

Operating Instructions for:

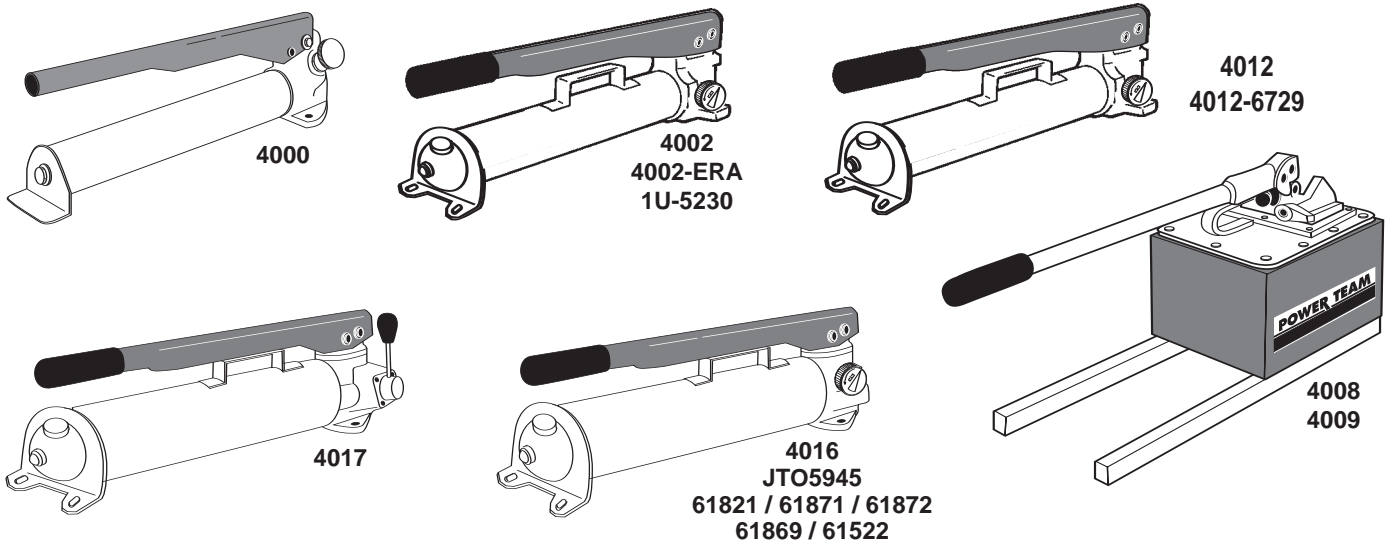
1U-5230 (See 4002)	4012	61869 (See 4016)
4000	543158	61871 (See 4016)
4002	4016	61872 (See 4016)
4002-ER (See 4002)	4017	JTO5845
4008	61522 (See 4002)	(See 4016)
4009	61821 (See 4016)	

SINGLE-STAGE AND TWO-STAGE HYDRAULIC HAND PUMP

Max. Pressure: See Pump Data Plate

Definition: A hydraulic hand pump delivers hydraulic fluid under pressure by directly applied manual effort.

Note: Illustrations depict general pump configurations.



For Use With	Order No.	Stage	Volume & Pressure				Handle Effort		Type	Reservoir				Product Weight	
			Volume per Stroke		Maximum Pressure					Oil Capacity		Usable Oil Capacity			
			In. ³	cm ³	psi	bar	lbs.	kg		In. ³	cm ³	In. ³	cm ³	lbs.	kg.
Single-Acting Cylinders (Pump includes 2-Way Valve)	4000	1	0.069	1.1	10000	700	75	34.0	A	12	197	9	148	5.7	2.6
	4002	1	0.160	2.6	10000	700	145	65.8	B	55	901	45	738	15.8	7.2
	4012	1	0.662	10.8	325	22	145	65.8	B	55	901	45	738	17.2	7.8
		2	0.160	2.6	10000	700									
	4012-Q6729	1	0.662	10.8	325	22	145	65.8	B	55	901	45	738	17.2	7.8
		2	0.160	2.6	2,700	190									
4016	1	2.600	42.6	325	22	140	63.5	B	152	2491	137	2245	26.0	11.8	
	2	0.160	2.6	10000	700										
4008	1	7.350	120.5	325	22	90	40.8	C	2.5 gal.	9.5 l	460	7539	54.9	24.9	
	2	0.294	4.6	10000	700										
Double-Acting Cylinders (Pump includes 4-Way Valve)	4017	1	2.600	42.6	325	22	140	63.5	B	152	2491	137	2245	27.9	12.7
		2	0.160	2.6	10000	700									
4009	1	7.350	120.5	325	22	90	40.8	C	2.5 gal.	9.5 l	460	7539	57.9	26.3	
	2	0.294	4.6	10000	700										

3/8 NPTF oil port(s) on all pumps

SAFETY EXPLANATIONS

Two safety symbols are used to identify any action or lack of action that can cause personal injury. Your reading and understanding of these safety symbols is very important.

 **DANGER** - Danger is used only when your action or lack of action will cause serious human injury or death.

 **WARNING** - Warning is used to describe any action or lack of action where a serious injury can occur.

IMPORTANT - Important is used when action or lack of action can cause equipment failure, either immediate or over a long period of time.

Pictogram Definition



Do not remove this component. For service only. Pressure must be released.

 **WARNING:** It is the operator's responsibility to read and understand the following safety statements,

- Only qualified operators should install, operate, adjust, maintain, clean, repair, or transport this machinery.
- These components are designed for general use in normal environments. These components are not specifically designed for lifting and moving people, agri-food machinery, certain types of mobile machinery or special work environments such as: explosive, flammable or corrosive. Only the user can decide the suitability of this machinery in these conditions or extreme environments. OTC will supply information necessary to help make these decisions.

These instructions are intended for end-user application needs. Most problems with new equipment are caused by improper operation or installation. Detailed service repair instructions or parts lists can be obtained from your nearest OTC facility.

SAFETY PRECAUTIONS



WARNING: To help prevent personal injury,

- Before operating the pump, all hose connections must be tightened with the proper tools. Do not overtighten. Connections need only be tightened securely and leak-free. Overtightening may cause premature thread failure or high pressure fittings to split at pressures lower than their rated capacities.
- Should a hydraulic hose ever rupture, burst, or need to be disconnected, immediately shut off the pump and shift the control valve twice to release all pressure. Never attempt to grasp a leaking hose under pressure with your hands. The force of escaping hydraulic fluid could cause serious injury.
- Do not subject the hose to any potential hazard such as fire, extreme heat or cold, sharp surfaces, heavy impact. Do not allow the hose to kink, twist, curl, or bend so tightly that the fluid flow within the hose is blocked or reduced. Periodically inspect the hose for wear because any of these conditions can damage the hose and result in personal injury.
- Do not use the hose to move attached equipment. Stress may damage the hose and cause personal injury.
- Hose material and coupler seals must be compatible with the hydraulic fluid used. Hoses also must not come in contact with corrosive materials such as creosote-impregnated objects and some paints. Consult the manufacturer before painting a hose. Never paint the couplers. Hose deterioration due to corrosive materials may result in personal injury.
- All components in the hydraulic system must match the maximum pressure rating of the pump.

Pump

- Do not exceed the PSI rating noted on the pump nameplate or tamper with internal high pressure relief valve. Creating pressure beyond rated capacities may result in personal injury.
- Before adding hydraulic fluid, retract the system to prevent overfilling the pump reservoir. An overfill may cause personal injury due to excess reservoir pressure created when cylinders are retracted.
- The load must be under operator control at all times.

Cylinder

- Do not exceed rated capacities of the cylinders. Excess pressure may result in personal injury.
- Do not set poorly-balanced or off-center loads on a cylinder. The load may tip and cause personal injury.
- Stay clear of lifted loads and keep others away.
- Extensions are not recommended for lifting applications.

SET-UP

Hydraulic Connections

IMPORTANT: Seal all hydraulic connections with a high grade, nonhardening thread sealant. Teflon tape may also be used to seal hydraulic connections if only one layer of tape is used. Apply the tape carefully, two threads back, to prevent it from being pinched by the coupler and broken off inside the pipe end. Any loose pieces of tape could travel through the system and obstruct the flow of fluid or cause jamming of precision-fit parts.

1. Clean all areas around the fluid ports of the pump and cylinder. Clean all hose ends, couplers, and union ends. Remove thread protectors from the hydraulic fluid outlets, and connect the hose assembly. Couple hose to cylinder.
2. The use of a hydraulic pressure or tonnage gauge (not included) is strongly recommended. Remove the pipe plug from the gauge port of the valve, thread the gauge into this port and seal as noted above.



WARNING: To help prevent personal injury,

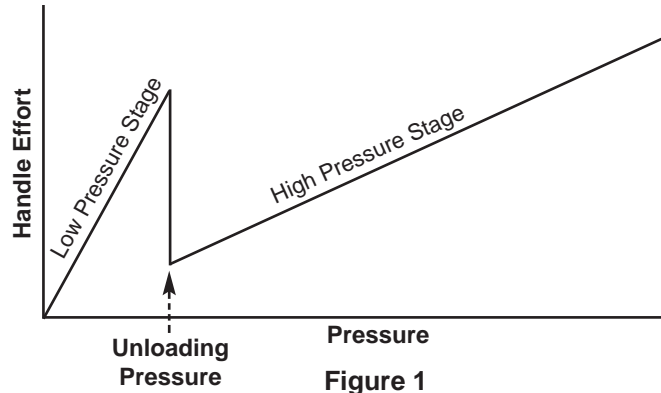
- The gauge must have the same pressure rating as the pump and cylinder. Personal injury can result if the wrong gauge is used.
- Release hydraulic pressure **BEFORE** removing or tightening hose couplings.

OPERATION

The 4008 can be operated only in the horizontal position. All other hand pumps can be operated in a horizontal position or in a vertical position with head pointing downward.

Refer to Table 1 and your pump name plate to determine your style of pump.

IMPORTANT: Figure 1 illustrates the *normal* drop of handle effort experienced when all (*except 4012 and 543158*) two-stage pumps shift from low pressure stage to high pressure stage.



Two-way Valve

Pumps with a two-way valve are for use with single-acting cylinders.

1. To extend the cylinder, turn the valve knob clockwise to a closed (seated) position. **Note: Hand tight only!** Work the pump handle up and down to build pressure.
2. To release pressure, open the valve slowly by turning the knob counterclockwise to control the load.

Four-way Valve

Pumps with a three-position, four-way valve are for use with double-acting cylinders. The hose connection for extending a cylinder can be made to either port. With the handle in the forward position, the fluid is directed to the top fluid port. To maintain (hold) pressure, stop the pumping action. When the valve handle is in the center position, fluid flow is blocked to both ports.



WARNING: The operator should always release the pressure slowly.

PREVENTIVE MAINTENANCE

IMPORTANT: Any repair or servicing that requires dismantling the pump must be performed in a dirt-free environment by a qualified technician.

Lubrication

Apply lubricant regularly to all pivot and rubbing points. Use a good grade of No. 10 motor oil or grease. Do not use dry lubricants.

Bleeding Air From the System

Air can accumulate in the hydraulic system during the initial set-up or after prolonged use, causing the cylinder to respond slowly or in an unstable manner. To remove the air:

1. Position the cylinder at a lower level than the pump, and turn the cylinder rod end down.
2. Extend and retract the cylinder several times without putting a load on the system. Air will be released into the pump reservoir. Follow the fluid level instructions for your reservoir type, release the air from the reservoir, and top off the fluid supply.

Bleeding Air From The Pump

When the pump is first put into use, or after refilling the pump's reservoir it may be necessary to bleed any trapped air from the pump. If this is not done the pump will not function properly (will not build pressure or has very spongy operation).

To bleed air from the pump, turn the pressure control knob counterclockwise (CCW) and operate the pump handle up and down approximately twenty times. Turn the pressure control knob clockwise (CW) to its full stop position. The pump should now be bled of air and ready to use.



Hydraulic Fluid Level

WARNING: Cylinder(s) must be fully retracted before checking the fluid level. Release all system pressure before breaking any hydraulic connection in the system.

Check the hydraulic fluid level in the reservoir periodically. Use a funnel with a filter to add hydraulic fluid if needed.

Refer to Table 1 for your reservoir type.

For models with Reservoir Type A: Place the pump in a vertical position with the pump head facing upward. Unscrew and remove the pump head from the reservoir. The fluid level within the reservoir should come to the fluid level mark indicated on the reservoir body decal. Before replacing the pump head, visually inspect the o-ring which seals the pump head/reservoir assembly. Replace this o-ring if it is worn or damaged. Reinstall pump head to reservoir and tighten securely. Check for leaks.

For models with Reservoir Type B: Remove the filler cap.

The fluid level should come to the bottom edge of the filler hole when the pump is level and resting horizontally on its base and the cylinders are retracted (see Figure 2 - appropriate view depends on model of pump).

For models with Reservoir Type C: Remove the filler cap.

The fluid level should be 1/2 inch (12.7 mm) from the cover plate when the pump is level and resting horizontally on its base and the cylinders are retracted.

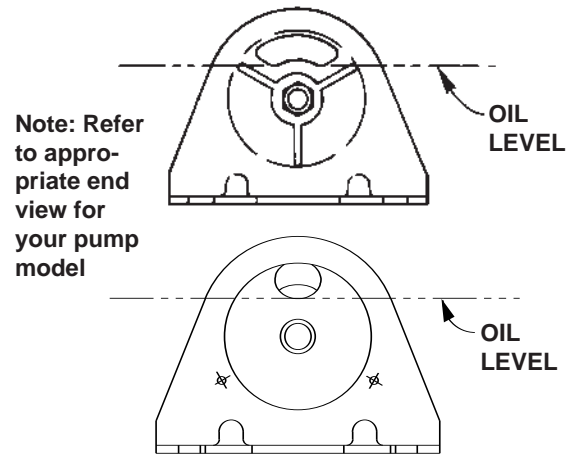


Figure 2

Draining And Flushing The Reservoir

Drain, clean and replenish the reservoir with high-grade, approved hydraulic fluid yearly or more often if necessary. The frequency of fluid change will depend upon the general working conditions, severity of use and overall cleanliness and care given the pump.

IMPORTANT: Clean the exterior of the pump first. After draining and flushing the reservoir, drain and clean the other hydraulic system components (hoses, cylinders, etc.) before connecting them to the pump again. This will help prevent contaminated fluid from entering the pump.

Refer to Table 1 for your reservoir type.

For models with Reservoir Type A:

1. Unthread and separate the pump head from the reservoir. Drain the reservoir of the used hydraulic fluid.
2. Flush out reservoir with a small amount of clean hydraulic fluid. Clean the pump intake filter.

IMPORTANT: Removing the filter from the pump assembly could result in its breakage. Attempt to clean it as well as possible with it installed.

3. Refill the reservoir and reassemble the pump head to the reservoir. Tighten securely. Check for leaks.

For models with Reservoir Type B:

1. Remove the filler cap. Drain the hydraulic fluid through filler hole.
2. Remove the nut from the tie rod. Separate the reservoir from the pump body. Clean the reservoir and filter.

IMPORTANT: Removing the filter from the pump assembly could result in its breakage. Attempt to clean it as well as possible with it installed.

3. Reassemble and fill the reservoir with hydraulic fluid. Replace the filler cap.

For models with Reservoir Type C:

1. Remove the ten screws fastening the reservoir cover to the reservoir, and lift the pump and valve assemblies off.
2. Drain all hydraulic fluid and flush reservoir with a small amount of clean hydraulic fluid.
3. Remove the pump assembly filter, rinse it clean, and reassemble.
4. Refill the reservoir with hydraulic fluid. Place the pump and valve assembly (with gasket) on the reservoir, and thread the ten screws.

Tighten securely and evenly.

TROUBLE-SHOOTING



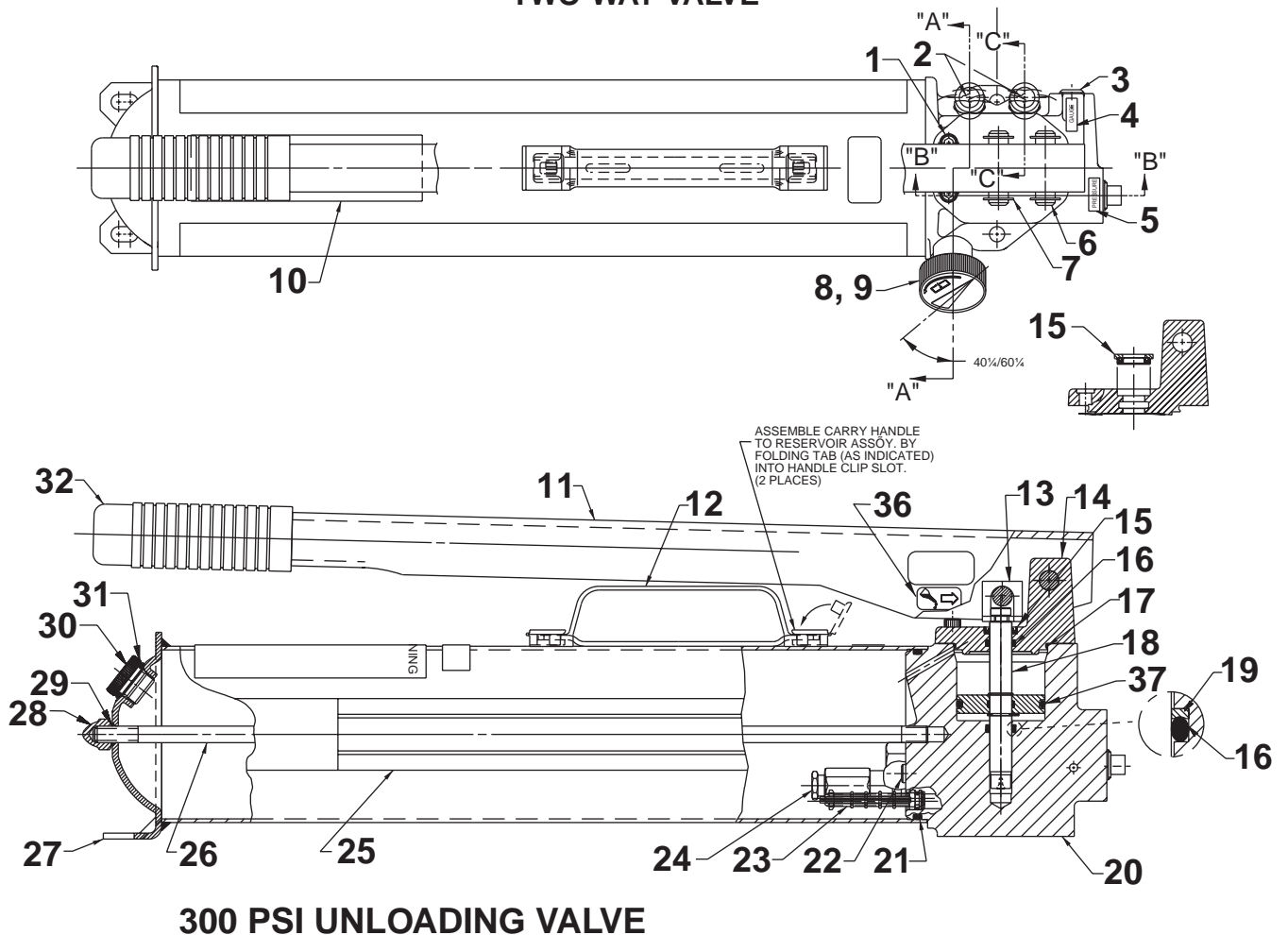
WARNING: To help prevent personal injury, always release pump pressure and disconnect hoses(s) from pump before making repairs.

Refer to the appropriate pump parts list during trouble-shooting. Repairs must be performed in a dirt-free environment by qualified personnel familiar with this equipment.

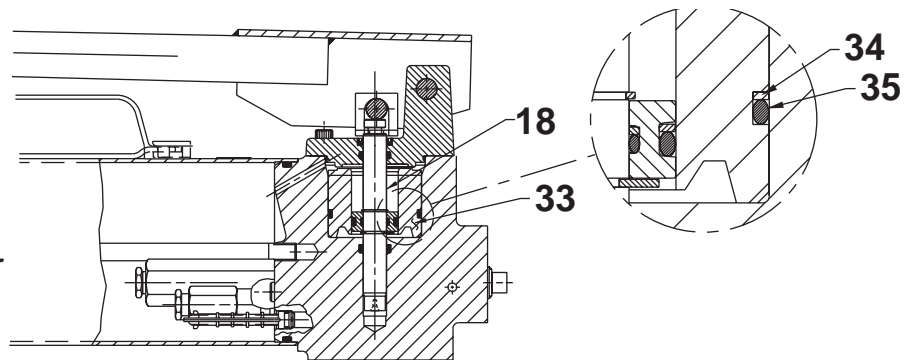
PROBLEM	CAUSE	SOLUTION
Pump losing pressure	<ol style="list-style-type: none"> 1. System components leaking 2. Directional control valve leaks or not adjusted properly 3. Fluid leaking past outlet check seat(s) 	<ol style="list-style-type: none"> 1. Repair or replace as necessary 2.* Reseat, repair, or replace directional control assembly and correctly adjust 3.* Check for dirt. Reseat pump body and/or replace poppet(s) or ball(s)
Handle rises after each stroke	<ol style="list-style-type: none"> 1. Fluid leaking past outlet check seat(s) 	<ol style="list-style-type: none"> 1.* Check for dirt. Reseat pump body and/or replace poppet(s) or ball(s)
Pump not delivering fluid	<ol style="list-style-type: none"> 1. Low fluid level in reservoir 2. Intake filter is dirty 3. Seats worn and not seating properly 	<ol style="list-style-type: none"> 1. Check fluid level per instructions 2. Remove reservoir and clean 3.* Repair seats or replace pump body
Pump does not reach full pressure	<ol style="list-style-type: none"> 1. Low fluid level in reservoir 2. System components leaking 3. Directional control valve leaks or not adjusted properly 4. Improperly adjusted relief valve 5. Fluid leaking past inlet or outlet checks or high pressure piston seal damaged 	<ol style="list-style-type: none"> 1. Check fluid level per instructions 2. Repair or replace as necessary 3.* Reseat, repair, or replace directional control assembly and correctly adjust 4.* Readjust 5.* Reseat or repair inlet or outlet checks or replace high pressure piston seal
Pump handle can be pushed down (slowly) without raising the load	<ol style="list-style-type: none"> 1. Inlet checks are not seating 2. Damaged piston assembly or piston seals leaking 	<ol style="list-style-type: none"> 1.* Check for dirt and/or reseat valve seats 2.* Replace piston assembly and/or piston seals
Pump handle operates with a spongy action	<ol style="list-style-type: none"> 1. Air trapped in system 2. Too much fluid in reservoir 	<ol style="list-style-type: none"> 1. Position cylinder lower than pump. Extend and return cylinder several times. Follow bleeding instructions. 2. Check fluid level per instructions
Pump handle effort drops significantly after some pressure has been obtained	<ol style="list-style-type: none"> 1. This is normal operation on most two-stage hand pumps 	

*OTC recommends these hand pump repairs be performed by an Authorized Hydraulic Service Center.

**MODEL C
TWO-STAGE HYDRAULIC HAND PUMP
TWO-WAY VALVE**



1000 & 1400 PSI UNLOADING VALVE



WARNING

To help prevent personal injury, all repairs **MUST** be performed by a qualified person trained in the repair of hydraulic equipment.

Item No.	Part No.	No. Req'd	Description	Item No.	Part No.	No. Req'd	Description	
1	251564	4	Cap Screw (1/4-20 UNC x 3/4 Lg.; Torque to 200 in. lbs.)				models except 61871)	
2	†*215907	2	Decal (DO NOT REMOVE)		21278-86	1	High Pressure Relief Valve (Set at 8,700/9,300 PSI; For 61871)	
3	14972	1	Plug (1/4 NPTF)	25	308477	1	Trade Name Decal (For 4016)	
4	215300	1	Decal (GAUGE)		201826	1	Trade Name Decal (Service Guard; For JT05845)	
5	215301	1	Decal (PRESSURE)		201829	1	Trade Name Decal (Rotunda; For 61821)	
6	211742	2	Dowel Pin	26	252502	1	Tie Rod	
7	211743	4	Retaining Ring (For 7/16" shaft. Note: Expand the retaining ring to .440 dia. maximum during installation.)	27	58915	1	Reservoir	
8	351087	1	Knob	28	10842	1	Hex Cap Nut (3/8-16 UNC; Torque to 90/110 in. lbs. Fully engage acorn nut onto tie rod before torquing to body.)	
9	10556	2	Set Screw (Torque to 50/70 in. lbs. Note: Screw in valve stem until seated (bottomed out). Then position knob as shown approximately 1/16" from casting surface. Lock in place with set screw)	29	13943	1	O-ring (1/2 X 3/8 X 1/16; Urethane)	
10	*305977	1	Warning Decal		11439	1	O-ring (1/2 X 3/8 X 1/16; Viton)	
11	61806BL2	1	Handle (For 4016)		17716	1	O-ring (1/2 X 3/8 X 1/16; EPR)	
	61806WH2	1	Handle (For 61821& JT05845)	30	351245	1	Filler Cap	
	47417	1	Handle Assembly (For 61871 & 61872)	31	10274	1	O-ring (.87 x .68; Nitrile)	
12	58048	1	Carry Handle		253597	1	O-ring (.87 x .68; Viton)	
13	350923	1	Piston Clip	32	253598	1	O-ring (.87 x .68; EPR)	
14	58485WH2	1	Pump Body Cap (Iron)		211769	1	Handle Grip (For JT05845, 4016 & 61821)	
15	*15092	1	Rod Wiper		206731	1	Handle Grip (For 61871 & 61872)	
	†19321	1	Rod Wiper	33	308486	1	Adapter (For 61871 & 61872)	
	•250841	1	Rod Wiper	34	*†19137	1	O-ring Backup Washer (2" x 1-13/16 x 3/64)	
16	*10271	2	O-ring (11/16 x 1/2 x 3/32)				For 61871 & 61872	
	†11445	2	O-ring (11/16 x 1/2 x 3/32)	35	*10913	1		O-ring (2" x 1-13/16 x 3/32)
	•19406	2	O-ring (11/16 x 1/2 x 3/32)		†19015	1		O-ring
17	*251603	1	O-ring (2-1/8 X 2" X 1/16)	36	2532434	1	Decal, Oil Pivot Pins	
	†18985	1	O-ring (2-1/8 X 2" X 1/16)	37	*10294	1	O-ring (2.00 x 1.75 Nitrile)	
	•251604	1	O-ring (2-1/8 X 2" X 1/16)		†11447	1	O-ring (2.00 x 1.75 Viton)	
18	253268	1	Piston Ass'y (For 4016, 61821 & JT05845)		•215366	1	O-ring (2.00 x 1.75 EPR)	
	253270	1	Piston Ass'y (For 61871 & 61872)	PARTS INCLUDED BUT NOT SHOWN				
19	*†213987	1	O-ring Backup Washer (Note: Assemble with concave surface toward o-ring.)		10029	4	Cap Screw (5/16-18 UNC x 3/4 Lg.; For 61871 & 61872)	
20	64597	1	Pump Body (Includes pin [Item #24 on back sheet 2 of 2].)		10474	1	Fitting (For 61871)	
21	*214693	1	O-ring (3-7/8 x 3-5/8 x 1/8)		36890	1	Hose Assembly (For 61871)	
	†19048	1	O-ring (3-7/8 x 3-5/8 x 1/8)		201826	1	Trade Name Decal (For JT05845)	
	•214072	1	O-ring (3-7/8 x 3-5/8 x 1/8)		†205724	1	Decal (Viton seals)	
22	10427	1	Plug (1/8 NPTF)		•250328	1	Decal (EPR seals)	
23	*215075	1	Filter Plug		308588	1	Handle Retainer (For 61871 & 61872)	
24	21278	1	High Pressure Relief Valve (Set at 10,100/10,700 PSI; For all					

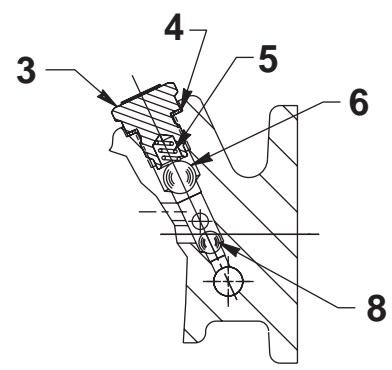
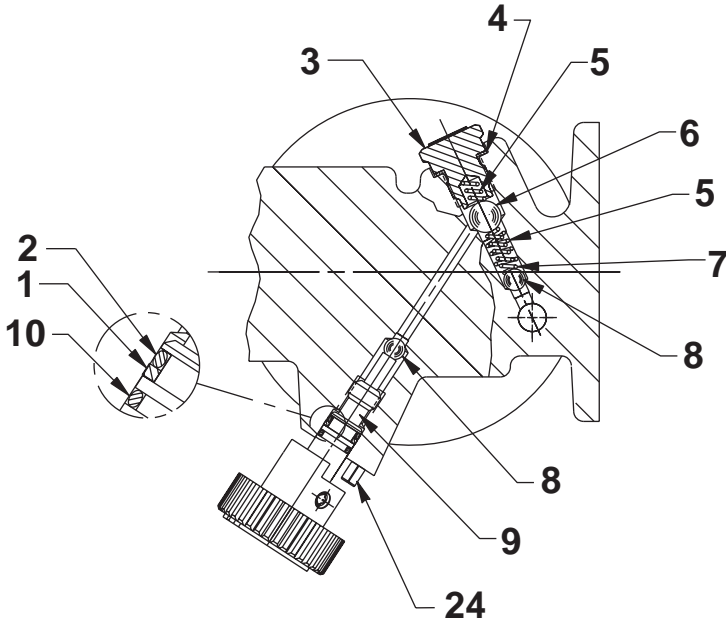
Part numbers marked with an asterisk (*) are contained in Standard Repair Kit No. 300942.

Part numbers marked with a dagger (†) are contained in Viton Seal Kit No. 300690.

Part numbers marked with a bullet (•) are contained in EPR Seal Kit No. 300691.

Note: Shaded areas reflect last revision(s) made to this form.

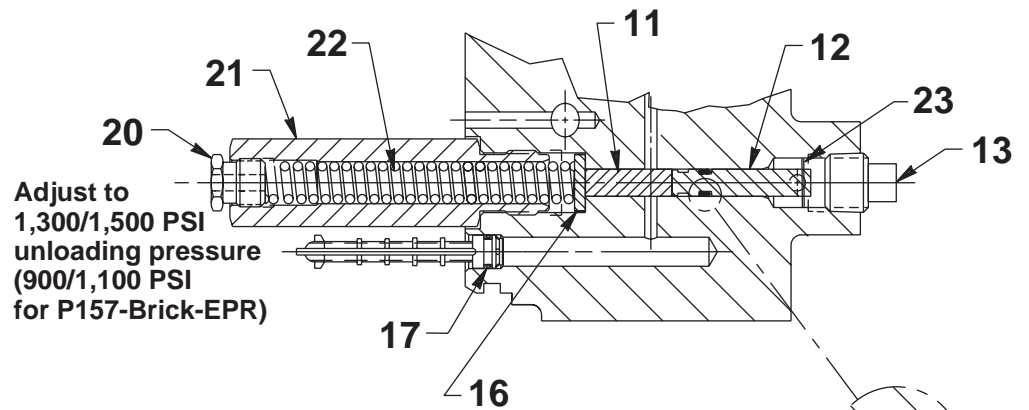
SECTION VIEWS



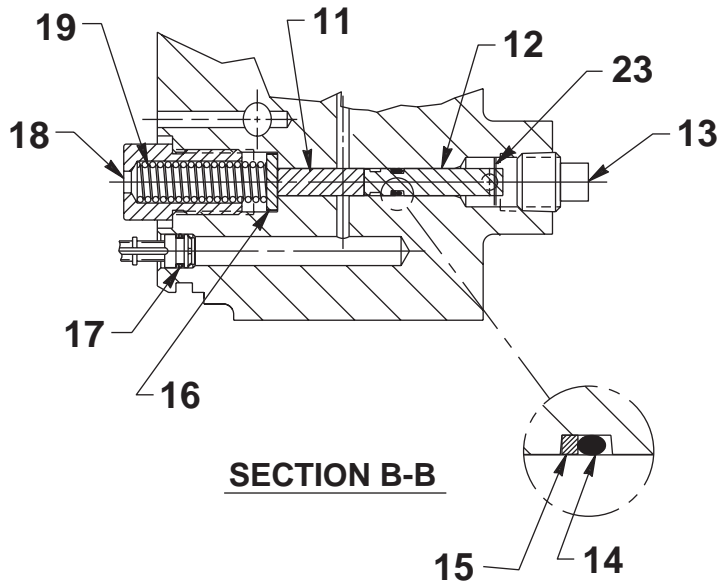
SECTION A-A

SECTION C-C

1000 & 1400 PSI UNLOADING VALVE



300 PSI UNLOADING VALVE



Parts List, Form No. 101800

Item No.	Part No.	No. Req'd	Description
1	*†•15085	1	O-ring Backup Washer (7/16 x 5/16 x 3/64)
2	*10267	1	O-ring (7/16 x 5/16 x 1/16)
	†18974	1	O-ring
	•13472	1	O-ring
3	351952	2	Valve Screw (Torque to 350/370 in. lbs.)
4	*14874	2	Copper Washer (.700 x 1/2 x 1/32 thk.)
5	*10444	3	Compression Spring (3/16 I.D. x 13/32 Lg.)
6	*10378	2	Steel Ball (3/8 Dia.)
7	*211797	1	Compression Spring (5/32 O.D. x 5/8 Lg.)
8	*10375	3	Steel Ball (1/4 dia.)
9	350185	1	Release Valve Screw
10	14763	1	O-ring (.43 x .31; Urethane)
11	14588	1	Dowel Pin
12	252275	1	Unloading Valve Piston Kit (Includes #252273 [Item #23] retaining ring & unloading valve piston)
13	11127	1	Plug (3/8 NPTF)
14	*10265	1	O-ring (5/16 x 3/16 x 3/64)
	†11437	1	O-ring
	•17714	1	O-ring
15	*†•15174	1	O-ring Backup Washer (5/16 x 3/16 x 3/64)
16	214692	1	Unloading Valve Washer
17	*12557	1	O-ring (11/32 x 7/32 x 1/16)
	†18973	1	O-ring
	•215375	1	O-ring
18	308430	1	Spring Retainer (For 4016, 61821 & JT05845)
19	214694	1	Compression Spring (For 4016, 61821 & JT05845)
20	305912	1	Valve Adjusting Screw (For 61871 & 61872)
21	308488	1	Spring Retainer (For 61871 & 61872)
22	214808	1	Compression Spring (15/32 O.D. x 4-7/16 Lg.; For 61871 & 61872)
23	252273	1	Retaining Ring (included in item #12)
24	10714	1	Slotted Spring Pin (Included with pump body [Item #20 on back sheet 1 of 2].)

Part numbers marked with an asterisk (*) are contained in Standard Repair Kit No. 300942.

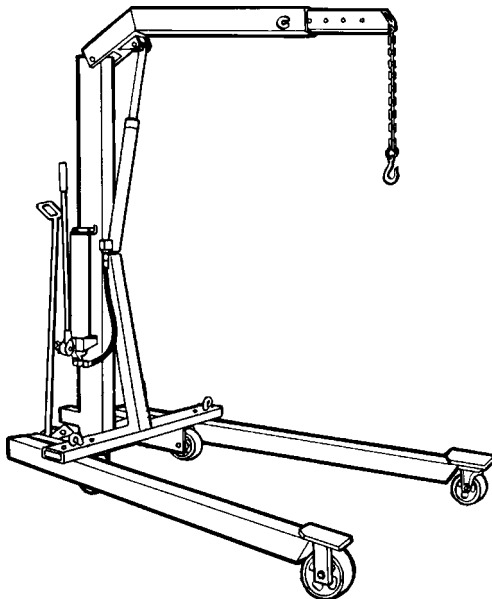
Part numbers marked with a dagger (†) are contained in Viton Seal Kit No. 300690.

Part numbers marked with a bullet (•) are contained in EPR Seal Kit No. 300691.

Operating Instructions for:

014-00071B	61146
014-00072B	61147
016-00029	ADCE-61146
016-00030	D-01001AA
1819	D-01002AA
1820	

Heavy Duty
Mobile Floor Crane



Max. Capacity	014-00071B	014-00072B
	016-00029	016-00030
	1819, 61146	1820, 61147
	ADCE-61146	D-01002AA
	D-01001AA	
Boom retracted	2,200 lbs.	4,400 lbs.
Boom extended	1,650 lbs.	3,300 lbs.

Safety Precautions



CAUTION: To help prevent personal injury and/or equipment damage,

- Read and carefully follow the safety precautions and operating instructions for this floor crane and the pump and ram used with this floor crane. Most problems with new equipment are caused by incorrect operation or assembly.
- Wear eye protection that meets the requirements of ANSI Z87.1 and OSHA.
- Do not raise the boom with the legs in the upright position; the legs must be pinned through the cross member.
- The maximum relief valve pressure setting of any power source used with this floor crane must not exceed 8,800 PSI.
- Never attempt to lift a load heavier than the rated capacity of the crane boom, because overloaded equipment can fail.
- Stay out from underneath a load being lifted or suspended.
- To prevent tipping: do not lift or move a load that has a center of gravity extending beyond the legs or wheels; do not move a loaded crane unless the load has been lowered as close to the floor as possible; use extreme caution when moving a loaded crane on an incline or around a corner, because the load can swing out beyond the wheels and cause the crane to tip over.
- Do not modify this floor crane. If a modification is needed, contact OTC Division Technical Services.
- The owner of the crane is responsible for ensuring that procedures are followed according to federal, state, and local safety regulations.

Operating Instructions

Setup

1. Remove banding material and tape.
2. Locate pins, chain assembly, and small parts packed in a carton attached to the floor crane.
3. Remove the pump and hose assembly from the shipping carton.
4. Position the legs under the cross member:
 - a. Grasp one of the legs, and remove the leg catch pin holding the leg in an upright position against the crane mast. See Figure 1.
 - b. Slowly swing the leg back and down, and then under the cross member.
 - c. Lock the leg in place by sliding the pin through the cross member and into the leg.
 - d. Repeat Steps 4a - 4d for the other leg.

Caution: Legs must be locked in place under the cross member; if the legs are not locked in place, the floor crane can tip, possibly causing personal injury.

5. Arrange the pump on the crane mast with the hose end on the bottom. Thread four 1/4 dia. x 1" lg. cap screws through the pump base into the mast. See Figure 2.
6. Attach the hose to the bottom of the cylinder. **Note: Seal hydraulic connections with Bakergel or one layer of Teflon tape.** Apply the tape carefully to prevent it from being pinched by the fitting and broken off inside the pipe end. Loose pieces of tape could travel through the system and obstruct the flow of oil or cause jamming of precision-fit parts.
7. Bleed air from the hydraulic system:
 - a. Remove the cylinder from the floor crane, and turn it upside down so the bleed screw is on top.
 - b. Loosen the bleed screw.
 - c. Slowly operate the pump until a clear stream of hydraulic oil (no bubbles) flows from the bleed port.
 - d. Tighten the bleed screw.
 - e. Mount the cylinder on the floor crane.

Caution: The cylinder must be bled to remove air because air in the hydraulic system could cause a suspended load to drop unexpectedly.

8. Hook the chain to the boom extension.
9. To move the floor crane, pull the dolly handle DOWN, and position the crane as needed. Move the dolly handle to the UP position.

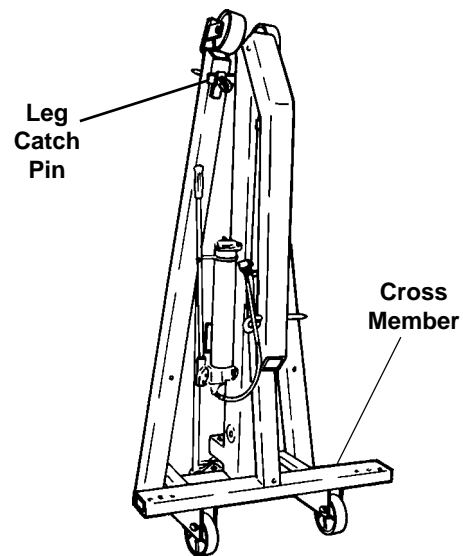


Figure 1

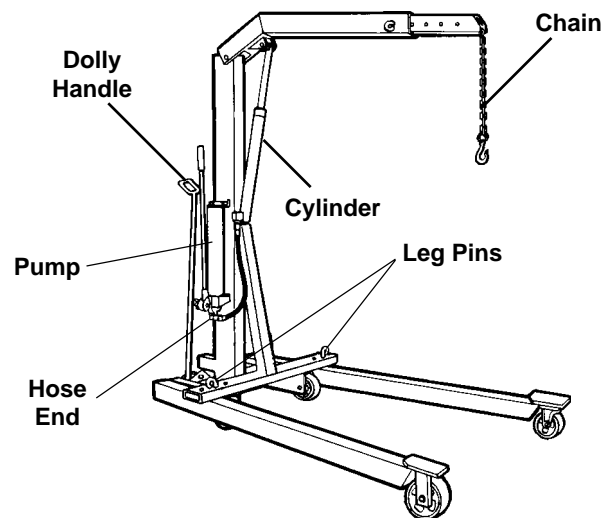


Figure 2

Maintenance

- Maintain the hydraulic fluid according to the instructions included with the pump and cylinder. Use high-grade hydraulic oil such as OTC #9037; do NOT use brake fluid, because brake fluid can damage the internal seals of the pump and cylinder. Completely retract the cylinder before adding or replacing oil.
- Grease the wheels and pivot points on a regular maintenance schedule.
- Periodically inspect the hydraulic hose for cuts and abrasions, and replace the hose if there are signs of wear.
- To store the floor crane, slowly open the pump control valve to lower the boom to the mast. Remove the leg pins, and pull the legs out from under the cross member. Raise the legs to the mast and pin them to the leg catches.
- If the lifting action of the hydraulic system feels "spongy," bleed air out of the cylinder as outlined in Step 7 of the setup instructions.

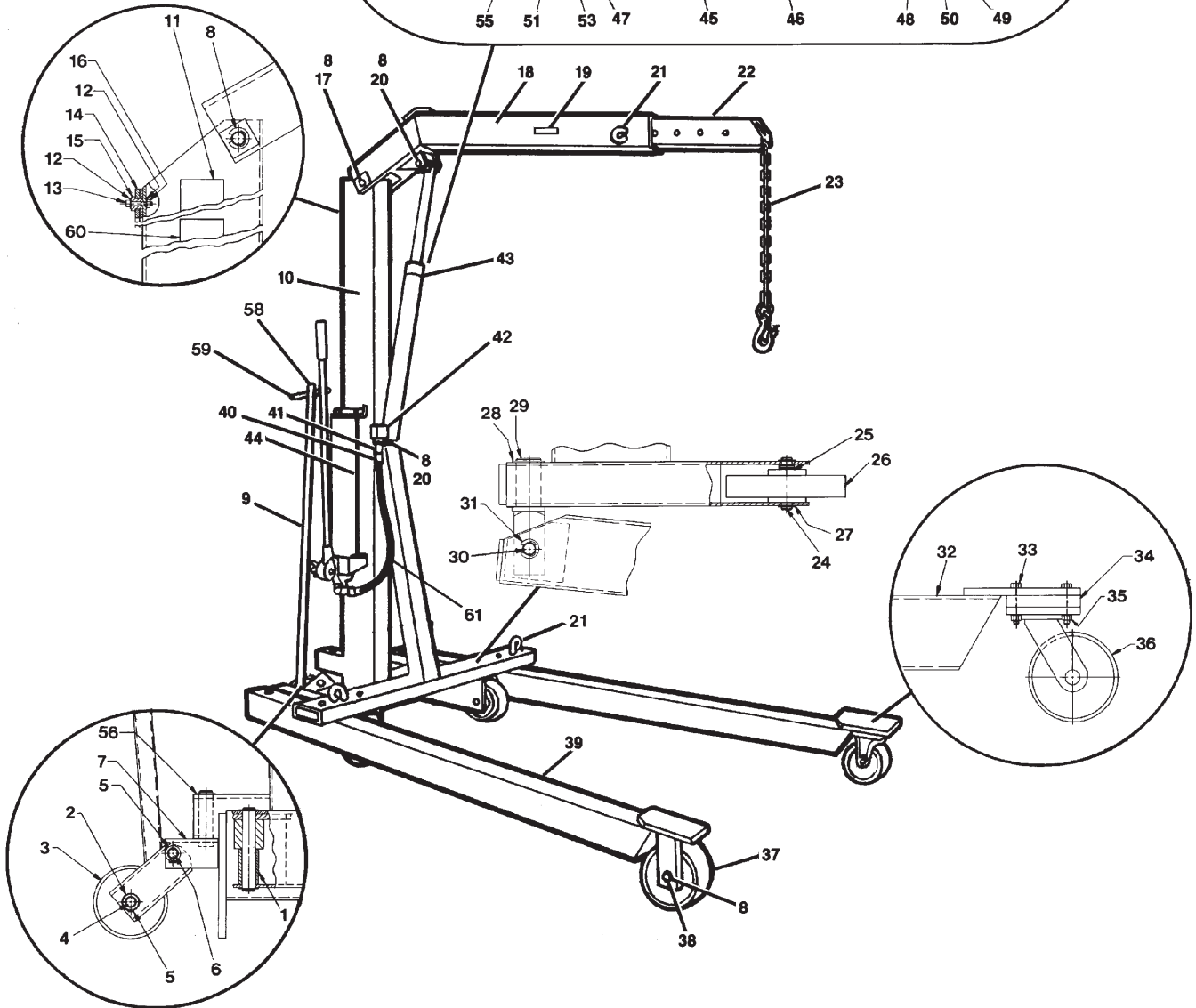
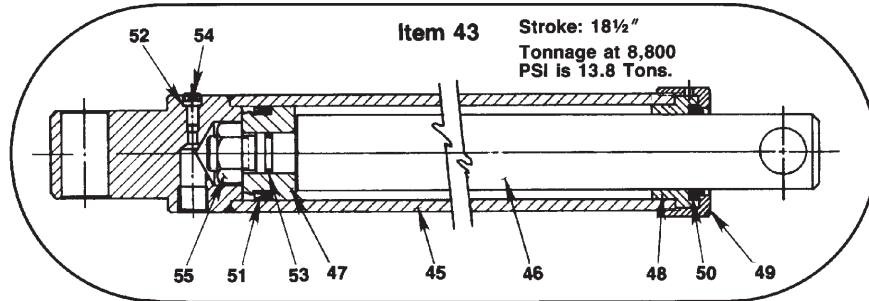
Parts List
for:

1820
D01002AA

Mobile Floor Crane

Max. Capacity: 4,400 lbs.
(boom retracted)

Max. Capacity: 3,300 lbs.
(boom extended)



Parts List

Item No.	Part No.	No. Req'd	Description
1	28697	2	Spacer
2	12330	2	Washer (for 3/4-in. bolt)
3	12078-1	1	Wheel
4	309262	1	Pin
5	14855	4	Retaining Ring (for 3/4-in. shaft)
6	309260	1	Pin
7	47762	1	Dolly Pivot Block
8	11903	8	Retaining Ring (for 1-in. shaft)
9	53422	1	Dolly Assembly
10	60155	1	Frame Assembly
11	308833	2	Warning Decal
12	10257	2	Washer (for 5/16" bolt)
13	10948	1	Cap Screw (5/16-18 x 1 1/2 lg.)
14	38842	2	Leg Catch
15	205052	1	Spacer
16	13116	1	Locknut (5/16-18)
17	24122	1	Pin
18	41408	1	Boom Assembly
19	304665	1	Capacity Decal
20	28695	2	Pin
21	220064	3	Pin
22	41407	1	Boom Extension
23	39611	1	Chain Assembly
24	28592	2	Pin
25	14857	6	Washer (for 3/4-in. bolt)
26	215200	2	Wheel
27	11902	4	Retaining Ring (for 3/4-in. shaft)
28	14277	2	Retaining Ring (for 1 3/4-in. shaft)
29	34168	2	Pivot Pin
30	28696	2	Pin
31	11919	4	External Ring (for 7/8-in. shaft)
32	41413	1	L.H. Leg

Item No.	Part No.	No. Req'd	Description
33	17243	4	Cap Screw (3/8-16 x 2 1/2 lg.)
34	306283	2	Spacer
35	12353	4	Hex Nut (3/8-16)
36	12342-1	1	Caster Wheel
37	12026-1	1	Wheel
38	24107	1	Pin
39	41414	1	R.H. Leg
40	13273	1	Plug
41	10469	1	Adapter Union
42	28824	1	Flow Control Valve
43	41398	1	Cylinder Assembly (consists of items 45 through 55)
44	61871	1	Pump Ass'y (8,700/9,300 PSI)
45	34128	1	Cylinder
46	34130	1	Piston Rod
47	28640	1	Piston Head
48	28639	1	Guide
49	28641	1	Collar
50*	14257	1	Rod Wiper
51*	11368	1	U-cup
52*	10442	1	Soft Copper Washer (3/8 x 1/4 x 1/32)
53*	10274	1	O-ring (7/8 x 11/16 x 3/32, -115)
54	10002	1	Cap Screw (1/4-20 x 3/8-in. lg.)
55	14256	1	Locknut (3/4-16 UNF)
56	11998	1	Retaining Ring (for 1-in. shaft)
58	207655	1	Tube Cap
59	18267	2	Hand Grip
60	11280	2	Trade Name Decal
61	36890	1	Hose Assembly

* Part included in repair kit 300376.