

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.

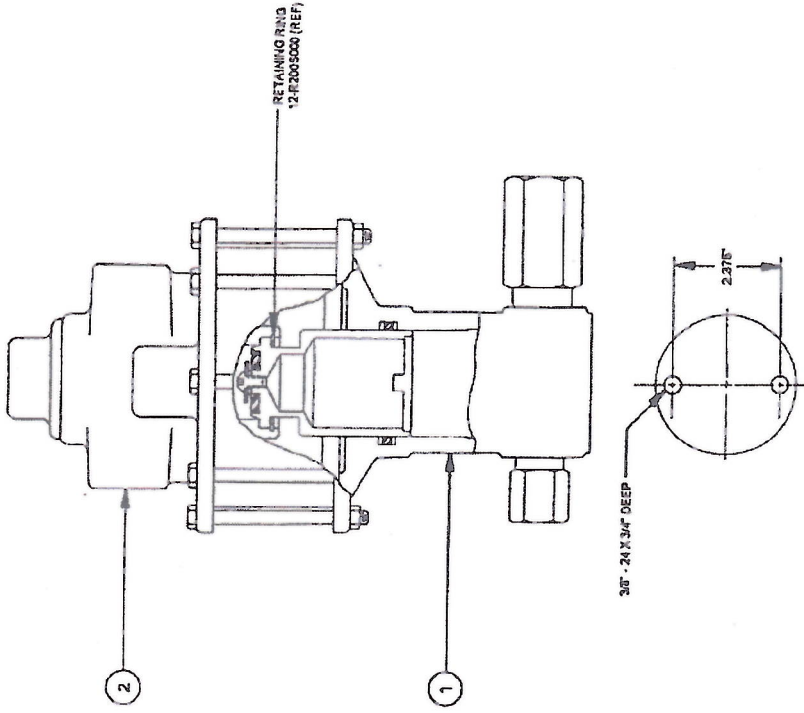


Designs and Manufacturers of Hydraulic Equipment

SC HYDRAULIC
ENGINEERING
CORPORATION

FORM 5.015 - REV 5/84

PUMP ASSEMBLY 10-5000W003
WATER SERVICE
#D5000A5



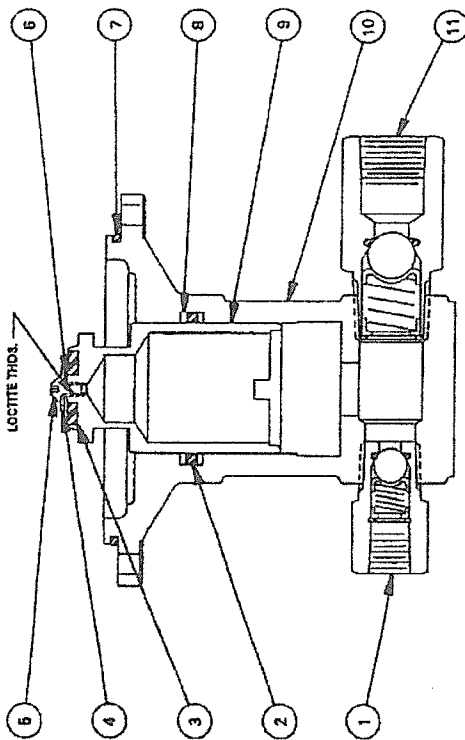
MOUNTING DIMENSIONS

AIR MOTOR ASSEMBLY	11-5178A000	1	1	2
HYDRAULIC ASSEMBLY	11-5162W000	1	1	1
DESCRIPTION	PART NO	NO REQ	ITEM NO	
	MODEL NO 10-5000W003			

#D5000A5

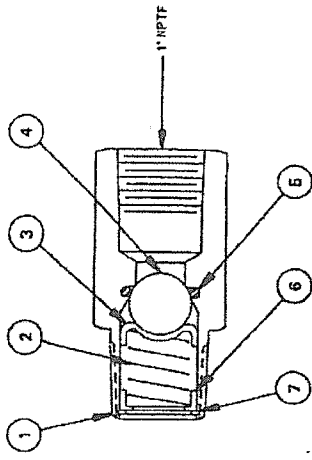
10-5000W003
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HYDRAULIC ASSEMBLY 11-5162W000

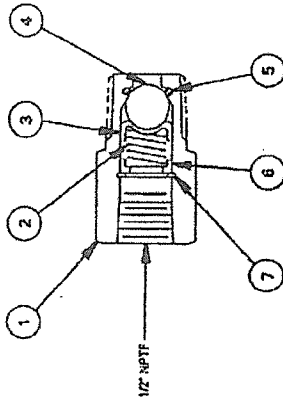


DESCRIPTION	PART NO	NO REQ	ITEM NO
INLET VALVE ASSEMBLY	11-5031S000	1	11
CYLINDER / END	11-5110A000	1	10
PISTON	11-5108S000	1	9
BACK UP	12-8747035	2	8
"O" RING	12-823N030	1	7
HELICAL SPRING LOCK WASHER	12-500TC407	1	6
BUTTON HEAD CAP SCREW	12-25F378BC45Z	1	5
FENDER WASHER	12-25N87WF1Z	1	4
PISTON BUMPER	11-5061P000	1	3
"O" RING	12-8227N035	1	2
OUTLET VALVE ASSEMBLY	11-5023S000	1	1

INLET VALVE ASSEMBLY
11-5031S000



OUTLET VALVE ASSEMBLY
11-5023S000



ASSEMBLY NUMBER	DESCRIPTION	PART NO	NO REQ	ITEM NO
11-5023S000	RETAINING RING	12-R08S000	1	7
	RETAINING RING	12-R100S000	1	7
	SPRING GUIDE	11-5017S000	1	6
	"O" RING	12-8227N010S	1	5
	"O" RING	12-8227N015S	1	5
	CHECK BALL	12-0440S562	1	4
	CHECK BALL	12-0440S812	1	4
	BALL GUIDE	11-5034S002	1	3
	BALL GUIDE	11-5034S003	1	3
	SPRING	11-5013S000	1	2
	SPRING	11-5033S000	1	2
	BODY	11-5020S000	1	1
	BODY	11-5035S000	1	1
11-5023S000	11-5031S000			

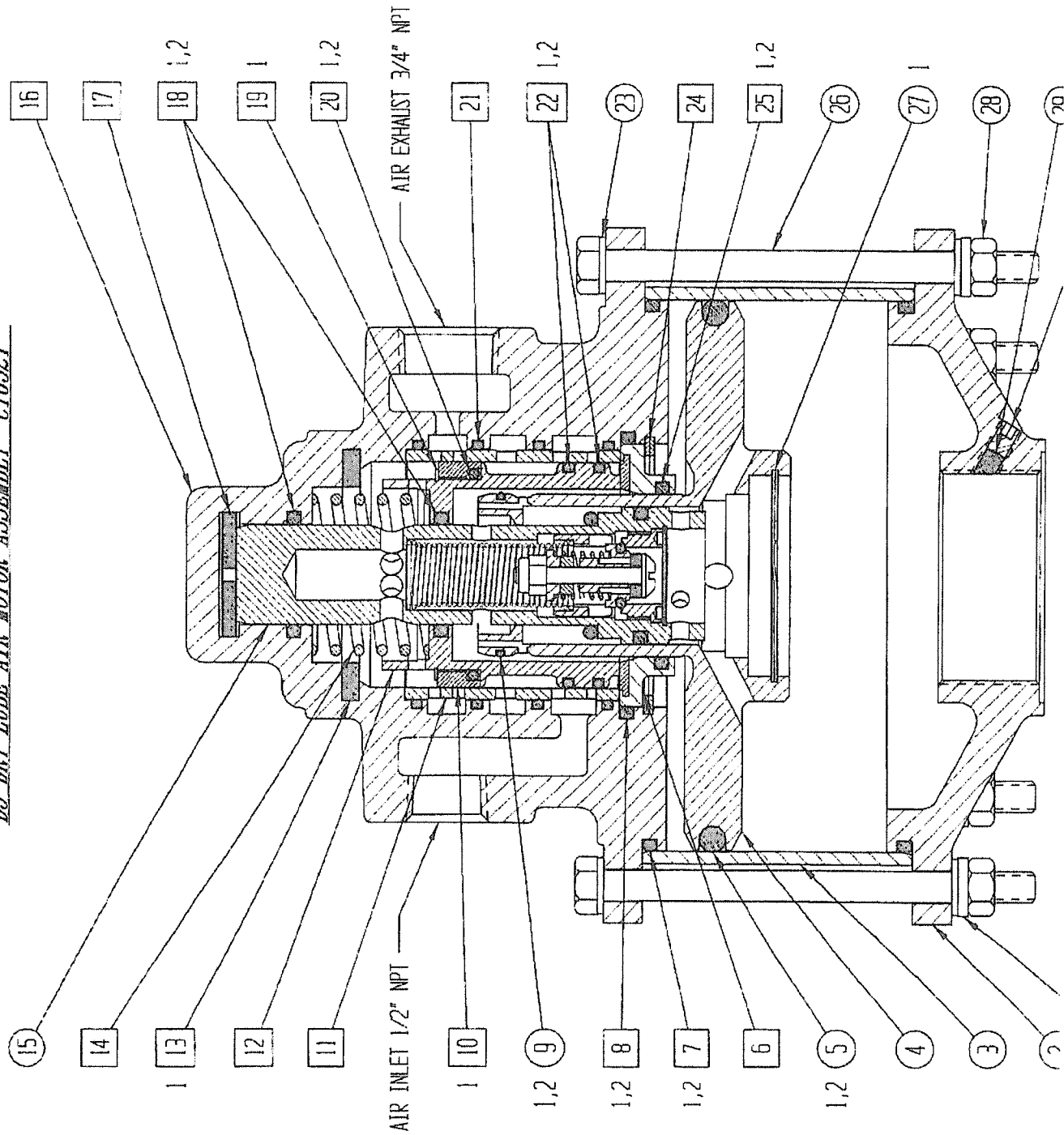


SOUTHERN CALIFORNIA HYDRAULIC ENGINEERING CORPORATION

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

FORM C10521 REV 07/24/06

D5 DRY LUBE AIR MOTOR ASSEMBLY C10521





SOUTHERN CALIFORNIA HYDRAULIC ENGINEERING CORPORATION

Designer and Manufacturers of Hydraulic & Pneumatic Equipment

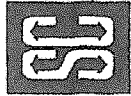
1130 COLUMBIA STREET, BREA, CALIFORNIA 92621 - (714) 257-4800 - FAX (714) 257-4810

BILL OF MATERIALS FILE: C10521.XLS

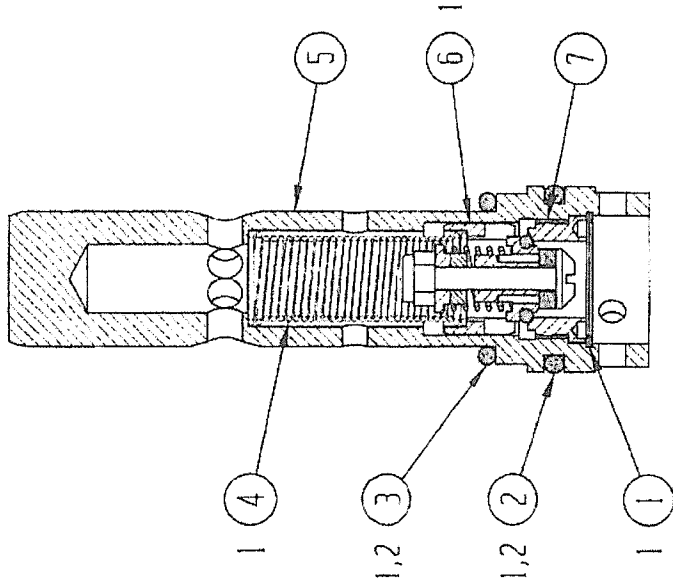
DRAWING NUMBER & DESCRIPTION: C10521 D5 DRY LUBE AIR MOTOR ASSEMBLY

REVISION: 07/24/06

ITEM NO	QTY	PART NO	DESCRIPTION	REFERENCE NO
1	8	P10212-031	WASHER-LOCK	
2	1	11-5007A000	END	10-450-7
3	1	11-5181P000	CYLINDER-AIR	10-450-181
4	1	11-5048A000	PISTON-AIR	10-450-48
5	1	P11000-429	O-RING	12-6227N056
6	1	11-5047N000	BEARING ASSEMBLY	10-450-47
7	2	P11000-252	O-RING	12-6230N030
8	1	P11000-231	O-RING	12-6230N009
9	1	P11000-028	O-RING	12-8775N028
10	1	D10684	SEAL-DRY	
11	1	D10264	SLEEVE-APA	
12	1	D10818	PISTON-APA	
13	1	11-5057P000	BUMPER	10-450-57
14	1	11-5005M001	SPRING	10-450-5-1
15	1	11-5060A000	PILOT VALVE ASSEMBLY	10-450-60
16	1	11-5112A000	HEAD	10-450-112
17	1	11-5012N000	BUMPER	10-450-12
18	2	P11000-214	O-RING	12-6227N019
19	1	P10263-193	RETAINING RING	
20	1	P11000-135	O-RING	
21	4	P11000-144	O-RING	12-8775N144
22	2	P11003-137	O-RING	
23	16	P10214-031	WASHER-FLAT	
24	1	12-R262S000	RETAINING RING	RRT-262
25	1	P11000-223	O-RING	12-6230N001
26	8	P10231	BOLT-HEX	
27	1	12-R200S000	RETAINING RING	RRT-200
28	8	12-31CNFH1Z	NUT-HEX	
29	1	11-5172N000	PLUG	10-450-172
30	1	P10238	SET SCREW-HEX SOCKET	12-25C313CPSS



PILOT VALVE ASSEMBLY 11-5060A000



ITEM NO.	QTY	PART NO.	DESCRIPTION	REF NO.
7	1	11-5024A403	SEAT	10-403-24
6	1	11-5032X403	AIR CHECK ASSY	10-403-32
5	1	11-5049A000	VALVE BODY	10-450-49
4	1	11-5016M000	SPRING	10-450-16
3	1	P11000-214	O-RING	12-6227N019
2	1	P11000-216	O-RING	12-6227N021
1	1	12-R093S000	RETAINING RING	RRI-93

2 INCLUDED IN R10103 AIR MOTOR PACKING SET

1 INCLUDED IN R10102 AIR MOTOR REPAIR KIT

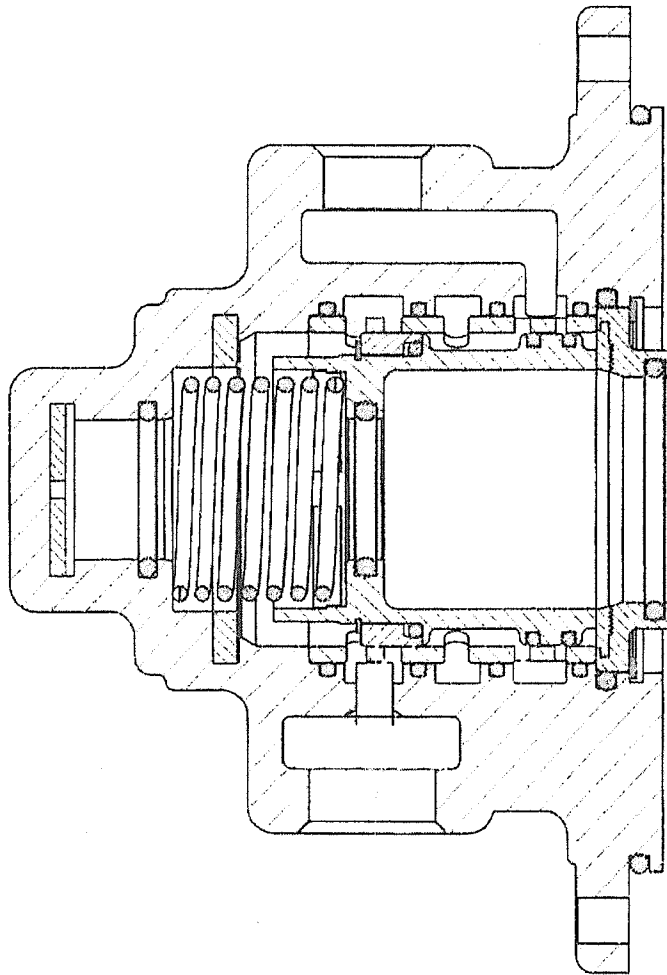
AIR CHECK ASSEMBLY 11-5032X403

8	1	11-5025M403	WASHER	10-403-25
7	1	11-5015M000	SPRING	10-450-15



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HEAD ASSEMBLY (D5-DRY LUBE) - C10522

(Sheet 1 of 1) REV A 09/15/04, C. MONTAGUE

ITEM	DESCRIPTION	PART NUMBER	QTY	PACKING SET	REPAIR KIT
1	HEAD	11-5112A000	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

PARTS BREAKDOWN FOR MODEL HP6/500

RICE HYDRO, INC.

REF#..	PART NUMBER..	DESCRIPTION..	QTY...
HYDRAULIC ASSEMBLY:			
(SC-11-5162W000)			
1	SC-11-5023S000	INLET VALVE ASSEMBLY	1
2	SC-12-6227N035	CYLINDER / END	1
3	SC-11-5051P000	PISTON	1
4	SC-12-25N87WF1Z	BACK UP	1
5	SC-12-25F37SBC45Z	O-RING	1
6	SC-12-5001C407	HELICAL SPRING LOCK WASHER	1
7	SC-12-6230N030	BUTTON HEAD CAP SCREW	1
8	SC-12-8774T035	FENDER WASHER	2
9	SC-11-5109S000	PISTON BUMPER	1
10	SC-11-5110A000	O-RING	1
11	SC-11-5031A000	OUTLET VALVE ASSEMBLY	1
INLET VALVE ASSEMBLY			
(SC-11-5031S000)			
1	SC-11-5035S000	BODY	1
2	SC-11-5033S000	SPRING	1
3	SC-11-5034S003	BALL GUIDE	1
4	SC-12-0440S812	CHECK BALL	1
5	SC-12-6227N015S	O-RING	1
6	SC-11-5032S000	SPRING GUIDE	1
7	SC-12-R1000S000	RETAINING RING	1
OUTLET VALVE ASSEMBLY:			
(SC-11-5023S000)			
1	SC-11-5020S000	BODY	1
2	SC-11-5013S000	SPRING	1
3	SC-11-5034S002	BALL GUIDE	1
4	SC-12-0440S562	CHECK BALL	1
5	SC-12-6227N010S	O-RING	1
6	SC-11-5017S000	SPRING GUIDE	1
7	SC-12-R68S000	RETAINING RING	1
AIR MOTOR ASSEMBLY:			
(SC-11-5179A000)			
1	SC-11-5004A000	CYLINDER	1
2	SC-11-5048A000	PISTON	1
3	SC-12-6227N056	O-RING	1
4	SC-12-6230N030	O-RING	1
5	SC-12-6230N009	O-RING	1
6	SC-11-5047N000	BUMPER ASSEMBLY	1
7	SC-12-8775N028	O-RING	1
8	SC-11-5147A000	VALVE ASSEMBLY	1
9	SC-11-5057P000	BUMPER ASSEMBLY	1
10	SC-11-5005M000	SPRING	1
11	SC-11-5112A000	HEAD	1
12	SC-11-5012N000	BUMPER ASSEMBLY	1
13	SC-12-6227N019	O-RING	2
14	SC-11-5060A000	PILOT VALVE ASSEMBLY	1
15	SC-12-8775N144	O-RING	4
16	SC-12-31C400HCS2Z	HEX HEAD BOLT	8
17	SC-12-R262S000	RETAINING RING	1
18	SC-12-6230N001	O-RING	1
19	SC-12-R200S000	RETAINING RING	1
20	SC-12-31CNFH1Z	HEX NUT	8

PARTS BREAKDOWN FOR MODEL
HP6/500

REF#.. PART NUMBER.. DESCRIPTION..

PILOT VALVE ASSEMBLY:
(SC-11-5060A000)

1	SC-12-R093S000	RETAINING RING	1
2	SC-12-6227N021	O-RING	1
3	SC-12-6227N019	O-RING	1
4	SC-11-5016M000	SPRING	1
5	SC-11-5049A000	VALVE	1
6	SC-11-5032X403	AIR CHECK ASSEMBLY	1
7	SC-11-5024A403	SEAT	1

AIR CHECK ASSEMBLY
(SC-11-5032X403)

1	SC-11-5056A000	SCREW	1
2	SC-12-6227N009	O-RING	1
3	SC-11-5043N000	WASHER	1
4	SC-11-5171X000	VALVE	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:

BALLVALVE-1/2	1/2 BALLVALVE
LINESTRAINER-1/2	MXM 100 MESH
GAUGE-600	0-600 PSI LIQUID FILLED
HOSE-1/2x8-RH	1/2 X 8 FT OUTLET HOSE
FITTING-1/2MPIPE	MALE PIPE FITTING
FITTING-1/2MPX	MALE SWIVEL FITTING
HOSE-1/2-2500XFT	SPECIFY LENGTH OF HOSE
COUPLERBODY-1/2	FEMALE CONNECT TO OUTLET HOSE
COUPLERPLUG-1/2	MALE PUMP OUTLET PIPING
HOSESWIVEL-1/2	1/2 X 3/4 HOSE SWIVEL
FILTER-HP-3/8	FILTER REGULATOR W/GAUGE
MUFFLER-HP10-3/4	3/4 MUFFLER
PUMP-D5000A5	PNEUMATIC PUMP

SC-11-5124NDLO	AIR MOTOR REPAIR KIT
SC-11-5148N003	HYDRAULIC REPAIR KIT