

POWER-PACKER®

An Actuant Company

Installation and Service Manual Heavy Duty Hydraulic Stabilization Legs

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Part # 3010003129 REV 0D

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5.0", 6.0", and 7.0" Bore Heavy Duty Hydraulic Stabilization Legs

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1.0 Important Receiving Instructions

Visually inspect all components for shipping damage prior to installation. Shipping damage is not covered by warranty. If shipping damage is found, notify carrier at once. The carrier is responsible for all repair and replacement costs resulting in damage from shipment. For most current manual, see <http://www.powerpacker.com>

Product descriptions and specifications are subject to change. For specific versions related to your product, contact us.

2.0 Safety Issues

Read all instructions, warnings and cautions carefully. Follow all safety precautions to avoid personal injury or property damage during system operation. Power-Packer cannot be responsible for damage or injury resulting from unsafe product use, lack of maintenance or incorrect product and/or system operation. Do not remove warning labels, tags or decals. Contact Power-Packer when in doubt as to the safety precautions and operations.

This manual follows a system of safety alert symbols, signal words and safety messages to warn the user of specific hazards. Failure to comply with these warnings could result in serious personal injury or death, as well as damage to equipment or other property.

This is a Safety Alert Symbol that appears throughout this manual. It is used to alert you to potential physical injury hazards. Pay close attention to Safety Alert Symbols and obey all safety messages that follow this symbol to avoid possible serious personal injury or death.

Safety Alert Symbols are used in conjunction with certain Signal Words that call attention to safety messages or property damage messages and designate a degree or level of hazard seriousness. The Signal Words used in this manual are WARNING, CAUTION, and NOTICE.

WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.

CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

NOTICE indicates information considered important, but not hazard-related (e.g. messages related to property damage.)



WARNING

CAUTION

NOTICE

2.1 Safety Precautions

WARNING

Failure to observe and comply with the following precautions could result in death or serious personal injury, as well as property damage.

- Keep hands and feet away from hydraulic legs during operation.
- Do not handle pressurized hoses. Escaping oil under pressure can penetrate the skin. If oil is injected under the skin, see a doctor immediately.
- Do not exceed equipment ratings. Never attempt to lift a load weighing more than the capacity of the system. Overloading can cause equipment failure.
- Never set relief valve to a higher pressure than specified. Higher settings may result in equipment failure.
- Be sure setup is stable before lifting load. Hydraulic legs should be placed on a flat surface that can support the load. Do not bridge. Where applicable, use support pads for added stability. Do not weld or otherwise modify the hydraulic leg to attach a base or other support.
- Immediately replace worn and damaged parts. To protect warranty, use only Power-Packer parts.

CAUTION

Failure to observe and comply with the following precautions could result in minor or moderate personal injury, as well as property damage.

- Avoid damaging hydraulic hose. Avoid sharp bends and kinks when routing hydraulic hoses. Using a bent or kinked hose will cause severe back pressure. Sharp bends and kinks will internally damage the hose leading to premature hose failure.
- Do not drop heavy objects on hose. A sharp impact may cause internal damage to hose wire strands. Applying pressure to damaged hose may cause it to rupture.
- Keep hydraulic equipment away from flames and heat. Excessive heat will soften packings and seals, resulting in fluid leaks. Heat also weakens hose materials and packings. Protect hoses and hydraulic legs from weld spatter.

NOTICE

Hydraulic equipment must only be serviced by a qualified hydraulic technician.

Specific safety messages appear throughout this manual in the left hand column.

NOTICE

Mixtures of hydraulic fluid and fuel oil can cause seal damage resulting in subsequent sticking or sluggish action of the system (and voids warranty). Damaged seals must be replaced.

⚠ WARNING

Stabilization systems must be installed and operated within the design parameters of the crane and vehicle that they are intended to stabilize. Failure to do so could result in death or serious personal injury, as well as property damage.

NOTICE

Always grease leg in the fully retracted position.

⚠ WARNING

To avoid serious personal injury, do not place any body parts below leg shoe while in operation. The operator must be fully aware of people positioned in the vehicle/machine area at all times prior to and during operation.

3.0 Hydraulic Fluid Specifications**RECOMMENDED HYDRAULIC FLUIDS FOR POWER-PACKER**

Power-Packer recommends using a quality ISO 32 Anti-wear hydraulic fluid for most applications. If operating in cold temperatures (below freezing) slow operation will occur. If slower operation in cold weather affects your operations, we recommend using a fluid specially-formulated for cold temperatures. We have found that ISO 15 High Viscosity Index Anti-wear hydraulic fluids work well with Power-Packer systems to -20° F. Some examples of these are:

- Mobil DTE 10 Excel 15
- Chevron Rando HDZ 15
- Kendall Hyken Glacial Blu

If consistently operating at temperatures below -20°F, then we recommend hydraulic fluids conforming to MIL-PRF-5606H or MIL-H-5606A (obsolete). If you have any questions regarding fluid recommendations, please call us.

4.0 Stabilization System Operating Parameters

Stabilization legs must be operated within design parameters. Design parameters may vary from leg to leg and must be followed to ensure expected behavior and a safe operating environment. Leg parameters are documented on each part number specific drawing.

5.0 Maintenance Instructions**MAINTENANCE**

1. Clean exposed threads of mechanically locking legs prior to retraction.
2. Grease the legs every 2 months with an NLGA Grade "0" or "00" grease. Always grease the leg in the fully retracted position.
3. Seals and Counterbalance Valves – no maintenance or adjustment is necessary. Repair / replace if leakage or malfunction is observed. Evidence of tampering or field adjustment of the counterbalance valve will void all warranty.

6.0 Installation Instructions For 5", 6", and 7" Bore Legs

⚠ WARNING

Stabilizer components are heavy. To avoid death or serious personal injury, always follow safe rigging and lifting practices.

NOTICE

Always grease leg in the fully retracted position.

NOTICE

Do not weld on a fully assembled leg. Weld on empty well tube only or damage to internal components may occur.

The following instructions are furnished as a helpful guide for installation of your stabilizer system. Check shipment to be sure there has been no damage or loss in shipping. Always provide serial number and part numbers when ordering parts or requesting technical assistance.

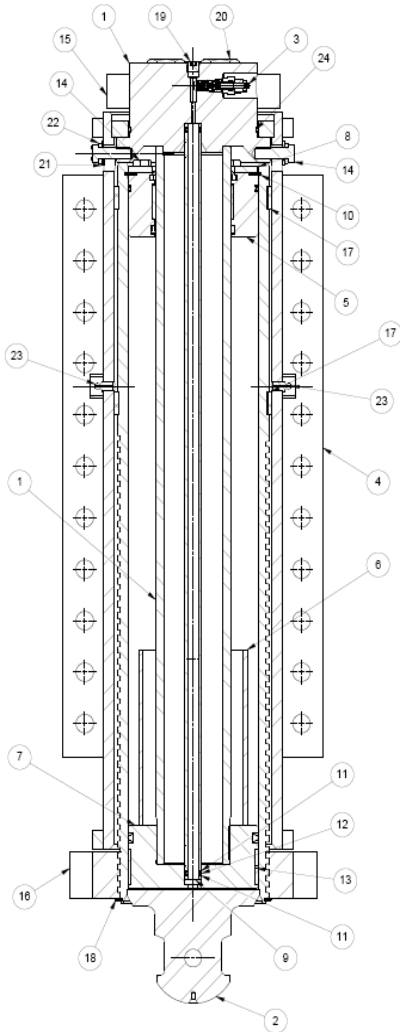
BOLT ON STABILIZER LEGS

- 1. Stabilizer Leg Mounting** Install stabilizer legs to matching mount. Unless otherwise stated on part number specific drawing fasteners are to be installed in all mounting holes. Use 3/4-16 grade 8 fasteners with locking hardware. Torque to 380 ft.-lbs.
- Connect hydraulic supply lines to the appropriate work ports on the stabilizer leg. Grease the stabilizer leg.
- The stabilizer legs are designed to automatically purge air during operation. It is recommended that the legs be fully extended and retracted 1-3 times to fully purge them of air before putting them into service. Check and refill reservoir with hydraulic fluid as needed with the stabilizer legs in the fully retracted position.

WELD ON STABILIZER LEGS

- 1. Disassemble Stabilizer Leg.** Remove cylinder from well tube by removing 2 bolts, Item 7 and lock bar Item 23. Remove 2 bolts, Item 8 from leg and lift well tube off of cylinder tube.(Figure 2 page 7)
- 2. Stabilizer Leg Mounting.** Attach leg to suitable structural member(s) by welding. Follow appropriate AWS or other industry standards for structural weld preparation and process.
- 3. Reassemble the Stabilizer Leg.** Fully insert the cylinder into the well tube, be sure the rod head is fully seated and oriented correctly. Reinstall 2 bolts, Item 8. Reinstall lock bar Item 23 and 2 bolts, Item 7.(Figure 2 page 7) Use a medium strength thread locker when reassembling item 7.
- Connect hydraulic supply lines to the appropriate work ports on the stabilizer leg. Grease the stabilizer leg.
- The stabilizer legs are designed to automatically purge air during operation. It is recommended that the legs be fully extended and retracted 1-3 times to fully purge them of air before putting them into service. Check and refill reservoir with hydraulic fluid as needed with the stabilizer legs in the fully retracted position.

7.0 Heavy Duty Leg Parts List For 5.0" Bore Legs



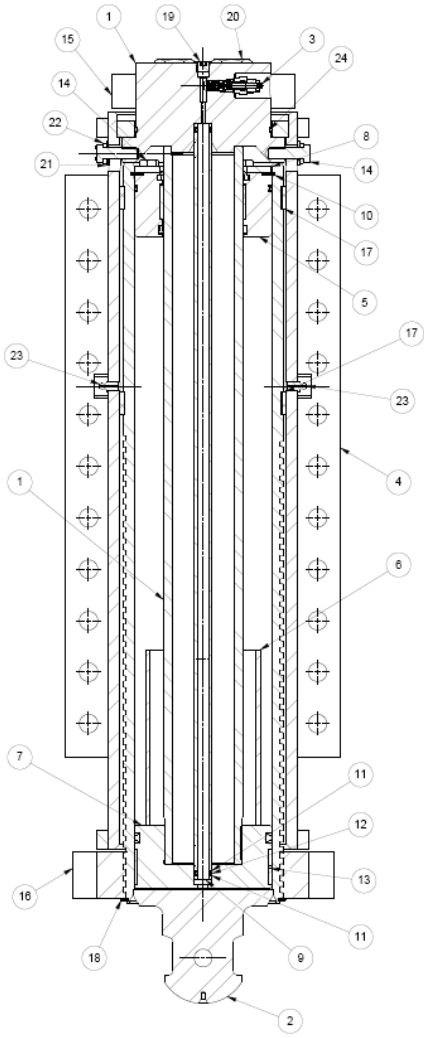
ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	1010002673-DASH	ROD WELDMENT	1	3,4
2	1010002683-DASH	CYLINDER WELDMENT	1	3,4
3	1010002523	COUNTERBALANCE VALVE	2	1
4		WELL TUBE WELDMENT	1	3
5	1010002678	GUIDE ROD ASSEMBLY	1	2
6	3041-DASH	STOP TUBE	1	3,4
7	300472	PISTON ASSEMBLY	1	2
8	2010000517	RETAINING PLATE	1	
9	3004-DASH	TRANSFER TUBE	1	3,4
10	2010000518	RETAINING RING	1	2
11	05-1013	BACKUP UNCUT 016	4	2
12	01-1049	QUAD RING 016 70	2	2
13	04-1021	PISTON WEAR RING	1	2
14	2010000540	SCREW HHC 1/2-20 X 1.25" GR8	8	
15	3010003062	LOCK BAR	1	
16	3010003063	NUT STUB ACME THREAD	1	
17	2010000519	CYLINDER WEAR RING	2	2
18	2010000520	NUT RETAINING RING	1	2
19	B1005006	#6 SAE HEX PLUG	2	1
20	2010000531	SCREW HHC .75-16 X 2.75" GR8	2	
21	16-1034	1/2" WASHER FLAT	2	
22	16-1030	1/2" LOCKWASHER	2	
23	10-1001	GREASE FITTING	2	
24	3510000286	O-RING 250 70	1	2
25	PP1213006	SHIPPING PLUG #6 PLASTIC WITH O-RING	2	

Figure 1

Product Notes:

1. These items are contained in counterbalance valve repair kit 1010002707 and are not available on an individual basis.
2. These items contained in leg repair kit 1010002982 are not available on an individual basis.
3. State leg part number and part description when ordering these items. Indicate date code when ordering to ensure proper revision level.
4. –“DASH” designates item length.
5. Part numbers listed are for reference only and are subject to change.

7.1 Heavy Duty Leg Parts List For 6.0" Bore Legs



ITEM	PART NUMBER	DESCRIPTION	QTY.	NOTES
1	1010002520-DASH	ROD WELDMENT	1	3,4
2	1010002830-DASH	CYLINDER WELDMENT	1	3,4
3	1010002523	COUNTERBALANCE VALVE	2	1
4		WELL TUBE WELDMENT	1	3
5	300031	GUIDE ROD ASSEMBLY	1	2
6	3008-DASH	STOP TUBE	1	3,4
7	300030	PISTON ASSEMBLY	1	2
8	300443	RETAINING PLATE	1	
9	3004-DASH	TRANSFER TUBE	1	3,4
10	17-1020	RETAINING RING	1	2
11	05-1013	BACKUP UNCUT 016	4	2
12	01-1049	QUAD RING 016 70	2	2
13	04-1014	PISTON WEAR RING	1	2
14	15-1339	SCREW HHC 1/2-20 X 1.5" GR8	8	
15	3010002841	LOCK BAR	1	
16	3010002845	NUT STUB ACME THREAD	1	
17	2010000493	CYLINDER WEAR RING	2	2
18	2010000494	NUT RETAINING RING	1	2
19	B1005006	#6 SAE HEX PLUG	2	1
20	2010000556	SCREW HHC 1.00-14 X 2.75" GR8	2	
21	16-1034	1/2" WASHER FLAT	2	
22	16-1030	1/2" LOCKWASHER	2	
23	10-1001	GREASE FITTING	2	
24	01-1057	O-RING 256 70	1	2
25	PP1213006	SHIPPING PLUG #6 PLASTIC WITH O-RING	2	

Figure 1

Product Notes:

1. These items are contained in counterbalance valve repair kit 1010002707 and are not available on an individual basis.
2. These items contained in leg repair kit 1010002708 are not available on an individual basis.
3. State leg part number and part description when ordering these items. Indicate date code when ordering to ensure proper revision level.
4. –“DASH” designates item length.
5. Part numbers listed are for reference only and are subject to change.

8.0 Repair Procedure For 5.0", 6.0", and 7.0" Bore Legs

▲ WARNING

Stabilizer components are heavy. To avoid death or serious personal injury, always follow safe rigging and lifting practices.

▲ CAUTION

To avoid personal injury always.

1. Use eye protection.
2. Crack all hydraulic connections gradually to allow trapped pressure to bleed completely down. Slowly remove hose fitting connections completely.
3. Properly dispose of any fluid that may be released.

5.0" Leg Repair Kit No. 1010002982

6.0" Leg Repair Kit No. 1010002708

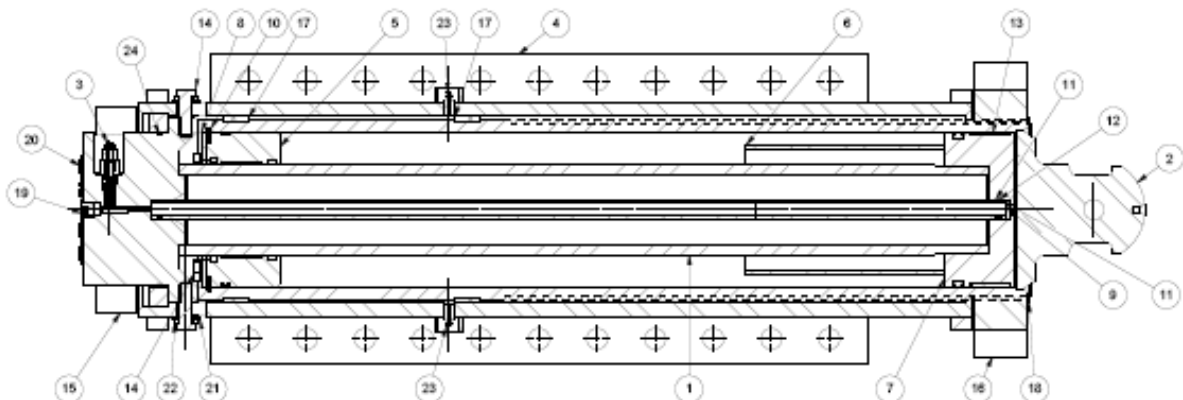
Each kit contains the necessary soft parts (seals) and associated parts to repair one (1) leg. Some items will not be used in a particular leg, but are included to form a universal kit.

Be sure that no load is being supported by leg before servicing. With the pump off, cycle valve to relieve any pressure. Disconnect hydraulic lines from leg. Remove leg from equipment.

Remove 2 bolts, Item 20 and lock bar Item 15. Remove 2 bolts, Item 14 from leg and lift well tube off of cylinder tube. Lift piston rod assembly then remove the 6 hex head screws, Item 14 and the retaining ring, Item 10. Lift piston rod assembly out of cylinder tube. Remove wear ring, Item 13 from piston and screw piston off rod using a 7/16" course thread bolt.

Clean and inspect all metal parts and replace any damaged parts. Replace all seals and lightly coat with grease. Assemble leg in reverse order. Coat bottom of lock valve and top of cylinder head with anti-seize. Remount leg to equipment. Cycle legs and check for leaks.

Figure 2



9.0 Counterbalance Valve

Lock Valve Service Kit 1010002707 for 5” or 6” Bore Legs

This kit contains the necessary parts to replace the counterbalance valves on (1) leg.

Lock Valve Repair Procedure

Be sure that no load is being supported by leg before servicing. With pump off, cycle valve to relieve any pressure. Disconnect hydraulic lines from leg.

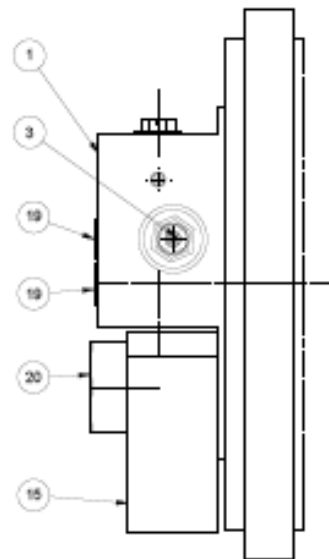
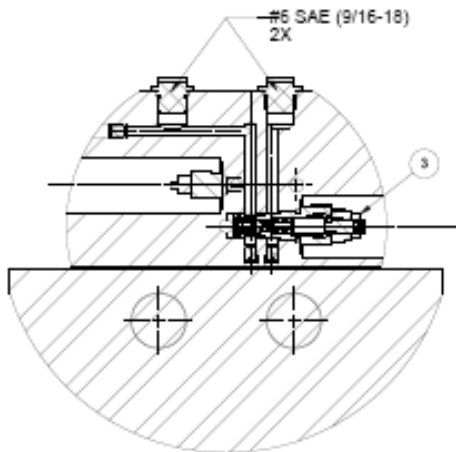
1. Remove both top plugs (Item 19) on cylinder head.
2. Remove counterbalance valve cartridges (Item 3)
3. Install new counterbalance valve cartridges. Lubricate seals with clean hydraulic oil. Torque 12-15 ft.-lbs.
4. Install both top plugs (Item 19) on cylinder head. Torque 12-15 ft.-lbs.

CAUTION

To avoid personal injury always.

1. Use eye protection.
2. Crack all hydraulic connections gradually to allow trapped pressure to bleed completely down. Slowly remove hose fitting connections completely.
3. Properly dispose of any fluid that may be released.

Figure 3



10.0 Warranty

For warranty information, please contact the Power-Packer
Warranty Claims Department.

POWER-PACKER[®]

**Warranty Claims Department
516 Hillcrest Drive
Westfield, WI 53964
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