SERVICE MANUAL FOR
BLUE MAX 3 HYDROSTATIC TEST PUMP

EST Group's Blue Max 3 pump is equipped with a SC, Southern California Hydraulic Engineering Corporation's pump. This pump may be accessed by removing the rear panel on the Blue Max 3 unit. See the following pages for service guides and technical information regarding the pump.

QUESTIONS? Contact EST Group Customer Service at any of the following locations with questions.
In USA and Canada: tel: 800-355-7044, fax: 215-721-1101, e-mail: est-info@curtisswright.com
In Europe: tel: +31-172-418841, fax: +31-172-418849; e-mail: est-emea@curtisswright.com
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On the Internet: http://estgroup.cwfc.com

EST Group is a business unit of Curtiss-Wright Flow Control Company. **EST Group** provides a complete range of repair products, services and replacement parts covering the life cycle of tubular heat exchangers and condensers; additionally EST Group provides products and services to facilitate pressure testing pipe, piping systems, pressure vessels and their components. Visit EST Group on the Internet at http://estgroup.cwfc.com.

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SOUTHERN CALIFORNIA HYDRAULIC ENGINEERING CORPORATION
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www.schydraulic.com

INSTALLATION & OPERATING INSTRUCTIONS FOR SC AIR OPERATED HYDRAULIC PUMP 10-6 SERIES

PLEASE READ CAREFULLY

1. MOUNTING THE PUMP

There are drilled and tapped holes in the base of the pump for this purpose. The size, quantity, and spacing of these holes are shown on the parts list furnished with each pump. Mounting of the pump may be in any position, vertical preferred. When mounting is in inverted position, a drain hole should be provided to drain off any liquid that might accumulate in the pilot valve air chamber. Contact the factory or the closest SC distributor for information on the inverted modification.

IMPORTANT: The pump is designed so that the air motor head may be rotated in increments of 45 degrees to facilitate connection to air and hydraulic lines. This may be done by removing the eight bolts that clamp the air motor together. The head may then be rotated to any desired position that will also allow proper alignment of the bolts in the head and the base. When the bolts are replaced, be sure that the air cylinder is in proper position against the flanges on the pump head and the air cylinder end before tightening the bolts that clamp the air motor together. Use a soft hammer to position the flanges tightly against the air cylinder ends BEFORE tightening the bolts. Failure to do this can result in over-tightening the bolts initially, and when bolts on the opposite side are drawn up, this may result in the bolt lugs being broken or twisted off when the assembly is drawn down into position. Bolts should be secured lightly at first and then drawn up in sequence until uniform torque has been applied to all of the bolts around the perimeter of the pump. (19-19 ½ft-lbs.)

2. CONNECTION TO AIR SUPPLY LINE

A filter-regulator-lubricator assembly, located as close to the pump as possible, is required in the air supply line. The air input to the pump is a 1/2" npt port and is marked "AIR IN". The "FRL" assembly should be connected to it in the order named, with the lubricator adjacent to the pump. The pump will deliver at its maximum rated capacity at 100 psi & 56 scfm of free air with a 1/2" inside diameter supply line. Use of a smaller size supply line will not allow the pump to operate at full capacity.

3. LUBRICATION

A good grade of petroleum based lubricating oil should be used such as Castrol Braco Micronic 783, or any good grade of oil with equivalent properties. Automatic Transmission Fluid Type A will also be satisfactory when recommended lubricants are not available. For good lubrication, one drop for every 20 strokes of the pump is ample. If an excessive amount of oil appears to be flowing through the pump during operation, lubrication may be somewhat reduced to avoid excessive waste.

4. AIR EXHAUST

The air exhaust from the pump is a 1" npt port and is marked "AIR OUT". A muffler is desirable for quietness of operation. If no muffler is available and noise is objectionable, exhaust may be piped away to a remote location. Pipe or hose can be used for this purpose and should have a 1" inside diameter or larger so that the efficiency of the pump will not be impaired.

5. CONNECTION TO FLUID SUPPLY LINE

The size and type of port is shown on the pump assembly drawing and is marked "FLUID IN" on the pump. Clean fluid is very important. Grit or foreign matter in the fluid supply will damage hydraulic components, resulting in improper functioning of the pump. A free flow type of filter (100 mesh) with ports no smaller than the inlet port of the pump should be used to obtain maximum performance and avoid the possibility of cavitation. To ensure proper priming of the pump, maximum performance, and to avoid the possibility of cavitation, a fluid supply with a positive head is recommended. This positive head can be accomplished in one of two ways:

(1) Positioning the fluid level of the reservoir above the level of the pumps inlet port.
(2) Providing a pressurized fluid supply. This pressure is not to exceed 150 psi.

CAUTION: THIS PUMP IS DESIGNED FOR EITHER PETROLEUM BASED HYDRAULIC OIL OR PLAIN WATER (AS SPECIFIED WHEN ORDERING) AND IS NOT GAURANTEED TO PUMP FLUIDS OTHER THAN SPECIFIED HEREIN, OR FLUIDS THAT HAVE CORROSIVE QUALITIES WHICH WILL DETERIORATE THE PACKING OR METAL PARTS OF THE PUMP. CONTACT THE FACTORY OR THE CLOSEST SC DISTRIBUTOR FOR INFORMATION ON PUMPS FOR SPECIAL FLUIDS.

6. CONNECTION TO FLUID OUTLET OR PRESSURE SIDE

The size and type of port is shown on the pump assembly drawing and is marked "FLUID OUT" on the pump. The same care should be taken in making connections to this port as is necessary for all high pressure connections. Only fittings sufficiently rated for the pumps maximum output pressure should be used.

7. STARTING THE PUMP

(a) Fill the lubricator unit in the air supply line with oil as recommended in item #3

(b) Screw down the pressure regulator to "0" psi before turning on air into the pump.

(c) Release pressure side of pump to reservoir or atmosphere so the pump can prime itself.

CAUTION: BE SURE THAT THE FLUID SUPPLY REACHES THE PUMP PROMPTLY UPON STARTING. RUNNING THE PUMP DRY MAY DAMAGE HYDRAULIC COMPONENTS.

(d) Screw down the pressure regulator slowly until the pump starts. Pump should start on 10 to 15 psi of air under normal conditions. Continue to increase air pressure to 40 psi and let the pump run until all air has been purged from the system.

(e) Check the lubricator unit to see that the proper amount of oil is being supplied to the pump as recommended in item #3

(f) After steps (a) through (e) have been completed, air pressure to the pump may be regulated until the desired hydraulic pressure is attained in the system.

NOTE: All models of the pump are designed to operate in the range of 10 to 100 psi air pressure. Higher air pressure may be applied on intermittent duty but not to exceed 150 psi and is not recommended for continuous operation. The 10-6 series "201" and "301" models should not be operated except on intermittent duty at hydraulic pressures above 30,000 psi, as the life expectancy of the packing in the hydraulic assembly will be relatively short when operating continuously at pressures above 30,000 psi. The 10-6 Series 402 model should not be operated except on intermittent duty at hydraulic pressures above 40,000 psi.

8. TROUBLE SHOOTING GUIDE

The pump has been thoroughly tested at the factory and found to be in perfect working condition. If for some reason the pump does not function properly, do not attempt to repair it, but contact the factory or the closest SC distributor for instructions. When calling have the pump model number, serial number, and a brief description of the problem readily available. Before doing this, the following items should be checked:

a) Are all connections to the pump correct? Verify that the air supply line is connected to the port marked "AIR IN", and the fluid supply is connected to the port marked "FLUID IN". If either of these connections are incorrect, the pump will not function properly.

b) Is there an adequate and unrestricted air supply? Verify that sufficient air pressure and flow are available to produce the desired pump output. An insufficient air supply can hinder the published performance data of the pump.

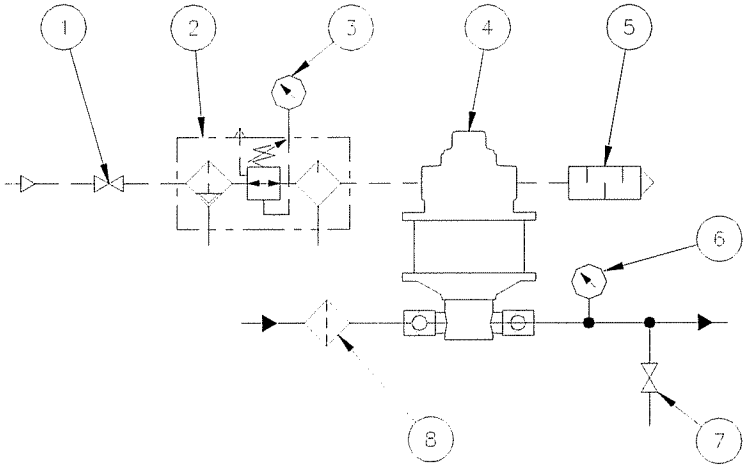
c) Is there an adequate and unrestricted fluid supply? Verify that the reservoir is full and/or the fluid supply does reach the pump. if not, the pump will not prime properly.

d) Is the pressure side of the pump unloaded? Verify that the pressure side of the pump is unloaded. If not the pump will not prime properly.

Upon verifying all of the above, begin item #7 again. If the pump still does not function properly, contact the factory or the closest SC distributor for instructions.

TYPICAL CIRCUIT FOR INSTALLATION

1. AIR SHUT-OFF VALVE
2. FRL ASSEMBLY
3. AIR PRESSURE GAUGE
4. SC PUMP
5. EXHAUST MUFFLER
6. HYDRAULIC PRESSURE GAUGE
7. FLUID BLEED VALVE
8. HYDRAULIC FILTER



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SERVICING INSTRUCTIONS
FOR SC AIR OPERATED HYDRAULIC PUMP
D6 SERIES

1. **TO DISASSEMBLE THE AIR MOTOR** - Refer to Air Motor Assembly (C10515) for Part Numbers and cross section of the Pump.

   (a) Remove the eight 3/8" bolts (Item #27) that clamp the Air Cylinder (Item #23), between the Head (Item #1) and the Air Cylinder End (Item #24). Remove the Air Head by tapping on a fitting screwed into either the "AIR IN" or "AIR OUT" ports with a soft hammer.

   NOTE: Inspect all parts for wear or damage and replace as necessary. It is especially important that all parts that operate in the O-Rings or Packing be free from pits, scoring or any other defects that may cause excessively rapid wear of O-Ring and Packing, since leaks will develop almost immediately under these conditions and satisfactory performance will not result. When removing Retaining Rings care must be taken not to damage the groove in which it seats. Damaged to the groove can decrease the holding effectiveness and may allow the Retaining Ring to become disengaged during operation. Careless removal of the Retaining Rings can damage the groove creating "BURRS". These "BURRS" can migrate throughout the Air Motor Assembly causing major damage to all internal components.

   (b) Remove the Retaining Ring (Item #22) from the bottom of the Air Piston (Item #20), and remove the Hydraulic Piston. The Pilot Valve Assembly (Item #10) may then be pushed out through the bottom of the Air Piston.

   (c) Remove the Retaining Ring (Item #17) from the Head Assembly. Remove the Bearing Assembly (Item #16) by lifting or prying it out with a hammer handle or similar tool. The APA Piston (Item #12) may also be removed at this time. The Bearing Assembly has a molded rubber seat and should be replaced if worn or damaged. The O-Ring (Item #19) in the Bearing Assembly, the O-Ring (Item #3) in the upper part of the APA Piston, and the O-Ring* on the Pilot Valve Assembly head should be replaced as a routine matter while the Pump is disassembled as they are especially important for maximum performance.
   *(This O-Ring is Part #P11000-216 (#12-6227N021), see Pilot Valve Assembly 11-6027A000)

   (d) The Head Assembly has a Rubber Bumper (Item #4), inserted in the upper portion of the body. This acts as an air seal and also a cushion for the Air Piston Actuating Valve. If worn or damaged it should be replaced.

   (e) When the Dry Seal (Item #6) and the O-Rings (Item #8) are worn or damaged, they need to be replaced. Remove the Retaining Ring (Item #13) by using a small screwdriver. Slide the Dry Seal off of the APA Piston (Item #12). The O-Ring (Item #7) inside the Dry Seal should also be replaced. When installing the Dry Seal (Item #6) and the O-Rings (Items #7 & #8), a small coat of silicone grease or other suitable lubricant should be applied.

   ****CAUTION: DO NOT** remove the Sleeve from the Head Casting unless replacement is to be made

2. **REPAIRING THE PILOT VALVE ASSEMBLY** – Refer to Pilot Valve Assembly (11-6027A000) for this process. The Pilot Valve Assembly (11-6027A000) has an Air Check Assembly (11-6032X403) located in the lower end. Remove the Retaining Ring (Item #7, 12-R093S000), which locks the Valve Seat (Item #6 - 11-5024A403) in place, and remove the Valve Seat with a spanner wrench. The Air Check Assembly (Item # 5 – 11-6032X403) and the Spring (Item #4 - 11-5016M001) will then drop out and may be inspected for wear or damage. Replace the springs and worn parts as required. Do not disassemble Air Check (Item #5). The Air Check will only be assembled and properly adjusted at the factory.

3. **TO REPLACE THE PACKING IN THE HYDRAULIC CYLINDER** – It is not necessary to dismantle the Air Motor. Proceed as follows: Disconnect the air-supply line, remove the muffler if necessary and loosen the Set Screw (Item #26) in the Air Cylinder End (Item #24). Unscrew the Air Motor from the Hydraulic Cylinder. The Hydraulic Piston will be removed with the Air Motor, permitting convenient replacement of the packing in the Hydraulic Cylinder. The Parts List for the Hydraulic Assembly will give the size and kind of packing required, and when installing new packing, be sure that the Backup Rings are properly in place. If they are damaged or not installed correctly, the "O" Ring will malfunction, with resultant loss of pressure and packing failure. When replacing the Air Motor, install a new Gasket, part #11-5028N000 and see that the Hydraulic Piston is in proper alignment before screwing the Air Motor down into position. Tighten the Air Motor securely and also the Set Screw (Item #26) in the Air Cylinder End (Item #24).
   TO REPLACE THE PACKING IN 10-6000W151 THROUGH 10-6000S402 – Refer to Hydraulic Assembly Drawings 11-6165W151 through 11-6165S301 and 11-6169S000. Using a Pin Wrench remove Retainer Part #11-6158, 11-6162 or 11-6176, remove Bearing –Upper Part #11-6163 or 11-6177, Back-up Part # D10653 Seal-Rod Part #P11202.Install new Seal-Rod and Back-Up, replace Bearing-Upper and Retainer. Torque Retainer to 10-12 Ft Lb.

NOTE: Models with Isolator Attachment or "V" Ring packing in the Hydraulic Cylinder will require removal of the Isolator or the Adapter on "V" Ring packed Cylinders to replace the packing.

4. **THE HYDRAULIC PISTON** has a Rubber Bumper, Part #11-5051P000, in the head. If replacement is required remove the Cap Screw, part #12-25F37SBC45Z, and install new Rubber Bumper and Washer, part #12-5001C407. Apply "LOCTITE" sealant to the Cap Screw threads when replacing and tighten securely, but not to exceed four foot pounds of torque.

   NOTE: The Piston stem is chrome plated and honed and lapped to a very close tolerance with the Hydraulic Cylinder. Should it show indications of wear or being scored (usually due to foreign matter being present in the hydraulic fluid), the entire Hydraulic Piston and Cylinder Assembly, Part #11-6011XXXX, should be returned to the factory for repair or replacement as required.

5. **REPAIRING OR REPLACING THE HYDRAULIC CHECK VALVES** – These Valves should not give any trouble unless foreign matter such as dirt or grit are present in the fluid supply. If a leak develops remove the Check Valves from the Hydraulic Cylinder. Remove the "O" Ring and replace with a new one. Inspect the ball seat in the Valve while the "O" Ring is removed. If it shows any indication of wear or damage, the entire Valve Assembly should be replaced. Refer to Parts List for Part Numbers and cross sections of the Valves.

   NOTE: There are several different model pumps. When ordering parts, give the Part Number the Pump Model Number and Serial Number.

6. When Operations described in Paragraphs 1 to 5 inclusive have been completed, the entire unit will have been dismantled and all parts inspected for wear and damage. It is especially important that all parts that operate in the "O" Rings or Packing be free from pits, scoring or any other defects that may cause excessively rapid wear of "O" Rings and Packing. Since leaks will develop almost immediately under these conditions and satisfactory performance will not result.

7. **REASSEMBLING THE PUMP** – Reverse the procedure used for dismantling, making sure that all Retaining Rings are properly in place and that no "O" Rings have been damaged in reassembly. Before installing the Retaining Rings, inspect the groove for damage and the presence of foreign matter. Damage to the groove can decrease the holding effectiveness of the Ring, while foreign matter can cause contamination of the pump leading to failure.

   IMPORTANT: *When reassembling the Air Motor be sure that the Air Cylinder, Part #11-6151P000, is in proper position against the flanges on the Pump Head and the Air Cylinder End before tightening the bolts that clamp the Air Motor together. Use a soft hammer to position the flanges tightly against the Air Cylinder Ends BEFORE tightening the bolts. Failure to do this can result in over-tightening the bolts initially and when the bolts on the opposite side are drawn up this may result in the bolt lugs being broken or twisted off when the assembly is drawn down into position. Bolts should be secured lightly at first then drawn up in sequence until uniform torque has been applied to all of the bolts around the perimeter of the Pump (15-17 ft-lb.).*

8. **PUMP NOT RUNNING PROPERLY** – If for any reason the Pump does not run properly, look for one of the following causes:

   (a) If the Pump appears to be short stroking and running too fast without pumping properly, it usually indicates that the Air Check Assembly is not working as it should be. (See paragraph #2 for correction procedure).

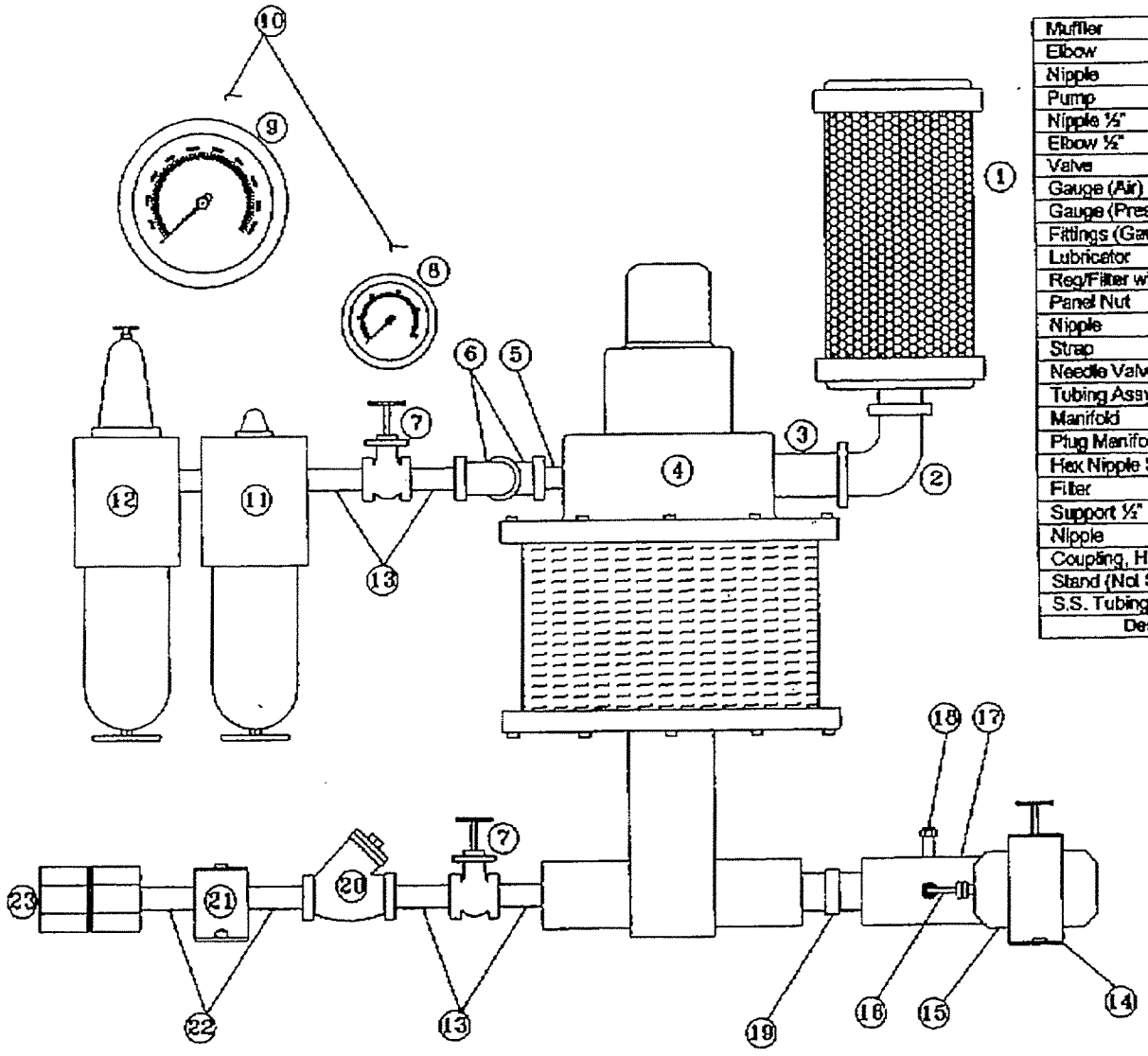
   (b) Loss of pressure may be caused by one of two reasons, the Hydraulic Check Valves have developed a leaky condition or the hydraulic fluid is bleeding past the Packing in the Hydraulic Cylinder. (See paragraphs 3, 4 and 5 for repair instructions).

   (c) Should the Pump commence to run erratically and in a jerky manner after a period of time, it is usually an indication that a seizing action is taking place in the Hydraulic Piston & Cylinder Assembly. (See paragraphs 1 and 3 for disassembly instructions). Foreign matter such as alkali, dirt, grit or chemicals that do not have sufficient lubrication qualities being present in the fluid supply usually causes this. If the Hydraulic Piston and Cylinder have not been damaged, a thorough cleaning will normally place the Pump in operation again.

   (d) For maximum volume of flow, make sure that a sufficient flow of air is supplied to the Pump. Hooking the Pump up to a smaller pipe size than the "AIR IN" port on the Pump will not allow it to run at its full rated capacity. Long runs of relatively small pipe supplying air to the Pump will have the same effect.

   (e) It is important to remember that this pump requires ***no lubrication in the air supply***.

   (f) If an excessive amount of oil or water is coming through the Pump air exhaust, check the following:
      1. The filtering unit in the air supply is not functioning properly. The bowl should be cleaned periodically to assure delivery of the clean air to the Pump.
      2. The hydraulic fluid being pumped (oil or water) may be leaking past the packing in the Hydraulic Cylinder into the Air Motor. (See paragraph #3 for correction procedure)



Description	Part #	Item #	Price
Muffler	M10	1	25.00
Elbow	6000-2	2	6.10
Nipple	6000-3	3	4.20
Pump	6000W-050	4	787.00
Nipple ½"	6000-5	5	2.10
Elbow ½"	6000-6	6	4.80
Valve	6000-7	7	10.50
Gauge (Air)	6000-8	8	48.60
Gauge (Pressure)	6000-9	9	91.00
Fittings (Gauge)	GCT-400-7-4	10	10.40
Lubricator	6000-42L93	11	56.40
Reg/Filter with Panel Nut	6000-42K97-33-49	12	98.10
Panel Nut	6000-42K49	12	3.24
Nipple	6000-13	13	4.05
Strap	6000-14	14	15.20
Needle Valve	UN2NS-PMN	15	110.00
Tubing Assy	GCT-400-1-4TA	16	21.80
Manifold	GCT-6000-17	17	65.00
Plug Manifold	GCT6000-18	18	5.80
Hex Nipple S.S.	GCT-8-HN-SS	19	17.30
Filter	6000-20	20	14.60
Support ½"	GCT-304-S3-PP-8P	21	9.10
Nipple	6000-22	22	6.05
Coupling, Hex	GCT-8-HCG-B	23	14.40
Stand (Not Shown)	GCT6000-C	24	325.00
S.S. Tubing (Not Shown)	6000-25	25	6.05/ft

NO.	BY.	DESCRIPTION	DATE	CHK'D	APPV'D
1					

GULF COAST TOOL
PASADENA, TEXAS

TPW 10,000
6000 SERIES

TITLE: ASSY PARTS LIST

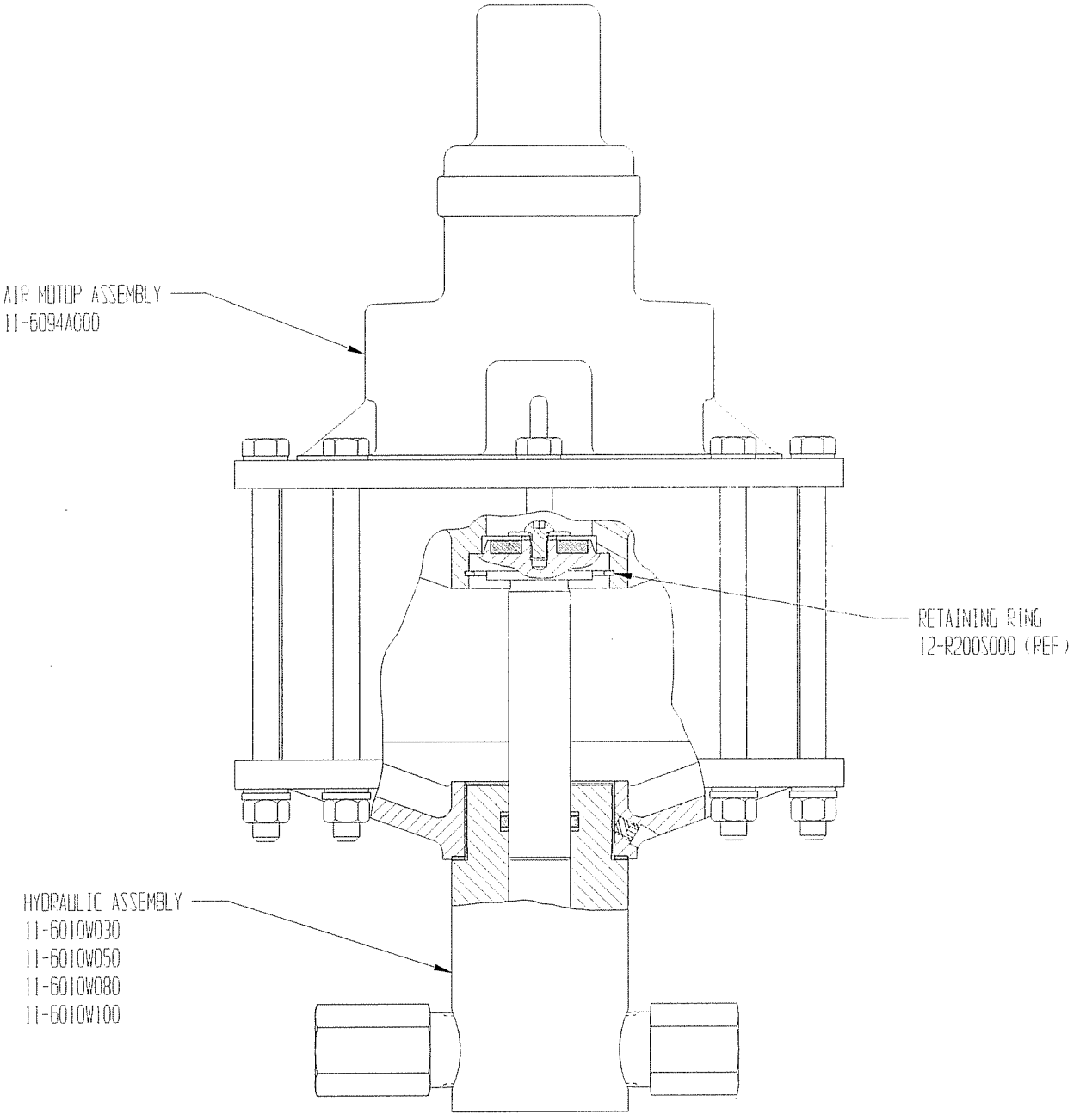
SCALE: AS NOTED
DESIGNED BY: PAT
DRAWN BY:
CHECKED BY:
PRELIMINARY BY:
PROJECT NO.:
SHEET NO.:
DATE: 7/01
REV. 0

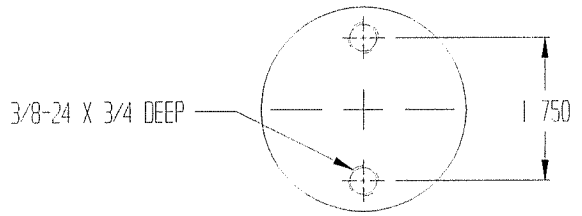
SOUTHERN CALIFORNIA HYDRAULIC ENGINEERING CORPORATION

DESIGNERS AND MANUFACTURES OF HYDRAULIC & PNEUMATIC EQUIPMENT

PUMP ASSEMBLY 10-6000W030 THRU W100

FORM 10-6000W030-100 REV 07/12/01





MOUNTING DIMENSIONS

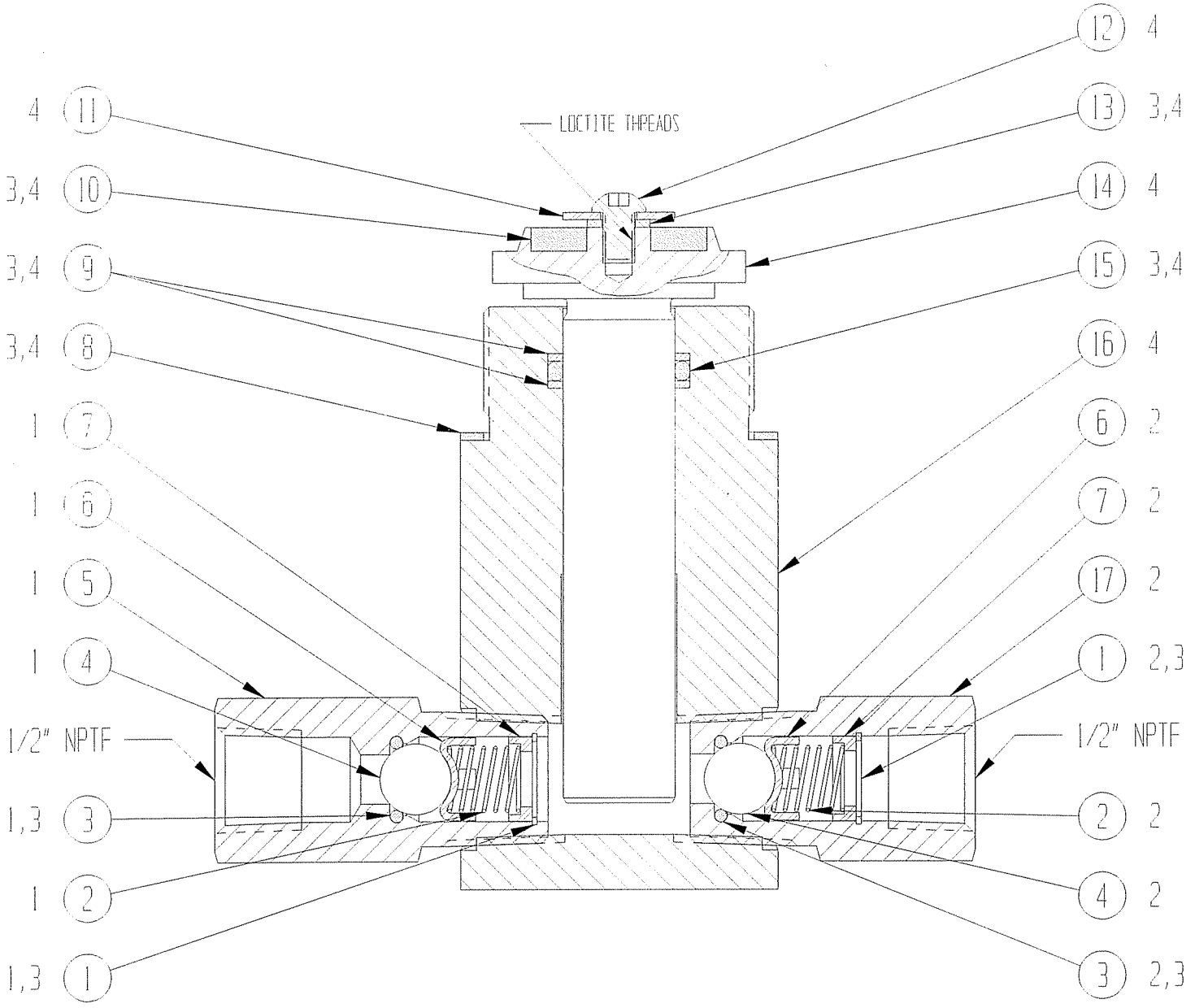
SOUTHERN CALIFORNIA HYDRAULIC ENGINEERING CORPORATION

DESIGNERS AND MANUFACTURERS OF HYDRAULIC & PNEUMATIC EQUIPMENT

FORM 11-6001OW030-100 REV 07 IC 01

HYDRAULIC ASSEMBLY 11-6010W030 THRU W100

FOR PUMP ASSEMBLY 10-6000W030 THRU W100



4* INCLUDED IN 11-6011WXXX PISTON & CYLINDER ASSEMBLY

3* INCLUDED IN 11-6099NXXX HYDRAULIC REPAIR KIT

2 INCLUDED IN 11-5023S000 OUTLET CHECK VALVE ASSEMBLY

1 INCLUDED IN 11-5024S000 INLET CHECK VALVE ASSEMBLY

* REPRESENTS PUMP ASSEMBLY RATIO NUMBER
EXAMPLE: 11-6099N030 = HYDRAULIC REPAIR KIT FOR 10-6000W030 PUMP

BILL OF MATERIALS FILE: 10-550-010.XLS

DRAWING NUMBER & DESCRIPTION: 11-6010W030 THRU W100 HYDRAULIC ASSEMBLY

11-6010 REVISION: 07/12/01

W030	W050	W080	W100	ITEM NO	QTY	PART NO	DESCRIPTION
•	•	•	•	1	2	P10202-068	RETAINING RING
•	•	•	•	2	2	11-5013S000	SPRING
•	•	•	•	3	2	P11003-112	O-RING
•	•	•	•	4	2	12-0440S562	CHECK BALL
•	•	•	•	5	1	11-5019S000	SEAT-INLET
•	•	•	•	6	2	11-5034S002	BALL GUIDE
•	•	•	•	7	2	11-5017S000	SPRING GUIDE
•	•	•	•	8	1	11-5028N000	GASKET
•				9	2	P11227-212	BACK UP
	•			9	2	P11227-115	BACK UP
		•		9	2	P11227-113	BACK UP
			•	9	2	P11227-112	BACK UP
•	•	•	•	10	1	11-5051P000	PISTON BUMPER
•	•	•	•	11	1	12-25N87WF1Z	FENDER WASHER
•	•	•	•	12	1	12-25F37SBC45Z	BUTTON HEAD CAP SCREW
•	•	•	•	13	1	12-5001C407	HELICAL SPRING LOCK WASHER
•				14	1	11-6008S030	HYDRAULIC PISTON
	•			14	1	11-6008S050	HYDRAULIC PISTON
		•		14	1	11-6008S080	HYDRAULIC PISTON
			•	14	1	11-6008S100	HYDRAULIC PISTON
•				15	1	P11000-212	O-RING
	•			15	1	P11000-115	O-RING
		•		15	1	P11000-113	O-RING
			•	15	1	P11000-112	O-RING
•				16	1	11-6009B030	HYDRAULIC CYLINDER
	•			16	1	11-6009B050	HYDRAULIC CYLINDER
		•		16	1	11-6009B080	HYDRAULIC CYLINDER
			•	16	1	11-6009B100	HYDRAULIC CYLINDER
•	•	•	•	17	1	11-5020S000	SEAT-OUTLET

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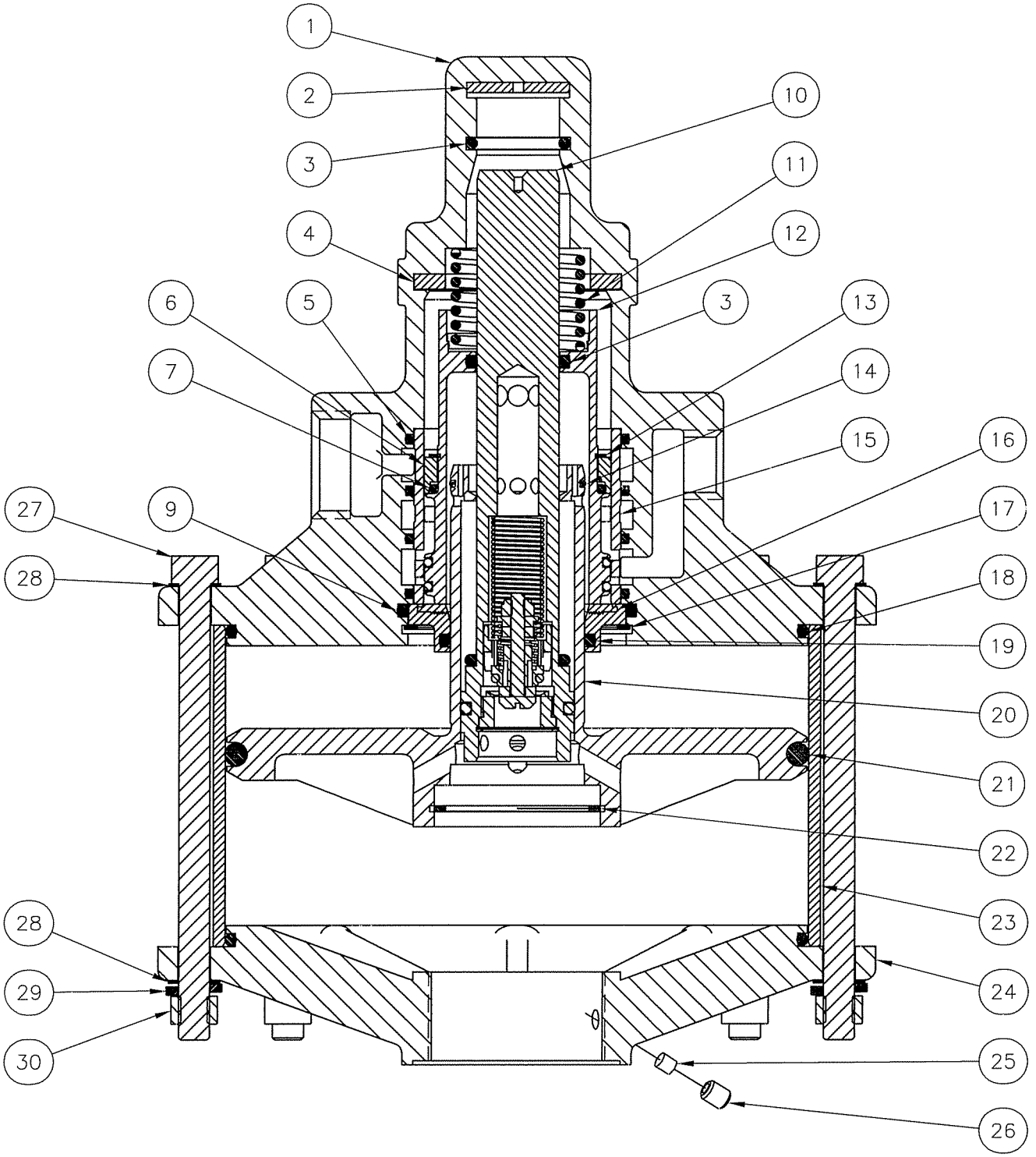
AIR MOTOR ASSEMBLY (D6 DRY LUBE) - C10515

(Sheet 1 of 2) REV.01AUG02,D.MACH



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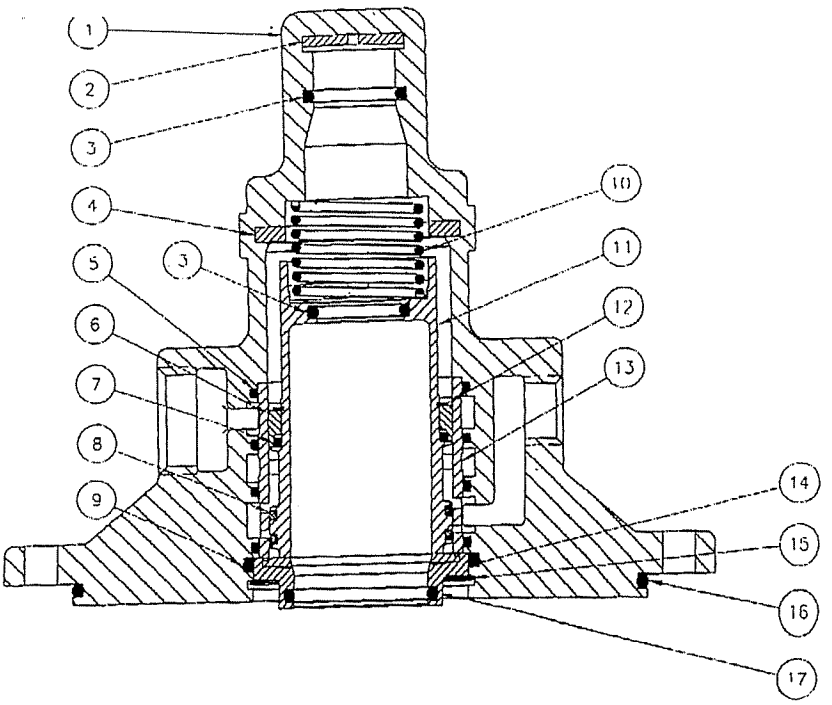
AIR MOTOR ASSEMBLY (D6 DRY LUBE) - C10515

(Sheet 2 of 2) REV 01AUG02,D MACH

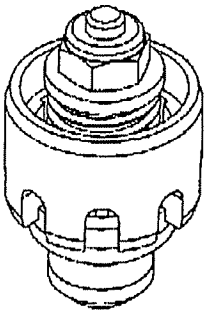
AIR MOTOR ASSEMBLY – C10515, D6 DRY LUBRICATION					
ITEM	DESCRIPTION	PART NUMBER	QTY	PACKING SET (R10105)	REPAIR KIT (R10104)
1	HEAD	11–6092A001	1		
2	BUMPER	11–5012N000	1		
3	O–RING	P11000–214	2	X	X
4	BUMPER	11–5057P000	1		X
5	O–RING	P11000–144	4		
6	SEAL–DRY	D10684	1		X
7	O–RING	P11000–135	1	X	X
8	O–RING	P11003–137	2	X	X
9	O–RING	P11000–231	1	X	X
10	PILOT VALVE ASSEMBLY	11–6027A000	1		
11	SPRING	11–5005M002	1		
12	PISTON–APA	D10817	1		
13	RETAINING RING	P10263–193	1		X
14	O–RING	P11000–028	1	X	X
15	SLEEVE–APA	D10263	1		
16	BEARING ASSEMBLY	11–5047N000	1		
17	RETAINING RING	12–R262S000	1		
18	O–RING	P11000–261	2	X	X
19	O–RING	P11000–223	1	X	X
20	AIR PISTON	11–6025A000	1		
21	O–RING	P11000–439	1	X	X
22	RETAINING RING	12–R200S000	1		X
23	CYLINDER–AIR	11–6151P000	1		
24	END	11–6002A000	1		
25	PLUG	11–5172N000	1		
26	SET SCREW	12–25C313CPSS	1		
27	BOLT – HEX	P10230	8		
28	WASHER – FLAT	P10214–038	16		
29	WASHER – LOCK	P10212–038	8		
30	NUT – HEX	12–37CNFH1Z	8		

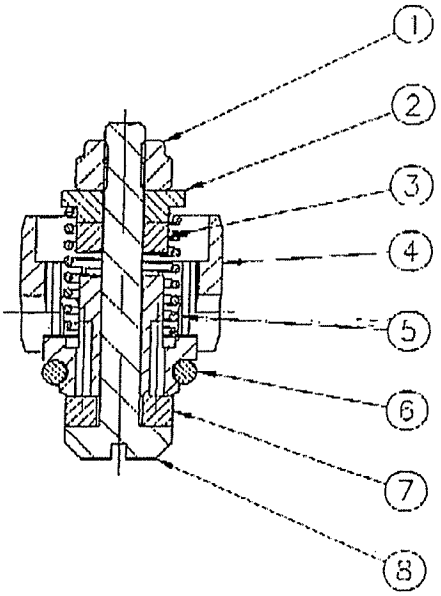
HEAD ASSEMBLY (D6 DRYLUBE) C10516



HEAD ASSEMBLY (D6 DRY LUBE) C10516					
ITEM	DESCRIPTION	PART NUMBER	QTY	PACKING SET (R10105)	REPAIR KIT (R10104)
1	HEAD	11-6092A001	1		
2	BUMPER	11-5012N000	1		
3	O-RING	P11000-214	2	X	X
4	BUMPER	11-5057P000	1		X
5	O-RING	P11000-144	4		
6	SEAL-DRY	D10684	1		X
7	O-RING	P11000-135	1	X	X
8	O-RING	P11003-137	2	X	X
9	O-RING	P11000-231	1	X	X
10	SPRING	11-5005M002	1		
11	PISTON - APA	D10817	1		
12	RETAINING RING	P10263-193	1		X
13	SLEEVE - APA	D10263	1		
14	BEARING ASSEMBLY	11-5047N000	1		
15	RETAINING RING	12-R262S000	1		X
16	O-RING	P11000-261	1	X	X
17	O-RING	P11000-223	1	X	X

AIR CHECK ASSEMBLY 11-6032X403





AIR CHECK ASSEMBLY 11-6032X403			
ITEM	DESCRIPTION	PART NUMBER	QTY
1	NUT	12-2104A4D08	1
2	RETAINER	11-5039S000	1
3	WASHER	11-5043N000	1
4	VALVE BODY	11-5171X001	1
5	SPRING	11-5015M000	1
6	O-RING	P11000-111	1
7	WASHER	11-5025N403	1
8	SCREW	11-5056A000	1

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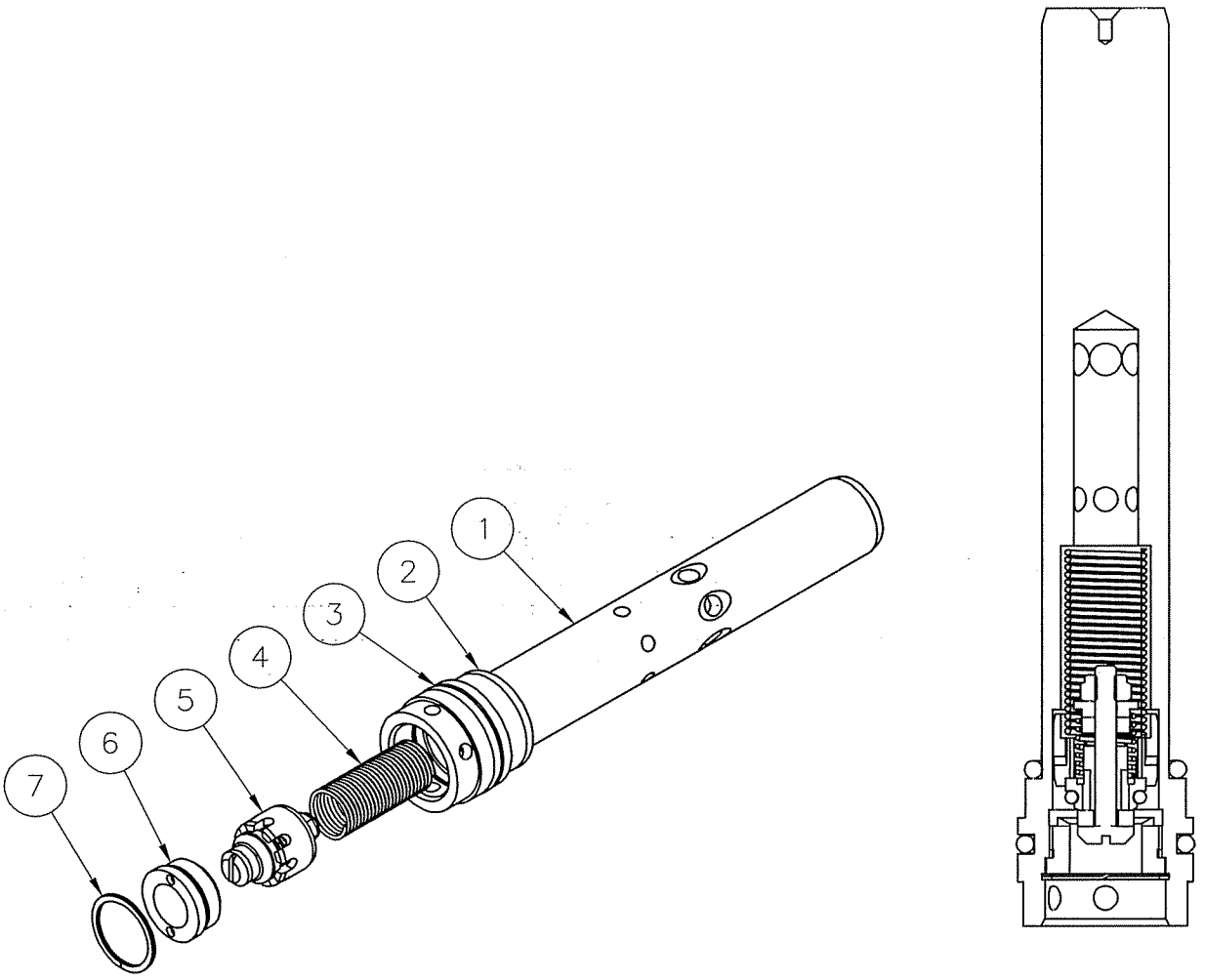
PILOT VALVE ASSEMBLY 11-6027A000

(Sheet 1 of 1) REV.16MAY02,D MACH



PILOT VALVE ASSEMBLY 11-6027A000					
ITEM	DESCRIPTION	PART NUMBER	QTY	PACKING SET (R10105)	REPAIR KIT (R10104)
1	VALVE BODY	11-6023A000	1		
2	O-RING	P11000-214	1	X	X
3	O-RING	P11000-216	1	X	X
4	SPRING	11-5016M001	1		X
5	AIR CHECK ASSY.	11-6032X403	1		X
6	SEAT	11-5024A403	1		
7	RETAINING RING	12-R093S000	1		X

NOTE: AIR MOTOR PACKING SET (R10105) ALSO INCLUDES AN O-RING (P11000-111) - USED ON AIR CHECK ASSEMBLY (11-6032X403).