

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.

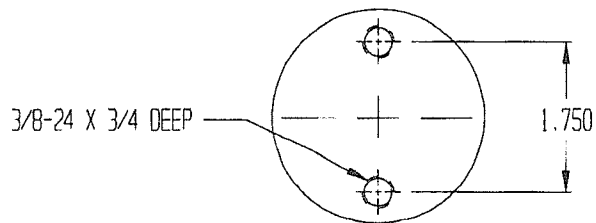
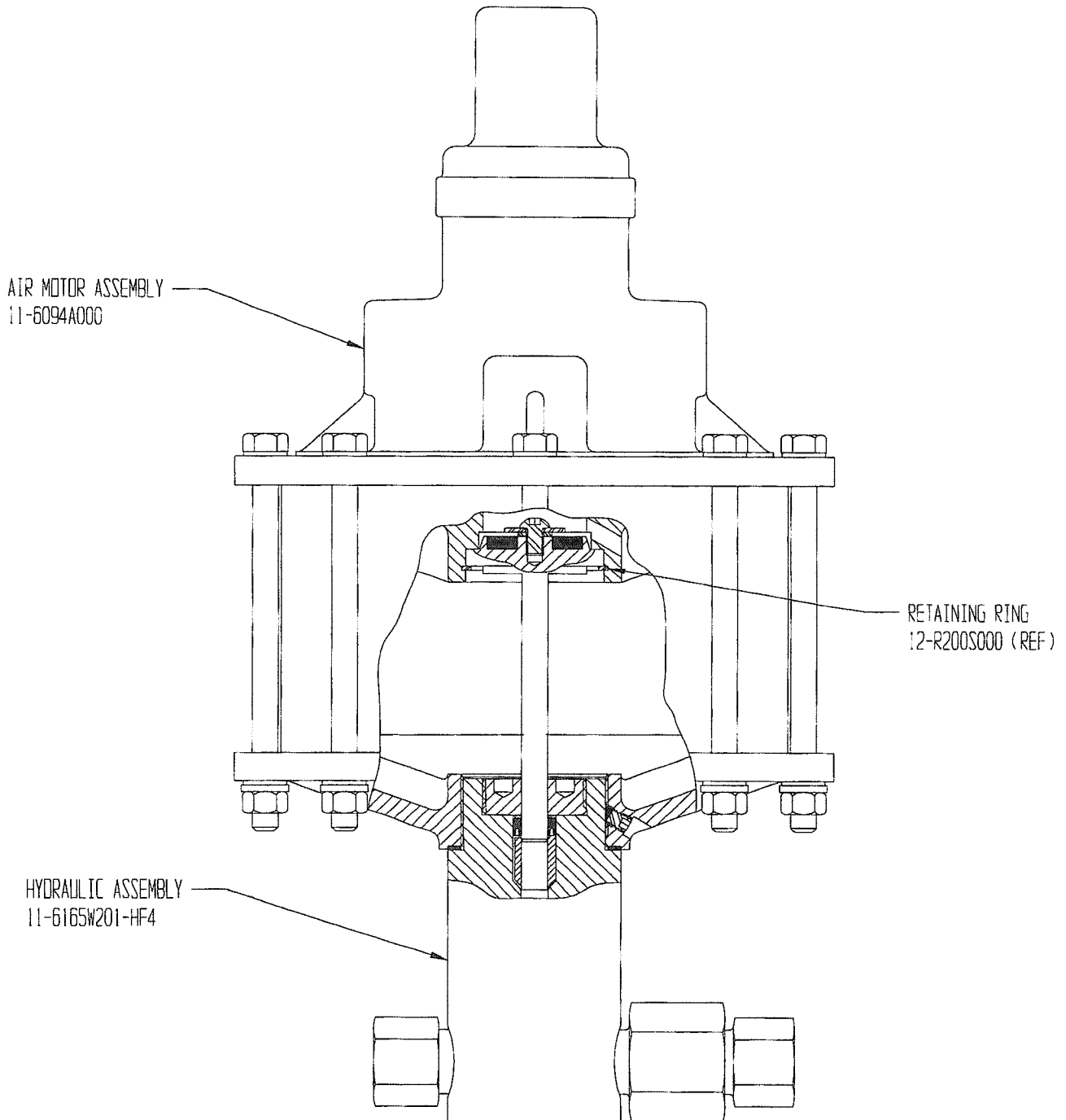
If the pressure gauge remains constant, turn off compressor and monitor gauge for your prescribed test time. When test is complete, turn off water supply, open the high pressure bleeder valve located beside the outlet port connection on the unit. Bleed off the water pressure. Repeat the above steps for 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 10-6000W201-HF4



MOUNTING DIMENSIONS



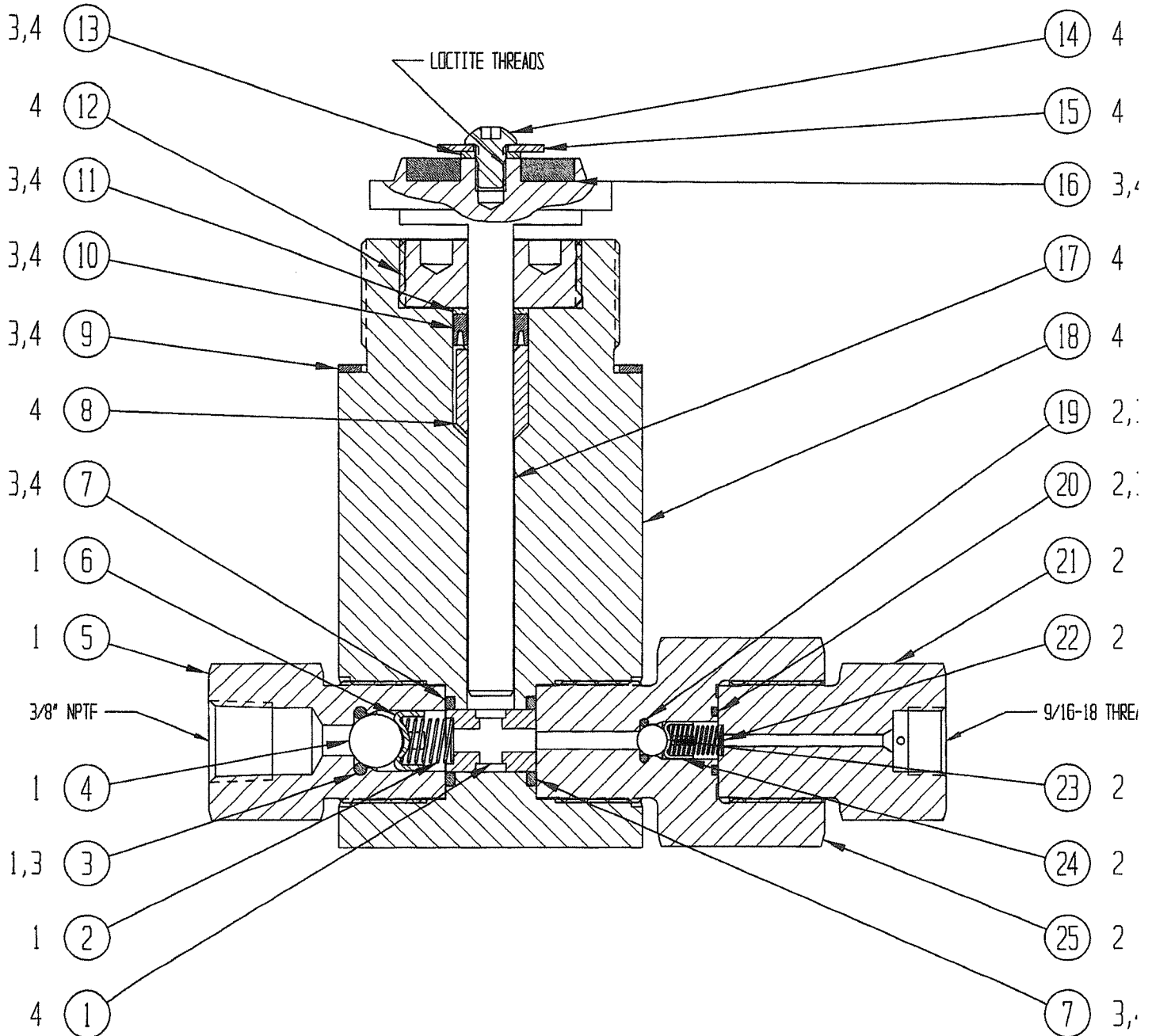
SOUTHERN CALIFORNIA HYDRAULIC ENGINEERING CORPORATION

DESIGNERS AND MANUFACTURERS OF HYDRAULIC & PNEUMATIC EQUIPMENT

1130 COLUMBIA STREET BREA, CALIFORNIA 92821

FORM 11-6165W201-HF4 REV 05/17/06

HYDRAULIC ASSEMBLY 11-6165W201-HF4



4 INCLUDED IN 11-6166W201 PISTON & CYLINDER ASSEMBLY

3 INCLUDED IN 11-6099N201-HF4 HYDRAULIC REPAIR KIT

2 INCLUDED IN 11-6118S000 OUTLET CHECK VALVE ASSEMBLY

1 INCLUDED IN 11-5029S000 INLET CHECK VALVE ASSEMBLY



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Designer and Manufacturers of Hydraulic & Pneumatic Equipment

1130 COLUMBIA STREET, BREA, CALIFORNIA 92821 - (714) 257-4800 - FAX (714) 257-4810

BILL OF MATERIALS FILE: 10550165.XLS

DRAWING NUMBER & DESCRIPTION: 11-6165W201-HF4 (330:1 RATIO) HYDRAULIC ASSEMBLY

REVISION: 05/17/06

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	11-6160B200	BEARING-LOWER	10-550-160-20
9	1	11-5028N000	GASKET	10-450-28
10	1	P11202-022	SEAL-ROD	
11	1	D10653-4	BACK UP	
12	1	11-6158B200	RETAINER	10-550-158-20
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	11-6008S200	HYDRAULIC PISTON	10-550-8-20
18	1	11-6157B201	HYDRAULIC CYLINDER	10-550-157-20-1
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

10-6000W201-HF4
D6000B330-HF4



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

600 SERIES PUMP LUBRICATED AND DRY LUBE APA VALVE AIR MOTOR ASSEMBLIES

DOC NO. 15138
REV. N/C 04-06-09 M.E.
PAGE 1 OF 4

LUBRICATED AIR MOTOR ASSEMBLY 11-6094A000 DRY LUBE AIR MOTOR ASSEMBLY 11-6094ADL0 AND C10515 (SEE PAGE 2 & 3 FOR DRY LUBE AIR MOTOR ASSEMBLY 11-6094ADL0 AND C10515)

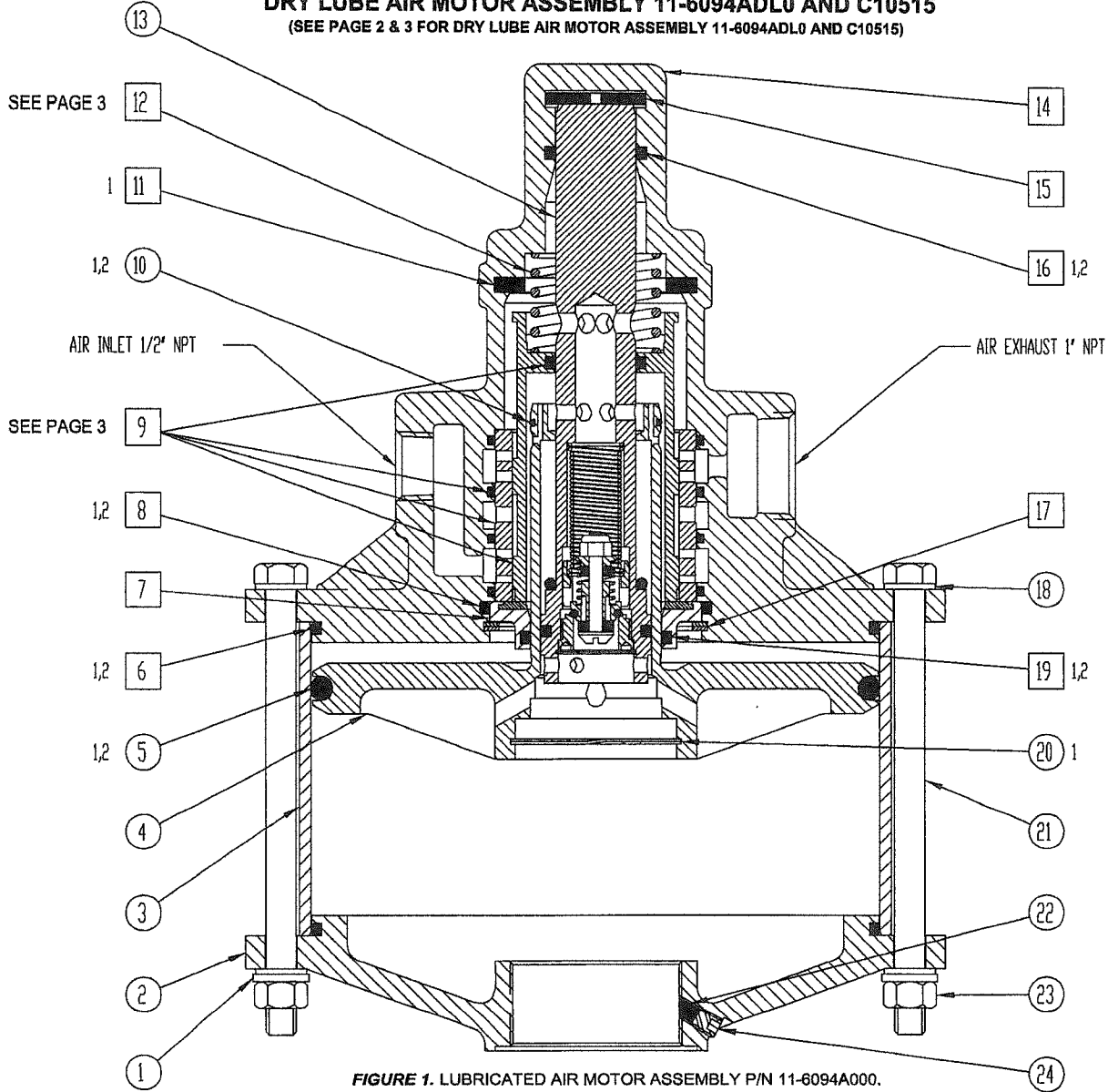


FIGURE 1. LUBRICATED AIR MOTOR ASSEMBLY P/N 11-6094A000.
SEE PAGE 2 & 3 FOR DRY LUBE AIR MOTOR ASSEMBLY P/N 11-6094ADL0 AND C10515.

- 1 INCLUDED IN 11-6100N000 AIR MOTOR REPAIR KIT
- 2 INCLUDED IN 11-6130N000 AIR MOTOR PACKING SET

- 1 INCLUDED IN R10104 AIR MOTOR REPAIR KIT
- 2 INCLUDED IN R10105 AIR MOTOR PACKING SET

XX INCLUDED IN 11-6128A000 HEAD ASSEMBLY

XX INCLUDED IN C10516 HEAD ASSEMBLY

NOTE: USE WITH AIR MOTOR ASSEMBLY P/N 11-6094A000.
P/N 11-6100N000 AND 11-6130N000 INCLUDE SAME PARTS
AS R10104 AND R10105 RESPECTIVELY.

NOTE: USE WITH AIR MOTOR ASSEMBLY P/N 11-6094ADL0
AND C10515. P/N 11-6100N000 AND 11-6130N000 INCLUDE
SAME PARTS AS R10104 AND R10105 RESPECTIVELY.



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600 SERIES PUMP LUBRICATED AND DRY LUBE APA VALVE AIR MOTOR ASSEMBLIES

A. LUBRICATED AIR MOTOR ASSEMBLY P/N 11-6094A000 (REFER TO ITEM 9A & 12A)

B. DRY LUBE AIR MOTOR ASSEMBLY P/N 11-6094ADL0 AND C10515 (REFER TO ITEM 9B & 12B)

DOC. NO. 15138, REV. N/C, 04-06-09

PAGE 2 OF 4

ITEM NO	QTY	PART NO	DESCRIPTION	REFERENCE NO
1	8	P10212-038	WASHER-LOCK	
2	1	11-6002A000	END	10-550-2
3	1	11-6151P000	CYLINDER-AIR	10-550-151
4	1	11-6025A000	PISTON-AIR	10-550-25
5	1	P11000-439	O-RING	12-6227N066
6	2	P11000-261	O-RING	12-6230N039
7	1	11-5047N000	BEARING ASSEMBLY	10-450-47
8	1	P11000-231	O-RING	12-6230N009
9A *	1	11-6152A000	LUBRICATED APA VALVE ASSEMBLY (SEE PAGE 3)	10-550-152
9B *	1	11-6152ADL0	DRY LUBE APA VALVE ASSEMBLY (SEE PAGE 3)	10-550-152DL
10	1	P11000-028	O-RING	12-8775N028
11	1	11-5057P000	BUMPER	10-450-57
12A *	1	11-5005M001	SPRING, RETURN (USE W/ITEM No. 9A, SEE PAGE 3)	10-450-5-1
12B *	1	11-5005M002	SPRING, RETURN (USE W/ITEM No. 9B, SEE PAGE 3)	10-450-5-2
13	1	11-6027A000	PILOT VALVE ASSEMBLY	10-550-27
14	1	11-6092A000	HEAD	10-550-92
15	1	11-5012N000	BUMPER	10-450-12
16	1	P11000-214	O-RING	12-6227N019
17	1	12-R262S000	RETAINING RING	RRT-262
18	16	P10214-038	WASHER-FLAT	
19	1	P11000-223	O-RING	12-6230N001
20	1	12-R200S000	RETAINING RING	RRT-200
21	8	P10230	BOLT-HEX	
22	1	11-5172N000	PLUG	10-450-172
23	8	12-37CNFH1Z	NUT-HEX	
24	1	P10238	SET SCREW-HEX SOCKET	12-25C313CPSS

* ITEM 9A - LUBRICATED APA VALVE ASSEMBLY P/N 11-6152A000. SEE PAGE 3 FOR DETAILS.

ITEM NO	QTY	PART NO	DESCRIPTION	REFERENCE NO
9A.1	1	P11000-214	O-RING	
9A.2	1	11-6153A000	PISTON, APA	10-550-153
9A.3	1	11-6126A000	SLEEVE, APA	10-550-126
9A.4	4	P11000-144	O-RING	

* ITEM 9B - DRY LUBE APA VALVE ASSEMBLY P/N 11-6152ADL0 AND C10526. SEE PAGE 3 FOR DETAILS.

ITEM NO	QTY	PART NO	DESCRIPTION	REFERENCE NO
9B.1	1	P11000-214	O-RING	
9B.2	1	P10263-193	RETAINING RING	
9B.3	1	D10684	SEAL, DRY LUBE	
9B.4	1	P11000-135	O-RING	
9B.5	1	D10817	PISTON, APA	
9B.6	2	P11003-137	O-RING	
9B.7	1	D10263	SLEEVE, APA	
9B.8	4	P11000-144	O-RING	



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600 SERIES PUMP DRY LUBE AND LUBRICATED APA VALVE AIR MOTOR ASSEMBLIES

DOC NO. 15138

REV. N/C 04-06-09 M.E.

PAGE 3 OF 4

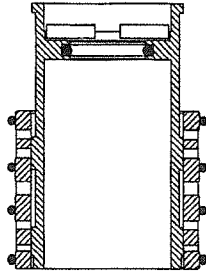


FIGURE 2. LUBRICATED APA VALVE ASSEMBLY
P/N 11-6152A000

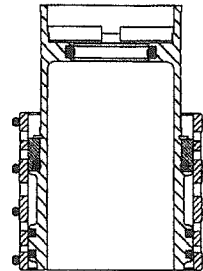


FIGURE 3. DRY LUBE APA VALVE ASSEMBLY
NEW P/N 11-6152ADL0 AND C10526

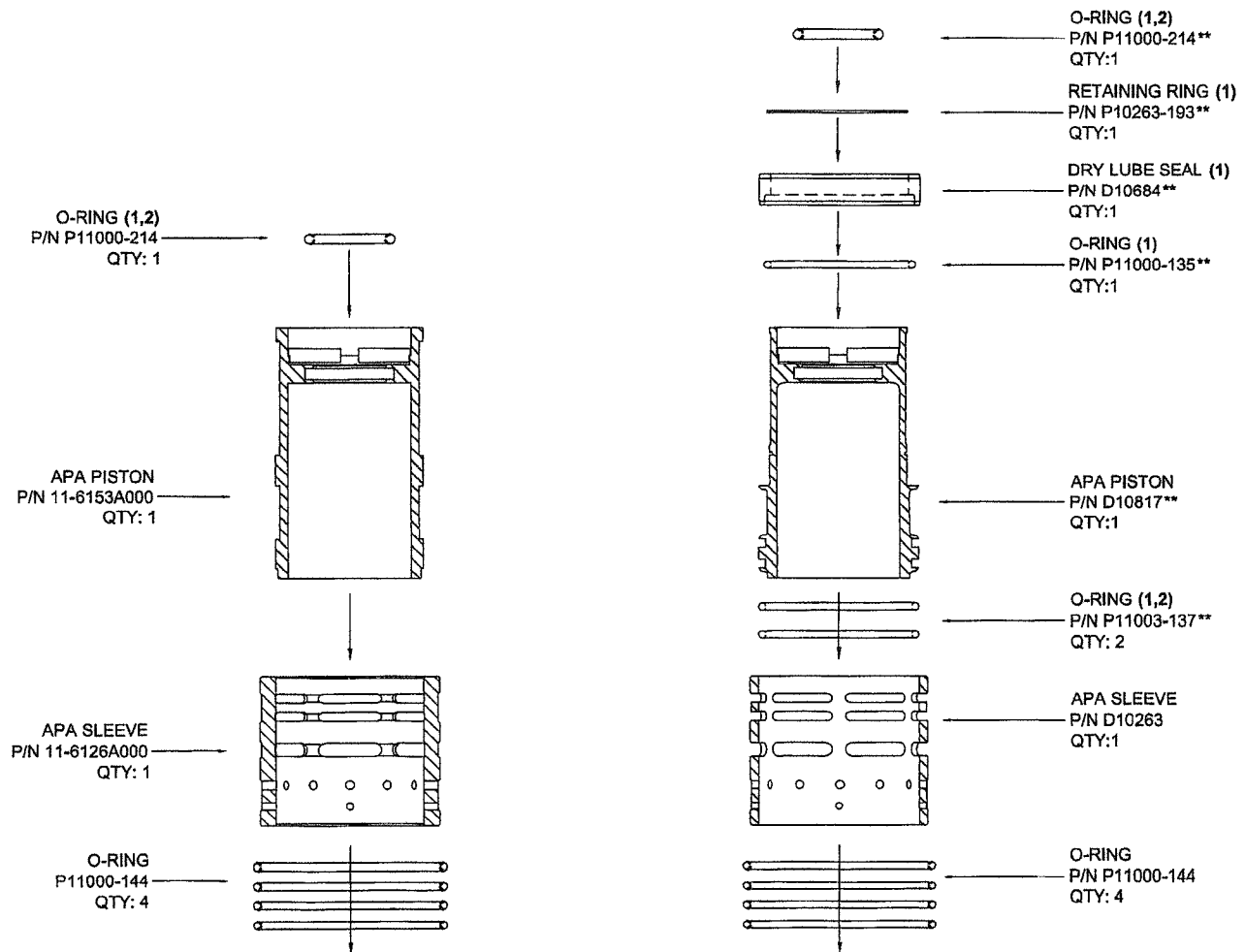


FIGURE 4. LUBRICATED APA VALVE PART CONFIGURATION.
USE APA VALVE ASSEMBLY P/N 11-6152A000.
USE APA VALVE RETURN SPRING P/N 11-5005M001.
USE AIR MOTOR P/N 11-6094A000
REFER TO ITEMS 9A AND 12A

FIGURE 5. DRY LUBE APA VALVE PART CONFIGURATION.
USE APA VALVE ASSEMBLY P/N 11-6152ADL0
USE APA VALVE RETURN SPRING P/N 11-5005M002
USE AIR MOTOR ASSEMBLY P/N 11-6094ADL0 AND C10525
**PARTS INCLUDED IN APA PISTON ASSEMBLY P/N C10544
REFER TO ITEMS 9B AND 12B



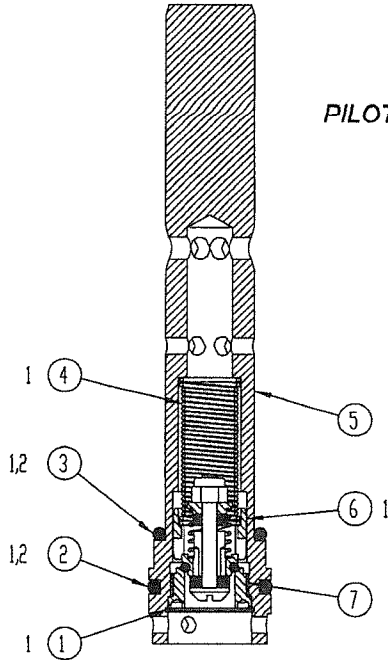
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REV. N/C 04-06-09 M.E.
PAGE 4 OF 4



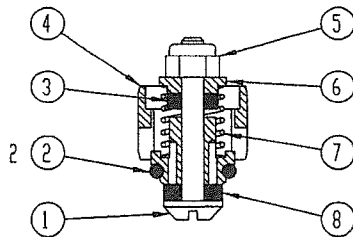
PILOT VALVE ASSEMBLY 11-6027A000

7	1	11-5024A403	SEAT	10-403-24
6	1	11-6032X403	AIR CHECK ASSY	10-403-32-1
5	1	11-6023A000	VALVE BODY	10-550-23
4	1	11-5016M001	SPRING	10-450-16-1
3	1	P11000-214	O-RING	12-6227N019
2	1	P11000-216	O-RING	12-6227N021
1	1	12-R093S000	RETAINING RING	RRT-93
ITEM NO.	QTY	PART NO.	DESCRIPTION	REF NO.

2 INCLUDED IN 11-6130N000 AND R10105 AIR MOTOR PACKING SET

1 INCLUDED IN 11-6100N000 AND R10104 AIR MOTOR REPAIR KIT

AIR CHECK ASSEMBLY 11-6032X403



8	1	11-5025V403	WASHER	10-403-25V
7	1	11-5015M000	SPRING	10-450-15
6	1	11-5039S000	RETAINER	10-450-39
5	1	12-2104A4008	NUT	
4	1	11-5171X001	VALVE BODY	10-450-171-1
3	1	11-5043V000	WASHER	10-450-43V
2	1	P11000-111	O-RING	12-6227N009
1	1	11-5056A000	SCREW	10-450-56
ITEM NO.	QTY	PART NO.	DESCRIPTION	REF NO.

PARTS BREAKDOWN FOR MODEL HP-30
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-11-5021S000	SEAT - INLET	1
6	SC-11-5034S001	BALL GUIDE	1
7	SC-P11000-113	O-RING	2
8	SC-11-6160B200	BEARING - LOWER	1
9	SC-11-5028N000	GASKET	1
10	SC-P11202-022	SEAL - ROD	1
11	SC-D10653-4	BACK UP	1
12	SC-11-6158B200	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-11-6008S200	HYDRAULIC PISTON	1
18	SC-11-6157B201	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	WASHER - LOCK	8
2	SC-11-6002A000	END	1
3	SC-11-6151P000	CYLINDER - AIR	1
4	SC-11-6025A000	PISTON - AIR	1
5	SC-P11000-439	O-RING	1
6	SC-P11000-261	O-RING	2
7	SC-11-5047N000	BEARING ASSEMBLY	1
8	SC-P11000-231	O-RING	1
9	SC-11-6152ADLO	DRY LUBE APA VALVE SYSTEM	1
10	SC-P11000-028	O-RING	1
11	SC-11-5057P000	BUMPER	1
12	SC-11-5005M002	SPRING, RETURN	1
13	SC-11-6027A000	PILOT VALVE ASSEMBLY	1
14	SC-11-6092A000	HEAD	1
15	SC-11-5012N000	BUMPER	1
16	SC-P11000-214	O-RING	1
17	SC-12-R262S000	RETAINING RING	1
18	SC-P10214-038	WASHER - FLAT	16
19	SC-P11000-223	O-RING	1
20	SC-12-R200S000	RETAINING RING	1
21	SC-P10230	BOLT - HEX	8
22	SC-11-5172N000	PLUG	1
23	SC-12-37CNFH1Z	NUT - HEX	8
24	SC-P10238	SET SCREW - HEX SOCKET	1

PARTS BREAKDOWN FOR MODEL HP-30

REF#..	PART NUMBER..	DESCRIPTION..	QTY ...
PILOT VALVE ASSEMBLY #SC-11-6027A000			
1	SC-12R093S000	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-11-6032X403	AIR CHECK ASSEMBLY	1
7	SC-11-5024A403	SEAT	1

AIR CHECK ASSEMBLY #SC-11-6032X403

1	SC-11-5056A000	SCREW	1
2	SC-P11000-111	O-RING	1
3	SC-11-5043V000	WASHER	1
4	SC-11-5171X001	VALVE BODY	1
5	SC-12-2104A4D08	NUT	1
6	SC-11-5039S000	RETAINER	1
7	SC-11-5015M000	SPRING	1
8	SC-11-5025V403	WASHER	1

MISC SECTION:

LINESTRAINER-1/2	1/2' MKM 100 MESH STRAINER
HOESWIVEL-1/2	1/2 X 3/4 HOSE SWIVEL
MUFFLER-HP-1	MUFFLER
FILTER-PARKER-1/2	FILTER REGULATOR W/GAUGE
PUMP-10-6000W201-HF4	30,000 PSI PNEUMATIC PUMP
HOSE-30K	8 FOOT HIGH PRESSURE HOSE
GAUGE-30K	30,000 PSI GAUGE

SC-11-6099N201-HF4	HYDRAULIC REPAIR KIT
SC-11-6100NDLO	AIR MOTOR REPAIR KIT
SC-11-6166W201	PISTON & CYLINDER ASSEMBLY
SC-11-6118S000	OUTLET CHECK VALVE ASSEMBLY
SC-11-5029S000	INLET CHECKVALVE ASSEMBLY

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

REV. DATE 08/14/12