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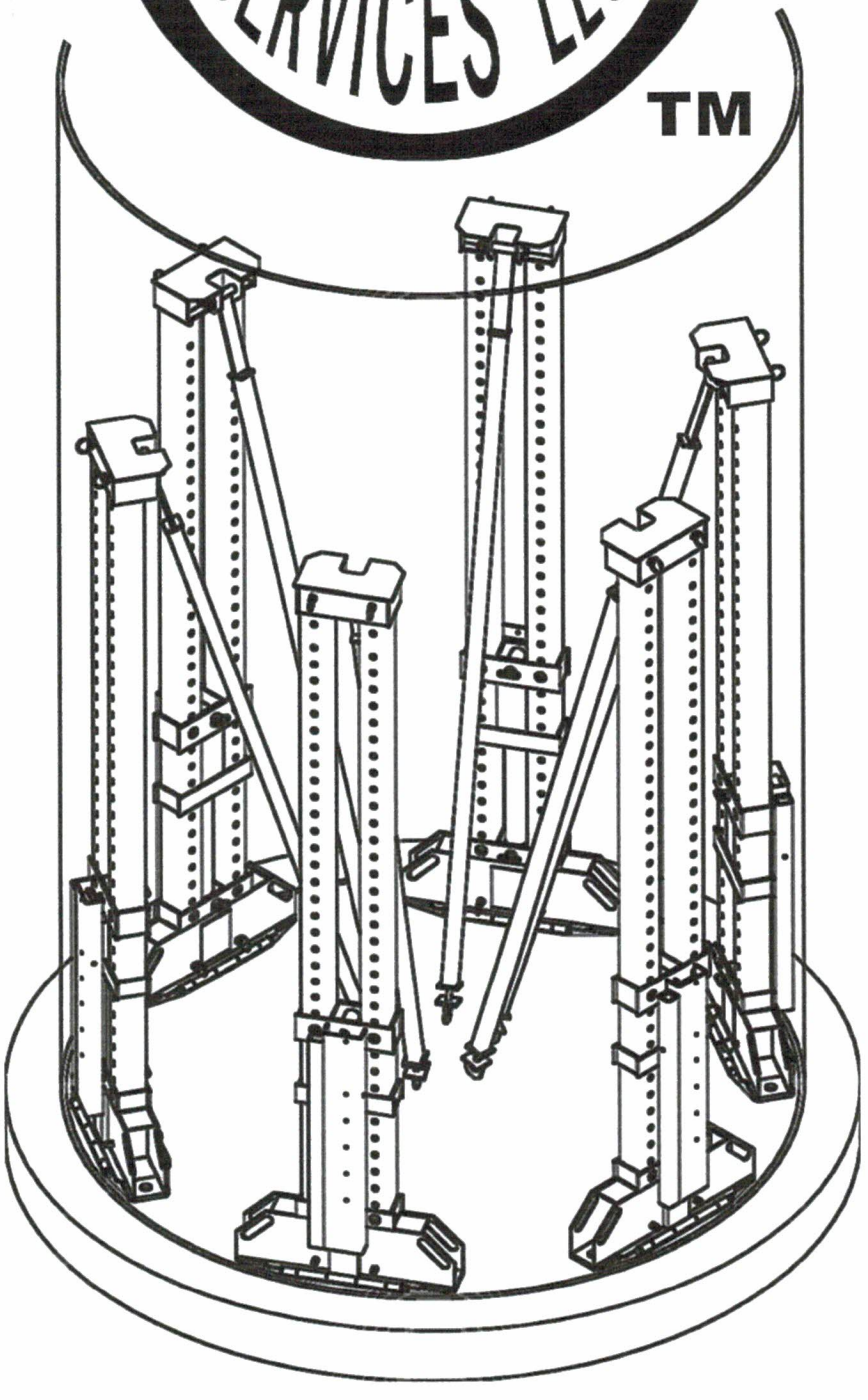
CONSTRUCTION
BAINTER
SERVICES LLC
™

Bainter Twin Mast Hydraulic Tank Jack



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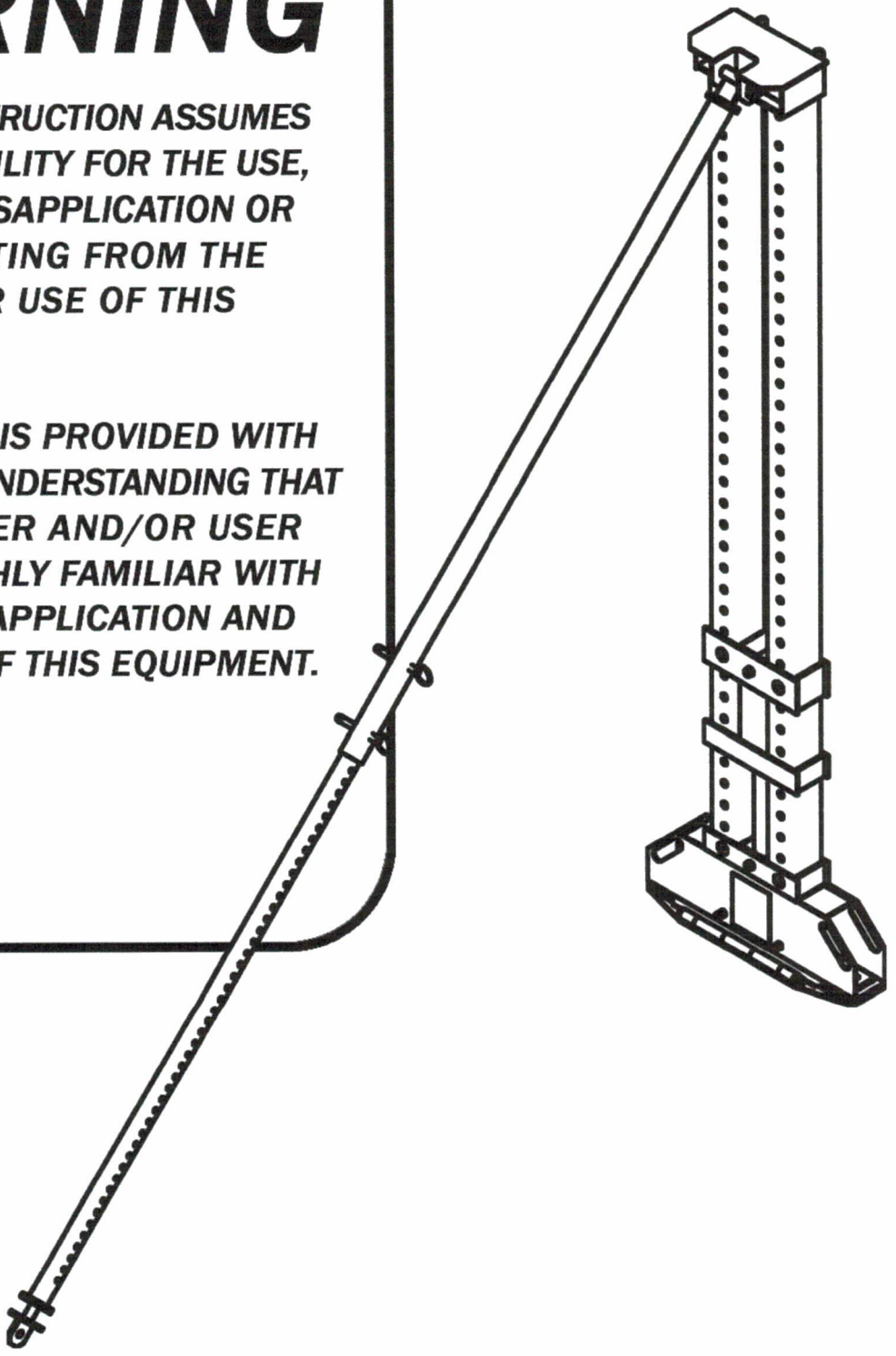
Bainter Twin Mast Hydraulic Tank Jack

WARNING

BAINTER CONSTRUCTION ASSUMES NO RESPONSIBILITY FOR THE USE, OPERATION, MISAPPLICATION OR INJURY RESULTING FROM THE OPERATION OR USE OF THIS EQUIPMENT.

THIS PRODUCT IS PROVIDED WITH THE EXPRESS UNDERSTANDING THAT THE PURCHASER AND/OR USER ARE THOROUGHLY FAMILIAR WITH THE CORRECT APPLICATION AND PROPER USE OF THIS EQUIPMENT.



IMPORTANT SAFETY NOTES

1. In order to ensure safe operation the jacks must be firmly anchored though all anchor points (two at base of mast and one at the base of the adjustable back strut)

2. The jacks must be positioned perfectly vertically for safe opporation.

3. Before operating the equipment read this manual. If you have any questions please contact us before attempting to use the equipment.

Thank you for your purchase of the Bainter Twin Mast Hydaulic Jacking System. We are here to serve your tank and bin construction needs with equipment that makes your work easier, faster, and safer.

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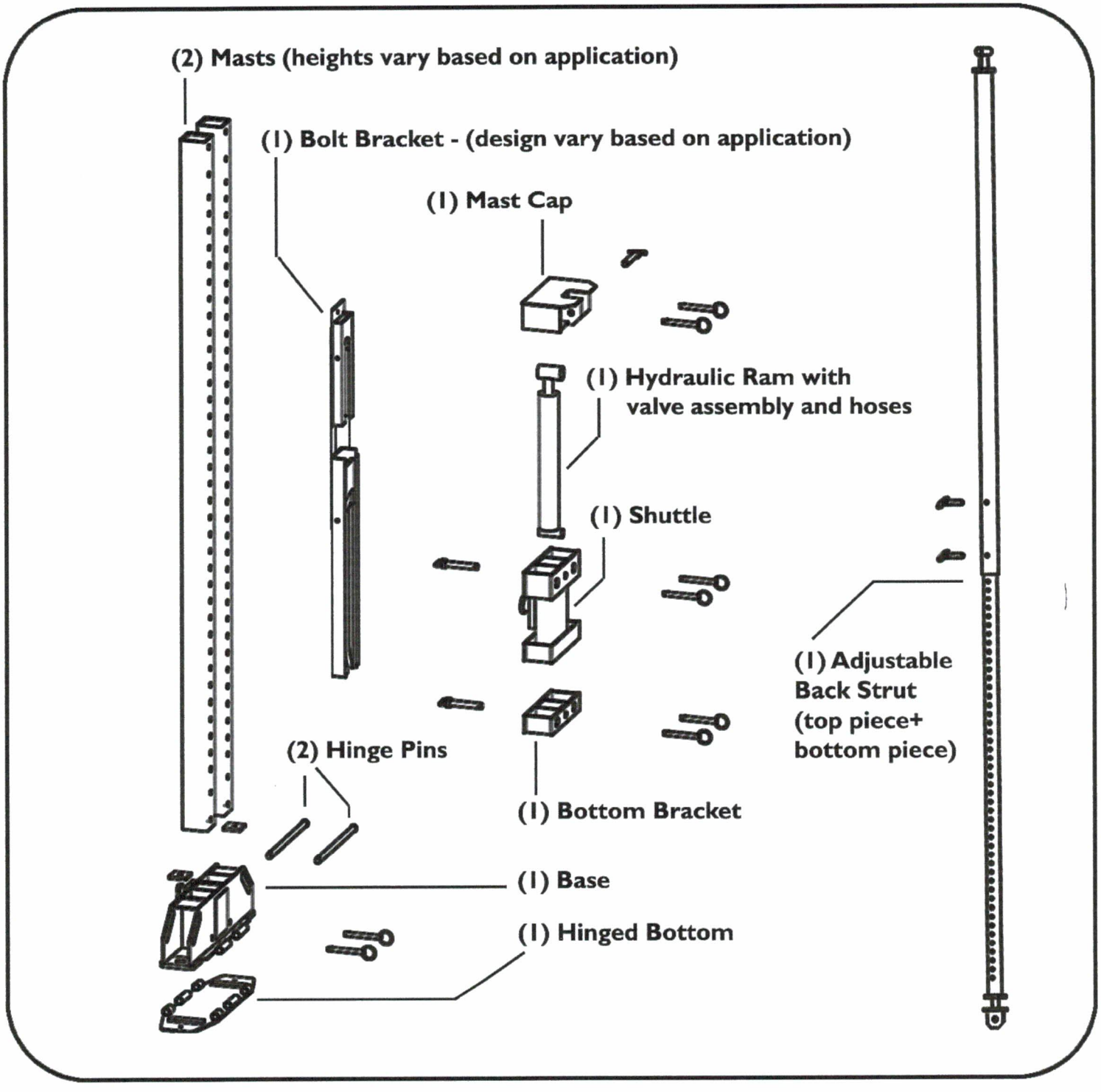
Bainter Twin Mast Hydraulic Jack Parts



BAINTER TWIN MAST HYDRAULIC TANK JACK

SAFETY FEATURE

CHECK VALVE SYSTEM PREVENTS SILO FROM FALLING IN THE EVENT OF A LINE BREAK.

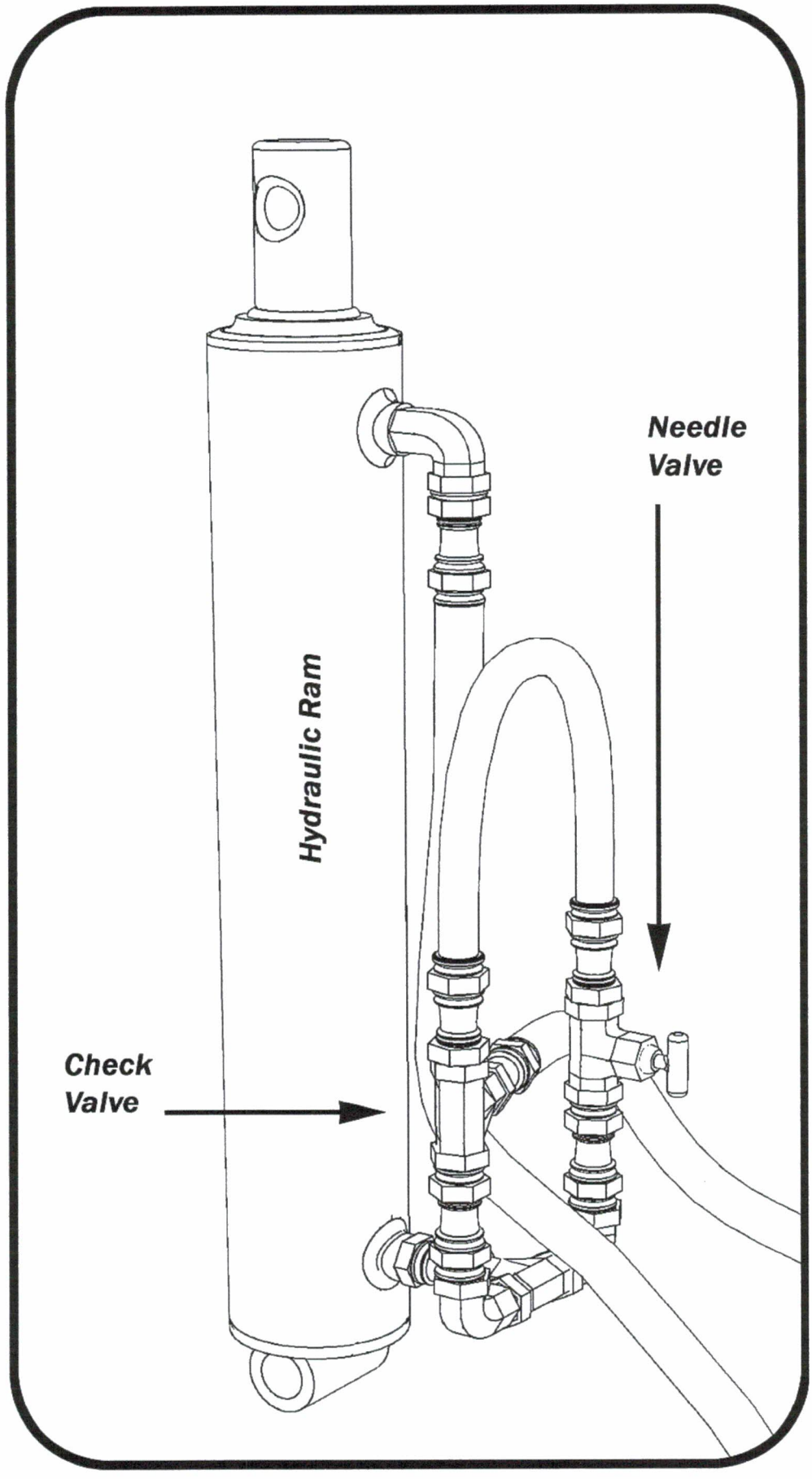
OPERATION DETAILS

Always make sure needle valve is closed when raising silo.

When the needle valve is closed the check valve allows the hydraulic fluid to flow through it in only one direction.

In the event of a line break this will prevent the silo from falling.

In order to lower hydraulic ram open needle valve 2 to 3 turns.

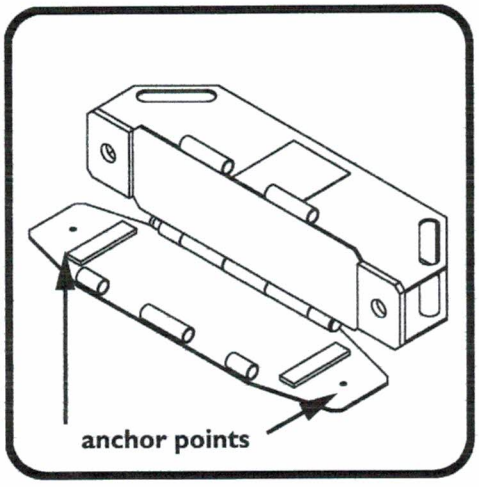


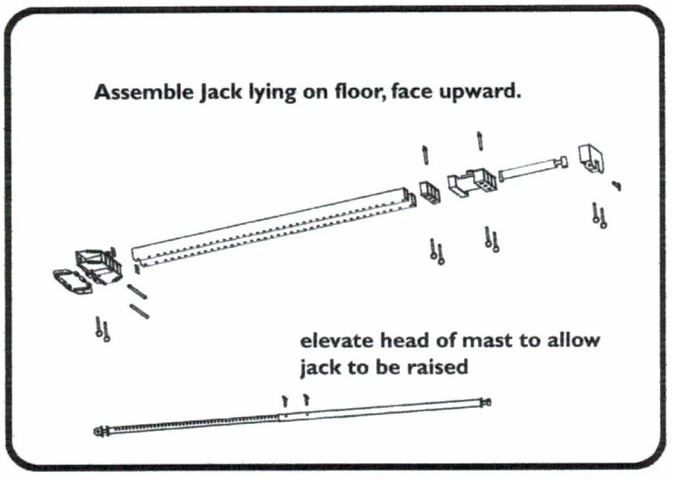
Step 1

Setting up the jacks

1. Install the foundation sheet or angle.

2. Locate and install the base plate and angles. The jack template plate (P/N X1010-020) is used to locate the base plate in relation to the foundation sheet and the primary vertical seam. The base plates can be leveled by adjusting the height of the base plate support clips (P/N X1010-008) and adding/removing shims between the base plate (P/N X1010-009) and the floor. Anchor bolts must be used to secure the angles to the concrete foundation or ring wall.





3. Locate and install the jack strut anchor (P/N X1010-021 - concrete or cant steel floor and P/N X1010-022 – wedge shaped steel floor). If a steel floor is installed the location of the strut should be on an existing seam perpendicular to the tank wall. On a concrete floor the jack strut anchor should be located approximately 161" behind the jack so that the strut is at a 45 degree angle with the ground and secured with an anchor bolt.

4. Completely assemble the jacks, including the wind strut, while the jacks are laying horizontally on the ground.

5. After the jacks are assembled use the dolly to wheel the assembled jack into place . A forklift can be used to maneuver the jacks in place if available.

6. Pivot the bottom plate of the base on the base plate and secure the anchor bolts.

7. Install the winch yoke and winch and lift the jack vertical. The pins must be installed in the shuttle with the shuttle at the lowest position before raising the jack with the winch. FAILURE TO SECURE THE PINS IN THE SHUTTLE MAY CAUSE THE JACK TO FALL.

8. Adjust the length of the wind strut to level the jack vertically before securing the strut to the strut anchor. The length of the wind strut can be adjusted by sliding the interior tube to the proper length and aligning the pin holes to install the pins. There are threads located at the end of the back strut for finer adjustment required to level the jack masts.

Elevate head of jack to allow yoke placement

Raise jack with winch, attach strut.

Secure base of strut.

9. Remove the winch yoke and winch.

Step 3

Tank Construction

1. Attach the faceplate to the king pin on the jack and insert the keeper pin below the kingpin to prevent the faceplate from inadvertently falling off of the kingpin. The slotted faceplate should be used when constructing a flat panel tank and the standard faceplate used for chime tanks.

2. Install the first sheet aligning the holes in the faceplate with the lifting holes in the tank. Refer to the construction drawings to determine the location of the bolt holes to be used for lifting the tank. Once the first sheet is installed and aligned, install the rest of the ring.

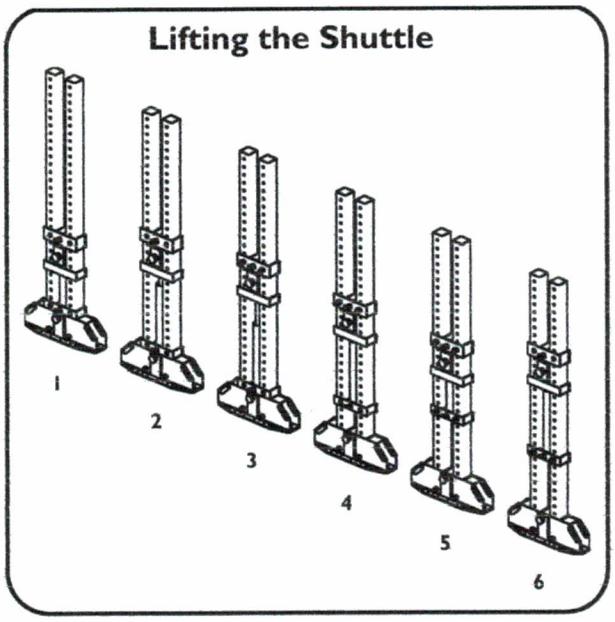
3. The jacks will need to be raised from the minimum height to align the faceplate holes with the proper bolt holes in the tank.

4. Install the Grade 8 bolts through the faceplate and tank wall and hand tighten the nuts. ONLY GRADE 8 *HEX OR SQUARE HEAD* BOLTS CAN BE USED FOR LIFTING BOLTS. THE TANK BOLTS CANNOT BE USED FOR LIFTING .

5. When erecting a flat panel tank the guide pin should be engaged in the bottom of the slot to ensure tank rotation and alignment of the vertical seams. Once the tank rotates the locking pin will engage the king pin to secure it in place.

Step 4

Lifting the Tank



1. Check that the ball valve at each jack is completely closed.

2. Check that the pins are installed in the bottom bracket and that the pins are removed from the shuttle.

3. Turn on the power unit and extend the hydraulic cylinder.

4. Continuously check that the tank remains level and the jacks are lifting equally by measuring the distance from the bottom of the sheet to the foundation at various locations around the perimeter of the tank or by other means . If not, then the cartridges in the flow manifold located on the power unit should be adjusted. Refer to instructions on Operating the Power Unit.

a. When lifting flat panel tank ensure the tank properly rotates during the first lift when the sheet first raises off of the tank stands. If not, then immediately lower the tank and check that the guide pins are engaged in the faceplate slot.

5. Pins should be inserted into the shuttle locking it into place once the hydraulic cylinder is fully extended, approximately 28", and the shuttle pin holes are aligned with the holes in the mast . The cylinder can be slightly extended or lowered to align holes for the pins to freely slide through.

6. Once the shuttle is securely pinned to the mast with both pins, remove the pins from the bottom bracket and place in the pin keeper holes. To remove the pins the hydraulic cylinder can be

extended/retracted to relieve pressure off of the bracket pins . Load is now fully transferred to the shuttle pins.

7. Open the ball valves and fully retract the hydraulic cylinders.

8. Pins should be inserted into the bottom bracket locking it into place once the hydraulic cylinder is fully retracted and the bracket pin holes are aligned with the holes in the mast. The cylinder can be slightly extended or lowered to align holes for pins to slide through.

9. Once the bottom bracket is securely pinned to the mast with both pins remove the pins from the shuttle and place in the pin keeper holes. To remove the pins the hydraulic cylinder can be extended/retracted to relieve pressure off of the bracket pins. Load is now fully transferred to the bottom bracket pins.

10. Re-attach the bottom cylinder bracket pins. This is accomplished by slightly extending the cylinder to engage the bottom pins and disengage the shuttle pins. Close the ball valves before extending the cylinder. Load is now being held by the bottom bracket pins. Remove the top pins.

11. Steps 1 through 10 are repeated until there is enough clearance to install the next row of sheets. A chime tank requires the steps to be repeated 4 times . After the row of sheets are fully raised the shuttle should be pinned before installing the next row of sheets.

Step 5

Lowering the Jack

1. Install the next row of sheets. They will be resting on the ground/floor sheets during assembly.

2. After the sheets are fully assembled, unpin the shuttle and retract the cylinder to lower the tank so that the tank is resting on the newly assembled ring which is supported by the foundation (chimed tank) or tank support stands (flat panel tank).

3. Remove the Grade 8 bolts securing the faceplate to the tank and remove the faceplates from the king pin on the shuttle so that the faceplate doesn't damage the surface of the tank when lowering the shuttle .

4. Open the ball valves and fully retract the cylinder.

5. Attach the rope to the shuttle and wrap the rope at least 3 times around the spool. While supporting the weight of the shuttle with the rope the pins should be removed and the shuttle carefully lowered to the bottom of the jack using the rope.

6. Repeat Steps 2 and 3 for Erecting and Lifting the Tank or proceed to Step 6 to Remove the Jacks if construction of the tank is completed.

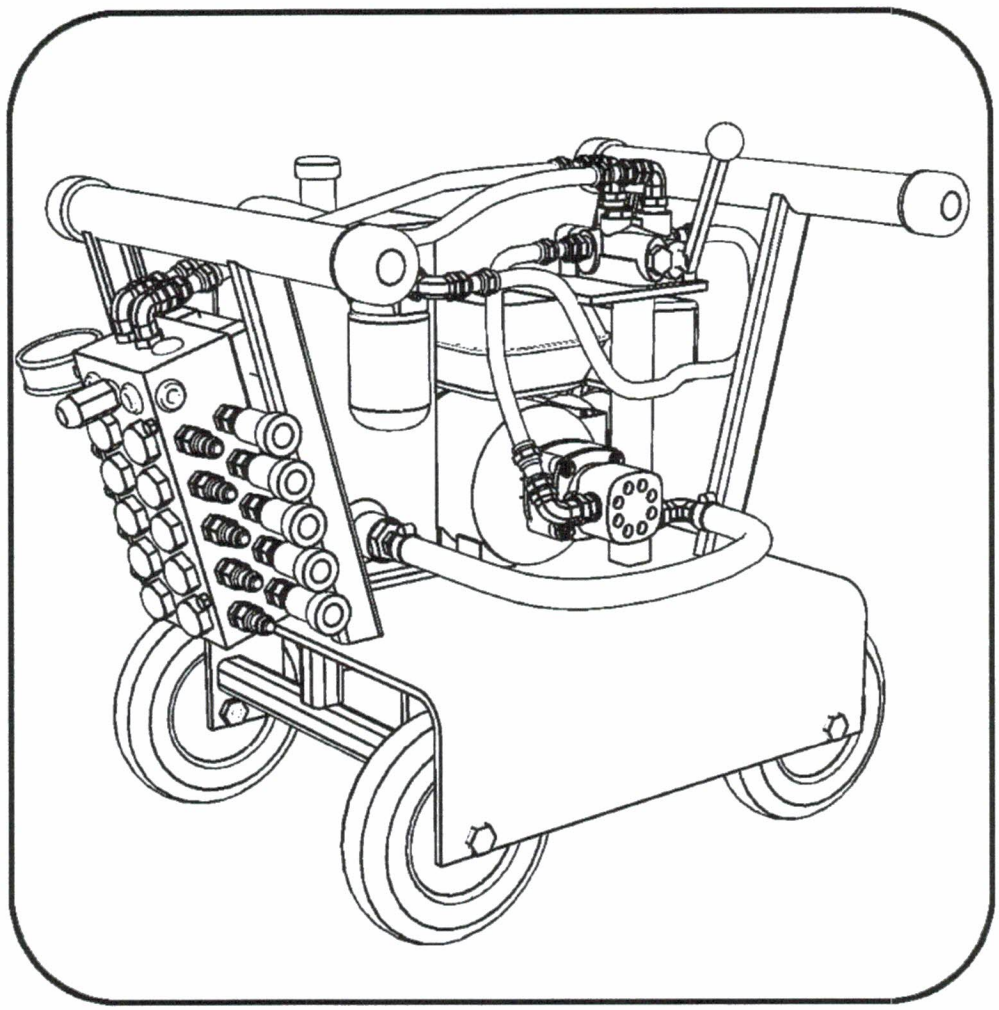
Step 6

Removing the Jacks

1. Repeat Step 1 for Installing the Jacks in reverse order.

If needed the jacks can be disassembled before removing them from the tank.

6.5 HP POWER UNIT with ADJUSTABLE CARTRIDGES



The 6.5 hp power unit with adjustable cartridges is designed to power up to 10 Hydraulic Jacks at a time and provide equal flow of 1/2 gpm to each jack.

The 10 cartridges (located on the front of the manifold) are factory set to be equal but may be adjusted by customer in field to fine tune lifting if needed.

The Power unit is designed to be operated at 1400 psi.

Tips to help the power unit operate at it's best efficiency:

1. Pressure gauge should read 1400 PSI when jacks are under load.

2. Always connect the pair of quick connectors from each jack to a pair of couplers on the manifold, cross connection will prevent correct operation.

3. Change the spin on oil filer, clean the conical filer screen and change the hydraulic oil at least once a season.

4. Maintain the 6.5 hp Honda motor as per the included Honda Manual.

5. When adjusting cartridges, make small gradual adjustments.

6. When using a small number of jacks it may be necessary to "feather" the control lever to find the best working conditions (due to oil bypass rates)

7. Each time the hydraulic lines are reconnected to the power unit the cylinders should all be fully raised and lowered before starting construction to bleed air from the system. Ideally, the hoses are not disconnected until jacking the tank is completed.

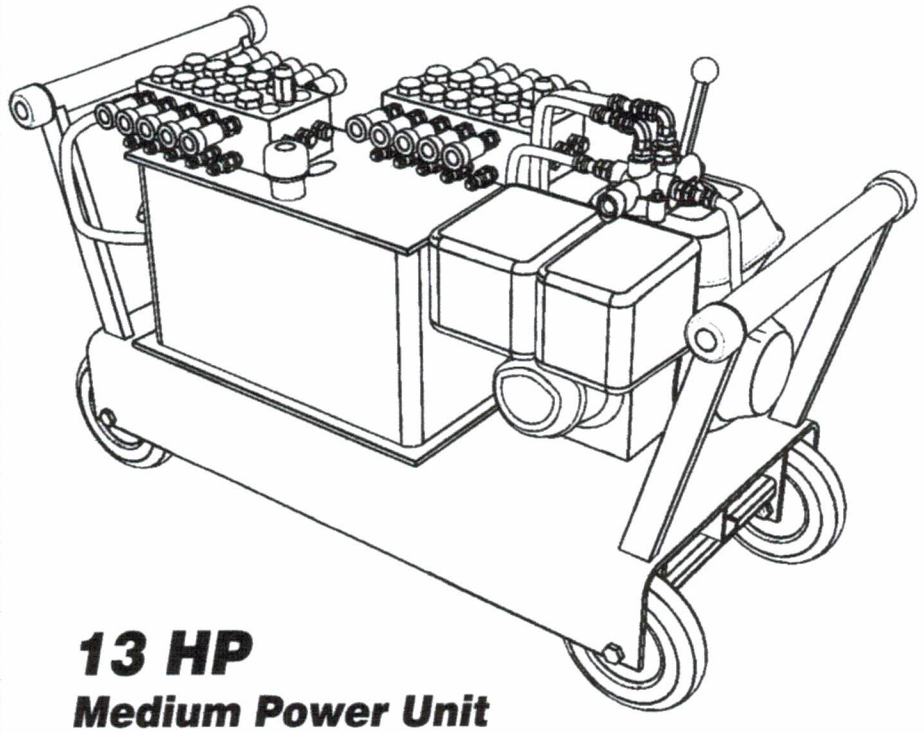
13 HP POWER UNIT with ADJUSTABLE CARTRIDGES

The 6.5 hp power unit with adjustable cartridges is designed to power up to 20 Hydraulic Jacks at a time and provide equal flow of 1/2 gpm to each jack.

The 20 cartridges (located on the front of the manifold) are factory set to be equal but may be adjusted by customer in field to fine tune lifting if needed.

The Power unit is designed to be operated at 1400 psi.

with flow equalization valves



13 HP
Medium Power Unit
for up to 20 Jacks

Tips to help the power unit operate at it's best efficiency:

1. **Pressure gauge should read 1400 PSI when jacks are under load.**

2. **Always connect the pair of quick connectors from each jack to a pair of couplers on the manifold, cross connection will prevent correct operation.**

3. **Change the spin on oil filer, clean the conical filer screen and change the hydraulic oil at least once a season.**

4. **Maintain the 13 hp Honda motor as per the included Honda Manual.**

5. **When adjusting cartridges, make small gradual adjustments.**

6. **When using a small number of jacks it may be necessary to "feather" the control lever to find the best working conditions (due to oil bypass rates)**

7. **Each time the hydraulic lines are reconnected to the power unit the cylinders should all be fully raised and lowered before starting construction to bleed air from the system. Ideally, the hoses are not disconnected until jacking the tank is completed.**

POWER UNIT MAINTENANCE

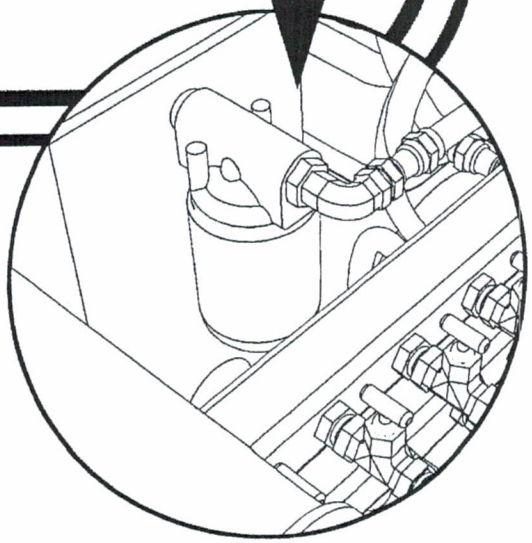
Change oil in Honda motor as per mfg's recommendations

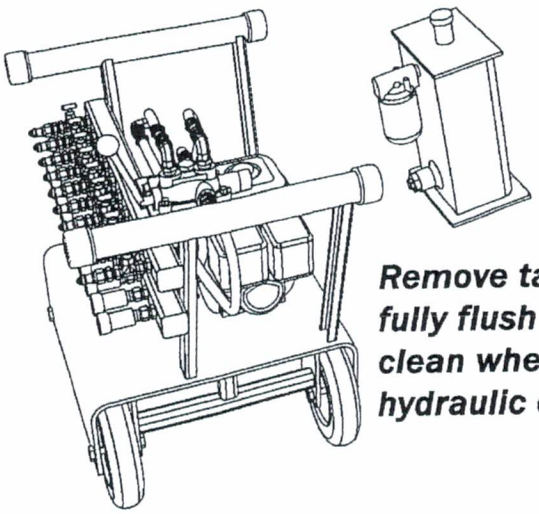
change and flush hydraulic oil system at least once per year and change oil filters at this time as well as check the screen on the reservoir tank outlet.

replace oil filter with 10 micron filter of any brand you desire.

Fleet Guard HF6510 - Baldwin BT839-10 - Wix 51259

Use 30 weight. hydraulic oil in reservoir. Fill reservoir (when jacks are retracted) to 1" below top of tank. If jacks are being used in weather below 40 ^{o} 10 weight oil should be used.



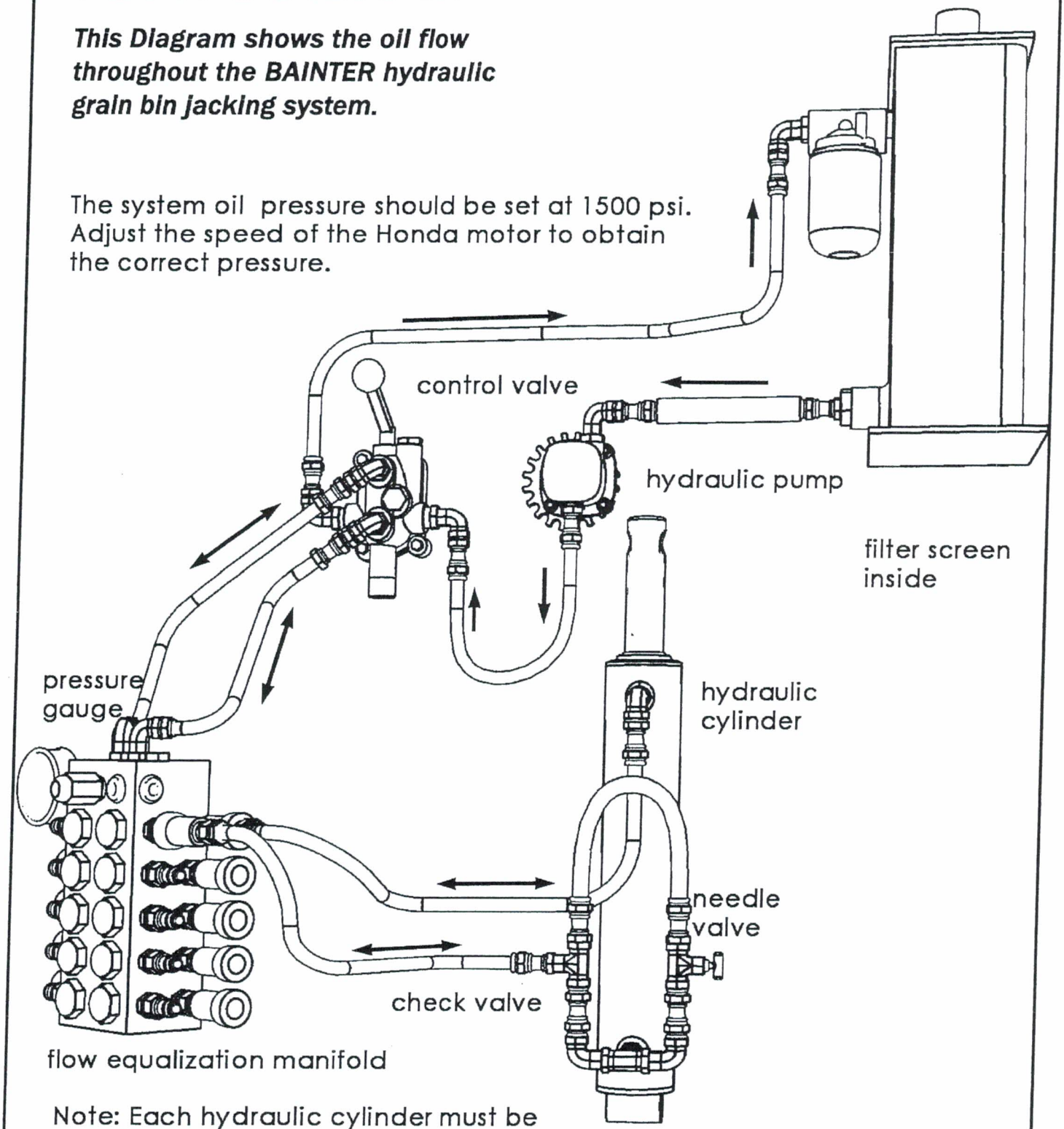


Remove tank to fully flush out and clean when changing hydraulic oil.

HYDRAULIC OIL FLOW DIAGRAM

This Diagram shows the oil flow throughout the BAINTER hydraulic grain bin jacking system.

The system oil pressure should be set at 1500 psi. Adjust the speed of the Honda motor to obtain the correct pressure.



Note: Each hydraulic cylinder must be connected to adjacent male and female quick connectors to allow the manifold to work correctly.