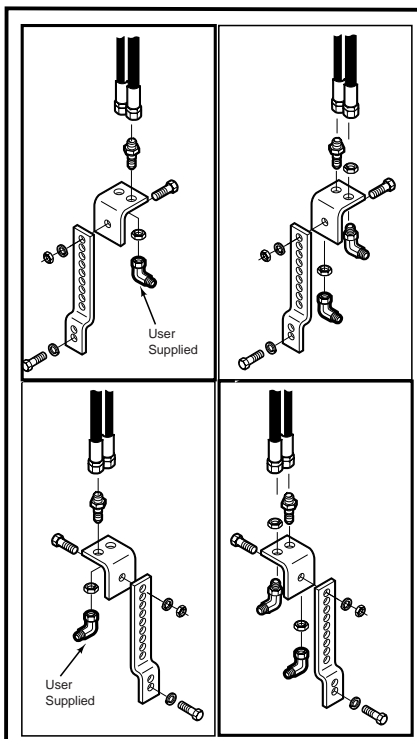
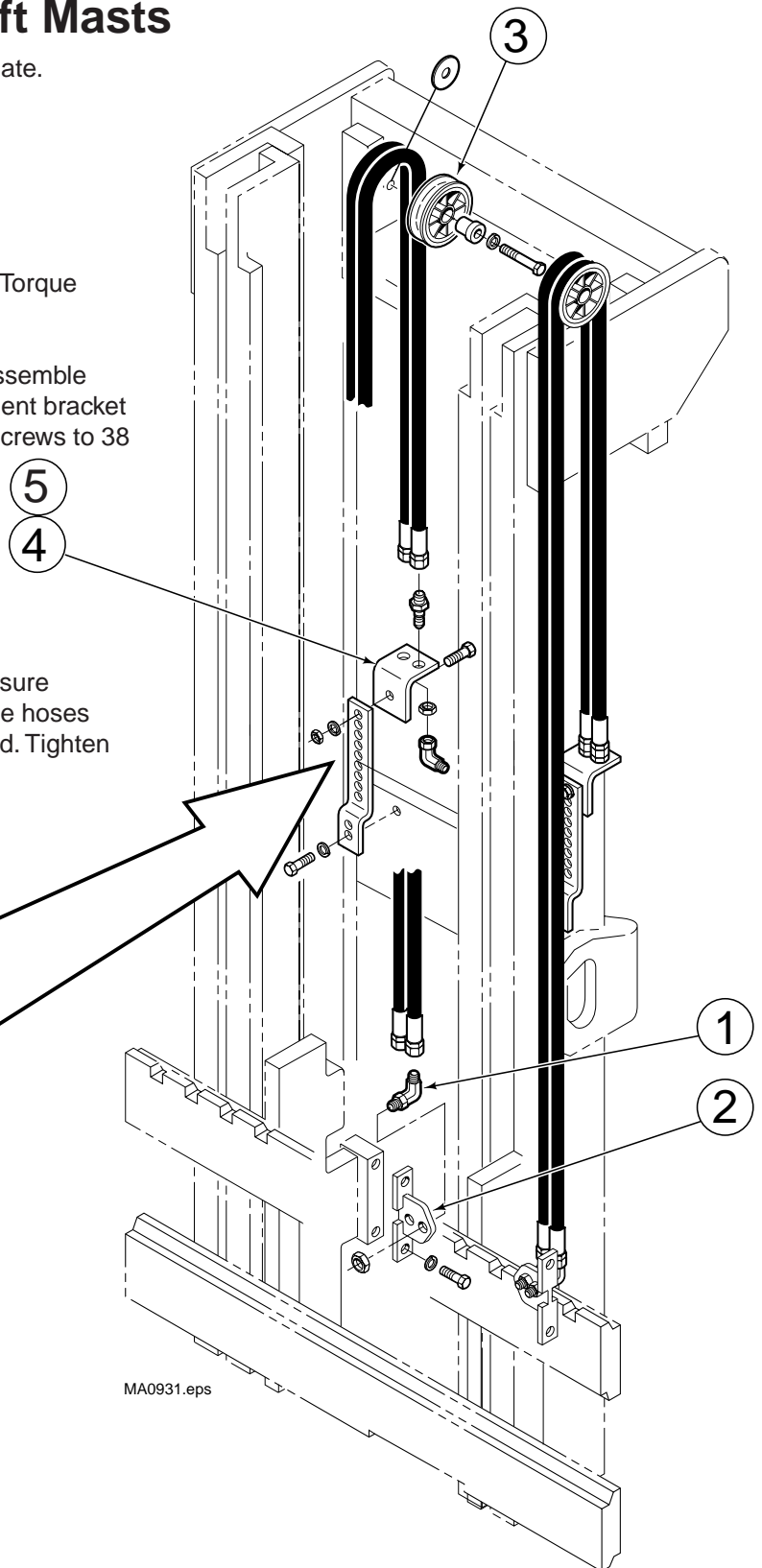


## Two Stage Limited Free-Lift Masts

1. Install the carriage bracket to the carriage side plate.  
Torque the capscrews to 19 ft-lbs (25Nm).
2. Install the 90° fittings to the carriage bracket.
3. Install the hoses to the carriage fittings.
4. Install the hoses and sheaves to the chain shaft. Torque the capscrews to 65 Ft-lbs. (88Nm).
5. Install the fittings to the "L" bracket and loosely assemble the hoses to the fittings. Attach the hose adjustment bracket to the front of the crossmember. Torque the capscrews to 38 Ft-lbs. (51 Nm).
6. Pull down on the hoses with 60 to 80 lbs of tension and install the "L" bracket to the hose adjustment bracket using the nearest hole. Torque the capscrew to 38 Ft-lbs. (51Nm).
7. Raise and lower the mast several times to make sure the hoses track properly. Use the white line on the hoses to detect twisting. Adjust the hose ends if required. Tighten the fittings making sure they do not twist.



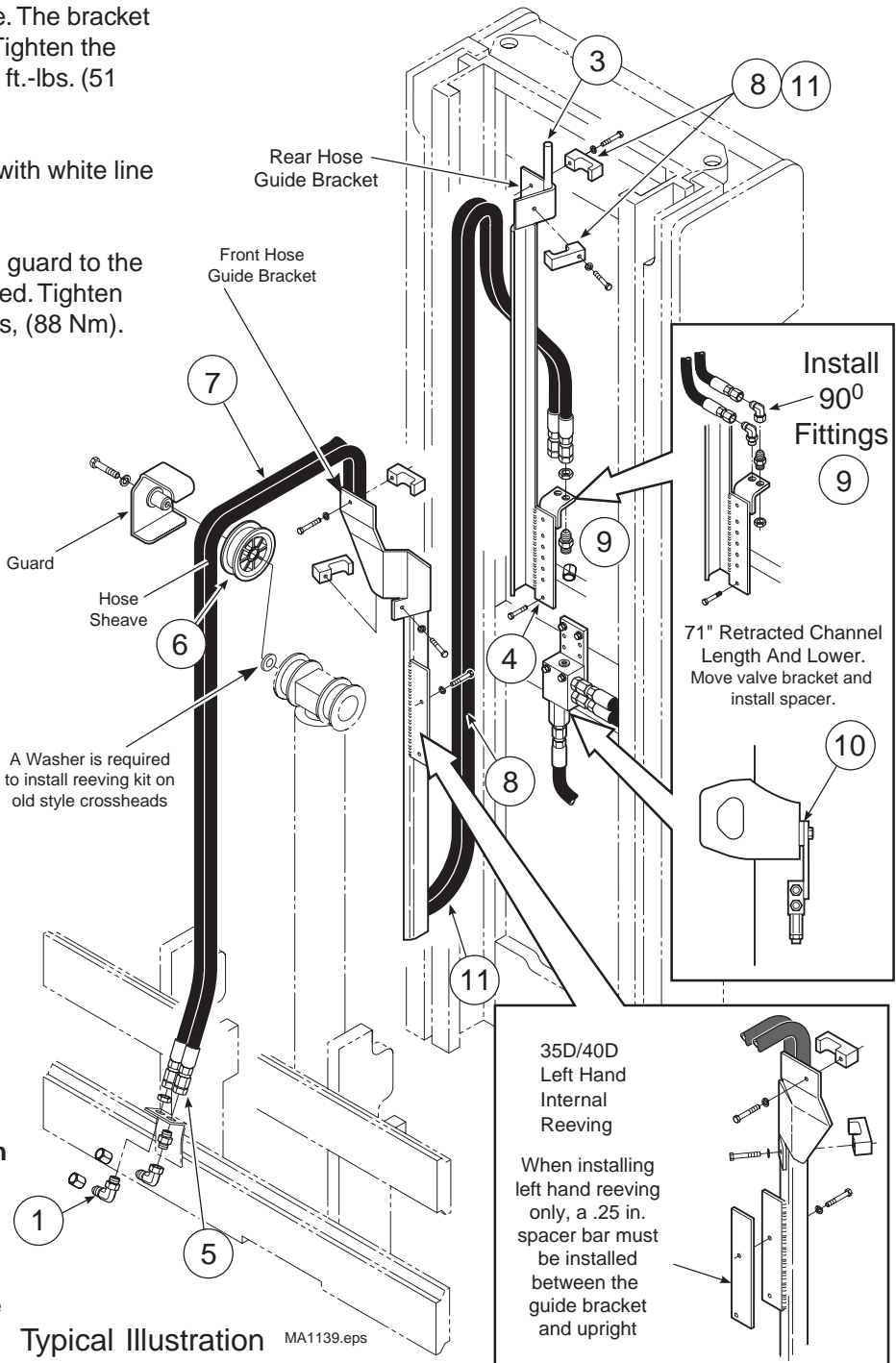
Bracket and Fitting Assembly Options



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# Two Stage Full Free-Lift Masts

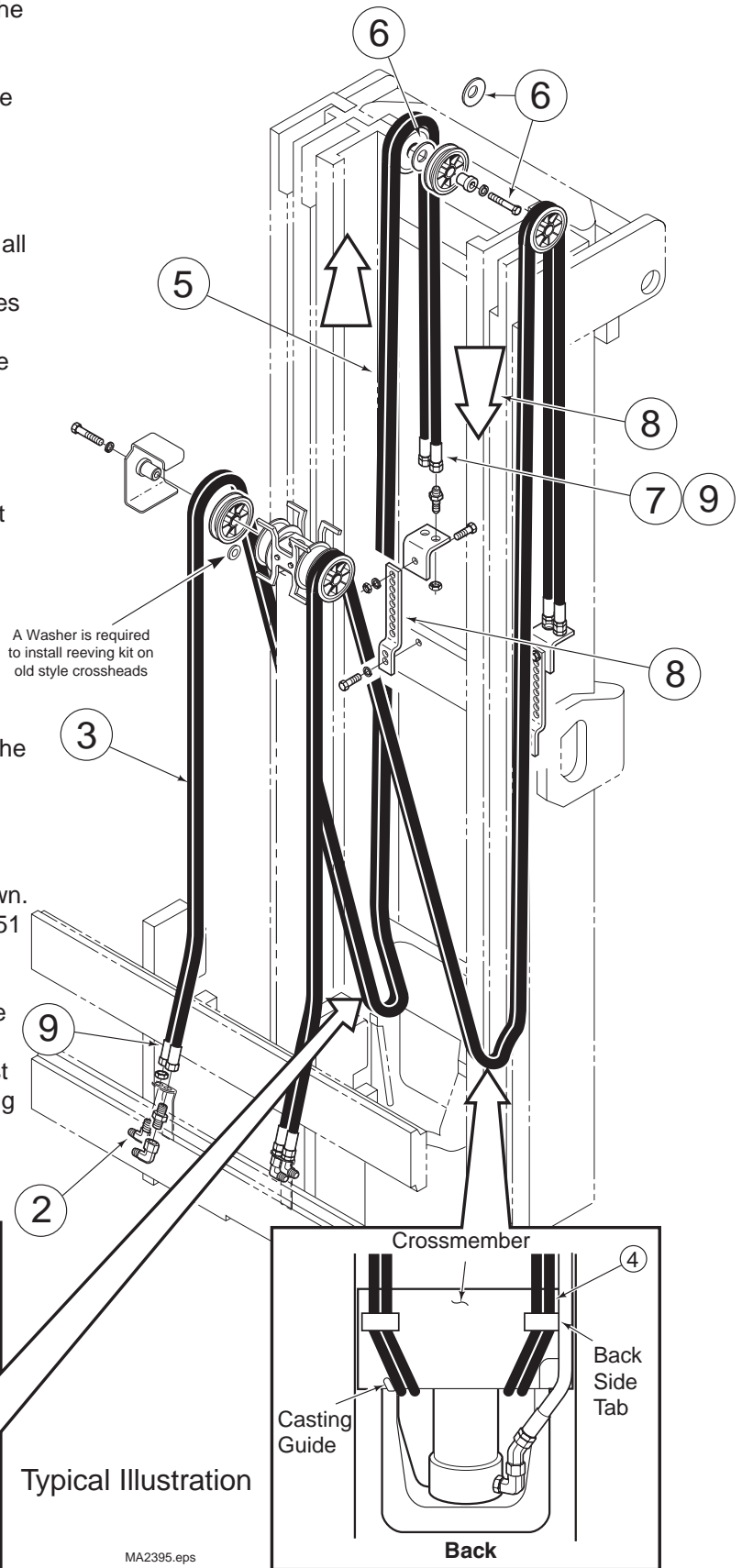
1. Install the fittings to the carriage bracket.
2. Install the front hose guide bracket to the back side of the inner upright crossmember. Tighten the capscrews to a torque of 38 ft.-lbs. (51 Nm).
3. Install the rear hose guide bracket by inserting the round bar at the end of the bracket into the hole in the outer upright back plate.
4. Attach the lower end of the bracket to the inside of the outer upright crossmember. Install the button head screw through the bottom hole. The bracket should be parallel with the upright. Tighten the button head screw to a torque of 38 ft.-lbs. (51 Nm).
5. Install hoses to the carriage fittings with white line facing forward.
6. Install the hose sheaves, hoses and guard to the crosshead with the hardware supplied. Tighten the capscrew to a torque of 65 ft.-lbs, (88 Nm).
7. Raise the carriage just above free lift. Route the hoses under the hose clamps. Pull down on the hoses to remove slack and keep hoses tight against the sheave. Tighten the hose clamp cap-screws to a torque of 30 ft.-lbs. (40 Nm). Completely lower the carriage.
8. Route the hoses down the front hose guide then loop upward to the rear hose guide bracket. Route the hoses upward then form a loop at the top of the rear bracket. Install the hose clamps but leave them loose for final adjustment.
9. Install the bulkhead fittings to the rear hose guide bracket. Install the hose ends to the fittings. **74 in. OAL and Lower Masts** - Install 90° fittings to the bracket as shown.
10. **74 in. OAL and Lower Masts with Right Hand Reaving** - Move the lowering control valve bracket to the back side of the center crossmember. Install the spacer. Tighten the capscrews to a torque of 30 ft.-lbs. (40 Nm). Check and adjust hose clearances.
11. Adjust the hose loop between the front and rear hose guide brackets to be 4 in. (101 mm) +/- 1 in. (25 mm) below the rear guide. Tighten the hose clamp capscrews at top of rear bracket to a torque of 30 ft.-lbs. (40 Nm).
12. Raise and lower the mast several times to make sure the hoses are tracking correctly in the guide brackets. Use the white line on the hoses to detect hose twisting. Adjusting the hose ends with a slight amount of twist may improve hose tracking in the guides.



Typical Illustration MA1139.eps

# Three Stage Full Free-Lift Masts

1. Install the fittings to the carriage bracket.
2. Install the hoses to the carriage fittings. Leave the fittings loose.
3. Install the hose sheaves, hoses and guard to the crosshead with the hardware supplied. Tighten the capscrew to a torque of 65 ft.-lbs. (88 Nm).
4. Raise the carriage approximately 8 ft. (240 cm). Route the hoses downward on the front side of all the crossmembers, then under the tab on the front side of the cylinder support. Feed the hoses backward under the crossmember, around the casting guide upward under the back side of the tab.
5. Pull the hose ends to remove hose slack.
6. Remove the existing capscrew from the main lift chain shaft. Install the hoses, sheave and shaft the main lift chain shaft. Install spacers (p/n 683794 and 6205) to align the hoses parallel to the upright rails. Tighten the capscrews to a torque of 65 ft.-lbs. (88 Nm). Make sure the sheave rotates freely.
7. Attach hoses to the bracket and fittings. Leave the fittings loose on the bracket.
8. Pull down on the hoses to remove slack and stretch hoses 1 inch. Install the bracket on the front side crossmember using the next hole down. Tighten the capscrew to a torque of 38 ft.-lbs. (51 Nm).
9. Raise and lower the mast several times to make sure the hoses are tracking correctly. Use the white line on the hoses to detect twisting. Adjust the hose ends if required. Tighten fittings making sure they do not twist.



**Do you have any questions that need to be answered right now?**

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