

H0609200\_REVA

## Replacement Parts List

ITEM	Part	Description	SECTION	PAGE
1	R0722900	Capacitor Housing Cover	4	5, 8, 10
2	R0734500	Capacitor 30mfd 400VAC	4	5
3	R0734200	Motor Assembly, 725 WATT	6	10
4	R0722600	Fan Cover Kit	5	6, 7
5	R0723000	Motor Fan	5	6
6	R0722700	Base	5	7
7	R0747800	Mechanical Seal Assembly	6	10
8	R0723200	Back Plate Replacement Kit	6	10
9	R0734300	Seal Replacement Kit	6	8, 11
10	R0723100	Pump Housing Kit	6	8, 11
11	R0722800	Impeller and Diffuser Kit	6	9, 11
12	R0734400	Hardware Kit	6	8, 9, 11
13	R0617100	Quick Connect Install Kit	7	11
14	R0621000	Quick Connect 4 Pack	7	11
15	P19	Reinforced Hose 6 ft.	7	11

### **⚠ WARNING**

**FOR YOUR SAFETY** - This product must be installed and serviced by a contractor who is licensed and qualified in pool equipment by the jurisdiction in which the product will be installed, where such state or local requirements exist. In the event no such state or local requirement exists, the individual in charge of maintenance must be a professional with sufficient experience in pool equipment installation and maintenance, so that all of the instructions in this manual can be followed exactly. Improper installation and/or

operation can create dangerous electrical hazards, which can cause high voltages to run through the electrical system. Before installing this product, read and follow all warning notices and instructions that accompany this product. Failure to follow warning notices and instructions may result in property damage, personal injury, or death. Improper installation and/or operation will void the warranty.

If these instructions are not followed exactly, a fire or explosion may result, causing property damage, personal injury, or death.

## WARNING

In order to reduce the risk of injury, do not permit children to use this product.

To reduce the risk of property damage or injury, do not attempt to change the backwash (multiport, slide, or full flow) valve position with the pump running.

Polaris pumps are powered by a high voltage electric motor and must be installed by a licensed or certified electrician or a qualified swimming pool service technician.

## WARNING

### **RISK OF ELECTRIC SHOCK, FIRE, PERSONAL INJURY, OR DEATH.**

Connect only to a branch circuit that is protected by a ground-fault circuit-interrupter (GFCI). Contact a qualified electrician if you cannot verify that the circuit is protected by a GFCI. Make sure such a GFCI should be provided by the installer and should be tested on a routine basis. To test the GFCI, push the test button. The GFCI should interrupt power. Push the reset button. Power should be restored. If the GFCI fails to operate in this manner, the GFCI is defective. If the GFCI interrupts power to the pump without the test button being pushed, a ground current is flowing, indicating the possibility of electrical shock. Do not use the pump. Disconnect the pump and have the problem corrected by a qualified service representative before using.

Due to the potential risk of fire, electric shock, or injuries to persons, Polaris Pumps must be installed in accordance with the National Electrical Code® (NEC®), all local electrical and safety codes, and the Occupational Safety and Health Act (OSHA®). Copies of the NEC may be ordered from the National Fire Protection Association® (NFPA®) online at [www.nfpa.org](http://www.nfpa.org) or call 617-770-3000, or contact your local government inspection agency.

Incorrectly installed equipment may fail, causing severe injury or property damage.

## WARNING

- Do not connect the system to an unregulated city water system or other external source of pressurized water producing pressures greater than 35 PSI.
- Incorrectly installed equipment may fail, causing severe injury or property damage.
- Trapped air in system can cause the filter lid to be blown off, which can result in death, serious personal injury, or property damage. Be sure all air is out of the system before operating.

To minimize the risk of severe injury or death, the filter and/or pump should not be subjected to the piping system pressurization test.

Local codes may require the pool piping system to be subjected to a pressure test. These requirements are generally not intended to apply to the pool equipment such as filters or pumps.

Polaris pool equipment is pressure tested at the factory.

However, if the WARNING cannot be followed and pressure testing of the piping system must include the filter and/or pump, **BE SURE TO COMPLY WITH THE FOLLOWING SAFETY INSTRUCTIONS:**

Check all clamps, bolts, lids, lock rings and system accessories to ensure they are properly installed and secured before testing.

RELEASE ALL AIR in the system before testing.

Water pressure for test must NOT EXCEED 35 PSI.

Water temperature for test must NOT EXCEED 100°F (38°C).

Limit test to 24 hours. After test, visually check system to be sure it is ready for operation.

**NOTICE:** These parameters apply to Polaris equipment only. For non-Polaris equipment, consult equipment manufacturer.

Chemical spills and fumes can weaken pool/spa equipment. Corrosion can cause filters and other equipment to fail, resulting in severe injury or property damage. Do not store pool chemicals near your equipment.

## SECTION 1. USING THIS GUIDE

The following guide describes pump disassembly and replacement of key components. The table on the cover displays the page and section numbers for the kit you are installing. Please be sure to read all steps in the section. For all repairs and replacements requiring disassembly of the pump it is advised that the pump be removed from the equipment pad to a suitable working area.

### **WARNING**

Before beginning any work, be sure to abide by the following:

- If the pump is below the water level of the pool or spa, ensure that all shut off valves to the pump are closed.
- Disconnect electrical power to the filter pump at the breakers to ensure that the filter pump will remain off for the duration of the procedure.

- Disconnect electrical power to the booster pump at the breakers.
- Allow a minimum of 5 minutes for the capacitor to discharge before beginning any electrical work.

Failure to abide by the above may result in an electrical hazard including risk of electric shock, fire, personal injury, property damage or death.

## SECTION 2. REQUIRED EQUIPMENT

The following list of equipment should be available to the installer at the time of install. Failure to use the appropriate safety and installation equipment could lead to personal injury or property damage.



**Safety  
Eye  
Wear**



**Snap  
Ring  
Pliers**



**Adjustable  
Wrench**



**9/16" and  
11/16"  
Wrench or  
Socket**



**Gloves**



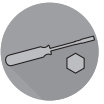
**Hose  
Cutters**



**Screwdriver,  
#2 Phillips  
Head**



**Combination  
Pliers**



**1/4"  
Nut  
Driver**



**1/4"  
Hex  
Key**



**Flathead  
Screwdriver**



**PTFE  
(Teflon™)  
Tape**

### **CAUTION**

Do not start pump dry! Running the pump dry for any length of time will cause severe damage and will void the warranty.

This pump is for use with permanently installed pools and may also be used with hot tubs and spas if so marked. Do not use with storable pools. A permanently installed pool is constructed in or on the ground or in a building such that

it cannot be readily disassembled for storage. A storable pool is constructed so that it may be readily disassembled for storage and reassembled to its original integrity.

Do not install within an outdoor enclosure or beneath the skirt of a hot tub or portable spa. The pump requires adequate ventilation to maintain air temperature at less than the maximum ambient temperature rating listed on the motor rating plate.

## SECTION 3. CONTENTS

Please ensure that you have all the parts included on this list for your replacement Kit. If any parts are missing or damaged please contact Polaris Technical support at 1-800-822-7933 or visit [www.polarispool.com](http://www.polarispool.com).

ITEM	Part#	Description	QTY
1	R0722900	Capacitor Housing Cover	1
		Hex Screw 6-32 X 1/2	4
		Screw Retention Washer	4
2	R0734500	Capacitor, 30 mfd, 400VAC	1
3	R0734200	Motor Assembly, 725 WATT	1
4	R0722600	Fan Cover	1
		Hex Screw 6-32 X 3/8	2
		Star Washer	1
		Motor Fan	1
		Snap Ring	1
		Bonding Lug	1
5	R0723000	Motor Fan	1
		Snap Ring	1
6	R0722700	Base	1
7	R0747800	Spring Drive Band	1
		Ceramic Mating Ring	1
8	R0723200	Spring Drive Band	1
		Ceramic Mating Ring	1
		Back Plate	1
		Pump Housing O-Ring	1
		Diffuser O-Ring First Stage (Orange)	1
9	R0734300	Spring Drive Band	1
		Ceramic Mating Ring	1
		Pump Housing O-Ring	1
		Diffuser O-Ring First Stage (Orange)	1
		Drain Plug & O-Ring #2-112	1
10	R0723100	Pump Housing	1
		Pump Housing O-Ring	1
		Diffuser O-Ring First Stage (Orange)	1
		Drain Plug & O-Ring #2-112	1
11	R0722800	Stackable Impeller/diffuser stage	4
12	R0734400	Motor Shaft Locking Nut	1
		Split Washer 316SS	1
		Impeller Nut Washer	1
		Hex Screw 3/8X16X1.125	4
		Washer 3/8" SS	4
13	R0617100	Quick Connect	4
		Reinforced Hose	6 ft.
14	R0621000	Quick Connect	4
15	P19	Reinforced Hose	6 ft.

## SECTION 4. CAPACITOR BOX KITS

### **⚠ WARNING**

To avoid the risk of property damage, severe personal injury, and/or death, always disconnect the power source before working on a motor or its connected load.

### **⚠ WARNING**

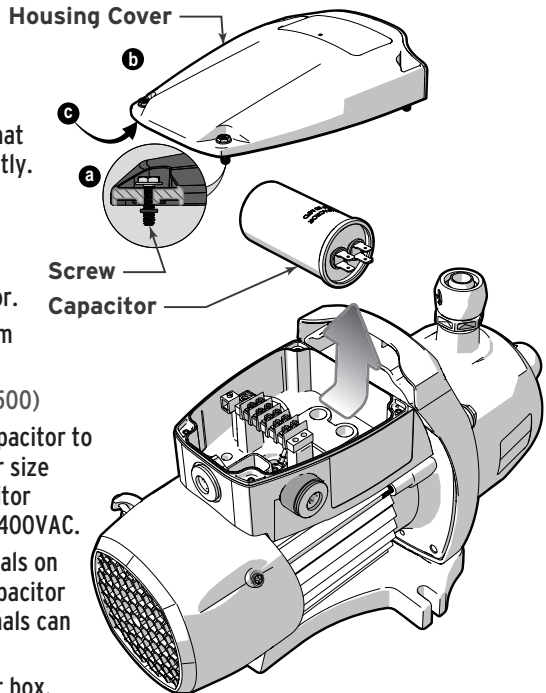
To avoid the risk of property damage, severe personal injury, and/or death, make sure that the control switch or time clock is installed in an accessible location so that in the event of

an equipment failure or a loose plumbing fitting the equipment not be in the same area as the pool pump, filter, and other equipment.

### **CAUTION**

The pump must be permanently connected to a dedicated electrical circuit. No other equipment, lights, appliances or outlets may be connected to the pump circuit, with the exception of devices that may be required to operate simultaneously with the pump, such as a chlorinating device or heater.

1. Remove the capacitor housing cover. (R0722900)
  - a** Loosen but do not remove the 4 screws securing the capacitor cover to the capacitor housing.
  - b** Lift and remove capacitor housing cover.
  - c** Check under capacitor housing cover to ensure that the seal is installed correctly.
2. Remove the capacitor. (R0734500)
  - Remove the 2 red flag terminals from the capacitor.
  - d** Pull the capacitor free from the capacitor box.
3. Install the capacitor. (R0734500)
  - Check rating on the new capacitor to confirm that it is the proper size for the PB4SQ motor capacitor should be rated at 30 mfd, 400VAC.
  - Install the 2 red flag terminals on the capacitor posts. The capacitor is non-polarized, the terminals can be installed on either post.
  - Set capacitor into capacitor box.
4. Install the capacitor box cover. (R0722900)
  - Check the new capacitor box cover for proper seating of the seal.
  - Install using the four screws included in the kit. Do Not Over Tighten.



## SECTION 5. MOTOR COMPONENTS

### **⚠ WARNING**

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### **⚠ WARNING**

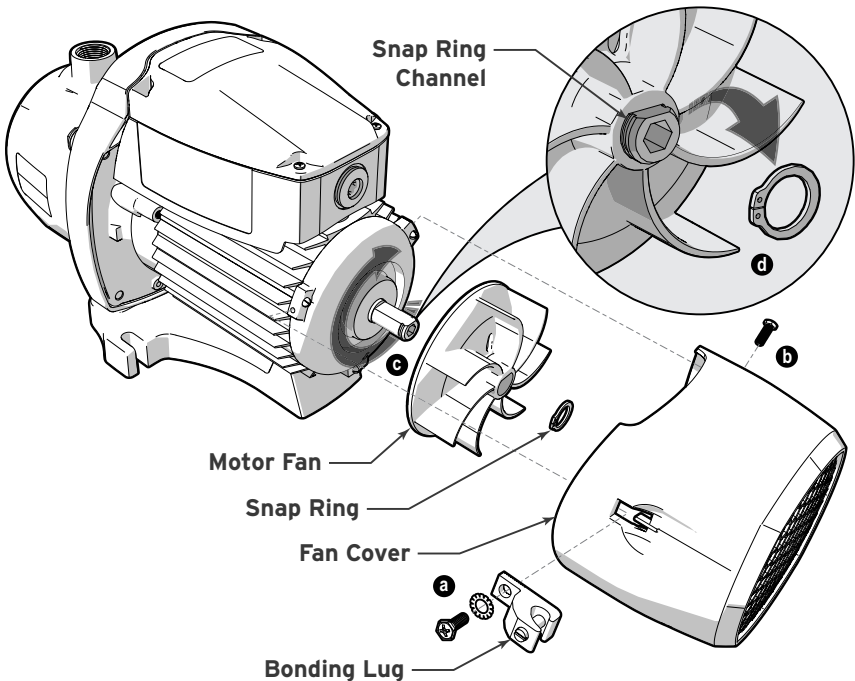
To avoid the risk of property damage, severe personal injury, and/or death, make sure that the control switch or time clock is installed in an accessible location so that in the event of

an equipment failure or a loose plumbing fitting the equipment not be in the same area as the pool pump, filter, and other equipment.

### **CAUTION**

The pump must be permanently connected to a dedicated electrical circuit. No other equipment, lights, appliances or outlets may be connected to the pump circuit, with the exception of devices that may be required to operate simultaneously with the pump, such as a chlorinating device or heater.

1. Remove the motor fan cover. (R0722600)
  - Disconnect the bonding wire from the bonding lug.
  - a** Remove the screw and star washer securing the bonding lug and fan cover to the motor body.
  - b** Remove the screw opposite the bonding lug securing the fan cover in place.
  - Fan cover should slide free
2. Remove the motor fan. (R0722600), (R0723000)
  - c** Use your hand to turn the fan and motor shaft. The motor shaft should spin freely with little resistance. If the motor shaft does not spin freely this may be a sign of an internal problem that must first be resolved before returning the pump to normal operation.





## SECTION 7. PUMP COMPONENTS

### **⚠ WARNING**

To avoid the risk of property damage, severe personal injury, and/or death, always disconnect the power source before working on a motor or its connected load.

### **⚠ WARNING**

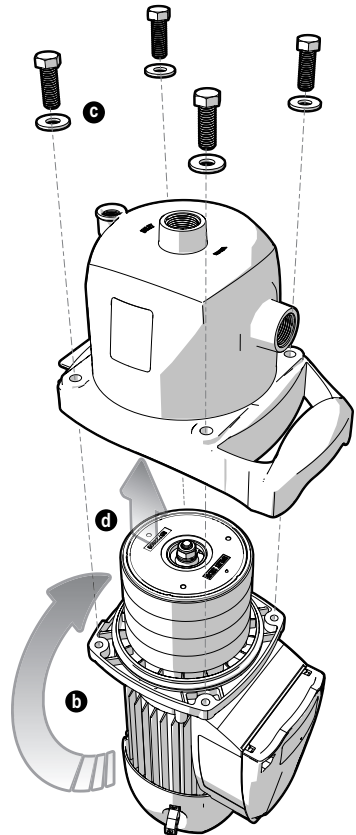
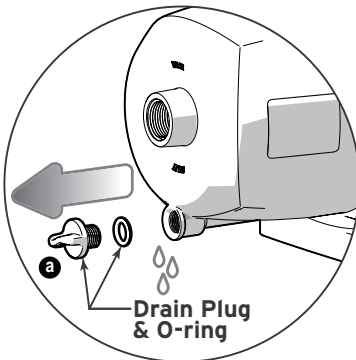
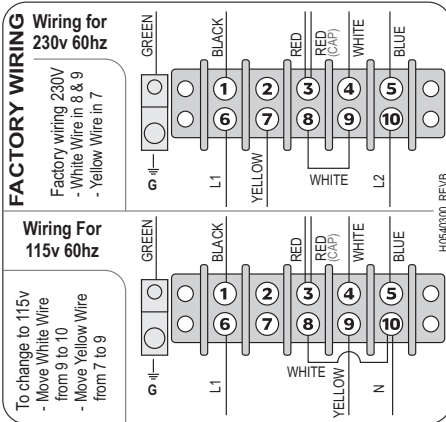
To avoid the risk of property damage, severe personal injury, and/or death, make sure that the control switch or time clock is installed in an accessible location so that in the event of

an equipment failure or a loose plumbing fitting the equipment not be in the same area as the pool pump, filter, and other equipment.

### **CAUTION**

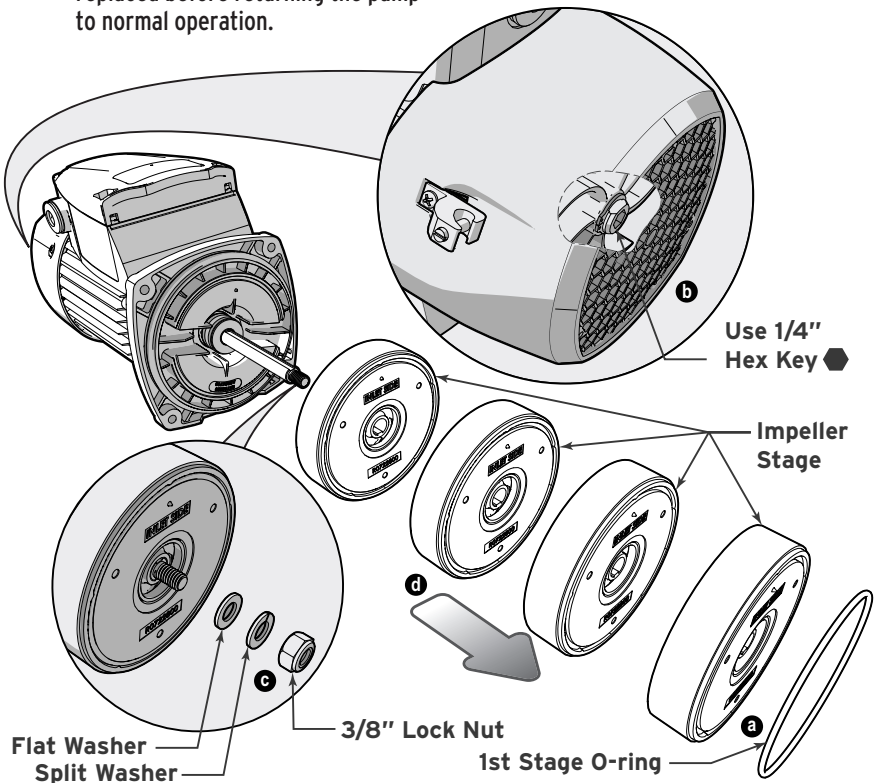
The pump must be permanently connected to a dedicated electrical circuit. No other equipment, lights, appliances or outlets may be connected to the pump circuit, with the exception of devices that may be required to operate simultaneously with the pump, such as a chlorinating device or heater.

- Disconnect electrical power to the pump at the breakers.
  - Allow 5 minutes for the capacitor to discharge before servicing.
  - Remove the capacitor housing cover by following steps 1-4 in section 3. (R0722900)
  - Disconnect the high voltage wiring as illustrated in the wiring diagram.
1. Remove the drain plug. (R0723100) (R0734300)
    - a Loosen and remove the drain plug and drain plug O-ring

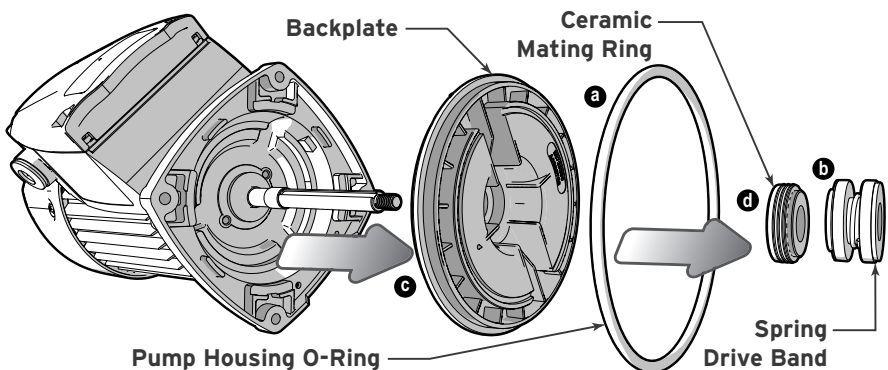




- Allow all water to drain from the pump in a suitable location before proceeding.  
NOTE: A small amount of water may remain captured inside the impeller stack.
2. Remove the pump wet end. (R0723100), (R0734400)
    - b** If possible set the pump vertically on an appropriate work surface.
    - c** Using a 9/16" socket or wrench remove the 4 retaining screws and washers securing the pump housing to the pump motor body.
    - d** Pull the pump housing away from the motor body.
  3. Remove the impeller stack. (R0722800), (R0734400)
    - a** Remove and inspect the orange first stage diffuser O-ring. Damaged or degraded O-rings must be replaced before returning the pump to normal operation.
    - b** Insert a standard 1/4" hex key (Allen Wrench) into the motor shaft through the center of the fan cover mesh. The hex key will be used to hold the motor shaft in place while removing the motor shaft locking nut.
    - c** While holding the motor shaft, use an 11/16" socket or wrench remove the 3/8" motor shaft locking nut (right handed thread) along with the split washer and flat washer.
    - d** Pull each of the four impeller stages off the central motor shaft. Inspect each impeller stage for corrosion and debris and clean where applicable. If any of the impeller stages show signs of wear or damage the stage needs to be replaced before returning the pump to normal operation.



4. Remove pump housing O-ring. (R0723100), (R0734300)
  - a Remove and inspect the pump housing O-ring from the back plate.
    - Damaged or worn O-Rings need to be replaced before returning the pump to normal operation.
5. Remove the backplate and the mechanical seal. (R0723200), (R0734300), (R0747800)
  - b Using fingers pull the spring drive band free from the motor shaft.
    - Use extreme caution when removing the spring drive band. Do not touch the graphite sealing surface with your hands.
    - Place the spring drive band in a safe place with the sealing side facing up.
  - c Pull the backplate free from the motor body. The ceramic mating ring should be seated in the backplate.
    - d Using fingers or a blunt tool push the ceramic mating ring out of the backplate.
6. Replace the motor assembly. (R0734200)
  - If replacing the motor assembly please be sure to follow all reassembly steps 9-11. If any parts do not appear to be in optimal condition it is advised that these parts be replaced before returning the pump to normal operation.
  - Ensure that the electrical power to the pump is disconnected at the breaker.
  - Allow 5 minutes for the capacitor to discharge before servicing.
  - Remove the capacitor housing cover. Follow step 1 a-c in section Section 4. (R0722900)
  - Connect the high voltage wiring as illustrated in the wiring diagram in section Section 7 on page 8.
7. Install new mechanical seal (R0723200), (R0734300), (R0747800)
  - **DO NOT REUSE ORIGINAL MECHANICAL SEAL**
  - Using a lint free cloth, ensure that the ceramic mating ring is free of dust and debris.
  - Seat ceramic mating ring firmly into backplate. Use clean water to assist installation. DO NOT use any lubricants to install the ceramic mating ring.
  - Slide the backplate and seal onto the motor shaft.
  - Slide spring drive band into position behind the mechanical seal. Use clean water to assist installation. DO NOT use any lubricants to install the drive band.



8. Install impeller/diffuser stage stack. (R0722800), (R0734400)
  - Inspect each stage for degradation or damage. Replace any that are not in optimal condition.
  - The first stage O-ring can be installed on any impeller/diffuser stage. However, care must be taken to ensure that the O-ring is installed on the stage closest to the inlet of the pump. It should be visible before assembling the pump housing.
  - Insert a standard 1/4" hex key (Allen Wrench) into the motor shaft through the center of the fan cover mesh. The hex key will be used to hold the motor shaft in place while securing the motor shaft locking nut.
  - Install the flat washer and split washer onto motor shaft.
  - Secure by using a 11/16" socket or wrench to tighten the locking nut.
9. Install the pump housing O-ring. (R0723100), (R0734300)
  - Inspect the new O-ring for damage. Damaged or worn O-Rings need to be replaced before returning the pump to normal operation.
  - Install O-ring on the backplate and ensure a proper seat at the backplate flange.
  - Use a small amount of silicon o-ring lubricant to assist the installation of the pump housing O-ring. Do NOT use any petroleum based lubricants on o-rings.
10. Install the pump wet end. (R0722900), (R0734400)
  - Set the pump housing onto the motor body.
  - Using a 9/16" socket or wrench secure the pump housing to the pump motor body by using the 4 retaining bolts and washers.
11. Install the drain plug. (R0723100) (R0734300)
  - Install the drain plug and drain plug O-ring, hand tight Do Not Overtighten.

## SECTION 8. PLUMBING CONNECTIONS

### WARNING

To avoid the risk of property damage, severe personal injury, and/or death, always disconnect the power source before working on a motor or its connected load.

### WARNING

To avoid the risk of property damage, severe personal injury, and/or death, make sure that the control switch or time clock is installed in an accessible location so that in the event of

an equipment failure or a loose plumbing fitting the equipment not be in the same area as the pool pump, filter, and other equipment.

### CAUTION

The pump must be permanently connected to a dedicated electrical circuit. No other equipment, lights, appliances or outlets may be connected to the pump circuit, with the exception of devices that may be required to operate simultaneously with the pump, such as a chlorinating device or heater.

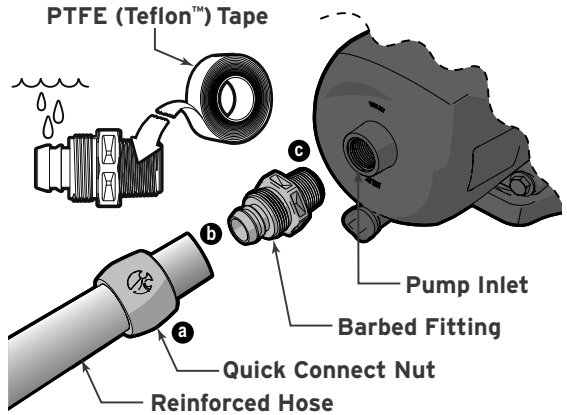
### WARNING

Pipe dope should NEVER be used on barb threads. Pipe dope will severely weaken the plastic, causing leakage and may cause the plastic to fracture. DO NOT OVERTIGHTEN.

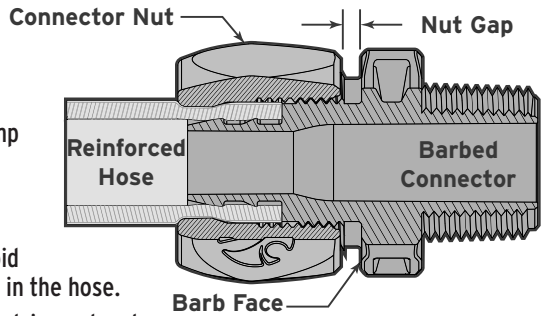
1. Remove quick connect fittings and flexible hose. (R0617100), (R0621000), (P19)
  - a Loosen quick Connector nut.
  - b Pull hose free from barbed fitting.
  - c Loosen barbed fitting and remove from the inlet or outlet port of the pump.

2. Install quick connect fittings and flexible hose. (R0617100), (R0621000), (P19)

- Apply four (4) to six (6) wraps of PTFE (Teflon®) tape to the tapered thread of the connector barb. Be sure to wrap the tape around the threads in the OPPOSITE direction that the connector will be rotating during installation. This will ensure a proper water tight seal.



- Thread and tighten the tapered thread of the connector barb into the pump port on the pump body.
- Trim reinforced hose to required length. Make sure cut is clean and square. Avoid unnecessary loops or bends in the hose.



- Slide connector nut onto the trimmed end of the hose with threaded end toward the cut end of the hose.
- Apply water to connector barb to help hose slide over barbs. Push trimmed edge of hose fully onto the connector barb.
- Slide/Rotate the connector nut to the barb to engage threads correctly, do not cross thread connector nut. Tighten the connector nut until threads are no longer visible (gap about 1/8" or just less than the width of two dimes), or until it touches the barb face.

### Zodiac Pool Systems, Inc.

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Oakville, ON L6L 5W2  
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