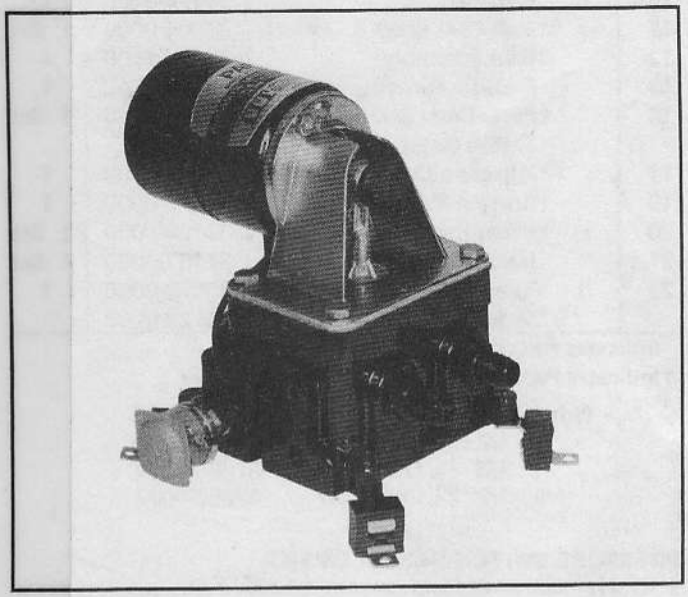
PAR™

ORIGINAL EQUIPMENT
ELECTRIC WATER SYSTEM PUMP

MODELS: 36970-1130 36970-3130 36970-1160 36970-3160 36970-2160

MODEL: 36970-O.E.M. SERIES
AUTOMATIC MULTI-FIXTURE PUMP



OPERATION

- Check level of water in tank.
- Check all strainers or any aerators and clean thoroughly.
- Open all faucets, hot and cold.
- Turn on power to pump and wait for hot water tank and water lines to fill.
- Close each faucet when it starts to deliver a steady stream of water (close cold water faucet first).
- Observe the pump. Check to be sure pump stops soon after closing last faucet.
- Pump is now ready for automatic operation. It will start when a faucet is opened and stop when the faucet is closed.
- Turn off power to pump and relieve system pressure before hooking up to city water.

MAINTENANCE

WINTER STORAGE. PAR pumps, with their unique pulsation dampener, will withstand frozen water without damage, provided the system is not under pressure prior to freezing. To prevent accidental damage, the entire water system should be protected from freezing during winter storage. This requires complete draining, using the following directions and/or vehicle manufacturers instructions:

1. Open all faucets and drains and allow pump to empty water tank and intake line. Run the pump dry for 1 to 2 minutes before turning off.
2. With all drains open, blow air through city water entry. Allow time for the water heater to empty.
3. Disconnect discharge and intake hoses from the pump. Start the pump and allow to run until all water is expelled from unit. (Running dry will not harm the pump.)
4. Reconnect the hoses, close the drains but leave faucets open. The water distribution system is now dry and ready for winter storage.

An alternate method is to use potable water system anti-freeze solution. Follow directions of anti-freeze manufacturer, and use a PAR Winter Protection Kit Model 44610-0000.

DO NOT USE AUTOMOTIVE TYPE RADIATOR ANTI-FREEZE. IT IS POISONOUS.

FEATURES

- Self-Priming
- Diaphragm Design Allows Dry Running
- Built-in Discharge Check Valve
- Low Current Draw
- Built-in Hydraulic Pulsation Dampener
- Large Vibration Absorbing Pads
- Available with Barb or Threaded Ports
- IAPMO Approved

SPECIFICATION

	U.S. GPM	Liters/Min.	Can. GPM
Open Flow:	2.8	10.6	2.3
Cut-in Pressure:	16 PSI Nom. (110 kPa)		
Cut-off Pressure:	30 PSI Nom. (210 kPa)		
Voltage:	12 VDC		
Current:	5 Amps Nominal		
Fuse Rating:	5 Amp "Slo-Blo"/7½ Amp Normal		
Ports:	Slip-on 1/2" or 5/8" ID Hose or 1/2" Threads		
Vert. Dry Suction Lift:	5 Feet (1.5m)		
Approvals:	IAPMO Type IV		
Weight:	7 lbs. (3.2 kgs.)		

TROUBLE SHOOTING

Problems	Causes
Pump operates but no water flows through faucet	—Low water level in tank. —Suction line clogged or kinked. —Loose hose clamps or fittings in suction line. —Defective valves or check valve.
Pump cycles on and off although all faucets are closed.	—Water leak in plumbing. —Water leak in flush toilet valve. —Internal leak in pump. —Outlet valve not sealing.
Pump operates roughly and has excessive noise and vibration.	—Flow through intake line is restricted, kink in hose. —Pump mounted on flimsy board. —Deformed or ruptured pulsation dampener in pump. —Worn connecting rod bearing.
Pump fails to start when faucet is opened.	—No voltage to pump. —Blown fuse. —Clogged piping. —Kink in outlet line. —Defective pressure switch or check valve.
Pump fails to stop when faucets are closed.	—Empty water tank. —Outlet valve not sealing. —Air in system. —Very low voltage. —Defective pressure switch.

CAUTION: Before servicing pump, turn off power and open faucets to relieve pressure in water system.

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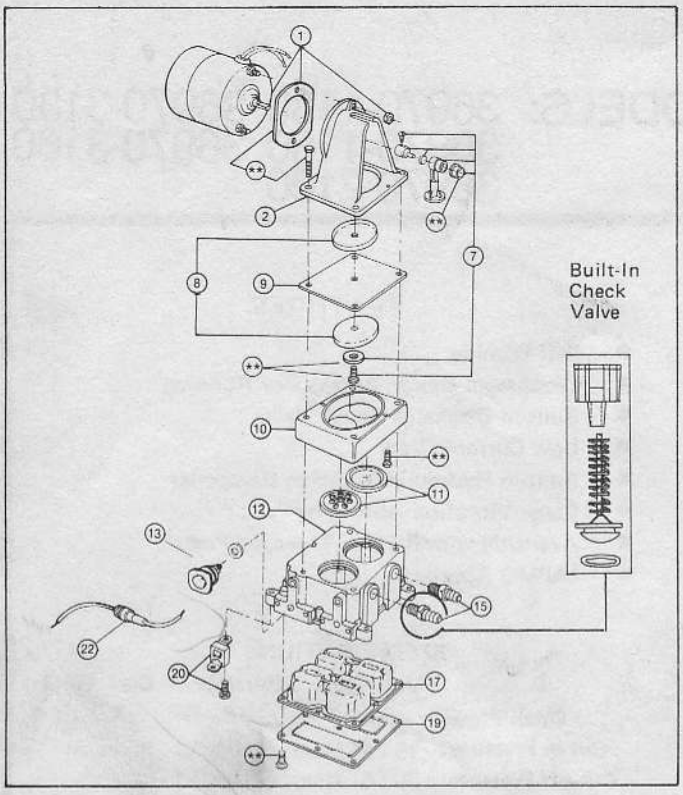

PARTS LIST
36970-Series

Key	Description	Part Number	Qty.
1	Motor Kit 12 Volt D.C.	30201-0000	1
2	Motor Mount	35452-0000	1
7	*Connecting Rod Assembly	30033-0000	1
8	Diaphragm Plate	35479-0000	2
9	*Diaphragm	30015-0000	1
10	Retainer	35454-0000	1
11	*†Valve Set (inlet & Outlet)	30004-0000	1 Set
12	†Base Assembly	35620-1100	1
13	Pressure Switch	37121-0010	1
15	†Ports (inlet & Outlet) Barb (See Note)	37176-0000	1 Set
17	*†Pulsation Dampener	37178-0000	1
19	†Bottom Plate	35686-0000	1
20	†Vibration Pad Kit	37180-0000	1 Set
21	Hardware Kit	37167-0000	1 Set
22	Fuse Holder (some models)	35578-0000	1
	*Service Kit	30123-0000	

*Indicates Parts Contained in Service Kit.
†Indicates Parts Supplied with Base Assmebly.

Note: 1/2" MPT Outlet Port 37050-0001
1/2" MPT Inlet Port 37050-0000
1/2" FL Outlet Port 37050-0002
1/2" FL Inlet Port 37050-0003

SERVICE

VALVE REPLACEMENT
1. Remove four tie down screws.
2. Lift off motor and diaphragm assembly from the pump base.
3. Lift valve assemblies from pockets and clean all foreign materials from valve and seat.
4. Reinstall valve assemblies into same pockets, being sure rubber valve with small hole is UP on intake and rubber valve without the small hole is DOWN on discharge.
   CAUTION: Do not use valve with small hole in rubber on discharge side of pump.

DIAPHRAGM AND CONNECTING ROD REPLACEMENT
1. Remove four tie down screws.
2. Lift off motor and diaphragm assembly from the pump base.
3. Remove two diaphragm retainer screws and detach diaphragm retainer.
4. Remove two motor nuts. Pull motor and eccentric from connecting rod.
5. Remove diaphragm screw to separate diaphragm from connecting rod assembly.
6. Inspect diaphragm for cuts and cracks.
7. Check connecting rod assembly for breaks, cracks or excessive wear on eccentric rod and bearing if connecting rod is to be reused, open cover and relubricate by packing built-in reservoir with a water pump grease. Original lubricant normally lasts the lifetime of the pump.
8. When reassembling connecting rod to diaphragm, be sure to align. Proper alignment is achieved when the rod slips straight onto motor shaft and the diaphragm rests squarely on the motor mount pad. Misalignment will create a strain on diaphragm and significantly shorten its life.

PULSATION DAMPENER REPLACEMENT
1. Remove pump from installation.
2. Remove nine screws from bottom of base and the bottom plate.
3. Pull out rubber pulsation pampener from base.
4. Inspect dampener for excessive deformation, ruptures and leaks.
5. When installing new pulsation dampener, make sure flange is correctly seated to effect a proper water and air seal.

PRESSURE SWITCH REPLACEMENT
1. Disconnect wires from pressure switch.
2. Unscrew switch from base.
3. Thread new switch with sealing washer into pump base, metallic side of washer facing switch. Tighten securely.
4. Reconnect one motor lead to one switch terminal and the pump circuit lead to the other.

MOTOR REPLACEMENT
1. Disconnect one motor wire from pressure switch, the other from splice connector.
2. Loosen eccentric set-screw on motor shaft.
3. Remove two motor nuts and pull motor away from motor mount, while holding back eccentric/connecting rod assembly.
4. When installing new motor, adjust eccentric on motor shaft so little or no contact is made between teflon washer and connecting rod bearing.
5. Rewire motor leads to pressure switch,and splice connector.

PORT CONFIGURATION

MODEL NO.	INTAKE PORT	OUTPUT WITH CHECKVALVE
36970-1130/1160	1/2"-5/8" BARB	1/2"-5/8" BARB
36970-2160	1/2" THREADS	1/2" THREADS
36970-3130/3160	1/2"-5/8" BARB	1/2" THREADS

APPROVED IAPMO T
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