

RICE HYDRO, INC.
MANUFACTURER'S OPERATING INSTRUCTIONS FOR THE
HP-Series PNEUMATIC HYDROSTATIC TEST PUMPS

FOR WARRANTY INFORMATION CALL: 1-800-245-4777

NOTE: Prior to testing any high pressure line, please check all connections, hoses, and fittings to assure that they are properly tightened and in good working order. No frays, tears, or cuts.

REQUIRED: Air Compressor capable of 100 PSI, up to 75 CFM.

CONNECTING THE PUMP:

1. Connect the high pressure hose provided, and an inlet water supply hose, unit must be fed with a pressurized water source. Position the Test Pump within 8 feet of the test environment.
2. Connect the air line from the compressor to the inlet fitting on the combination regulator/air filter.

NOTE: AIR FILTER SHOULD BE DRAINED OF ANY WATER OR DIRT PARTICLES BEFORE, AND AFTER USE. Drain valve is located on the bottom of filter body.

3. Check the in-line strainer for dirt and debris clean as necessary.

OPERATING THE PUMP:

1. Turn on the water.
2. Open the bleeder valve on the test line to bleed off excess air. NOTE: this should be done several times during the test cycle.
3. Start the compressor.
4. Once the compressor has reached operating pressure, open the outlet valve on the air compressor slowly, which will allow the air to flow to the Test Pump. Note: this outlet valve, or "shut-off valve" may come standard on your air compressor, however if it does not, a shut-off valve should be installed on your compressor for convenience & safety to the operator, prior to the testing process.
5. Set the inlet air pressure to 100 P.S.I. This will give maximum operating output pressure. To do this, adjust the air regulator, (a black knob located on the top of the inlet air filter assembly on the test pump). Pull up on the black knob and turn clockwise to increase pressure, or counter-clockwise to decrease pressure. Once the inlet air pressure is set, push down on the knob to lock it in place.
6. Start turning regulator clockwise, pressure will begin building as soon as air flows. When desired test pressure has been met, close the outlet needle valve to isolate test environment. To turn off pump while testing, turn regulator counter clockwise and decrease or stop air flow, or disconnect air compressor supply. If a pressure drop is indicated, check the following:

- a. Output hose connection at pump.
- b. Output hose connection at test line.
- c. Leaking test line or air in the test environment.

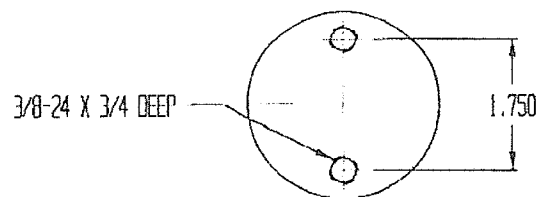
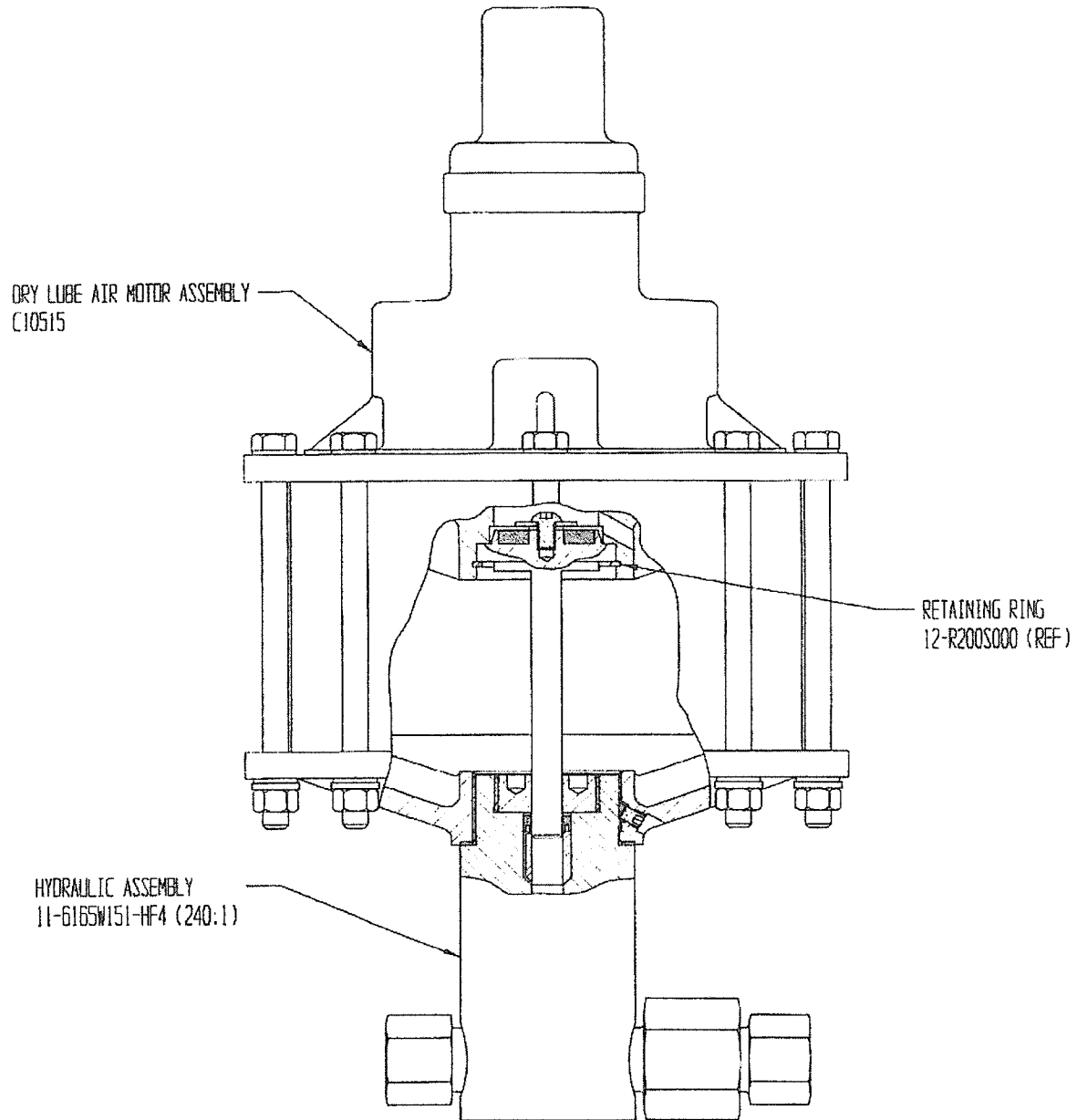
If the pressure gauge remains constant, turn off compressor and monitor gauge for your prescribed test time. When test is complete, turn off water supply, open the high pressure bleeder valve located beside the outlet port connection on the unit. Bleed off the water pressure. Repeat the above steps for multiple lines. Be sure the air pressure gauge reads zero before disconnecting the air line from pump.

TEMPERATURE CAPABILITIES - Air inlet side of pump can handle temperatures up to 140 degrees; hydraulic side of pump can handle up to 180 degrees.

CAUTION: Do not allow unit to sit with hydraulic side at or 140 degrees for a length of time that would drive air side above the 140 degree maximum.



PUMP ASSEMBLY D6000B240-HF4

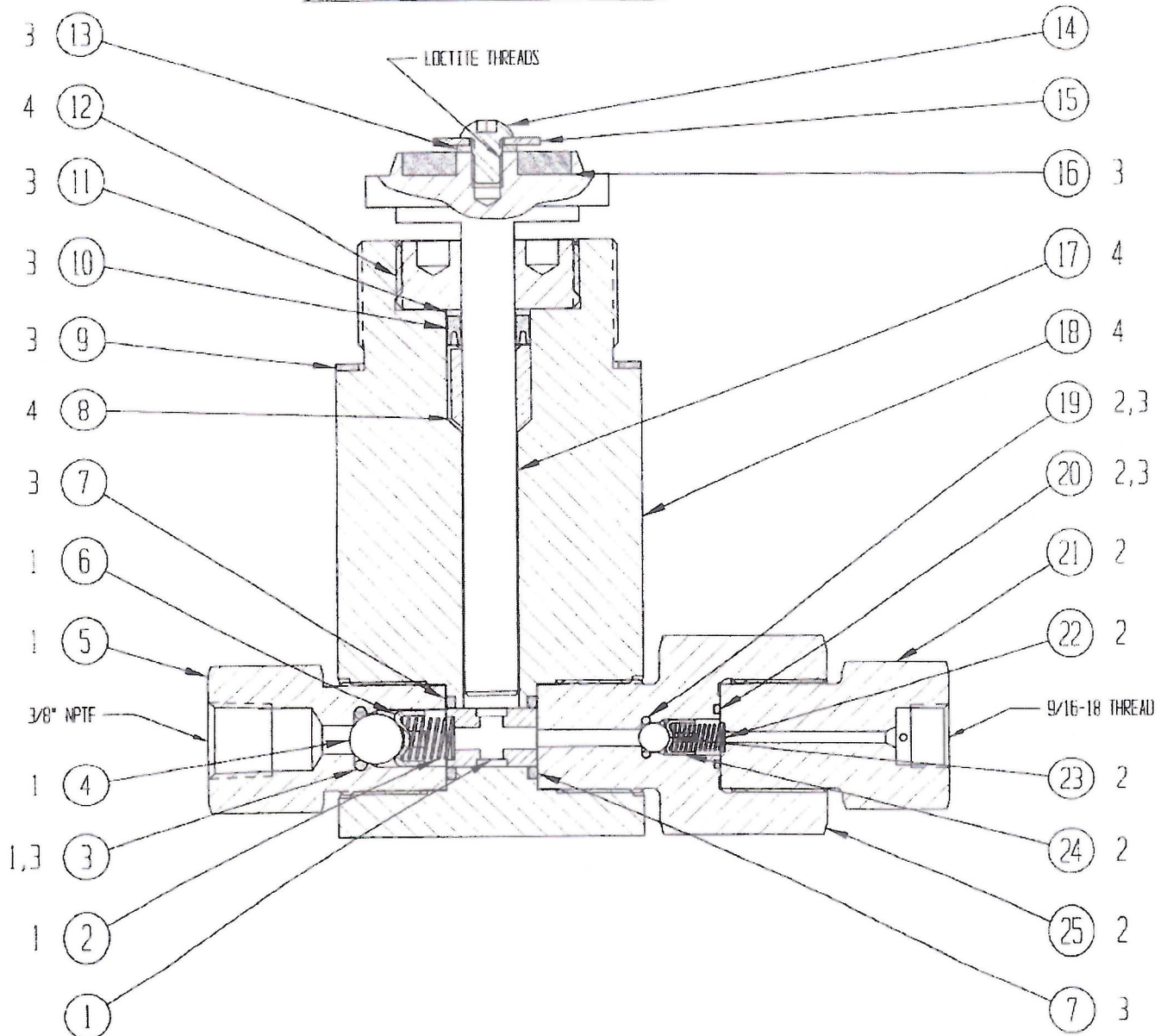


MOUNTING DIMENSIONS



HYDRAULIC ASSEMBLY 11-6165W151-HF4

FOR PUMP ASSEMBLY D6000B240-HF4



4 INCLUDED IN 11-6166W151 PISTON & CYLINDER ASSEMBLY

3 INCLUDED IN 11-6099W151-HF4 HYDRAULIC REPAIR KIT

2 INCLUDED IN 11-6118S000 OUTLET CHECK VALVE ASSEMBLY

1 INCLUDED IN 11-5029S000 INLET CHECK VALVE ASSEMBLY



SOUTHERN CALIFORNIA HYDRAULIC ENGINEERING CORPORATION

DESIGNERS AND MANUFACTURERS OF HYDRAULIC & PNEUMATIC EQUIPMENT

1130 COLUMBIA STREET BREA, CALIFORNIA 92621 - (714) 257-4800 - FAX (714) 257-4810 WWW.SCHYDRAULIC.COM

BILL OF MATERIALS FILE: 10550165.XLS

DRAWING NUMBER & DESCRIPTION: 11-6165W151-HF4 (240:1 RATIO) HYDRAULIC ASSEMBLY

REVISION: 07/17/03

ITEM NO	QTY	PART NO	DESCRIPTION	REFERENCE NO.
1	1	11-5007S407	RETAINER	10-407-7
2	1	11-5014S000	SPRING	10-450-14
3	1	P11003-110	O-RING	12-6227N008S
4	1	12-0440S437	CHECK BALL	
5	1	11-5021S000	SEAT-INLET	10-450-21
6	1	11-5034S001	BALL GUIDE	10-450-34-1
7	2	P11000-113	O-RING	12-6227N011
8	1	11-6160B150	BEARING-LOWER	10-550-160-15
9	1	11-5028N000	GASKET	10-450-28
10	1	P11202-031	SEAL-ROD	
11	1	D10653-3	BACK UP	
12	1	11-6158B151	RETAINER	10-550-158-15
13	1	P10212-025	HELICAL SPRING LOCK WASHER	12-5001C407
14	1	12-25F37SBC45Z	BUTTON HEAD CAP SCREW	
15	1	12-25N87WF1Z	FENDER WASHER	
16	1	11-5051P000	PISTON BUMPER	10-450-51
17	1	11-6008S150	HYDRAULIC PISTON	10-550-8-15
18	1	11-6157B151	HYDRAULIC CYLINDER	10-550-157-15
19	1	P11000-010	O-RING	12-6227N005
20	1	P11000-013	O-RING	12-8775N013
21	1	11-6117S000	ADAPTER	10-550-117
22	1	11-6016S000	SPRING	10-550-16
23	1	12-0440S250	CHECK BALL	
24	1	11-6015S000	BALL GUIDE	10-550-15
25	1	11-6116S000	SEAT-OUTLET	10-550-116

Where Used
Pump Assemblies

10-6000W151-HF4
D60006240-HF4



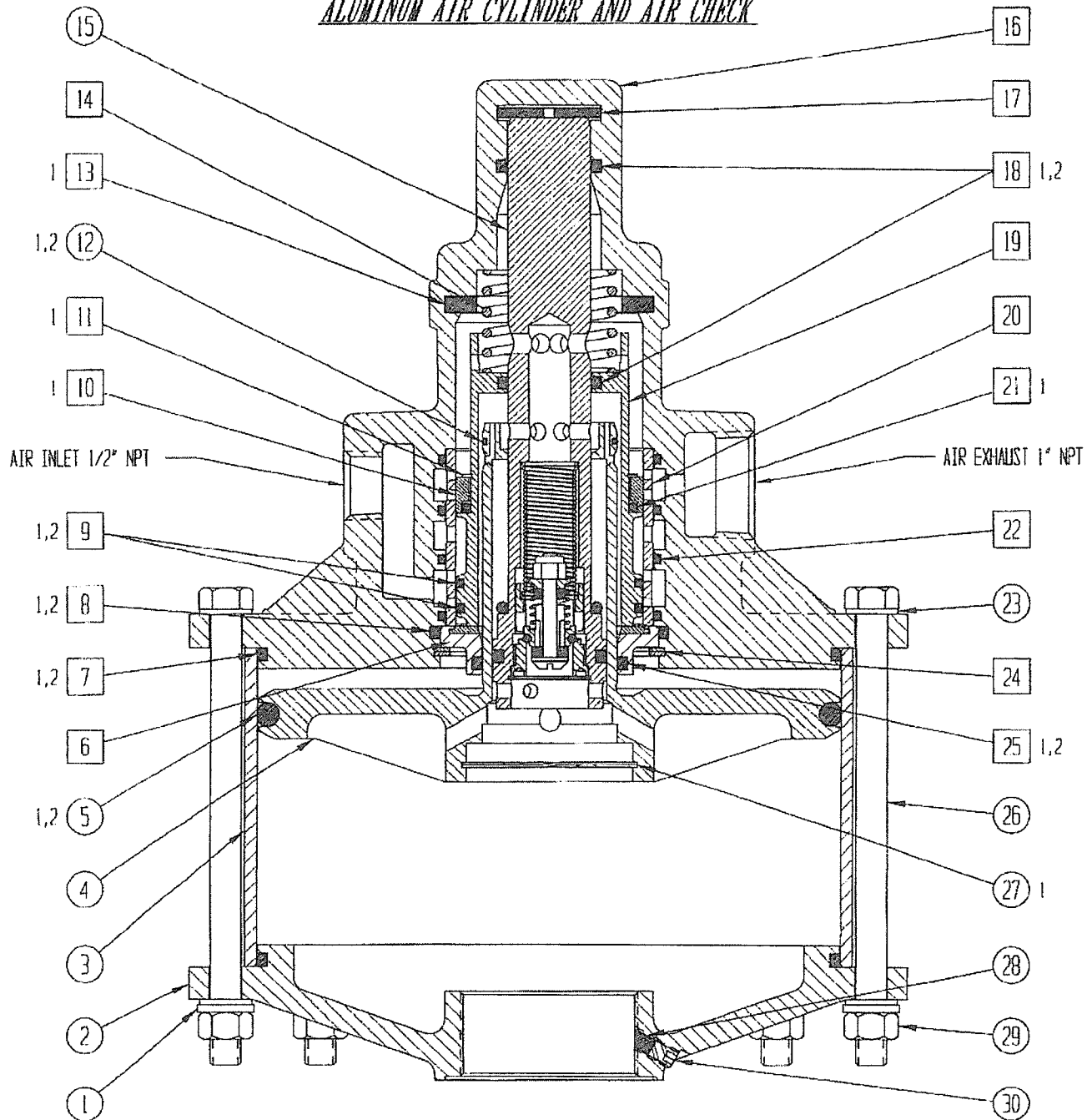
SOUTHERN CALIFORNIA HYDRAULIC ENGINEERING CORPORATION

DESIGNERS AND MANUFACTURERS OF HYDRAULIC & PNEUMATIC EQUIPMENT
1130 COLUMBIA STREET BREA, CALIFORNIA 92821 WWW.SCHYDRAULIC.COM

FORM C10523 REV 07/15/03

D6 DRY LUBE AIR MOTOR ASSEMBLY C10523

ALUMINUM AIR CYLINDER AND AIR CHECK



2 INCLUDED IN R10105 AIR MOTOR PACKING SET

1 INCLUDED IN R10104-D&R AIR MOTOR REPAIR KIT

XX INCLUDED IN C10516 HEAD ASSEMBLY

BILL OF MATERIALS FILE: C10523.XLS			
DRAWING NUMBER & DESCRIPTION: C10523 D6 DRY LUBE AIR MOTOR ASSEMBLY			
REVISION: 07/15/03		ALUMINUM AIR CYLINDER AND AIR CHECK	
ITEM NO	QTY	PART NO	DESCRIPTION
1	8	P10212-038	WASHER-LOCK
2	1	11-6002A000	END
3	1	11-6004A000	CYLINDER-AIR (ALUMINUM)
4	1	11-6025A000	PISTON-AIR
5	1	P11000-439	O-RING
6	1	11-5047N000	BEARING ASSEMBLY
7	2	P11000-261	O-RING
8	1	P11000-231	O-RING
9	2	P11003-137	O-RING
10	1	D10684	SEAL-DRY
11	1	P10263-193	RETAINING RING
12	1	P11000-028	O-RING
13	1	11-5057P000	BUMPER
14	1	11-5005M002	SPRING
15	1	11-6187A000	PILOT VALVE ASSEMBLY (WITH ALUMINUM AIR CHECK)
16	1	11-6092A001	HEAD
17	1	11-5012N000	BUMPER
18	2	P11000-214	O-RING
19	1	D10817	PISTON-APA
20	1	D10263	SLEEVE-APA
21	1	P11000-135	O-RING
22	4	P11000-144	O-RING
23	16	P10214-038	WASHER-FLAT
24	1	12-R262S000	RETAINING RING
25	1	P11000-223	O-RING
26	8	P10230	BOLT-HEX
27	1	12-R200S000	RETAINING RING
28	1	11-5172N000	PLUG
29	8	12-37CNFH1Z	NUT-HEX
30	1	12-25C313CPSS	SET SCREW-HEX SOCKET



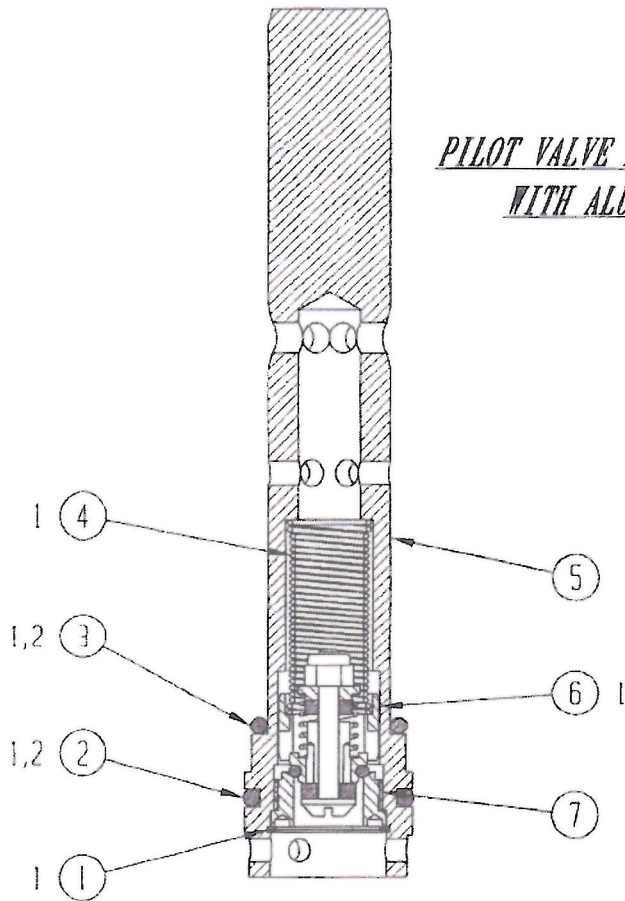
SOUTHERN CALIFORNIA HYDRAULIC ENGINEERING CORPORATION

DESIGNERS AND MANUFACTURERS OF HYDRAULIC & PNEUMATIC EQUIPMENT

1130 COLUMBIA STREET BREA, CALIFORNIA 92821 WWW.SCHYDRAULIC.COM

FORM C10523-1 REV 07/15/03

PILOT VALVE ASSEMBLY 11-6187A000 WITH ALUMINUM AIR CHECK

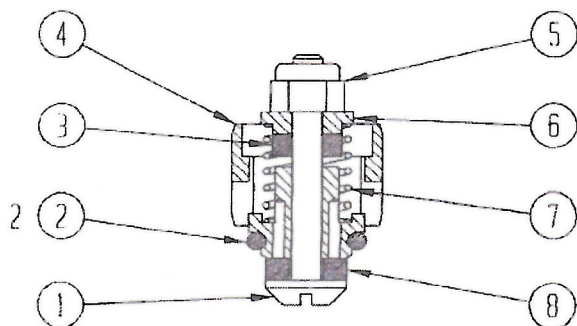


7	SEAT	11-5024A403	1
6	AIR CHECK ASSY	11-6032A403	1
5	VALVE BODY	11-6023A000	1
4	SPRING	11-5016M001	1
3	O-RING	P11000-214	1
2	O-RING	P11000-216	1
1	RETAINING RING	12-R093S000	1
ITEM NO.	DESCRIPTION	PART NO.	NO. REQ.

2 INCLUDED IN R10105 AIR MOTOR PACKING SET

1 INCLUDED IN R10104-D&R AIR MOTOR REPAIR KIT

ALUMINUM AIR CHECK ASSEMBLY 11-6032A403



8	WASHER	11-5025N403	1
7	SPRING	11-5015M000	1
6	RETAINER	11-5039S000	1
5	NUT	12-2104A4008	1
4	VALVE BODY	11-6028A403	1
3	WASHER	11-5043N000	1
2	O-RING	P11000-111	1
1	SCREW	11-5056A000	1
ITEM NO.	DESCRIPTION	PART NO.	NO. REQ.

PARTS BREAKDOWN FOR MODEL HP-20
RICE HYDRO, INC.

REF#..	PART NUMBER..	DESCRIPTION..	QTY...
HYDRAULIC ASSEMBLY:			
1	SC-11-5007S407	RETAINER	1
2	SC-11-5014S000	SPRING	1
3	SC-P11003-110	O-RING	1
4	SC-12-0440S437	CHECK BALL	1
5	SC-115021S000	SEAT - INLET	1
6	SC-11-5034S001	BALL GUIDE	1
7	SC-P11000-113	O-RING	2
8	SC-11-6160B150	BEARING - LOWER	1
9	SC-11-5028N000	GASKET	1
10	SC-P11202-031	SEAL - ROD	1
11	SC-D10653-3	BACK UP	1
12	SC-11-6158B151	RETAINER	1
13	SC-P10212-025	HELICAL SPRING LOCK WASHER	1
14	SC-12-25F37SBC45Z	BUTTON HEAD CAP SCREW	1
15	SC-12-25N87WF1Z	FENDER WASHER	1
16	SC-11-5051P000	PISTON BUMPER	1
17	SC-11-6008S150	HYDRAULIC PISTON	1
18	SC-11-6157B151	HYDRAULIC CYLINDER	1
19	SC-P11000-010	O-RING	1
20	SC-P11000-013	O-RING	1
21	SC-11-6117S000	ADAPTER	1
22	SC-11-6016S000	SPRING	1
23	SC-12-0440S250	CHECK BALL	1
24	SC-11-6015S000	BALL GUIDE	1
25	SC-11-6116S000	SEAT - OUTLET	1
AIR MOTOR ASSEMBLY:			
1	SC-P10212-038	LOCK WASHER	8
2	SC-1160002A000	END	1
3	SC-11-6004A000	ALUMINUM AIR CYLINDER	1
4	SC-11-6025A000	AIR PISTON	1
5	SC-P11000-439	O-RING	1
6	SC-44-5047N000	BEARING ASSEMBLY	1
7	SC-P11000-261	O-RING	2
8	SC-P11000-231	O-RING	1
9	SC-P11003-137	O-RING	2
10	SC-D10684	DRY SEAL	1
11	SC-P10263-193	RETAINING RING	1
12	SC-P11000-028	O-RING	1
13	SC-11-5057P000	BUMPER	1
14	SC-11-5005M002	SPRING	1
15	SC-11-6187A000	PILOT VALVE ASSY WITH ALUM AIR CHK	1
16	SC-11-6092A001	HEAD	1
17	SC-11-5012N000	BUMPER	1
18	SC-P11000-214	O-RING	2
19	SC-D10817	APA PISTON	1
20	SC-D10263	APA SLEEVE	1
21	SC-P11000-136	O-RING	1
22	SC-P11000-144	O-RING	4
23	SC-P10214-038	FLAT WASHER	16
24	SC-12-R262S000	RETAINING RING	1
25	SC-P11000-223	O-RING	1
26	SC-P10230	HEX BOLT	8
27	SC-12-R200S000	RETAINING RING	1
28	SC-11-5172N000	PLUG	1
29	SC-12-37CNFH1Z	HEX NUT	8
30	SC-12-25C313CPSS	HEX SOCKET SET SCREW	1

PARTS BREAKDOWN FOR MODEL HP-20

REF#..	PART NUMBER..	DESCRIPTION..
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PILOT VALVE ASSEMBLY #SC-11-6187A000

1	SC-12-R093S000	RETAINING RING	1
2	SC-P11000-216	O-RING	1
3	SC-P11000-214	O-RING	1
4	SC-11-5016M001	SPRING	1
5	SC-11-6023A000	VALVE BODY	1
6	SC-11-6032A403	AIR CHECK ASSY	1
7	SC-11-5024A403	SEAT	1

AIR CHECK ASSEMBLY #SC-11-6032A403

1	SC-11-5056A000	SCREW	1
2	SC-P11000-111	O-RING	1
3	SC-11-5043N000	WASHER	1
4	SC-11-6028A403	VALVE BODY	1
5	SC-12-2104A4D08	NUT	1
6	SC-11-5039S000	RETAINER	1
7	SC-11-5015M000	SPRING	1
8	SC-11-5025N403	WASHER	1

MISC SECTION:

NEEDLEVALVE-20K	20,000 PSI NEEDLEVALVE
LINESTRAINER-1/2	MM 100 MESH
GAUGE-20K	4" SS LIQUID FILLED
HOESWIVEL-1/2	1/2 X 3/4 HOSE SWIVEL
HOSE-1/4X20,000 PSI	8 FOOT HIGH PRESSURE HOSE
FILTER-PARKER-1/2	FILTER REGULATOR W/GAUGE
MUFFLER-HP-1"	MUFFLER
PUMP-AIR-20,000 PSI	20,000 PSI PNEUMATIC PUMP

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

REV. DATE 03/08/10