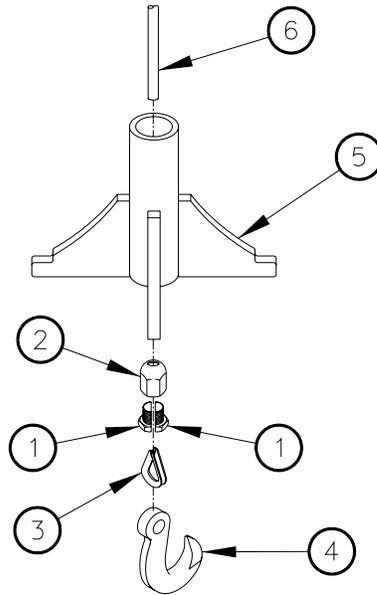
This work package contains information and instructions to replace the Load Handling System Trailer (LHST) spare tire carrier.

WARNING

Wear appropriate eye protection when working under trailer due to the possibility of falling debris. Failure to comply may result in injury to personnel.

REMOVAL

1. Remove two clamp plug halves (1), clamp socket (2), thimble (3), hook (4), and spare tire lift bracket (5) from wire rope (6).

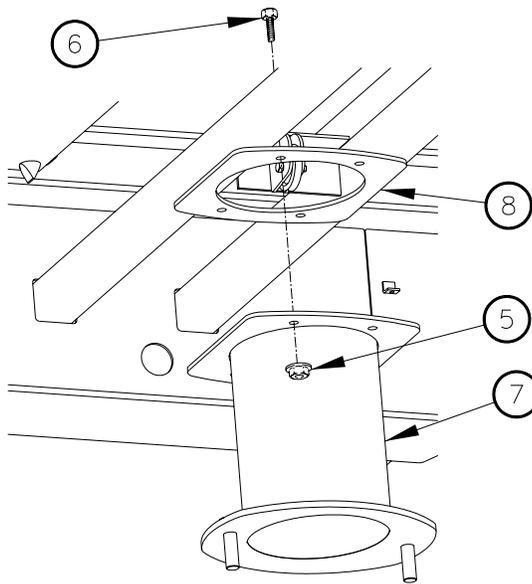


CD093R01

REMOVAL - Continued**NOTE**

The following step requires the aid of an assistant.

2. Remove four self-locking nuts (5), screws (6), and spare tire carrier (7) from carrier bracket (8). Discard self-locking nuts.

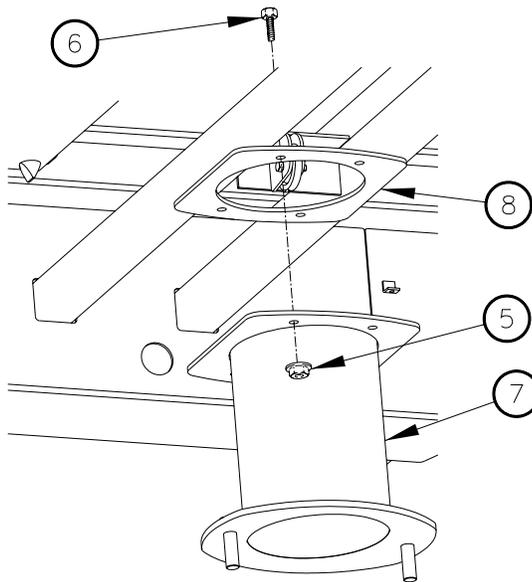


CD093R02

INSTALLATION**NOTE**

The following step requires the aid of an assistant.

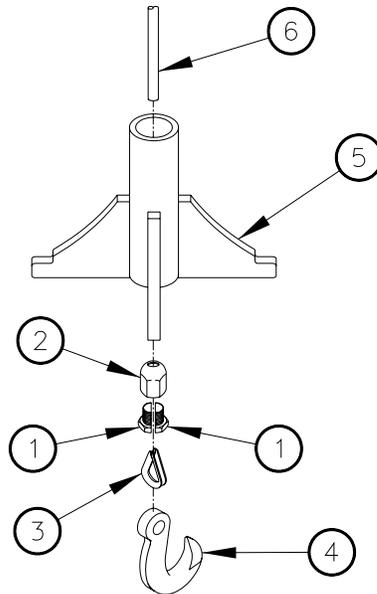
1. Position spare tire carrier (7) on carrier bracket (8) with four screws (6) and self-locking nuts (5).
2. Tighten four self-locking nuts (5) to 72-88 lb-ft (98-119 N•m).



CD093R02

INSTALLATION – Continued

3. Position tire lift bracket (5), clamp socket (2), hook (4), thimble (3), and two clamp plug halves (1), on wire rope (6).
4. Tighten two clamp plug halves (1) to 72-88 lb-ft (98-119 N•m).



CD093R01

SPARE TIRE CARRIER REPLACEMENT - Continued

0093 00

OPERATIONAL CHECKS

1. Raise spare tire (WP 0053 00).

END OF WORK PACKAGE

DRAWBAR LIFT VALVE REPLACEMENT

0094 00

THIS WORK PACKAGE COVERS:

Removal, Installation, Operational Checks

INITIAL SETUP:

Maintenance Level

Field

Materials/Parts - (Cont)

Sealing Compound (Item 15, WP 0165 00)
Nut, Self-Locking (4) (Item 26, WP 0168 00)

Tools and Special Tools

Goggles, Industrial (Item 8, WP 0167 00)
Tool Kit, Genl Mech (Item 22, WP 0167 00)
Wrench, Torque, 0-75 lb-in. (Item 35, WP 0167 00)
Vise, Machinist's (Item 25, WP 0167 00)

References

Towing Vehicle Operator's Manual (WP 0043 16)

Materials/Parts

Dispenser, Pressure Sensitive Adhesive Tape (Item 6, WP 0165 00)

Equipment Conditions

Trailer uncoupled (WP 0043 24, TM 2320-392-10-1).

GENERAL

This work package contains information and instructions to replace the Load Handling System Trailer (LHST) drawbar lift valve.

WARNING

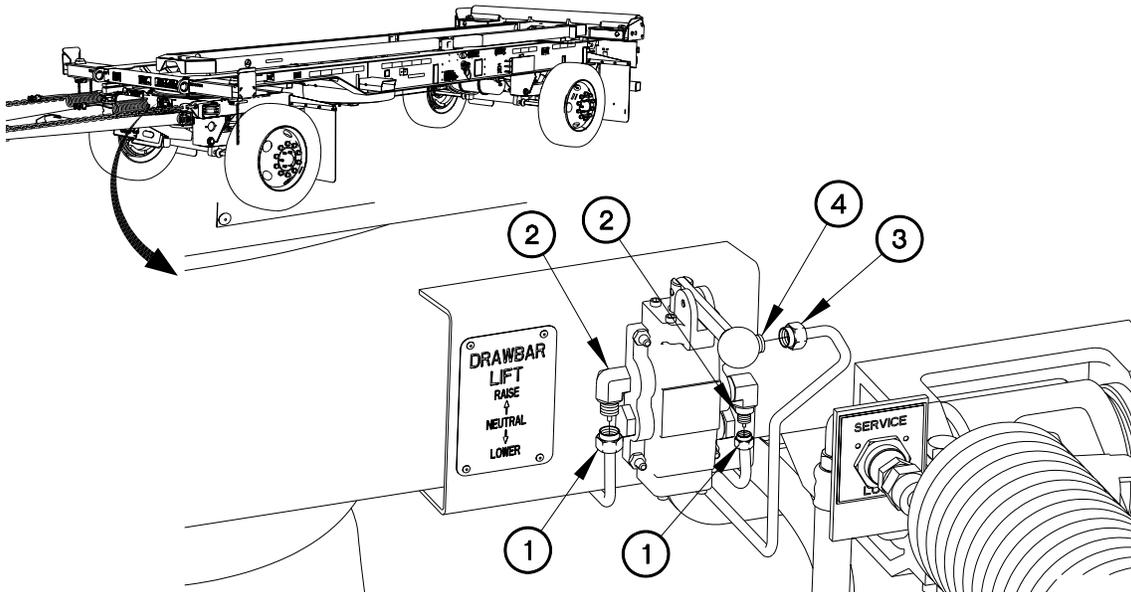
Wear appropriate eye protection when working under trailer due to the possibility of falling debris. Failure to comply may result in injury to personnel.

REMOVAL

NOTE

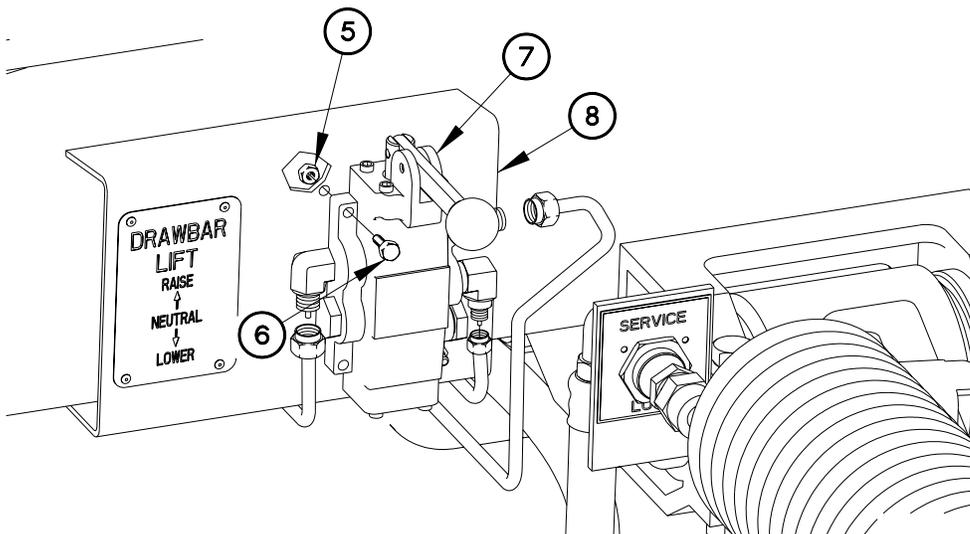
Tag air hoses and connection points prior to disconnecting.

1. Drain air tanks.
2. Disconnect two hoses (1) from 90-degree fittings (2).
3. Disconnect hose (3) from fitting (4).



C.D094R01

4. Remove four self-locking nuts (5), bolts (6), and drawbar lift valve (7) from bracket (8). Discard self-locking nuts.

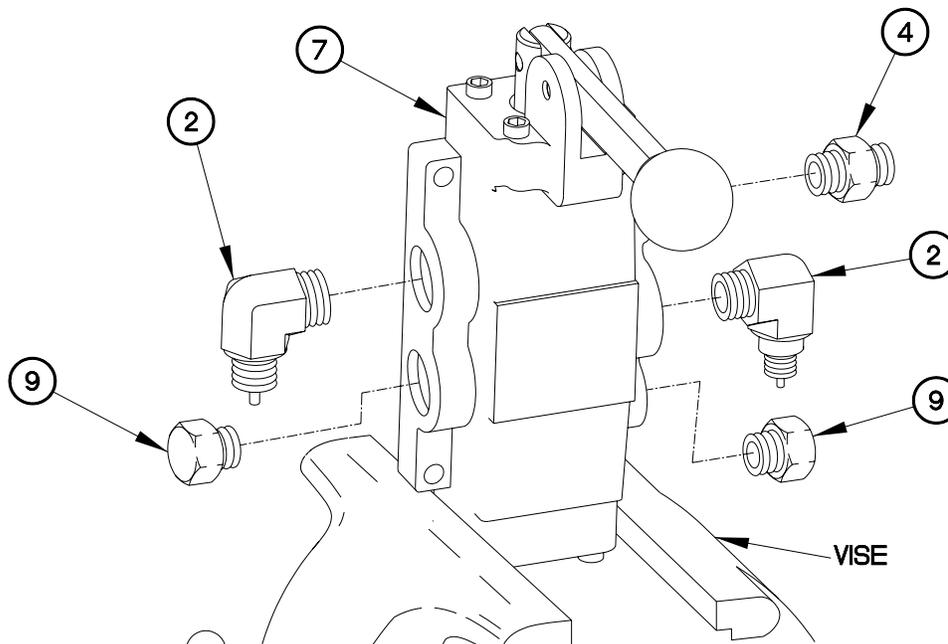


C.D094R02

REMOVAL - Continued**NOTE**

Note fitting locations prior to removal.

5. Position drawbar lift valve (7) in vise.
6. Remove two plugs (9) from drawbar lift valve (7).
7. Remove fitting (4) from drawbar lift valve (7).
8. Remove two 90-degree fittings (2) from drawbar lift valve (7).

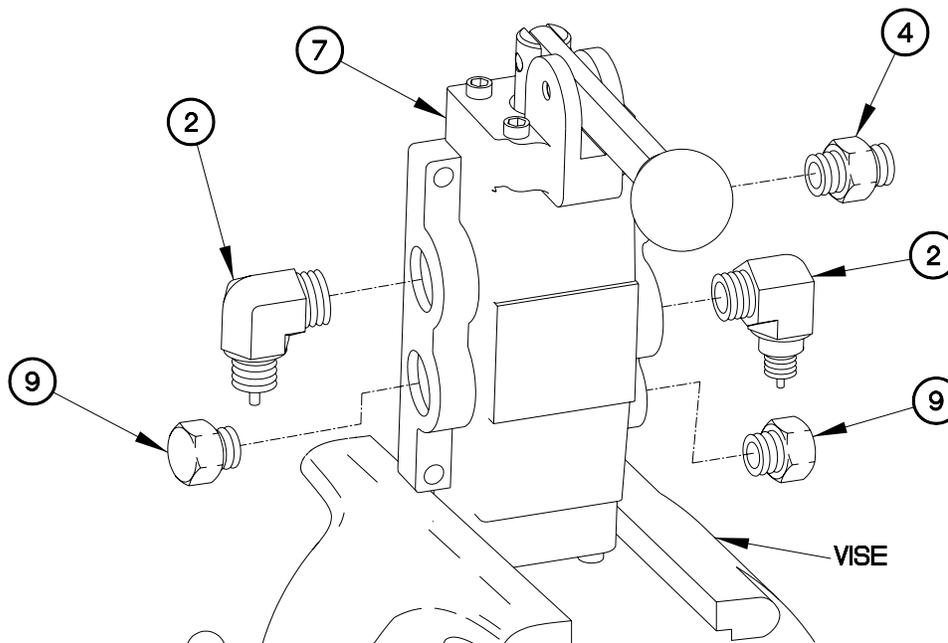


CD094R03

INSTALLATION**WARNING**

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. Keep away from open fire and use in well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

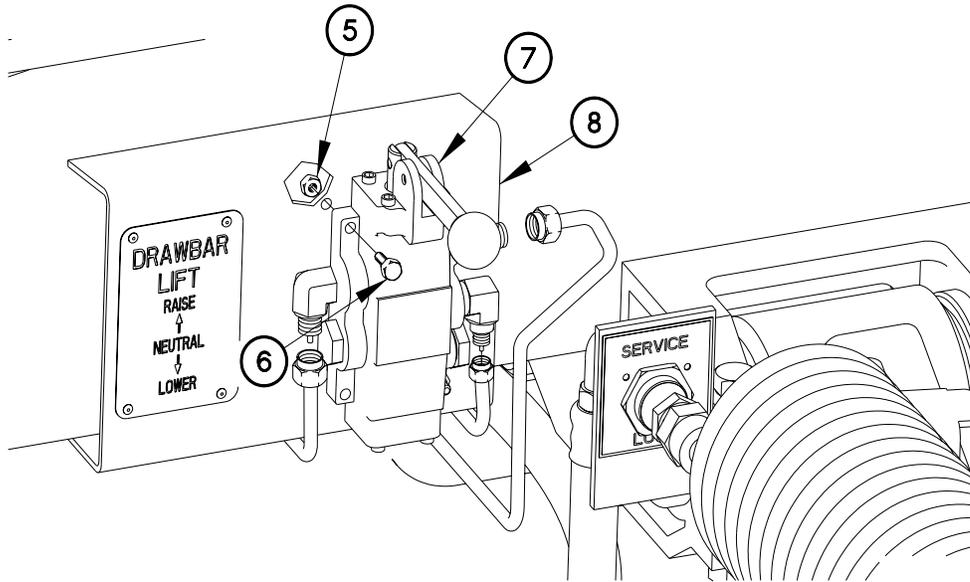
1. Apply sealing compound to threads of two plugs (9), fitting (4), and two 90-degree fittings (2).
2. Position drawbar lift valve (7) in vise.
3. Install two 90-degree fittings (2) on drawbar lift valve (7).
4. Install fitting (4) on drawbar lift valve (7).
5. Install two plugs (9) on drawbar lift valve (7).



CD094R03

INSTALLATION - Continued

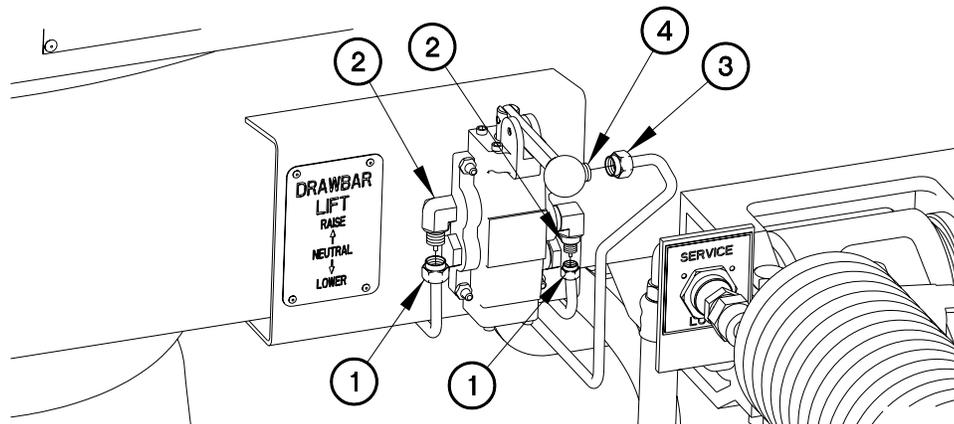
6. Position drawbar lift valve (7) on bracket (8) with four bolts (6) and self-locking nuts (5).
7. Tighten four self-locking nuts (5) to 24-36 lb-in. (3-4 N•m).



CD094R02

INSTALLATION – Continued

9. Connect hose (3) to fitting (4).
10. Connect two hoses (1) to 90-degree fittings (2).



CD094101

OPERATIONAL CHECKS

1. Couple trailer (WP 0043 23, TM 2320-392-10-1, Coupling Trailer).
2. Operate drawbar lift valve.
3. Check for leaks in drawbar lift valve hoses.
4. Uncouple trailer (WP 0043 24, TM 2320-392-10-1, Uncoupling Trailer).

END OF WORK PACKAGE

SHOCK ABSORBER REPLACEMENT

0095 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Maintenance Level

Field

Tools and Special Tools

Socket Set, Impact (Item 18, WP 0167 00)
Tool Kit, Genl Mech (Item 22, WP 0167 00)
Wrench, Impact, Pneumatic (Item 30, WP 0167 00)
Wrench, Torque, 0-175 lb-ft (Item 32, WP 0167 00)

Materials/Parts

Washer, Lock (2) (Item 5, WP 0168 00)
Nut, Self-Locking (2) (Item 24, WP 0168 00)

Equipment Conditions

Trailer uncoupled (WP 0043 24, TM 2320-392-10-1).

GENERAL

This work package contains information and instructions to replace the Load Handling System Trailer (LHST) shock absorbers.

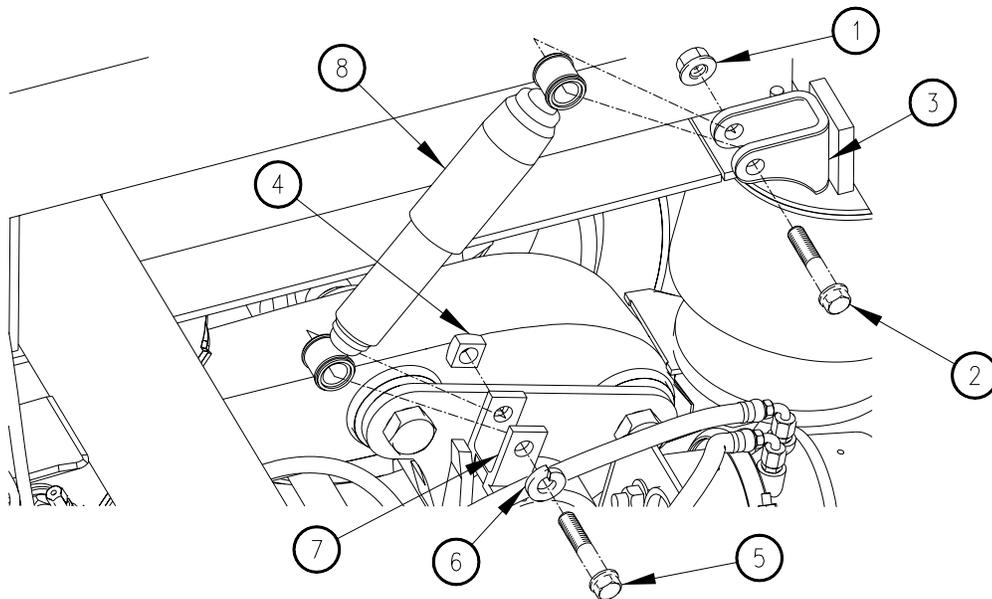
WARNING

Wear appropriate eye protection when working under trailer due to the possibility of falling debris. Failure to comply may result in injury to personnel.

REMOVAL**NOTE**

LH and RH rear and front shock absorbers are removed the same way. RH rear shown.

1. Remove self-locking nut (1) and screw (2) from upper bracket (3). Discard self-locking nut.
2. Remove nut (4), screw (5), and lockwasher (6) from lower bracket (7). Discard lockwasher.
3. Remove shock absorber (8) from upper bracket (3) and lower bracket (7).

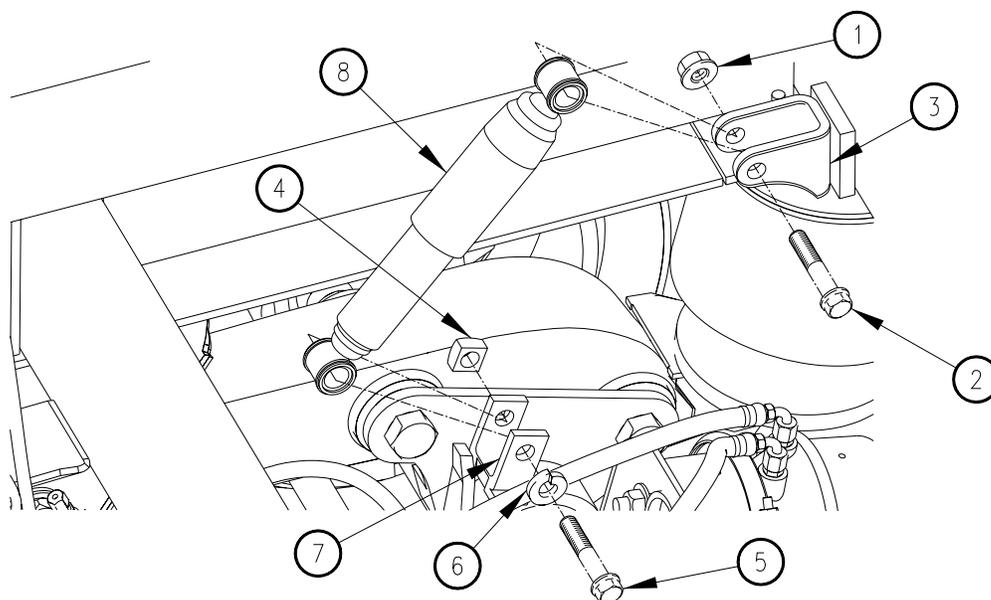


CD095R01

INSTALLATION**NOTE**

Left and right side shock absorbers are installed the same way. Right side shown.

1. Position shock absorber (8) on upper bracket (3) and lower bracket (7).
2. Install screw (5), lockwasher (6), and nut (4) on lower bracket (7).
3. Install screw (2) and self-locking nut (1) on upper bracket (3).
4. Tighten screws (2 and 5) to 142-157 lb-ft (194-213 N•m).



CD095R01

END OF WORK PACKAGE

AIR BLADDER REPLACEMENT

0096 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Maintenance Level

Field

Materials/Parts

Sealing Compound (Item 2, WP 0165 00)

Washer, Lock (Item 4, WP 0168 00)

Washer, Lock (Item 5, WP 0168 00)

Tools and Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Wrench, Torque, 0-175 lb-ft (Item 32, WP 0167 00)

Jack, Dolly Type Hydraulic (Item 10, WP 0167 00)

Trestle, Motor Vehicle Maintenance (Item 24, WP 0167 00)

Equipment Conditions

Air system charged (WP 0043 23 TM 9-2330-392-10-1)

GENERAL

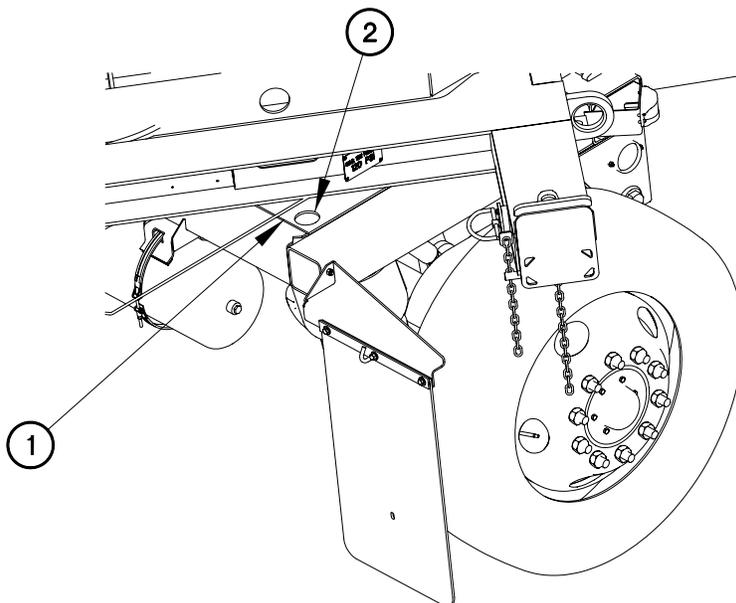
This work package contains information and instructions to replace the Load Handling System Trailer (LHST) air bladder.

REMOVAL

NOTE

Perform the following step on front air bladders. RH side shown.

1. Rotate turntable (1) for access to maintenance hole (2).

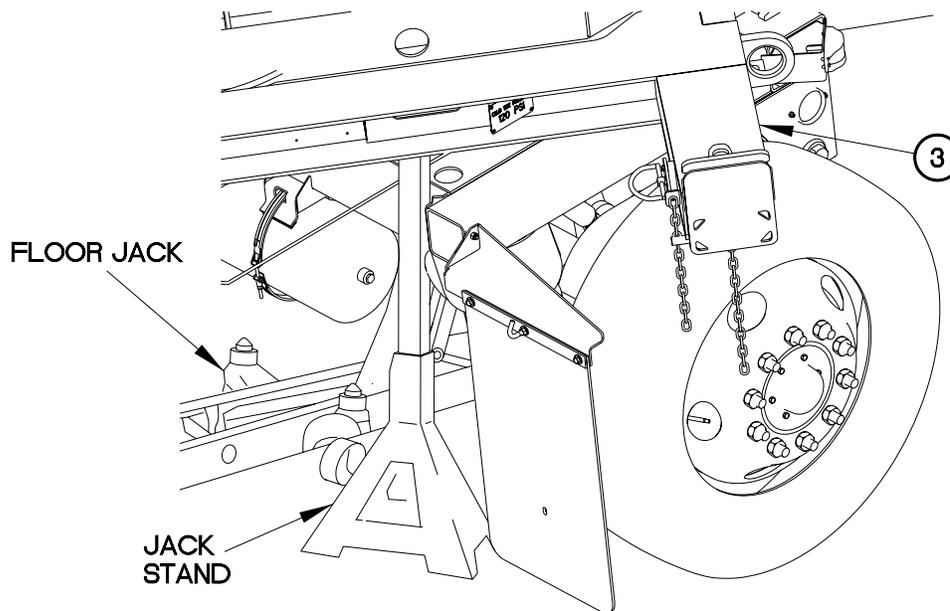


CD096R01

REMOVAL - Continued**NOTE**

LH and RH air bladders are removed the same way. Front RH side shown.

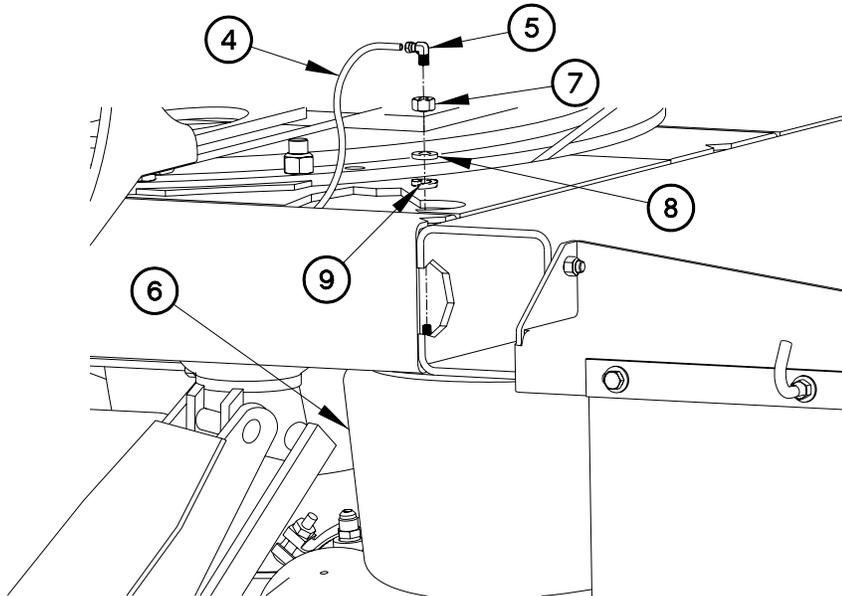
2. Position floor jack under frame (3).
3. Raise floor jack until frame (3) is off ground.
4. Position jack stand under frame (3).
5. Lower floor jack onto jack stand.
6. Drain air system (WP 0004 00).



CD096R02

AIR BLADDER REPLACEMENT - Continued**0096 00****REMOVAL - Continued**

7. Disconnect air hose (4) from 90-degree fitting (5).
8. Remove 90-degree fitting (5) from air bladder (6).
9. Remove nut (7), washer (8), and lockwasher (9) from air bladder (6). Discard lockwasher.

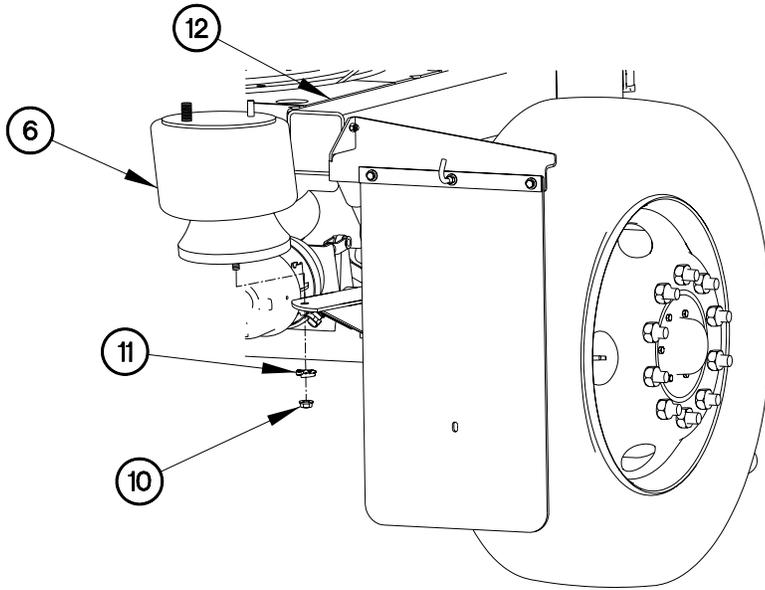


CD096R03

REMOVAL - Continued

10. Remove nut (10) and lockwasher (11) from air bladder (6). Discard lockwasher.

11. Remove air bladder (6) from trailer (12).



CD096R04

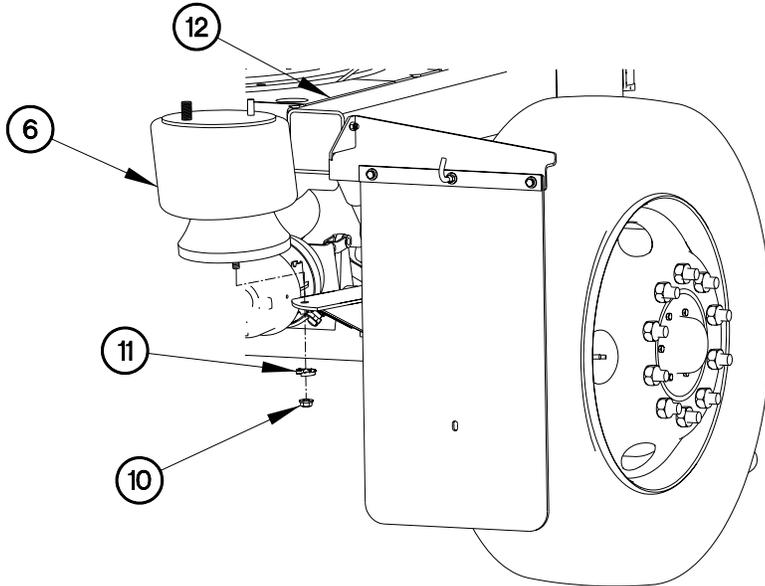
INSTALLATION

NOTE

LH and RH air bladders are installed the same way. Front RH side shown.

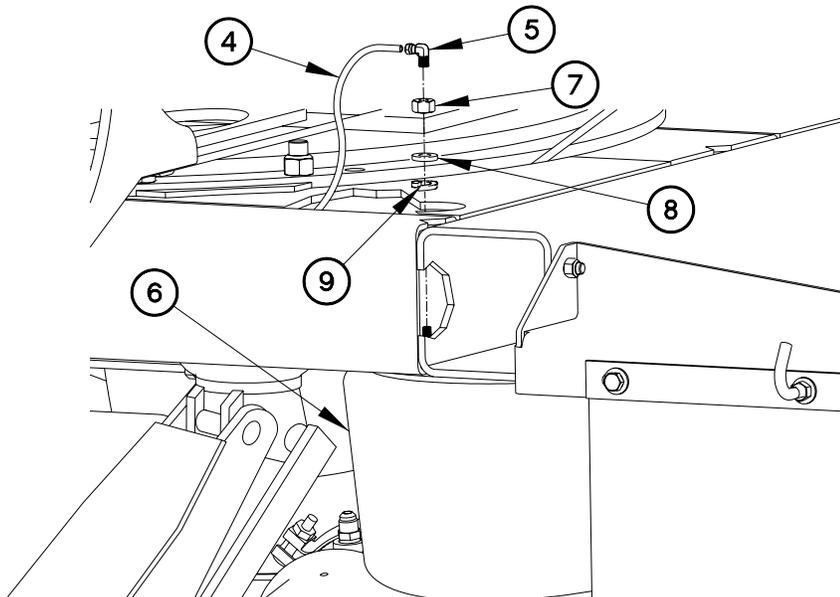
Nipple on top of air bladder goes in hole in frame of trailer.

1. Position air bladder (6) on trailer (12) with lockwasher (11) and nut (10).



CD096R04

2. Position lockwasher (9), washer (8), and nut (7) on air bladder (6).
3. Tighten nuts (7 and 10) to 35 lb-ft (47 N•m).

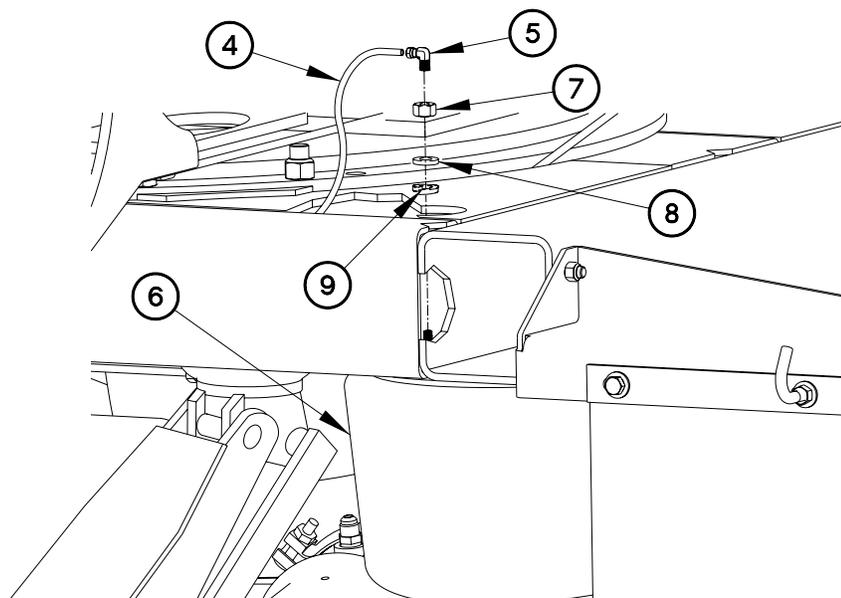


CD096R03

INSTALLATION - Continued**WARNING**

Adhesives, solvents, and sealing compounds can burn easily, can give off harmful vapors, and are harmful to skin and clothing. To avoid injury or death, keep away from open fire and use in a well-ventilated area. If adhesive, solvent, or sealing compound gets on skin or clothing, wash immediately with soap and water. Failure to comply may result in injury to personnel.

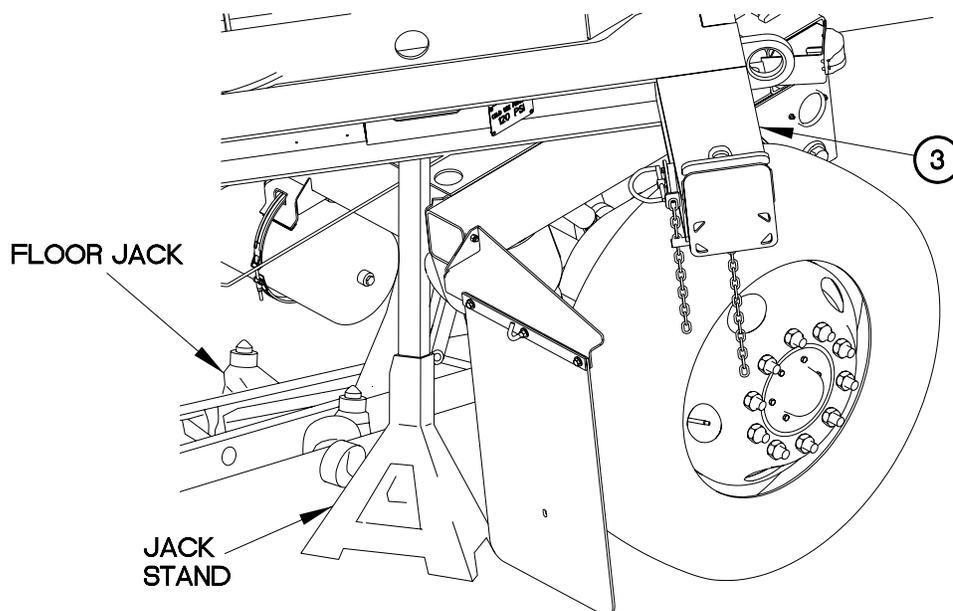
4. Apply sealing compound to threads of 90-degree fitting (5).
5. Install 90-degree fitting (5) in air bladder (6).
6. Connect air hose (4) to 90-degree fitting (5).



CD096R03

INSTALLATION - Continued

7. Position floor jack under frame (3).
8. Raise floor jack until frame (3) is off ground.
9. Remove jack stand from under frame (3).
10. Lower floor jack completely.
11. Remove floor jack from under frame (3).

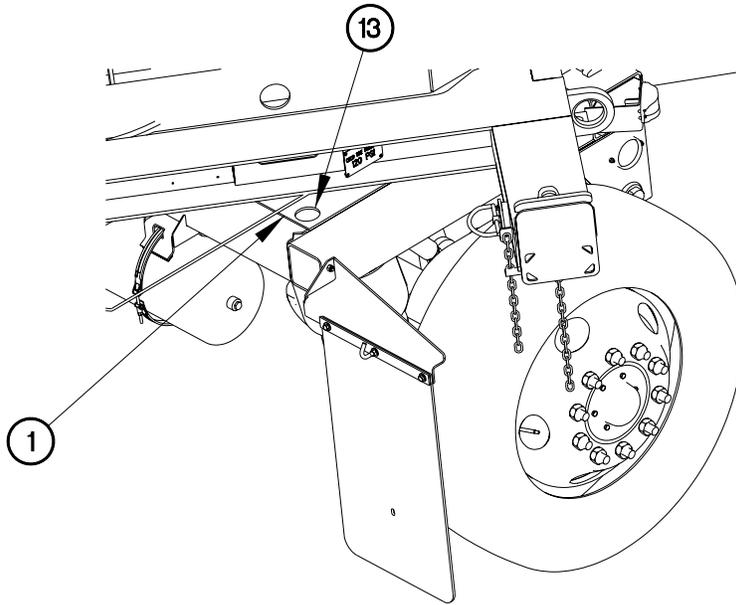


CD096R02

INSTALLATION - Continued**NOTE**

Perform the following step on front air bladders. RH side shown.

12. Rotate turntable (1) until drawbar (13) faces forward.



CD096101

END OF WORK PACKAGE

SPLASH GUARD REPLACEMENT

0097 00

THIS WORK PACKAGE COVERS:

Removal, Installation, Operational Checks

INITIAL SETUP:

Maintenance Level

Field

Tools/Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)
Wrench, Torque, 0-175 lb-ft (Item 32, WP 0167 00)

Materials/Parts

Nut, Self Locking (8) (Item 31, WP 0168 00)
Nut, Self Locking (10) (Item 29, WP 0168 00)

Equipment Conditions

Trailer uncoupled (WP 0043 24, TM 9-2320-392-10-1).

GENERAL

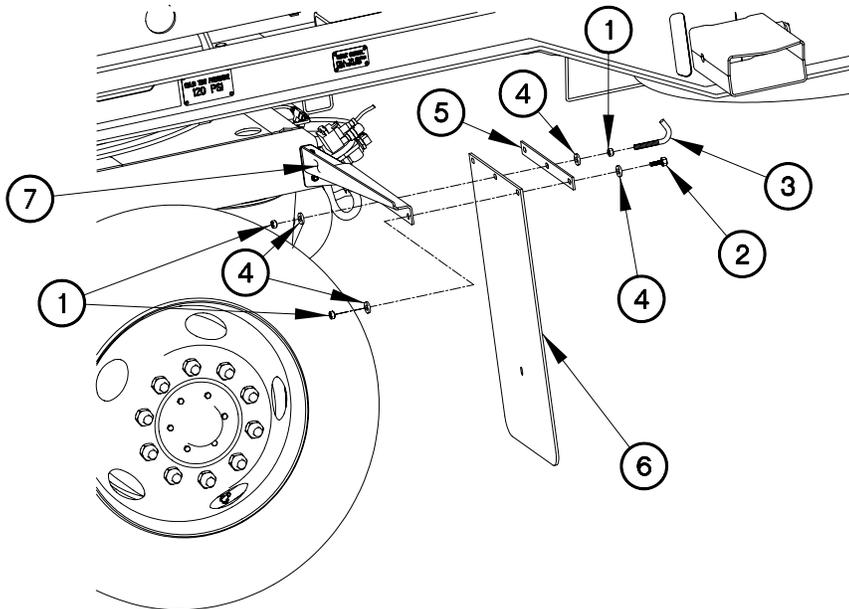
This work package contains information and instructions to replace the Load Handling System Trailer (LHST) splash guards.

REMOVAL

NOTE

All splash guards are removed the same way. Front LH side shown.

1. Remove four nuts (1), two screws (2), one hook screw (3), six washers (4), mounting plate (5), and splash guard (6) from bracket (7).

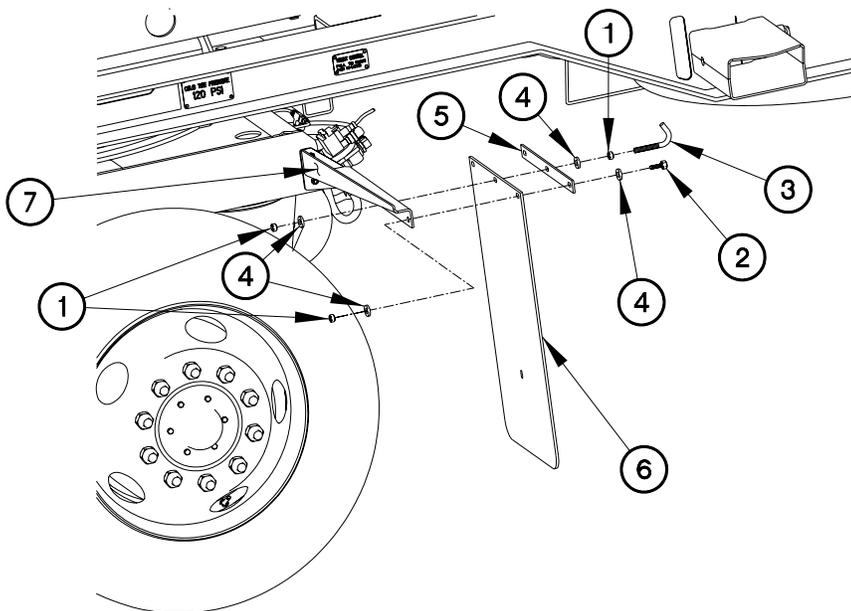


CD097R01

SPLASH GUARD REPLACEMENT**0097 00****INSTALLATION****NOTE**

All splash guards are installed the same way. Front LH side shown.

1. Install splash guard (6), mounting plate (5) with two screws (2), one hook screw (3), six washers, and four nuts (1) on bracket (7).



CD097R01

OPERATIONAL CHECKS

1. Couple trailer (WP 0043 23, TM 2320-392-10-1, Coupling Trailer).
2. Operate trailer and check for proper operation of splash guards.
3. Uncouple trailer (WP 0043 24, TM 2320-392-10-1, Uncoupling Trailer).

END OF WORK PACKAGE

TOOL BOX ASSEMBLY REPLACEMENT/REPAIR

0098 00

THIS WORK PACKAGE COVERS:

Tool Box Removal, Tool Box Door Removal, Tool Box Door Assembly, Tool Box Installation

INITIAL SETUP:

Maintenance Level

Field

Tools and Special Tools

Tool Kit, Genl Mech (Item 22), (WP 0167 00)
Goggles, Industrial (Item 8, WP 0167 00)
Wrench, Torque, 0-175 lb-ft (Item 32, WP 0167 00)
Tool Kit, Blind Rivet, (Item 21, WP 0167 00)
Drill, Portable, Electric, (Item 3, WP 0167 00)
Drill, Set, Twist (Item 4, WP 0167 00)

Material/Parts

Nut, Self-Locking (6) (Item 30, WP 0168 00)
Nut, Self-Locking (2) (Item 27, WP 0168 00)
Preformed Packing (Item 40, WP 0168 00)
Weather Strip (82") (Item 53, WP 0168 00)
Rivet, Blind (4) (Item 50, WP 0168 00)

Equipment Condition

Flatrack rail assembly raised (WP (WP 0005
Trailer uncoupled (WP 0043 24, TM 2320-392-10-1).

GENERAL

This work package contains information and instructions to replace the Load Handling System Trailer (LHST) tool box assembly.

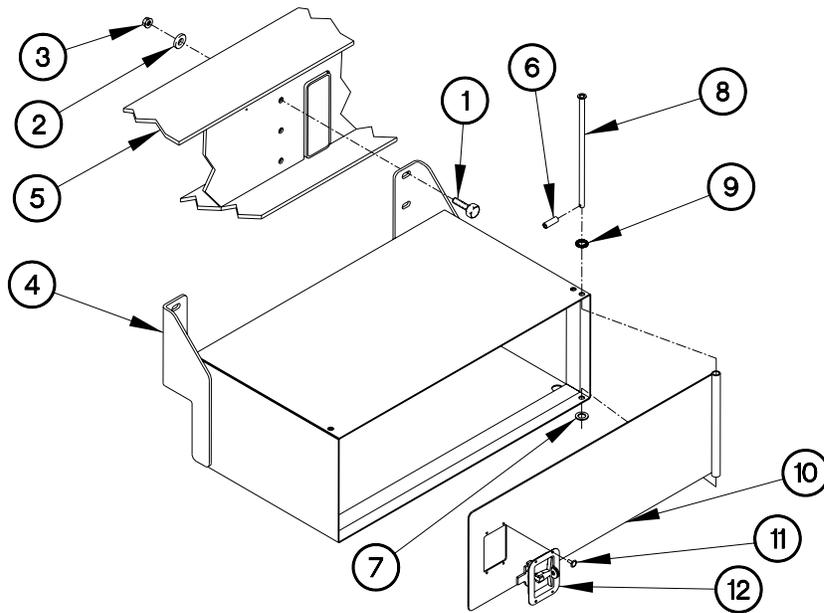
REMOVAL

WARNING

Tool box weighs approximately 90 lbs (41 kgs). Use extreme care when removing or handling tool box. Requires two persons and use of appropriate lifting device. Failure to comply may result in injury to personnel or equipment.

Wear appropriate eye protection when drilling out rivets. Failure to comply may result in injury to personnel.

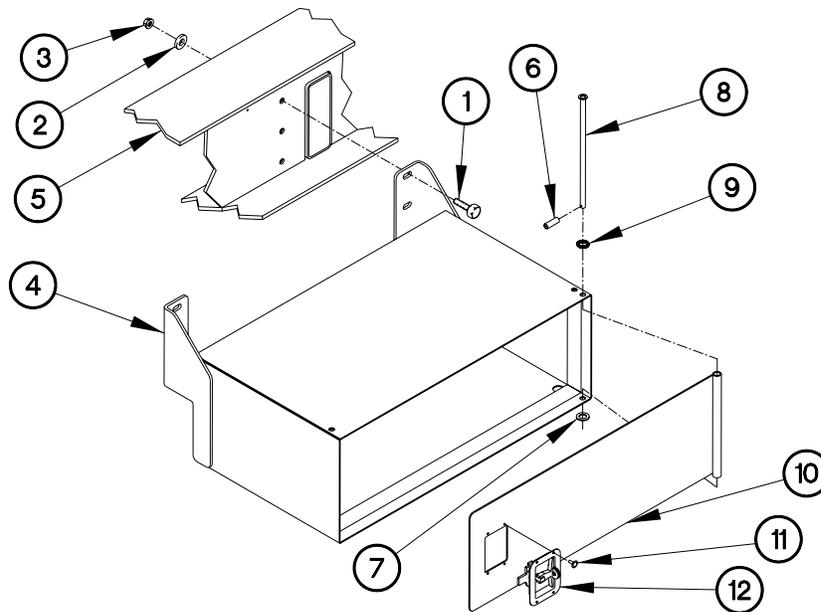
1. Remove six screws (1), washers (2), self-locking nuts (3), and tool box (4) from trailer chassis (5). Discard self-locking nuts.



CD098R01

REMOVAL - Continued

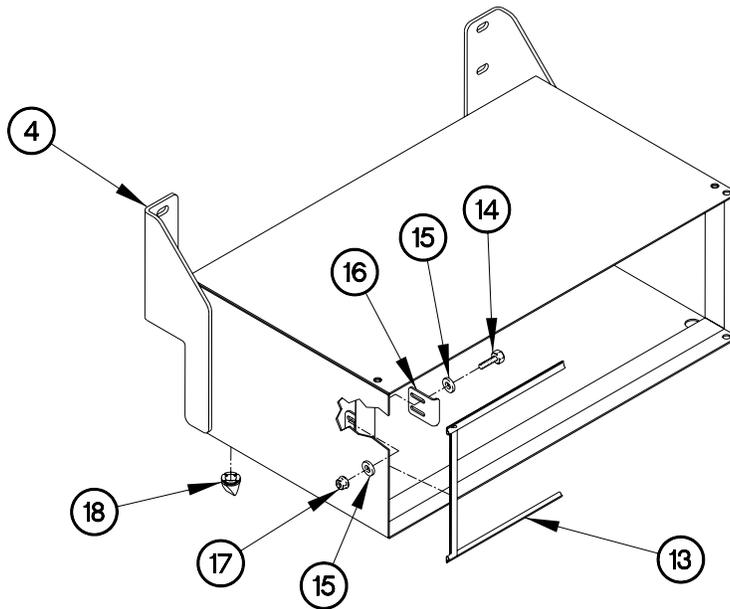
2. Remove roll pin (6), washer (7), rod (8), preformed packing (9), and tool box door (10) from tool box (4). Discard preformed packing.
3. Remove four rivets (11) and folding latch (12) from tool box door (10). Discard rivets.



C0098R01

REMOVAL - Continued

4. Remove weather strip (13) from tool box (4). Discard weather strip.
5. Remove screw (14), two washers (15), striker (16), and self-locking nut (17) from tool box (4). Discard self-locking nut.
6. Remove four vacuator valves (18) from tool box (4).

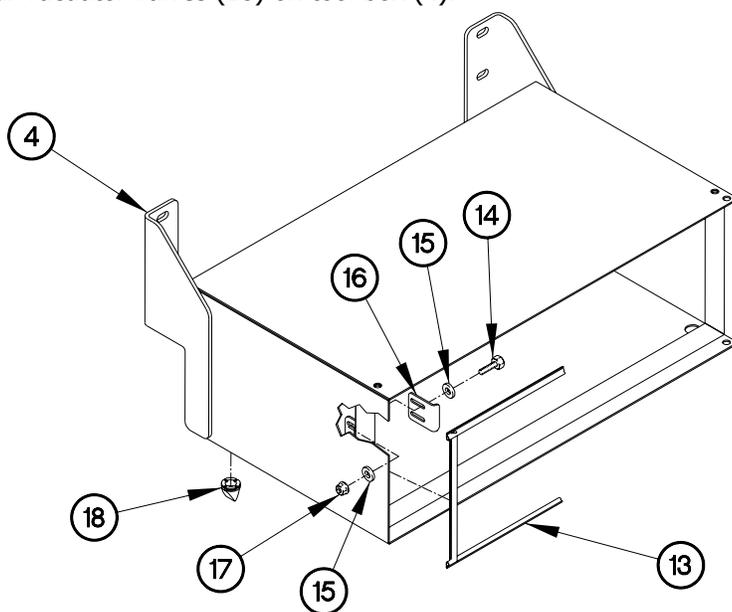


C.D098R02

INSTALLATION**WARNING**

Tool box weighs approximately 90 lbs (41 kgs). Use extreme care when installing or handling tool box. Requires two persons and use of appropriate lifting device. Failure to comply may result in injury to personnel or equipment.

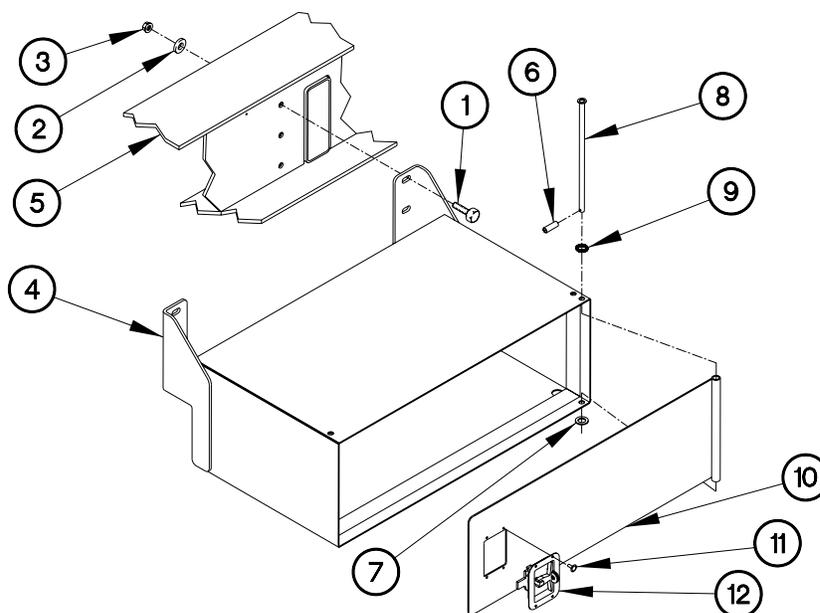
1. Install weather strip (13) on tool box (4).
2. Install striker (16) on tool box (4) with two washers (15), screw (14), and self locking nut (17).
3. Install four vacuator valves (18) on tool box (4).



CD098R02

INSTALLATION - Continued

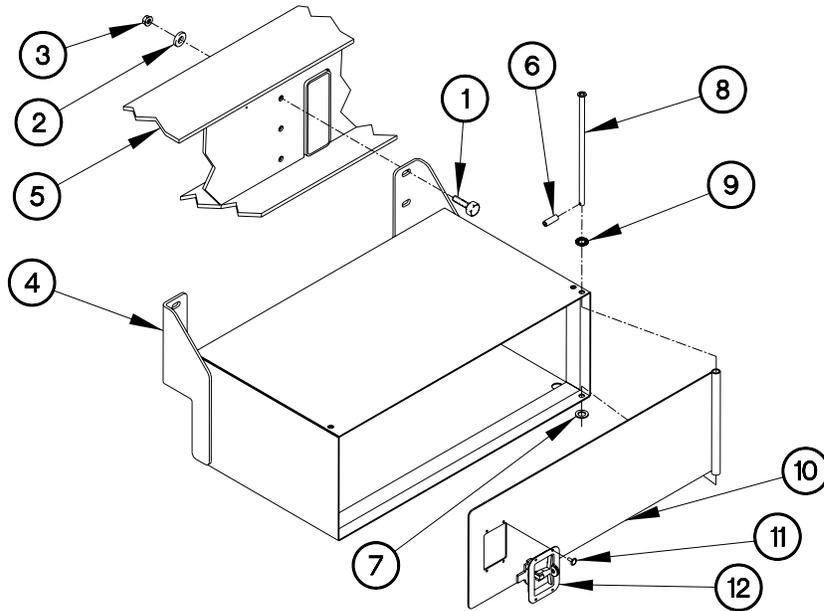
4. Install tool box door (10) on tool box (4) with preformed packing (9), rod (8), washer (7), and roll pin (6).
5. Install folding latch (12) on tool box door (10) with four rivets (11).



CD098R01

INSTALLATION - Continued

6. Position tool box (4) on trailer chassis (5) with six screws (1), washers (2), and self-locking nuts (3).
7. Tighten six self-locking nuts (3) to 72-88 lb-ft (98-119 N•m).



C0098R01

TURNTABLE REPLACEMENT

0099 00

THIS WORK PACKAGE COVERS:

Removal, Installation, Operational Checks

INITIAL SETUP:

Maintenance Level

Field

Materials/Parts

Nut, Self-Locking (16) (Item 31, WP 0168 00)

Tools and Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)
 Sling, Cargo (2) (Item 16, WP 0167 00)
 Jack, Leveling Support (4) (Item 11, WP 0167 00)
 Wrench, Torque 50-250 lb-ft (Item 31, WP 0167 00)

Equipment Conditions

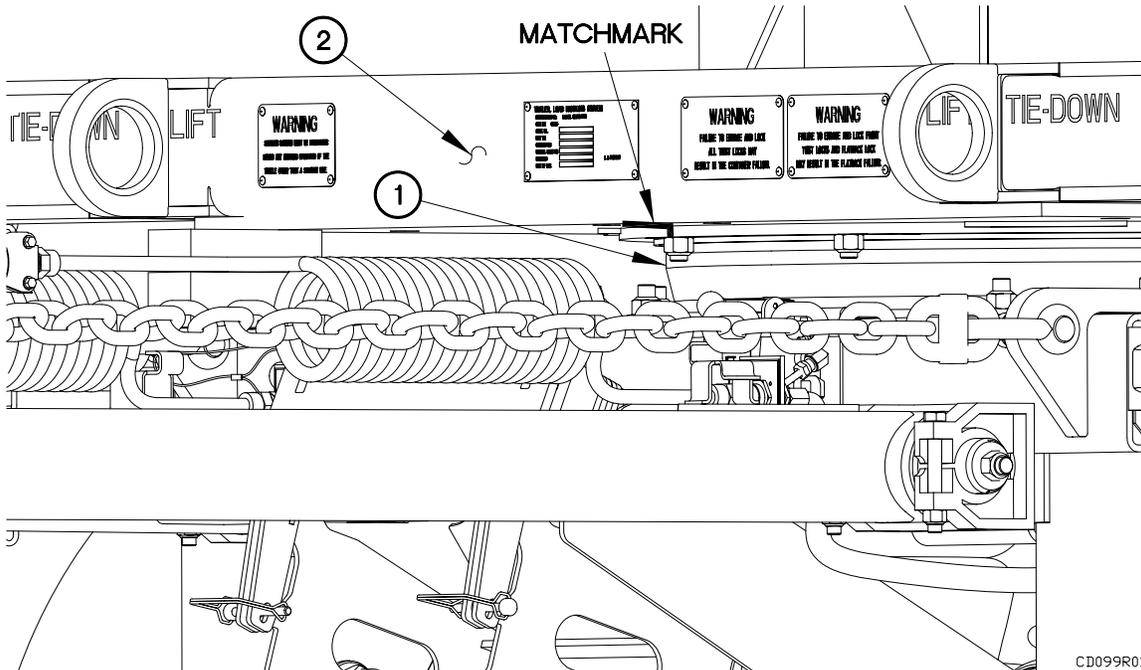
Trailer coupled to towing vehicle (WP 0043 23, TM 2320-392-10-1).
 Brakes caged (WP 0055 00).
 Emergency/Service gladhands disconnected (WP 0043 24).
 Main electrical harness removed (from turntable) (WP 0066 00)

GENERAL

This work package contains information and instructions to replace the Load Handling System Trailer (LHST) turntable.

REMOVAL

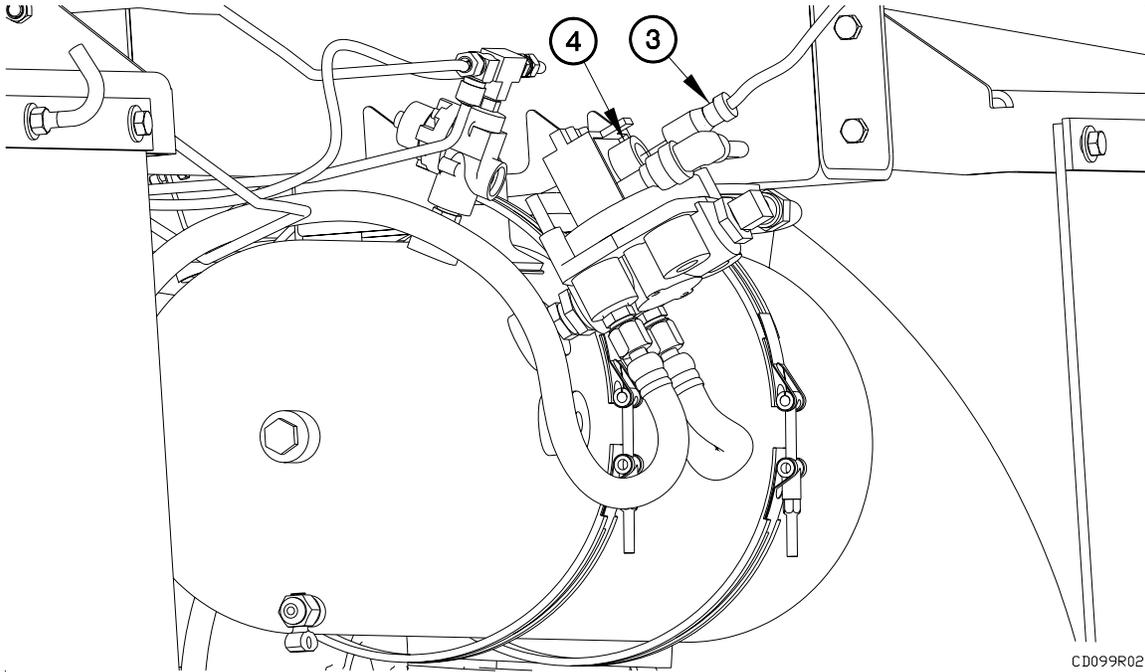
1. Match mark turntable (1) to frame (2).



CD099R01

REMOVAL - Continued

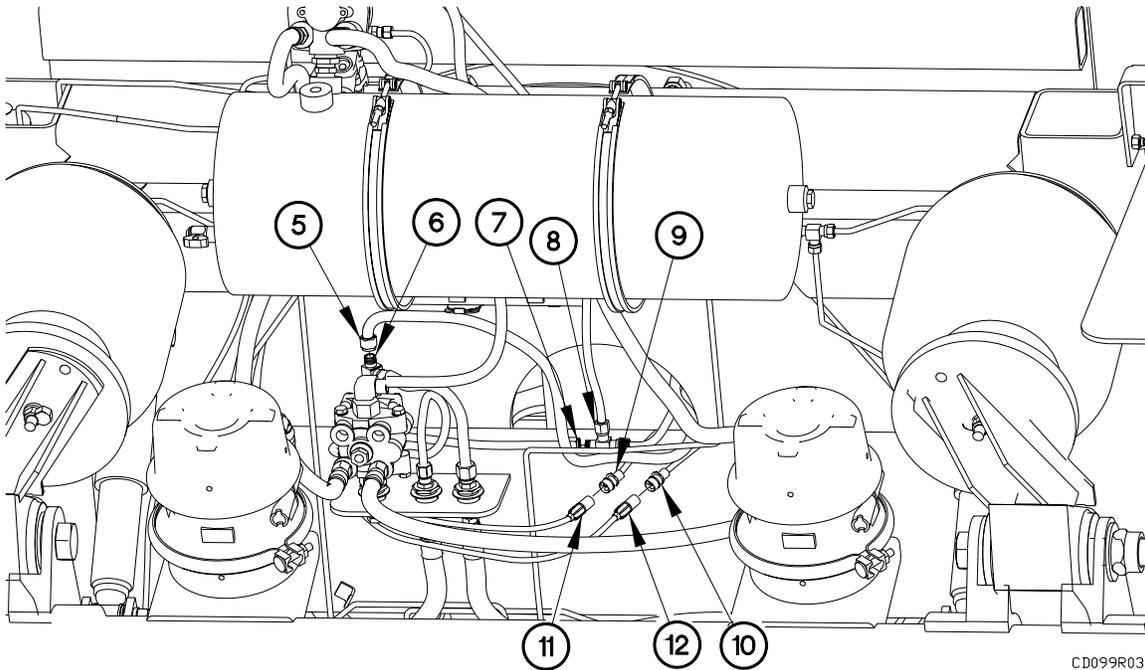
2. Drain air tanks.
3. Disconnect ABS relay sensor relay connector (3) from ABS relay sensor (4).



C.D099R02

REMOVAL - Continued

4. Disconnect hose (5) from tee fitting (6).
5. Disconnect hose (7) from tee fitting (8).
6. Disconnect ABS sensor connectors (9 and 10) from ABS sensor connectors (11 and 12).



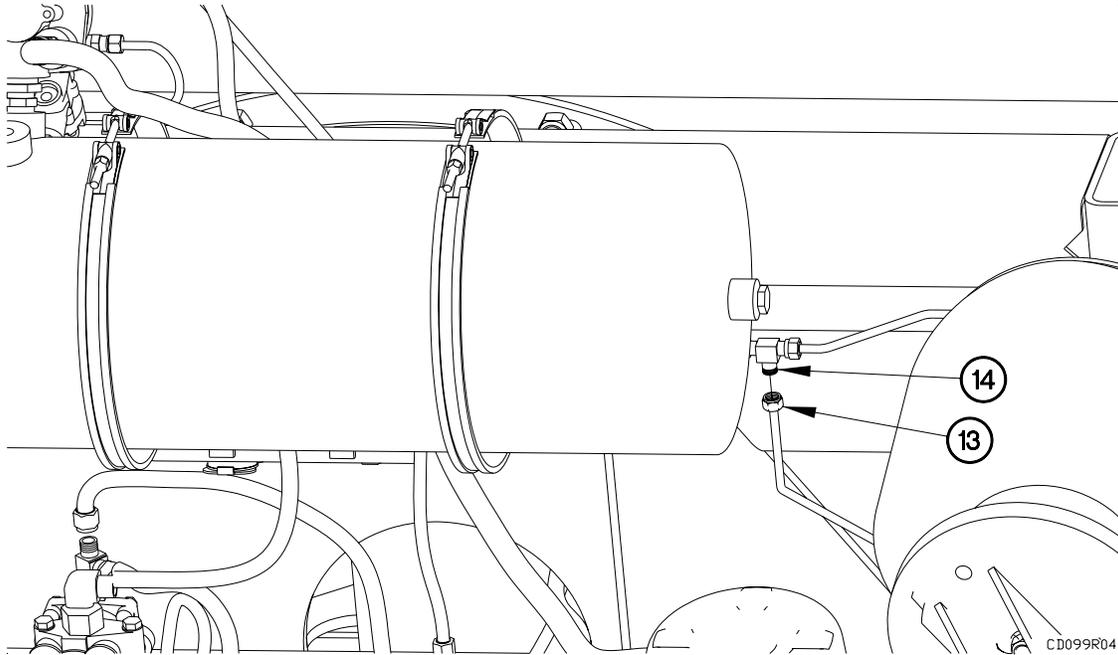
CD099R03

TURNTABLE REPLACEMENT - Continued

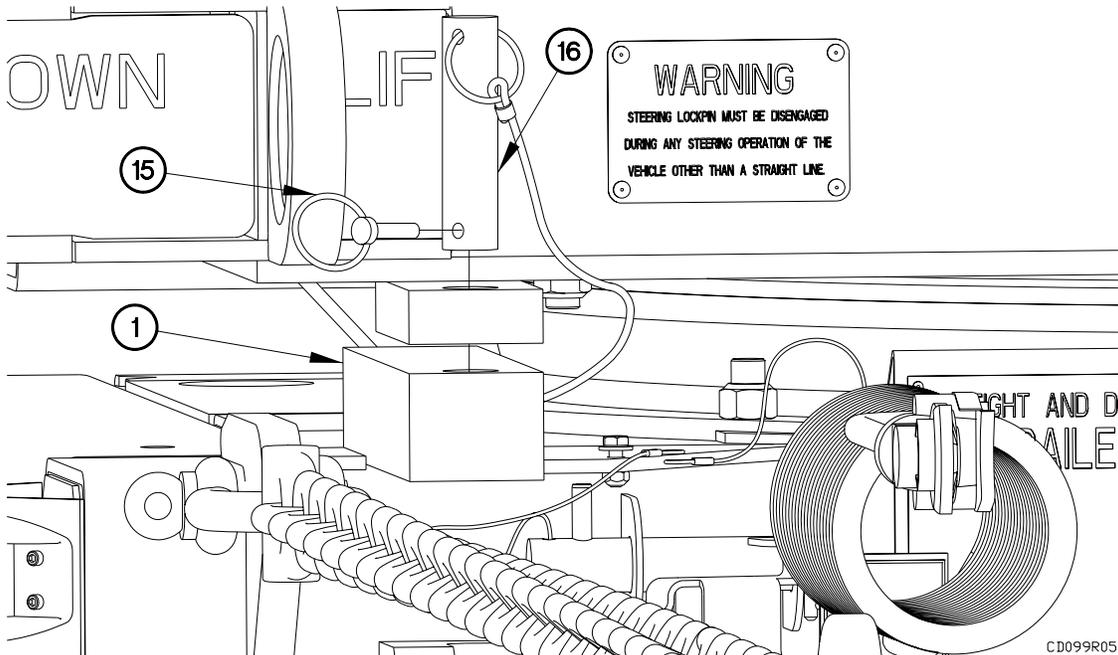
0099 00

REMOVAL - Continued

7. Disconnect hose (13) from tee fitting (14).



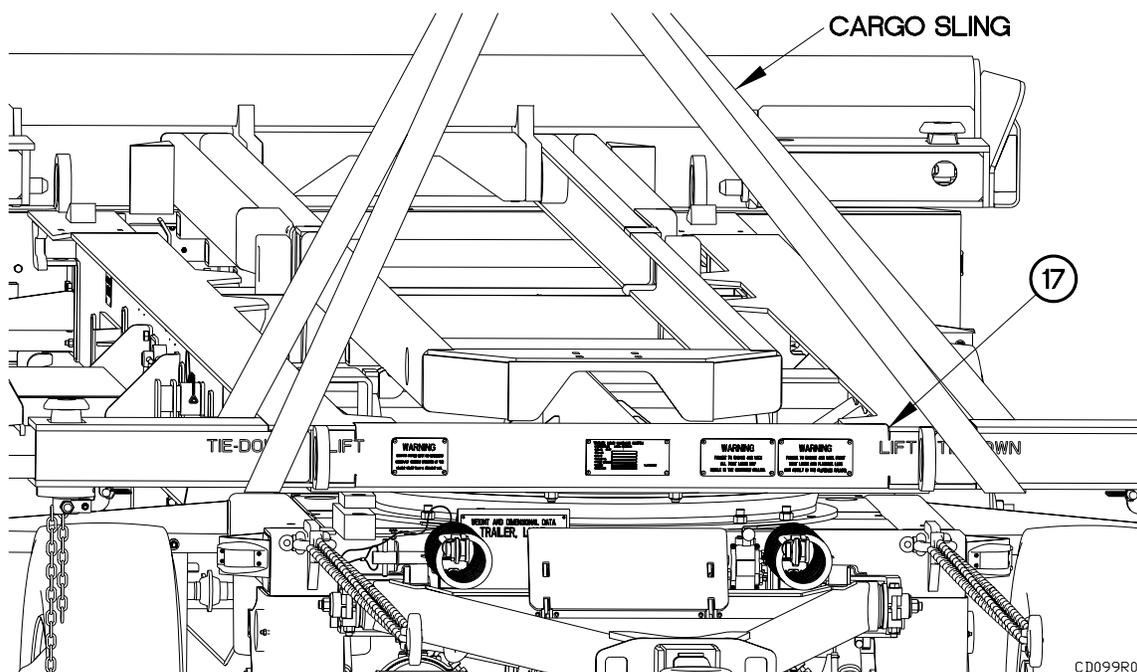
8. Remove pin (15) from turntable pin (16).
9. Remove turntable pin (16) from turntable (1).



REMOVAL - Continued**WARNING**

Front of trailer frame weighs approximately 1000 lbs (454 kgs). Attach a suitable lifting device to trailer frame prior to removal from turntable assembly from trailer. Failure to comply may result in serious injury or death to personnel or damage to equipment.

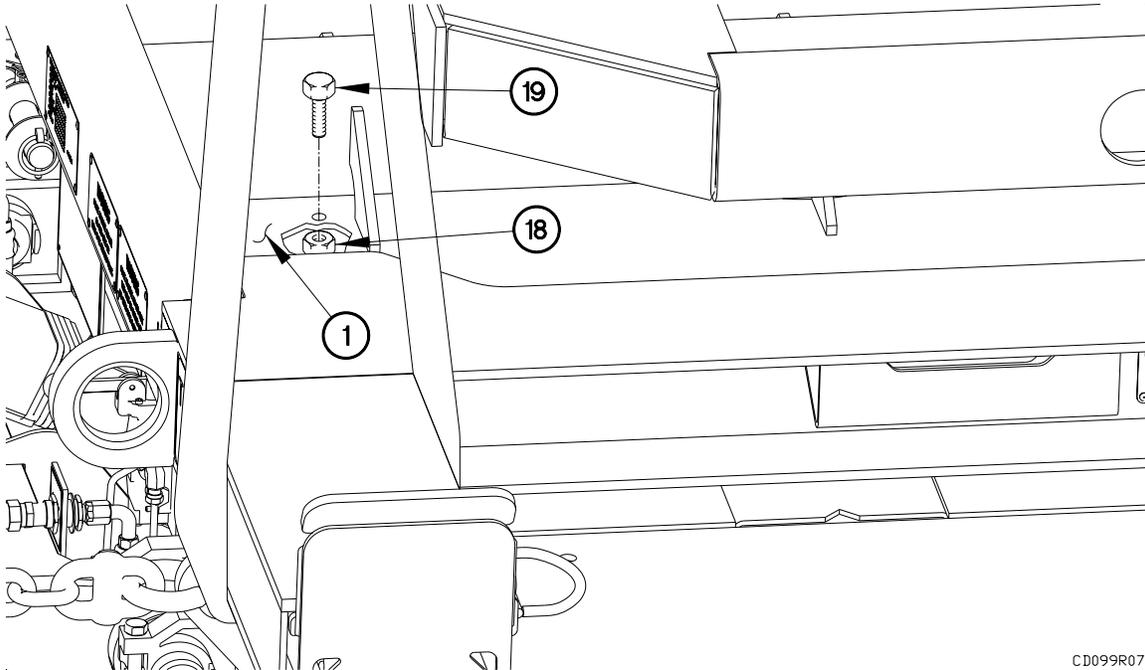
10. Attach two cargo slings to trailer (17), as shown.



REMOVAL - Continued**CAUTION**

Ensure loose hoses and cables are removed from top of turntable prior to removal.
Failure to comply may result in damage to equipment.

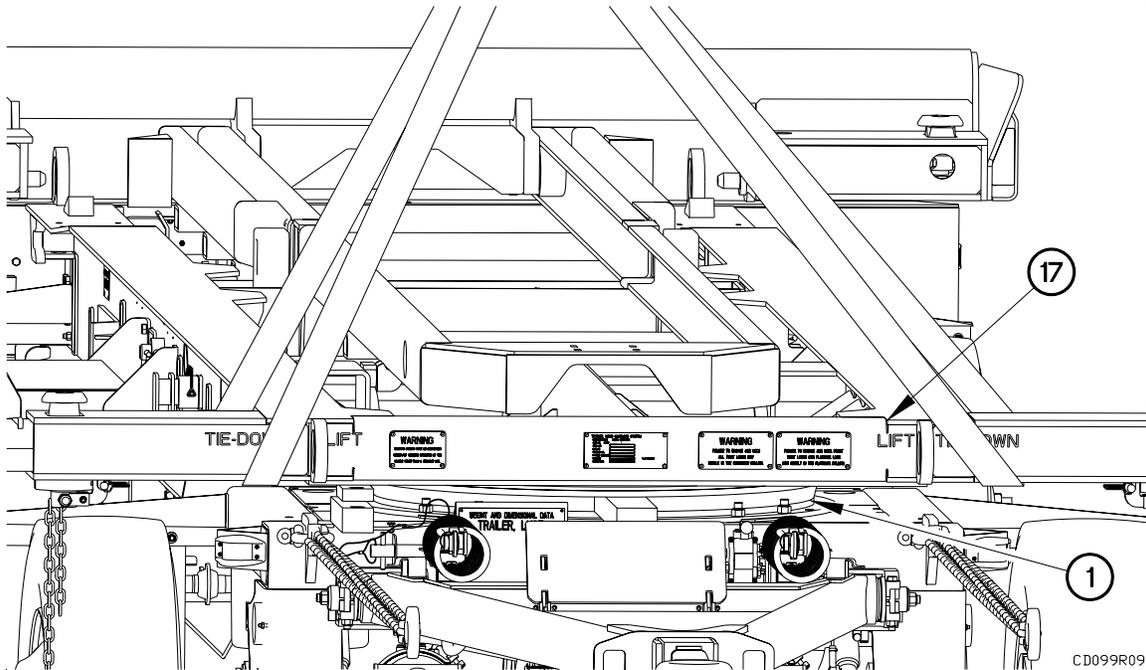
11. Remove eight self-locking nuts (18) and bolts (19) from turntable (1). Discard self-locking nuts.



C.D099R07

REMOVAL - Continued

12. Remove trailer (17) from turntable (1).

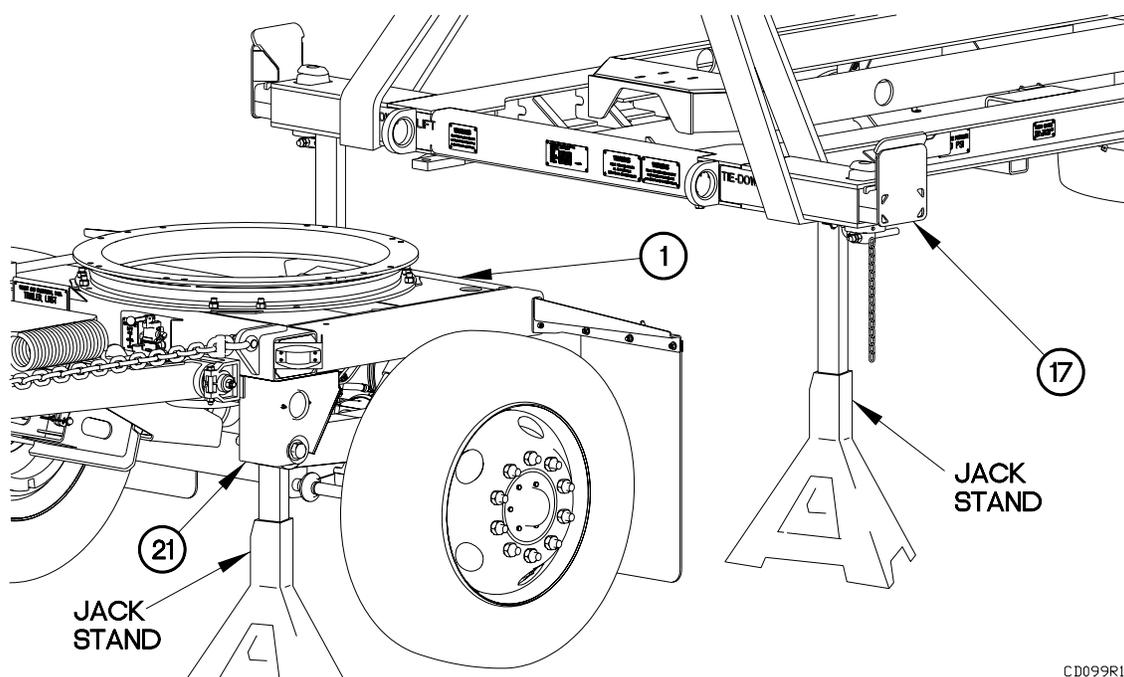


C.D099R09

TURNTABLE REPLACEMENT - Continued**0099 00****REMOVAL - Continued****WARNING**

During removal of turntable from underneath trailer, ensure turntable doesn't pitch forward. Failure to comply may result in serious injury to personnel or damage to equipment.

13. Start engine of coupled vehicle and pull forward (TM 9-2320-392-10-1, WP 0020 00).
14. Remove turntable (1) from trailer (17).
15. Position two jack stands underneath trailer (17).
16. Lower trailer (17) on two jack stands.
17. Position two jack stands underneath front axle (21).



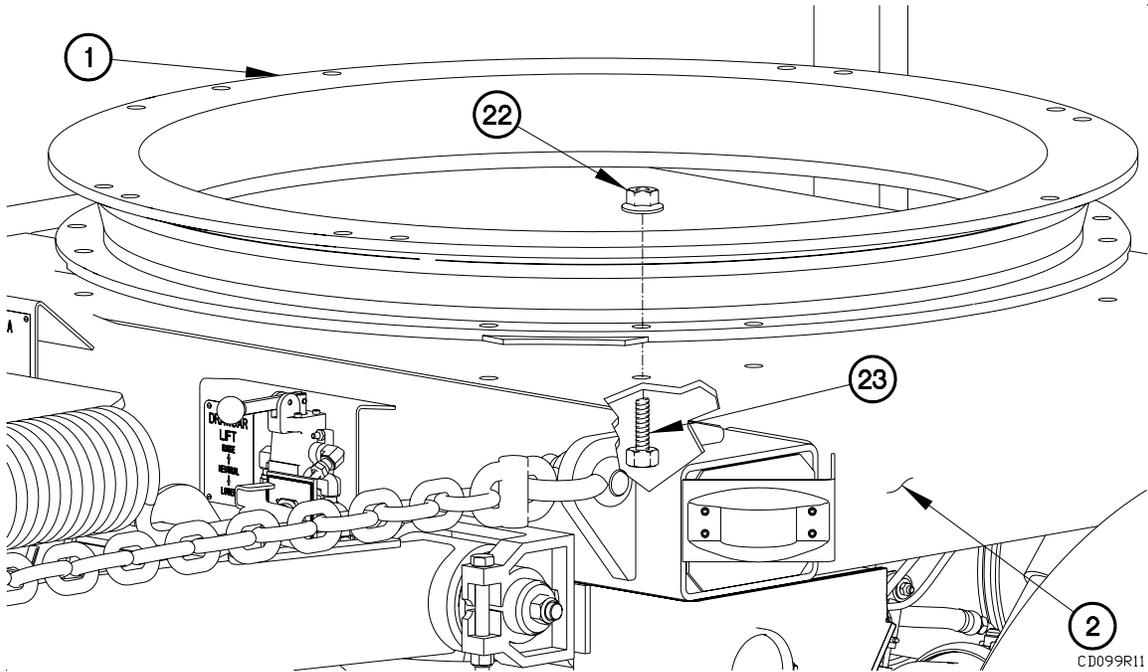
CD099R10

REMOVAL - Continued

WARNING

Turtable weighs approximately 200 lbs (91 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in injury to personnel or damage to equipment.

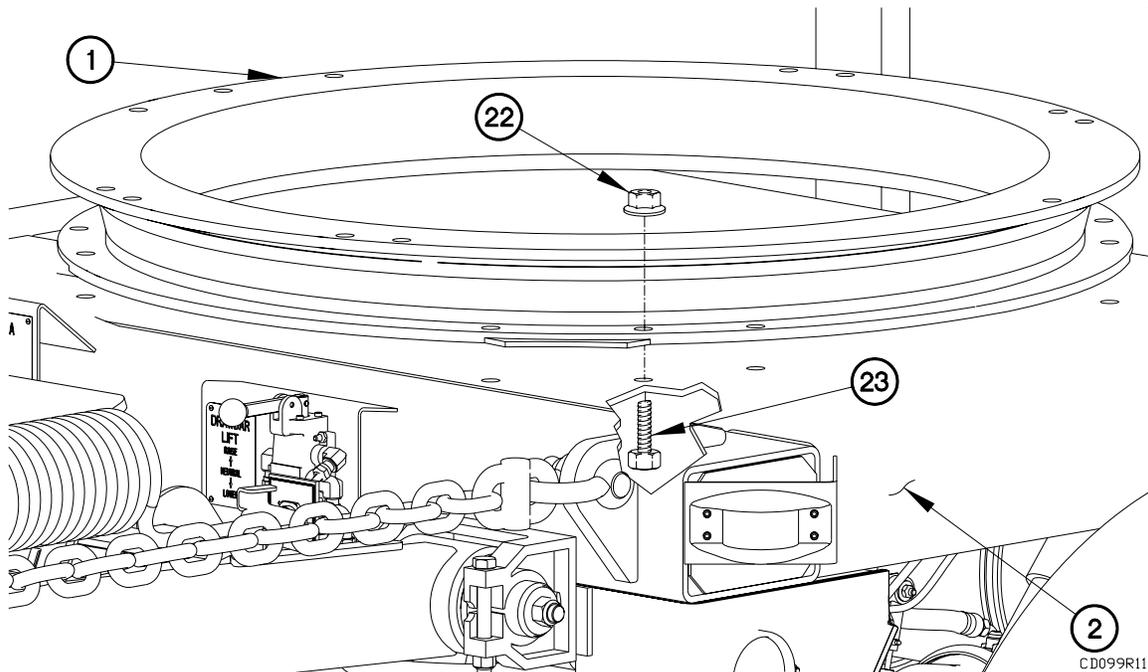
18. Remove eight self-locking nuts (22), bolts (23), and turtable (1) from frame (2). Discard self-locking nuts.



INSTALLATION**WARNING**

Turntable weighs approximately 200 lbs (91 kgs). Attach a suitable lifting device prior to installation. Failure to comply may result in injury to personnel or damage to equipment.

1. Position turntable (1) on frame (2) with eight bolts (23) and self-locking nuts (22).
2. Tighten eight self-locking nuts (22) to 95-105 lb-ft (129-142 N•m).



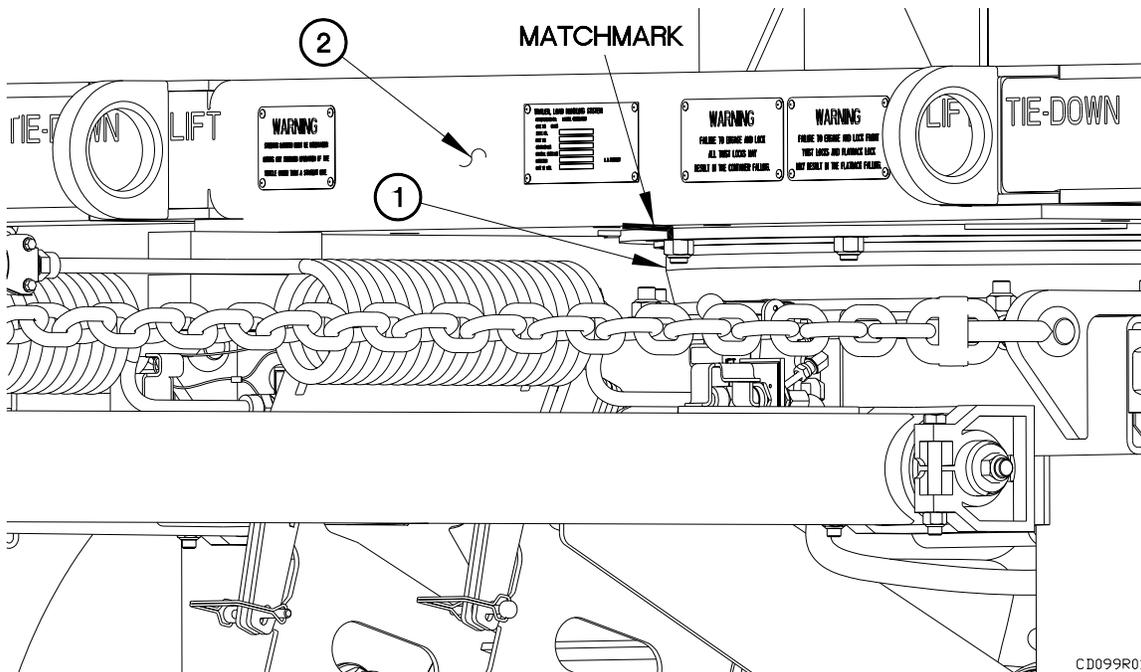
INSTALLATION – Continued

8. Align matchmarks from turntable (1) to frame (2).

WARNING

Front of trailer frame weighs approximately 1000 lbs (454 kgs). Attach a suitable lifting device to trailer frame prior to installation of turntable assembly to trailer. Failure to comply may result in serious injury or death to personnel or damage to equipment.

9. Lower frame (2) on turntable (1).



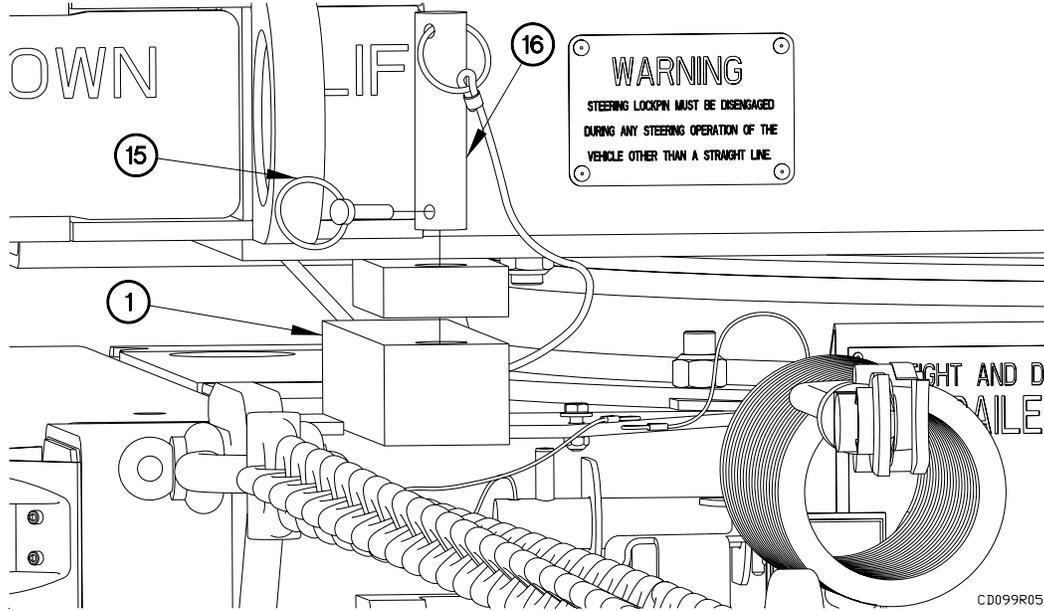
TURNTABLE REPLACEMENT - Continued

0099 00

INSTALLATION – Continued

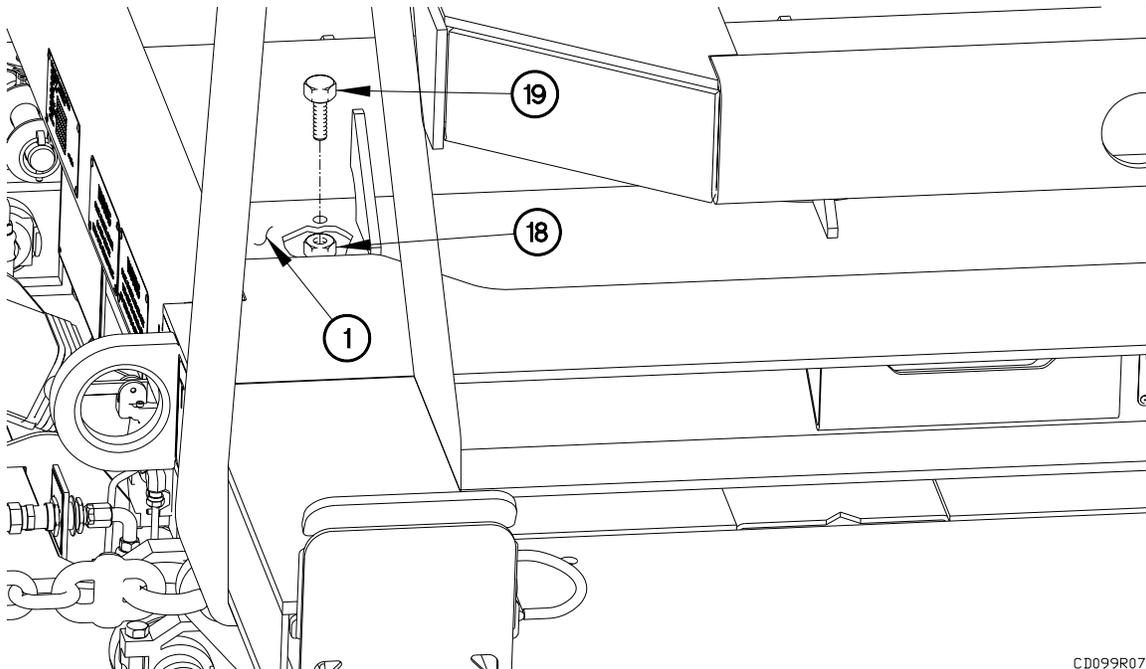
10. Install turntable pin (16) in turntable (1).

11. Install pin (15) in turntable pin (16).



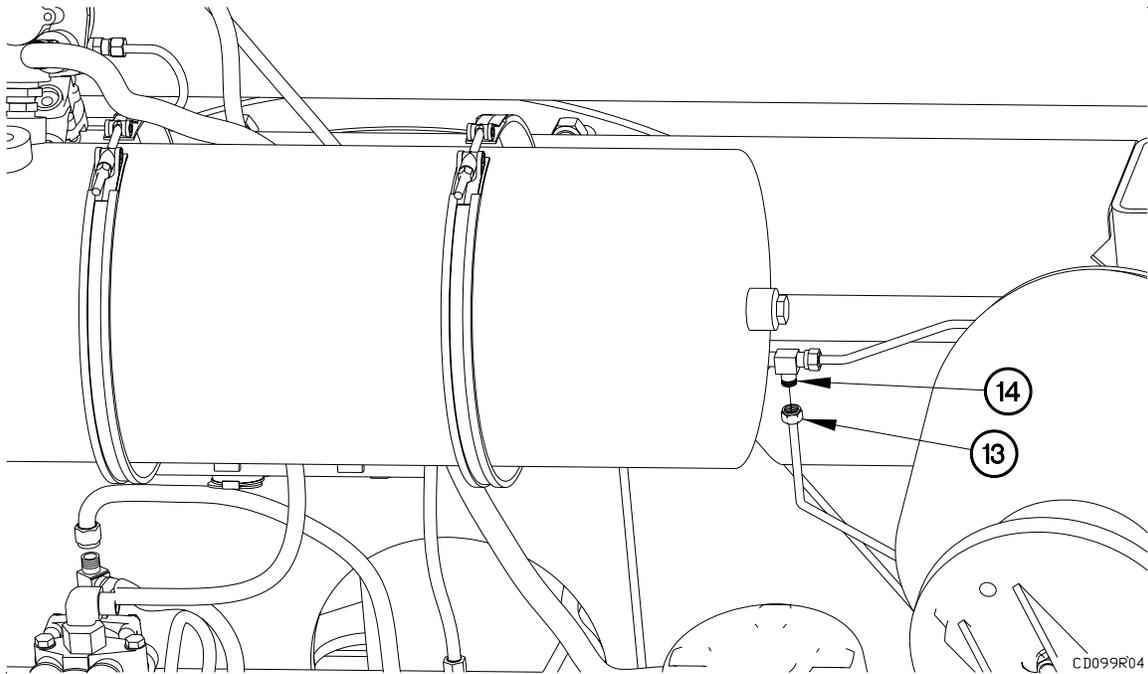
12. Position eight bolts (19) and self-locking nuts (18) in turntable (1).

13. Tighten eight self-locking nuts (18) to 155-185 lb-ft (210-251 N•m).



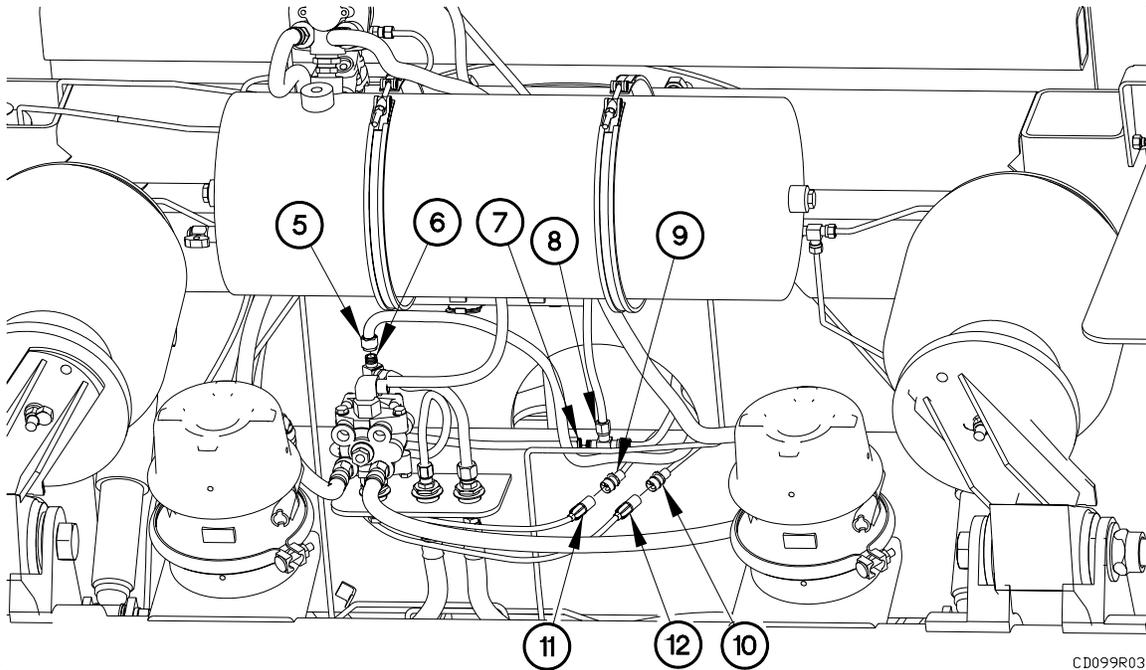
INSTALLATION - Continued

14. Connect hose (13) to tee fitting (14).



INSTALLATION – Continued

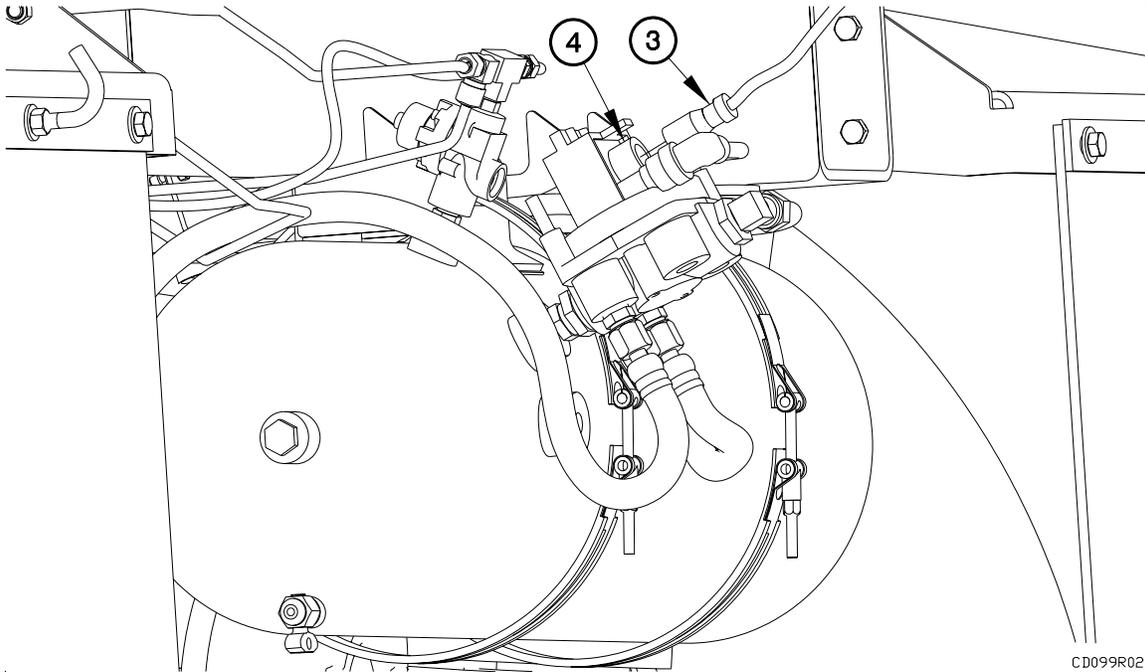
15. Connect ABS sensor connectors (9 and 10) to ABS sensor connectors (11 and 12).
16. Connect hose (7) to tee fitting (8).
17. Connect hose (5) to tee fitting (6).



CD099R03

INSTALLATION – Continued

18. Connect ABS relay sensor relay connector (3) to ABS relay sensor (4).

**OPERATIONAL CHECKS**

1. Install main electrical harness (WP 0066 00).
2. Connect Emergency/Service gladhands (WP 0043 00).
3. Uncage spring brakes (WP 0055 00).
4. Operate trailer to ensure ABS is functioning properly (TM 9-2320-392-10).

END OF WORK PACKAGE

SHUTTLE AND GUIDE BRACKET REPLACEMENT

0100 00

THIS WORK PACKAGE COVERS:

Removal, Installation, Operational Check

INITIAL SETUP:

Maintenance Level

Field

Materials/Parts

Washer, Lock (3) (Item 18, WP 0168 00)
 Nut, Self-Locking (2) (Item 32, WP 0168 00)

Tools and Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)
 Wrench, Torque 50-250 lb-ft (Item 31, WP 0167 00)
 Wrench, Torque 0-600 lb-ft (Item 34, WP 0167 00)
 Sling, Cargo (Item 16, WP 0167 00)

Equipment Conditions

Trailer uncoupled (WP 0043 24, TM 2320-392-10-1).
 Twistlocks removed (WP 0088 00).

References

TM 9-2320-392-10-1

GENERAL

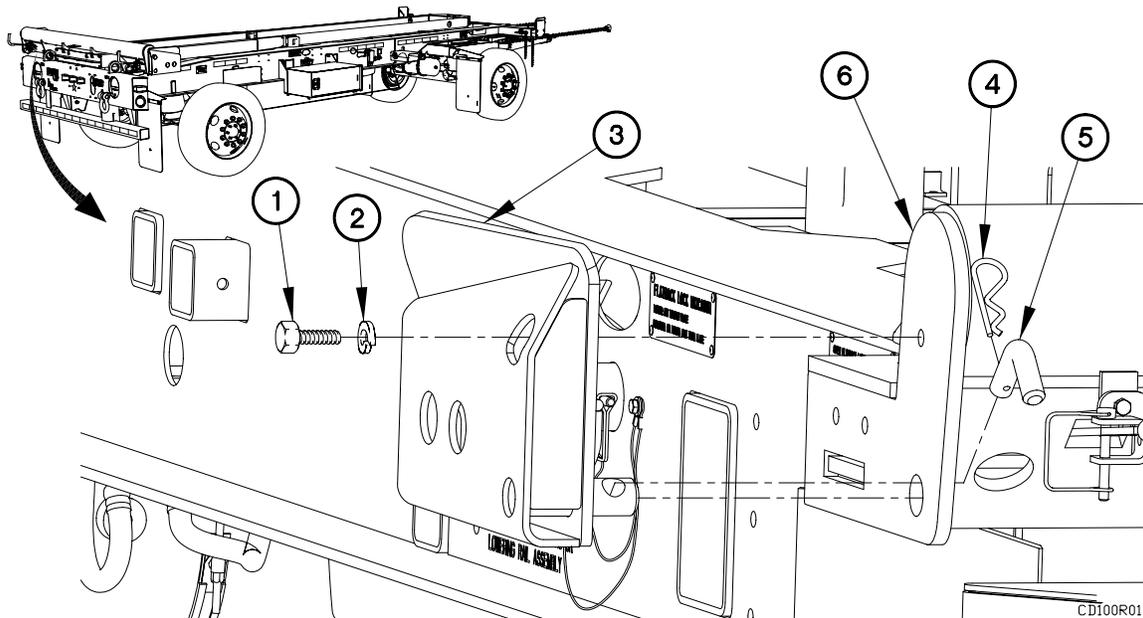
This work package contains information and instructions to replace the Load Handling System Trailer (LHST) shuttle and guide brackets.

REMOVAL

NOTE

LH and RH shuttle guide brackets are removed the same way. LH side shown.

1. Remove three bolts (1) and lockwashers (2) from shuttle guide bracket (3). Discard lockwashers.
2. Remove retaining pin (4), pin (5), and shuttle guide bracket (3) from shuttle (6).



0100 00-1

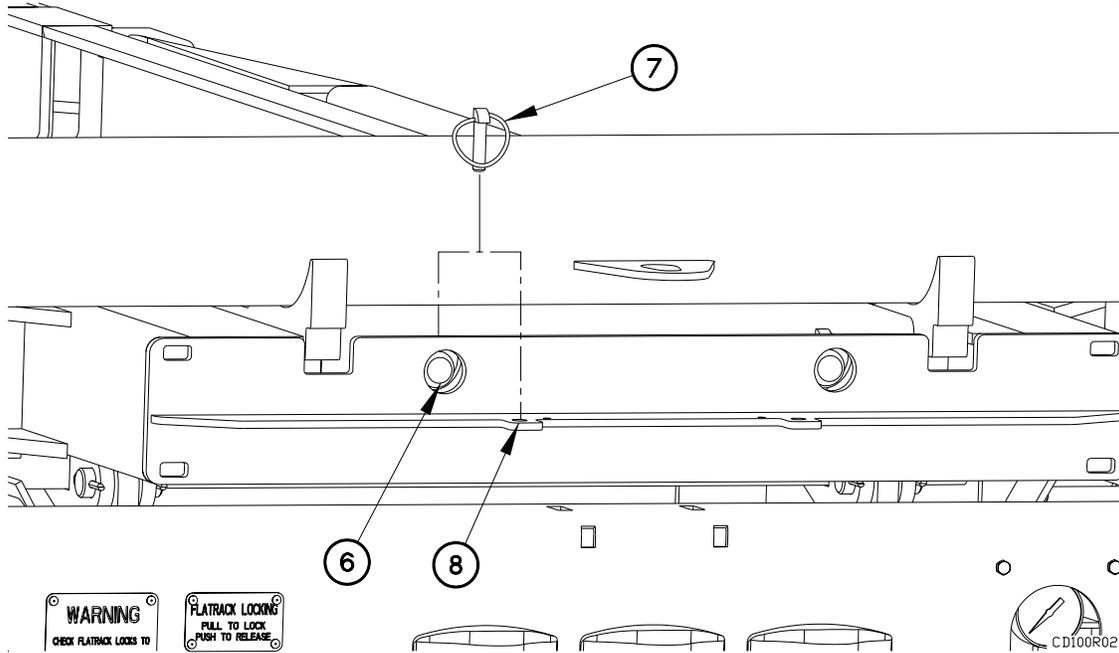
CD100R01

SHUTTLE AND GUIDE BRACKET REPLACEMENT - Continued

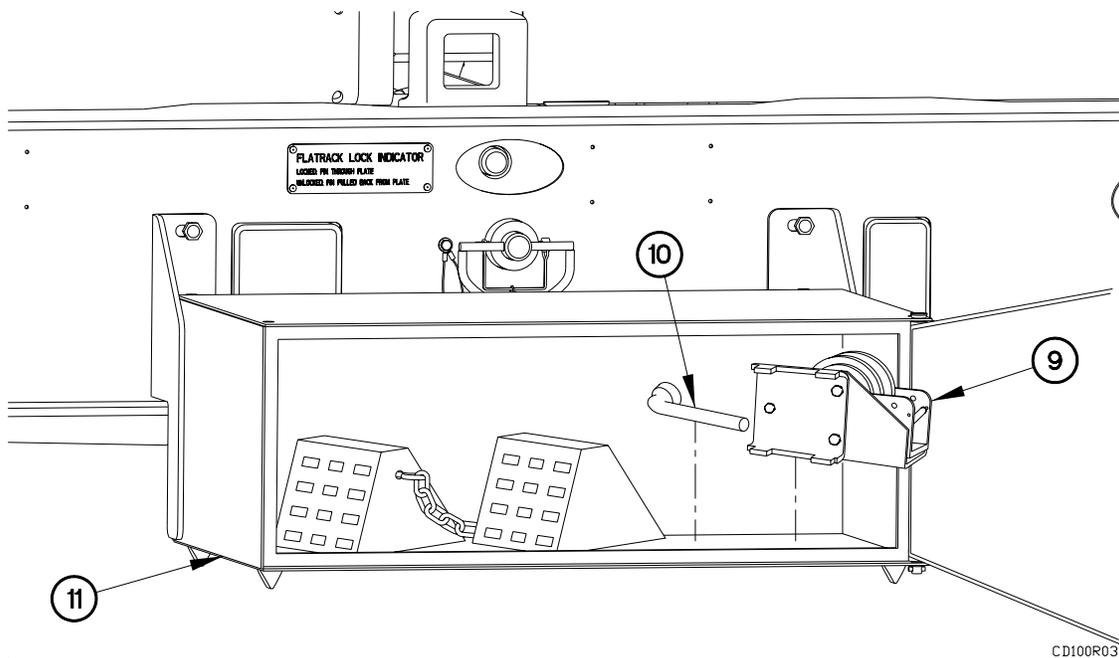
0100 00

REMOVAL - Continued

3. Remove two inner rear lock pins (7) from shuttle (6).
4. Install two inner rear lock pins (7) in trailer (8).

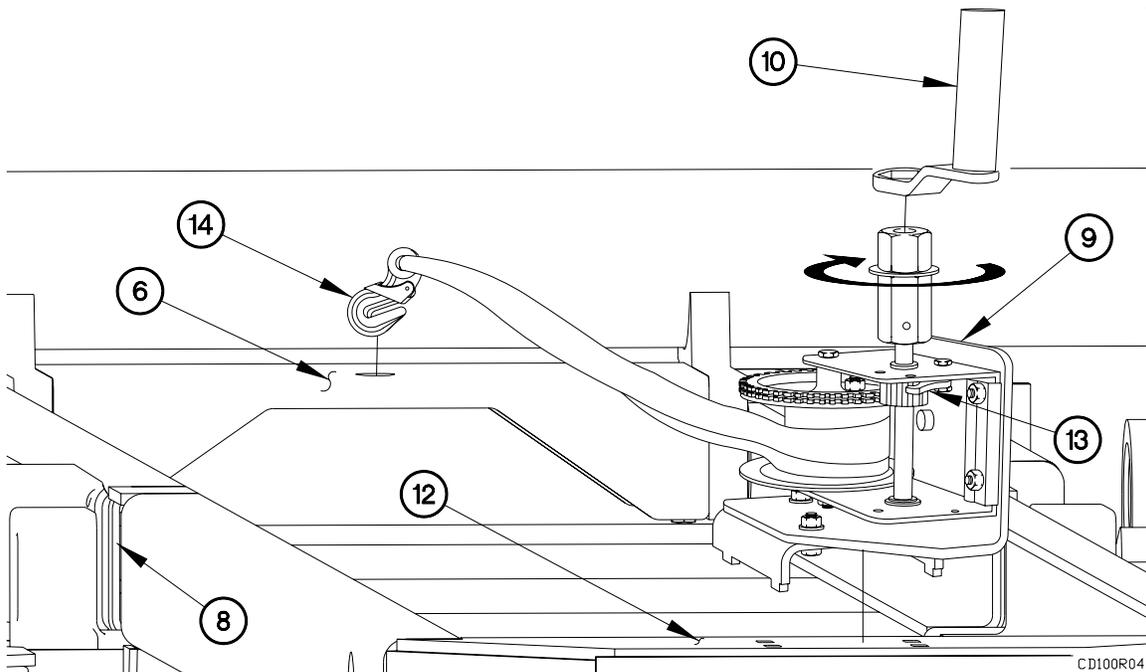


5. Remove winch (9) and crank handle (10) from tool box (11).



REMOVAL - Continued

6. Install winch (9) in front of rail assembly (12).
7. Install crank handle (10) on winch (9).
8. Move lock (13) to the OFF position.
9. Install hook (14) on shuttle (6).
10. Move lock (13) to the ON position.
11. Crank winch (9) clockwise until shuttle (6) is to the front of trailer (8).
12. Remove hook (14) from shuttle (6).



REMOVAL - Continued

NOTE

If shuttle cannot be moved by hand, reinstall hook from winch and perform previous two steps until alignment is achieved.

LH and RH front and rear roller pins are removed the same way. Front LH roller pin shown.

13. Align roller pin (15) with service hole (16) on rail (17).

WARNING

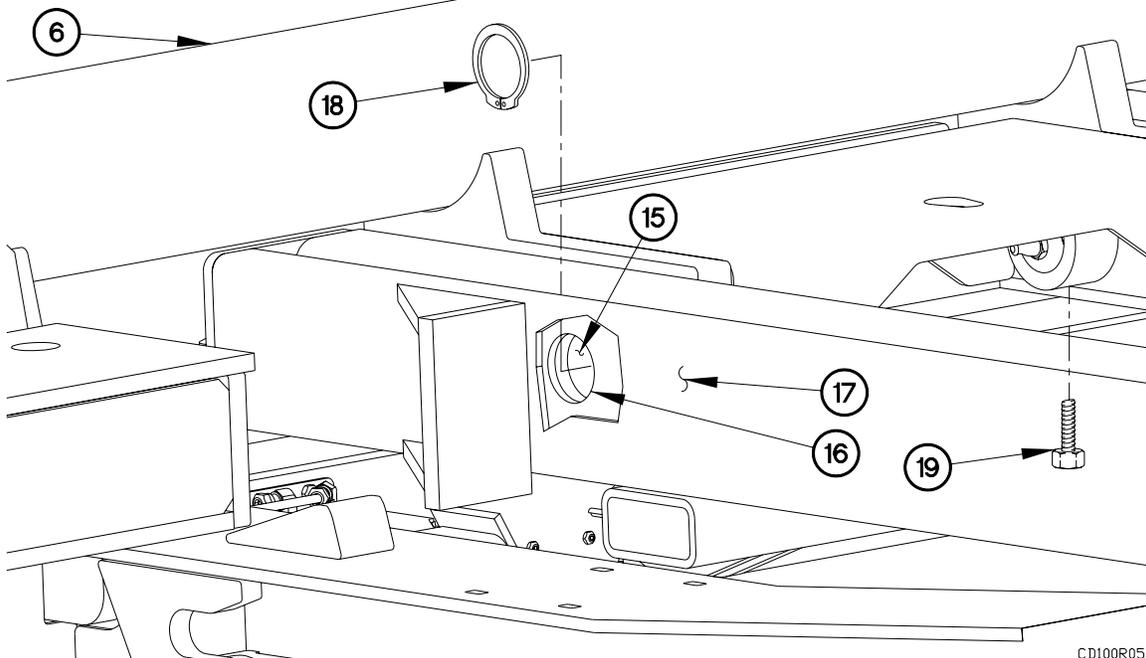
Retaining rings are under tension and can act as projectiles when released, causing severe eye injury. Use care when removing retaining rings. Failure to comply may result in injury to personnel.

14. Remove retaining ring (18) from roller pin (15).
15. Perform previous two steps on remaining roller pins.

NOTE

If shuttle cannot be moved by hand, move winch to rear of trailer, reinstall hook and perform steps 5 through 10.

16. Push shuttle (6) back approximately 3 feet (91 cm) for access to four bolts (19).
17. Remove four bolts (19) from shuttle (6).



CD100R05

REMOVAL - Continued**NOTE**

If shuttle cannot be moved by hand, reinstall winch to front of trailer, reinstall hook and perform steps 5 through 10.

- Align roller pin (15) with service hole (16) on rail (17).

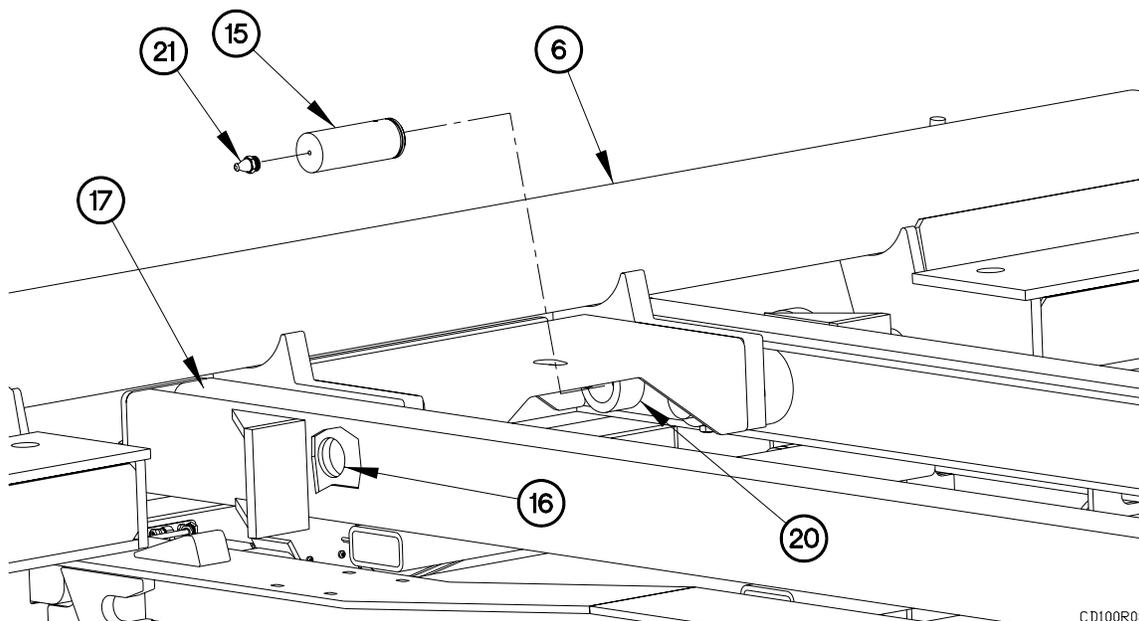
WARNING

Shuttle weighs approximately 550 lbs (250 kgs). Attach a suitable lifting device prior to removal. Failure to comply may result in serious injury to personnel or damage to equipment.

NOTE

LH and RH front and rear roller pins are removed the same way. Front LH roller pin shown.

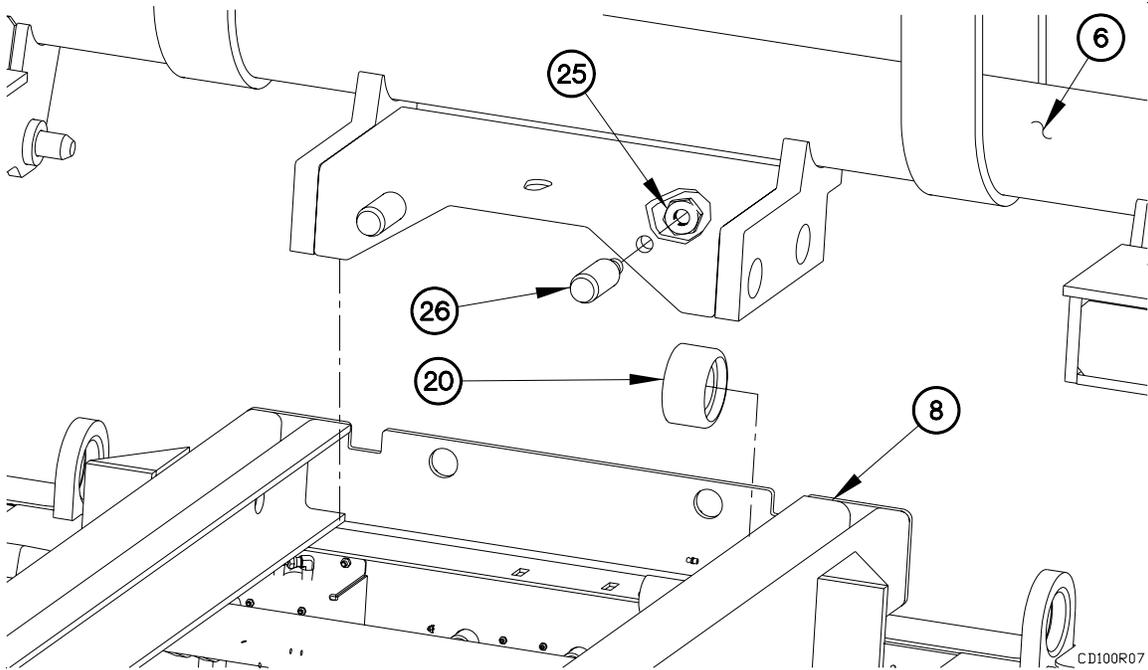
- Push roller pin (15) through roller (20) and shuttle (6).
- Perform previous step on remaining roller pins.
- Remove four grease fittings (21) from roller pins (15).



CD100R08

SHUTTLE AND GUIDE BRACKET REPLACEMENT - Continued**0100 00****REMOVAL - Continued**

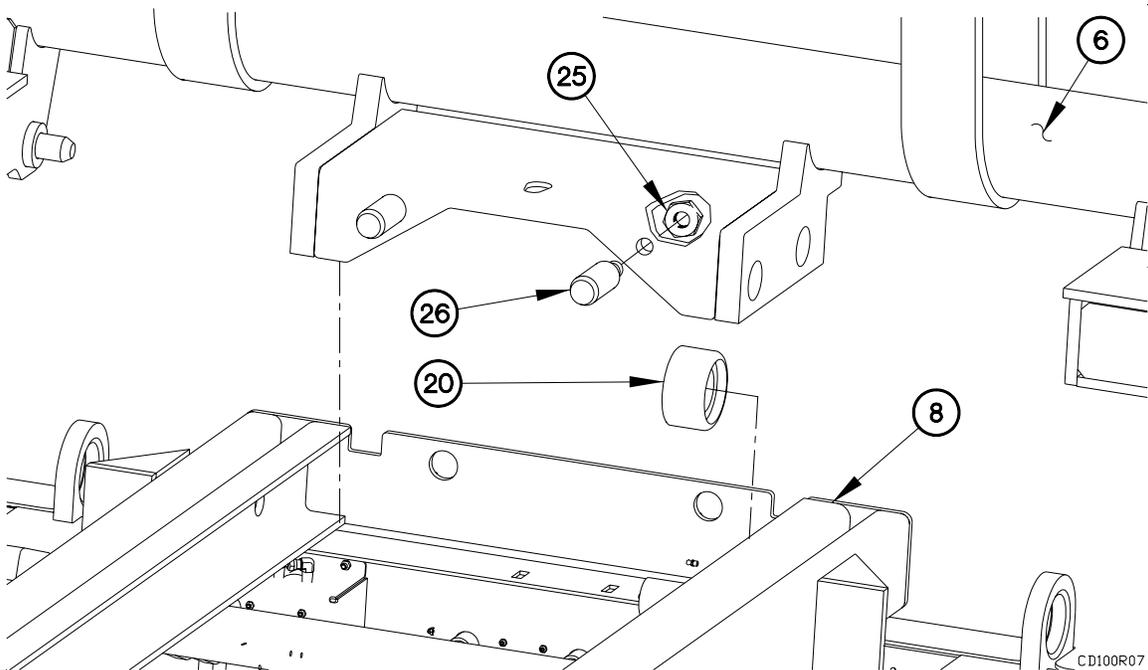
26. Remove two self-locking nuts (25) and alignment studs (26) from shuttle (6). Discard self-locking nuts.
27. Remove four rollers (20) from trailer (8).



INSTALLATION**NOTE**

Holes in alignment studs align vertically.

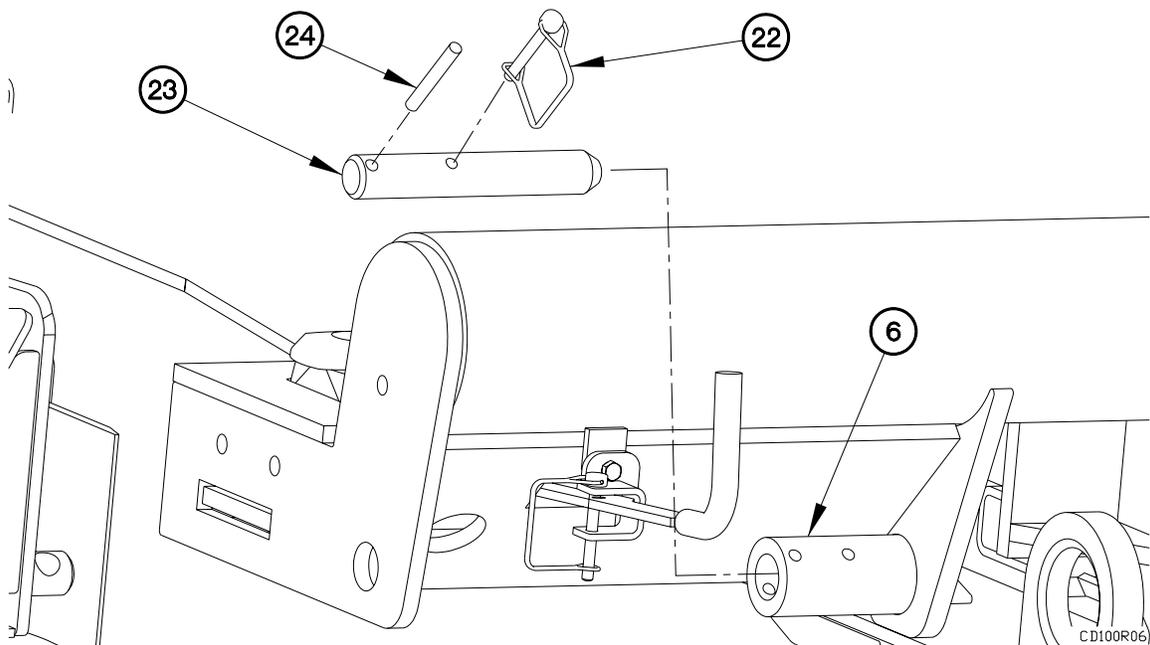
1. Position two alignment studs (26) in shuttle (6) with two self-locking nuts (25).
2. Tighten two self-locking nuts (25) to 225-275 lb-ft (305-373 N•m).
3. Position four rollers (20) on trailer (8).



INSTALLATION - Continued**NOTE**

LH and RH shuttle locking pins are installed the same way. LH side shown.

5. Install roller pin (24) in shuttle locking pin (23).
6. Install shuttle locking pin (23) in shuttle (6).
7. Install retaining pin (22) in shuttle locking pin (23).
8. Perform previous three steps on remaining shuttle locking pins.



SHUTTLE AND GUIDE BRACKET REPLACEMENT - Continued**0100 00****INSTALLATION - Continued**

9. Install four retaining rings (18) on roller pins (15).
10. Align roller pin (15) with service hole (16) on rail (17).
11. Install four grease fittings (21) in roller pins (15).

WARNING

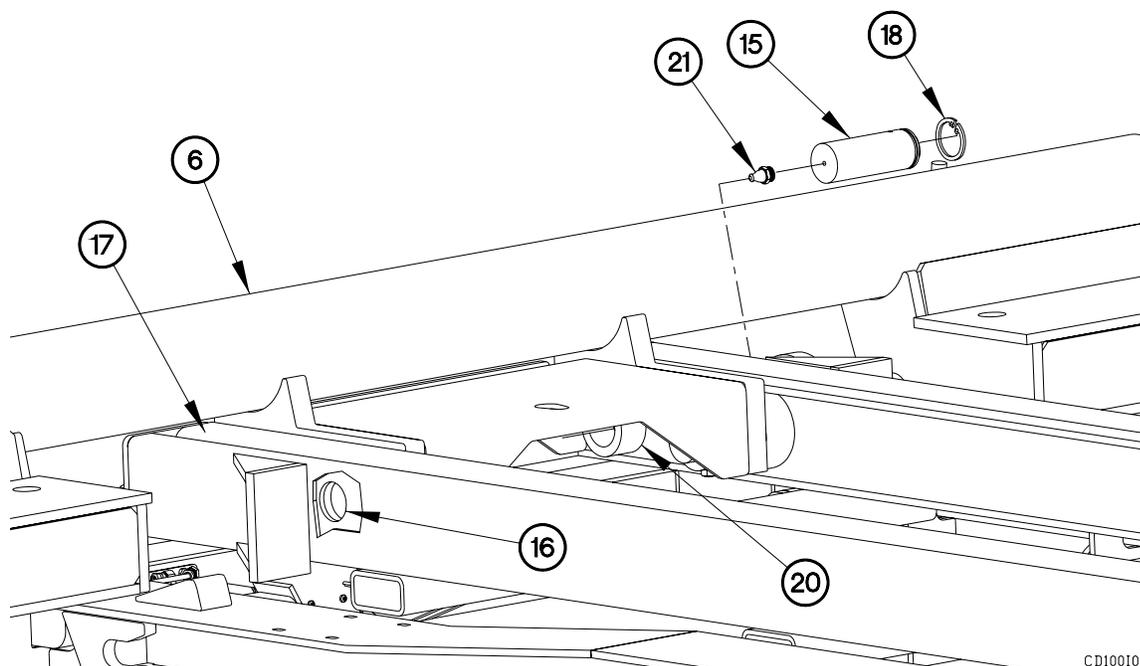
Shuttle weighs approximately 550 lbs (250 kgs). Attach a suitable lifting device prior to installation. Failure to comply may result in serious injury to personnel or damage to equipment.

NOTE

LH and RH front and rear roller pins are installed the same way. Front LH roller pin shown.

Install front two roller pins prior to rear for ease of installation.

12. Push roller pin (15) through roller (20) and shuttle (6).
13. Perform previous step on remaining roller pins.



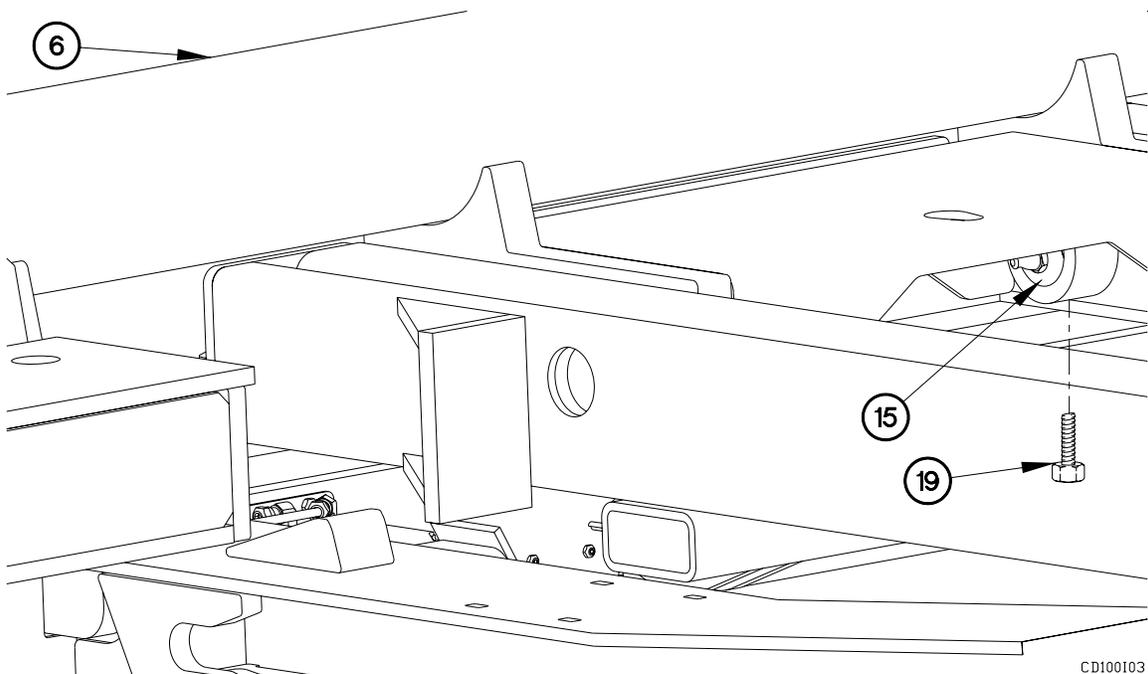
CD100102

INSTALLATION - Continued**NOTE**

The following step requires the aid of an assistant.

Leave cargo sling attached to shuttle to keep weight off rollers and roller pins.

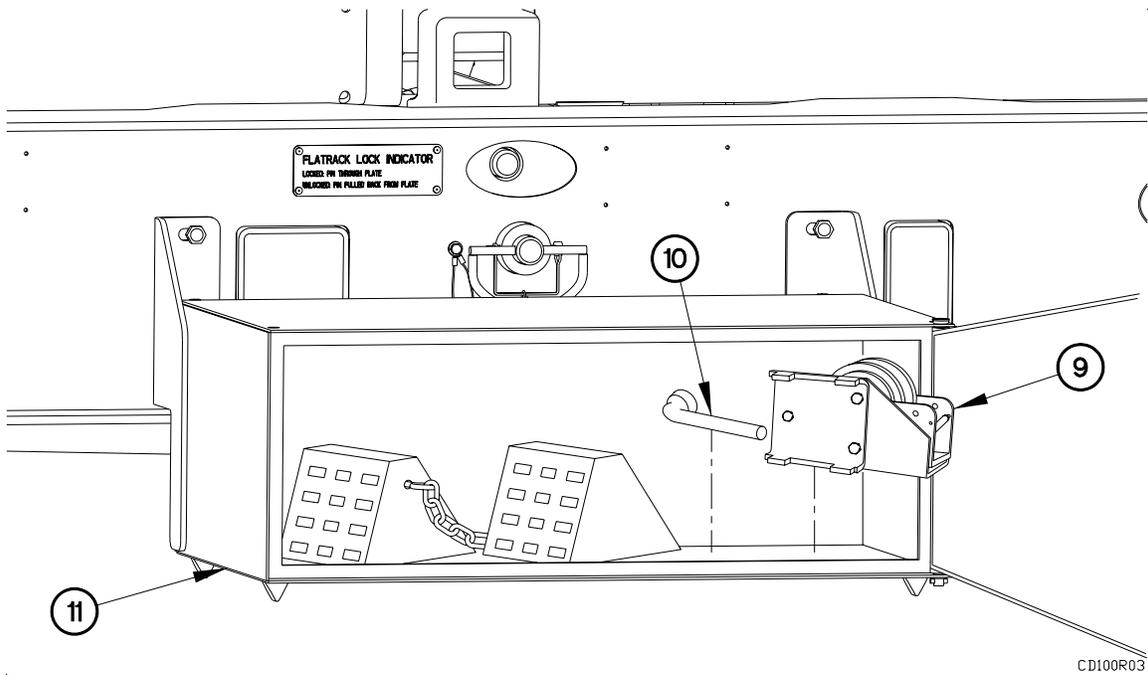
14. Rotate roller pins (15) until holes in roller pins align with bolt holes in shuttle (6).
15. Push shuttle (6) back approximately 3 feet (91 cm) for access to roller pins (15).
16. Install four bolts (19) in shuttle (6).



CD100103

INSTALLATION – Continued

17. Install winch (9) and crank handle (10) in tool box (11).



SHUTTLE AND GUIDE BRACKET REPLACEMENT - Continued

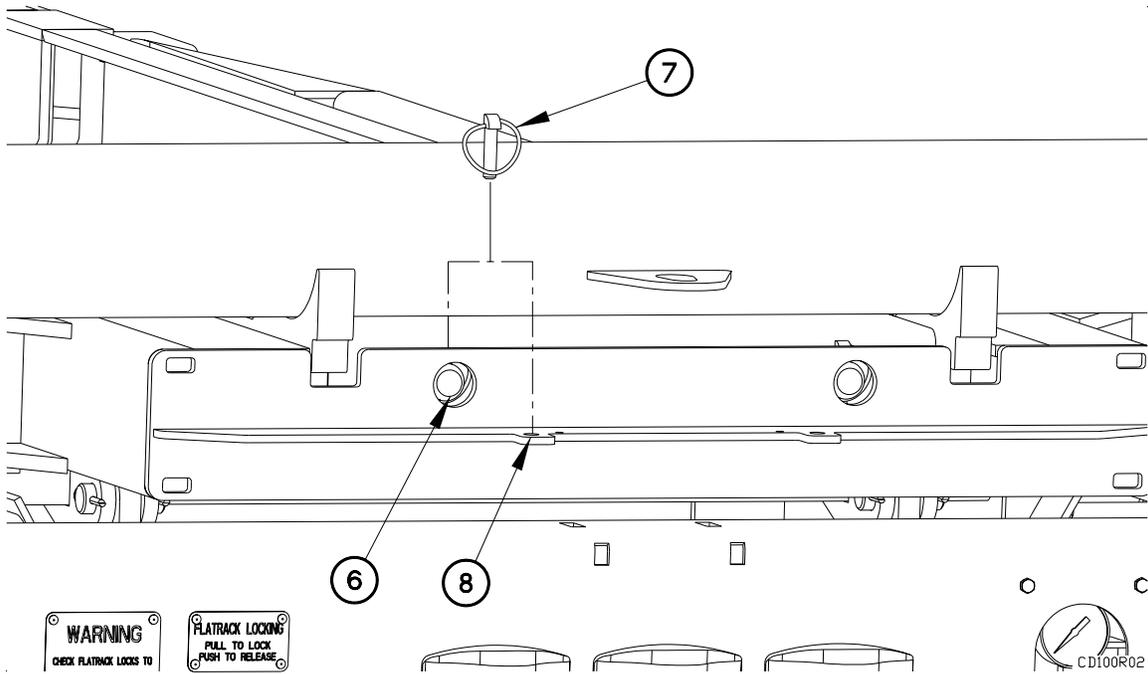
0100 00

INSTALLATION – Continued

NOTE

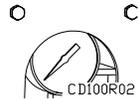
The following step requires the aid of an assistant.

18. Push shuttle (6) to rear of trailer (8).
19. Remove two inner rear lock pins (7) from trailer (8).
20. Install two inner rear lock pins (7) in shuttle (6).



WARNING
CHECK FLATRACK LOCKS TO

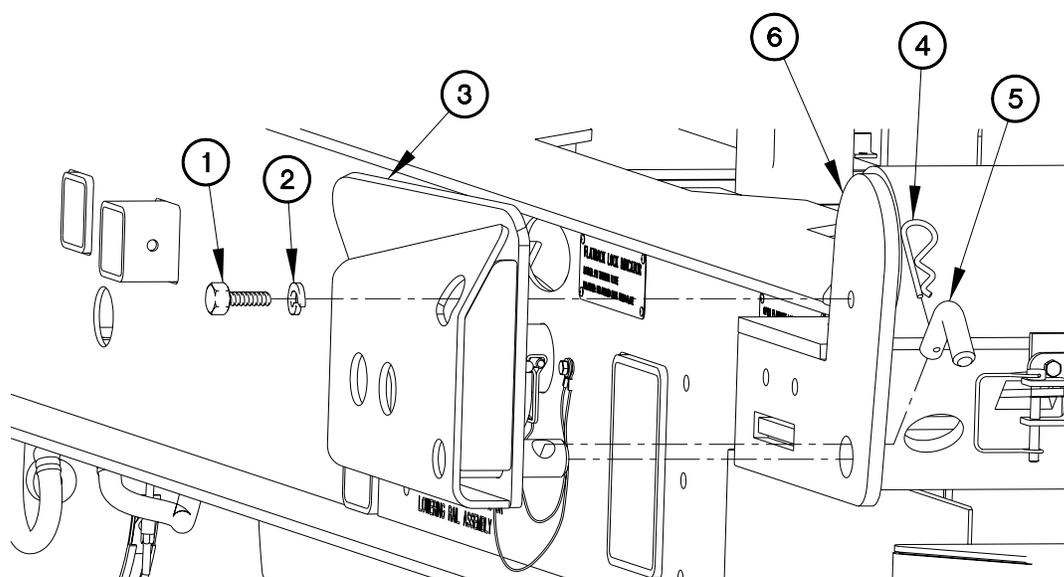
FLATRACK LOCKING
PULL TO LOCK
PUSH TO RELEASE



SHUTTLE AND GUIDE BRACKET REPLACEMENT - Continued**0100 00****INSTALLATION – Continued****NOTE**

LH and RH shuttle guide brackets are installed the same way. LH side shown.

21. Install shuttle guide bracket (3) on shuttle (6) with pin (5) and retaining pin (4).
22. Position three lockwashers (2) and bolts (1) in shuttle guide bracket (3).
23. Tighten three bolts (1) to 150-190 lb-ft (203-258 N•m).



CD100101

OPERATIONAL CHECK

1. Install twistlocks (WP 0101 00).
2. Lubricate roller pins (WP 0052 00).

END OF WORK PACKAGE

SHUTTLE TWIST LOCK REPLACEMENT

0101 00

THIS WORK PACKAGE COVERS:

Removal, Installation

INITIAL SETUP:

Maintenance Level

Field

Materials/Parts

Nut, Self-Locking (Item 31, WP 0168 00)

Nut, Self-Locking (Item 28, WP 0168 00)

Tools and Special Tools

Tool Kit, Genl Mech (Item 22, WP 0167 00)

Wrench, Torque 50-250 lb-ft (Item 31, WP 0167 00)

Equipment Conditions

Trailer Uncoupled (WP 0043 24, TM 2320-392-10-1)

GENERAL

This work package contains information and instructions to replace the Load Handling System Trailer (LHST) shuttle twist lock.

SHUTTLE TWIST LOCK REPLACEMENT - CONTINUED

0101 00

REMOVAL

NOTE

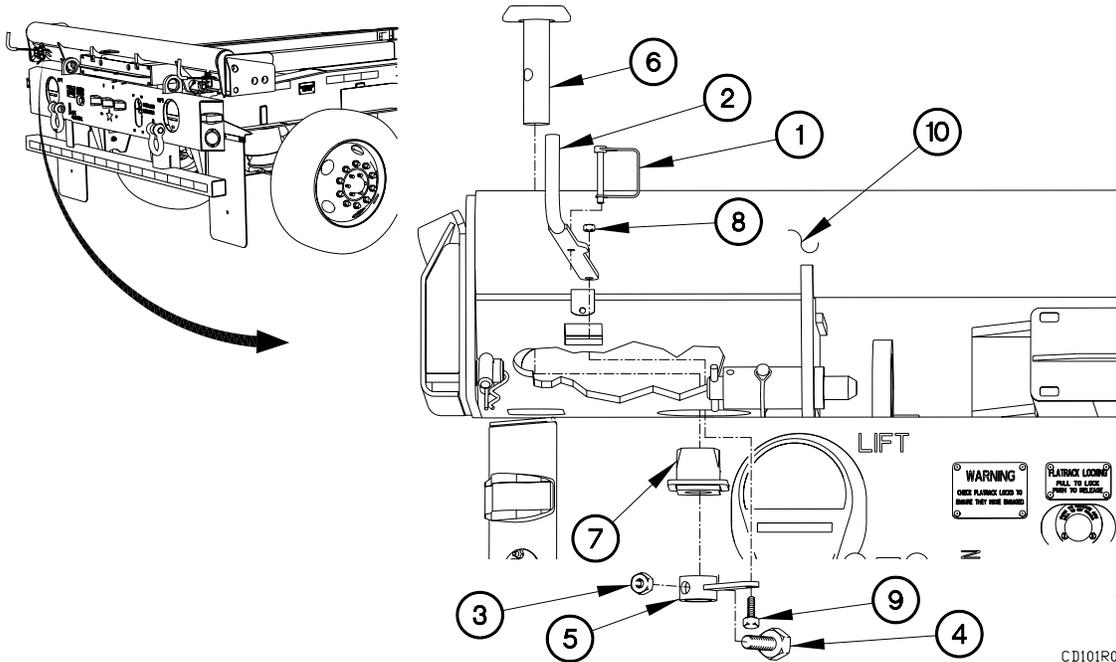
LH and RH twist locks are removed the same way. LH side shown.

1. Remove retaining pin (1) from handle (2).
2. Position handle (2) for access to self-locking nut (3).
3. Remove self-locking nut (3) and bolt (4) from swivel arm (5) and pivot lock (6). Discard self-locking nut.
4. Remove pivot lock (6) from swivel arm (5) and block (7).

NOTE

Note orientation of handle, swivel, and bolt prior to removal.

5. Remove self-locking nut (8), bolt (9) and handle (2) from swivel arm (5). Discard self-locking nut.
6. Remove swivel arm (5) and block (7) from shuttle (10).



CD101R01

INSTALLATION

NOTE

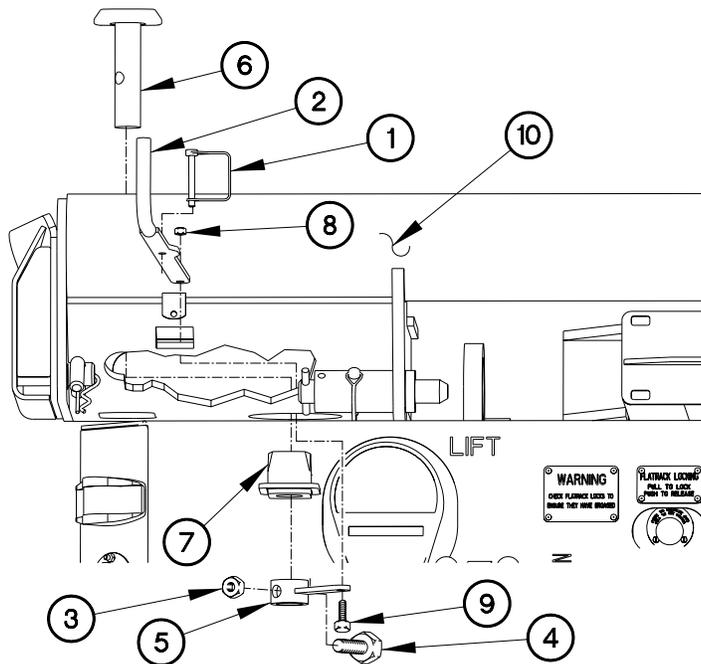
LH and RH twist locks are installed the same way. LH side shown.

1. Position block (7) and swivel arm (5) in shuttle (10).

NOTE

Tighten self-locking nut snugly and loosen one half turn to allow joint to pivot.

2. Install handle (2) on swivel arm (5) with bolt (9) and self-locking nut (8).
3. Install pivot lock (6) in swivel arm (5) and block (7).
4. Position bolt (4) through swivel arm (5) and pivot lock (6) with self-locking nuts (3).
5. Tighten self-locking nut (3) to 150-170 lb-ft (203-258 N•m).
6. Install retaining pin (1) in handle (2).



CD101101

END OF WORK PACKAGE.

