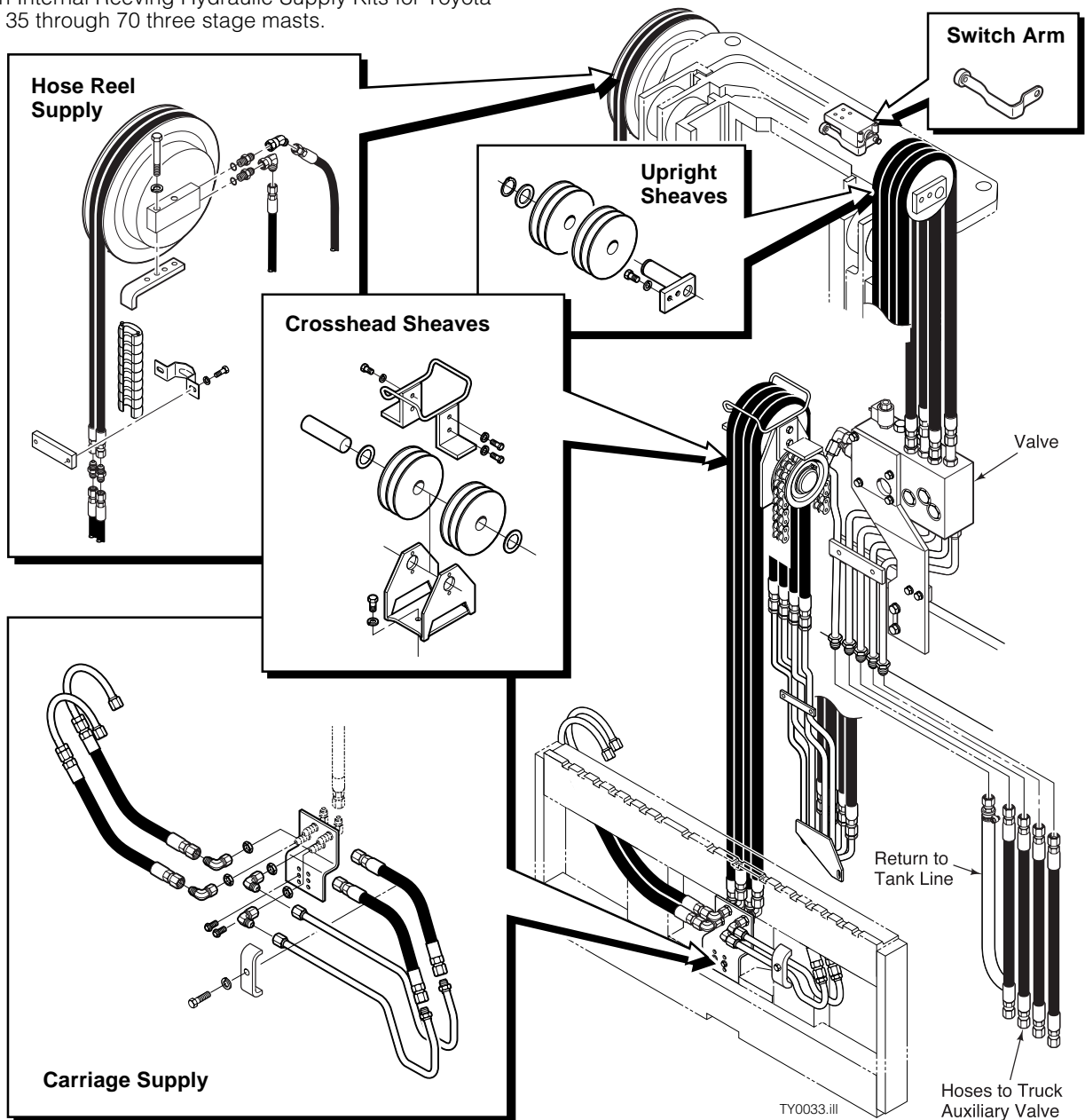




Installation Instructions

Toyota Three Function Internal Reeving Hydraulic Supply Kits

This sheet describes the installation of Cascade Three Function Internal Reeving Hydraulic Supply Kits for Toyota 7FGCU 35 through 70 three stage masts.



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For Technical Support . . .

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OR

Write: Cascade Corporation, P.O. Box 20187, Portland, OR 97294

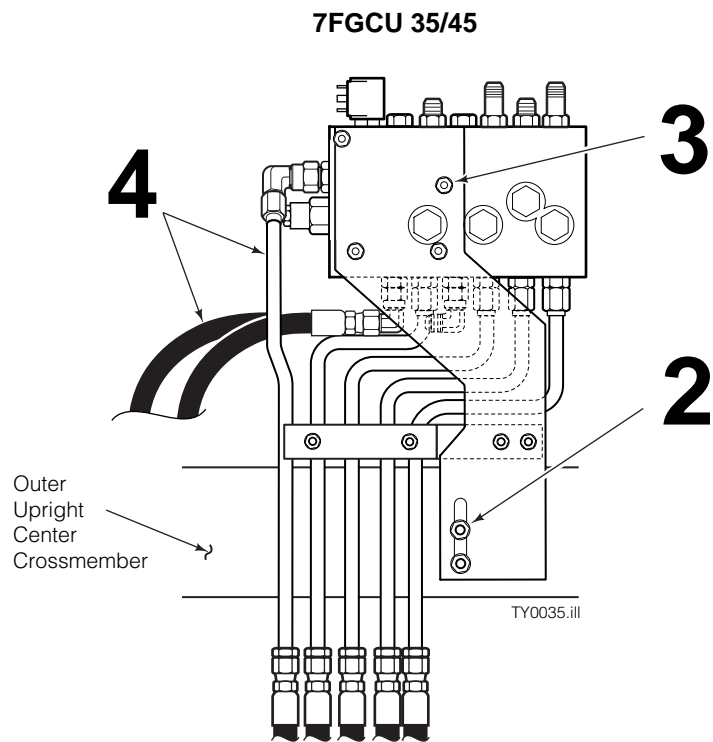
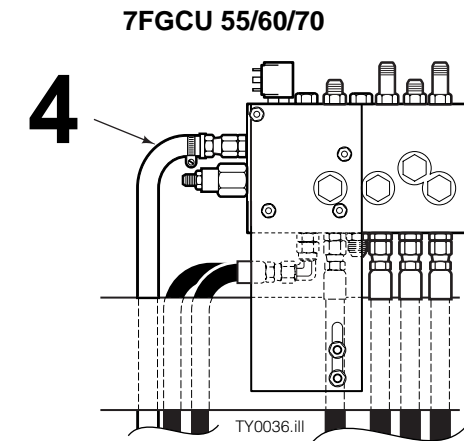
To Order Parts . . .

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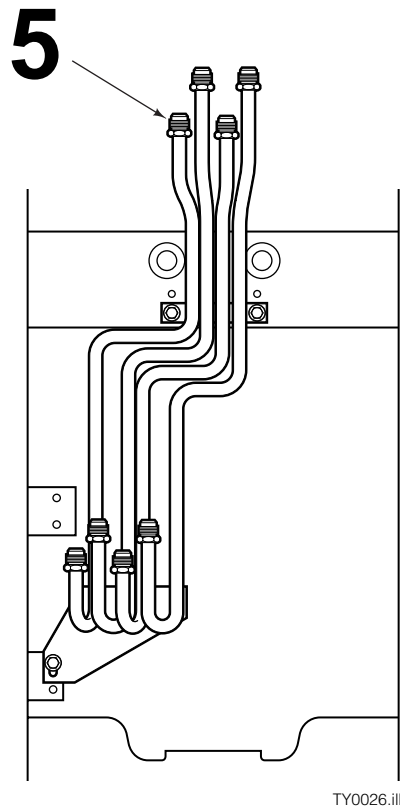
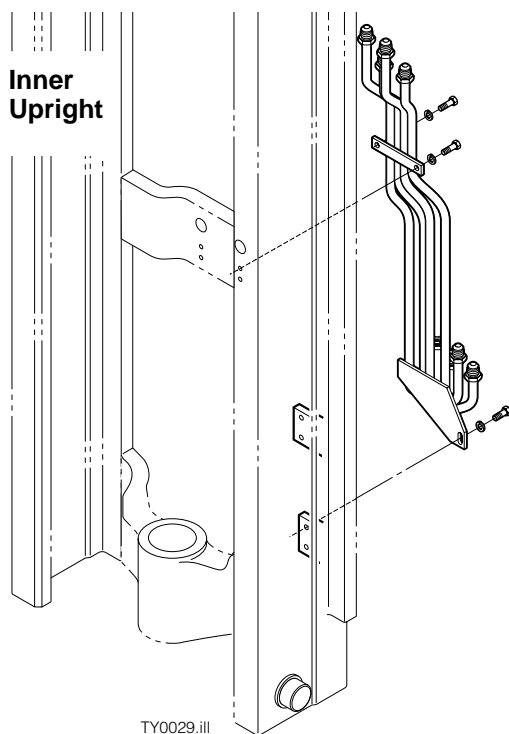
OR

Write: Cascade Corporation, 2501 Sheridan Ave., Springfield, OH 45505

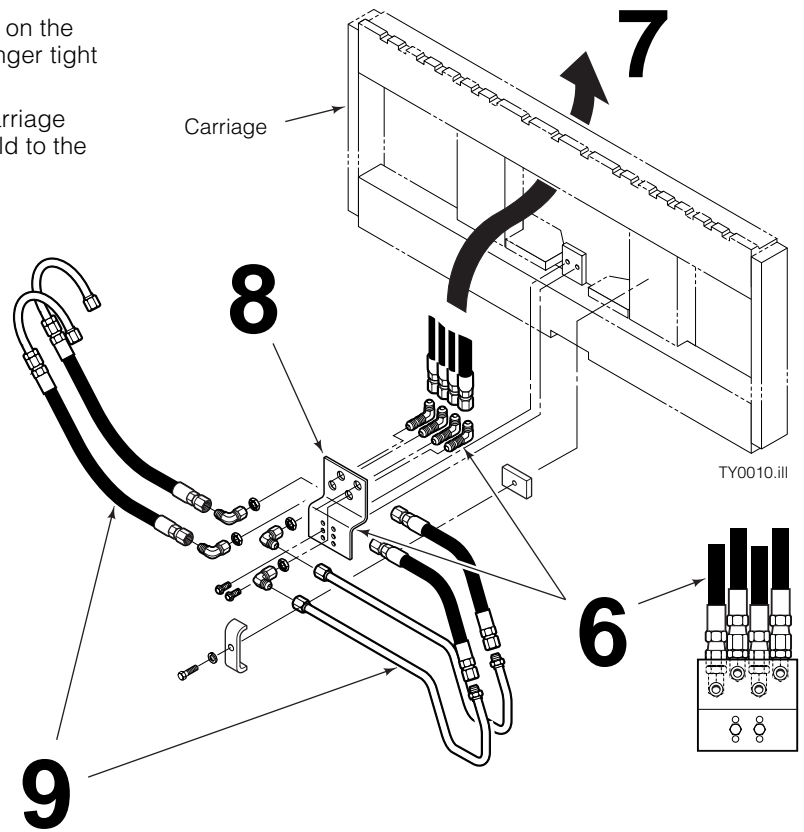
- 1 Raise the mast inner upright to gain access to the outer upright center crossmember.
- 2 Install the valve mounting plate to the front side of the outer upright center crossmember. Tighten the capscrews to a torque of 16 ft.-lbs. (22 Nm).
- 3 Install the valve to the back of the mounting plate. Tighten the capscrews to a torque of 16 ft.-lbs. (22 Nm).
- 4 **7FGCU 35/45**—Install fittings to the valve. Install tubes and hoses to the valve bottom and side No. 8 fittings. Route the tubes on the front side of the crossmember. Install No. 6 hoses to the bottom No. 6 fittings.



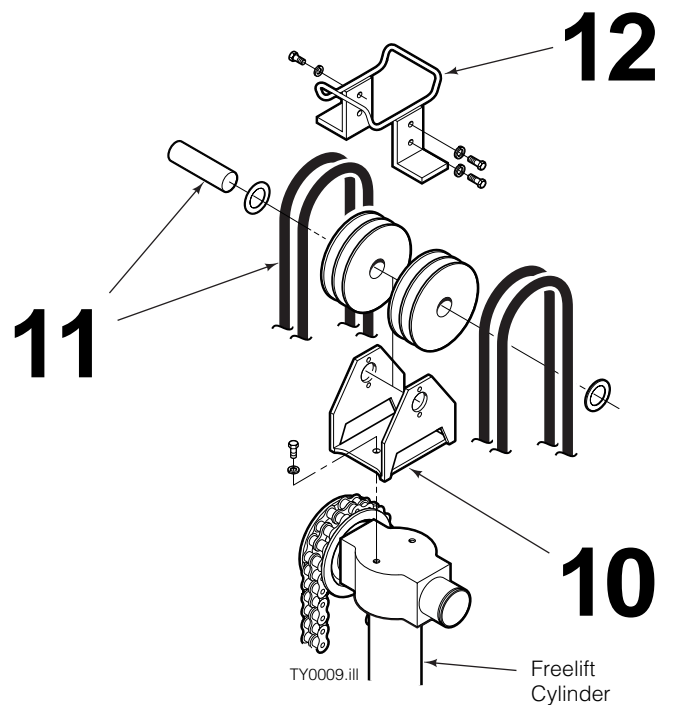
- 5 Install the tube assembly to the back of the inner upright. Tighten the capscrews to a torque of 16 ft.-lbs. (22 Nm).



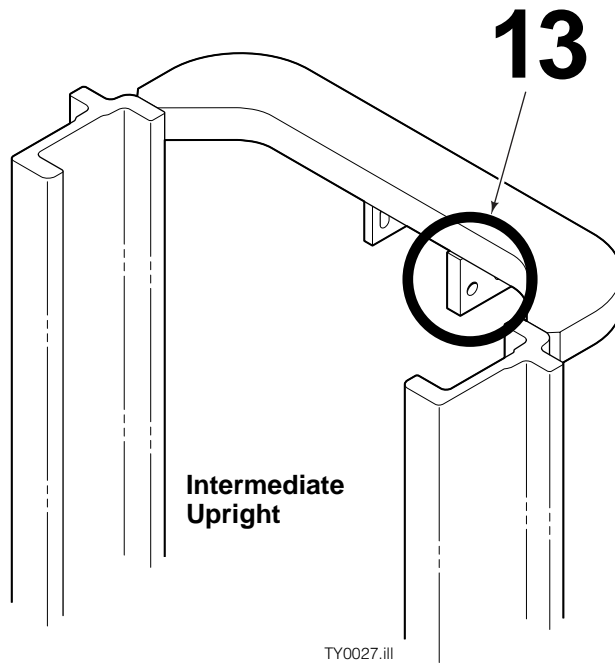
- 6** Install the bulkhead fittings to the carriage bracket. Install the hoses to the bulkhead fittings.
- 7** Route the hose ends through the carriage and up toward the cylinder crosshead.
- 8** Install the carriage bracket to the center tab on the lower carriage bar. Leave the capscrews finger tight for hose adjustment.
- 9** Install the fittings, hoses and tubes to the carriage bracket. Install the tube clamp and tack weld to the carriage.



- 10** Install the crosshead bracket to the freelif cylinder. Tighten the capscrews to a torque of 16 ft.-lbs. (22 Nm).
- 11** Install the sheaves, shaft and hoses to the crosshead bracket. Route the loose hose ends down the back side of the cylinder.
- 12** Install the crosshead guard. Tighten the capscrews to a torque of 16 ft.-lbs. (22 Nm).

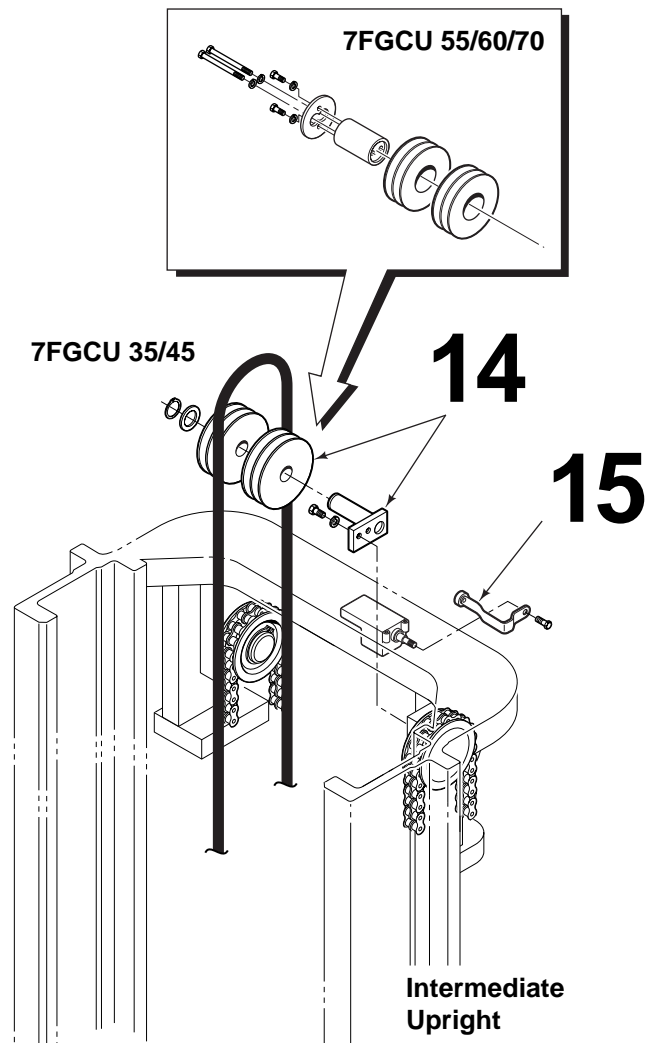


- 13** Remove the bracket from the intermediate upright if necessary to make room for the hose sheave assembly installed in the next step.

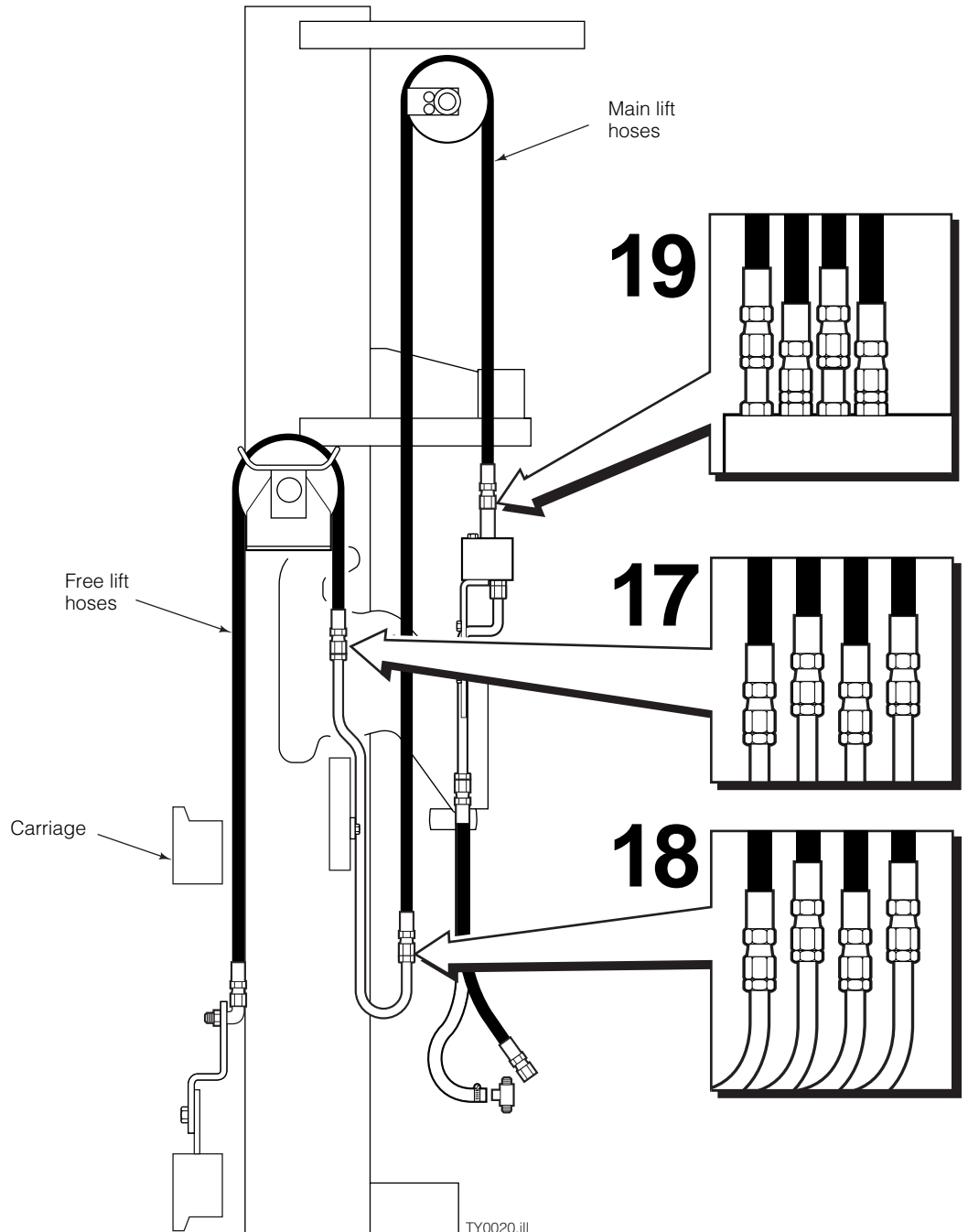


- 14** Install the hose sheave assembly and hoses to the intermediate upright chain sheave stub shaft. Tighten the capscrews to a torque of 16 ft.-lbs. (22 Nm).

- 15** Install the replacement switch arm if included in the kit.



- 16** Raise the carriage 12 in. (30 cm).
- 17** Connect the free lift hoses to the upper fittings of the tube assembly. Connect the hoses to the longer tube fittings first. Lower the carriage.
- 18** Connect the main lift hoses to the lower fittings of the tube assembly. Connect the hoses to the longer tube fittings first.
- 19** Connect the main lift hoses to the valve fittings. Connect the hoses to the shorter fittings first.

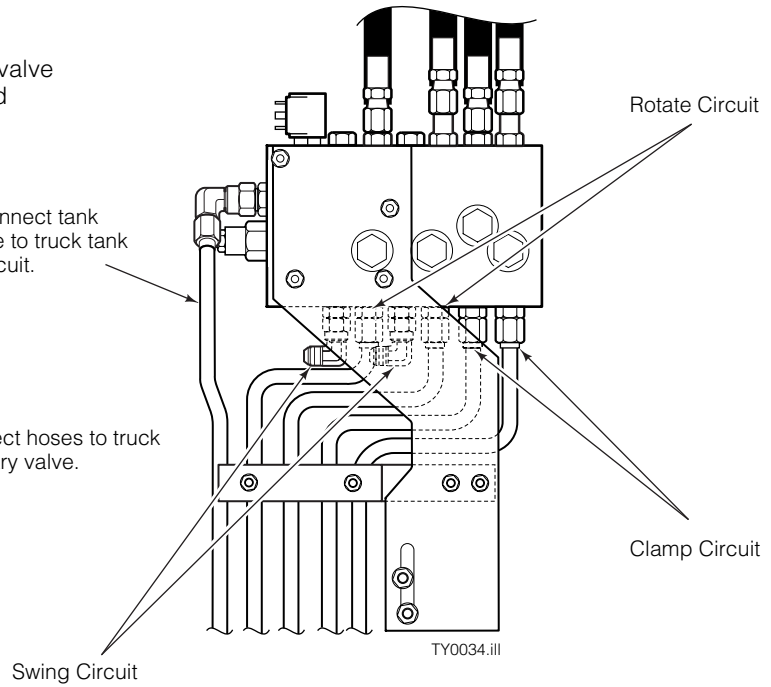


20 Install the valve tank line hose end to the truck tank circuit using the push lock tee fitting and clamps.

21 Install the No. 8 hose ends from the bottom of the valve to the truck auxiliary valve circuit for the Rotate and Clamp circuits.

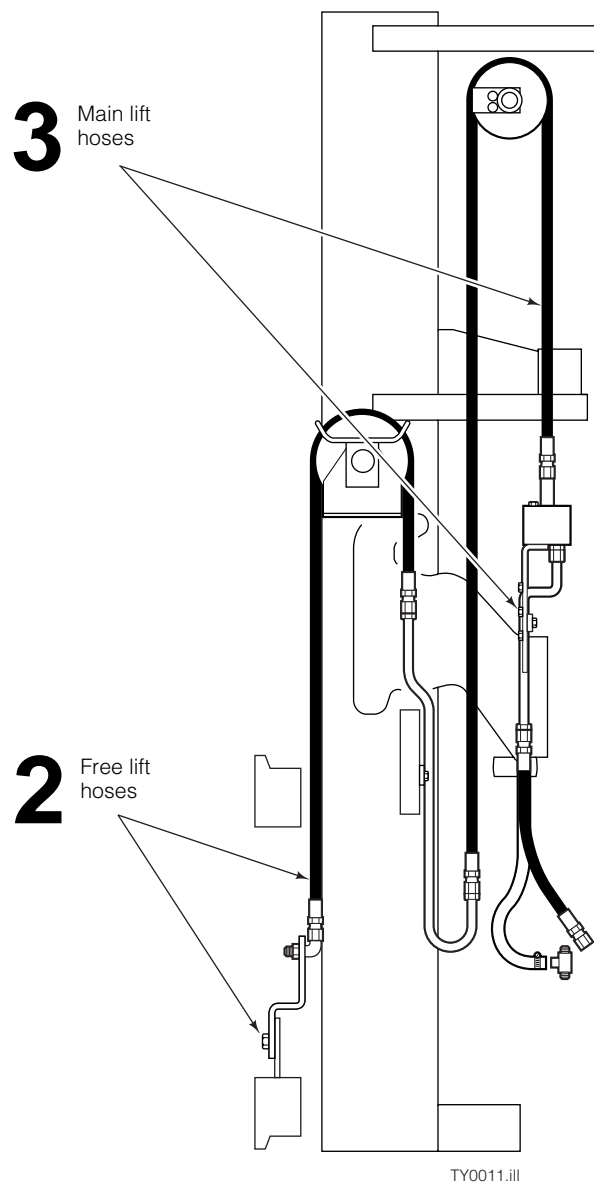
20 Connect tank line to truck tank circuit.

21 Connect hoses to truck auxiliary valve.



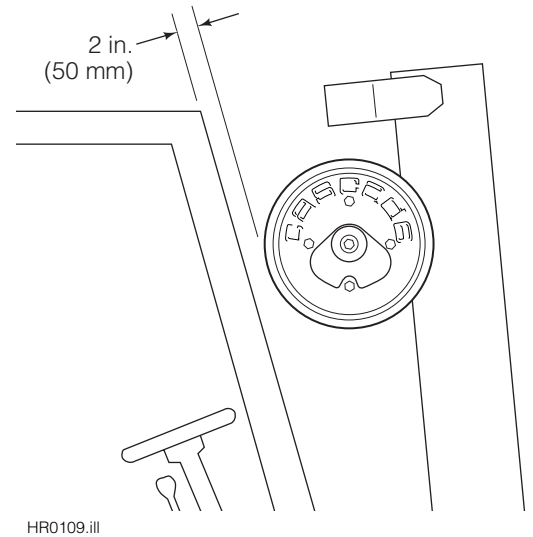
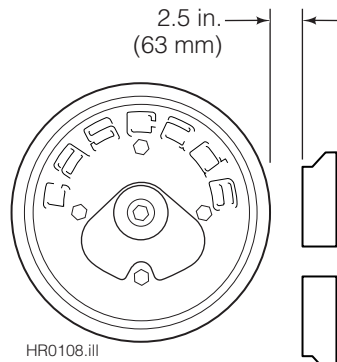
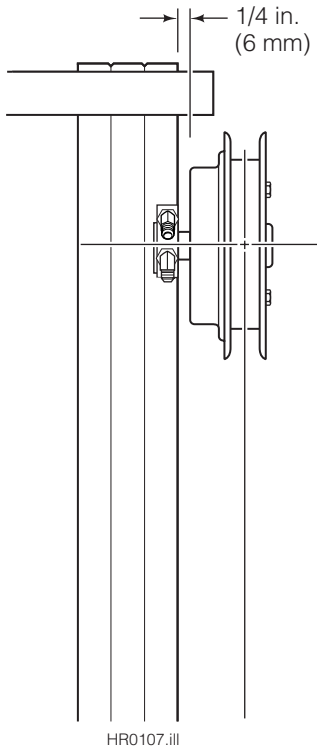
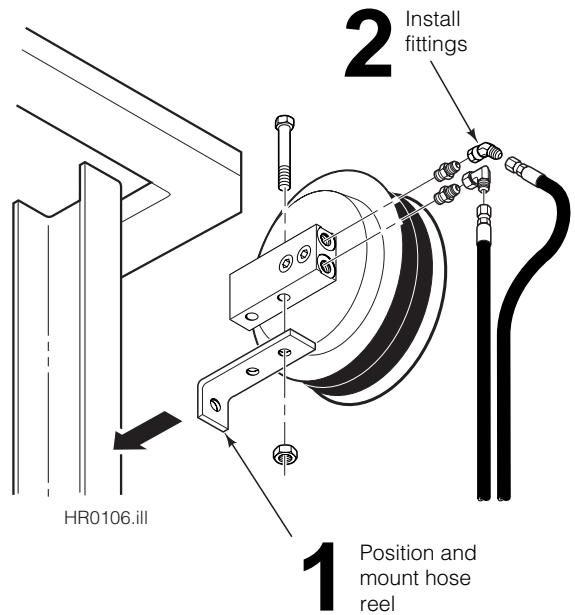
Hose Adjustment

- 1** Raise and lower the mast slowly through several cycles checking for proper hose alignment, clearances and hose tracking.
- 2** Adjust the free lift hose tension by adjusting the carriage bracket position.
- 3** Adjust the main lift hose tension by adjusting the valve bracket position.



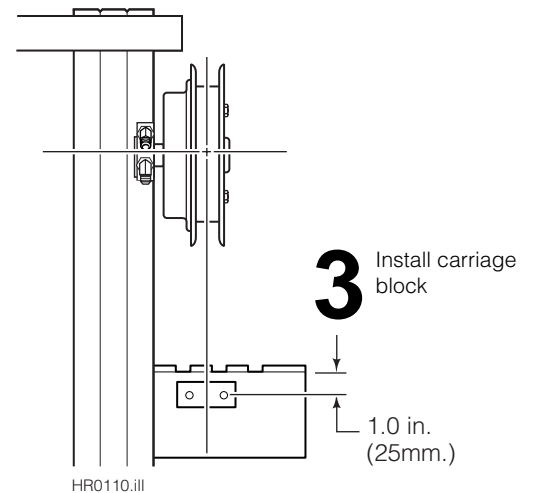
Hose Reel Installation

- 1 Determine a mounting location for the hose reel on the right side of the outer upright. Position the reel to provide the minimum clearances shown. Weld the bracket to the outer upright.
- 2 Install fittings to the hose reel body.

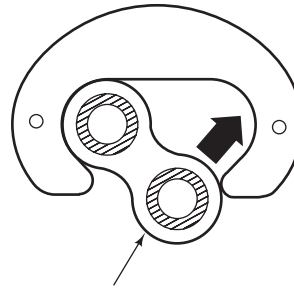


Minimum Clearances

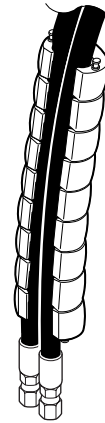
- 3 Raise the carriage to position the upper carriage bar just below the hose reel. Align the carriage block with the centerline of the reel. Weld the block to the upper carriage bar.



4 Install the hose end into the restraint.

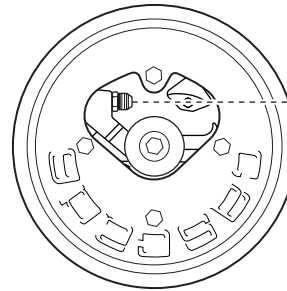


4 Install hose into restraint



HR0100.iii

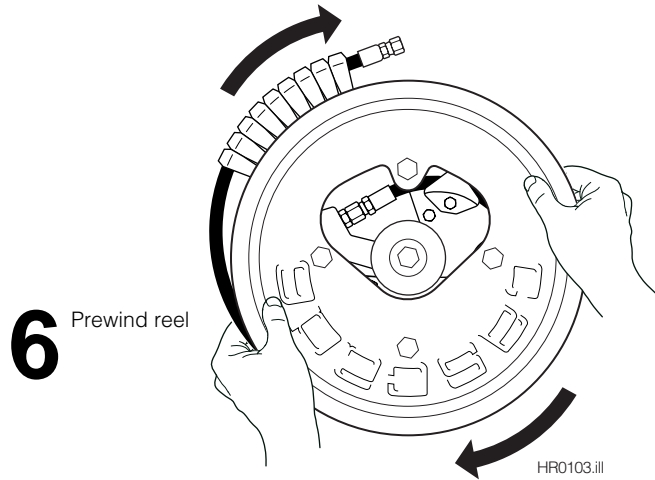
5 Install fittings and hose ends to the hose reel hub. Wind the hose onto the hose reel.



5 Install fittings and hoses

HR0101.iii

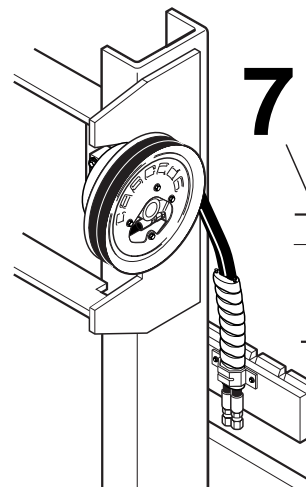
6 With the hose reel mounted on the mast, prewind the hose reel 5 revolutions clockwise (maximum reel turns are 13).



6 Prewind reel

HR0103.iii

7 Install the hose end restraint to the carriage block using the clamp. Position the clamp locating tab between the first and second restraint segments. Tighten the capscrews to a torque of 16 ft.-lbs. (22 Nm).

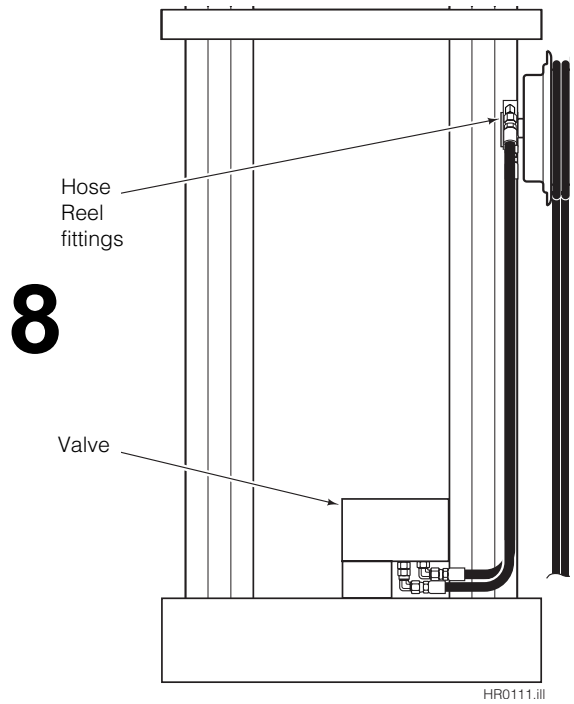


7 Install hose end restraint

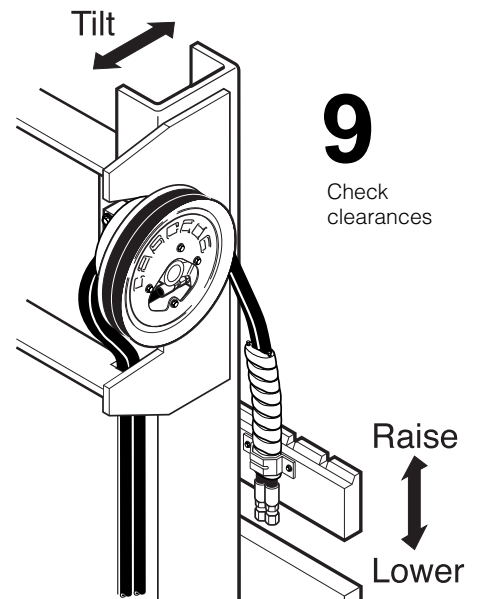
Locating Tab

HR0104.iii

- 8 Install the No. 6 hoses from the bottom of the valve to the hose reel body fittings.

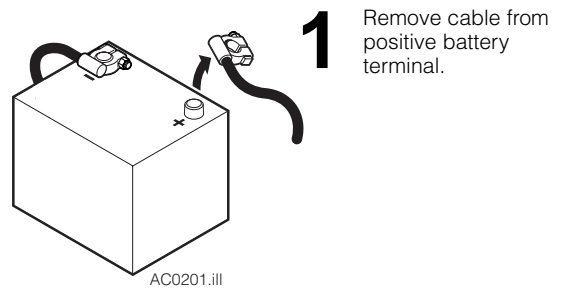


- 9 Raise and lower the mast carriage slowly, checking clearances. Tilt the mast forward and backward.

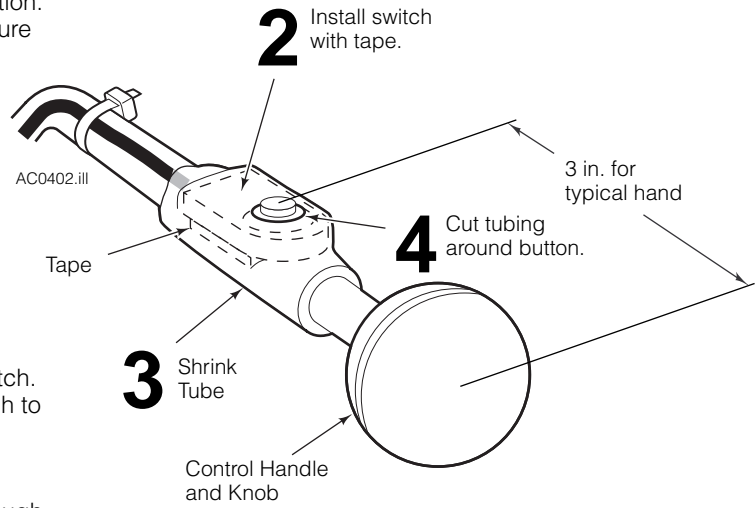


Control Kit Installation

- 1 Disconnect the cable from the positive battery terminal.

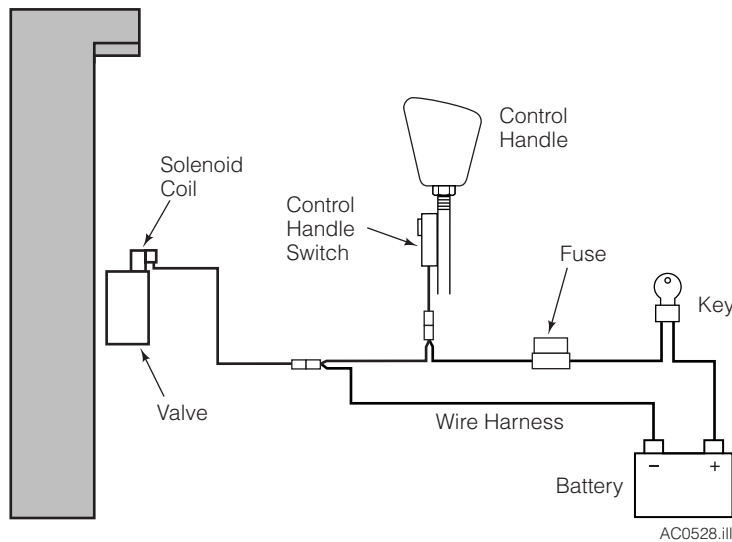
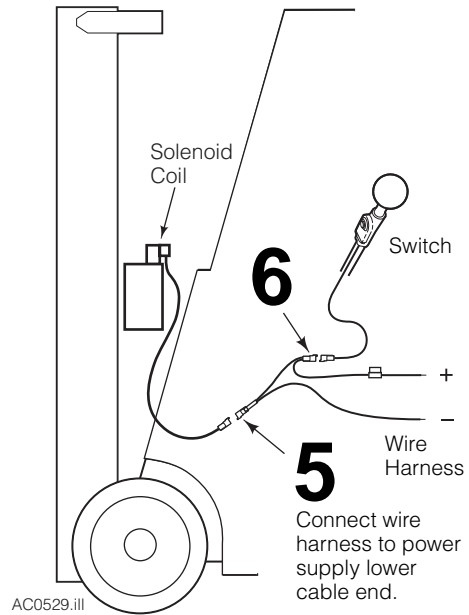


- 2 Install the switch to the control handle. Remove the control knob. Position the switch on the handle in a location for comfortable thumb or index finger operation. Place the double sided tape under the switch to secure the switch in place.



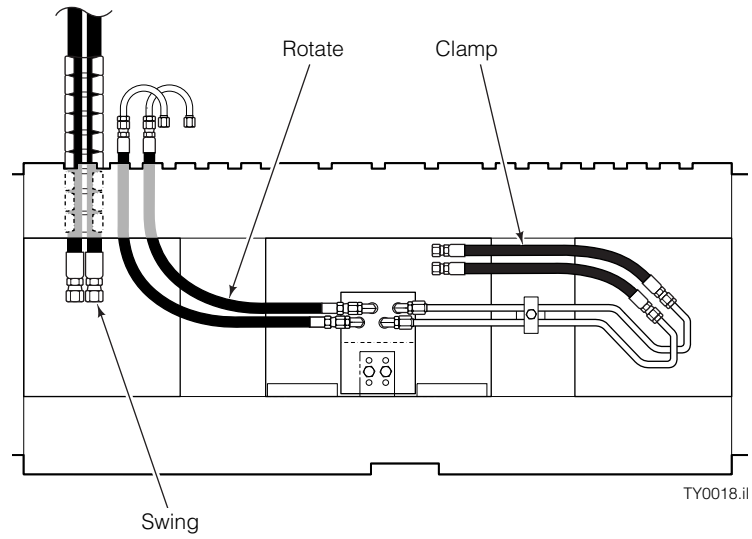
- 3 Place the heat shrink tubing over the handle and switch. Using a heat gun, heat the tubing to secure the switch to the handle. Reinstall the knob. Install cable ties as needed for the wire.
- 4 If it is difficult to feel or operate the switch button through the heat shrink tube, carefully cut a circle out of the tubing around the button.

- 5 Connect the wire harness to the solenoid cable connector and truck power as marked. Watch for pinch and wear points. Install cable ties as needed.
- 6 Connect the control handle switch connector to the wire harness connector. Watch for pinch and wear points. Install cable ties as needed.
- 7 Connect the battery cable to the positive battery terminal.
- 8 Test the electrical functions for proper operation.



Hydraulic Functions

Connect the attachment functions to the supply hose fittings as shown.



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