

I **INSTALLATION INSTRUCTIONS**

and PERIODIC MAINTENANCE

G-Series

Multiple Load Handler

Manual Number 6085854-R5

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corporation

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This manual provides instructions for installing the Cascade Multiple Load Handler. Follow the suggested installation procedures for best results. If you have any questions or need more information, contact your nearest Cascade Service Department (see back cover).

Read the **WARNING** statements placed throughout this manual to emphasize safety during attachment installation.

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

INTRODUCTION

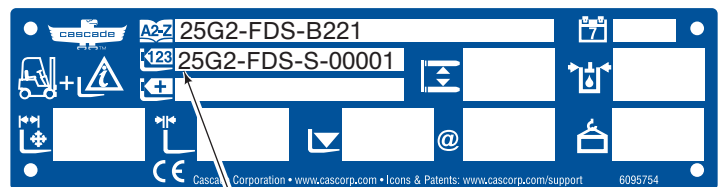
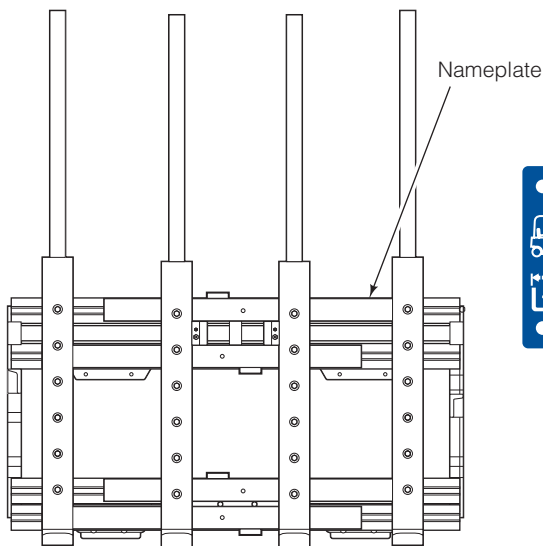
This manual provides the Installation and Periodic Maintenance for Cascade G-Series Multiple Load Handlers.

These attachments are designed for continuous-duty operations with minimal maintenance. They offer exceptional visibility for the lift truck driver and provide optimized load handling.

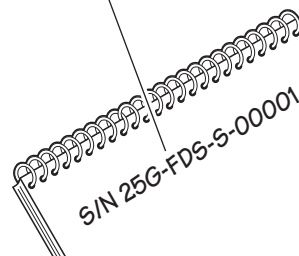
In any communication about the attachment, refer to the Product ID number stamped on the nameplate as shown. If the nameplate is missing, the numbers can be found stamped on the top left side (driver's view) of the frame.

IMPORTANT: All hoses, tubes and fittings on the attachments are SAE.

NOTE: Specifications are shown in both U.S. and (Metric) units.



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SPECIAL DEFINITIONS

The statements shown 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 provided as additional information of special significance or to make your job easier.



WARNING - A statement preceded by **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.

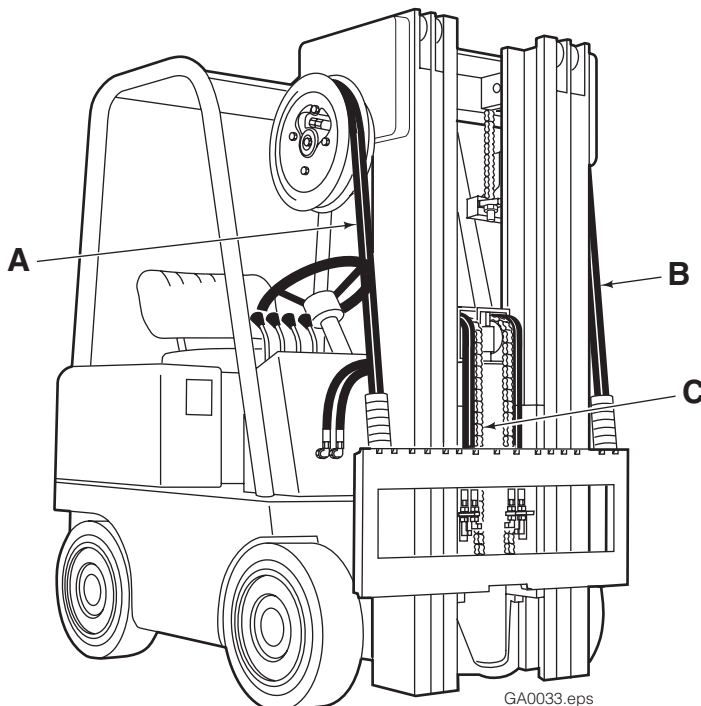
NOTE - A statement preceded by **NOTE** is information that is handy to know and may make your job easier.

RECOMMENDED HYDRAULIC SUPPLY

The G-Series Multi-Pallet Handler will operate with any of the hydraulic supply arrangements listed below.

- All hoses and fittings for FORK POSITION and SIDESHIFT functions should be at least No. 6 with a minimum internal diameter of .28 in. (7 mm).

Refer to *Cascade Hose & Cable Reel Selection Guide*, Part No. 212199, to select the correct hose reel for the mast and truck.



Non-Sideshifting

- A** RH THINLINE™ 2-Port Hose Reels
- OR**
- B** LH THINLINE™ 2-Port Hose Reels
- OR**
- C** Mast single internal hose reeving

Sideshifting

- A and B**
RH and LH THINLINE™ 2-Port Hose Reels
- OR**
- C** Mast double internal hose reeving

TRUCK REQUIREMENTS



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.

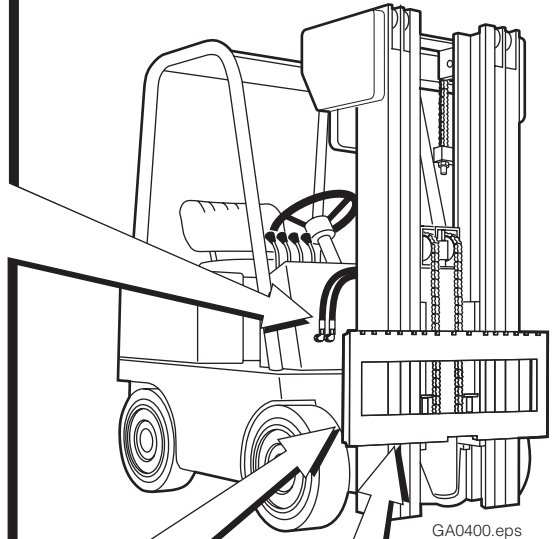
Truck Relief Setting

2600 psi (160 bar) Recommended
2900 psi (200 bar) Maximum

Truck Flow Volume ^①

	Min. ^②	Recommended	Max. ^③
12G–15G FQS	4 GPM	7 GPM	7 GPM
20G–32G FDS	(15 L/min.)	(26 L/min.)	(26 L/min.)
25G–30G FTS			
25G–FZS			
25G–46G FQS	4 GPM	10 GPM	10 GPM
36G–50G FDS	(15 L/min.)	(37 L/min.)	(37 L/min.)
36G–45G FTS			

- ① Cascade G-Series Multiple Load Handlers are compatible with SAE 10W petroleum base hydraulic fluid meeting Mil. Spec. MIL-0-5606 or MIL-0-2104B. 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 reduced or unequal arm speed.
- ③ Flow greater than maximum can result in excessive heating, reduced system performance and short hydraulic system life.



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)

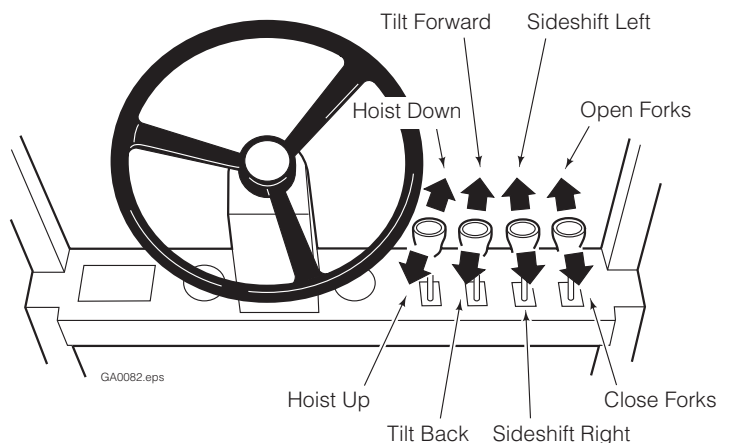
Carriage - Clean and inspect carriage bars. Make sure that bars are parallel and that the ends are flush. Grind smooth any protruding welds that may affect lower bearings. Repair any damaged notches.

Auxiliary Valve Functions

Check for compliance with ITA (ISO) standards:



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.



INSTALLATION

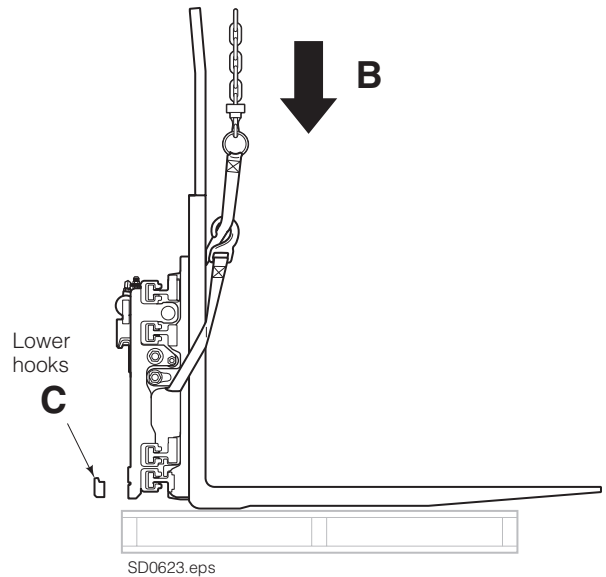
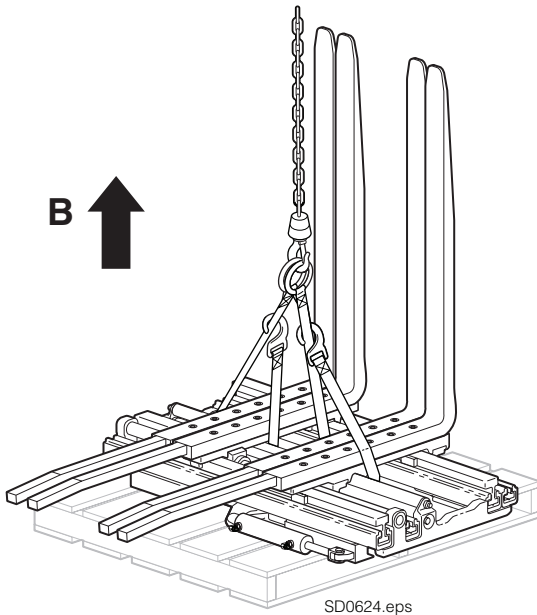
Follow the steps shown to install the Multiple Load Handler on the truck. Read all **WARNINGS** and **CAUTIONS** carefully. If you don't understand a procedure, ask your supervisor or call the nearest Cascade Service Department for assistance.

1 Attach overhead hoist

- A Remove banding.
- B Set attachment upright on pallet.
- C If equipped, remove bolt-on lower hooks.



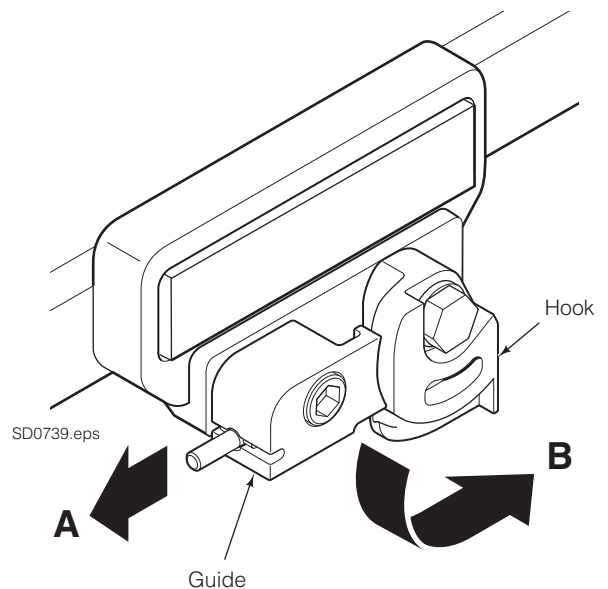
WARNING: Check the attachment weight (located on nameplate) to make sure the overhead hoist is at least the rated capacity of the attachment.



2 If equipped, unlock quick disconnect lower mounting hooks

- A Pull pin from guide.
- B Rotate hook downward.

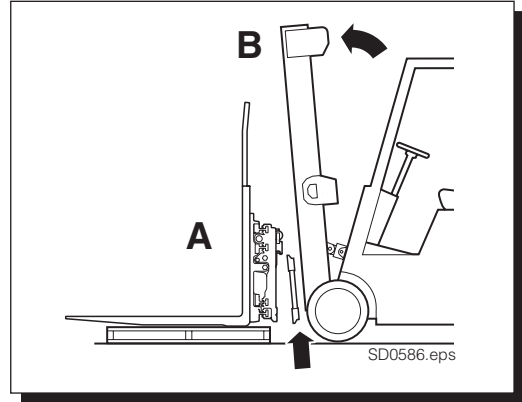
NOTE: If the hook is jammed, place a screwdriver in the pocket/recess/hole located in the bottom surface of the hook.



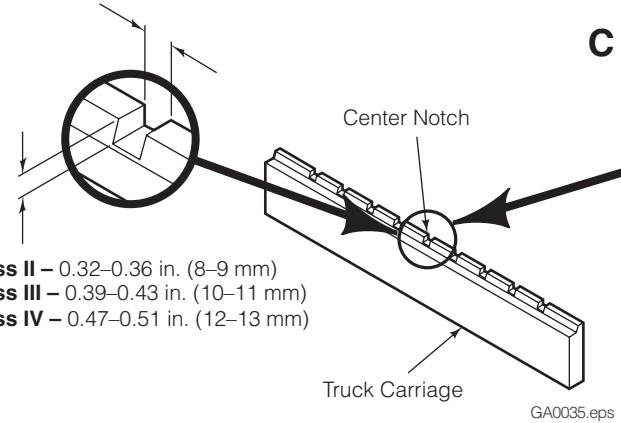
INSTALLATION

3 Mount attachment on truck carriage

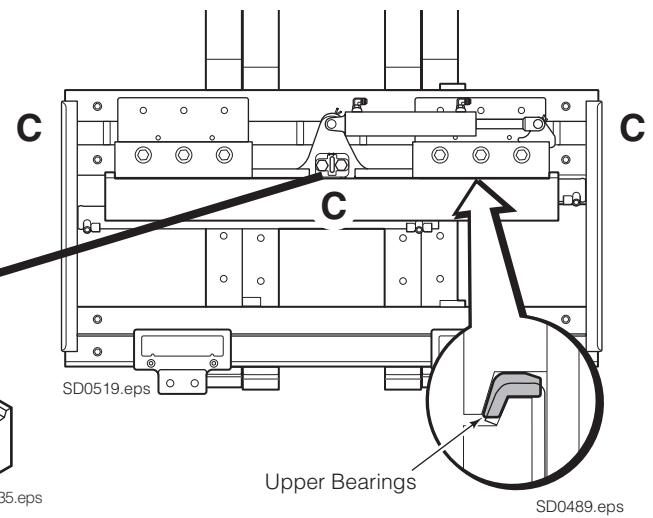
- A** Center truck behind the attachment.
- B** Tilt forward and raise carriage into position.
- C** Engage top mounting hooks with carriage. Make sure center locator tab engages center notch on top carriage bar.
- D** Lift attachment off pallet.



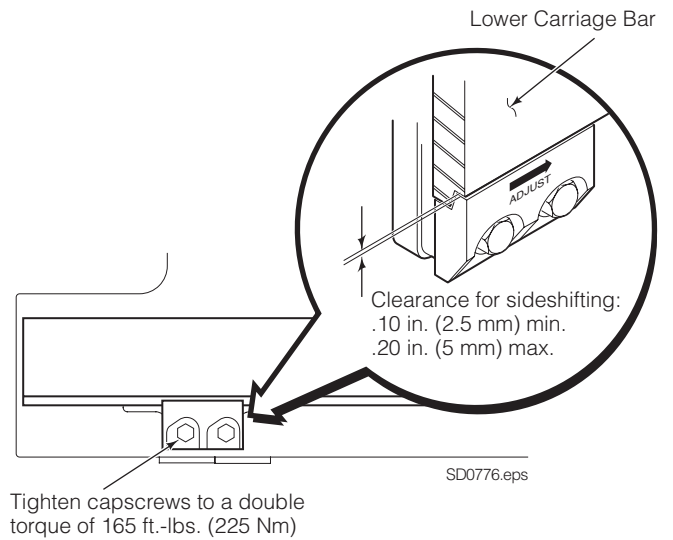
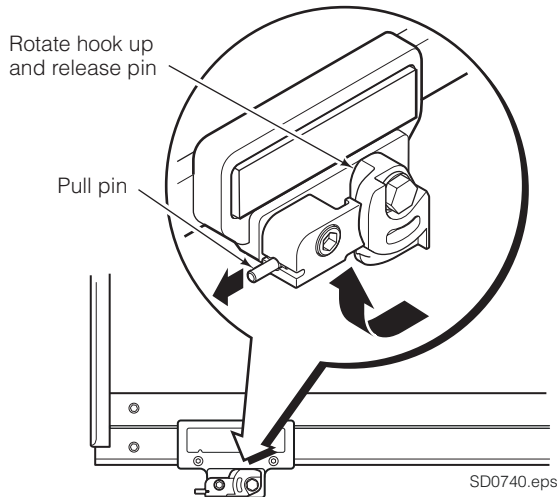
- ITA Class II** – 0.60–0.66 in. (15–17 mm)
- ITA Class III** – 0.72–0.78 in. (18–20 mm)
- ITA Class IV** – 0.72–0.78 in. (18–20 mm)



- ITA Class II** – 0.32–0.36 in. (8–9 mm)
- ITA Class III** – 0.39–0.43 in. (10–11 mm)
- ITA Class IV** – 0.47–0.51 in. (12–13 mm)

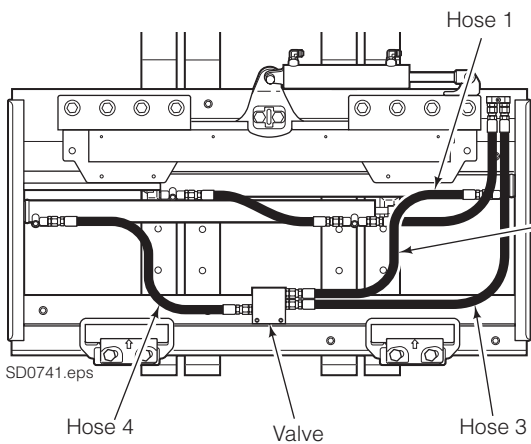


4 Install and engage lower hooks

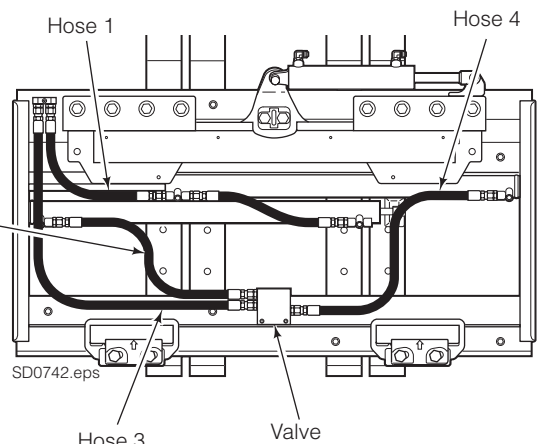


5 If required, convert to left hand fork control

- A** Disconnect hoses and label.
- B** Flip valve over. Tighten capscrews to 9 ft.-lbs. (12 Nm).
- C** Reconnect hoses as shown.



RH Hose Layout



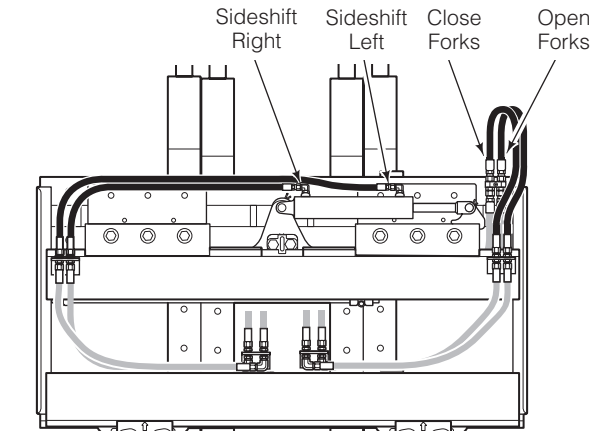
LH Hose Layout

6 Prepare hoses

- A Determine hose lengths required for hydraulic supply configuration of truck.
- B Cut hoses to length, install end fittings or quick-disconnect kits.

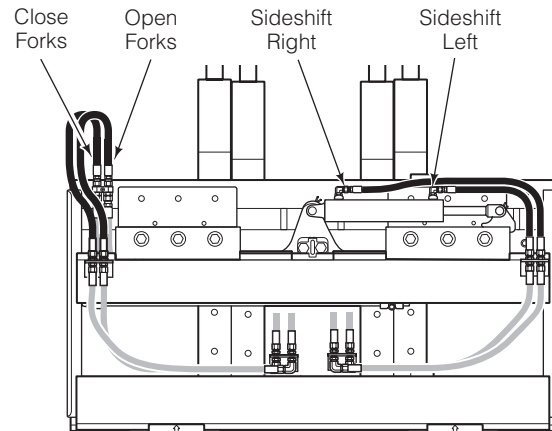
CAUTION: Allow extra hose length for sideshift movement of 4 in. (10 cm) in each direction between attachment valve and truck carriage.

RH & LH INTERNAL HOSE REEVING



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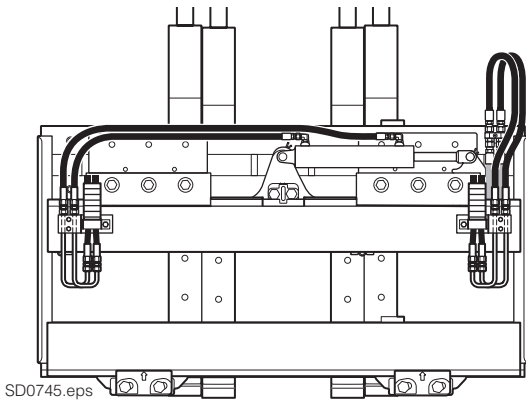
LH Sideshift, RH Fork Control



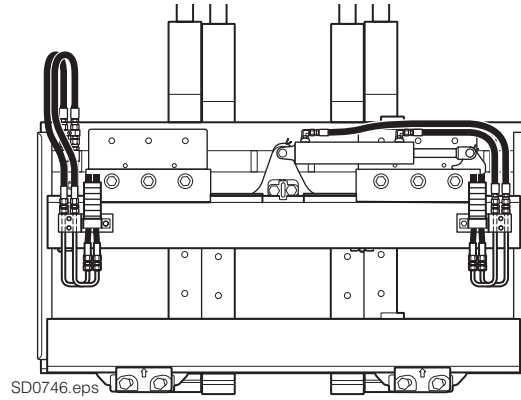
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LH Fork Control, RH Sideshift

RH & LH 2-PORT THINLINE™ HOSE REELS



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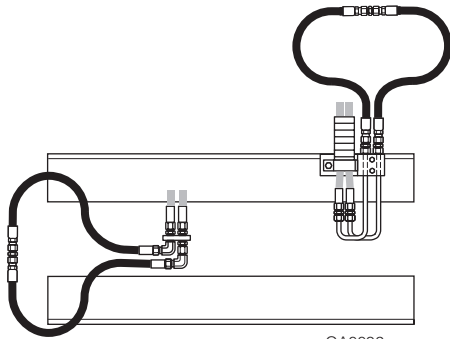


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INSTALLATION

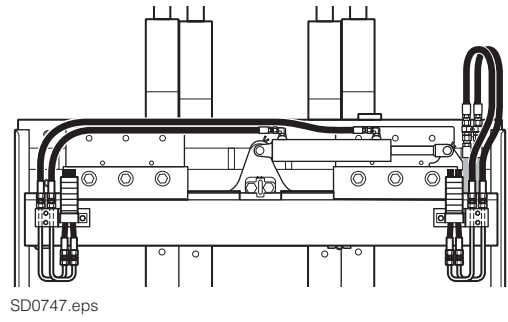
7 Flush hydraulic supply hoses

- A** Install hoses using union fittings.
- B** Operate auxiliary valves for 30 sec.
- C** Remove union fittings.



8 Connect hoses to attachment fittings

CAUTION: When removing attachment from truck, fully close the forks prior to disconnecting the supply hoses.

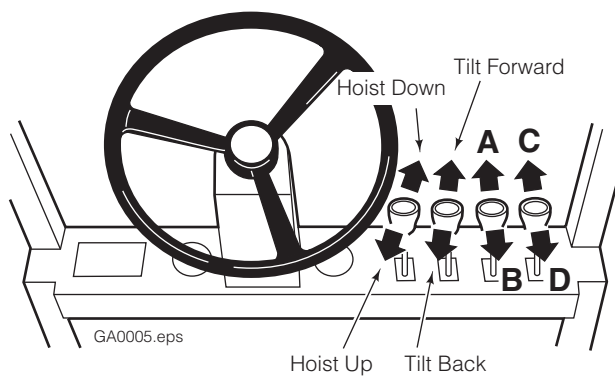


9 Check attachment functions

- With no load, cycle all attachment functions several times.
- Check for operation in accordance with ITA (ISO) standards.
- Lift a maximum load. Sideshift left and right. Check for smoothness and adequate speed.
- Check for leaks at fittings, valve, manifold and cylinders

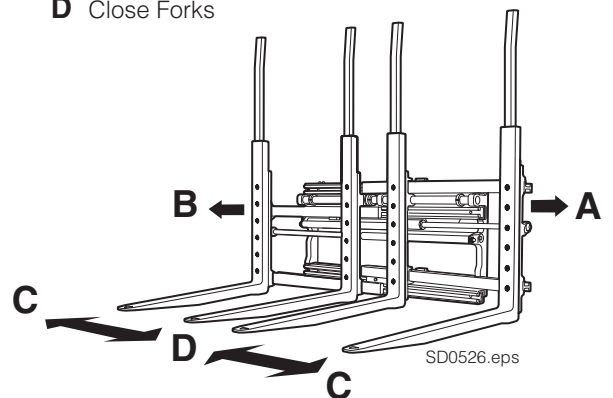


WARNING: Make sure all personnel are clear of the attachment during testing.



FORK POSITION & SIDESHIFT

- A** Sideshift Left
- B** Sideshift Right
- C** Open Forks
- D** Close Forks



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.

PERIODIC MAINTENANCE

IMPORTANT: Attachment is prelubed at the factory and lubrication is not required for installation. If required, teflon spray or light grease is recommended.

CAUTION: When removing attachment from the truck, fully close the forks prior to disconnecting the supply hoses.

Daily Inspection

Check the following items each day:

- Check for loose or missing bolts, worn or damaged hoses and hydraulic leaks.
- Inspect the cylinder rod anchors for damage. Cylinder anchors operate with a loose clearance and require no lubrication.
- Check for equal movement of the inner and outer forks.

1000-Hour Maintenance

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

- Inspect the inner and outer fork bearing surfaces for wear or damage. Lubricate with teflon spray or light grease as required.
- Apply chassis grease to the upper sideshift bearing grease fittings and lower bearing surfaces. Sideshift while applying grease to upper bearings.
- Apply chassis grease to the inner fork bearing grease fittings.
- Check the clearance between the lower mounting hooks and the truck carriage bar:

QD Hooks – 3/16 in. (4.8 mm) maximum.

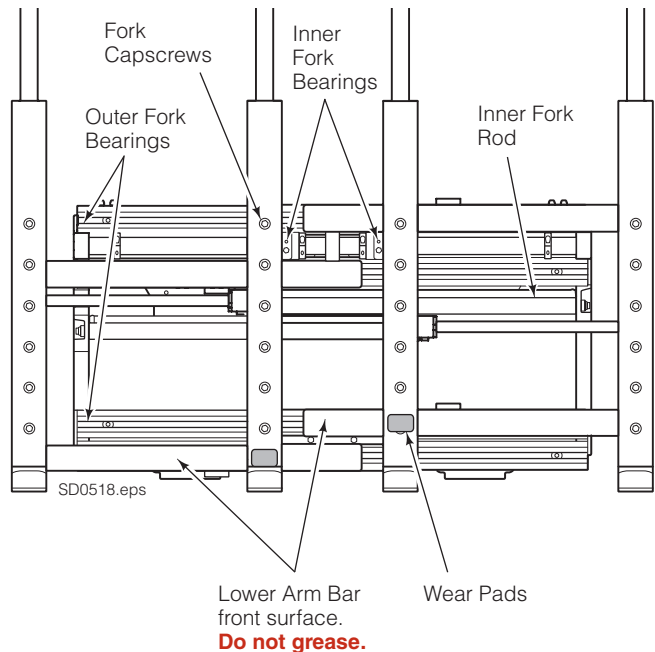
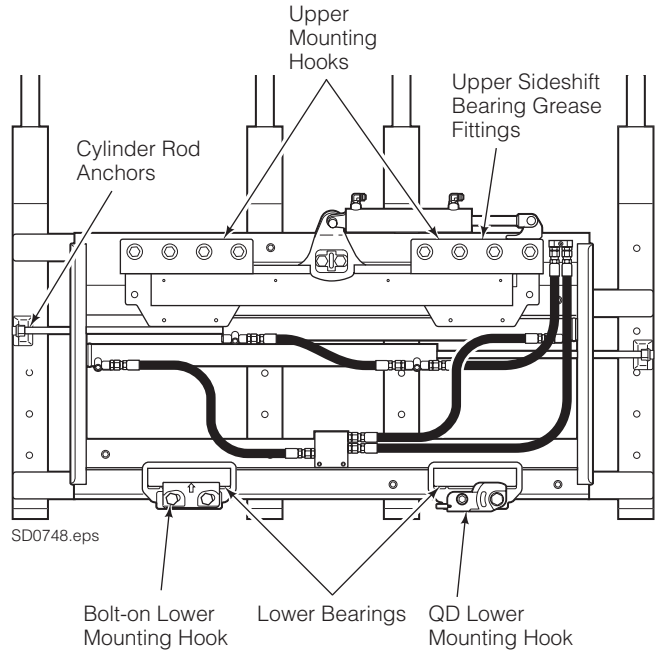
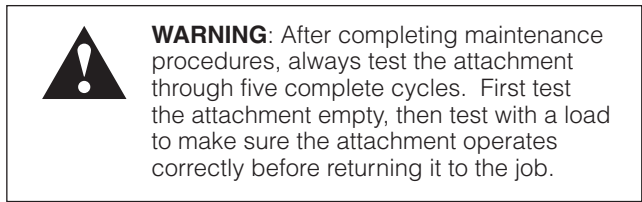
Bolt-on Hooks – .10 in. (2.5 mm) minimum
.20 in. (5 mm) maximum

If adjustment is necessary, refer to Installation Step 4. Tighten lower hook capscrews to a double torque of 166 ft.-lbs. (225 Nm).

- Inspect the inner fork springs for damage.
- Tighten fork capscrews to a double torque of 200 ft.-lbs. (270 Nm).
- Inspect the inner fork wear pads for wear. Wear pads worn to flush with the plastic carrier should be replaced.

CAUTION: Do not lubricate or paint the lower arm bar front surface that the inner fork wear pads contact. Apply arm bar rust inhibitor (part no. 6145867) to the front surface.

- Inspect upper and lower bearings for wear. If any bearing is worn to less than 3/32 in. (2.5 mm) thickness, replace the entire bearing set. See Service Manual for replacement procedure.
- G2 units with lower roller bearings: Lubricate the grease fittings with chassis grease.



2000-Hour Maintenance

After 2000 hours of truck operation, in addition to the 100, 500 and 1000-hour maintenance, forks in use shall be inspected at intervals of not more than 12 months (for single shift operations) or whenever any defect or permanent deformation is detected. Severe applications will require more frequent inspection.

Fork inspection shall be carried out by trained personnel to detect any damage that might impair safe use. Any fork that is defective shall be removed from service. Reference ANSI B56.1-2005.

Inspect for the following defects:

- Surface cracks
- Straightness of blade and shank
- Fork angle
- Difference in height of fork tips
- Positioning lock
- Wear on fork blade and shank
- Wear on fork hooks
- Legibility of marking

NOTE: Fork Safety Kit 3014162 contains wear calipers, inspection sheets and safety poster. Also available is fork hook & carriage wear gauge 209560 (Class II), 209561 (Class III) and 6104118 (Class IV).

Do you have questions you need answered right now?

Call your nearest Cascade Service Department.

Visit us online at www.cascorp.com

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