

CONTAINER CARRIER MOUNTING AND ASSEMBLY

STUDY NAMES AND LOCATIONS OF THE PARTS AND FAMILIARIZE YOURSELF WITH THE CONTAINER CARRIER BEFORE STARTING THE ASSEMBLY. READING THE STEP-BY-STEP INSTRUCTIONS THAT FOLLOW WILL BE HELPFUL.

SAFETY



READ ALL OF THE SAFETY NOTATIONS IN THE ASSEMBLY INSTRUCTIONS FOR YOUR PROTECTION. ACCIDENTS CAN BE PREVENTED BY RECOGNIZING THE CAUSE OF AN ACCIDENT BEFORE IT CAN HAPPEN.

ASSEMBLY

Select an area for assembly that will be large enough to accommodate the completed unit. The surface of the work area should be as level as possible. Use the proper hand tools to insure proper bolt tightness. Refer to the chart below for the recommended torque values for different sizes of bolts.

Recommended Torque Values in Foot Pounds

For SAE GRADE 2 and GRADE 5 coarse thread cap screws and bolts shown are suggested maximum for fasteners, carrying only the residue oil of the manufacturer.

Proper Bolt Use

DO not use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

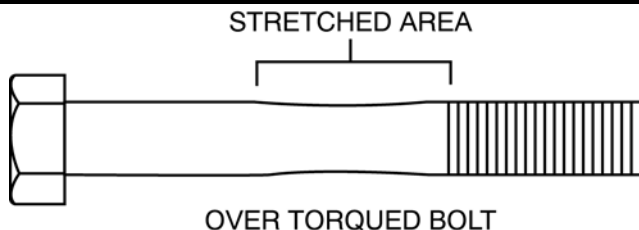
Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Fasteners should be replaced with the same or higher grade. If higher grade fasteners are used, these should only be tightened to the strength of the original.

Tighten plastic insert or crimped steel-type lock nuts to approximately 110 percent of the dry torque values shown in the chart below, applied to the nut, not to the bolt head. Tighten toothed or serrated-type lock nuts to the full torque value.

NOTE: "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry" means plain or zinc plated without any lubrication. **Tighten lubricated bolts to approximately 80% of dry bolts.**

BOLT SIZE	WRENCH SIZE	DRY BLACK OR PLATED BOLTS		
		GRADE 2	GRADE 5	GRADE 8
3/8"	9/16"	20	33	45
7/16"	5/8"	32	52	70
1/2"	3/4"	50	80	105
5/8"	15/16"	100	150	210
3/4"	1-1/8"	160	260	375
7/8"	1-5/16"	175	415	600
1"	1-1/2"	250	625	880
1-1/8"	1-11/16"	375	850	1400
1-1/4"	1-7/8"	530	1100	1765
1-1/2"	2-1/4"	930	1400	2540



SAE
GRADE 2



SAE
GRADE 5



SAE
GRADE 8

The standard container carrier weighs approximately 2,000 Lbs. with rotator 2,500 Lbs. Make sure that all chains and handling equipment are adequately rated for this weight.

MODEL NUMBER

Know the model number of the KPCC being mounted. Use this model number whenever referring to the assembly or parts listing pages. The number is stamped on the Name Plate which is located on the front frame member.

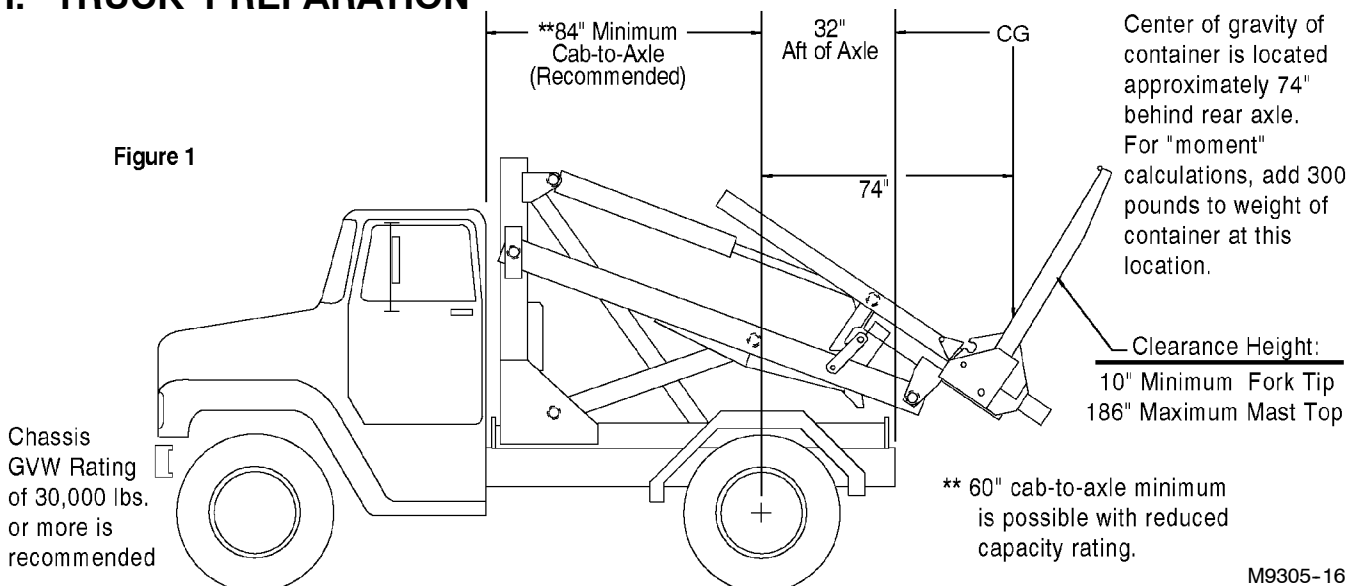


RIGHT and LEFT sides can be established by standing behind the truck frame and looking towards the front, or the direction of travel.

TRUCK CHASSIS

The KPCC will mount on any dual rear wheel chassis, one ton or larger. That meets minimum dimensional requirements. (See Figure 1 on this page.)

I. TRUCK PREPARATION



Rotator Frame - - 27.75" Inside, 33.75" Outside

Capacity - - 2 through 10 cubic yard containers

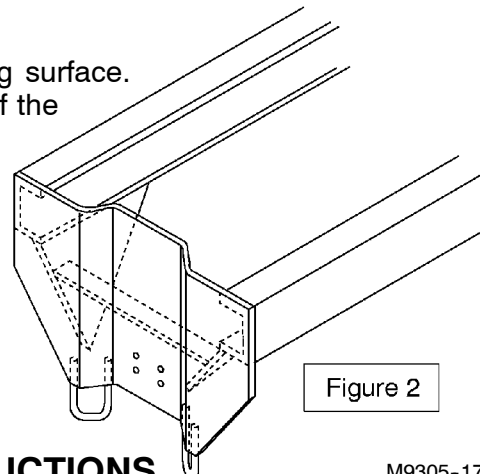
1. Cut the truck frame off a minimum of 1" behind the rear spring shackle.

NOTE: Make sure not to cut rear of frame off shorter than 32" from center of axle to end of frame. See Figure 1 above.

2. The container carrier must mount on a good supporting surface. If there are any rivets or other obstructions on the top of the truck frame, a 1/2" x 3" x 84" bar with clearance holes drilled at each rivet location should be welded to the truck frame or bottom of the container carrier.

If the truck frame has a hump above the rear axle, spacers must be placed under container carrier at each U-Bolt location to level it.

3. Krause offers an offset pintle hitch accessory (part #9305-220-0) shown in Figure 2 to the right.



II. CONTAINER CARRIER MOUNTING INSTRUCTIONS

M9305-17

1. Carefully remove the banding holding the fenders and box of parts.

2. Set the container carrier on the truck frame with the rear of the container carrier even with the truck frame. See Figure 1. Center the container carrier on the truck frame at the front and rear.
3. Locate the U-Bolts as shown on assembly drawing (page P2). The rear U-Bolt **C** may have to be moved to just in front of the rear stop for the overload spring.

The front U-Bolt **A** **MUST** be located as shown.

4. Put the U-Bolt shims part (#9305-0-2) under the U-Bolts as shown on assembly drawing (page P2), and weld to the container carrier support frame.
5. Tighten all U-Bolts.
6. Weld retainer plates (part #9305-0-3) to either inside or outside of container carrier frame so they contact truck frame to prevent side movement. **DO NOT WELD TO TRUCK FRAME.**

III. CLUTCH PUMP INSTALLATION INSTRUCTIONS

⚠ Danger: This clutch pump is for a 12 Volt D.C. circuit.

Immediately upon unpacking the clutch pump, check for shipping damage by spinning the clutch by hand. If any metallic rubbing is heard, do not attempt to repair the clutch. **Return the clutch to Muncie for replacement.**

This package should contain the following:

1 - Clutch Pump	3 - Sta-Kon Terminals
1 - 12 Foot Length of Wire	2 - Butt Splice
1 - Rocker Switch & Light	1 - Switch Mounting Bracket
2 - Ring Terminals	2 - Screws, Lockwashers & Nuts
2 - Star Washers	1 - In-Line Fuse

Fanbelt Clutch Pump Installation

Mounting Bracket For Clutch Pump

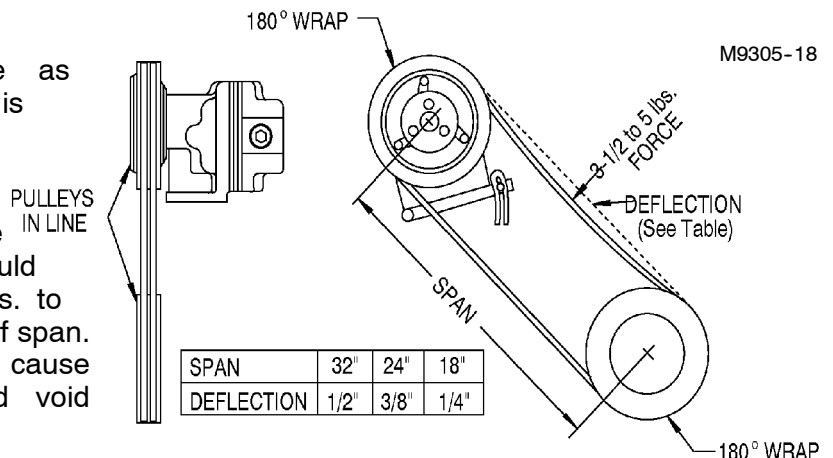
Muncie has clutch pump engine mounting kits for selected engines. Contact Muncie for further information.

Fanbelt Clutch Pump Drive

Driven directly from crankshaft pulley with two (2) 'A' BELTS. A 180° wrap on the drive and driven pulleys is desirable. The clutch pump sheaves must be exactly aligned with the crankshaft sheaves. The clutch pump should be located as close to the crankshaft as possible.

Fanbelt Tensioning

A movable mounting base as opposed to idler pulleys is preferred for tensioning. A Dodge belt tension tester #109082 or its equivalent should be used to determine the proper belt tension. It should take a force of 3.5 to 5.0 lbs. to deflect the belt 3/16" per foot of span. Improper tensioning can cause premature pump failure and void warranty.



Rocker Switch & Light Installation

This switch is usually mounted in the dashboard frame at the base of the dash. Using the mounting bracket as a template, drill two (2) 7/32" DIA. holes in the frame. Use the two (2) cap screws, lock washers and nuts to attach bracket to frame.

Wiring Installation

Four (4) separate lengths of wire are needed for installation.

1. Rocker switch to accessory fuse panel.
2. Rocker switch to ground.
3. Rocker switch to coil.
4. Coil to ground (frame).

Determine the four (4) required lengths of wire and cut appropriately.

Crimp a space terminal onto the appropriate wires and connect to the correct brass male spade on the rocker switch (See diagram below)

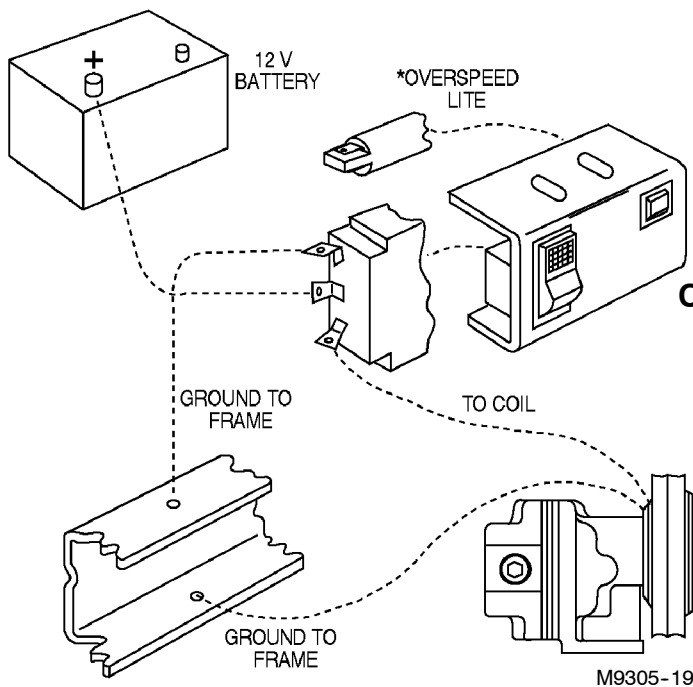
Attach the other end of the ground wire to the predetermined ground point with a ring terminal and star washer.

Attach the other end of the fuse wire to a terminal in accessory fuse panel.

Join the clutch wire to either coil wire with a butt splice.

Join the other clutch wire with the final length of wire.

Attach coil ground wire to frame with a ring terminal and star washer. Do not ground to pump or pump bracket.



NOTE: Muncie burnishes the clutch plate of all fan belt clutch pumps before shipment. However, extended shelf storage may cause deterioration of the plate surface, and reburnishing may be necessary upon installation. All driveshaft driven (FY) clutch pumps should be burnished as described below.

Clutch pump Start Up and Burnishing

1. Back relief valve down to 500 PSI and cycle rocker switch 25 times with truck engine at 1000 R.P.M.
2. Repeat step #1 in 500 PSI higher increments until you reach the desired pressure relief setting.
3. If the armature leaf spring and disc do not snap firmly against the friction surface, check voltage at clutch lead.
4. Less than 11.5 volts will result in clutch slippage and consequent damage to the clutch.

*OVERSPEED LITE TO BE USED WITH MUNCIE EOS-100 OVERSPEED SWITCH
Clutch may need to be reburnished if placed back into service after extended non-usage (*over 30 days*).

Reservoir Placement:

The level of the oil in the reservoir should be no lower than the inlet port of the pump.

Suitable Fluids:

SAE10W A.W.R. & O. Hydraulic oil with Anti-Wear, Rust and Oxidation Additives. Systems should not exceed a maximum of 180° Fahrenheit... SUCTION LIFT not to exceed 5 in. Hg at operating speed.

Filtration

Return line filter in the 20 micron range is acceptable. Suction filters and strainers are not approved... if the system is cleaned properly, they are unnecessary. Filter should be changed at each second engine filter change.

IV. POWER TAKE-OFF INSTALLATION

⚠ Caution: The power take-off selection should be done with care. For diesel engines, the P.T.O. should be 85% to 100% of engine R.P.M. For gas engines, the P.T.O. should be 65% to 80% of engine R.P.M. The direct mounted pump requires a SAE B 4-bolt mounting flange and must accept a 7/8" 13 tooth splined shaft.

⚠ Warning: Do not attempt to install or service any power take-off with your truck engine running. Put the ignition keys in your pocket before getting under the truck.

Do not allow truck engine to be started while workmen are under the truck.

Block truck wheels with suitable chocks before working under the truck.

Be sure to block any raised body or mechanism before working on or under the equipment.

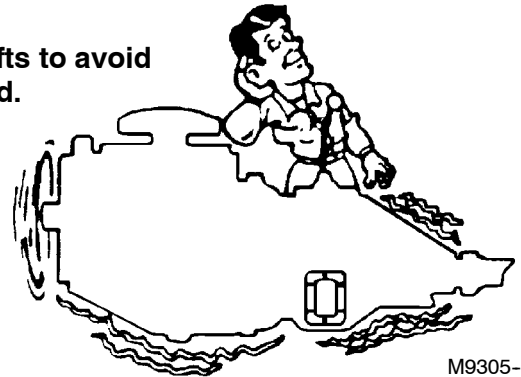
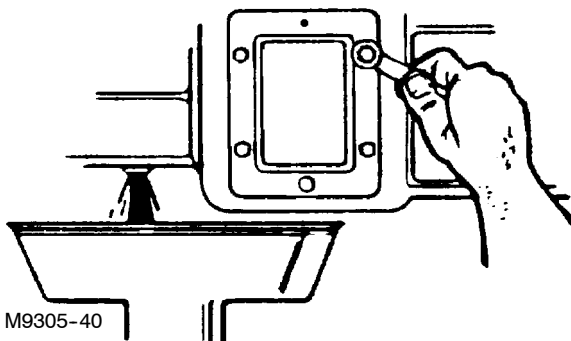
Installed power take-offs must never be shifted in or out of gear by any means except by the controls in the cab of the truck.

Stay clear of spinning driveshafts to avoid becoming entangled and injured.

1. Run transmission in neutral.

Determine sound of transmission before PTO is installed.

A noise in the transmission gear may be more noticeable after PTO is installed.



2. For manual shift transmissions, drain transmission fluid. For automatic transmissions, do not drain the transmission fluid.

Remove cover plate.

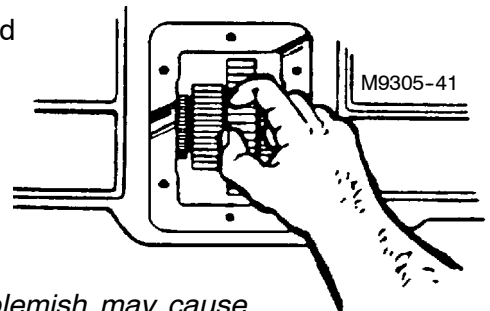
Place a shop towel in the opening to prevent dirt from getting into the transmission.

Clean mounting pad.

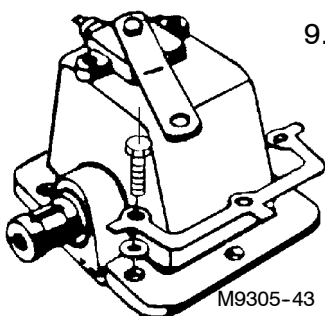
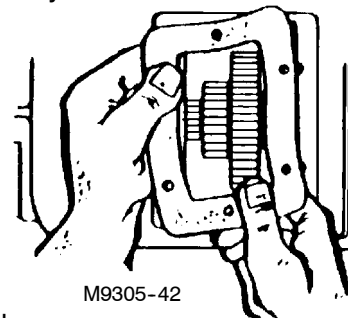
3. Check transmission for proper PTO driver gear and location.

Start engine and depress clutch pedal fully while a helper observes the PTO driver gear to see if it stops rotating. If the gear does not come to a complete stop within a few seconds, the clutch linkage on the truck must be adjusted before installing the PTO.

Check PTO driver gear for condition. (A nick or blemish may cause excessive noise when PTO is mounted.)



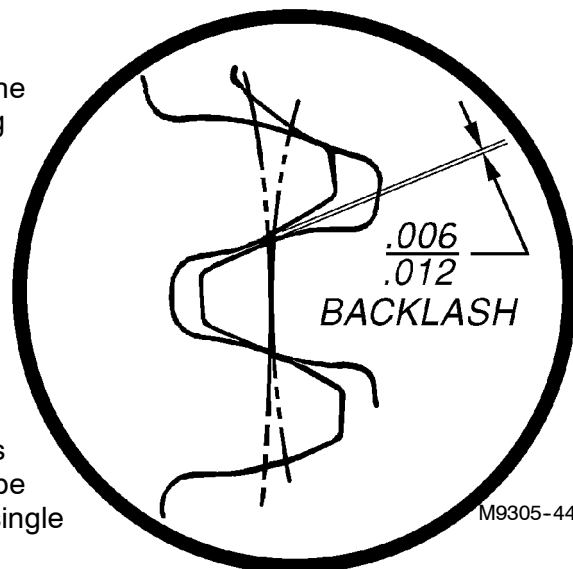
4. Rock transmission gears by hand to get the “feel” for gear backlash manufactured into transmission gear set.
5. Open the PTO carton and find the mounting kit (studs and cap screws) enclosed with your PTO. Visual inspection of the PTO will indicate which mounting holes in the PTO will NOT accept cap screws.
6. Torque the studs to 30–35 Lbs./Ft. (6 bolt pad), or 45–50 Lbs./Ft. (8 bolt pad).
7. Remove the shifter cover or the inspection cover plate from the PTO by removing the hex head cap screws on the cover plate. With PTO’s which do NOT have an inspection cover plate, hold the out-put shaft and rock input gear to get the “feel” of backlash built into the PTO. This “feel” will be helpful when fitting PTO to transmission. (*See step 10*)
8. Place mounting gasket from your kit over the studs already installed on the transmission. A thin coating of grease is recommended on gaskets to help seal and to hold them in place during installation. Do not use a permanent sealant on gaskets because you may need to change them later. Use Grease ONLY!



9. Mount the PTO to the studs with the copper washers, lock tabs, and nuts provided.

NOTE: The copper washers must be installed between the PTO housing and the lock tabs. Tighten the top and bottom nuts to 30–30 Lbs./Ft. of torque.

10. Check the backlash on the input gear (gear the meshes with transmission gear) by feeling through the inspection hole previously uncovered in step 7 above. The amount of rotational movement of the PTO gear should be only .008 to .012. As a reference, a thin gasket in your installation kit is .010 thick. The thin gasket (.010 thick) will change the backlash approximately .006. The amount of movement of the input gear would be only about the same distance as this gasket thickness. At least one gasket must be used. On Allison transmissions, only the single .035 gasket will be required.



NOTICE: For some Warner W80 applications a maximum of one thin gasket (.010) is required. If backlash is too excessive, remove the gasket and use loctite gasket eliminator sealant #13M51717. A .20 ounce tube has been provided with the PTO for these applications.

Do NOT stack more than (4) gaskets together.

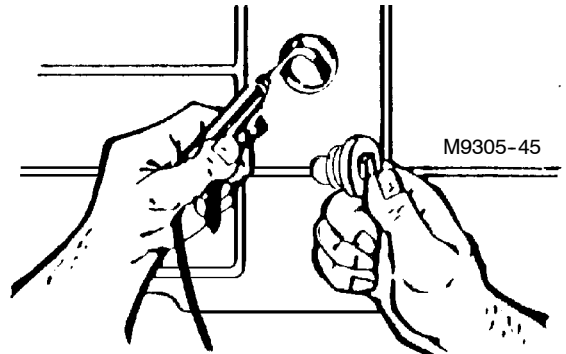
11. Finish the mounting by installing all the cap screws or stud nuts provided in the mounting kit. Torque all mounting bolts to the required torque as specified in step 6 above.
12. Replace shifter cover or inspection cover plate on the PTO.
13. Run the truck engine (with transmission and PTO in neutral) for a few seconds and listen for unnatural noises. A whine noise indicates the PTO is mounted too tight. Add gasket(s). A clatter noise indicates a loose mount. Remove gasket(s).

A tight mounted PTO will cause undercutting of gears and result in premature gear failure.

If okay, repeat test with PTO engaged.

⚠ Caution: Keep PTO / Transmission running time as short as possible until transmission is refilled with lube.

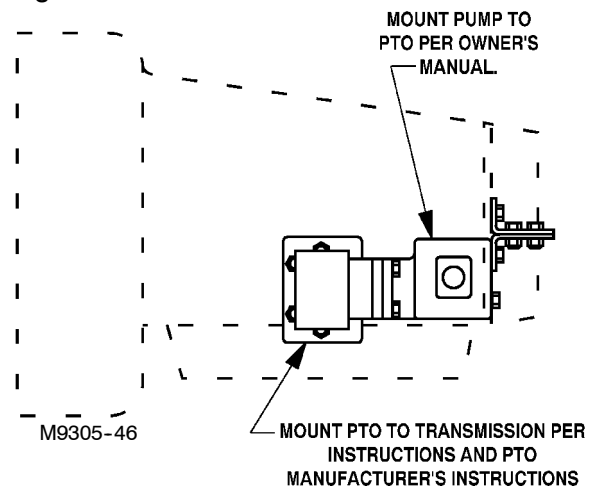
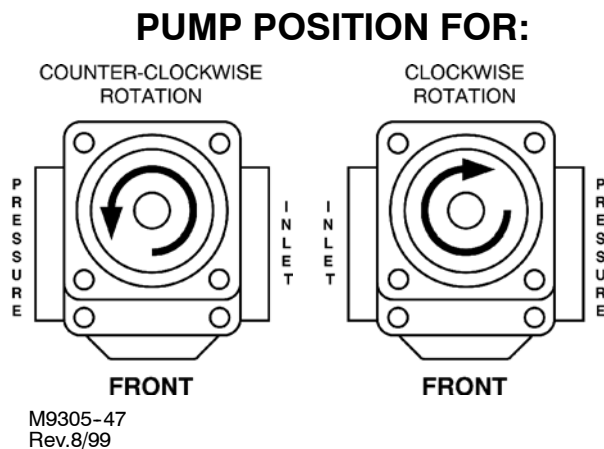
14. Refill transmission with fluid and run engine for 5 to 10 minutes to check for leaks.
15. Install the appropriate shifter kit components. On air system only, you will not receive any air through the pressure protection valve to the PTO system until your main valve tank pressure exceeds 65 PSI.



⚠ Warning: Direct mounted hydraulic pumps weighing more than 50 Lbs. should be supported at the rear by a strap attached to the transmission.

V. DIRECT MOUNTED PUMP INSTALLATION

1. To install a direct mounted pump, first of all determine the direction of rotation of the PTO from the illustration below.
2. Align the splined shaft on the pump with the splines in the PTO.
3. Install the four (4) 1/2NC x 2" GD.5 Cap Screws and Lock Washers. Be sure the pump flange is fully seated onto the PTO housing.



4. Tighten all hardware.

VI. OIL TANK, VALVE AND HOSE INSTALLATION

Clean all hydraulic components and keep all hoses, tubes, valves and fittings capped until they are to be installed.

BE SURE TO READ THE SAFETY INFORMATION THAT FOLLOWS!







Warning: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

NOTE: Use pipe sealant on pipe thread joints ONLY.




Refer to parts drawing on page P8 for steps listed below.

1. Mount the hydraulic tank to the support frame of the container carrier with (4) 1/2NC x 7-1/2" bolts. The tank may be mounted in either the upper or lower location depending on driver visibility and pump location. Be sure the rubber washers are installed between the hydraulic tank mounting flange and the support frame.
2. Mount the valves to the mounting bracket using the (3) 5/16NC x 3" GD.5 Bolts.
3. Install a 90° 1-1/4 pipe to 1-1/4 hose barb (part #25-170) into the inlet side of the hydraulic pump for clutch pump. 1" pipe to 1-1/4 hose barb (#25-1177) for direct mount pump.
4. Install the 1-1/4 I.D. x 145" (part #24-1103) low pressure hose and two (2) 1-1/4 hose clamps between the tank and the pump.
5. Install a 90° 3/4 pipe to 1-1/16 JIC (part # 25-370) fittings in the outlet, or pressure side of the hydraulic pump for clutch pump. 1" pipe to 1-1/16JIC (part # 25-534) for direct mount pump.
6. Install a 90° 1-1/16 O-Ring to 1-1/16 JIC (part #25-357) JIC fitting in the inlet valve port.
7. Connect the 3/4 I.D. x 192" (part #24-619) high pressure hose between the outlet port of the pump to the inlet port of the valve.
8. Install a 90° 1-1/16 O-Ring to 3/4 hose barb (part #25-372) into the outlet valve port.
9. Install the 3/4 I.D. x 72" (part #24-1102) low pressure hose, using (2) 3/4 hose clamps, between the outlet of the valve and the hydraulic tank filter.
10. Install four (4) 3/4 O-Ring to 3/4 JIC Male fittings (part #25-301) in the work ports of the valve. If installing Rotator, see 'Hose Installation - Rotator' instructions below.
11. Install (2) 90° 3/4 O-Ring to 3/4 JIC Male fittings (part #25-301) in the rod end ports of the fork tilt cylinders.
12. Install (2) straight 3/4 O-Ring to 3/4 JIC fittings (part #25-300) and (2) 90° 3/4 JIC female to 3/4 JIC male fittings (part #25-310) in the cap end ports of the fork tilt cylinders. Install (4) 3/4 O-Ring to 3/4 JIC fittings (part #25-300) in the mast cylinders.
13. Note the labels of the hydraulic valve identification plate (part #74-373).
14. Connect a 1/2 x 51" hose (part #24-388R) between the front port  on the mast spool and a 3/4 JIC male Tee placed through the bottom hole (#4) of the hose support bracket at the front center of the carrier.
15. Connect a 1/2 x 51" hose (part #24-388R) between the rear port  on the mast spool and a 3/4 JIC male Tee placed on through the second from the bottom hole (#3) of the support bracket.
16. Connect a 1/2 x 51" hose (part #24-388R) between the front port  on the fork tilt spool and a 3/4 JIC male Tee placed through the third from the bottom hole (#2) of the hose support bracket.
17. Connect a 1/2 x 51" hose (part #24-388R) between the rear port  on the tilt spool and a 3/4 JIC male Tee placed through the top hole (#1) of the hose support bracket.
18. Connect two (2) 1/2 x 56" hoses (part #24-386) from the rod end ports of the mast cylinder to the bottom 3/4 JIC Male Tee (#4).

19. Connect two (2) 1/2 x 58" HOSES (part #24-386) from the rod end ports of the mast cylinder to the second from the bottom (#3) 3/4 JIC Male Tee.
20. Connect two (2) 1/2 x 102" hoses (part #24-384) from the rod end ports of the fork tilt cylinder to the second from the bottom (#3) 3/4 JIC Male Tee.
21. Connect two (2) 1/2 x 70" hoses (part #24-304R) from the base end ports of the fork tilt cylinder to the top (#1) 3/4 JIC Male Tee.

Hose Installation - Rotator

Refer to the Parts Section Drawing on page P7 for the steps listed below.

1. Install one (1) 3/4 O-Ring to 3/4 JIC Male 45° Fitting (part #25-312) in the front port  on the mast spool, and five (5) 3/4 O-Ring to 3/4 JIC Male fittings (part #25-301) in the other work ports.
2. Replace the fittings in the hydraulic motor of the rotator with two 1/2NPT to 3/4 JIC male fittings.
3. Connect a 1/2 x 210" Hose (part #24-389R) between the rear port  on the auxiliary spool and the top port on the hydraulic motor of the rotator.
4. Connect a 1/2" x 210" Hose (part #24-389R) between the front port  on the auxiliary spool and the bottom port on the hydraulic motor of the rotator.

VII. CABLE CONTROL INSTALLATION

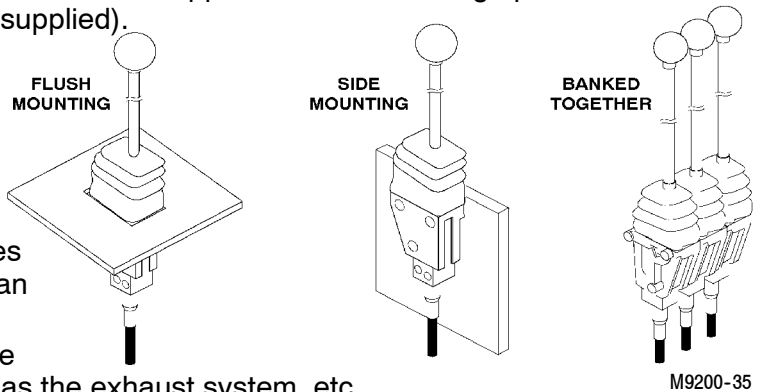
The optional cable controls supplied with K-PAC equipment are a high-quality assembly which seal out moisture, are corrosion protected, and engineered to minimize backlash (lost motion). After the can carrier frame and hydraulic tank are mounted to the truck chassis, the remote cable controls may be installed.

Cable Control Mounting:

1. On the hydraulic control valve, remove the screws holding the spool cover plate. Position the handle assembly on the valve face and install the screws provided with the handle kit. Install the clevis pin and cotter pin.
2. The valve is mounted to the valve bracket welded to the left side of the main assembly.
3. Position the control cable bulkhead plate on the top of the valve bracket welded to the left side of the main assembly. Install the control cable bulkhead plate with 1/2" cap screws and nuts, or weld. If necessary, temporarily assemble the threaded cable end to the bulkhead plate for proper positioning with the valve handles.
4. Mount the cable controllers to the control mount supplied. Other mounting options are shown in the following illustration (parts not supplied).

IMPORTANT:

- A. A good cable path is essential for a properly operating system. Keep bends in the cable path to a minimum and as generous as possible. Under no circumstances should any bend be tighter than an 8" radius.
 - B. Protect the cable from heat above 225° F and avoid hot areas such as the exhaust system, etc.
 - C. Protect the cable from physical damage such as pinching or crushing and do not use cable supports which may crush or deform the cable.
 - D. Allow room for flexing where the cable is attached to moving parts of the equipment so that the cable is neither kinked nor stretched.
5. Choose a mounting location which is convenient and comfortable for the operator and provides adequate clearance for the control lever movement. Check the underside of the cab for reinforcement members, air lines, wiring harnesses, and linkages before cutting into the floor. Be sure the location chosen allows the cable to be led easily away from the control.

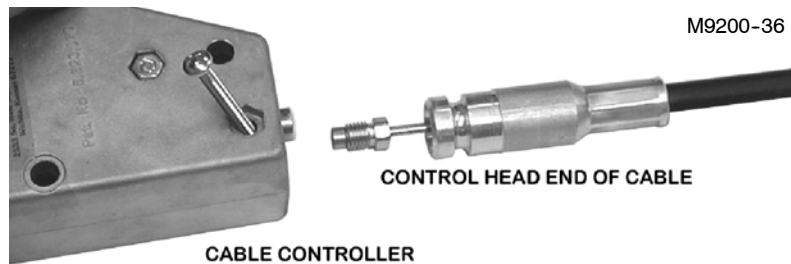


Reversing control direction usually is not necessary. In most cases, the direction of the lever movement for a given valve function can be changed by switching the hydraulic lines at the valve. If this is not an option, control operation can be changed simply by turning the cable controller 180°.

6. Cut a hole for the control cables to pass through.
7. If using the control mount provided, mark and drill (4) .343" diameter holes for the 3/8" self-tapping screws provided.

Cable Connections

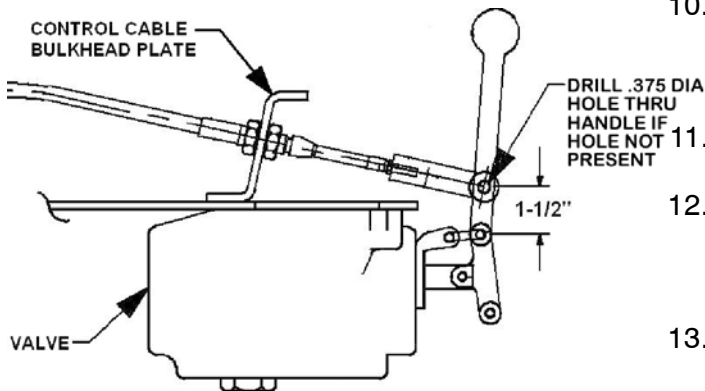
8. Remove the screw from the cable controller where the cable end will install. Do NOT remove the other screws passing through the cable control housing.



9. Screw the hex threaded cable end into the cable controller end. Moving the cable controller handle will allow easier access to start the thread. If the hex threaded cable end is not visible, make certain the cable is free to slide back and forth and shake the cable end with the end in the downward position.



10. Install the control head end of the cable into the cable controller. Reinstall the cable controller screw passing through the groove in the end of the cable housing.



11. Check the control for free movement and correct valve control.

12. To connect the cable to the valve handle, start by removing the mounting nut from the cable assembly. (Large nut in the photo above)

13. Install the threaded portion of the cable assembly through the bulkhead weldment and replace the mounting nut.

14. Install the clevis provided to the cable end. The cable end should be parallel to the bulkhead weldment.
15. Locate the clevis on the control valve handle. If a hole is not provided in the control valve handle for the clevis, drill a .375" diameter hole through the valve handle as illustrated. Install pin and keeper included with clevis.
16. Do a final check of the controls for free movement and correct valve control.

VIII. PNEUMATIC CONTROL INSTALLATION INSTRUCTIONS (V20)

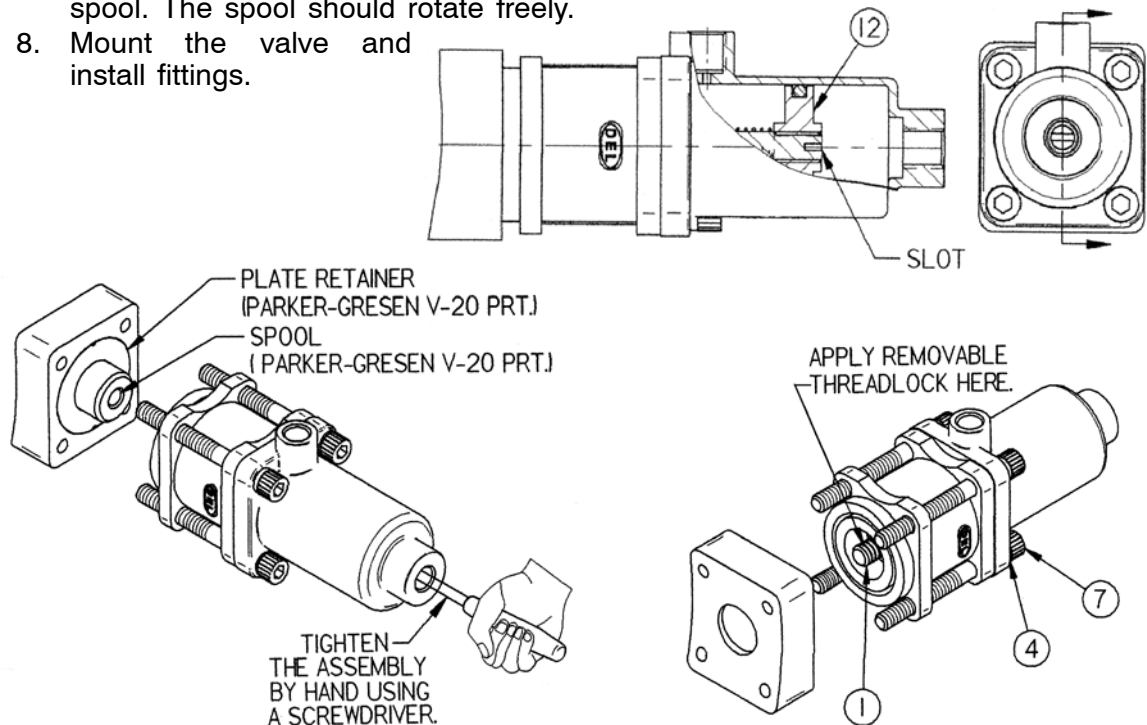
The optional pneumatic controller provided with K-PAC equipment are dual three-way regulating valves. Output of the controllers is proportional to the control lever position and is balanced against the force of an internal spring.

Pneumatic Actuator Installation

The pneumatic actuator has been partially assembled and pre-lubricated for ease of installation. The actuator does not have to be disassembled for installation.

1. Remove the valve if previously installed.
2. Find a suitable area free of dust and dirt to attach the pneumatic actuators.
3. Set the hydraulic valve on its mounting base.
4. Determine which spools are to be pneumatically controlled.

5. From the valve assembly:
 - a. Remove and discard the original retainer screws and valve spring cover.
 - b. Retain the handle end of the spool. Remove and discard the 5/16" shoulder bolt from the end of the valve spool exposed by the removal of the valve spring cover.
 - c. Remove and discard the original centering spring and two original centering cups.
 - d. Insure the original seal retainer on the valve spool is properly seated.
6. Apply a small bead of removable thread lock to the threads of the spool adapter (item 1). Holding the spool on the opposing end, hand tighten the assembly using a flat screwdriver through the rear fitting port into the end of the piston (item 12). DO NOT USE AN AIR GUN.
7. Secure the actuator assembly to the valve body using the four (4) socket head cap screws and lock washers (items 4 & 7). Test for proper alignment by turning valve spool. The spool should rotate freely.
8. Mount the valve and install fittings.



Pre-assembled Pneumatic Control Tower Installation -- See Parts Section page P17

1. Determine a suitable location which is in a comfortable location for the driver and not in the way of the transmission lever.
2. Position the lower bolt holes so that the bolts will miss any cable, wires or structural members in or under the cab floor.
3. Mark and drill the four (4) .343" dia. holes for the 3/8" self-tapping screws supplied for the tower.
4. Determine a location in the area between the mounting holes to run the air lines.
5. Drill a 2" to 3" dia. hole through the floor of the truck. Remove all burrs and sharp edges. Line the hole with the grommet material supplied.
6. Using the washers on the underside of the floor, attach the tower to the floor with the 3/8" screws and lock nuts.

After the control tower has been mounted, the air lines can be routed. The air line tubing is color coded as follows:

- Blue -- Winch / Cable In
- Green -- Winch / Cable Out
- Orange -- Hoist Raise / On
- Yellow -- Hoist Down / Off
- Red -- PTO
- Black -- Exhaust
- Silver -- Supply
- Silver -- Aux In
- White -- Aux Out

To remove an air line from a fitting, push the line in, hold the internal sleeve of the fitting then pull the air line out.

1. Pass the air lines through the hole lined with grommet material in the floor.
2. Route the exhaust air line outside of the truck cab.
3. Determine a suitable route for the air lines to the control valve. Avoid sharp bends, sharp edges, and heat sources.
4. Install supplied elbow fittings into pneumatic actuators.
5. Connect the air lines to the elbow fittings in the pneumatic actuators
6. Bundle the air lines together and secure out of the way.

A decal with an assortment of .94”Dia. labels are provided with the owner’s manual. These decal labels can be applied to the underside of the clear plastic caps to identify the function of each pneumatic control handle. After the decals have been applied, snap the clear covers into the handles.

Start-up Procedure

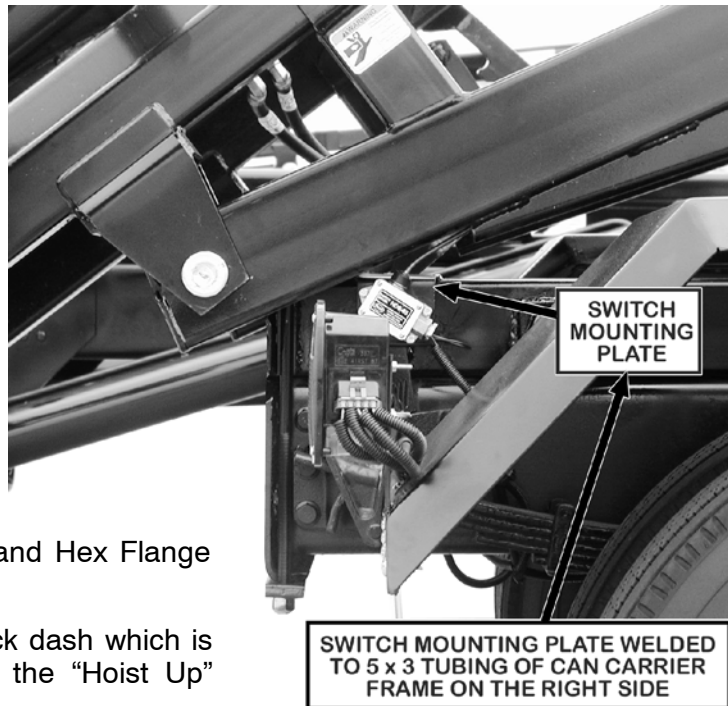
1. Charge the air system of the truck. Check all lines for leakage.
2. Operate the controllers and check for correct hydraulic movement.

NOTE: The controllers pressurize the port toward which the handle is moved. If the function is to be reversed, exchange the air lines at the controller or actuator.

3. After the correct connections have been made and the K-PAC equipment completely installed, engage the P.T.O. to check operation.

IX. HOIST-UP LIGHT INSTALLATION

1. The switch mounting plate (9274-0-681) will be attached to the 5 x 3 rectangular tubing frame above the truck frame (part of 9305-1-0A). Position the switch mounting plate so when the Lift Frame Weldment (9305-10-0) is in the lowered position, the remote switch (79-248) spring will make contact.
2. Weld the switch mounting plate to the tubing with .19” welds.
3. Mount the remote switch (79-248) to the mounting plate with 1/4NC x 1-1/4” Cap Screws and Hex Flange Lock Nuts.
4. Pick a suitable location on the truck dash which is plainly visible to the operator for the “Hoist Up” warning light. Do not install light at this time.
5. Drill a 3/4” diameter hole for the light. The “Hoist Up” decal is to be located under or near the warning light. Do not install light at this time.
6. Two 16’ long pigtailed with bullet terminals are provided. The female bullet terminals will be used at the light. The male bullet terminals on the pigtail may be cut-off if not used.

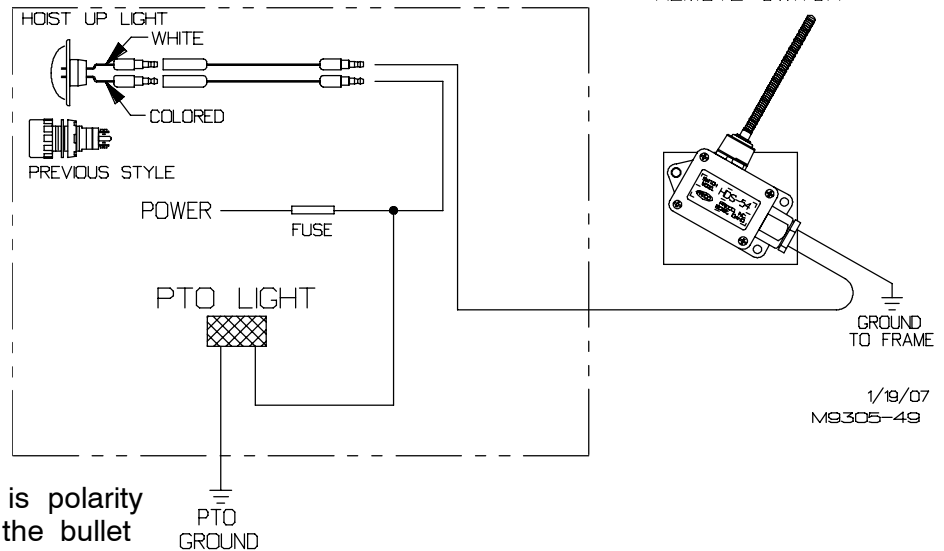


M9305-50

7. Connect the pigtail wires to the power source and ground per the wiring diagram.

NOTE: the optional Air TRUCK CAB

Control Tower also has a hoist-up light. Power wires from both lights can be "T" connected and ground wires can be "T" connected. Do not wire in series as if one light should fail, neither light would function.



8. CAUTION: The LED warning light is polarity sensitive. Connect the bullet terminals from the white ground wire of the light to the pigtail wire running to ground. Connect the bullet terminals from the colored wire of the light to the pigtail wire running to the power source. Verify the light works before proceeding.
9. Slide the rubber grommet off of the light base then push and seat the grommet into the drilled hole. The outside edge of the grommet should be flush with the mounting surface. Insert the light into the grommet by gently pressing in the light.
10. Raise the mast. Check that the "Hoist Up" warning light is on.
11. Lower the mast and check that the warning light goes off. Check to be sure the spring on the remote switch is bent over evenly and not binding or rubbing.

X. HYDRAULIC SYSTEM START-UP PROCEDURE

⚠ Caution: Do not operate the pump until the system is filled with oil. Damage to the pump bearing and shafts can occur.

1. Grease the lift cylinder and fork cylinder pivot points and the container carrier hinge pins.
2. Fill the reservoir with 10 Gallons of a high quality of SAE 10 hydraulic oil i.e.: Arco Duro 150, Harmony 32 AE by Gulf, or Mobil DTE 25. Full level, with cylinders retracted is middle of the dip stick.

IMPORTANT: NEVER USE A FOAMING (DETERGENT) TYPE OIL.



⚠ Warning: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result.

3. Check the carrier for loose parts, tools, clamps or chains.
4. Check the overhead area for obstructions.
5. Clear all equipment from under the rear of the container carrier.
6. Slowly extend the cylinders. Check for binding.
7. Raise and lower the mast and tilt the forks up and down.
8. Extend the cylinders completely a third time, and bleed off any entrapped air.
9. Check all connects and components for leaks.
10. Retract the cylinders, pressurize the lines, and check for leaks.

XI. FENDER INSTALLATION

1. If K-PAC fenders are to be installed, center fender on tire with 4" clearance over the tire and weld fender support tube to carrier frame (See Figure 1).
2. Loosen the 1/2NC x 2" Set Screws and Jam Nut in the fender tubes.
3. Slide the fender on the fender support tube until the outer edge of the fender is even with the outside tire.
4. Tighten the set screws into the front and rear support tubes until the screws are embedded into the support tubes.
5. Loosen the set screws and remove the fenders
6. Drill a .375 diameter hole on the marks made with the set screws
7. Reinstall the fenders. Tighten the set screws and jam nuts.
8. If the truck tail lights interfere with the fenders, dismount tail lights from truck and drill new mounting holes in fender where the mud flap attaches and remount and rewire.

POSSIBLE MOUNTING POSITIONS FOR FENDER SUPPORT TUBES

