HOWMET AEROSPACE

Instruction Manual

913F

Powerig® Hydraulic Power Source

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HUCK®

Makers of Huck®, Marson®, Recoil®
Brand Fasteners, Tools & Accessories

February 4, 2021
HK1191

DANGER - IMPORTANT

DO NOT EXCEED HOSE MINIMUM BEND RADIUS

Failure to heed the warnings below could lead to a damaged hose, damaged tool, damaged property, personal injury, or death.

- This high pressure hose is not to be used other than assembled in a genuine HUCK tool or hose assembly or used as a replacement for the hose of a genuine HUCK tool or hose assembly.
- Improper use of this product can cause ***property damage***, ***personal injury***, and ***death***, including but not limited to ***electrocution***, ***fluid injection*** or ***loss of limb*** caused by ***high pressure leak***, ***dangerously whipping hose*** or contact with suddenly moving or falling objects.
- Do not exceed rated working pressure ***(700 bar/10150 psi)*** or minimum bend radius (see chart below). Do not use in temperatures less than ***-40°C (-40°F)*** or greater than ***+100°C (+212°F)***. Do not exceed fluid working temperature of ***+70°C (+158°F)***.
- Do not use if the hose is kinked, abraded, cut, bulged, or leaking. Do not attempt to repair the hose.
- Do not carry tool by hoses.
- Refer to a HUCK hydraulic tool manual for hose inspection and maintenance intervals.
- Store hose assemblies in a clean dry area.

Hose Type	Minimum Bend Radius	
126107 Series	2.76 Inches	70 mm
118944 and 124881 Series	2.17 Inches	55 mm
HA and HPH Series	1.97 Inches	50 mm

Safety Instructions

GLOSSARY OF TERMS AND SYMBOLS:

 - Read manual prior to using this equipment.

 - Eye protection is required while using this equipment.

 - Hearing protection is required while using this equipment.

Notes: are reminders of required procedures.
Bold, Italic type, and underline: emphasize a specific instruction.

WARNINGS: Must be understood to avoid severe personal injury.

CAUTIONS: Show conditions that will damage equipment or structure.

1. A half hour long hands-on training session with qualified personnel is recommended before using Huck equipment.
2. Huck equipment must be maintained in a safe working condition at all times. Tools and hoses should be inspected at the beginning of each shift/day for damage or wear. Any repair should be done by a qualified repairman trained on Huck procedures.
3. Repairman and Operator must read manual prior to using equipment. Warning and Caution stickers/labels supplied with equipment must be understood before connecting equipment to any primary power supply. As applicable, each of the sections in this manual have specific safety and other information.
4. Read MSDS Specifications before servicing the tool. MSDS Specifications are available from the product manufacturer or your Huck representative.
5. When repairing or operating Huck installation equipment, always wear approved eye protection. Where applicable, refer to ANSI Z87.1 - 2003
6. Only genuine Huck parts shall be used for replacements or spares. Use of any other parts can result in tooling damage or personal injury.
7. If a part affixed with warning labels is replaced, or labels are missing or damaged, the end user is responsible for replacement. Refer to assembly drawing and parts list for replacement part number and proper placement.
8. Disconnect primary power source before performing maintenance on Huck equipment or changing Nose Assembly.
9. Tools and hoses should be inspected for leaks at the beginning of each shift/day. If any equipment shows signs of damage, wear, or leakage, do not connect it to the primary power supply.
10. Mounting hardware should be checked at the beginning of each shift/day.
11. Make sure proper power source is used at all times.
12. Release tool trigger if power supply is interrupted.
13. Tools are not to be used in an explosive environment unless specifically designed to do so.
14. Never remove any safety guards or pintail deflectors.
15. Where applicable, ensure deflector or pintail collector is installed and operating prior to use.
16. Never install a fastener in free air. Personal injury from fastener ejecting may occur.
17. Where applicable, always clear spent pintail out of nose assembly before installing the next fastener.
18. There is possibility of forcible ejection of pintails or spent mandrels from front of tool.
19. Check clearance between trigger and work piece to ensure there is no pinch point when tool is activated. Remote triggers are available for hydraulic tooling if pinch point is unavoidable.
20. Unsuitable postures may not allow counteracting of normal expected movement of tool.
21. Do not abuse tool by dropping or using it as a hammer. Never use hydraulic or air lines as a handle or to bend or pry the tool. Reasonable care of installation tools by operators is an important factor in maintaining tool efficiency, eliminating downtime, and in preventing an accident which may cause severe personal injury.
22. Never place hands between nose assembly and work piece. Keep hands clear from front of tool.
23. There is a risk of crushing if tool is cycled without Nose Assembly installed.
24. Tools with ejector rods should never be cycled with out nose assembly installed.
25. When two piece lock bolts are being used always make sure the collar orientation is correct. See fastener data sheet for correct positioning.
26. Tool is only to be used as stated in this manual. Any other use is prohibited.
27. There is a risk of whipping compressed air hose if tool is pneudraulic or pneumatic.
28. Release the trigger in case of failure of air supply or hydraulic supply.
29. Use only fluids or lubricants recommended.
30. Disposal instruction: Disassemble and recycle steel, aluminum and plastic parts, and drain and dispose of hydraulic fluid in accordance with local lawful and safe practices.
31. If tool is fixed to a suspension device, ensure that the device is secure prior to operating the tool.
32. High pressure hydraulic fluid escaping from pinhole leaks in hydraulic equipment can cause an injection injury which could result in tissue damage, amputation or even death. Work gloves will not protect against pinhole leaks. Before each use of hydraulic equipment, inspect with pressure relieved. Replace any worn or damaged hydraulic parts immediately with items recommended for the application by the original manufacturer.
33. Hydraulic fluid which penetrates the skin is highly toxic. If you experience an injection injury, seek medical attention immediately. The sooner effective treatment is received the less chance long-term disability will occur.

Where the following trade names are used in this manual, please note:
DEXRON *is a registered trademark of General Motors Corporation.*
GLYD Ring *is a registered trademark of Trelleborg Sealing Solutions Germany GmbH*
Loctite *is a registered trademark of Henkel Corporation, U.S.A.*
LUBRIPLATE *is a registered trademark of Fiske Brothers Refining Co.*
MERCON *is a registered trademark of Ford Motor Corp.*
MOLYKOTE *is a registered trademark of Dow Corning Corporation*
Never-Seez *is a registered trademark of Bostik, Inc.*
Quintolubric *is a registered trademark of Quaker Chemical Corp.*
Slic-tite *is a registered trademark of LA-CO Industries, Inc.*
Spirolox *is a registered trademark of Smalley Steel Ring Company*
Teflon *is a registered trademark of Chemours Company FC.*
Threadmate *is a registered trademark of Parker Intangibles LLC.*
TRUARC *is a trademark of TRUARC Co. LLC.*
Vibra-Tite *is a registered trademark of ND Industries, Inc. USA.*

Description

WARNING: RETURN pressure can be adjusted to 6000 PSI if required for use with HPT tools ONLY. DO NOT OPERATE OTHER HUCK TOOLS AT THIS RETURN PRESSURE. Severe personal injury and damage to tool may result.

The Huck Model 913F Powerig® hydraulic power source is a portable, gasoline-powered unit designed to operate all Huck hydraulic installation equipment, excluding Huck-Spin tools. FIGURE 1 shows the construction features of the unit and identifies its main components. Hydraulic pressure is developed by a two-stage, gear piston hydraulic pump driven by a Honda 5.5hp engine. The pump output is directed to either the PULL or RETURN pressure port of the installation tool by a four-way directional valve. This valve is controlled from the tool through a trigger/switch.

This is a 12-volt control system. Internal relief valves are preset at the factory for the protection of the operator and the equipment. External relief valves control the PULL and RETURN pressures.
The factory preset pressure for the:
External Relief Valve = 5400–5700 psi (372–393 bar)
Return Pressure Valve = 2700–3300 psi (186–227 bar)
Pressures can be adjusted to match the Huck installation tool being used. See the applicable installation tool manual.
Hydraulic fluid is stored in a reservoir which serves as the base for the motor-pump and directional valve. Hydraulic quick disconnect couplers are furnished for connecting hoses to the installation tool and Powerig. This Powerig includes a roll cage for protection, as well as to facilitate moving the unit to various work stations. The unit weighs approximately 175 pounds (79.379 kg) when filled with hydraulic fluid.

Specifications

WIDTH	LENGTH	HEIGHT	WEIGHT (without hydraulic fluid)
21.0 in. (54.7 cm)	24.0 in. (62.9 cm)	27.0 in. (69.9 cm)	122.0 lbs. (54.7 kg)

POWER SOURCE: Honda 5.5hp, 4-cycle, single-cylinder, air-cooled gasoline engine - point condenser ignition with 3 amp charging coil.

OUTPUT PRESSURE:
PULL: 5,800 PSI (400 bar), MAX 8,400 psi (580 bar)
RETURN: 2,800 PSI (193 bar), MAX 6,000 psi (413 bar)

PRESSURE SETTING AS SHIPPED:
PULL: 5,400 - 5,700psi (37,200 - 39,300 kPa)
RETURN: 2,200-2,400 psi (15,200-16,500 kPa)

AMBIENT OPERATING TEMPERATURE RANGE:
0° (18°C) to -120° (49°C)

MAXIMUM HYDRAULIC FLUID TEMPERATURE: 150°F (65°C) **HYDRAULIC FLUID:** Use 32AW (0°F - 70°F ambient), 46AW (30°F - 120°F ambient), or ATF (30°F - 90°F ambient). ATF Hydraulic fluid shall meet DEXRON® III, DEXRON VI, MERCON, Allison C-4 or equivalent ATF specifications. Fire resistant fluid may be used if it is an ester based fluid such as Quintolubric HFD or equivalent. Water based fluid shall NOT be used as serious damage to equipment will occur.

ENGINE OIL: Use 5W30 (0°F - 100°F ambient) or 10W-30 (20°F - 120°F ambient)

RESERVOIR CAPACITY: 5.0 gallons (19 liters)

FLOW RATE: 400 in^3/min up to 660 psi
115 in^3/min above 660 psi

Troubleshooting

Always check the simplest possible cause of malfunction first. For example, blown fuse, tripped circuit breaker, defective switch or control cord. Eliminate each possible cause until the defective circuit or part is located. Where possible, substitute known good parts for suspected bad parts. A qualified electrician should check out the electrical system. Use this section as an aid in locating trouble and correcting it.

1. **With Powerig® unit engine running, tool fails to operate when trigger is depressed:**
   a. Loose or damaged control cord or connectors.
   b. Loose or faulty hydraulic hose couplings.
   c. Defective tool trigger assembly.
   d. Low hydraulic fluid level in reservoir.
   e. Contamination in kick-down valve.
   f. Broken hydraulic line, possibly under cover plate
   g. Worn pump-motor coupling or loose/damaged shaft extension.
   h. Loose or damaged wires or connectors in Powerig magneto/trigger/solenoid circuits.
   i. Worn poppets or seals in directional valve (rebuild using 129437 kit).
   j. Contamination in or defective pilot valve.
   k. Defective 130997 electrical assembly (includes resistor and diodes).
   l. Defective magneto stator.
   m. Installation tool not functioning.
2. **Tool does not return on release of trigger:**
   a. Loose or faulty hydraulic hose couplings.
   b. Defective tool trigger assembly.
   c. Contamination in kick-down valve.
   d. Contaminated in or defective pilot valve
   e. Loose or damaged wires or connectors in Powerig magneto/trigger/solenoid circuits.
   f. Installation tool not functioning.
3. **Pump cavitation (noisy throughout installation cycle):**
   a. Low hydraulic fluid level in reservoir.
   b. Clogged suction strainer in reservoir.
   c. Hydraulic fluid viscosity too high for ambient temperature
4. **Tool operation is slow but entire cycle does occur:**
   a. Pump cavitation (see above)
   b. Worn poppets or seals in directional valve (rebuild using 129437 kit).
   c. Worn 508708 valve stem in external relief valve.
   d. Low engine shaft speed
   e. Worn or defective hydraulic pump

Principle of Operation

Also see Electrical and Hydraulic Schematic Diagrams on the next page.

FIGURE 1:
The 913F uses a 2-stage pump. It will deliver approximately 400 cubic inches per minute, or 2-1/2 gpm at low pressure (up to about 600 psi). The high volume low pressure stage is then automatically unloaded, and the pump continues on the high pressure stage up to 10,000 psi with a delivery of 115 cubic inches per minute.

The pump is driven by a 5 hp 3,600 rpm Honda gas engine, which drives the small gear "A" in the direction shown by the arrow, which in turn drives the large gear "B". The wobble plate "C" of the piston pump is driven by a coupling connected to the shaft of the larger gear. The gear ratio is approximately 6:1, developing a speed of about 2,000 RPM to the wobble plate "C". Rotation of the wobble plate imparts reciprocating motion to the pistons "D" & "E". In the diagram, piston "E" is starting the intake stroke and piston "D" the pressure stroke.
Intake oil is drawn into the gear pump at "F" and trapped between the gear teeth and the housing. It is carried around the periphery and discharged at the outlet "G". Pressures up to 600 psi can be developed by the gear pump. This low pressure oil is discharged to the outlet check valve "U" through spool "H" of the unloading valve and check valve "J". Back pressure developed by forcing the oil through the check valve provides pressure to supercharge the piston pump. Two functions are served by supercharging the intake "K".

On the intake stroke, oil is forced through the intake valve "L" to fill the pressure chamber "R", and at the same time, pressure forces the piston out as the wobble plate recedes and assures contact at all times between the pistons and the surface of the wobble plate. This eliminates the need for springs or some other mechanical means to retract the pistons. Piston "D" is starting the pressure stroke. As the piston is forced into the cylinder barrel, pressure is developed in the pressure chamber "R". Intake valve "L" closes and the discharge check valve "N" is forced open, delivering oil from the piston pump to the system which joins the oil from the gear pump at "O".

FIGURE 2:
When the pressure builds up to the setting of the spring "P" (Approximately 600 psi), pressure against the area of spool "H" shifts the spool to position #2. Port "H1" of spool "H" is uncovered, and oil is directed through the spool to the supercharge relief valve "Q"(set at about 200 psi) or just enough to feed the high pressure pump without cavitation and to assure that the pistons follow the cam plate.

The excess oil from the gear pump not required to feed the piston pump is bypassed to the reservoir at a low pressure, reducing heat and releasing horsepower for the development of high pressure. High pressure continues to be developed by the piston pump and check valve "J" forces it to flow to outlet check "U", past the ports for the relief valve "S" and pressure regulator fitting "T" and finally past the outlet check poppet "W".

When the tool trigger switch is depressed, 12 volts DC activates the solenoid coil of the pilot valve. The pilot valve shifts the directional valve spools. Pressurized fluid is directed to the PULL pressure port of the installation equipment.

When the tool trigger switch is released, the solenoid coil is deactivated and the spring return of the pilot valve shifts the directional valve spools. Pressurized fluid is directed to the RETURN pressure port of the installation equipment.
Return pressure will build up as the tool returns and reaches the end of the stroke. When the pressure exceeds the pressure setting of the "kick-down" relief valve, the valve will open and fluid will pass through the return line filter to the reservoir.

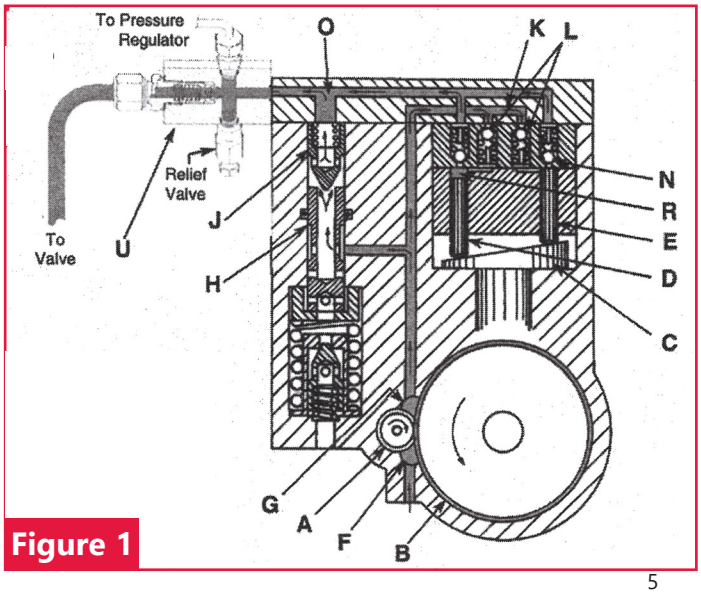


Figure 1

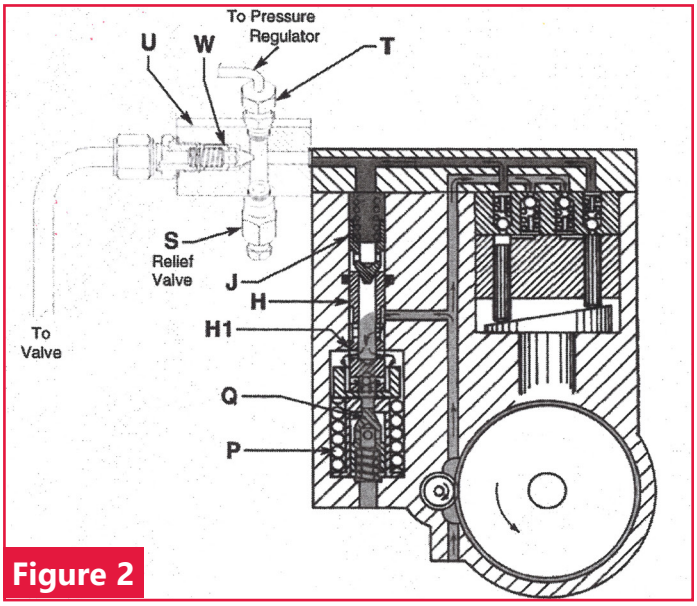
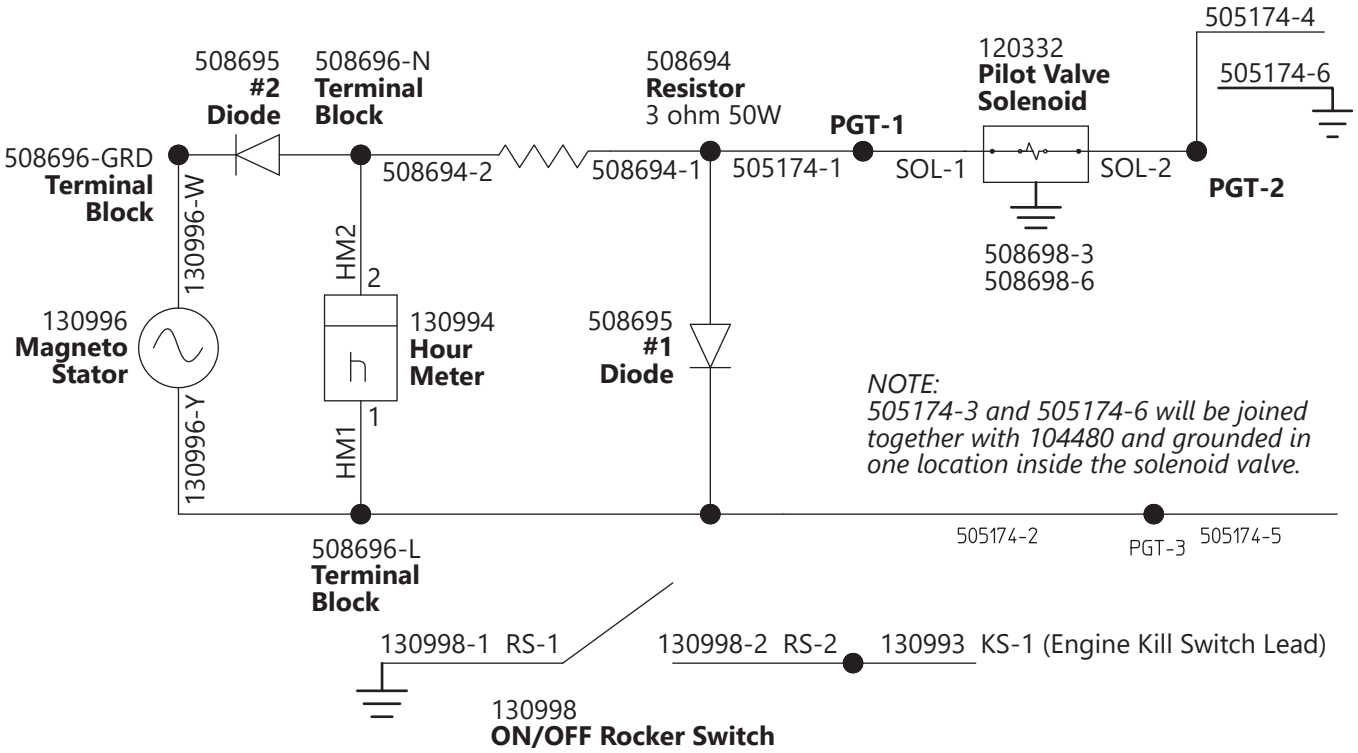


Figure 2

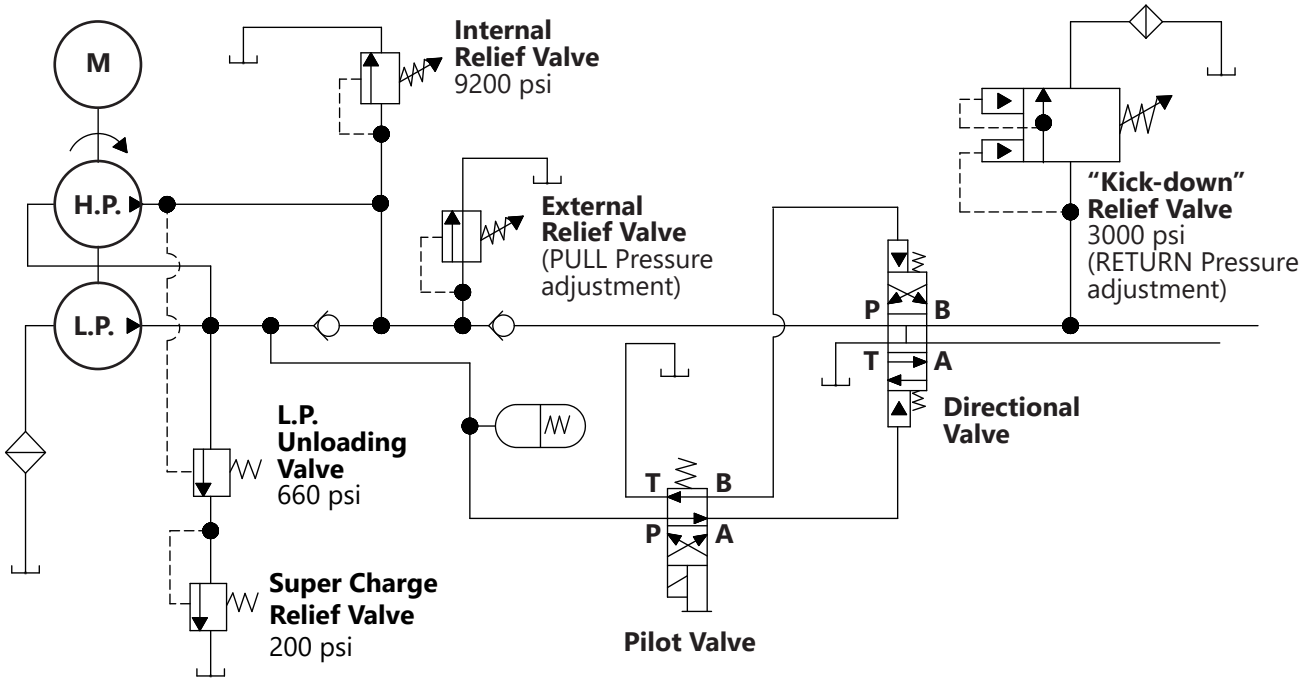
Electrical and Hydraulic Schematic Diagrams

Figure 3

ELECTRICAL SCHEMATIC DIAGRAM



HYDRAULIC SCHEMATIC DIAGRAM



Preparation for Use

CAUTION: The Powerig® Hydraulic Unit is shipped without hydraulic fluid.

SERVICE

Introduction of foreign material into Hydraulic Unit will result in poor performance and down time for repair. To avoid this, observe the following good practices:

- Clean area around filler cap before adding hydraulic fluid.
- Use a clean funnel with a filter.
- Keep quick-disconnect couplers clean by keeping them off the floor.
- Wipe off quick-disconnect couplers before connecting them.

BEFORE USE

Fill the reservoir with hydraulic fluid, approximately 5 gallons (19 liters), until the fluid level is within one inch of the top of the sight gauge.

Checking and Adjusting Pressures

WARNINGS:
Maximum PULL pressure is 8400 psi. **Refer to specific tool instruction manual for PULL and RETURN pressures. Severe personal injury may occur if excessive pressures cause violent failure of equipment. Higher than normal pressures will also cause premature wear of equipment.**

If recommended maximum pressure is exceeded, violent failure of fastening system may occur. This may cause severe personal injury.

CHECKING AND ADJUSTING PRESSURES

Check PULL and RETURN pressures before use, before troubleshooting, and after overhauling. See pressures given in the specific tool instruction manual. To check pressures, use T-124833CE Pressure Gauge and its instruction manual.

ADJUSTING PULL PRESSURE

NOTE: PULL pressure is the maximum Powerig pressure. Do not exceed the pressure rating of the installation equipment. See the installation equipment manual for pressure rating.

1) Loosen the jam nut of the high pressure relief valve.
2) Turn the adjusting screw clockwise to increase PULL pressure ***OR*** counterclockwise to decrease PULL pressure.
3) Tighten the jam nut after PULL pressure has been adjusted.
4) Check PULL pressure. Follow instructions in the appropriate section of this manual.

ADJUSTING RETURN PRESSURE

1. Loosen the jam nut on the kick-down valve.
2. Turn the adjusting screw clockwise to increase RETURN pressure, or counterclockwise to decrease RETURN pressure.
3. Tighten the jam nut on the kick-down valve after return pressure has been adjusted.
4. Check RETURN pressure. Follow instructions in the appropriate section of this manual.

Operation

WARNINGS:
High pressure hydraulic fluid escaping from pinhole leaks in hydraulic equipment can cause an injection injury which could result in tissue damage, amputation or even death. Work gloves will not protect against pinhole leaks. Before each use of hydraulic equipment, inspect with pressure relieved. Replace any worn or damaged hydraulic parts immediately with items recommended for the application by the original manufacturer.

Hydraulic fluid which penetrates the skin is highly toxic. If you experience an injection injury, seek medical attention immediately. The sooner effective treatment is received the less chance long-term disability will occur.

BEFORE EACH USE:

1) Check the fluid level in the reservoir and add hydraulic fluid as required.
2) Inspect hoses for damage and wear. If hoses show wear that has removed more than the surface texture, they must be replaced.
3) Check the entire system and repair any leaks.
4) Check electrical cord and extension for abrasion and replace as required.

Be sure that:

1) Hose from PULL PRESSURE on the control panel runs to the port stamped with a letter P on the tool.
2) Hose from RETURN PRESSURE on the control panel runs to the port stamped with letter R on the tool.

Plug the control cable from the tool into the two-prong socket on the Powerig Hydraulic Power Source. Press the tool trigger switch and let the Powerig operate for a few minutes to circulate fluid and remove air from the system. Attach a nose assembly to the installation equipment. Fasteners may now be installed. Follow instructions in the tool manual.

Operating Tools

Start the engine following instructions on the engine. Check pressures and adjust as necessary. See the appropriate sections in this manual. ***WARNINGS must be understood before checking pressures.*** Connect hydraulic hoses from a HUCK hydraulic tool to the Powerig Hydraulic Unit.

Maintenance

SPARE PARTS

Always keep spare parts on hand commensurate with the number of Powerigs in service. Parts that should be available to the service technician are: Pump-to-Motor Coupling, Relay, Transformer, Pilot Valve, and Motor Brushes. See **Spare Parts and Accessories** for part numbers.

PREVENTIVE MAINTENANCE:

Perform the following steps monthly during normal use:

- Ensure that hydraulic and electrical fittings are secure.
- Inspect hoses for signs of damage. Replace hoses if abrasion is deeper than the surface texture.
- Inspect during operation to detect any abnormal heating, vibration or leakage.
- Inspect hydraulic fluid. If contamination (particles, water, sludge, etc.) is detected, clean the reservoir and replace fluid. Replace return line filter when changing hydraulic oil.
- Clean exterior surfaces.

DIRECTIONAL VALVE OVERHAUL

If overhaul of the directional valve is necessary, a valve repair kit that has the spools, cartridges & poppets is 129437, is available for purchase, and should be kept on hand. To rebuild valve, follow instructions included with kit.

PUMP OVERHAUL:

If pump requires overhaul return it, or the complete unit, to the nearest repair facility shown on the inside back cover.

WARNING: Before changing the oil, DISCONNECT THE WIRE FROM THE SPARK PLUG. Failure to do so may result in severe personal injury and damage to the tool.

ENGINE MAINTENANCE:

- Check the oil in the hydraulic unit every 5 operating hours, and before each use.
- Change the crankcase oil after the first 20 hours of operation. Thereafter, change it after every 100 hours of operation. If the power source is operated in extremely dusty or dirty environment, change the oil every 50 hours of operation. SEE WARNING ABOVE. Unscrew the oil drain plug; tip the engine toward the oil drain hole and drain completely. Replace the oil drain plug and refill.
- The air-cooled engine operates most efficiently when the cooling fins are kept clean. Remove all dust and dirt from the cylinder fins and the underside of the housing, as required.
- A dirty or clogged air cleaner results in noticeable loss of engine power. Clean the reusable-type of air cleaner every 10 operating hours (more frequently if the unit is operating in dusty or dirty environment). To clean, remove the air cleaner and dip it in gasoline.
- Remove and inspect the spark plug at each oil change. Keep electrodes clean and free of carbon. Adjust electrode gap to .030 inch. If electrodes are pitted or burned, or the ceramic insulator is cracked, replace the spark plug. Before installing a spark plug, coat its threads lightly with graphite grease.

SERVICE PERIOD	ACTION	BEFORE EACH USE	AFTER FIRST 20 HOURS	EVERY 50 HOURS	EVERY 100 HOURS	EVERY 200 HOURS
Engine Oil	Check	•				
	Change		• (**3**)		• (**1**) (**3**)	
Engine Air Cleaner	Check	•			•	
	Clean			• (**1**)		
	Replace					•
Spark Plug	Check-Adjust				•	
	Replace					•
Engine Cooling Fins, Underside of Housing	Clean			•		
Combustion Chamber	Clean					•
Engine Run Speed	Check-Adjust					•(**2**)
Engine Valve Clearance	Check-Adjust					•(**2**)
Fuel Tank and Fuel Filter	Check					• (**2**)
Hydraulic Hose Fittings	Check-Clean	•				
Electrical Connections	Check	•				
Hydraulic Fluid Level, Fill Cap Tight	Check	•				
Verify Pull & Return Pressure, Tighten Adjustment Screw Jam Nuts	Check			•		
Tighten Cover Plate Screws	Check			•		
Tighten Screws on Engine	Check			•		
Hydraulic Fluid Filter	Change				• (**1**) (**4**)	
Change Hydraulic Fluid, Clean Tank	Change					• (**1**) (**5**)
Breather Vent Filter	Change					• (**1**) (**6**)
Directional Valve Seals, Poppets & Seats	Check					• (**7**)
External Relief Valve Stem	Check					• (**8**)

Notes:

1. **Service more frequently when used in dusty areas.**
2. **These items should be serviced by Honda engine service dealer, unless you have the proper tools and are mechanically proficient. Refer to the Honda shop manual for service procedures.**
3. **Engine oil: use 5W30 (0°F - 100°F ambient) or 10W-30 (20°F - 120°F ambient).**
4. **Use Huck Return Oil Filter.**
5. **Hydraulic fluid: use 32AW (0°F - 70°F ambient), 46AW (30°F - 120°F ambient), or ATF (30°F - 90°F ambient).**
6. **Use Huck Breather Vent Filter.**
7. **If poppets show wear, use Huck Directional Valve Kit to replace poppets, seats & seals.**
8. **If valve stem shows wear, replace with Huck Valve Stem.**

Spare Parts and Accessories

T-GAUGE **T-124833CE**
A T-gauge is available for use when checking and adjusting pressures, and when troubleshooting.

DIRECTIONAL VALVE KIT **129437**
This kit contains all the seals and components necessary to service directional valve 103596; including O-rings, spools, back-up rings, cartridges, and poppets.

VALVE STEM **508708**
used in the external relief valve

RETURN OIL FILTER **508693**

BREATHER VENT FILTER **508691**

PUMP-TO-MOTOR COUPLING **103918**

PILOT VALVE **120332**

AUXILIARY SWITCH AND CONTROL CORD **113056**
An auxiliary switch is available for use when checking and adjusting pressures and when troubleshooting.

HOSE AND CONTROL CORD KITS
of various lengths. Please contact your HUCK representative.

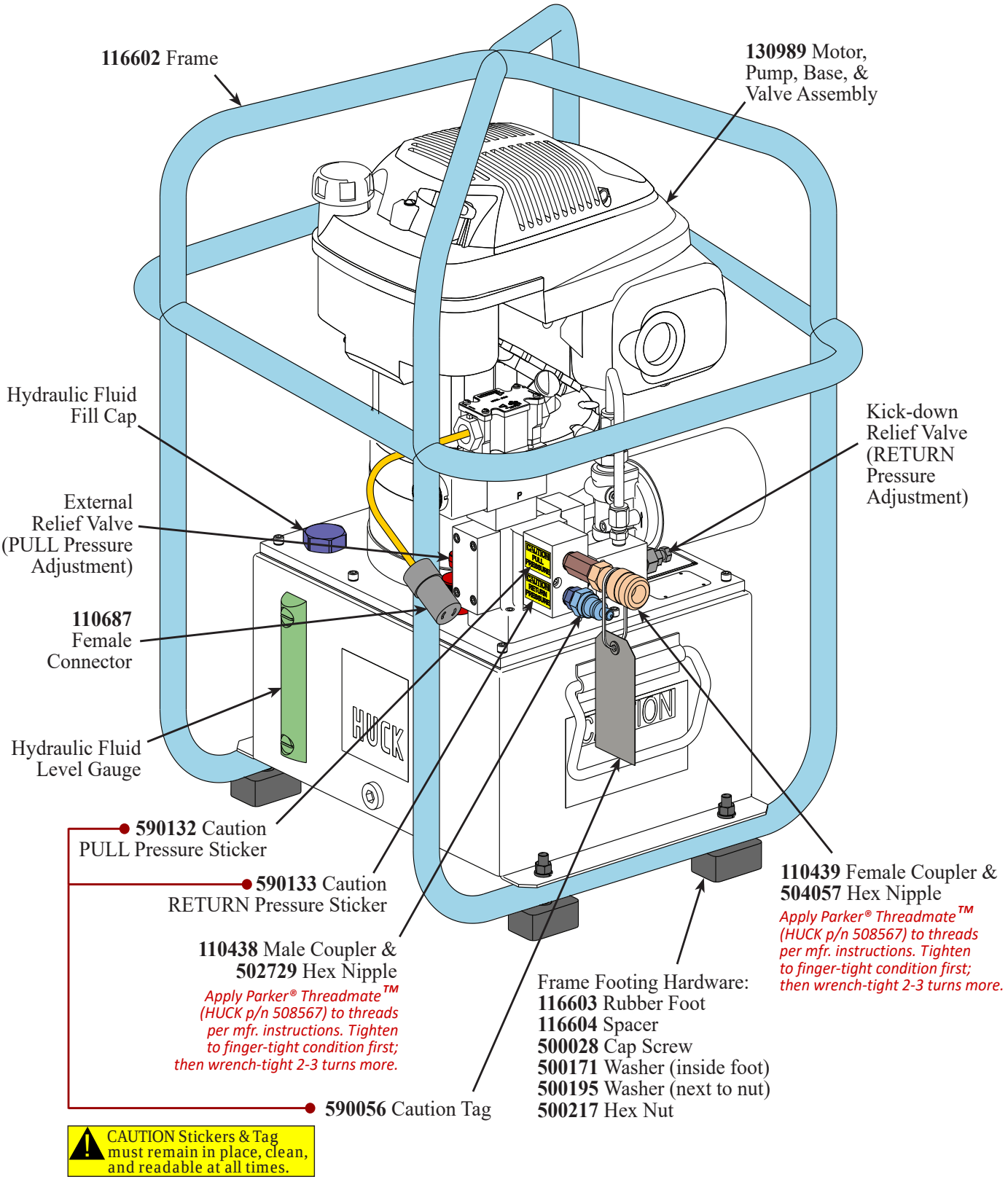
PUMP REBUILD PARTS
are recommended when the pump cannot build pressure normally and requires rebuilding. Training assistance is available for rebuilding pumps.

PUMP REBUILD KIT (FIGURE 9) **130913KIT**
This kit includes the O-rings, poppets, and spool to rebuild the unloading valve and thrust bearings, and the races for rebuilding the angle plates.

PUMP BARREL ASSEMBLY (FIGURE 10) **131295**
complete high-pressure piston pump assembly

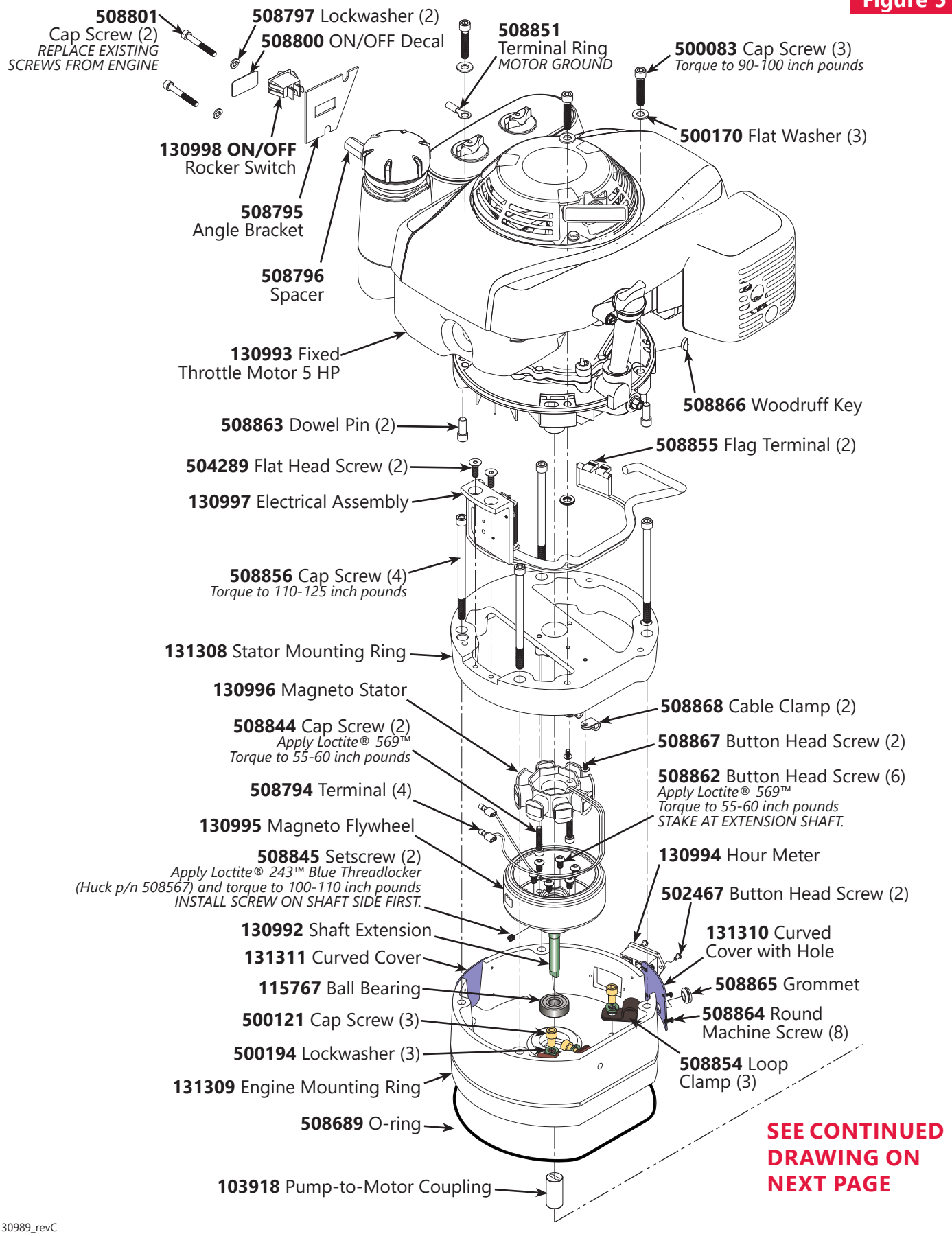
General Components Information

Figure 4



130989 Motor, Pump, Base. Valve Components (1 of 2)

Figure 5



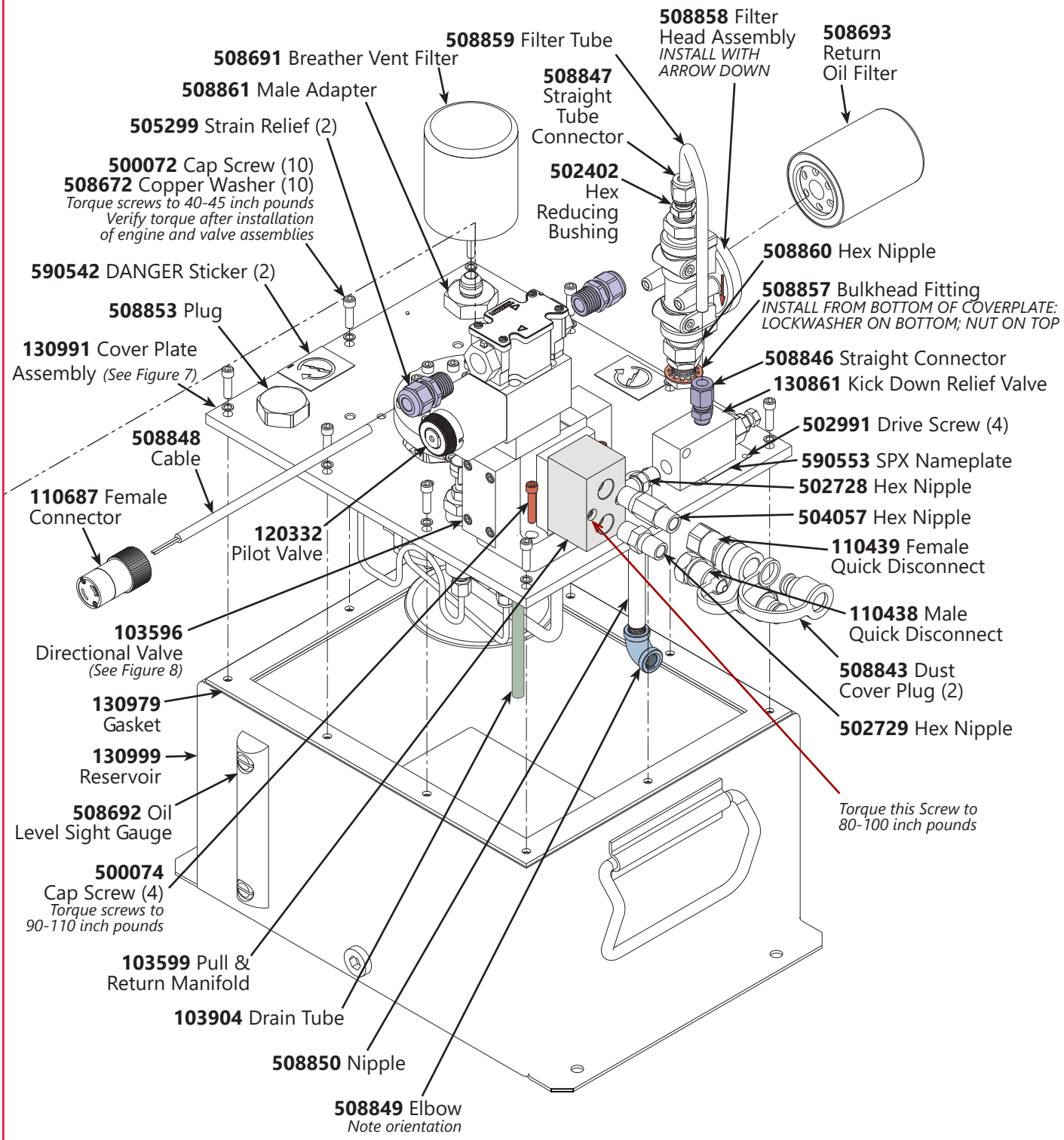
SEE CONTINUED DRAWING ON NEXT PAGE

130989_revC

130989 Motor, Pump, Base. Valve Components (1 of 2)

Figure 6

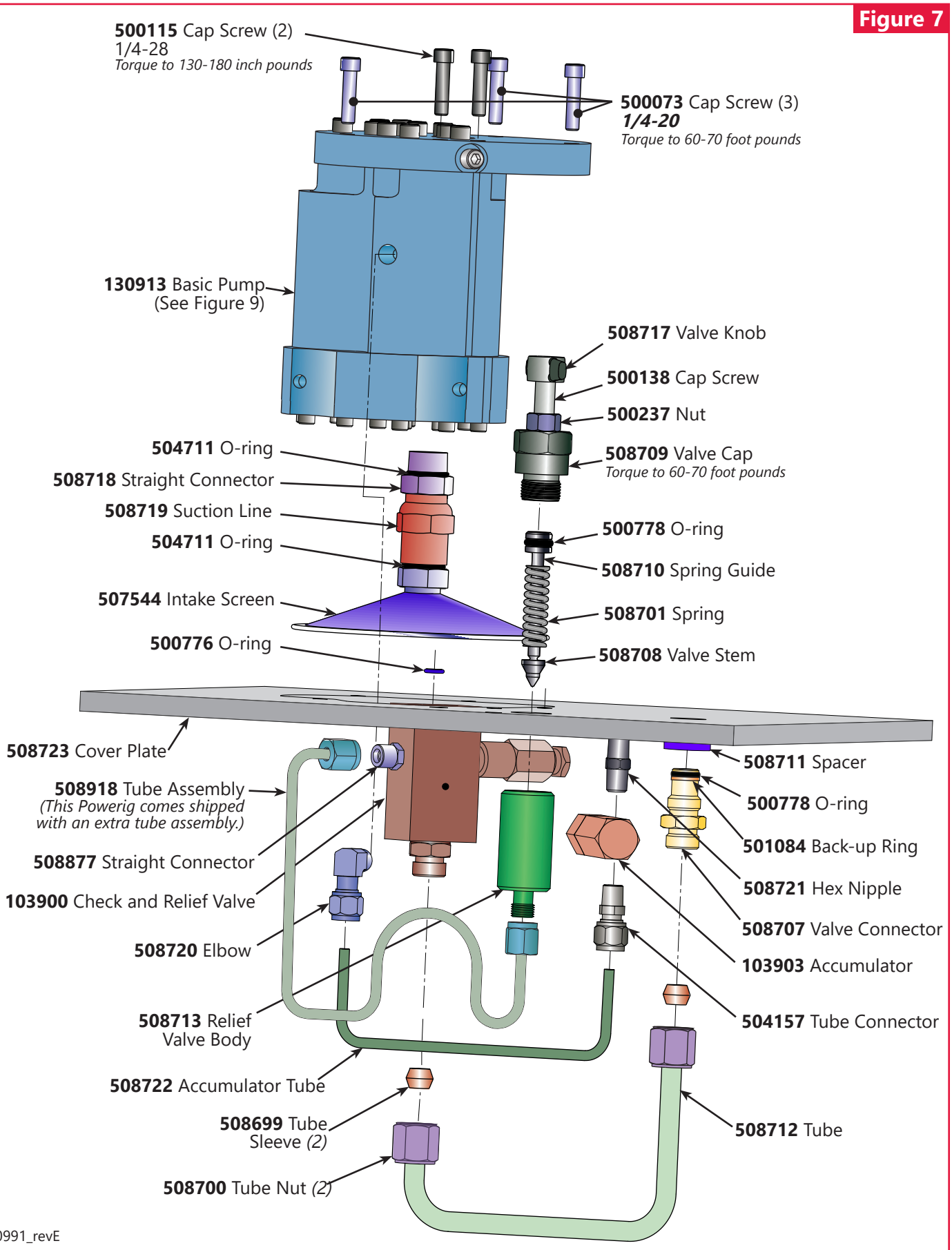
SEE CONTINUED DRAWING FROM PREVIOUS PAGE



130989_revC

130991 Cover Plate Assembly

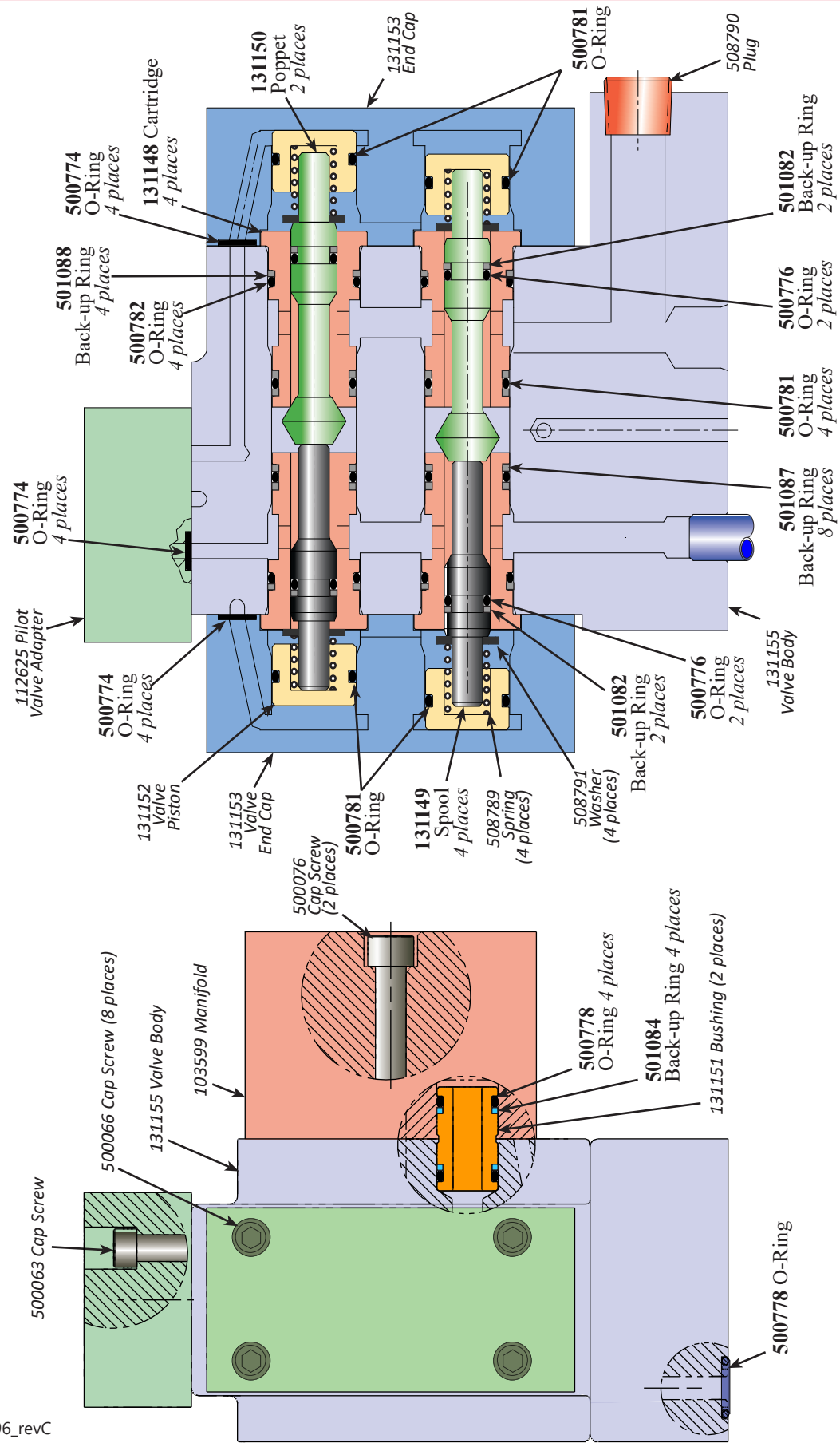
Figure 7



130991_revE

103596 Directional Valve

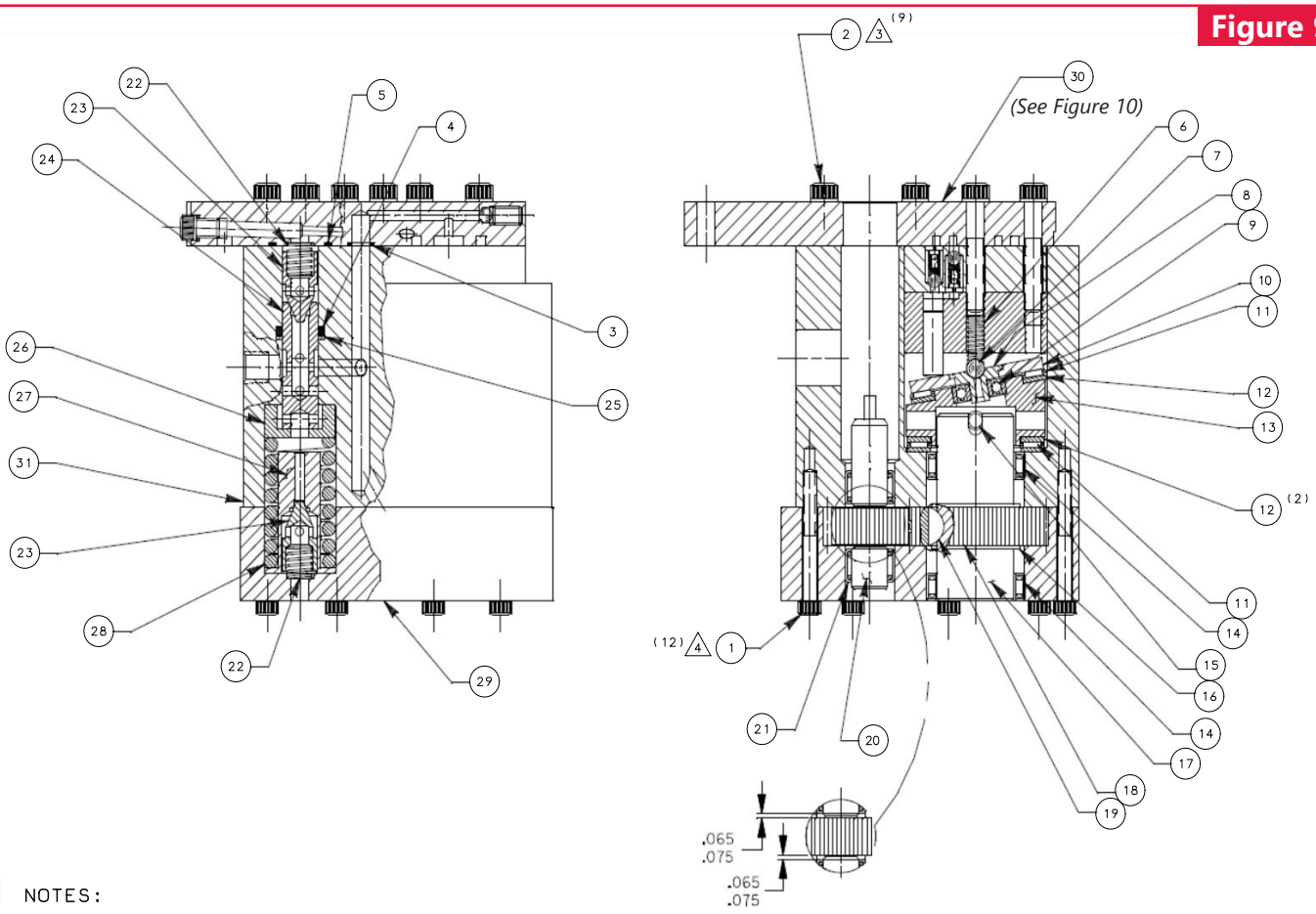
Figure 8



Components with BOLD part numbers are included in the 129437 Directional Valve Kit.
Components with ITALICIZED part numbers are sold separately, and are not included in the Directional Valve Kit.

130913 Basic Pump

Figure 9



NOTES:

1 SUPER CHARGE RELIEF VALVE (200 PSI) CONSISTS OF:
ITEM 22 508645 SPRING
ITEM 23 508656 POPPET
ITEM 27 508660 GUIDE, SPRING

△2 ITEM 28 508646 COMPRESSION SPRING IS INCLUDED IN THE LOW PRESSURE UNLOADING VALVE

△3 TORQUE TO 170/180 IN. LBS. (9 PLACES)

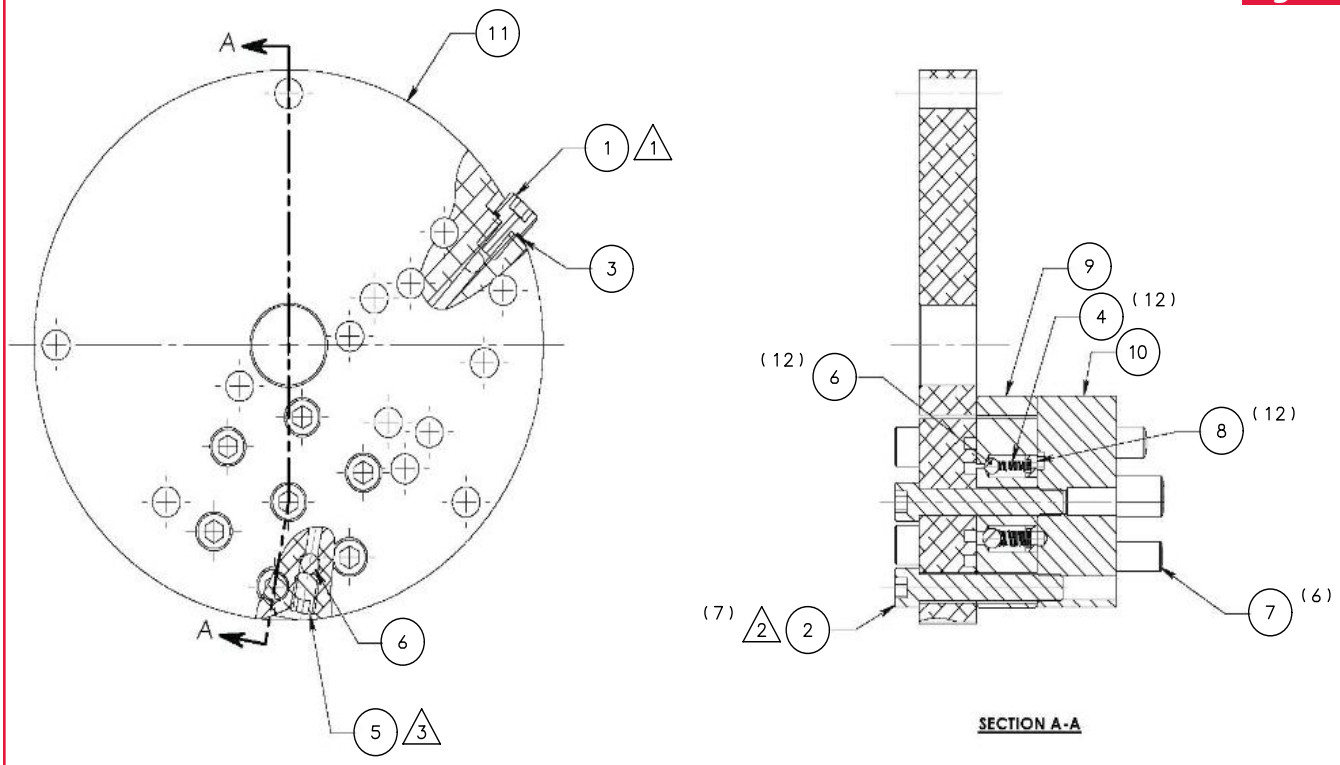
△4 TORQUE TO 50/60 IN. LBS. (12 PLACES)

	PART NO.	QTY	DESCRIPTION	ITEM
	508668	1	BODY, PUMP-MACHINE, 913H	31
	131295	1	BARREL ASM, PUMP, 913H	30
	508666	1	PLATE, PUMP END, 913H	29
△2	508646	1	SPRING,COMP .98 OD X L1.805	28
	508660	1	GUIDE, SPRING, SUPERCHARGE	27
LOW PRESSURE UNLOADING VALVE 600 PSI	508659	1	GUIDE, SPRING, LP UNLOAD	26
	501103	1	BACK-UP RING S-11248-112 81	25
	508657	1	SPOOL, UNLOADING VALVE	24
	508656	2	POPPET, UNLOADING VALVE	23
	508645	2	SPRING, COMPRESSION	22
	508648	2	BEARING, NEEDLE .50x.68x.50	21
	508658	1	GEAR, PUMP DRIVE, 913H	20
	508653	1	KEY, WOODRUFF	19
LOW PRESSURE PUMP	508665	1	GEAR, PUMP DRIVEN, 913H	18
	508664	1	SHAFT, PUMP DRIVEN, 913H	17
	501008	2	RET RING-EXT N5100-106 91	16
	503339	1	PIN-SLOTTED .250 X 1.75 ZP	15
	508647	2	BEARING, NEEDLE 1.13x1.38x.38	14
	508663	1	PLATE, ANGLE 10°	13
	508651	3	RACE, THRUST BEARING	12
	508649	2	BEARING,THRUST 1.92x1.25x.078	11
	508662	1	PLATE, TOP	10
	508652	1	BALL BEARING, .25 X.75 X.219	9
HIGH PRESSURE PUMP	508661	1	PLATE, BEARING TOP	8
	508644	1	BALL .250 STEEL	7
	508643	1	SPRING, COMP .253 ID X L1.02	6
	500784	1	O-RING AS568-018 C366Y D70	5
	500809	1	O-RING AS568-112 C366Y D70	4
	500776	1	O-RING AS568-010 C366Y D70	3
	500074	9	SCR SOC CAP .25-20 X 1.25	2
	500108	12	SCR SOC CAP #10-32 X 1.75	1

130913_revB

131295 Pump Barrel Assembly

Figure 10



PART NO.	QTY	DESCRIPTION	ITEM
508842	1	PLATE, PUMP TOP	11
508841	1	BARREL, PUMP	10
508840	1	HEAD, VALVE, 6 PISTON	9
508839	12	GUIDE, BALL	8
508838	6	PISTON, .281 OD	7
508837	13	BALL .188 GR 25 STEEL	6
508836	1	SSCR SOC KNLD CUP .25-20 X.38	5
508835	12	SPRING, COMP .166 OD X .751 L	4
508672	1	WASHER, COPPER	3
500117	7	SCR SOC CAP .25-28 X 1.50	2
500068	1	SCR SOC CAP .25-20 X .38	1

131295_revA

Limited Warranties

Limited Lifetime Warranty on BobTail® Tools:

Huck International, Inc. warrants to the original purchaser that its BobTail® installation tools manufactured after 12/1/2016 shall be free from defects in materials and workmanship for its ***useful lifetime***. This warranty does not cover special order / non-standard products, or part failure due to normal wear, tool abuse or misapplication, or user non-compliance with the service requirements and conditions detailed in the product literature.

Two Year Limited Warranty on Installation Tools:

Huck International, Inc. warrants that its installation tools and Powerig® hydraulic power sources manufactured after December 1, 2016 shall be free from defects in materials and workmanship for a period of two years from date of purchase by the end user. This warranty does not cover special order / non-standard products, or part failure due to normal wear, tool abuse or misapplication, or user non-compliance with the service requirements and conditions detailed in the product literature.

90 Day Limited Warranty on Nose Assemblies and Accessories:

Huck International, Inc. warrants that its nose assemblies and accessories shall be free from defects in materials and workmanship for a period of 90 days from date of purchase by the end user. This warranty does not cover special clearance noses, or special order / non-standard product, or part failure due to normal wear, abuse or misapplication, or user non-compliance with the service requirements and conditions detailed in the product literature.

Useful lifetime is defined as the period over which the product is expected to last physically, up to the point when replacement is required due to either normal in-service wear, or as part of a complete overhaul. Determination is made on a case-by case basis upon return of parts to Huck International, Inc. for evaluation.

Tooling, Part(s) and Other Items not manufactured by Huck:

HUCK makes no warranty with respect to the tooling, part(s), or other items manufactured by third parties. HUCK expressly disclaims any warranty expressed or implied, as to the condition, design, operation, merchantability, or fitness for use of any tool, part(s), or other items thereof not manufactured by HUCK. HUCK shall not be liable for any loss or damage, directly or indirectly, arising from the use of such tooling, part(s), or other items or breach of warranty or for any claim for incidental or consequential damages.

Huck shall not be liable for any loss or damage resulting from delays or non-fulfillment of orders owing to strikes, fires, accidents, transportation companies or for any reason or reasons beyond the control of the Huck or its suppliers.

Huck Installation Equipment:

Huck International, Inc. reserves the right to make changes in specifications and design and to discontinue models without notice.

Huck Installation Equipment should be serviced by trained service technicians only.

Always give the serial number of the equipment when corresponding or ordering service parts.

Complete repair facilities are maintained by Huck International, Inc. Please contact one of the offices listed below.

Eastern
One Corporate Drive Kingston, New York 12401-0250
Telephone (845) 331-7300 FAX (845) 334-7333

Outside USA and Canada
Contact your nearest Huck International location (see reverse).

In addition to the above repair facilities, there are Authorized Tool Service Centers (ATSC's) located throughout the United States. These service centers offer repair services, spare parts, Service Parts Kits, Service Tool Kits and Nose Assemblies. Please contact your Huck Representative or the nearest Huck International location (see reverse) for the ATSC in your area.

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Howmet Aerospace Inc. (NYSE: HWM) creates breakthrough products that shape industries. Working in close partnership with our customers, we solve complex engineering challenges to transform the way we fly, drive, build and power.
Through the ingenuity of our people and cutting-edge advanced manufacturing, we deliver these products at a quality and efficiency that ensures customer success and shareholder value.

Howmet Fastening Systems Tooling Support Locations

INDUSTRIAL NORTH AMERICA

Kingston Operations
1 Corporate Drive
Kingston, NY 12401
Tel: +1-800-278-4825
Fax: +1-845-334-7333
sales.kingston@Howmet.com

Tracy Operations
1925 North MacArthur Drive
Tracy, CA 95376
Tel: +1-800-826-2884
Fax: +1-800-573-2645
sales.idg@Howmet.com

Waco Operations
PO Box 8117
8001 Imperial Drive
Waco, TX 76714-8117
Tel: +1-800-388-4825
Fax: +1-800-798-4825
huck.waco@Howmet.com

INDUSTRIAL GLOBAL

Tokyo Operations (Japan and Korea)
1013 Hibiya U-1 Bldg.
Uchisaiwai-cho 1-1-7
Chiyoda-ku, Tokyo
100-0011 Japan
Tel: +81-3-3539-6594
Fax: +81-3-3539-6585

Melbourne Operations
1508 Centre Road
Clayton, Victoria
Australia 3168
Tel: +613-8545-3333
Fax: +613-8545-3390
hfsmel.sales@Howmet.com

Suzhou Operations
58 Yinsheng Road,
SIP Suzhou, Jiangsu
215126 China
Tel: +86-512-62863800-8888

Telford Operations
Unit C, Stafford Park 7
Telford, Shropshire
England TF3 3BQ
Tel: +44-(0)-1952-290011
Fax: +44-(0)-1952-207701
sales.telford@Howmet.com

AEROSPACE NORTH AMERICA

Kingston Operations
1 Corporate Drive
Kingston, NY 12401
Tel: +1-800-278-4825
Fax: +1-845-334-7333
sales.kingston@Howmet.com

Simi Valley Operations
3990A Heritage Oak Court
Simi Valley, CA 93063
Tel: +1-805-527-3600
Fax: +1-805-527-0900
www.afs-simivalley.com
SMV.HFSSales@Howmet.com

AEROSPACE GLOBAL

Aichach Operations
Robert-Bosch Str. 4
Aichach 86551
Germany
Tel: +49-8251-8757-0
AICSalesDL@Howmet.com

Cergy Operations
15 Rue du Petit Albi
F-95611 Cergy Pontoise
France
Tel: +33-1-34-33-98-00
Fax: +33-1-34-33-97-77

Hong Kong Operations
88 Hing Fat Street, 27th Floor
Causeway Bay
Hong Kong, China
Tel: +852-2864-2012
HKSSalesDL@Howmet.com

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ISO 14001-2015

Howmet Fastening Systems
Kingston Operations
1 Corporate Drive, Kingston, NY 12401
Tel: 800-431-3091 • Fax: 845-334-7333
www.afshuck.net/us

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