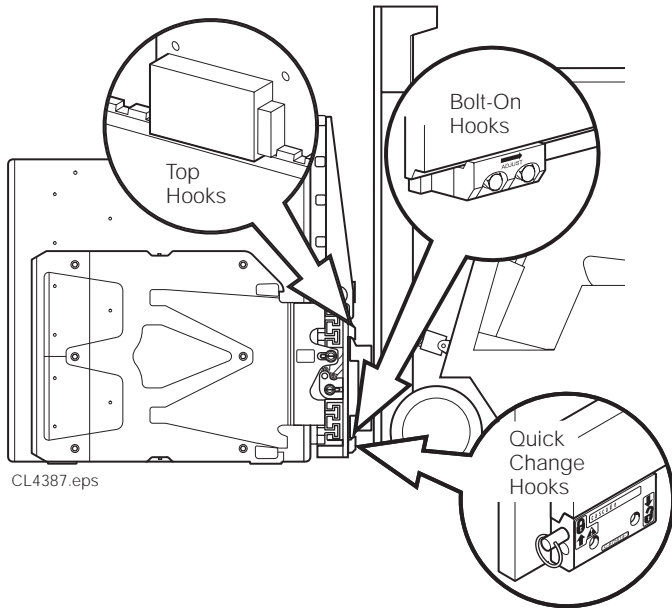
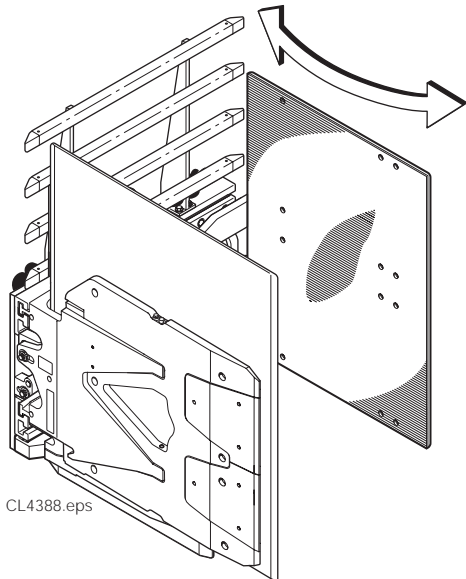




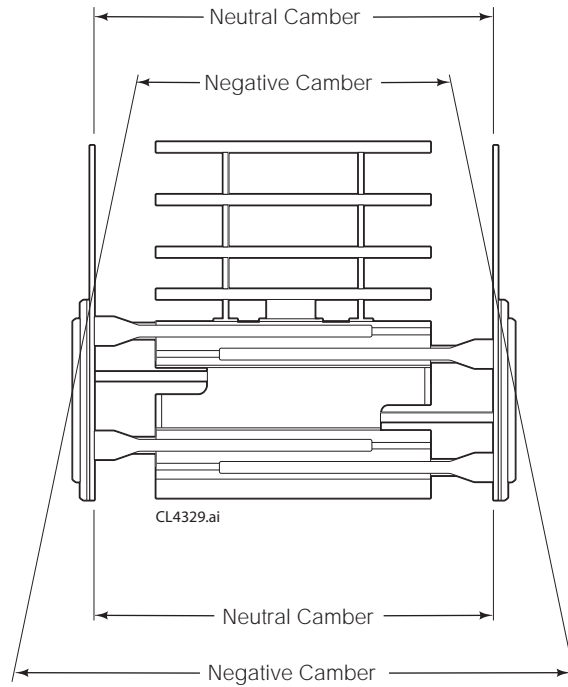
# 400 Hour Schedule



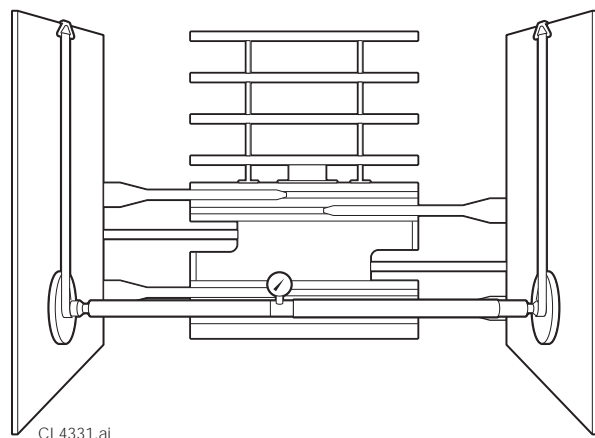
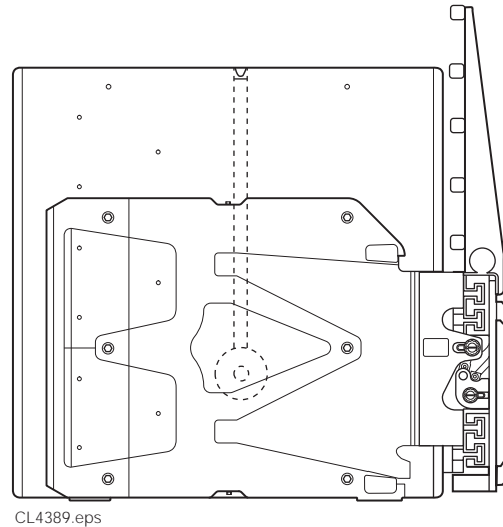
**1** Check the upper and lower mounting hooks for proper installation. Tighten the lower mounting hooks to a torque of 105–115 ft.-lbs. (142–156 Nm).



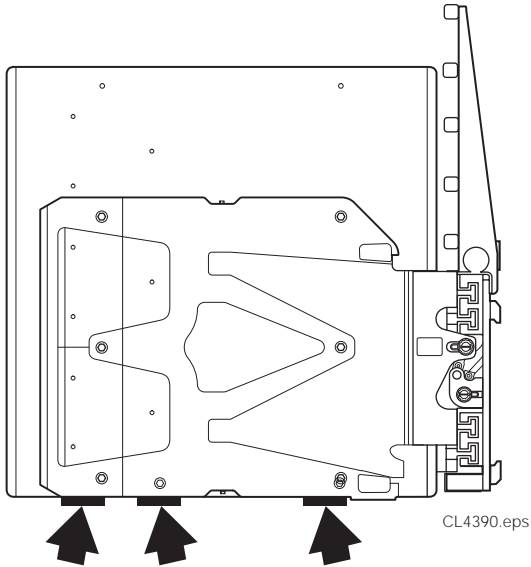
**2** Check for bent or bowed contact pads in both the vertical and horizontal orientations. Maximum allowable pad deformity = .25 in. (6 mm)



**3** Check the contact pads for camber alignment. Camber should be negative .25 in. (6 mm) @ 40 in. (101.6 cm) opening and .50 in. (13 mm) @ 50 in. (127.0 cm) opening.

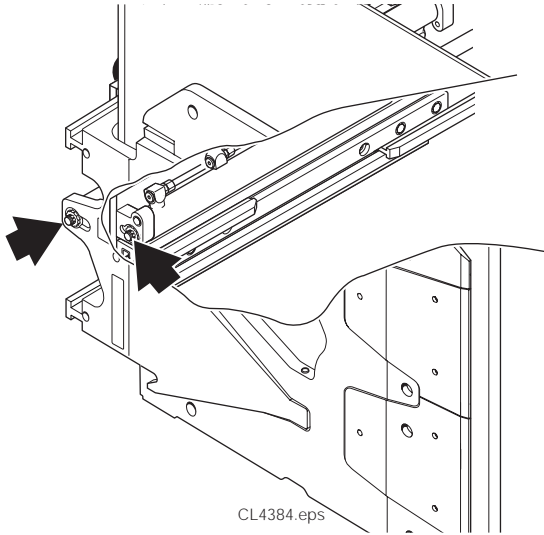


**4** Check clamp force pressure settings. Align indicator front to back on arm pivot points. Top to bottom alignment should be parallel and even with clamp cylinders.



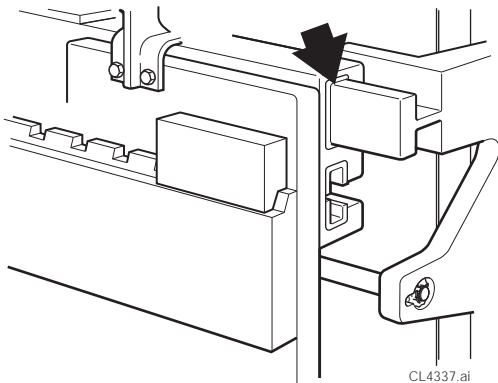
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**5** Check wear tiles on bottom of stabilizers, quantity and location varies. Replace when tile is less than .125 in. (3 mm) thick.



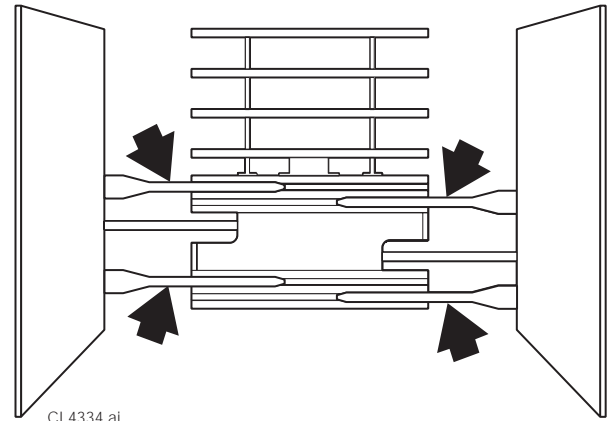
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**6** Inspect and lubricate the cylinder anchor nuts. Tighten the nuts to a torque of 150–175 ft.-lbs. (203–237 Nm). Apply wheel bearing grease to the spherical portion of the anchor nut.



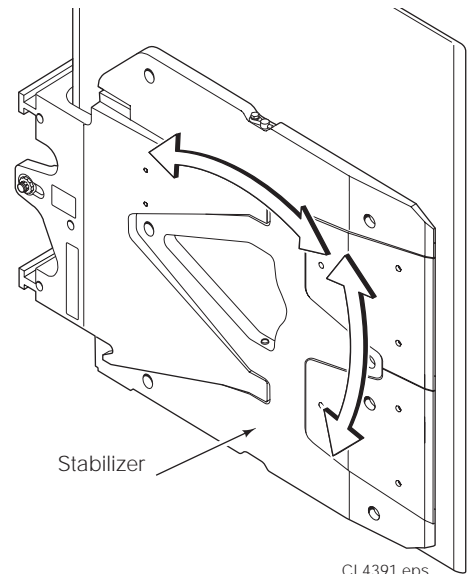
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**7** Check the arm bearings for wear. Shim or replace if gap between the arm and bearing exceeds .15 in. (4 mm). See 2000 Hour Schedule Step 2.



CL4334.ai

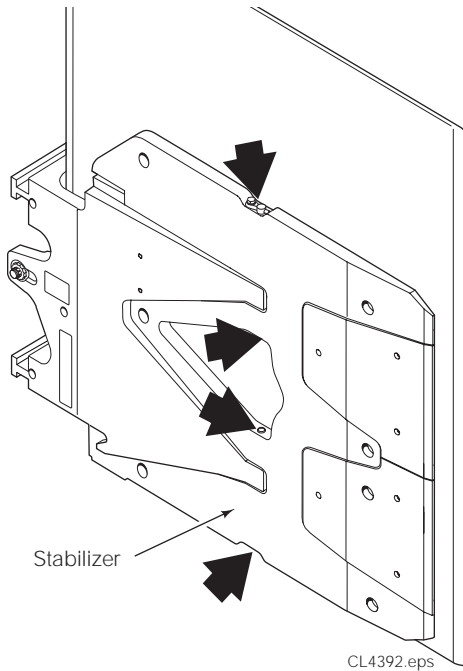
**8** Lubricate the arm bars with chassis grease.



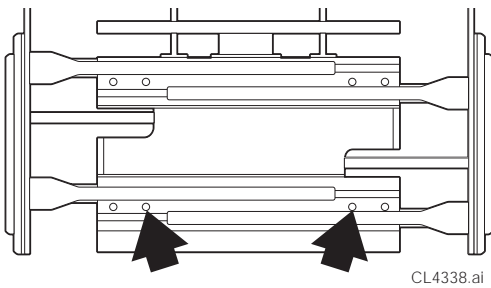
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**9** Check the stabilizers for straightness. Replace if visibly bent.

## 400 Hour Schedule (Continued)

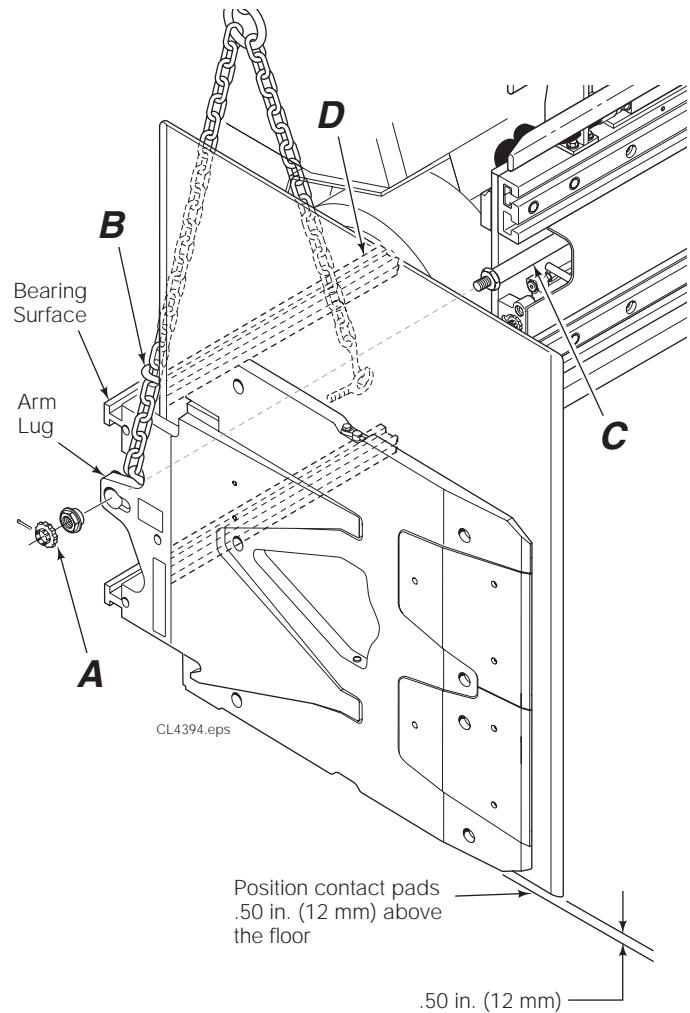


- 10** Check the contact pad pivots for wear.



- 11** Tighten the frame/mounting plate capscrews to a torque of 60–65 ft.-lbs. (81–88 Nm).

## 2000 Hour Schedule



- 1** Perform all 400 Hour Schedule checks.
- 2** Replace arm bearings, if required, using the following procedures:
 

**NOTE:** The attachment can remain mounted on the truck.

**A** Extend the arms. Lower the attachment to position the contact pads .50 in. (12 mm) above the floor. Remove the cotter pin, locking cap and nut retaining the cylinder rod to the arm lug.

**B** Attach a suitable overhead hoist and chain to the arm. The chain must be kept away from the arm bearing surface.



**WARNING:** Check the attachment weight (located on the nameplate) to make sure the overhead hoist and chains or straps are at least the rated capacity of the attachment.

- C** Retract the cylinder rods until they come out of engagement with the arm lugs.



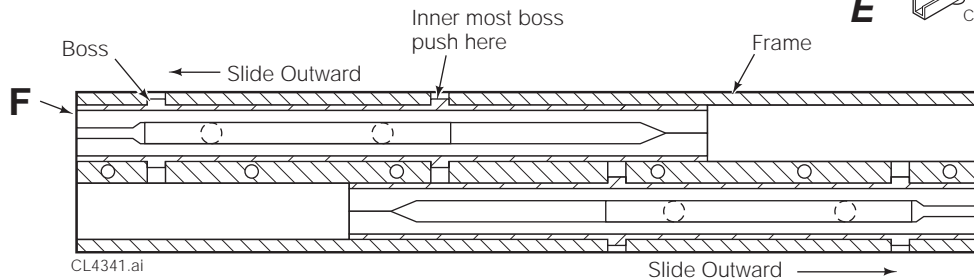
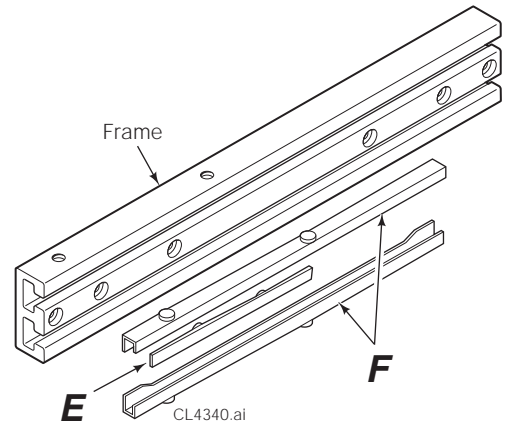
**WARNING:** Keep feet and fingers out from under the contact pads and arms.

- D** Pull the arm assembly out of the frame.

- E** Remove the bearing spacer located between the upper and lower bearing in each arm carrier slot.
- F** Pry the bearings out of the frame with a screwdriver and slide outward.

**CAUTION:** Do not gouge aluminum frame surfaces.

**NOTE:** To ease removal of the first bearing from the frame, push the innermost boss out of its hole.



- G** Use dial calipers to measure dimension **d1** of both ends of arm bar opening in upper and lower aluminum frames.

- H** Place an upper and lower bearing strip on each arm bar. Measure dimension **d2**.

- I** Determine the shim thickness required to leave .015 in. (.4 mm) clearance between each set of bushing strips and each arm bar opening. Use the following formula:

$$[d1 - .015 \text{ in.}] - d2 = \text{shim thickness required}$$

Example: **d1** = 2.165 in. **d2** = 2.085 in.

$$[2.165 \text{ in.} - .015 \text{ in.}] - 2.085 \text{ in.} = .065 \text{ in.}$$

1 Pink Shim = .015 in.

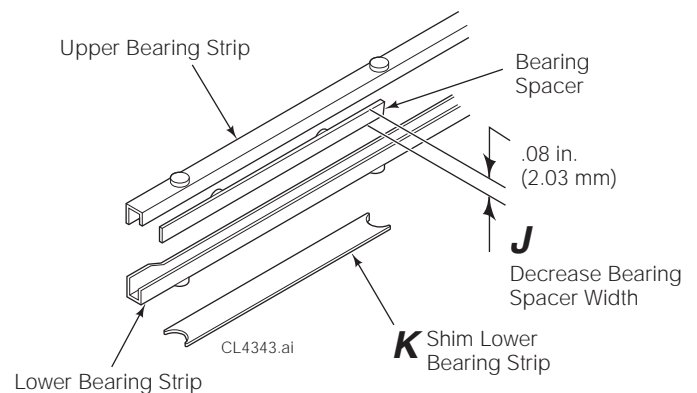
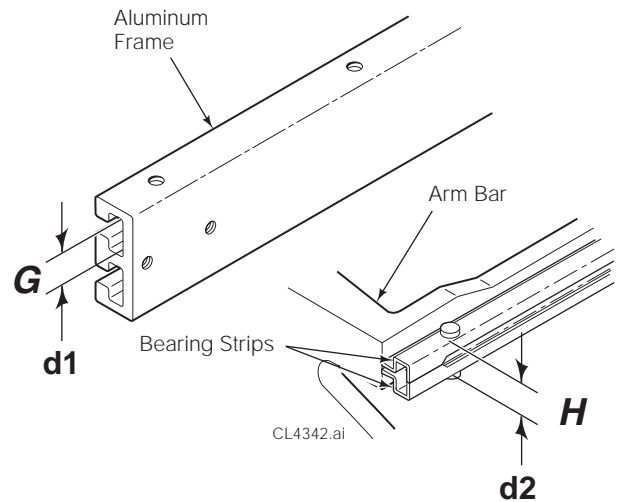
1 Yellow Shim = .020 in.

Use 3 yellow shims = .60 in.

- J** Decrease the width of the bearing spacer to the dimension shown to provide room to install the bearings.

- K** Tape the required shims for each arm bar opening to the lower bearing strip only. Install the bearing strips and bearing spacers.

- L** After reinstalling the arms in the frames, check for excess tightness of the arm bars while sliding in the frames.



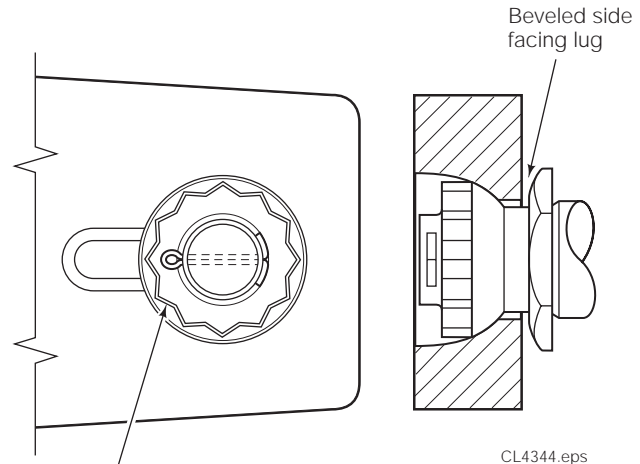
## 2000 Hour Schedule (continued)

**M** For reassembly, reverse the above procedures, except for the following special instructions for cylinder anchor nuts.

- Lubricate the cylinder rod threads, nut threads and spherical portion of the nut with STP.
- Install the washer on the rod end with the beveled side facing the lug.
- Engage the rod end into the lug.
- Tighten the rod end nut to a torque of 150–175 ft.-lbs. (200–240 Nm). Prevent the rod turning by using a wrench on the hex washer.

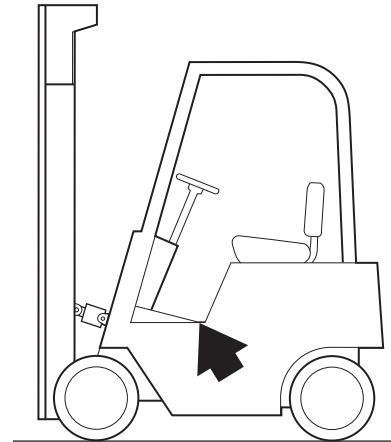
**NOTE:** The rod end nut is being tightened against the hex washer. The nut will not be tight against the arm lug. This looseness allows for frame deflection during clamping.

- Install the locking cap and cotter pin.
- Lubricate the bearing portion of the arm bars with a thin film of chassis grease.



Tighten rod end nut to a torque of: 150–175 ft.-lbs. (200–235 Nm) (lubed).

- 3** Flush and replace the truck/clamp hydraulic system fluid. Use SAE 10W petroleum base oil per Military Specification MIL-0-05605 or MIL-0-2104B.



- 4** Check the truck hydraulic system pressure and flow rate.

**A** Check the pressure delivered by the truck. Refer to the truck service manual. The pressure must be within 100 psi (7 bar) of specified truck pressure. **TRUCK PRESSURE MUST NOT EXCEED 2300 PSI (160 bar)**, measured at the hose terminal.

**B** Check the flow volume at the hose terminal. The flow should be 4 to 7 GPM (15-26 L/min). If the truck pressure and flow volume are correct, proceed with the pressure test.

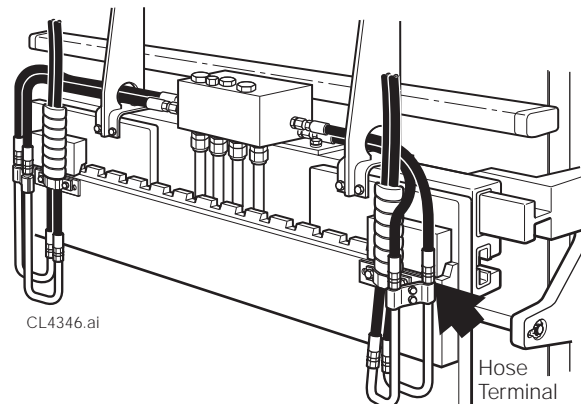
**C Clamps with Solenoid Adaption** – Press the auxiliary valve control knob button. Listen for the ‘click’ at the solenoid valve. If the solenoid valve does not ‘click’ when the button is pushed, check the electrical wiring and solenoid coil.

**D** Check for external leaks. Close the arms fully. Hold the clamp control handle in the clamp position for a few seconds.

**E** Return the handle to neutral. Inspect all fittings, lines and the cylinders for leaks. If there are no leaks, proceed with the pressure test.



**WARNING:** Before removing any hoses, relieve pressure in the hydraulic system. Turn truck off, then open the truck auxiliary control valves several times in both directions.



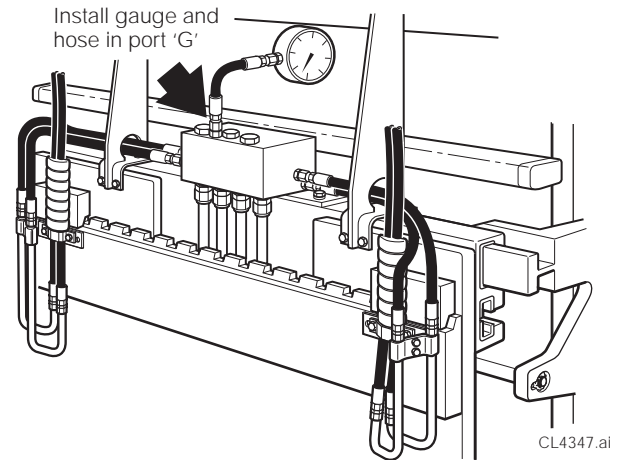
## 5 Test the attachment clamp circuit.

- A** Install the pressure gauge and hose assembly in the valve test port marked 'G', located on the back of the valve body.
- B** Start the truck. Fully close the arms. Hold the clamp control handle in the **clamp** position for a few seconds.
- C** Return the handle to neutral. Watch the gauge pressure reading.
- If the gauge **pressure does not drop** more than 150 psi (10 bar) initially and an additional drop does not exceed 25 psi (2 bar) per minute, the problem is not hydraulic.
  - If the gauge **pressure drops** more than 150 psi (10 bar) initially and an additional drop exceeds 25 psi (2 bar) per minute, proceed with 2000 Hour Schedule Step 6 to isolate the faulty components.

**IMPORTANT:** Before removing pressure gauge, momentarily actuate clamp open circuit. This will relieve pressure trapped by the check valve in the clamp circuit.



**WARNING:** Before removing any hoses, relieve pressure in the hydraulic system. Turn truck off, then open the truck auxiliary control valves several times in both directions.



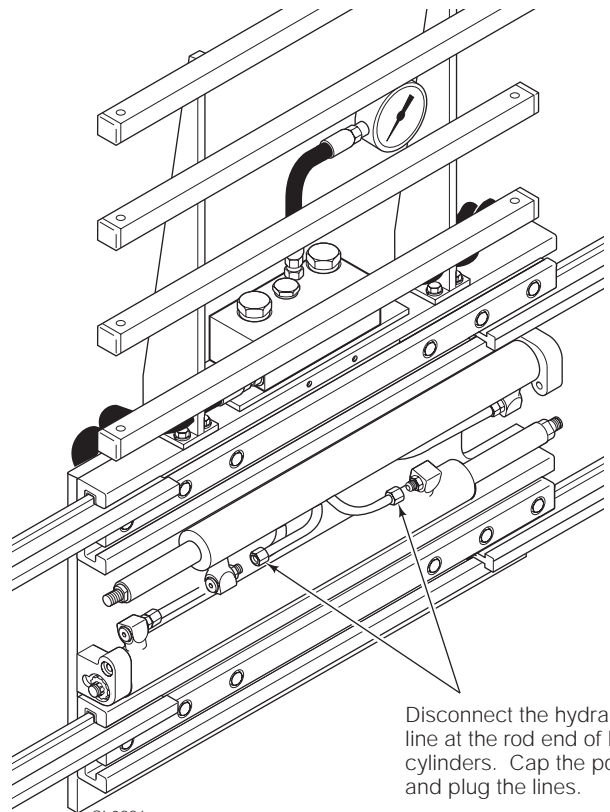
CL4347.ai

## 6 Test the attachment check valve circuit.



**WARNING:** Before removing any hoses, relieve pressure in the hydraulic system. Turn truck off, then open the truck auxiliary control valves several times in both directions.

- A** Remove the bumper.
- B** Disconnect the hydraulic lines at the rod end of both cylinders. Cap the ports and plug the lines.
- C** Start the truck. Hold the clamp control handle in the clamp position for a few seconds.
- D** Return the handle to neutral. Watch the gauge pressure reading.
- If the gauge **pressure drops** more than 150 psi (10 bar) initially and an additional drop exceeds 25 psi (2 bar) per minute, the check valve is faulty and requires service.
  - If the gauge **pressure does not drop** more than 150 psi (10 bar) initially and an additional drop does not exceed 25 psi (2 bar) per minute, one or both cylinders require service. Proceed with 2000 Hour Schedule Step 7 to isolate the faulty component.



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## 2000 Hour Schedule (continued)

### 7 Test the attachment cylinders.

- A** Connect one of the hydraulic lines to its cylinder. The other line must remain plugged.
- B** Start the truck. Hold the clamp control handle in the **clamp** position for a few seconds.
- C** Return the handle to neutral. Watch the gauge pressure reading.
- If the gauge **pressure drops** more than 150 psi (10 bar) initially and an additional drop exceeds 25 psi (2 bar) per minute, the cylinder connected to the check valve is faulty and requires service.
  - If the gauge **pressure does not drop** more than 150 psi (10 bar) initially and an additional drop does not exceed 25 psi (2 bar) per minute, the second cylinder is faulty.

It is recommended to perform a similar pressure test for the second cylinder before servicing.

**IMPORTANT:** Before removing pressure gauge, momentarily actuate clamp open circuit. This will relieve pressure trapped by check valves in clamp circuit.

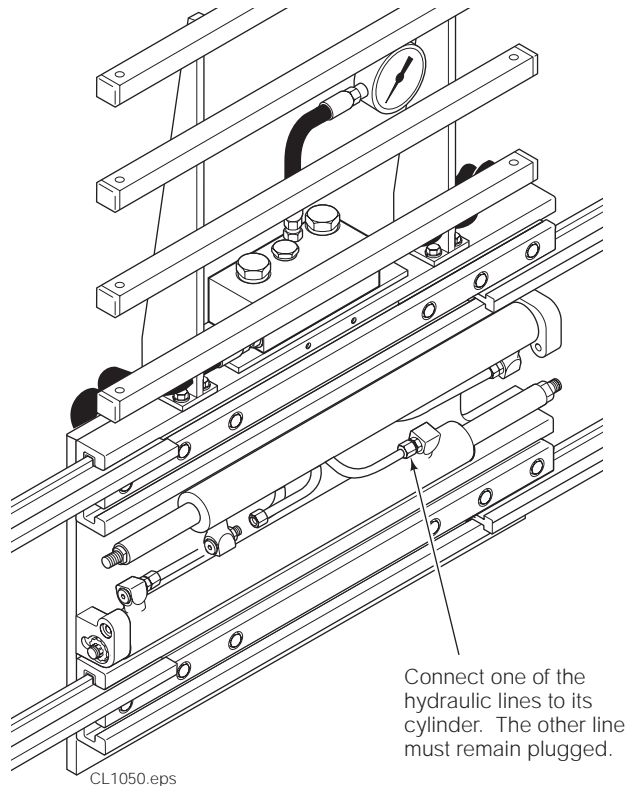
### 8 Test the attachment sideshift circuit.

If the clamp does not sideshift right and left at equal speeds or drops a load while sideshifting, one of the sideshift check valve cartridges is faulty. The two outer cartridges on the top of the valve are for the sideshift circuits.

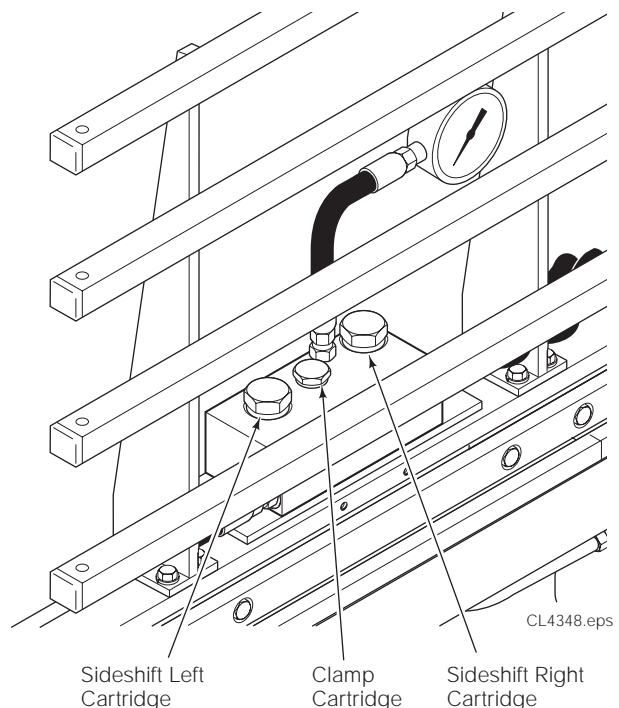
**IMPORTANT:** Clamps equipped with solenoid adaption must be plumbed to the check valve so the solenoid will be energized for the clamp/open functions.

- A** Install the pressure gauge and hose assembly in the valve test port marked 'G', located on the top of the valve body.
- B** Start the truck. Clamp onto a load and lift no more than 1 in. (25 mm) off ground or floor. Hold the sideshift control handle in the **sideshift left** position for a few seconds.
- C** Return the handle to neutral. Watch the gauge pressure reading.
- If the gauge **pressure drops** more than 150 psi (10 bar) initially and an additional drop exceed 25 psi (2 bar) per minute, the **sideshift left** cartridge is faulty and requires service.
  - If the gauge **pressure does not drop** more than 150 psi (10 bar) initially and an additional drop does not exceed 25 psi (2 bar) per minute, move the sideshift control handle in the **sideshift right** position for a few seconds.
- D** Return the handle to neutral. Watch the gauge pressure reading.
- If the gauge **pressure drops** more than 150 psi (10 bar) initially and an additional drop exceeds 25 psi (2 bar) per minute, the **sideshift right** cartridge is faulty and requires service.
  - If the gauge **pressure does not drop** more than 150 psi (10 bar) initially and an additional drop does not exceed 25 psi (2 bar) per minute, the problem is not hydraulic.

**IMPORTANT:** Before removing pressure gauge, momentarily actuate clamp open circuit. This will relieve pressure trapped by check valves in clamp circuit.



**WARNING:** Before removing any hoses, relieve pressure in the hydraulic system. Turn truck off, then open the truck auxiliary control valves several times in both directions.



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