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HD Magnum Series Repair Kit

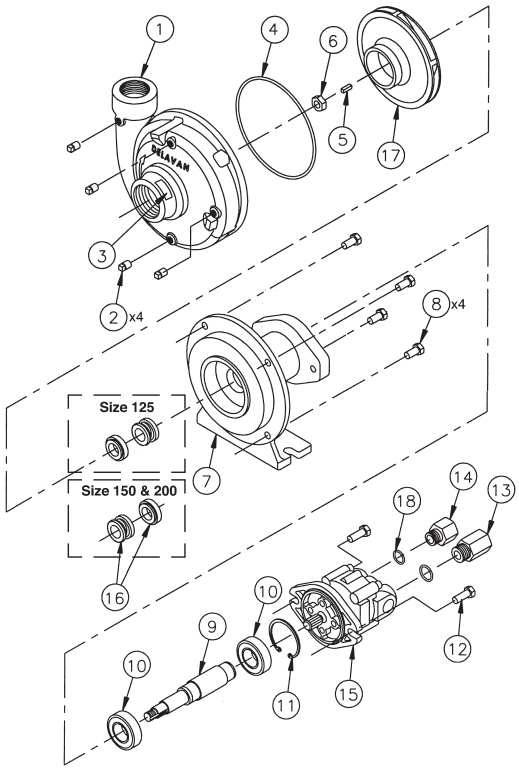
Hydraulically Driven Centrifugal Pumps

Document HD Magnum Repair 10.6.09

Parts List

Item #	Description	Part Number	Qty
1	Volute Casing		1
	Size M125: 1-1/4"	I34-001	
	Size M150: 1-1/2"	I37-025	
	Size M200: 2"	I39-025	
2	1/8" NPT Pipe Plug	25785	4
3	Caution Label	35276	1
4	Frame O-ring Seal	I34-003	1
5	3/16" Square Key	I34-005	1
6	Hex Nut		1
	Size M125: 3/8-24	I34-007	
	Size M150 & M200: 1/2-13	I37-005	
7	Frame		
	Size M125	I34-012	1
	Size M150 & M200	I37-012	1
8	3/8-16 X 3/4" Hex Head Screw	34916	4
9	Shaft		1
	Size M125	I34-014	
	Size M150 & M200:	I37-014	
10	Sealed Ball Bearing	16228	2
11	Internal Retaining Ring	26548	1
12	3/8-16 X 1" Heax Head Screw	I34-017	2
13	Outlet NPT Adapter Assembly with Check Valve		1
	3/4-16 X 1/2" (for use with 0.372 & 0.450 Displacement Motors)	I34-050	
	7/8-14 X 1/2" (for use with 0.580 & 0.700 Displacement Motors)	I34-060	
14	Inlet NPT Adapter		
	3/4-16 (for use with 0.372 & 0.450 Displacement Motors)	35312	1
	7/8-14 (for use with 0.580 & 0.700 Displacement Motors)	35776	1
15	Hydraulic Motor		1
	With Rear Ports:		
	0.218 Displacement	I34-029	
	0.372 Displacement	I34-030	
	0.450 Displacement	I34-031	
	0.580 Displacement	I34-032	
	With Side Ports:		
	0.580 Displacement	I34-033	
	0.700 Displacement	I34-034	
16	Seal Assembly		1
	Size M125: Viton/Silicon Carbide	I34-010	
	Size M125: Viton/Ceramic	I34-011	
	Size M150 & M200: Viton/Silicon Carbide	I37-010	
	Size M150 & M200: Viton/Ceramic	I37-011	
17	Impeller Assembly		1
	Size M125: 1-1/4" Nylon	I34-040	
	Size M125: 1-1/4" Polypropylene	I34-043	
	Size M150: 1-1/2" Nylon	I37-040	
	Size M150: 1-1/2" Polypropylene with SS Support Insert	I37-043	
	Size M150: 1-1/2" Polypropylene	I37-047	
	Size M200: 2" Nylon	I39-040	
	Size M200: 2" Polypropylene with SS Support Insert	I39-043	
	Size M200: 2" Polypropylene	I39-049	
18	Adapter O-ring Seal		1
	3/4"	31351-15	
	7/8"	31351-16	

Parts Identification



Troubleshooting Guide

Problem	Causes and Remedies
Pump Doesn't Deliver Flow	Suction strainer is clogged • Clean strainer
	Loss of prime • Make sure pump is below the liquid level • Install anti-vortex fitting in tank • Open vent line from the top-most plug on the pump volute to bleed off air • Check suction line for leaks
	Collapsed suction hose • Replace with wire reinforced hose • Use larger diameter hose
	Impeller clogged • Remove volute casing and check for foreign material
Leakage Between Centrifugal Pump and Hydraulic Motor	Pump seal is leaking • Disassemble volute and impeller and replace seal
	Hydraulic motor seal is leaking • Remove from centrifugal pump and replace seal on the motor
Lack of Pressure from Centrifugal Pump	Insufficient Motor Speed • Adjust hydraulic flow control
	Make sure pump is fully primed • See "Loss of prime" above
	Check for clogged strainers
Lack of Pressure from Centrifugal Pump cont.	Excessive restriction on inlet hoses • Use larger size hose, ball valves and strainers
	Bypass screw is turned out too far (open center systems) • Re-adjust bypass screw setting by turning it in
Cannot Reduce Spraying Pressure to Desired Range	Excessive motor speed • Adjust hydraulic oil flow to motor, using flow control
	Motor on open center systems is too small • Check selection guide for correct motor
Hydraulic Fluid Becomes Too Hot	Check hydraulic fluid levels
	Check hydraulic filters and replace if clogged
	Incorrect motor application • Check selection guide for correct motor application
	Check hydraulic hose sizes • Hoses should be at least 1/2" • Use 3/4" for hose runs over 15 ft. or flow rates higher than 15 GPM
	Check temperature with gauge • Make sure temperature is 160° or less
Hydraulic Motor Operates Erratically	Liquid pressure varies • Check for air leaks in inlet of pump • Check for proper fluid levels in tractor • Check for hydraulic motor wear • Make sure tractor hydraulic system has clean filters

Repair Information

Replacing Pump Mechanical Seal

1. Remove the four bolts on the volute using a 9/16" wrench. Fig. 1.
2. Remove the impeller nut using a 3/4" socket. Hold the impeller from turning by using a screwdriver in vanes of the impeller. Fig. 2.
3. Remove the impeller key using pliers and screwdriver. Fig. 3.
4. Remove the spring assembly from the shaft by pulling it off with your hand. Fig. 4.
5. Work the outer seal half off the shaft carefully with a screwdriver. Fig. 5.
6. Work the inner seal half off out of the housing carefully with a small flat bladed screwdriver. Break the ceramic with a hammer and screwdriver if necessary to remove. Fig. 6.
7. Reassemble with a new seal kit. Install new ceramic seal half in the bearing housing with the ceramic facing out.
8. Carefully slide the carbon seal half over the shaft so that the carbon and ceramic are facing each other.
9. Complete the seal assembly in the reverse order shown. Install a new o-ring on the frame housing for the volute.


Fig. 1


Fig. 2

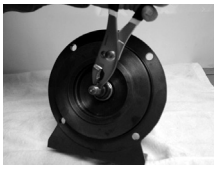
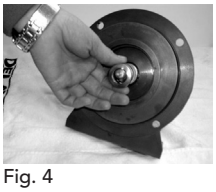


Fig. 3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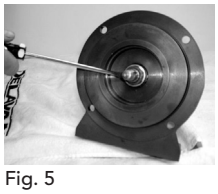
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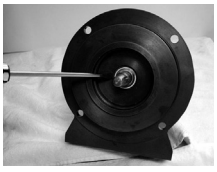
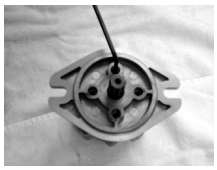


Fig. 6

Replacing Hydraulic Motor Shaft Seal

1. Remove motor from the pump using a 9/16" wrench. Fig. 7.
2. Using an allen wrench, unscrew the four allen bolts and remove the front flange. Fig. 8.
3. Remove the mechanical seal half and o-ring from the flange. Fig. 9.
4. Remove the mechanical seal half, o-ring, spacer and spring from the motor.
5. Reassemble with a new seal kit in the reverse order. Fig. 10.


Fig. 7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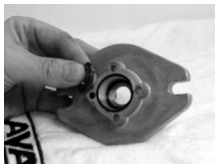
Fig. 9

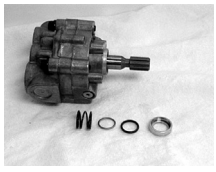
Fig. 10