

# 'I' Pumps

OPERATION AND  
SERVICE GUIDE  
PO-1725F  
MAR. 2010

## OPERATOR'S MANUAL & PARTS LIST for Self-priming Centrifugal Pumps

Self-priming • Corrosion Resistant • Lightweight • High Volume • High Lift

Before reading or using this manual be certain of the material of construction of your pump.

Check the model number label on the pump as follows:

STAINLESS STEEL HOUSING/Ryton INTERNAL pumps have model numbers beginning with ISY and price codes beginning with 58-4.

STAINLESS STEEL HOUSING/POLYESTER INTERNAL pumps have model numbers beginning with ISE and price codes beginning with 58-5.

STAINLESS STEEL HOUSING/POLYPROPYLENE INTERNAL pumps have model numbers beginning with ISP and price codes beginning with 58-6.

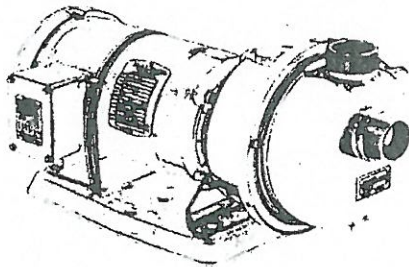
### ⚠ SAFETY WARNING ⚠

Verify the chemical compatibility of the materials of your pump with the liquid you want to pump. If you are uncertain regarding the chemical compatibility, contact your dealer for applications assistance and request a copy of our Corrosion Resistance Charts. Do not use a pump that is not chemically compatible with the liquid you intend to pump or serious bodily injury, death, fire explosion or environmental damage could result.

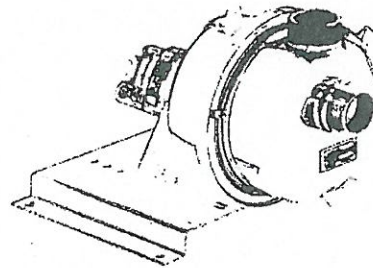
ALSO, PLEASE READ SECTION I, II AND III BEFORE OPERATING PUMP.

page no.

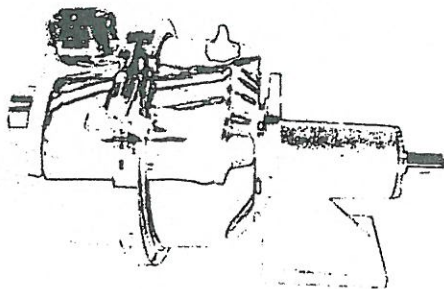
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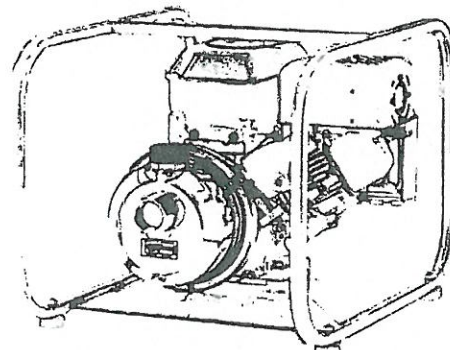
Electric Drive Close Coupled



Hydraulic Drive Close Coupled



Cast Iron Pedestal Close Coupled



Engine Drive Close Coupled

## I. SAFETY PRECAUTIONS



### WARNING:



1. Never use these pumps for pumping flammable liquids such as gasoline. **AN EXPLOSION AND SERIOUS INJURY MAY RESULT IF THIS WARNING IS IGNORED.**
2. In pumping corrosive materials, extreme caution should be exercised. Provide safety guards, ventilation, and drains to protect people and property in case of a leak in the pump. Handling instructions from the manufacturer(s) of the liquids being pumped should be closely followed. Wear protective clothing and goggles.
3. Before starting the pump, follow all of the instructions in this manual and any supplemental instructions supplied with the pump.
4. Any person operating this pump and its power unit should be fully aware of its safe operation before they start using it.
5. Never operate an engine driven unit in an explosive atmosphere, near combustible materials, or where insufficient ventilation exists unless specific provisions have been made regarding the power unit so as to prevent possible injury and damage. Be certain any other power unit is safe for the area in which it is to be operated.
6. Always be sure that the pump is on secure footing so that it cannot slide, shift, or tip over. If the pump is sitting beside a pit, secure it so that it does not fall in. Engine units have slots and holes for fastening to a secure base. Baseplate, skid rail, and roll cage kits are available from your pump dealer.
7. Never operate the unit with any guards removed.
8. With engine driven pumps:
  - a. In refueling engine, observe all safety precautions for the handling of fuel.
  - b. Never refuel the engine while running, and care should be exercised so that no fuel is spilled on a hot engine. Always allow engine to cool at least two minutes before refueling.
9. Before working on this pump make sure that the power unit cannot inadvertently be started.
10. Be sure that the power unit, pump, wiring and piping installations are suitable for the liquid being pumped, and comply with all applicable codes and regulations.
11. Do not use torches or apply fire or flames to this pump for any reason.
12. Do not overtighten the drain or filler plugs. Hand tighten only. Excessive force may damage the threads or the pump body. Do not use metal plugs.
13. Use at least one foot of flexible hose to make plumbing connections to the pump body. Rigid piping may put stresses on the pump, causing damage. If rigid piping must be used, properly support it so as to eliminate stresses on the pump.
14. Do not tighten inlet and discharge fittings more than one turn beyond hand tight. Excessive force will damage the pump or fittings.
15. Long suction and discharge hoses or pipes must be supported so that the weight of the hoses or pipes filled with liquid does not damage the pump or tip it over.
16. Use replacement parts supplied by the manufacturer only.
17. Do not run the pump dry. Always fill the pump body with the liquid to be pumped before starting the pump. It is not necessary to drain the pump body after use, unless there is danger of freezing, settling of solids, or crystallization.
18. Do not subject pump to extreme conditions of acidity or basicity. Consult factory for specific recommendations concerning temperature and chemicals.
19. Do not restrict flow through the pump such as with a closed discharge valve or "starved" suction line. Harmful heat build up will result. If it is necessary to restrict flow through the pump for longer than 5 minutes, either the pump must be stopped or a discharge bypass line installed to keep liquid temperatures below the maximum recommended operating temperatures.
20. This pump must not be subjected to more than 65 pounds per square inch internal pressure. The pump itself, normally, cannot develop more than 32 pounds per square inch pressure. The pump must not be used under any of the following unusual conditions which can result in excessive pressures being developed.
  - A. Pump shaft speed over 3600 RPM.
  - B. Quick closing valves in discharge line or any other device which may introduce hydraulic shock into the system.
  - C. Possible sudden obstruction of discharge line such as vehicle driving over hose.
  - D. High positive suction pressures (such as with a flooded suction) which would increase the total system pressure to 65 PSI or above.
  - E. Do not pump liquids with specific gravities exceeding 2.0.

## II. PREPARING THE PUMP FOR OPERATION

### Pump Preparation

1. Inspect unit for shipping damage immediately upon receipt and before signing for merchandise. If any visible damage exists, note damage on shipping bill of lading or receiving document(s) before signing. Also notify your dealer or distributor immediately of any damage to the shipment.
2. Read these instructions and the power unit instructions until you are sure you can operate it safely and correctly.
3. **IMPORTANT INFORMATION ABOUT PUMP ELASTOMERS ("RUBBER PARTS").**

This pump is equipped with one of the three following elastomeric materials. Please read the label on the pump for the name of the specific type of elastomer used inside the pump.

#### BUNA-N ELASTOMERS

*This pump is equipped with Buna-N elastomers ("rubber parts"). Buna-N material is suitable for use with water (clean and dirty) and other non-hazardous liquids. Consult factory for additional specific nonhazardous application recommendations.*

#### EPDM ELASTOMERS

*This pump is equipped with EPDM shaft seal and EPDM static seals. These elastomers ("rubber parts") are suitable for use with water (clean or dirty) and many nonhazardous agricultural and industrial chemicals. Consult the factory for specific non-water application recommendations.*

#### VITON ELASTOMERS

*This pump is equipped with Viton elastomers ("rubber parts"). Viton material is suitable for use with water (clean or dirty), and many nonhazardous agricultural and industrial chemicals. However, due to the wide range of chemical solutions, it is not possible to list them all here. Consult the factory for specific non-water application recommendations.*

#### Power unit preparation - Gasoline engine driven pumps:

1. For complete operating and maintenance information consult the engine manufacturer's instructions included with the pump.



## WARNING



**The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.**

2. Before starting, fill crankcase with oil specified by the engine manufacturer. Use a high quality detergent oil classified for service SE, SF or SG. Do not add anything to the recommended oil.
3. Before starting, fill fuel tank with clean, fresh, unleaded grade automotive gasoline. *Do not mix oil with gasoline.*

**CAUTION:** The engine governor is set at the factory. Do not tamper with any part which may increase the governed engine speed.

**Power unit preparation - Electric Motors:**

1. Make certain the input power to your electric motor is proper, single phase or three phase, and is of the proper voltage according to the motor specification plate.
2. *Be sure of the proper motor rotation.* Pump impeller should rotate counterclockwise, looking from the suction inlet side.

For single phase motors consult the motor manufacturer's instructions for wiring for counterclockwise rotation. Three phase motor rotation may be reversed by interchanging any two of the three power leads.

3. Make certain that wiring for your electric motor complies with all existing local codes.

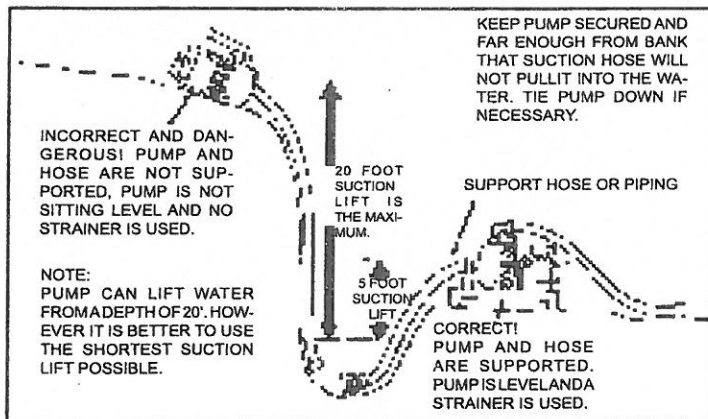
**Power unit preparation - Hydraulic and Pneumatic Motors:**  
**Consult the separate instruction sheet supplied with each hydraulic or pneumatic motor powered unit.**

**NOTE:** For liquids having specific gravities greater than 1.0, increase the rated horsepower (from catalog) by a factor equal to the specific gravity of the liquid being pumped. (Ex. Catalog HP x Specific Gravity = Actual HP required).

### III. PUMP OPERATING INSTRUCTIONS

1. Fill the pump body with liquid before starting. Do not run the pump dry; damage to the seal may result. There are no points on the pump which need lubrication. The shaft seal is self lubricating, and designed to handle clean liquids.
2. Make certain that all hose and pipe connections are airtight. **IMPORTANT:** An air leak in the suction line may prevent priming, and will reduce the capacity of the pump.
3. Always place the pump as close to the liquid to be pumped as possible. Keep all lines as short and straight as possible. Avoid sharp bends in hoses. Keep the pump on a level foundation. See Figure #1.
4. If flexible hose must be laid across a roadway, protect it with planking. Instantaneous shut-off pressure applied when a vehicle runs across an unprotected hose will cause "hydraulic shock". This shock can damage the pump and/or damage the hose.
5. When pumping dirty water or other liquids which may

- contain solids, always use a pump strainer specified by the manufacturer on the end of the suction line. If the suction strainer is likely to clog with dirt and debris, do one of the following:
- a. Prepare a bed of stones on which to rest the strainer.
  - b. Tie the strainer so that it stays off the bottom of the pit, excavation, etc.
  - c. Tie the strainer inside a basket or pail.
6. Drain the pump body whenever there is a danger of freezing.
  7. Always use rubber feet under portable pump when operating on a hard surface. This will prevent damage to the pump and power unit. Order Kit P-58-0114.
  8. Always flush out the pump at the end of operation if the liquid being pumped may leave a solid or sticky residue in the pump. If this is not done, damage to the pump may result.



**FIGURE 1.**

#### PNEUMATIC MOTOR REQUIREMENTS

RPM	HP	AIR VOLUME REQUIRED (Ft <sup>3</sup> /min.)	AIR PRESSURE REQUIRED (PSI)
1750	.5	25	20
1750	1	38	37
2900	1	45	27
2900	2	70	49
2900	3	100	74
2900	4	130	102

CURVE	IMPELLER	RPM	ACTUAL REQUIRED HP	PORT SIZE	
HYDRAULIC MOTOR CURVES	G	58-0683	3450	3	1½" / 2"
	G	58-0683	2900	2	1½" / 2"

**NOTE:** Actual required horsepowers noted are the maximum required at the designated RPM when pumping water (specific gravity = 1.0). For horsepower requirements of other liquids, multiply the specific gravity of the liquid to be pumped times the actual required horsepower and select the next higher standard horsepower motor.

The maximum horsepower requirement mentioned above occurs at the right end of the curve. For horsepower requirements at a particular point on the curve, consult the factory.

#### HYDRAULIC MOTOR REQUIREMENTS

RPM	HP	HYDRAULIC FLUID REQUIRED (GPM)	FLUID PRESSURE REQUIRED (PSI)
3450	2	9	500
3450	3	9	750
3450	5	9.2	1200
3450	7	9.5	1550

## IV. PUMP TROUBLE SHOOTING AND REPAIR

### DIAGNOSIS

1. Does not prime or does not pump

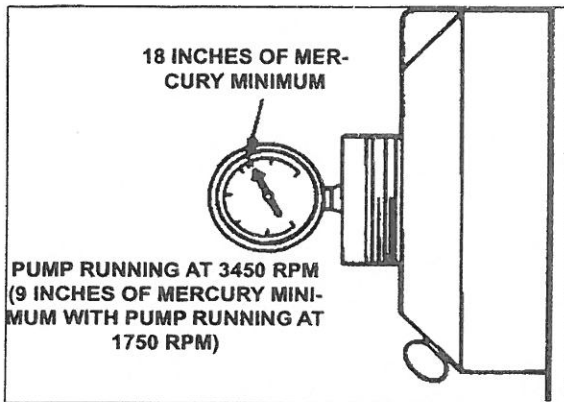


FIGURE 4.

### TREATMENT

2. Pump has insufficient flow

1. Fill pump with clean liquid and try priming again.
2. Shut off power source to pump. Shut off valves to and from pump. While observing all safety precautions for the liquid being pumped, disconnect suction and discharge lines and drain the pump completely. Fill the pump with water. Install a vacuum gauge in the suction port (see figure 4). Turn on power source. Vacuum should exceed 18" of mercury when pump shaft is rotating at 3450 RPM and should equal or exceed 9" of mercury with pump shaft rotating at 1750RPM. If vacuum is below these values, check the following:
  - a. Leak at suction fitting
  - b. Pump rotation. Impeller should rotate counterclockwise when viewing through suction end.
  - c. Pump speed. (Maximum vacuum performance drops off rapidly with decreasing RPM.)
  - d. Sealing of check valve gasket between body and volute.
  - e. Check for worn impeller and/or volute. If necessary, replace these parts. (See items 14 and 15 of section V).
  - f. Worn shaft seal.
3. If pump suction test OK, attach suction line and check suction at end of suction line. Failure to get suction here indicates leaking connections, leaking hoses, pipes or obstructions in the lines. Liners of suction hose will occasionally collapse inside the hose.

1. Check same items as in 1, 2 and 3 above.
2. Replace any worn or broken components; check clearance between impeller vanes and volute face. (See section V #14).

## V. PUMP DISASSEMBLY AND REPAIR

1. This pump may be disassembled and repaired using only a screwdriver.
2. Unscrew plastic knob (item #24) on "V" Band clamp (item #20) and remove the "V" Band clamp and front body (item #19).
3. Remove rubber check valve (item #27) from front volute chimney and the body "O"-Ring (item #23) from the rear body "O"-Ring groove.
4. Remove the three self-tapping screws (item #16), one at the top of volute and one at each side. Remove the front volute (item #29).
5. To remove the impeller, place a 3/4" hose clamp over hub of impeller (item #13). Tighten so clamp will not slip off of hub (see Service Diagram 1, Page 8). Center punch center of impeller screw head (item #15). Unscrew impeller screw two full turns. Attach gear/bearing puller on hose clamp, with center post seated in center punch indentation on impeller screw (see Service Diagram 2, Page 8). Remove impeller and impeller screw "O"-Ring (item #14). Remove impeller shim(s) (if so fitted) from end of shaft. Remove the "O"-Ring segment (item #12), which lies in a groove in the volute (it forms an arc over the impeller).
6. One half of the shaft seal (items #22 & #25) is in the impeller hub, the other half is in the support. The impeller seal half can be carefully pried out of the impeller hub with a screwdriver. If you plan to reuse this seal, be sure not to nick or scratch either of its flat polished faces.
7. Unscrew the four self-tapping screws (item #16) in the rear volute (item #11) and remove the volute and "O"-Ring (item #28). (When reassembling this pump always align the locator boss on the support (item #6) with hole in the back side of the rear volute (item #11) to insure proper assembly.)
8. Remove the four plastic round plugs (item #9) and O-Rings (item #8) using a pair of pliers. Unscrew the four support

- screws (item #7) and remove the support (item #6) and "O"-Ring (item #5). Inside the support is the stationary seal half (item #25). The seal can now be pressed out from the back of the support. Use a round wooden plug 1-3/16" in diameter and carefully press the seal out straight, if it is to be reused. Be careful not to damage the seal face. Remove "O"-Ring (item #26) from around the seal.
9. Remove the rear body (item #4) from the engine face and the four plastic spacers (item #1) at the four bolt hole locations.
10. Reassemble all parts together in reverse of the order used in disassembly.
11. When installing a new seal, always replace both halves of the seal and put the "O"-Ring (item #26) in place around the stationary half (item #25) of the seal. Protect the smooth, lapped sealing surfaces from damage when pressing in the new parts. To press the stationary portion of the seal into place, use a piece of pipe that will bear only on the flange of the metal seal case. Be sure both seal halves are fully seated and square with respect to the pump shaft.
12. During final assembly it is recommended that the impeller screw head "O"-Ring (item #14) be replaced. Lubricate this with vegetable oil only before assembly.
13. Use a thread locking compound such as Loctite #242 on the support screws (item #7) and impeller screw (item #15).
14. The clearance between the impeller vanes and the volute face should be about .015" to .25" for good performance. This front clearance can be attained by shimming, such that the back shroud of the impeller (item #13) just clears the face of the rear volute (item #11). To adjust properly, remove or add impeller shims (item #21) as appropriate until the impeller just rubs the rear volute. Then add one .006" thick washer

type shim (item #21). After shimming, turn the impeller to ensure that the impeller is not touching the rear volute. Be sure that the impeller is completely on the shaft when checking shimming. Put pressure only on the hub when pressing impeller on shaft.

15. Check front volute face for excessive wear. (Slight scoring is acceptable.) The four support screws holding pump support to engine should be tightened securely with a large screwdriver. The screws holding the volute in place do not have to be tightened any more than needed to secure the volute during assembly. Overtightening will cause these self-tapping screw threads to strip.

16. Lubricate the body "O"-Ring before replacing it in the pump, with a vegetable based lubricant.
17. When assembling nipples, fittings and elbows into the pump body, wrap the male threads with teflon sealing tape, or use pipe dope. Proper tightness is hand tight plus one full turn with a pipewrench.

**NOTE: After pump is assembled and before starting, rotate the shaft and listen for possible scraping noises. A scraping noise indicates improper clearances, requiring disassembly and re-shimming.**

18. With pump running and with pump body full of water, put vacuum gauge over suction opening and check suction ability according to section IV.

## VI. SPECIAL INFORMATION

### A. FLEXIBLE COUPLED PUMPS: COUPLING ALIGNMENT

Measure the diameter of the power unit shaft. Choose the appropriate coupling for your pump and power unit. (See flexible couplings charge number VI-A). Proper shaft and coupling alignment reduces vibration and prevents premature coupling failure. The follow 8 steps help in obtaining proper shaft alignment.

1. Make sure you use a rigid base plate large enough for the assembly of the pump and the drive unit. We offer kit 109 for this purpose. (See baseplate kit listed after couplings chart VI-A)\*\*
2. Place the pump and drive unit on the base plate.
3. Measure the distance between the centerline of the drive unit shaft and base plate.
4. Measure the distance between the centerline of the drive unit shaft and base plate.
5. Compare measurements obtained from steps 3 and 4 and use spacers and shims for height adjustment to insure alignment of both shafts.
6. Place the coupling halves over each shaft, put the "spider" between the two halves and couple the two halves together.
7. To assure parallel alignment (Figure 5) place a straight edge along the side of both coupling halves in two different locations, 90° apart. The coupling is aligned when the straight edge rests squarely on the sides of both coupling halves.

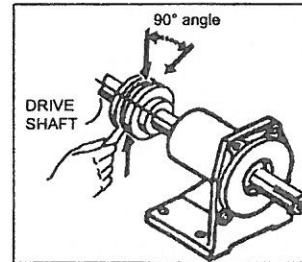


FIGURE 6.

COUPLING PART NUMBER	POWER UNIT SHAFT DIAMETER	ELECTRIC MOTOR FRAME SIZES
58-0785	.625"	56
58-0786	.875"	143T-145T 182-184
58-0787	1.125"	182T-184T

FLEXIBLE COUPLINGS CHART VI-A

#### \*\*BASEPLATE KIT

This kit contains a baseplate, coupling guard, shims and hardware for mounting pedestal pump to the power units listed. All necessary mounting holes are provided in the baseplate.

**KIT 58-0109** - Light duty baseplate for these electric motor frame sizes: 56, 143, 143T, 145, 145T, 182, 182T, 184 and 184T; also can be used to mount a 3.5 to 6.5 HP Briggs and Stratton engine.

#### SPECIAL METRIC MOTOR CONVERSION KITS

**KIT 58-0185** - Contains FR 100 metric motor to pump, mounting adapter (cast aluminum) and 3/4" to 28mm. shaft adapter (316 stainless steel) for pump to metric electric motor adaptation. (See Figure 7)

**KIT 58-0186** - Contains FR90 metric motor to pump, mounting adapter (cast aluminum) and 3/4" 20 24mm. shaft adapter (316 stainless steel) for pump to metric electric motor adaptation. See Figure 7)

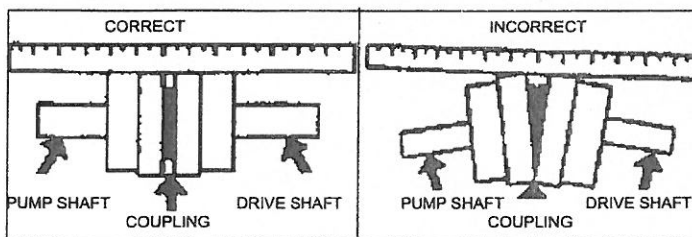


FIGURE 5.

8. To avoid angular misalignment, insert a measuring device (taper gauge or feeler gauge) between the coupling faces at four locations 90° apart (See arrows in Figure 6) and measure the gap at each of the four locations. For proper alignment all four measurements should be equal. Reshimming may be required to achieve this alignment.

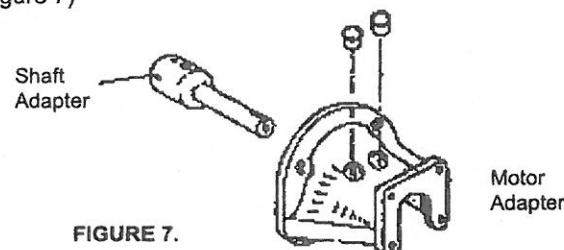
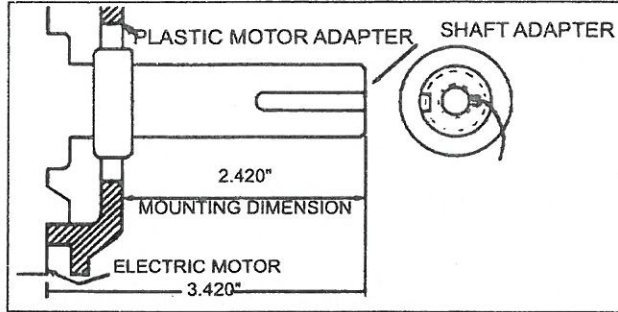


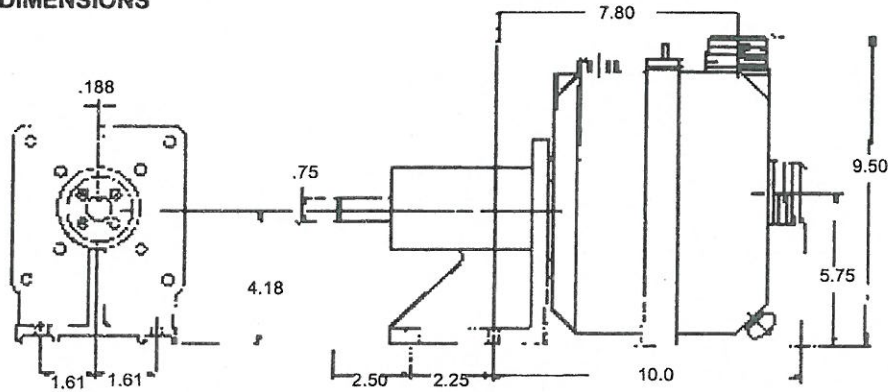
FIGURE 7.

**B. CLOSE-COUPLED ELECTRIC AND PNEUMATIC MOTOR DRIVEN PUMPS**

The drawing below lists the proper installation dimensions for the close-coupled motor shaft adapter.



**C. PEDESTAL PUMP DIMENSIONS**



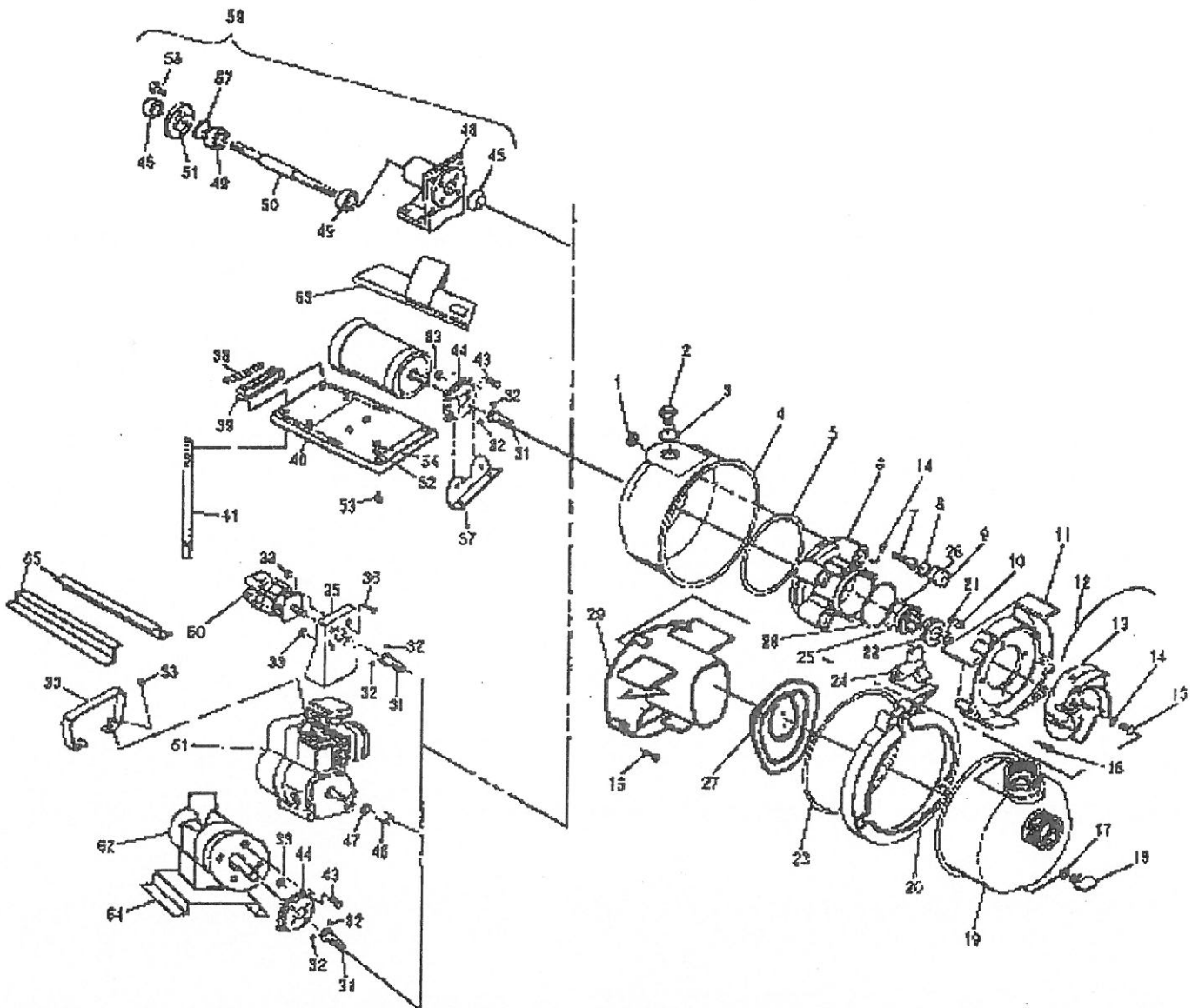
Dimensions in inches

**VII. PUMP PARTS LIST**

ITEM #	PART #	PART DESCRIPTION	QTY./PUMP
1	58-1244 30	SPACER, Polyester, Black (ISE Model Pumps)	4
	58-1244 60	SPACER, Ryton, Brown (ISP & ISY Model Pumps)	4
2	58-0722 30B	PLUG, Filler, Polyester, Black	1
	58-0722 40	PLUG, Filler, Polypropylene, Gray	1
	58-0722 60	PLUG, Filler, Ryton, Brown	1
3	58-0765 71	O-RING, Filler Plug, BUNA-N	1
	58-0765 72	O-RING, Filler Plug, EPDM	1
	58-0765 73	O-RING, Filler Plug, VITON	1
4	58-1308 10	BODY, Rear, Stainless Steel 316	1
5	58-1361 71	O-RING, Support, BUNA-N	1
	58-1361 72	O-RING, Support, EPDM	1
	58-1361 73	O-RING, Support, VITON	1
6	58-1301 30	SUPPORT, Polyester, Black	1
	58-1301 40	SUPPORT, Polypropylene, Gray	1
	58-1301 60	SUPPORT, Ryton, Brown	1
7	58-0715 10	SCREW, 5/16"-24x1.25" Long S.S. for pumps close-coupled to engines, pedestal mounted	4
	58-0728 10	SCREW, 5/16"-18x1.5" Long S.S. for pumps close-coupled to electric, hydraulic or pneumatic motor	4
8	58-1245 71	O-RING, Screw Plug, BUNA-N	4
	58-1245 72	O-RING, Screw Plug, EPDM	4
	58-1245 73	O-RING, Screw Plug, VITON	4
9	58-1233 30	PLUG, Screw, Polyester, Black	4
	58-1233 40	PLUG, Screw, Polypropylene, Gray	4
	58-1233 60	PLUG, Screw, Ryton, Brown	4
10	58-0718	KEY, 3/16" Sq. x 15/16" Long, Steel	1
	58-0718 10	KEY, 3/16" Sq. x 15/16" Long, Stainless Steel	1
11	58-1302 30	VOLUTE, Rear, Polyester, Black	1
	58-1302 40	VOLUTE, Rear, Polypropylene, Gray	1
	58-1302 60	VOLUTE, Rear, Ryton, Brown	1
12	58-1246 71	O-RING, Segment, BUNA-N	1
	58-1246 72	O-RING, Segment, EPDM	1
	58-1246 73	O-RING, Segment, VITON	1
13	58-0683 30	IMPELLER, Polyester, Black	1
	58-0683 40	IMPELLER, Polypropylene, Gray	1
	58-0683 60	IMPELLER, Ryton, Brown	1
14	58-0717 71	O-RING, Screw, BUNA-N	5
	58-0717 72	O-RING, Screw, EPDM	5
	58-0717 73	O-RING, Screw, VITON	5

**1" PUMP PARTS LIST (cont'd)**

ITEM #	PART #	PART DESCRIPTION	QTY./PUMP
15	58-0716 10	SCREW, Impeller, 5/16"-24 x .80" Long, Stainless Steel	1
16	58-1348 10	SCREW, Volute, #10 x .75", Stainless Steel	7
17	58-1009 71	O-RING, Drain Plug, BUNA-N	1
	58-1009 72	O-RING, Drain Plug, EPDM	1
	58-1009 73	O-RING, Drain Plug, VITON	1
18	58-0723 30	PLUG, Drain, Polyester, Black	1
	58-0723 40	PLUG, Drain, Polypropylene, Gray	1
	58-0723 60	PLUG, Drain, Ryton, Brown	1
19	58-2012 10	BODY, Front, NPT, 316 Stainless Steel	1
	58-2013 10	BODY, Front, BSP, 316 Stainless Steel	1
20	58-1280 01	ASSY., Stainless Steel, V-Band with Knob	1
21	58-0778 11	SHIM, Impeller, .006", Stainless Steel	as required
	58-0778 12	SHIM, Impeller, .015", Stainless Steel	as required
	58-0778 13	SHIM, Impeller, .030", Stainless Steel	as required
22, 25 & 26	58-0714 11	SHAFT SEAL, BUNA-N, Stainless Steel, Carbon/Ceramic	1
	58-0714 12	SHAFT SEAL, EPDM, Stainless Steel, Carbon/Ceramic	1
	58-0714 14	SHAFT SEAL, VITON, Stainless Steel, Carbon/Ceramic	1
	58-0714 15	SHAFT SEAL, Hastelloy C, Teflon, Silicon Carbide	1
	58-0714 92SG	SHAFT SEAL, Non-Metallic, ECTFE, EPDM, Graphite Loaded Silicon Carbide	1
	58-0714 94SG	SHAFT SEAL, Non-Metallic, ECTFE, VITON, Graphite Loaded Silicon Carbide	1
	58-46250 11	SHAFT SEAL, BUNA-N, Stainless Steel, Graphite Loaded Silicon Carbide	1
	58-46250 12	SHAFT SEAL, EPDM, Stainless Steel, Graphite Loaded Silicon Carbide	1
	58-46250 13	SHAFT SEAL, VITON, Stainless Steel, Graphite Loaded Silicon Carbide	1
23	58-1312 71	O-RING, Body, BUNA-N	1
	58-1312 72	O-RING, Body, EPDM	1
	58-1312 73	O-RING, Body, VITON	1
24	58-1282 90	KNOB, V-Band Clamp	1
26	58-0976 71	O-RING, Shaft Seal, BUNA-N	1
	58-0976 72	O-RING, Shaft Seal, EPDM	1
	58-0976 73	O-RING, Shaft Seal, VITON	1
27	58-1872 71	CHECK VALVE, BUNA-N	1
	58-1872 72	CHECK VALVE, EPDM	1
	58-1872 73	CHECK VALVE, VITON	1
28	58-1203 71	O-RING, Rear Volute, BUNA-N	1
	58-1203 72	O-RING, Rear Volute, EPDM	1
	58-1203 73	O-RING, Rear Volute, VITON	1
29	58-1303 30	VOLUTE, Front, Flat, Polyester, Black	1
	58-1303 40	VOLUTE, Front, Flat, Polypropylene, Gray	1
	58-1303 60	VOLUTE, Front, Brown, Ryton	1
	58-1304 31	VOLUTE, Front, BUNA Lined, Polyester, Black	1
	58-1304 32	VOLUTE, Front, EPDM Lined, Polyester, Black	1
30	58-1238	HANDLE, Steel, for 3.5 HP engine driven pumps only	1
31	58-1014 10	ADAPTER, Shaft, .625" Dia. Bore, Stainless Steel, for Close-Coupled Electric or Pneumatic Motor attaches with set screws	1
	58-1165 10	ADAPTER, Shaft, .463" Dia. Bore, Stainless Steel, for Hydraulic Motor	1
32	58-0883	SCREW, Set, 1/4"-20 x 1/4" Long, Steel	2
33	58-0745 10	KEPNUT, 5/16"-18, Stainless Steel	as required
35	58-1011 20	BASE, Hydraulic Motor, Molded Plastic	1
36	58-0729H	SCREW, 5/16"-18 x 1" Long, Plated Steel	4
37	58-2100 10	BRACKET, for Close-Coupled Electric, Stainless Steel	1
38	58-1826 71	PAD, Rubber, Saddle	1
39	58-1828 90	SADDLE, Electric Motor, 6.625" Dia., Molded Plastic	1
40	58-1846 40	BASE PLATE, Polypropylene, for close-coupling to electric motor	1
41	58-0934 10	STRAP, Electric Motor, Stainless Steel	1
43	58-1015 10	SCREW, Hex Cap, 3/8"-16 x 1.25" Long, Stainless Steel	4
44	58-1010 20	ADAPTER, for close-coupling to 56C frame electric or pneumatic motor, molded plastic	1
45	58-1955 71	SEAL, Lip, .717" I.D., BUNA-N	2
46	58-0882 90	SHAFT SLEEVE, Polyethylene, Heat Shrinkable	1
47	58-0884 71	SLINGER, BUNA-N	1
48	58-1951 90	HOUSING, Bearing, Cast Metal	1
49	58-1954 90	BEARING, Ball, .787" I.D.	2
50	58-1952 10	SHAFT, Stainless Steel, .75" Diameter	1
51	58-1953 10	PLATE, End, Stainless Steel	1
52	58-0730 10	FLAT WASHER, .563", Stainless Steel	2
53	58-0729 10	SCREW, 5/16"-18 x 1" Long, Stainless Steel	2
54	58-0745 10	KEPNUT, 5/16"-18, Stainless Steel	2
57	58-1956 10	SHIM, Bearing Shaft, Cast Metal Pedestal, .006" thick, Stainless Steel	as required
58	58-2525 10	SCREW, Hex, 1/4"-20 x 3/4", Stainless Steel	4
59	58-1950 01	BEARING & PEDESTAL Assy. with 3/4" Stainless Steel Shaft (includes items 45, 48, 49, 50, 51, 57 & 58)	1
60	58-0686	MOTOR, Hydraulic	1
61	58-0624	ENGINE, B & S 550 Series, OHV, recoil start	1
	58-0644	ENGINE, B & S 900 Series OHV, recoil start	1
	58-0646 A	ENGINE, B & S 6.5HP Vanguard OHV, recoil start	1
	58-0635 H	ENGINE, Honda, GX160 OHV, recoil start	1
62	58-0926	MOTOR, Pneumatic	1
63	58-0109	BASEPLATE KIT, std. duty, call factory for detail for flex-coupling to elec. motors	1
64	58-0929	BASEPLATE, for pumps close-coupled to hydraulic or pneumatic motor	1
64	58-0002	BASE RUNNER KIT - Includes two steel runners (rails) with fasteners	1



### LIMITED 1 YEAR WARRANTY

Pacer Pumps warrants its products to be free from defects of material and workmanship for a period of one year (12 months) of service, if the one year of service falls within 24 months from date of manufacture. The company warrants that its products, at the time of shipment, will be free of defects of material and workmanship for normal use and service. This warranty will not apply or be extended to products subjected to misuse, neglect, accident, or improper installation, or to maintenance of products which have been altered or repaired by anyone except Pacer Pumps or its authorized representatives. The Buyer, or any person receiving such a product during the duration of the warranty, shall contact his Pacer Pumps' dealer as soon as any defect occurs. Contact Pacer Pumps for the name and address of your nearest dealer.

Pacer Pumps' sole obligation under the foregoing warranty shall be limited to: (at its option) repair and replacement (and reship to the Buyer with transportation charges collect to any place in the U.S.) of defective goods provided that if the company is unable to correct a defective component part or product, the Buyer shall be entitled to elect a credit at the original Buyer's purchase price. To return a DEFECTIVE PUMP, to return any parts for credit, or to obtain service information, contact the Service Department. After receiving permission to return merchandise, the Buyer is authorized to return the product to Pacer Pumps, freight prepaid. If the company determines that the warranty has not been breached, product will be repaired or replaced free of charge.

Certain components, such as mechanical seals, ceramic liners, impellers, impeller magnet assemblies, pistons, hose, diaphragms, etc. may be subject to wear, and therefore wear should not be misconstrued as to the existence of a defect and as such would not be included in a warranty claim, nor should it be implied that items such as this will last a year without occasional, or even frequent replacement depending upon the severity of the application.

The company will not be responsible for any damage or losses, direct or indirect, arising from any cause whatsoever, nor for damage to equipment caused by outside influences including improper installation or modification, improper voltage supply, lightning, corrosive liquids, abrasive liquids, or careless handling; nor for labor, transportation or other damages incurred in the replacement or repair of defective parts. In these cases, repair will be subject to reconditioning charges in effect at the time.

Purchased merchandise, either as a complete product for resale, or components used in conjunction with Pacer Pumps manufactured products, carries the warranty of the respective manufacturer of such product or components.

This warranty supersedes any warranty previously in effect.

Note: All specifications, as shown, are subject to change without previous notice.

## PACER® PUMPS

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servicing  
Industry  
worldwide

Part No. 58-1774 01



## WARRANTY & LIMITATION OF LIABILITY

Parker Hannifin Gerotor products are warranted for a period of twelve (12) months from date of shipment from Seller's plant to be free from defects in material and workmanship under correct use, normal operating conditions, and proper application. Seller's obligation under this warranty shall be limited to the repair or exchange, at Seller's option, F.O.B. Seller's factory, of any Parker Hannifin Gerotor product or part which proves to be defective as provided herein. Seller reserves the right to either inspect the product at Buyer's location or require it to be returned to the factory for inspection. The above warranty does not extend to goods damaged, or subjected to accident, abuse, or misuse after shipment from Seller's factory, nor to goods altered or repaired by anyone other than Authorized Parker Hannifin representatives.

SELLER MAKES NO EXPRESS WARRANTIES OTHER THAN THOSE WHICH ARE SPECIFICALLY DESCRIBED HEREIN. Any description of the goods sold hereunder, including any references to Buyer's specifications and any descriptions in catalogs, circulars and other written material published by Seller is for the sole purpose of identifying such goods and shall not create an express warranty that the goods shall conform to such description. Any sample or model is for illustrative purposes only and shall not create any express warranty that the goods shall conform to the sample or model. BUYER IS SOLELY RESPONSIBLE FOR DETERMINING THE SUITABILITY OF GOODS SOLD HEREUNDER FOR USE BY BUYER.

This warranty is expressly in lieu of all other warranties expressed or implied. There are no implied warranties of merchantability or fitness for a particular purpose. This Warranty states Seller's entire and exclusive liability and Buyer's exclusive remedy for any claim or damages in connection with the sale or furnishings of Parker Hannifin Gerotor products, their design, suitability for use, installation or operation, or for any claimed defects therein. Seller will in no event be liable for any incidental or consequential damages whatsoever, not for any sum in excess of the price received for the goods for which liability is claimed.

**PARKER HANNIFIN®**

Gresen Operations  
4675 Clark Road  
Sarasota, FL 34233

Printed in U.S.A.

**Static Electricity is Blamed for Explosion**

*"User of hand pump is burned while transferring gasoline from a 55-gallon drum, which had been sloshing around in the back of a pickup truck. Explosion took place when the liquid entered the receiving tank. . . It is presumed that the potential static electricity in the receiving tank was different from that of the holding tank, which was aggravated due to an extremely dry climate. . ."*



Flammable solvents are often purchased in bulk and transferred manually or with motor driven pumps. Care must be taken to neutralize static electricity which may rest as a potential in the storage tank, as well as that which may rest in the receiving tank. The potential of such would, of course, be greatly increased

if the liquid were allowed to splash around during movement of the container. Therefore both containers must be satisfactorily grounded, and then each of the containers must be bonded, that is connecting the ground wire from tank to tank so that the potential static electricity is now equalized.

**Sparks from Open Motor Cause Explosion**

*"User of pump is burned while transferring explosive liquids. Accident was caused by the use of an open motor. . . Explosion resulted and the employee was burned over many parts of his body."*

In addition to the proper use of bonding and grounding cables, when motorized pumps are used to transfer flammables and combustibles, explosion-proof or air driven pumps should be used. Explosion-proof electric or air motors are often wired and/or enclosed in such a way that no sparks can be emitted from the motor casing - otherwise sparks from the motor could cause the flammable liquid to flash or explode.

**Splashing of Acid Causes Burns**

*"Improperly closed pressure vessel containing aggressive acids allowed liquid to escape and splash operator, causing skin burns when pump he energized created pressure in the vessel."*

Operator should have checked the instruction manual and followed procedures as set forth by the manufacturer to ensure that the cover of the pressure vessel was securely tightened. Operator could also have prevented bodily injury if he was protected with adequate clothing, which is fabricated to resist such liquids.

**Injuries due to splashing of aggressive liquids or explosion of flammables can be avoided by wearing proper clothing, which may include coveralls, apron, shoes, goggles, gloves, face mask and hat.**

**Each of the above operators could have avoided some bodily harm by wearing outer garments for protection from skin burns.**

**Consult a Dealer in Your Area for these Garments**

