

INSTALLATION INSTRUCTIONS

and PERIODIC MAINTENANCE

H-Series

Fixed Frame

Pivot Arm

Paper Roll Clamps

Manual Number 6077316-R10

**cascade[®]
corporation**

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IMPORTANT: Field alterations may impair performance or capability and could result in loss of warranty. Consult Cascade for any required modifications or before making field alterations.

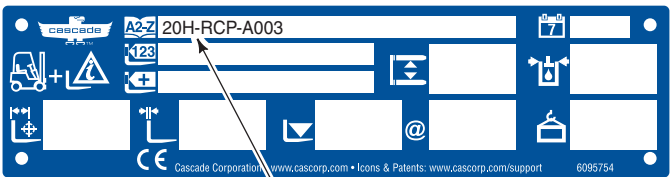
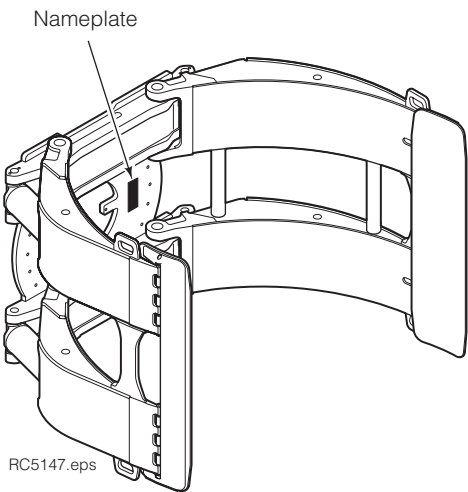
INTRODUCTION

This manual provides installation instructions and periodic maintenance for Cascade H-Series Fixed Frame Paper Roll Clamps.

In any communication about the attachment refer to the product catalog and serial numbers stamped on the nameplate. If the nameplate is missing, the numbers can be found stamped on the front of the faceplate top or side.

IMPORTANT: Supply input fittings are JIC.

NOTE: Specifications are shown in both US and (Metric) units. All fasteners have a torque value range of $\pm 10\%$ of stated value.



SPECIAL DEFINITIONS

The statements shown below appear throughout this manual where special emphasis is required. Read all **WARNINGS** and **CAUTIONS** before proceeding with any work. Statements labeled **IMPORTANT** and **NOTE** are special information that is useful when servicing the attachment.



WARNING - A statement preceded by a WARNING is information that should be acted upon to prevent **bodily injury**. A WARNING is always inside a ruled box.

CAUTION – A statement preceded by CAUTION is information that should be acted upon to prevent machine damage.

IMPORTANT – A statement preceded by IMPORTANT is information that possesses special significance.

NOTE – A statement preceded by NOTE is information that is handy to know and may make the job easier.

RECOMMENDED HYDRAULIC SUPPLY

H-Series Fixed Frame Paper Roll Clamps provide the best performance with the hydraulic supply arrangement shown below. Refer to Cascade Hose and Cable Reel Selection Guide, Part No. 212119, to select the correct hose reel for the mast and truck. The hose and fitting requirements are:

- **10H** – All hoses and fittings for both CLAMP and ROTATE functions require No. 4 hose with .25 in. (6 mm) minimum ID.
- **13H,18H** – All hoses and fittings for both CLAMP and ROTATE functions require No. 6 hose with .28 in. (7 mm) minimum ID.
- **20H-55H** – All hoses and fittings for both CLAMP and ROTATE functions require No. 8 hose with .40 in. (10 mm) minimum ID.

A and B

RH and LH THINLINE™ 2-Port Hose Reel Groups.

OR

A and C

RH THINLINE™ 2-Port Hose Reel Group and Mast Single Internal Hose Reeving Group.

OR

C

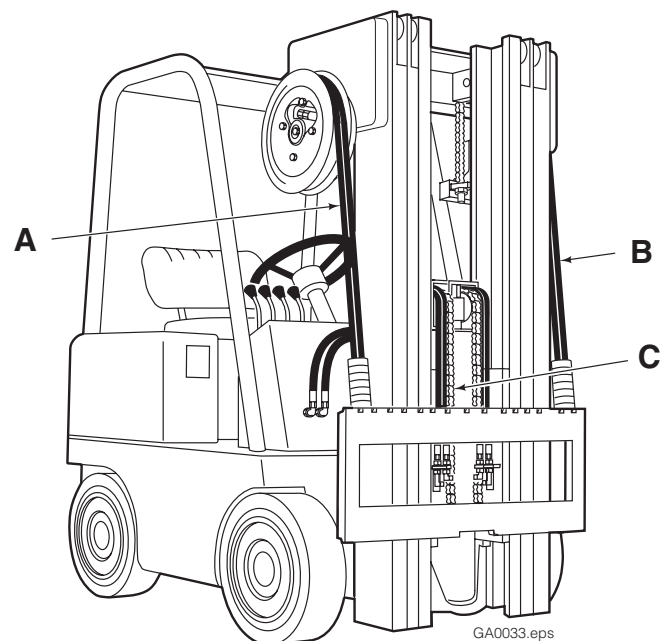
Mast Double Internal Hose Reeving Group.

Solenoid Equipped

B

LH 6-N-1™ Cable Hose Reel

CAUTION: Rotate function supply circuit back pressure exceeding 500 psi (35 bar) can result in excessive oil heating, reduced attachment performance and shortened hydraulic system life. Check for restrictions such as numerous fittings and fitting/hose sizes less than No. 4 (10H), No. 6 (13H,18H) or No. 8. (20H-55H).



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TRUCK REQUIREMENTS

Truck Relief Setting

2300 psi (160 bar) Maximum

Truck Flow Volume ^①

	Min. ^②	Recommended	Max. ^③
10H (Low Flow)	1 GPM (4 L/min.)	3 GPM (11 L/min.)	5 GPM (18 L/min.)
10H	3 GPM (11 L/min.)	5 GPM (18 L/min.)	8 GPM (30 L/min.)
13H-18H (Clamp)	5 GPM (18 L/min.)	10 GPM (37 L/min.)	15 GPM (56 L/min.)
13H-18H (Rotate)	5 GPM (18 L/min.)	8.5 GPM (32 L/min.)	12 GPM (45 L/min.)
20H-33H	5 GPM (18 L/min.)	10 GPM (37 L/min.)	15 GPM (56 L/min.)
34H-55H	10 GPM (37 L/min.)	15 GPM (56 L/min.)	20 GPM (75 L/min.)

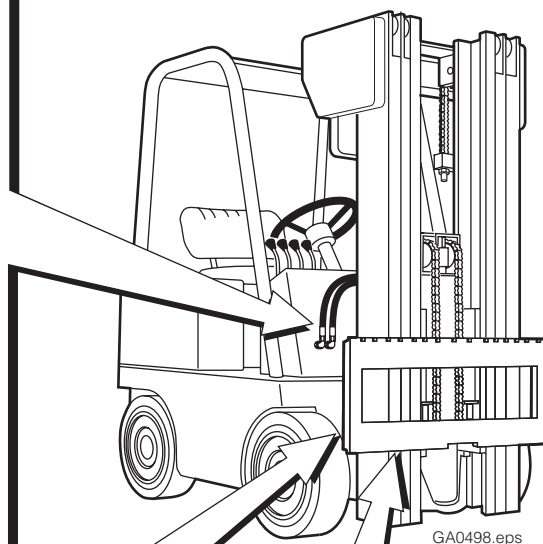
① Cascade H-Series Roll Clamps are compatible with SAE 10W petroleum base hydraulic fluid meeting Mil. Spec. MIL-O-5606 or MIL-O-2104B. Use of synthetic or aqueous base hydraulic fluid is not recommended. If fire resistant hydraulic fluid is required, special seals must be used. Contact Cascade.

② Flow less than recommended will result in a rotate speed less than 2 RPM.

③ Flow greater than maximum can result in excessive heating, reduced system performance and short hydraulic system life.



WARNING: Rated capacity of the truck/attachment combination is a responsibility of the original truck manufacturer and may be less than that shown on the attachment nameplate. Consult the truck nameplate.



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Carriage Mount Dimension (A) ITA (ISO)



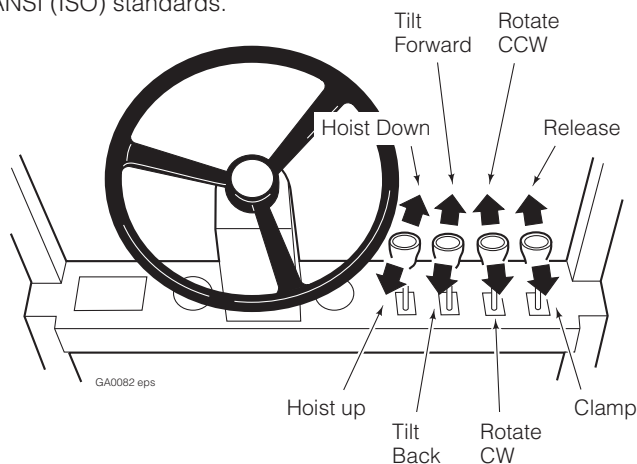
	Minimum	Maximum
Class II	14.94 in. (380.0 mm)	15.00 in. (381.0 mm)
Class III	18.68 in. (474.5 mm)	18.74 in. (476.0 mm)
Class IV	23.44 in. (595.5 mm)	23.50 in. (597.0 mm)

Carriage

Clean and inspect carriage bars for damage and smoothness. Repair any protruding welds or damaged notches.

Auxiliary Valve Functions

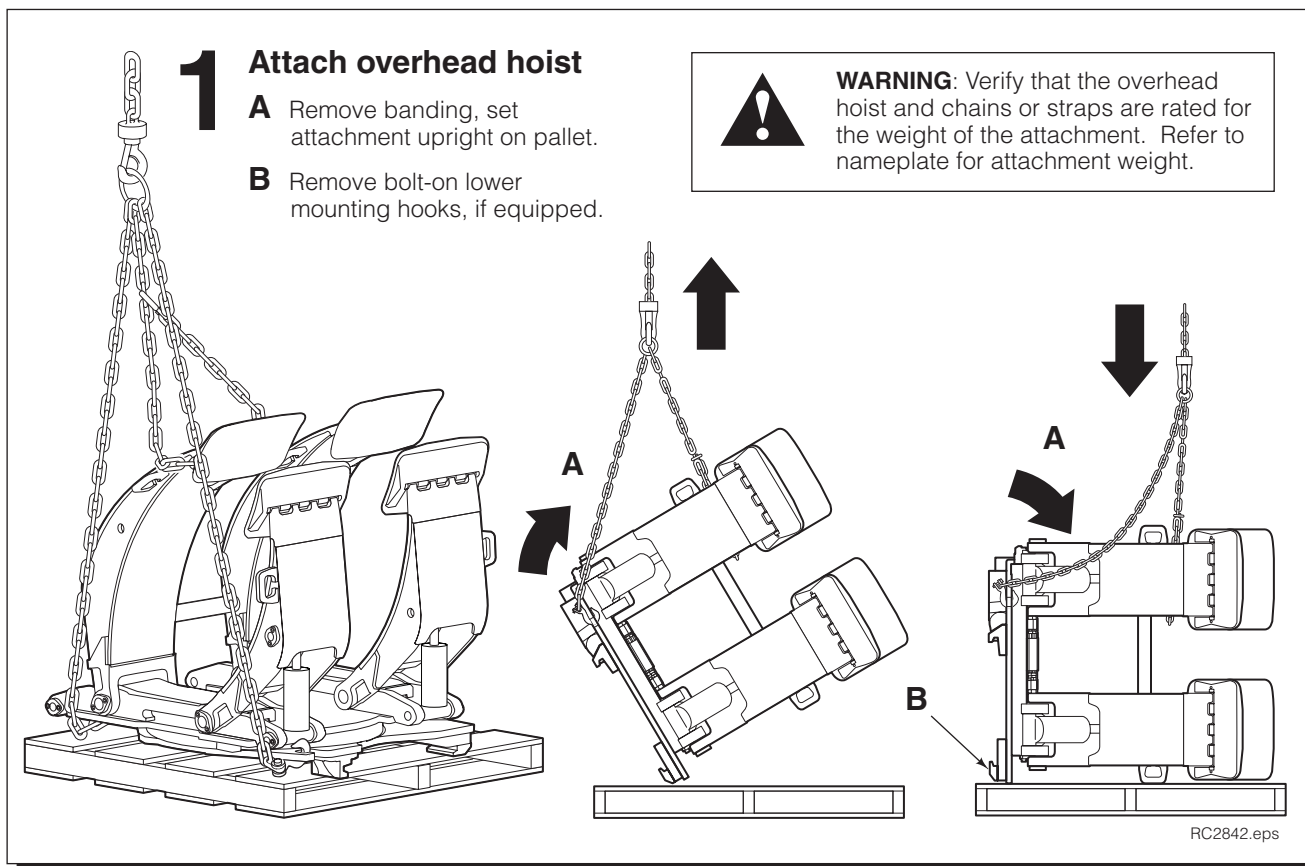
Check for compliance with ANSI (ISO) standards.



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INSTALLATION

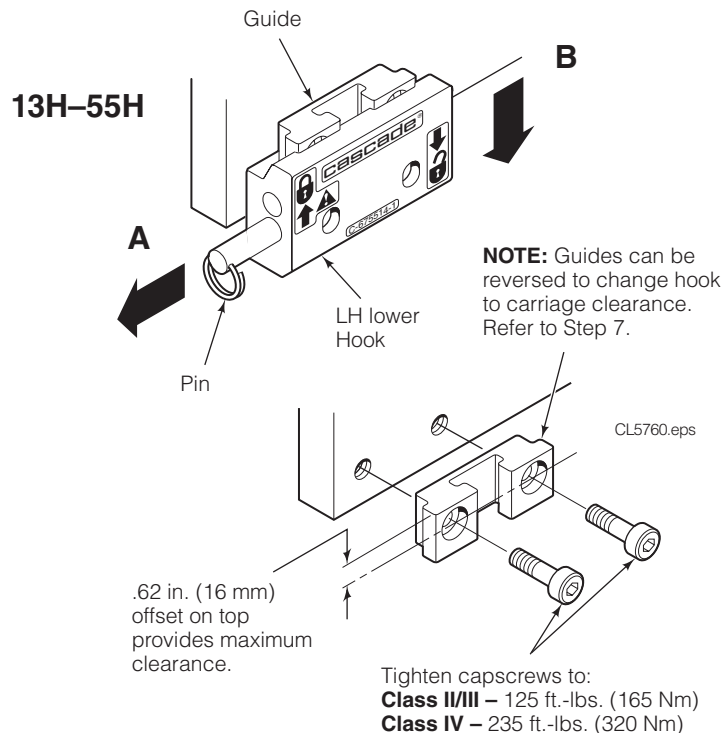
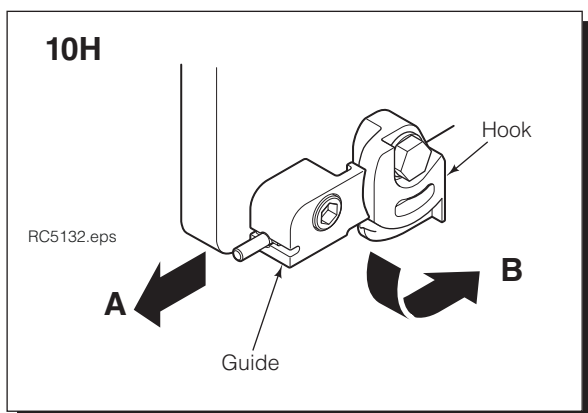
Follow the steps shown to install the attachment on the truck. Read and understand all **WARNING** statements. If a procedure is not understood, ask a supervisor, or call the nearest Cascade Service Department for assistance.



2

Unlock Quick-Change lower mounting hooks

- A** Pull pin.
- B** Move hooks into unlocked position.



3 Preparing Hoses

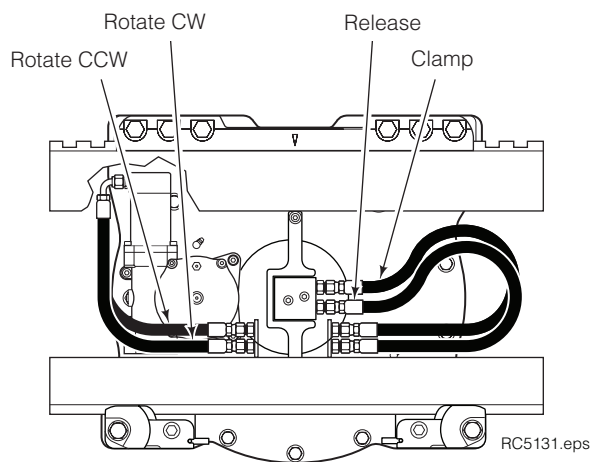
- A** Position truck carriage behind attachment.
- B** Determine hose lengths required.
- C** Cut hoses to length and install end fittings.

CAUTION: Rotate function supply circuit back pressure exceeding 500 psi (35 bar) can result in excessive oil heating, reduced attachment performance and shortened hydraulic system life. Check for restrictions such as numerous fittings and fitting/hose sizes less than No. 4 (10H), No. 6 (13H, 18H) or No. 8. (20H-55H).

CAUTION: Use No. 4 Hoses (10H), No. 6 Hoses (13H, 18H) and No. 8 Hoses (20H-55H), 2300 psi (160 bar) working pressure rated for all functions.

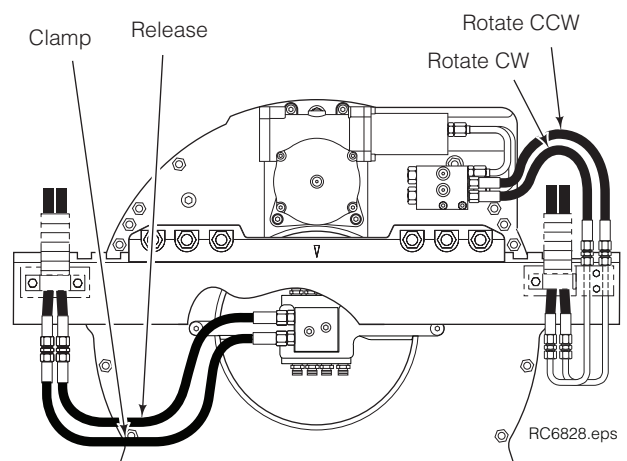
INSTALLATION USING INTERNAL REEVING:

10H



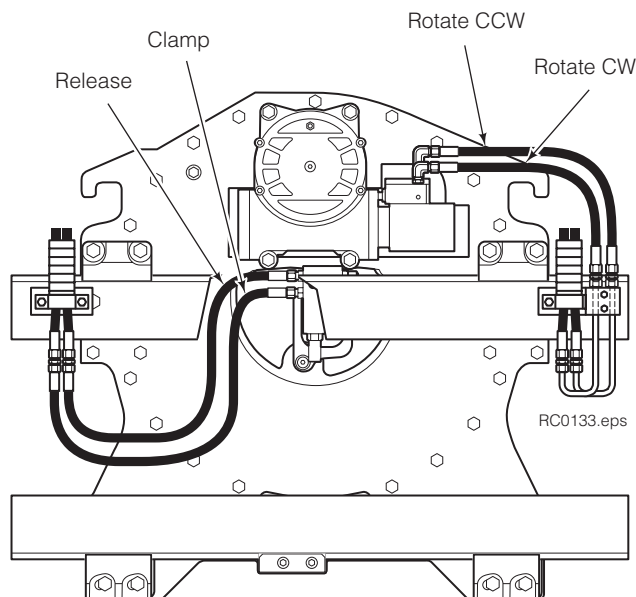
INSTALLATION USING RH & LH 2-PORT THINLINE™ HOSE REELS:

13H, 18H

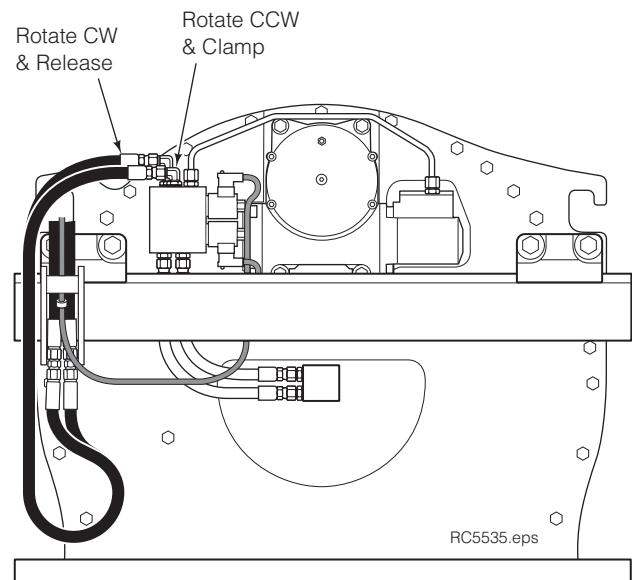


INSTALLATION USING RH & LH 2-PORT THINLINE™ HOSE REELS:

20H-46H



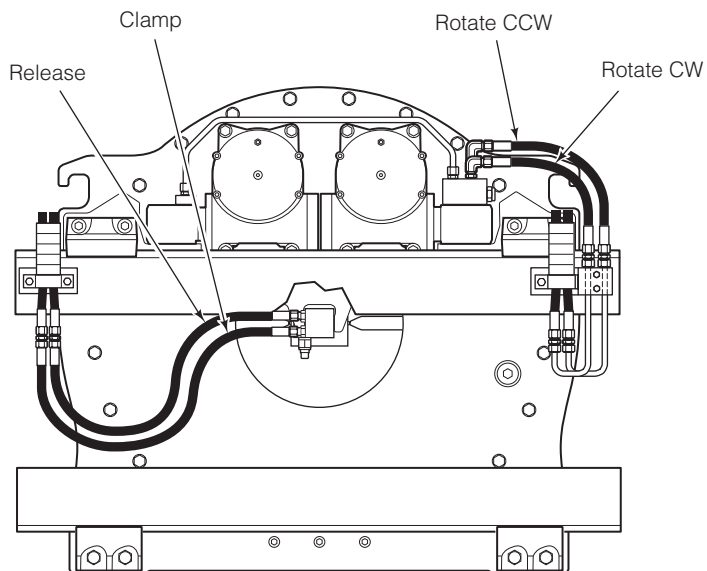
SOLENOID ADAPTION INSTALLATION USING LH 6-N-1™ CABLE HOSE REEL:



3 Preparing Hoses (continued)

INSTALLATION USING RH & LH 2-PORT
THINLINE™ HOSE REELS:

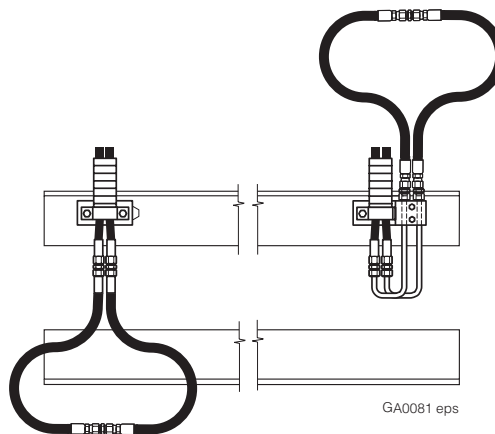
55H



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4 Flush hydraulic supply hoses

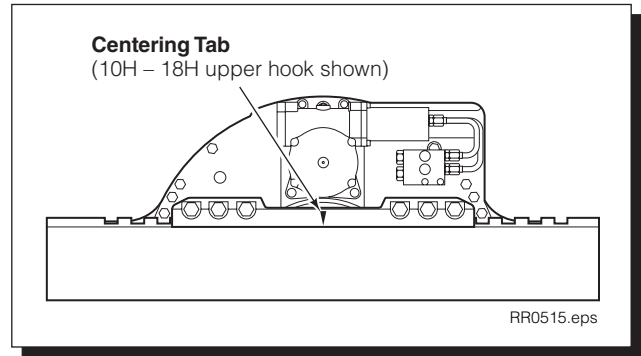
- A** Install hoses as shown.
- B** Operate auxiliary valves for 30 seconds.
- C** Remove union fittings.



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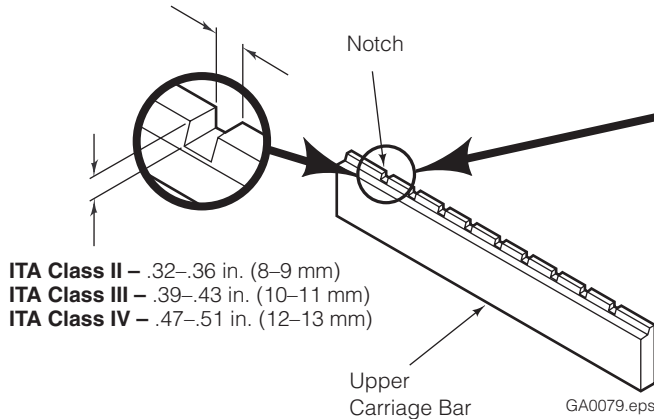
5 Mount attachment on truck carriage

- A** Center truck behind attachment.
- B** Tilt forward and raise carriage into position.
- C** Engage top mounting hooks with carriage.
10H, 13H, 18H, 25H–33H (CL III), 34H–55H
 – Make sure the centering tab engages the center notch on top carriage bar.
20H–24H (CL II/III), 25H–33H (CL II/IV) – Make sure left hook locator tab engages the closest notch on top carriage bar.
- D** Lift attachment 2 in. (5 cm) off pallet. Make sure lower index block (if equipped) engages fork slot on lower carriage bar.

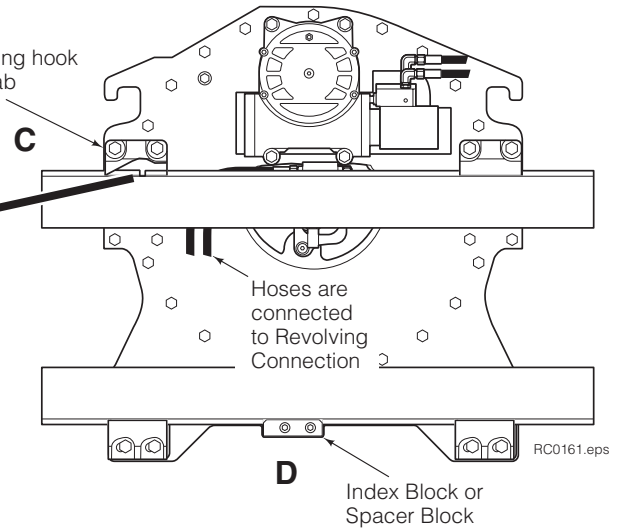


WARNING: Do not remove the locator tab from an upper hook. If required, grind a new notch into the carriage bar to accommodate the tab for centering.

ITA Class II – .60–.66 in. (15–17 mm)
 ITA Class III – .72–.78 in. (18–20 mm)
 ITA Class IV – .72–.78 in. (18–20 mm)



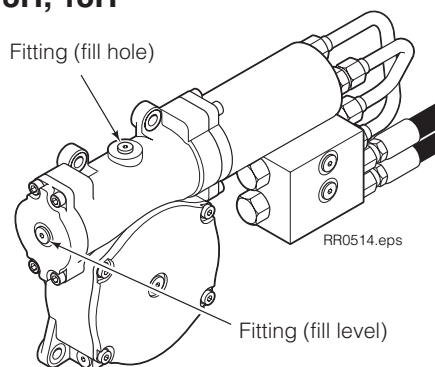
Upper mounting hook with locator tab



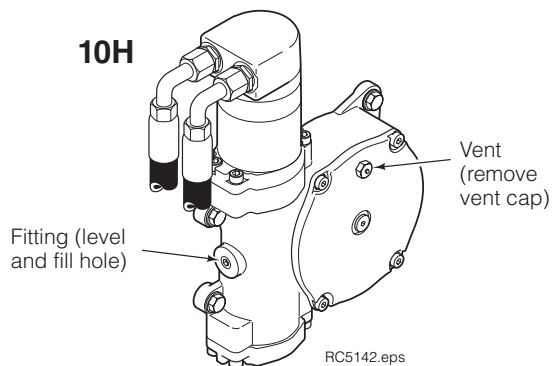
6 Remove gearbox oil level fitting, check lubricant level. Remove vent cap.

If necessary, fill gearbox with Cascade Gear Lube 656300 or equivalent SAE 90 wt. gear lube (AGMA 'mild' 6EP Gear Oil).

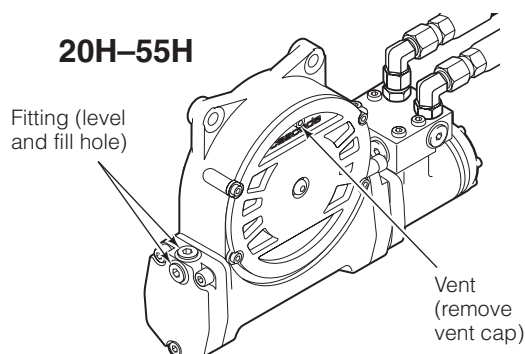
13H, 18H



10H

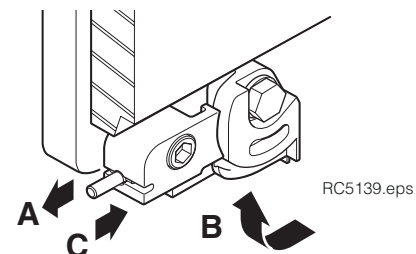


20H-55H

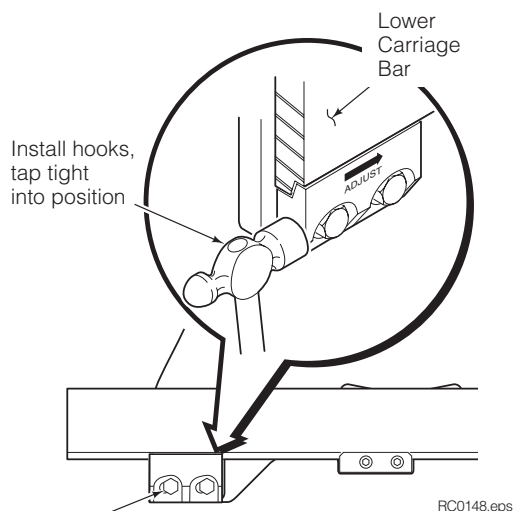


7 Install and engage lower hooks

10H
QUICK-CHANGE
TYPE (OPTIONAL)

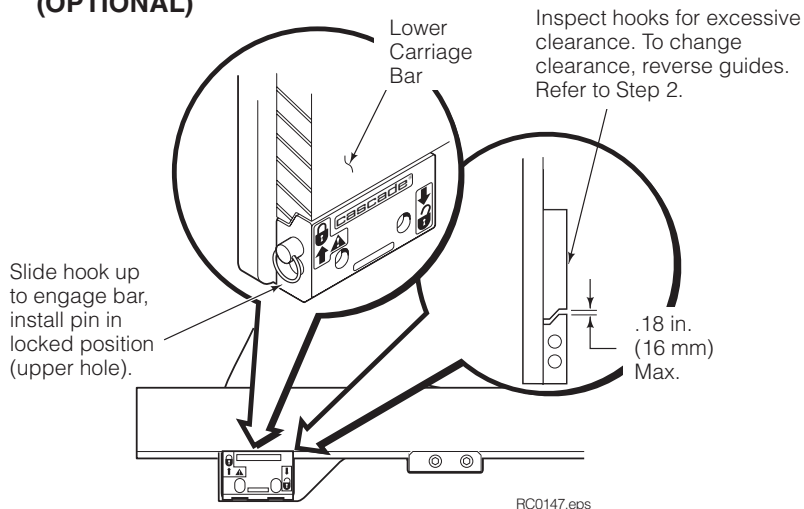


10H-55H
BOLT-ON TYPE



Tighten capscrews to:
Class II/III – 125 ft.-lbs. (165 Nm)
Class IV – 235 ft.-lbs. (320 Nm)

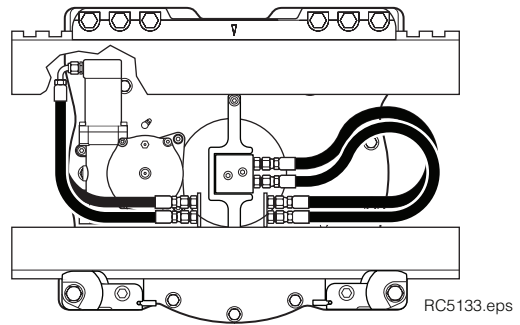
13H-46H
QUICK-CHANGE TYPE
(OPTIONAL)



8 Connect hoses to carriage hose terminal fittings

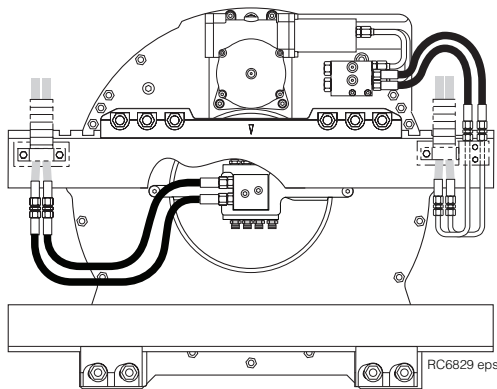
INSTALLATION USING INTERNAL HOSE REEVEING:

10H

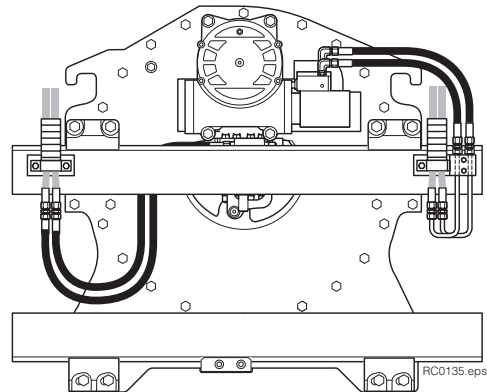


INSTALLATION USING RH & LH 2-PORT THINLINE™ HOSE REELS:

13H, 18H



20H–55H



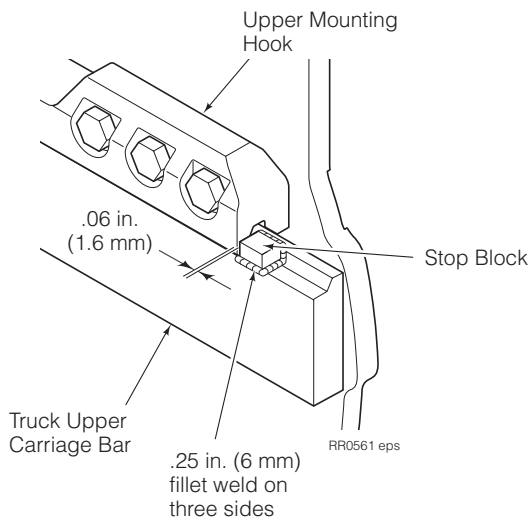
Back (Driver's) Views

9 Install stop block kit

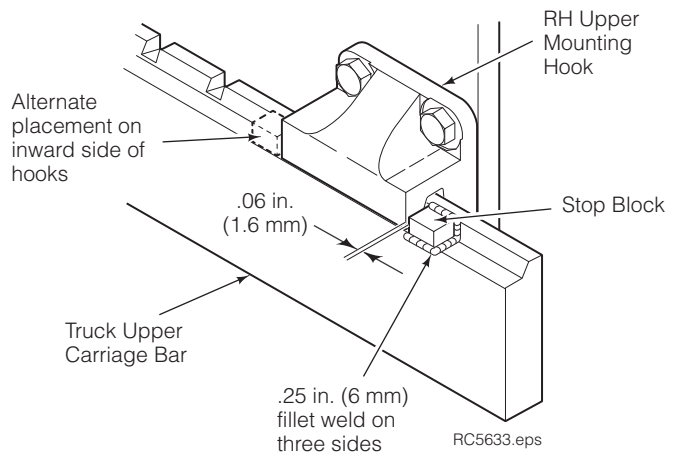
- Locate a stop block on the outward side of each upper hook. Preheat each stop block and carriage bar weld area to 325 °F (180 °C).
- Use AWS E7018 low hydrogen rod and weld a .25 in. (6 mm) fillet full length on three sides of each stop block.

NOTE: Stop blocks can be welded on the inward side of the upper hooks if carriage width is too narrow for outward placement.

10H–18H



20H–55H



10 Adjust 180° stop valve (if equipped/required)



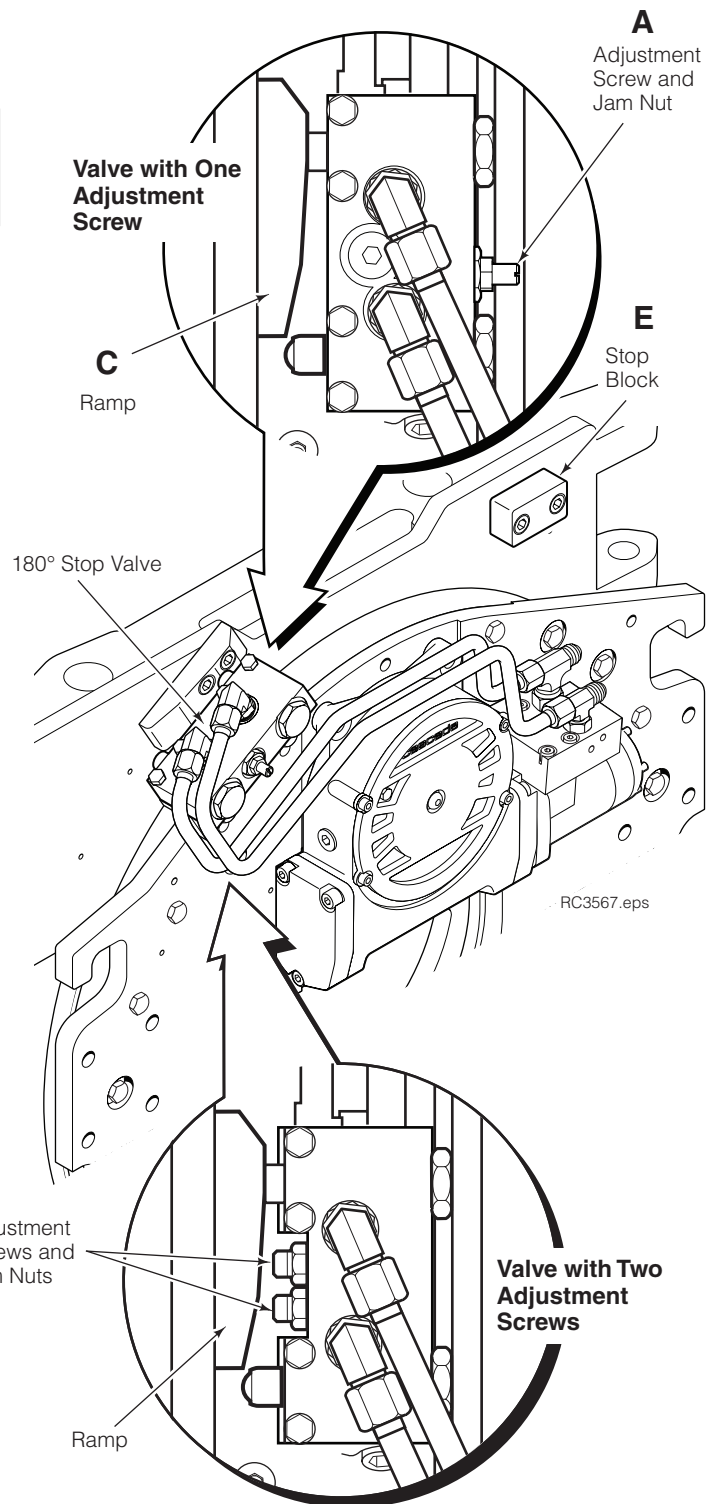
WARNING: Make sure all personnel are clear of attachment during adjustment.

A Valves with One Adjustment Screw – Loosen the jam nut on the stop valve adjustment screw and turn the screw IN (clockwise) until it stops. Back out one turn.

Valves with Two Adjustment Screws – Loosen the jam nut on the stop valve adjustment screws and turn the screws OUT (counterclockwise) until a groove marking the maximum-out position is visible. Adjustment screws should be adjusted equally.

IMPORTANT: Backing the adjustment screws out past the groove will cause hydraulic leakage.

- B** Using a load that: A) is the heaviest to be lifted, or B) requires maximum motor torque, rotate the attachment back and forth to the stops at full speed for 1–2 minutes before making adjustments. Observe whether the attachment fully completes its rotation slowly into the hard stop.
- C** If rotation does not continue into the hard stop, rotate the stop valve off the ramp and turn the adjustment screw IN (clockwise) one-eighth turn. Test for complete rotation slowly into the hard stop.
- D** Repeat Step C until the attachment fully completes its rotation slowly into the hard stop. Tighten the jam nut on the adjustment screw.
- E** Check the torque on the stop block capscrews and tighten to 80 ft.-lbs. (110 Nm), if necessary.



11 Cycle Clamp functions

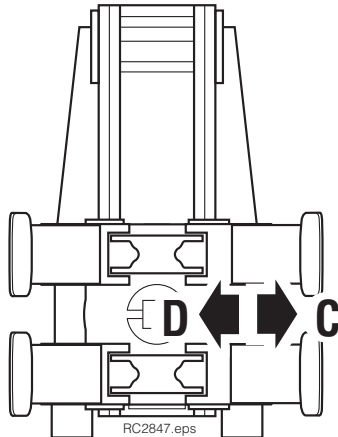
- With no load, cycle all functions several times.
- Check functions for operation in accordance with ANSI (ISO) standards.
- Clamp and rotate a maximum load, check for smoothness and normal rotation.
- Check for leaks at fittings and cylinder rod ends.



WARNING: Make sure all personnel are clear of attachment during testing.

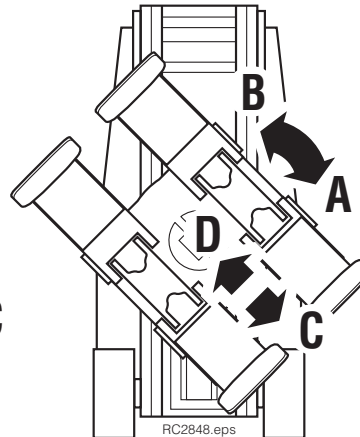
LONG ARM
(vertical & horizontal positions only)

- C** Release
D Clamp



ROTATE
(Driver's view)

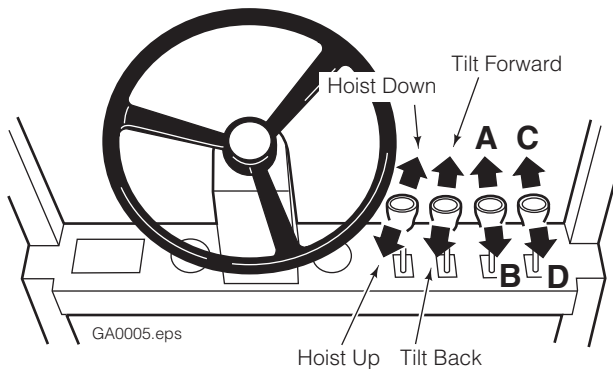
- A** Counterclockwise (CCW)
B Clockwise (CW)



SHORT ARM
(45 degree position only)

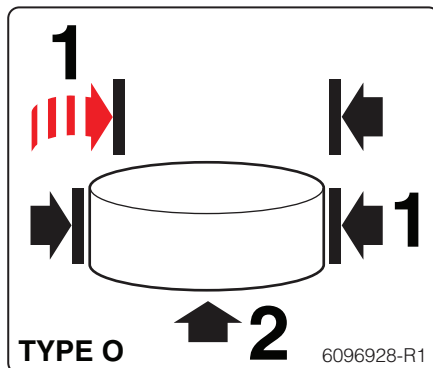
- C** Open
D Close

Auxiliary Valve Functions



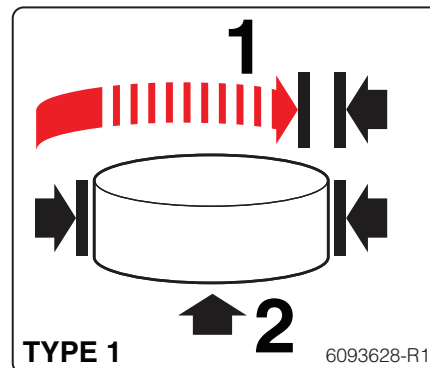
WARNING: Truck control handle and attachment function activation shown here conforms to ANSI/ITSDF B56.1 (ISO 3691) recommended practices. Failure to follow these practices may lead to serious bodily injury or property damage. End user, dealer and OEMs should review any deviation from the practices for safe operation.

The following identification decal (located on the baseplate), shows how the split-arm roll clamp functions:



Clamp force is developed without the need for the top arm to fully close.

OR



The top arm must fully close before clamp pressure is developed.

PERIODIC MAINTENANCE

10H–18H Clamps

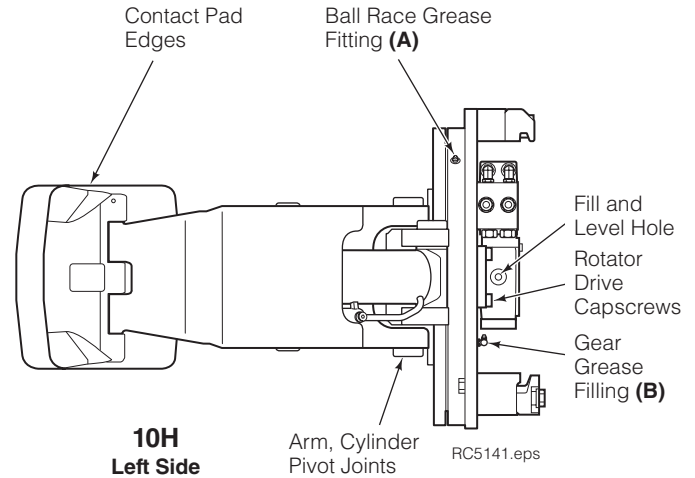
Daily Inspection

Prior to each shift of truck operation, complete the following procedures:

- Check for loose or missing bolts, worn or damaged hoses and hydraulic leaks.
- Check edges of contact pads for wear or sharp nicks that could damage or tear paper rolls. Grind edges smooth.
- Check the load-holding hydraulic system for proper functions. Cascade Clamp Force Indicators 830141 and 832442 are available for this test.
- Remove tape, glue and wrapper/paper fibers from contact pads.
- Check decals and nameplate for legibility.
- **Initial 500 Hours** – Check rotator drive gearcase lubricant level. Lubricant should be filled up to the level hole. If needed, add lubricant through the fill hole. Use Cascade Rotator Drive Lubricant, Part No. 656300 or SAE 90 wt. gear lube (AGMA 'mild' 6 EP Gear Oil). Replace the plug.



WARNING: After completing any service procedure, always test the attachment through five complete cycles. First test the attachment empty, then test with a load to make sure the attachment operates correctly before returning it to the job.



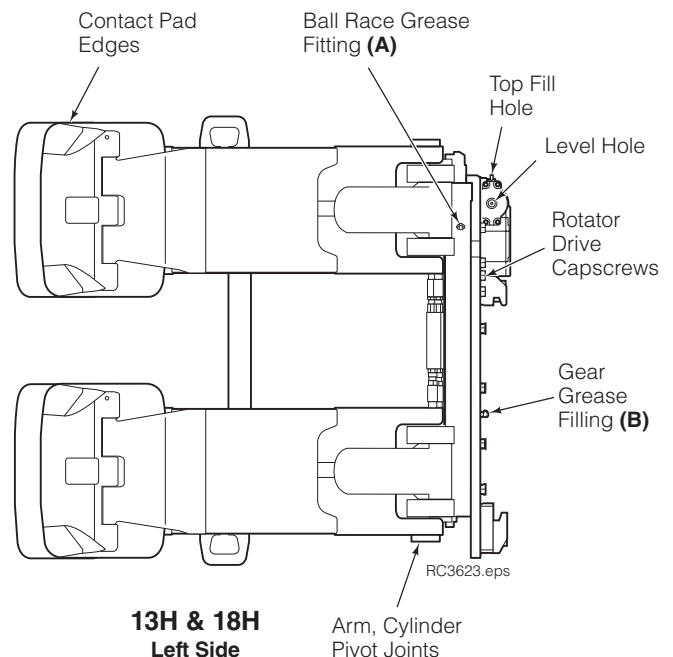
1000-Hour Maintenance

After each 1000 hours of truck operation, in addition to the Daily Inspection, perform the following procedures:

- Check the torque on the stop block capscrews and tighten to 80 ft.-lbs. (110 Nm) if necessary.
- Check a sample of baseplate rotation bearing capscrews for proper torque value. See Technical Bulletin TB183, Service Manual 6839447 (13H), Service Manual 680568 (18H) for inspection and replacement procedures.
- Check a sample of faceplate rotation bearing capscrews for proper torque value. See Technical Bulletin TB183, Service Manual 6839447 (13H), Service Manual 680568 (18H) for inspection and replacement procedures.
- Tighten lower mounting hook capscrews to 125 ft.-lbs. (165 Nm)
- Tighten rotator drive capscrews to 24 ft.-lbs. (32 Nm)
- Lubricate rotator bearing assembly ball race (A) and gear (B) with EP-2 grease. (Whitmore 'OmniTask' or equivalent). Rotate attachment in 90 degree increments and grease in each position.
- Inspect all arm, frame and cylinder pivot bushings for wear. Replace if necessary.
- Inspect all load-bearing structural welds on arms, arm pivots and cylinder pivot areas for visual cracks. Replace components as required.
- Inspect wear tile, arm tips and contact pads for wear and damage. Replace or repair, as needed.



WARNING: A sampling of rotation capscrews must be checked for proper torque at 1000 hours (see TB183). A complete inspection is required every 2000 hours. Failure to keep the capscrews tightened can result in attachment damage and serious injury.



PERIODIC MAINTENANCE

10H–18H Clamps

1000-Hour Maintenance (continued)

- Change rotator drive gearcase lubricant. Drain oil out the case drain hole. Fill through the fill hole up to the level hole. Use Cascade Rotator Drive Lubricant, Part No. 656300, or SAE 90 wt. gear lube (AGMA 'mild' 6 EP Gear Oil). Replace plug.

2000-Hour Maintenance

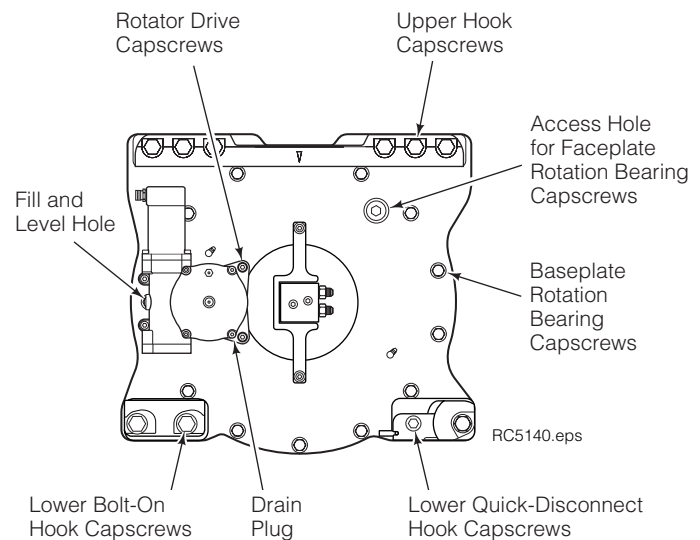
After each 2000 hours of truck operation, in addition to the Daily Inspection and 1000-hour maintenance, perform the following procedures:

- Check **all** rotation bearing capscrews for proper torque value. See Technical Bulletin TB183, Service Manual 6839447 (13H) or Service Manual 6805681 (18H) for inspection and replacement procedures.
- Inspect all arm and cylinder pivot pins for wear and replace if necessary.

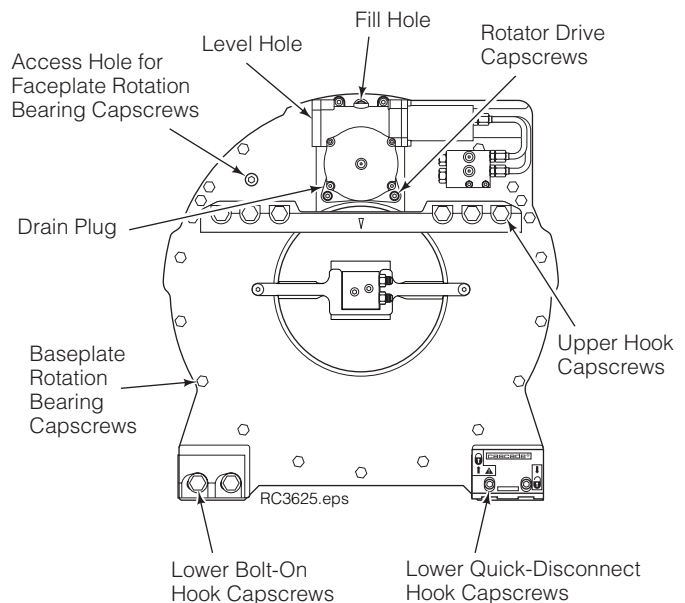
4000-Hour Maintenance

After each 4000 hours of truck operation, in addition to the Daily Inspection, 1000-hour and 2000-hour maintenance, perform the following procedures:

- Due to normal mechanical wear and component service life, cylinder seals should be replaced to maintain performance and safe operation.



10H
Back (Driver's) Side



13H & 18H
Back (Driver's) Side

PERIODIC MAINTENANCE

20H–55H Clamps

Daily Inspection

Prior to each shift of truck operation, complete the following procedures:

- Check for loose or missing bolts, worn or damaged hoses and hydraulic leaks.
- Check edges of contact pads for wear or sharp nicks that could damage or tear paper rolls. Grind edges smooth.
- Check the load-holding hydraulic system for proper functions. Cascade Clamp Force Indicators 830141 and 832442 are available for this test.
- Remove tape, glue and wrapper/paper fibers from contact pads.
- Check decals and nameplate for legibility.

1000-Hour Maintenance

After each 100 hours of truck operation, in addition to the Daily Inspection, perform the following procedures:

- Check the torque on the stop block capscrews and tighten to 80 ft.-lbs. (110 Nm) if necessary.
- Check a sample of baseplate rotation bearing capscrews for proper torque value. See Technical Bulletin TB183, Service Manual 6078255 for inspection and replacement procedures.
- Check a sample of faceplate rotation bearing capscrews for proper torque value. See Technical Bulletin TB183, Service Manual 6078255 for inspection and replacement procedures.
- Tighten lower mounting hook capscrews to:

Class II/III – 125 ft.-lbs. (165 Nm)

Class IV – 235 ft.-lbs. (320 Nm)

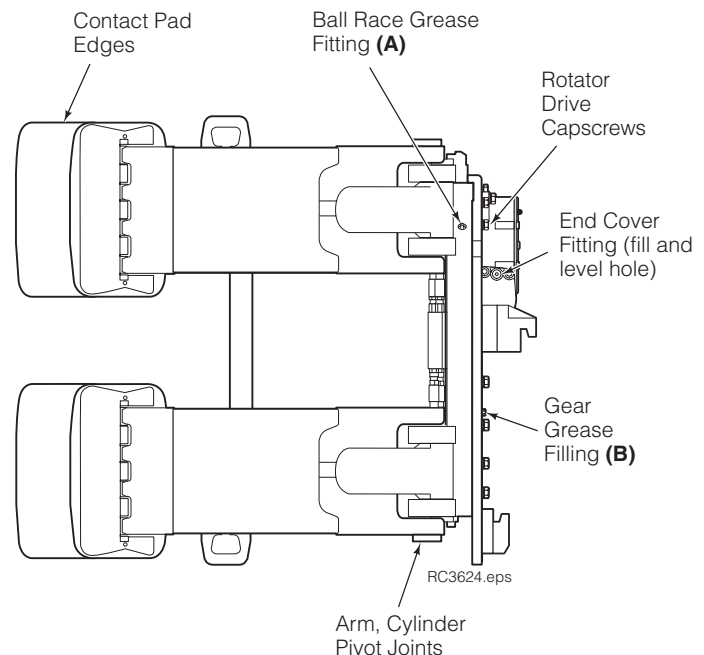
- Tighten rotator drive capscrews to 65 ft.-lbs. (88 Nm)
- Lubricate rotator bearing assembly ball race **(A)** and gear **(B)** with EP-2 grease. (Whitmore 'OmniTask' or equivalent). Rotate attachment in 90 degree increments and grease in each position.
- Check rotator drive gearcase lubricant level. Lubricant should be filled up to end cover level hole. Add lubricant through the end cover hole.

If necessary, fill with Cascade Rotator Drive Lubricant, Part No. 656300 or SAE 90 wt. gear lube (AGMA 'mild' 6 EP Gear Oil). Replace the plug.

- Inspect all arm, frame and cylinder pivot bushings for wear. Replace if necessary.
- Inspect all load-bearing structural welds on arms, arm pivots and cylinder pivot areas for visual cracks. Replace components as required.
- Inspect wear tile, arm tips and contact pads for wear and damage. Replace or repair, as needed.



WARNING: After completing any service procedure, always test the attachment through five complete cycles. First test the attachment empty, then test with a load to make sure the attachment operates correctly before returning it to the job.



WARNING: A sampling of rotation capscrews must be checked for proper torque at 1000 hours (see TB183). A complete inspection is required every 2000 hours. Failure to keep the capscrews tightened can result in attachment damage and serious injury.

PERIODIC MAINTENANCE

20H–55H Clamps

2000-Hour Maintenance

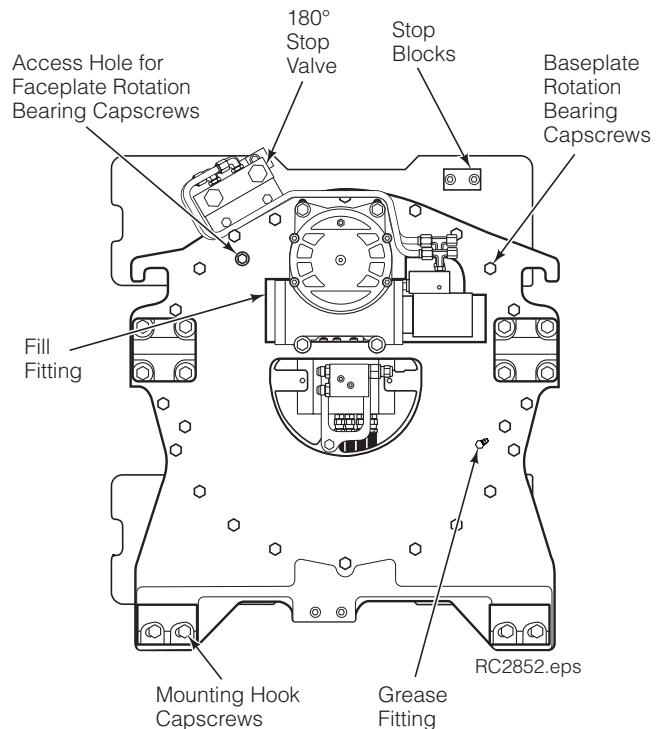
After each 2000 hours of truck operation, in addition to the Daily and 1000-hour maintenance, perform the following procedures:

- Check **all** rotation bearing capscrews for proper torque value. See Technical Bulletin TB183, Service Manual 6078255 for inspection and replacement procedures.
- Inspect all arm and cylinder pivot pins for wear and replace if necessary.

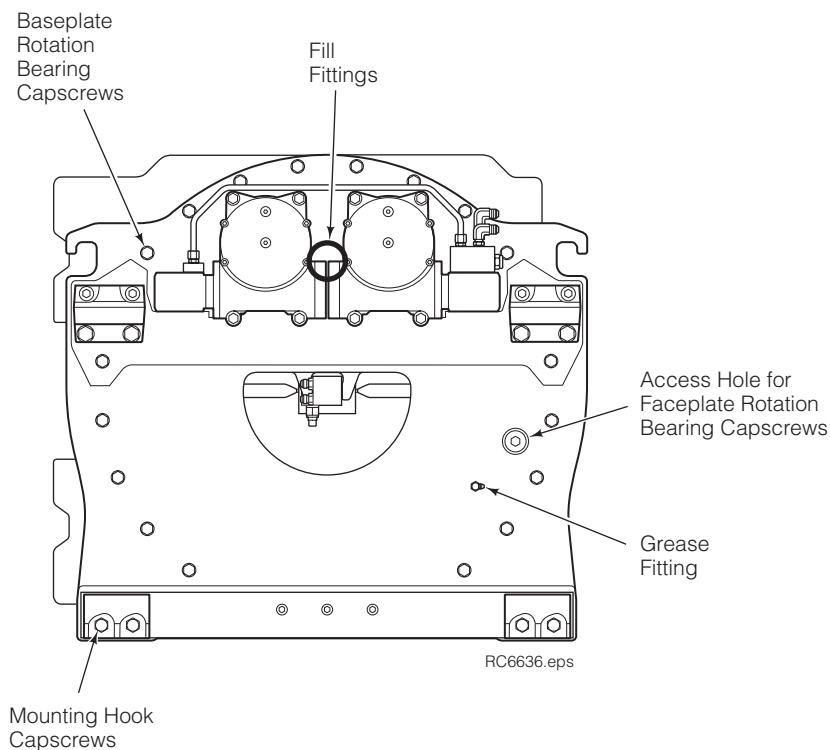
4000-Hour Maintenance

After each 4000 hours of truck operation, in addition to the Daily, 1000 and 2000-hour maintenance, perform the following procedures:

- Due to normal mechanical wear and component service life, cylinder seals should be replaced to maintain performance and safe operation.



20H-46H
Back (Driver's) Side



55H
Back (Driver's) Side

BLANK

Do you have questions you need answered right now?

Call your nearest Cascade Service Department.

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