

I **INSTALLATION INSTRUCTIONS**

30E

360° Rotators

Manual Number 680043 R-1

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T RUCK REQUIREMENTS

Truck Relief Setting

Recommended 2000 psi (140) bar
 Maximum 2300 psi (160) bar

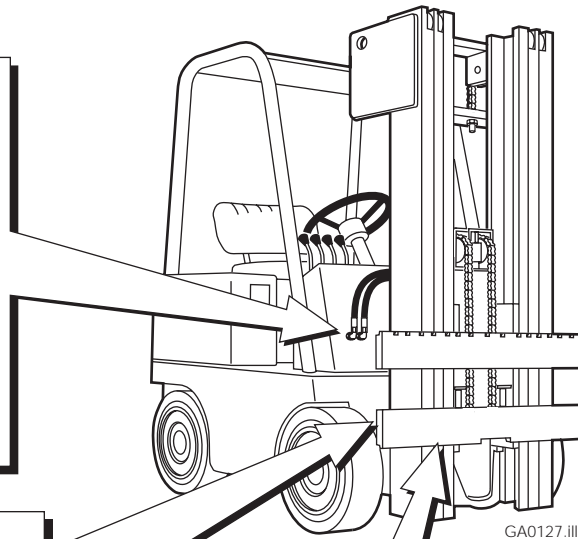
Truck Flow Volume

Minimum 5 GPM (19 L/min.) ①
 Recommended 7 GPM (26 L/min.)
 Maximum 10 GPM (37 L/min.) ②

- ① Flow less than minimum will result in a rotate speed less than 4 rpm.
 ② Flow greater than maximum can result in excessive heating, reduced system performance and short hydraulic system life.



Mounting	Dimension A-ITA (ISO)	
	Minimum	Maximum
Class II	14.96 in. (380.0 mm)	15.00 in. (381.0 mm)



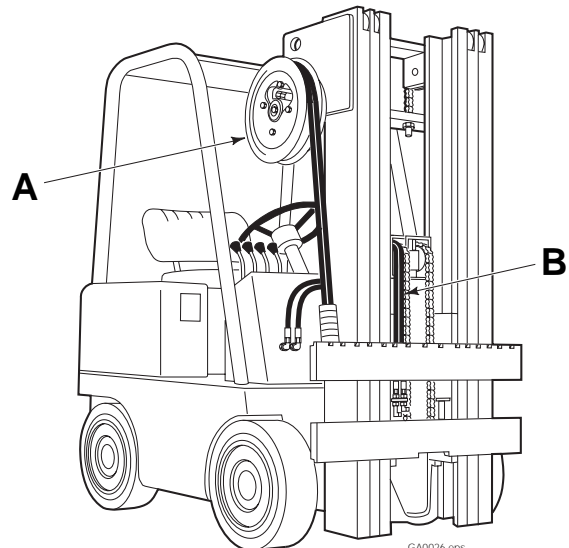
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Clean carriage bars and inspect for damaged notches.

R ECOMMENDED HYDRAULIC SUPPLY

Rotate


- A** No. 6 THINLINE™ 2-Port Hose Reel Group
OR
B No. 6 Mast Single Internal Hose Reaving

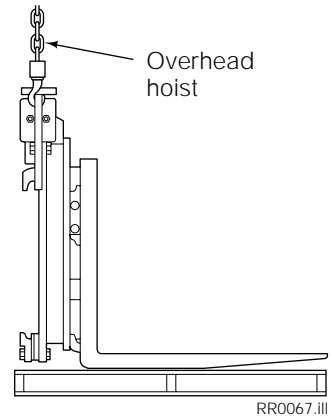


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INSTALLATION

- 1 Attach a suitable overhead hoist to the upper frame. Position the rotator as shown.

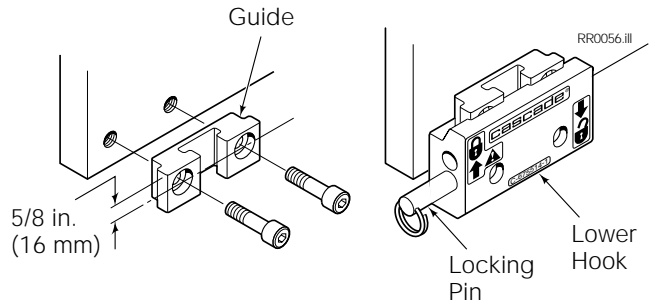
 **WARNING:** Make sure the overhead hoist has a rated capacity of at least 3500 lbs. (1600 kg.).



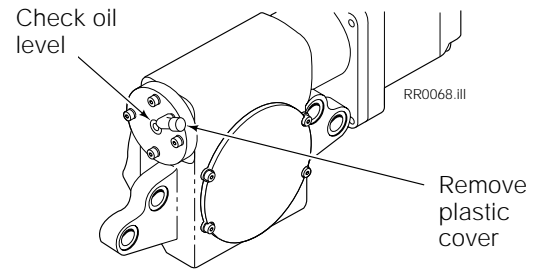
- 2 Install the Quick Change lower mounting hooks. For Bolt-On type hooks, proceed to step 3.

Quick Change Hooks—Install the guides to the baseplate mounting holes with the guide hole offset in the upward position—5/8 in. (16 mm) from top of guide to hole center. Tighten the capscrews to a torque of 105-115 ft.-lbs. (142-155 Nm).

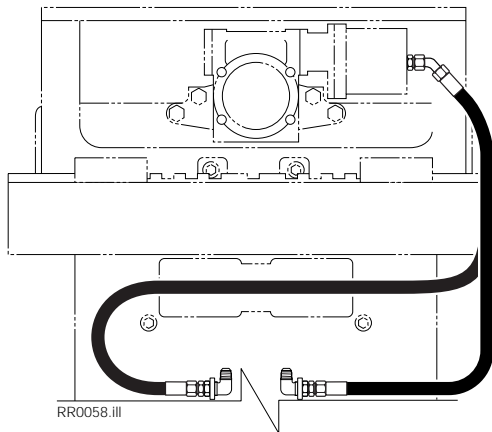
Slide the hooks over the top of the guides. Install each locking pin through the hook lower hole.



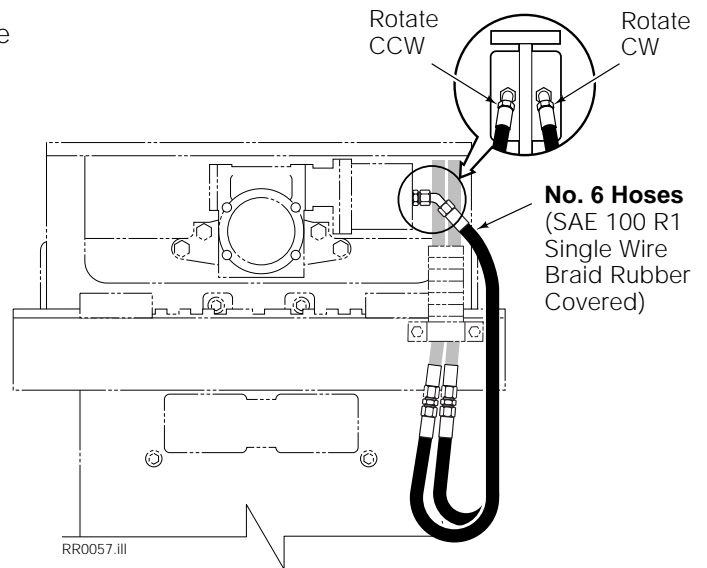
- 3 Remove the plastic cover from the drive assembly relief fitting. Check the oil level in the drive assembly. The oil level must be visible in the fill hole. Fill if necessary with Cascade Gear Lube 656300 or equivalent SAE 90 wt. lube (AGMA "mild" 6EP Gear Oil).



- 4 Determine the length of hoses required to connect between the mast internal reeving or carriage hose terminal fittings and the attachment drive motor fittings. Use Installation Kit 659245 or hoses and fittings as shown. Cut the hoses to length as required.

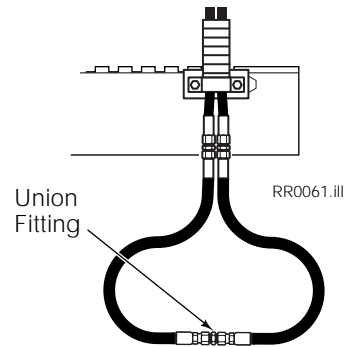


Installation using mast internal reeving



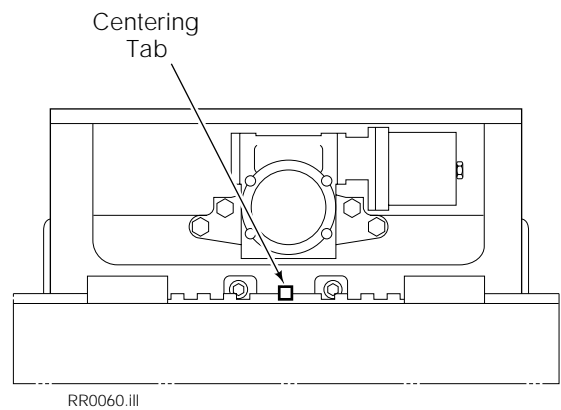
Installation using a right hand 2-Port THINLINE Hose Reel

- 5 Install the hoses to the internal reeving or hose terminal fittings. Connect the hoses together with a union fitting.
- 6 Start the truck and actuate the truck auxiliary valve in both directions for about 30 seconds to carry any debris in the hoses to the truck hydraulic tank and filter.



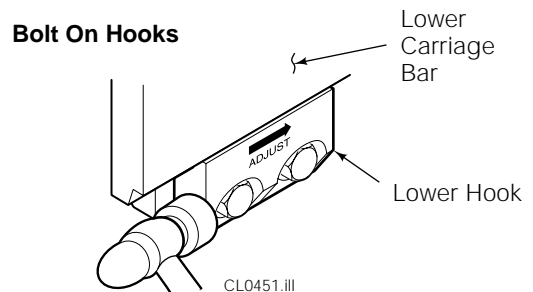
- 7 Center the lift truck behind the attachment. Engage the centering tab with the closest upper carriage bar notch. Raise the truck carriage into position behind the attachment. Lift the attachment 2 in. (5 cm) off the pallet.

NOTE: The lower hooks cannot be properly installed if the upper centering tab is not engaged in the carriage notch.



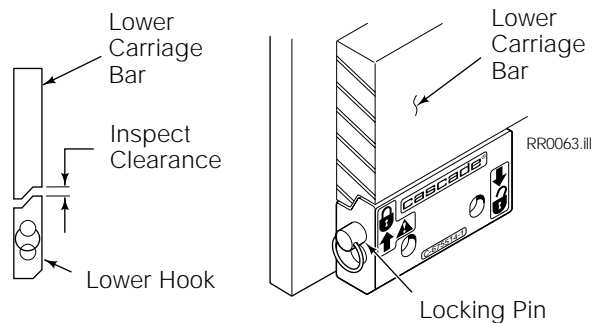
WARNING: The mounting hooks must be properly engaged with the upper carriage bar. The centering tab must be engaged in the mating notch in the upper carriage bar.

- 8 Engage the lower mounting hooks with the lower carriage bar.
- Bolt On Hooks** – Install the hooks and capscrews. Tighten the capscrews finger tight. Tap the end of the hooks with a hammer in the direction of the adjust arrow for maximum engagement with the carriage bar. Tighten the capscrews to a torque of 105-115 ft.-lbs. (142-155 Nm).



Quick Change Hooks – Remove the locking pins. Slide the hooks up to engage with the carriage bar. Install the locking pins through the upper hole.

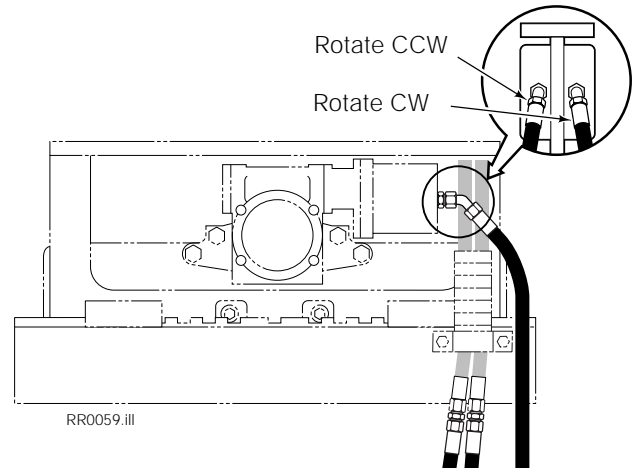
CAUTION: If the clearance between the carriage bar and hooks exceeds 3/16 in. (6 mm), the guides (refer to step 1) should be turned over and installed with the hole offset downward (5/8 in. or 16 mm from the bottom of the guide to hole center) to minimize the gap.



Quick Change Hooks

INSTALLATION

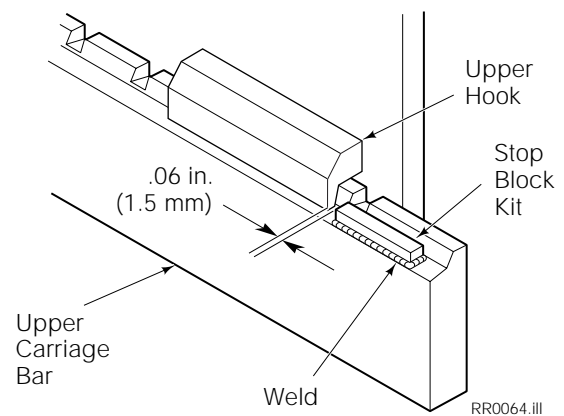
- 9** Connect the hoses to the drive motor fittings.



- 10** Install stop block kit 669344 to prevent the attachment from shifting on the truck carriage. Position each stop block on the truck upper carriage bar approximately 1/16 in. (1.5 mm) from the outward side of each upper mounting hook. If the carriage bar is not wide enough, place the stop blocks on the inward side of the hooks.

Preheat the upper carriage bar weld area and stop block to 400° F (200° C).

Use AWS E7018 low hydrogen rod and weld a 1/4 in. (6 mm) fillet as shown.

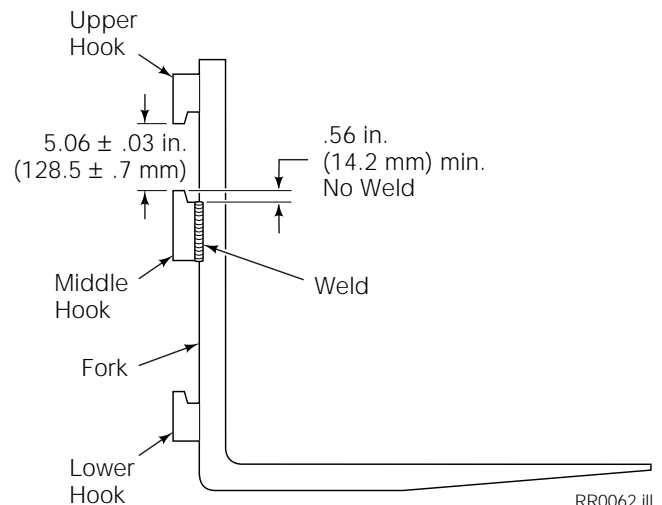


FORK MIDDLE HOOK INSTALLATION



WARNING: Each fork must have three hooks. Cascade forks for rotators are equipped with a middle hook. If the rotator is supplied without forks, middle hooks are provided. They must be welded using the following procedures.

- 1** Position the middle hook using the dimensions shown.
- 2** Mark the hook position on the fork.
- 3** Tack weld the hook to the fork using FCAW 110 T5-K3 electrode.
- 4** Weld a 3/8 in. (9 mm) fillet on all four sides of the hook using the following specifications:
 - Preheat the fork to 350° F (180° C) for 1.5 hour in an oven.
 - Weld using FCAW 110 T5-K3 electrode. Use 100% CO² shielding gas. Use voltage and amperage per manufacturers specifications.
 - Cover the weldment with an insulation blanket and slow cool.



HOW TO INSTALL AND POSITION FORKS

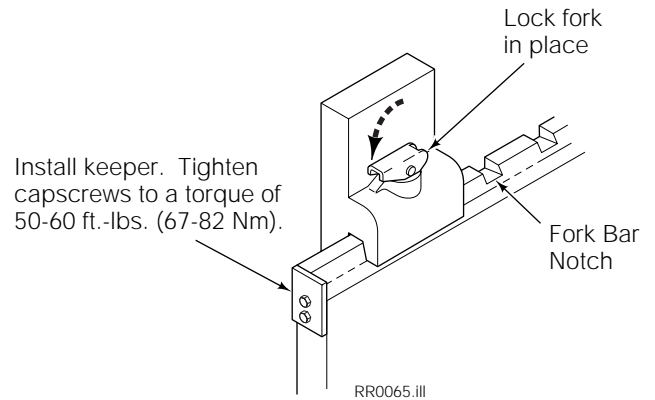
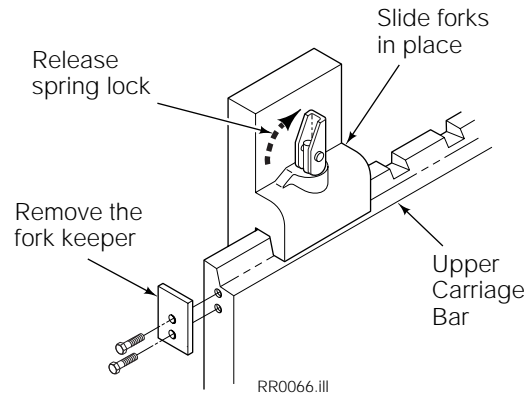


WARNING: Each fork must have three hooks. Cascade forks for rotators are equipped with a middle hook. If the rotator is supplied without forks, middle hooks are provided. They must be welded using the following procedures.

- 1 Remove the fork keeper at one end of the upper carriage bar.
- 2 Release the spring lock on the top of each fork.
- 3 Slide the forks into position on the carriage.
- 4 Lock each fork in place by pushing the spring lock lever down. Make sure the pin is engaged in the fork bar notch.
- 5 Install the fork keeper on the end of the carriage. Tighten the capscrews to a torque of 50-60 ft.-lbs. (67-82 Nm).
- 6 Removal is a reversal of installation.



WARNING: When removing the forks, handle with care to avoid dropping. The fork keeper must be in place at all times during rotator operation.

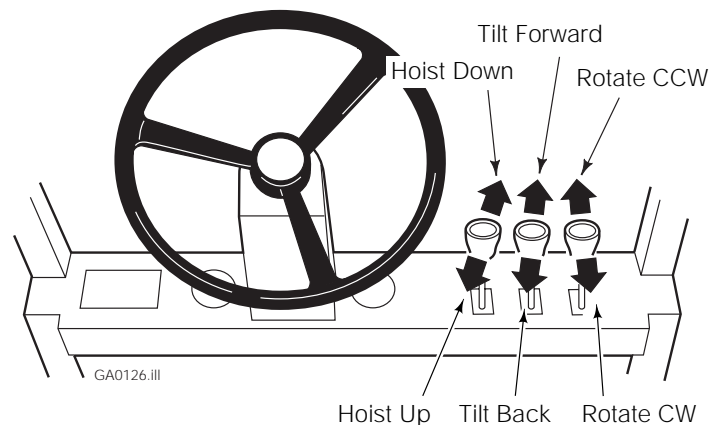


PRIOR TO OPERATION

- 1 Before picking up a load, operate the rotator through 360° in both directions to force air in the system to the truck hydraulic tank. The auxiliary valve functions should operate as shown below.
- 2 Check for external leaks at the hoses and fittings.
- 3 Pick up a maximum load and rotate in both directions. If the attachment is sluggish or does not rotate smoothly, recheck the plumbing. If the attachment still operates incorrectly, contact the Cascade Service Department listed below.



WARNING: Make sure there are no people in the vicinity of the attachment when picking up a load.



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