RICE HYDRO, INC.
MANUFACTURER'S OPERATING INSTRUCTIONS
DE & RP SERIES MODEL TEST PUMPS

FOR WARRANTY REGISTRATION CALL 800-245-4777.

CONNECTING THE PUMP:

1. Check oil level in engine, use 10W30. Unleaded gasoline.
2. Check oil level in the gear reduction, use (90W). Oil should be level with side drain plug.
3. Connect pressurized water source to the inlet of the pump. *It is recommended that the unit be pressure fed.* For suction or gravity feed locate water within 8 feet, you may need to prime the pump.
4. Connect the supplied high-pressure outlet hose to the pump and your test environment.

OPERATING THE PUMP:

1. Turn the outlet ballvalve to the open position, and start the engine. The engine RPM is preset at the factory, **DO NOT ADJUST.**
2. The pressure regulator has been preset at the factory. ***To change this setting you must make this adjustment while the water is flowing freely, under no pressure.*** To adjust pressure, first loosen the locknut. Turn the T-handle clockwise to increase and counter-clockwise to decrease the pressure. Place a ballvalve or similar open and close valve at the end of the outlet hose, open and close ballvalve to check pressure setting and re-adjust as necessary. It is also recommended that you open and close the hosebib located under the gauge to bleed excess air from piping and ensure accurate pressure readings. Upon reaching desired pressure setting, tighten locknut.
3. With the ballvalve open begin building pressure in test environment. Bleeding air from hosebib under gauge at least once during this process. Once test pressure has been reached, ***close ballvalve and shut off engine.***
4. Once the outlet ballvalve is closed and your test begins, you have now isolated the test pump from your test environment, any loss of pressure is due to leaks or trapped air in the line.

REMEMBER THESE CAUTIONS:

1. Check all fluid levels prior to operating pump.
2. Use a sound 3/4" or larger supply hose.
3. DO NOT run dry or pump chlorine through the unit.
4. Protect the pump from freezing, FLUSH with anti-freeze.

RECOMMENDED PERIODIC MAINTENANCE PROCEDURE

1. Change engine oil after the first 5 hours of operation thereafter every 80 hours of use or every season.
2. Change the gear oil after every 250 hours of use or every season.
3. **PISTON PUMPS ONLY -** Lubricate cam bearing with grease (wheel bearing grease) every 100 hours of operation or monthly. Use hand operated grease gun to prevent damage to the bearing seal. Grease fitting assembly is located behind the safety cover on the pump.

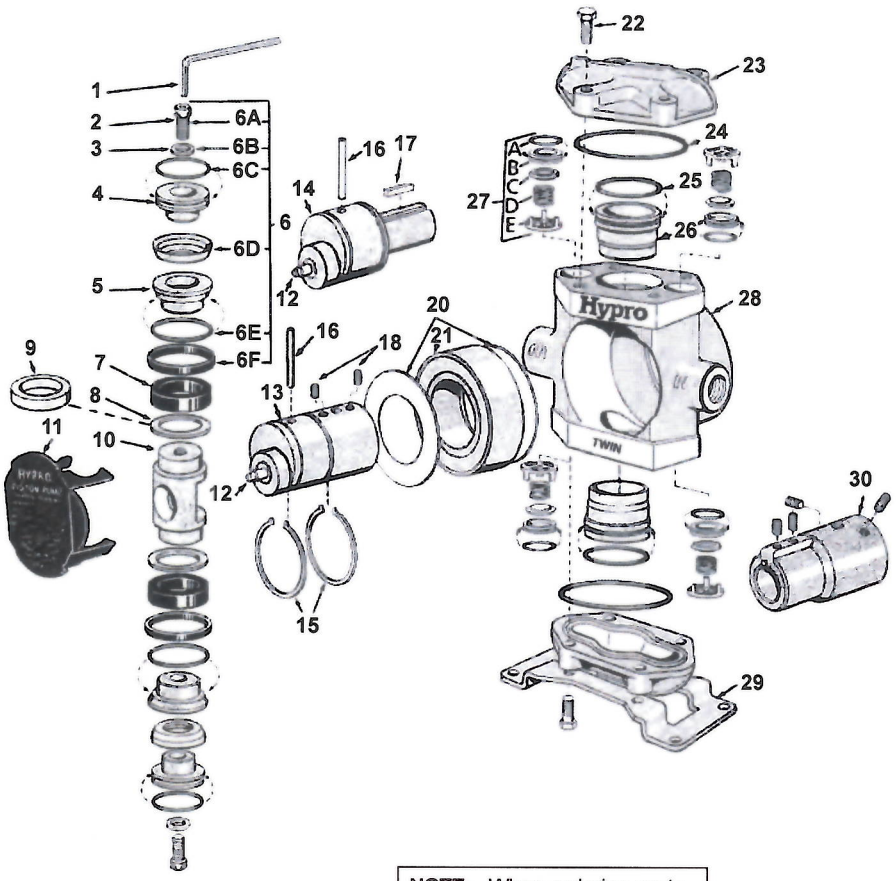
Revised 4/28/08

PARTS BREAKDOWN FOR MODEL DE(H)-3C & DEH-10/450
RICE HYDRO INC.

REF#	PART NUMBER..	DESCRIPTION..	QTY REQ'D
2	HYPRO-2220-0013	PISTON CAP SCREW	2
3	HYPRO-2270-0012	WASHER	2
4	HYPRO-1830-0039	PISTON CUP SPREADER	2
5	HYPRO-1410-0054	CUP BACKING PLATE	2
7	HYPRO-1440-0005	PISTON GUIDE	2
8	HYPRO-1410-0018	SUPPORT RING FOR 5210 ONLY	2
9	HYPRO-1410-0020	SUPPORT RING FOR 5206 ONLY	2
10	HYPRO-0503-5200	CONNECTING ROD	1
11	HYPRO-0602-5200	SAFETY COVER	1
12	HYPRO-2405-0006A	GREASE FITTING ASSEMBLY	1
14	HYPRO-5003-5206	CRANKSHAFT SUB-ASSEMBLY	1
14	HYPRO-5001-5206	CRANKSHAFT COMPLETE ASSEMBLY	1
15	HYPRO-1810-0001	RETAINER RING	2
16	HYPRO-1600-0013	CRANKPIN RETAINER	1
17	HYPRO-1610-0005	KEY FOR SOLID SHAFT	1
20	HYPRO-1410-0006	SLINGER RING	2
21	HYPRO-2005-0006	MAIN BEARING	1
22	HYPRO-2210-0062	CYLINDER HEAD BOLT	8
23	HYPRO-0203-5200CB	CYLINDER HEAD	2
24	HYPRO-1720-0028	O-RING FOR CYLINDER HEAD	2
25	HYPRO-1720-0019	O-RING FOR CYLINDER SLEEVE	2
26	HYPRO-3550-0007	CYLINDER SLEEVE	2
27	HYPRO-3400-0038	VALVE ASSEMBLY	4
28	HYPRO-0100-5200C	PUMP BODY 5200 SERIES	1
29	HYPRO-1510-0024	PUMP BASE	1

NA	BRIGG-126352-0049-E2	5.5 HP 206 CC ENGINE W/GR
NA	HONDA-GX160UT2-HX2	5.5 HP 163 CC ENGINE W/GR
NA	BALLVALVE-3/4	3/4" FXF 1/4 TURN BALLVALVE
NA	GAUGE-600	0-600 PSI LIQUID FILLED 2&1/2"
NA	GAUGE-SNUBBER-1/4	VIBRATION SNUBBER
NA	HOSE-3/4X8-RH	HIGH PRESSURE OUTLET ASSEMBLY
NA	FITTING-3/4-MPIPE	HOSE, MALE PIPE RIGID END
NA	FITTING-3/4-MPX	HOSE, MALE PIPE SWIVEL END
NA	HOSE-3/4-1250XFT	CUSTOMER TO SPECIFY LENGTH
NA	CENTERDISK-5206	URETHANE SPIDER 5206
NA	CENTERDISK-5210	HYTREL SPIDER 5210
NA	COUPLING-LVJ-3/4	3/4" COUPLING (ENGINE SIDE)
NA	COUPLING-LVJ-ENG-1"	1" COUPLING (PUMP SIDE)
NA	LINESTRAINER-3/4	COMPLETE LINESTRAINER ASSEMBLY
NA	HYPRO-5206C-FL	TWIN PISTON 6 GPM 450 PSI
NA	HYPRO-5210C-FL	TWIN PISTON 10 GPM 450 PSI
NA	SPRAY-6815-700-3/4	70-700 PSI T-HANDLE REGULATOR
NA	SWIVEL-3/4	3/4" FEMALE INLET HOSE SWIVEL
NA	HOSEWASHER-3/4	3/4" HOSEWASHER
NA	COUPLERBODY-3/4	FEMALE CONNECT TO OUTLET HOSE
NA	COUPLERPLUG-3/4	MALE PUMP OUTLET PIPING
KIT	HYPRO-3430-0037	PISTON STACK PARTS KIT - LEATHER CUPS REF. #6
KIT	HYPRO-3430-0039	PISTON STACK PARTS KIT - FABRIC CUPS REF. #6
KIT	PULSE-HOSE-KIT	PULSATION DAMPENER HOSE
KIT	SPRAY-AB6815-700	REGULATOR REPAIR KIT

PRICES SUBJECT TO CHANGE WITHOUT NOTICE



Piston Stack Parts Kits

Leather Cup Kit No. 3430-0037 (STD)

Consists of two each of the following parts: No. 2220-0013 Piston Cap Screw (Ref. 6A), No. 2270-0012 Washer (Ref. 6B), No. 1720-0030 O-Ring (Ref. 6C), No. 2150-0001 Leather Cup (Ref. 6D), No. 1720-0065 O-Ring (Ref. 6E) and No. 1440-0012 Seal Ring (Ref. 6F).

Fabric Cup Kit No. 3430-0039

Same as Leather Cup Kit except with two No. 2150-0012 Fabric Cups.

Rubber Cup Kit No. 3430-0189

Same as Leather Cup Kit except with two No. 2150-0042 Rubber Cups.

Crankshaft Assemblies

Sub-Assemblies

Include Grease Fitting (Ref. 12), Crankshaft with cam bearing (Ref. 13 or 14) and Crankpin Retainer (Ref. 16).

Complete Assemblies

Include Sub-Assembly components plus Retaining Rings (Ref. 15), slinger rings (Ref. 20) and Bearing (Ref. 21).

NOTE: When ordering parts, give **quantity, part number, description, and complete model number.** Reference numbers are used **ONLY** to identify parts in the drawing and are **NOT** to be used as order numbers.

Complete Sub-Assembly PART NO.	Pump Assembly PART NO.	Model Number
with 1-3/8" Hollow PTO Shaft (Ref. 13)		
5503-5206	5501-5206	5206C-H
5503-5210	5501-5210	5210C-H
with 1" Solid Shaft (Ref. 14)		
5003-5206	5001-5206	5206C
5003-5210	5001-5210	5210C

Ref. No.	Qty. Req'd.	Part No.	Description
1	1	3020-0008	Allen Wrench (Optional)
2	2	2220-0013	Piston Cap Screw
3	2	2270-0012	Washer
4	2	1830-0039	Piston Cup Spreader
5	2	1410-0054	Cup Backing Plate
6	1	3430-0037	Piston Stack Parts Kit with Leather Cups (Standard)
6	1	3430-0039	Piston Stack Parts Kit with Fabric Cups (Model 5200-F)
6	1	3430-0189	Piston Stack Parts Kit with Buna-N Cups (Model 5200-R)
7	2	1440-0005	Piston Guide
8	2	1410-0018	Support Ring For 5210 Models Only
9	2	1410-0020	Support Ring For 5206 Models Only
10	1	0503-5200	Connecting Rod
11	1	0602-5200	Safety Cover
12	1	2405-0006	Grease Fitting Assembly
13	1	See Listing	Crankshaft (Hollow Shaft Models)
14	1	See Listing	Crankshaft (Solid Shaft Models)
15	2	1810-0001	Retainer Ring
16	1	1600-0013	Crankpin Retainer

Ref. No.	Qty. Req'd.	Part No.	Description
17	1	1610-0005	Key (Solid Shaft Models)
18	2	2230-0003	Set Screw
20	2	1410-0006	Slinger Ring
21	1	2005-0006	Main Bearing
22	8	2210-0062	Cylinder Head Bolt
23	2	0203-5200CB	Cylinder Head
24	2	1720-0028	O-Ring – for cylinder head
25	2	1720-0019	O-Ring – for cylinder sleeve
26	2	3550-0007	Cylinder Sleeve
27	4	3400-0038	Valve Assembly—Consists of: O-ring (Ref. A), Valve Seat (Ref. B), Valve Poppet (Ref. C), Valve Spring (Ref. D) and Valve Spring Retainer (Ref. E)
28	1	0100-5200C	Body
29	1	1510-0024	Base
30	1	1320-0081	Adapter-Adapts 1" solid shaft to 1- 3/8" 6-spline PTO hollow shaft (Includes set screws.)