

## INSTALLATION AND SERVICE MANUAL

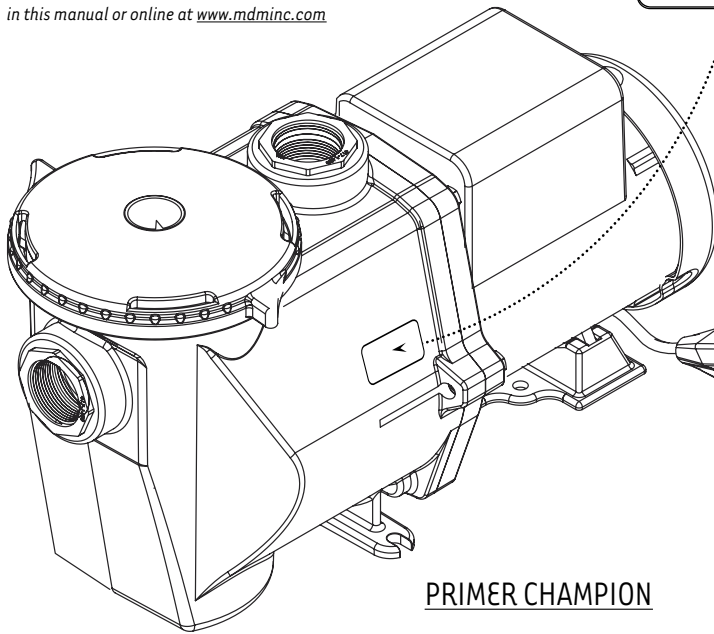
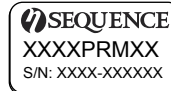
Please fill in for future reference:

MODEL: \_\_\_\_\_

SERIAL NUMBER: \_\_\_\_\_

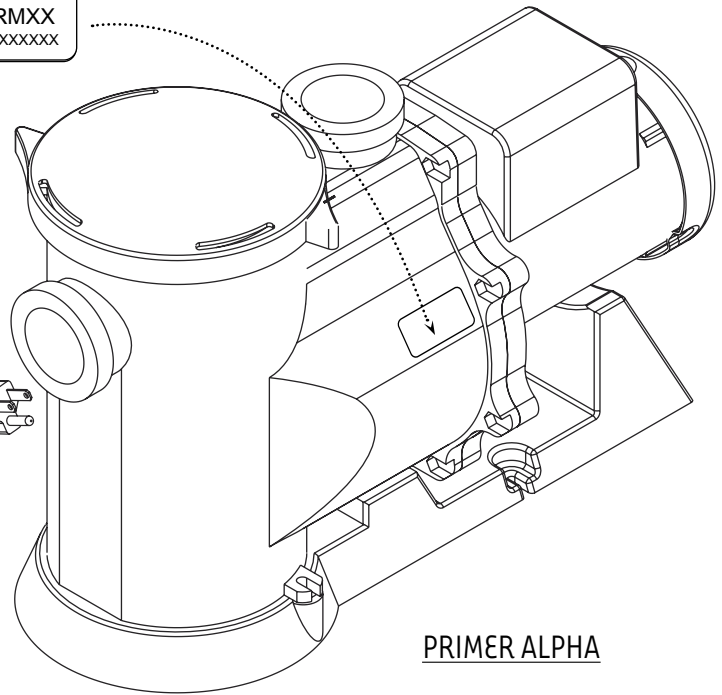
DATE PURCHASED: \_\_\_\_\_

\* Please fill out the warranty registration card in this manual or online at [www.mdminc.com](http://www.mdminc.com)



**PRIMER CHAMPION**

**TYPE:** SELF PRIMING CENTRIFUGAL  
**MOTOR:** NEMA 56Y  
**HORSEPOWER:** 1/3, 1/2 (1750 RPM) 2 (3450 RPM)  
**PRIMER ALPHA:** 2" FNPT INLET AND DISCHARGE WITH 2" & 2 1/2" SLIP ADAPTERS  
**PRIMER CHAMPION:** 2" FNPT INLET AND DISCHARGE WITH 2" SLIP ADAPTERS



**PRIMER ALPHA**

**MATERIAL:** GLASS-FILLED POLYPROPYLENE  
**HARDWARE:** STAINLESS STEEL HARDWARE  
**OPTIONS:** SALTWATER SERVICE  
**ACCESSORIES:** SWING CHECK VALVES (1.5", 2", 3")

	PRIMER CHAMPION			PRIMER ALPHA		PRIMER POWER		
Model	3700PRM21	4900PRM21	6600PRM24	6800PRM19	7800PRM24	6300PRM77	8100PRM81	9300PRM83
INLET	2"	2"	2"	2"	2"	2"	2"	2"
DISCHARGE	2"	2"	2"	2"	2"	2"	2"	2"
MAX FLOW (gph)	3700	4900	6600	6800	7800	6300	8100	9300
MAX HEAD (feet)	21'	21'	24'	19'	24'	77'	81'	83"
MAX POWER (watts)	228	310	457	369	504	1496	1807	2222
MAX CURRENT (amps)	2.76 @115V	3.37 @115V	4.61 @115V	3.93 @115V	5.02 @115V	8.7 @ 230	9.8 @ 230	11.4 @ 230
VOLTS	115/230	115/230	115/230	115/230	115/230	230 /115	230 /115	230 /115
MOTOR HP	1/2, 1/3	1/2, 1/3	1/2, 1/3	1/2, 1/3	1/2, 1/3	2	2	2
MOTOR TYPE	56Y	56Y	56Y	56Y	56Y	56Y	56Y	56Y
MOTOR ENCLOSURE	TEFC	TEFC	TEFC	TEFC	TEFC	ODP	ODP	ODP

**WARNING:** Please read completely before you install or operate your new pump! This is an external "out-of-pond" pump! It is NOT submersible! Do NOT allow this pump to become submerged! Never run dry!



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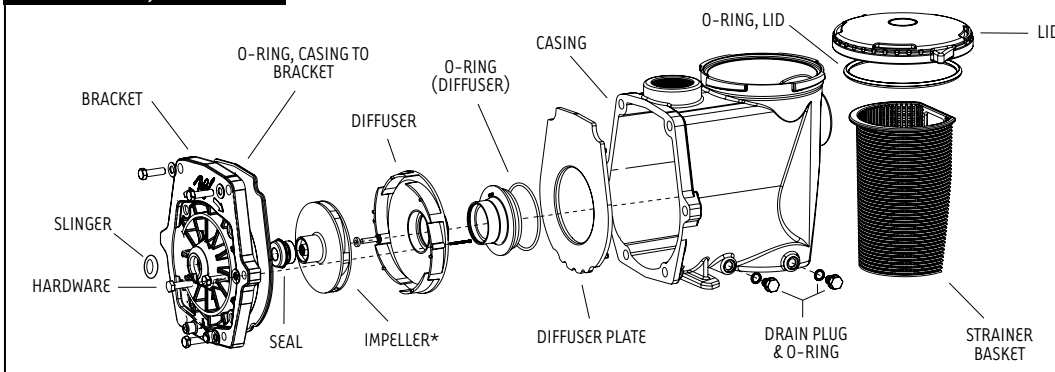
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# SEQUENCE<sup>®</sup> PRIMER

## PUMP END ASSEMBLY

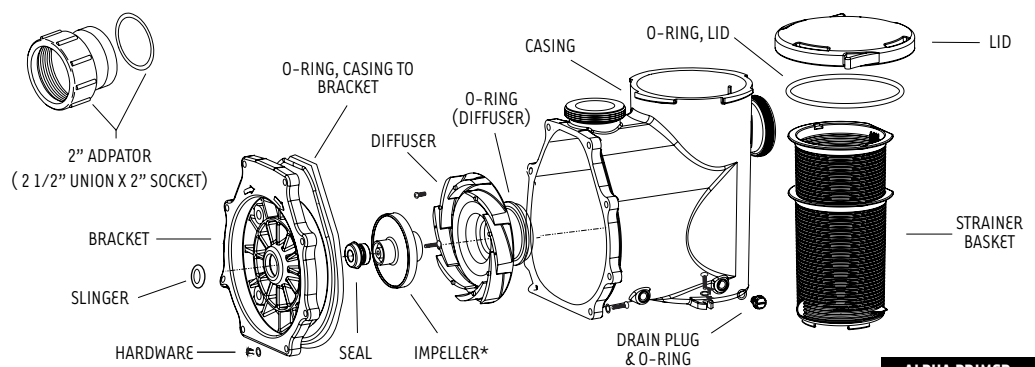
1. Clean and inspect all pump parts (O-ring, seal seats, motor shaft, etc.).
2. If replacing the seal, apply sealant in bracket bore hole and around seal case according to sealant instructions. We recommend using Gasgacinch<sup>®</sup>. Silicone sealant can also be used.
3. Press seal into bracket while taking care not to damage seal face.
4. Place slinger (rubber washer) over motor shaft and mount bracket to motor.
5. If replacing the seal, carefully lubricate the boot around ceramic piece and press it into the impeller hub making certain that the ceramic is in evenly- the sealing surface should be parallel with the impeller hub.
6. Apply CLEAN water to the carbon-graphite and seal seat sealing surfaces. Do not use silicon lubricants or grease!
7. Mount bracket to motor face.
8. Thread impeller onto shaft and install o-ring and screw! If required, remove motor end-cap and use a screwdriver on the back of motor shaft to prevent shaft rotation while tightening. Replace motor end cap.
9. Place diffuser over impeller and tighten allen bolts used to hold diffuser in place. Note: Be sure diffuser is in an upright position. (The word "top" appears on the diffuser as an indicator).
10. Seat O-ring on diffuser. Assemble diffuser to bracket with 2 allen screws.
11. Seat O-ring in bracket slot and assemble casing to bracket.
12. Install drain plugs with its O-rings in casing drain holes.

### CHAMPION PRIMER, POWER PRIMER



DESCRIPTION	P/N
SEAL	1000.0414
IMPELLER *DEPENDS ON MODEL	CONSULT FACTORY
O-RING, CASING TO BRACKET	8000.061
CASING	8000.070
DRAIN PLUG	1000.110
O-RING, DRAIN PLUG	805-0112
DIFFUSER	8000.120
O-RING, DIFFUSER	8000.121
LID	1000.771-L
HARDWARE KIT	8000.502
SLINGER	1000.010V
BRACKET	8000.030
O-RING, LID	1000.771-O
STRAINER BASKET	8000.778
DIFFUSER PLATE	8000.141
ADAPTER, UNION X 2" SLIP	400-5081-2B

DESCRIPTION	P/N
SEAL	1000.0414
IMPELLER *DEPENDS ON MODEL	CONSULT FACTORY
O-RING, CASING TO BRACKET	9000.061
CASING	9000.070
DRAIN PLUG	1000.110
O-RING, DRAIN PLUG	805-0112
DIFFUSER	9000.120
O-RING, DIFFUSER	9000.121
LID	9000.779
HARDWARE KIT	9000.502
SLINGER	1000.010V
BRACKET	9000.030
O-RING, LID	9000.777
STRAINER BASKET	9000.778
2" ADAPTOR (2 1/2" UNION X 2" SOCKET)	9000.070-2



### ALPHA PRIMER

## DISASSEMBLY

1. Shut off power to motor before disconnecting any electrical wiring.
2. Close all necessary valves on inlet and discharge lines and drain the pump by removing both drain plugs. The water will drain faster if you loosen the lid.
3. Disassemble bracket-motor assembly from casing by removing the nuts and bolts. (The casing may be left in-line)
4. Unscrew the two allen bolts and remove diffuser. Diffuser may need to be pried off with a flathead screwdriver.
5. Remove screw and O-ring from front side of impeller. Screw is a left-handed thread and loosens in a clockwise direction.
6. Remove cap covering shaft at back of motor. Unscrew the impeller by twisting counter clockwise while holding the shaft with a large screwdriver to prevent shaft rotation.
7. Remove ceramic piece from impeller (if replacing the seal).
8. Detach bracket from motor.
9. Remove seal from bracket by pressing out from the back (if replacing the seal). Do not dig out from the front!



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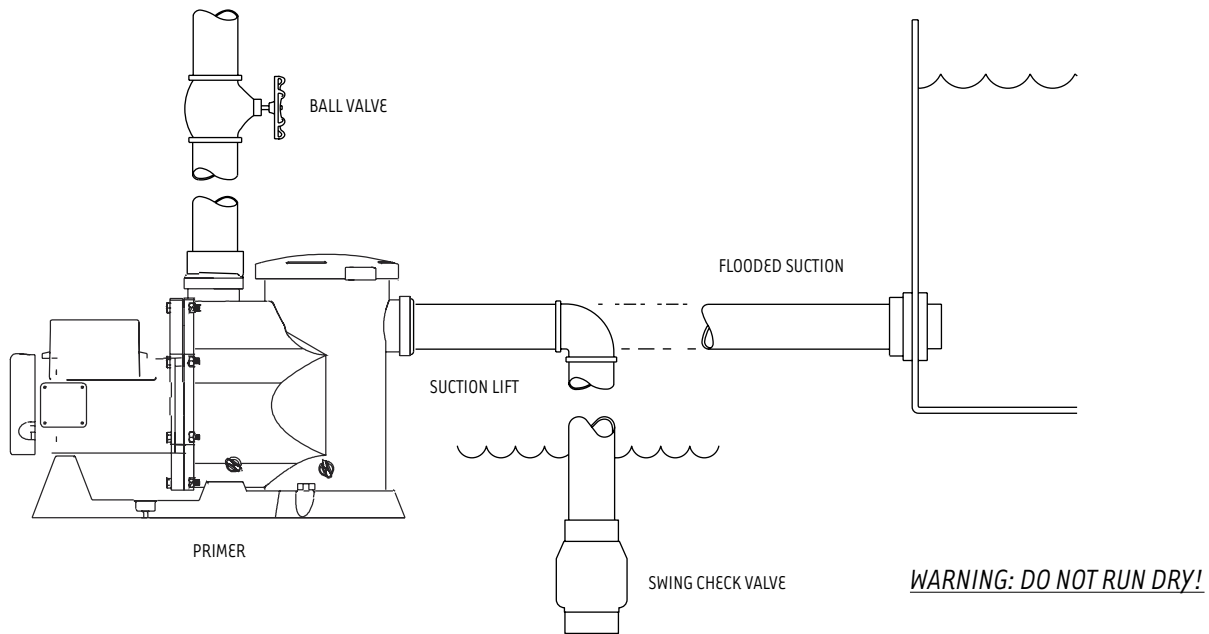
# SEQUENCE® PRIMER

We congratulate you on your choice of the Sequence® Primer Pump! It has been carefully designed using the advantages of today's technology and carefully constructed to give you the dependability of yesterday. To insure proper performance, we urge you to carefully follow the instructions in this manual. If you have any questions, call your nearest distributor or M.D.M. for assistance.

## INSTALLATION

**Please read carefully! When properly installed the Sequence® Primer will provide dependable trouble-free service.**

1. Locate pump as near the source to be pumped as possible. A flooded suction situation is preferred. This pump is self-priming, however, there must be fluid in the pump for it to function properly. A check valve is recommended for non-flooded suction. (Figure 2)
2. Mount motor base to a secure, immobile foundation.
3. Use only plastic fittings on both the intake and discharge ports. Seal pipe connections with Teflon™ paste. These fittings should be self-supported and in neutral alignment with each port. (i.e. Fittings must not be forced into alignment which may cause premature line failure or damage to the pump volute.)
4. Never restrict the intake. Keep both input and discharge lines as free of elbows and valves as possible. Always use pipe of adequate diameter. This will reduce friction losses and maximize output.
5. This pump must not be run dry! We recommend a flooded suction installation. Please read carefully! When properly installed, the Sequence® pump will provide dependable, trouble-free service.
6. Before starting pump, the priming pot must be filled with water.
7. For additional plumbing tips, review MDM's website: [www.mdminc.com](http://www.mdminc.com) for pond plumbing and pump installation hints.



**WARNING: ALWAYS SHUT OFF ELECTRICAL POWER BEFORE INSTALLATION AND / OR SERVICING THIS PUMP! ALL ELECTRICAL WIRING SHOULD MEET STATE AND LOCAL ORDINANCES. IMPROPER WIRING MAY NOT ONLY BE A SAFETY HAZARD BUT MAY PERMANENTLY DAMAGE THE MOTOR AND/OR PUMP!**

## ELECTRICAL HOOK-UP

1. Check that supply voltages match the motor's requirements.
2. Check motor wiring and connect, according to instructions on motor, to match supply voltage.
3. Power cord should be protected by conduit or by cable and be of proper gauge. It should be no longer than necessary.
4. Power should be drawn directly from a box with circuit breaker protection or with a fused disconnect switch.



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# **SEQUENCE® PRIMER**

## MAINTENANCE

### Lubrication

Motor – Permanently Lubricated ball bearings – no service required.

Rotary Seal – Requires no lubrication after assembly.

*\*The pump must be drained before servicing or if stored below freezing temperatures. Periodic replacement of seals may be required due to normal carbon wear.*

Symptom	Problem	Resolution
No Flow	Insufficient Prime	Prime system with water and purge all air from suction piping.
		Install check valve.
	Insufficient Power	Verify power supply and connection from panel to pump.
		Verify proper voltage. Some models are dual voltage (115/230).
	Flow Restriction	Ensure valves are open.
		Ensure plumbing is clear, including suction strainers, check valves, etc.
		Verify check valve orientation and direction of permitted flow.
Low Flow	Insufficient Prime	Clean out leaves or other debris from basket strainer (if applicable).
		Prime system with water and purge all air from suction piping. The primer series pumps use low RPM motors and achieving full system prime could take multiple hours. <i>*This resolution pertains only to the Primer Champion and the Primer Alpha models.</i>
	Air leak	Fix air leaks at fittings, connections, priming pot lid, etc. This typically occurs on the intake side. The priming pot lid o-ring can be lubricated with silicone grease.
	System Incompatibility	Verify hydraulic compatibility: i.e. pump & pipe are sized for the system.
	Air leak	Fix air leaks at fittings, connections, priming pot lid, etc. This typically occurs on the intake side. The priming pot lid o-ring can be lubricated with silicone grease.
		Verify hydraulic compatibility: i.e. pump & pipe are sized for the system.
	Insufficient Power	Verify power supply and connection from panel to pump.
		Verify proper voltage. Some models are dual voltage (115/230).
	Flow Restriction	Ensure valves are open.
		Ensure plumbing is clear, including suction strainers, check valves, etc.
Sporadic Operation	Insufficient Power	Clean out leaves or other debris from basket strainer (if applicable).
		Prime system with water and purge all air from suction piping.
	Poor Ventilation	Verify airtight plumbing on the suction plumbing especially fittings!
Excessive Noise	Cavitation	Clean out leaves or other debris from basket strainer (if applicable).
		Increase pipe size where possible.
		Decrease suction pipe length, reduce the number of elbows, etc.
		Verify hydraulic compatibility: i.e. pump and pipe are sized for the system.
	Insufficient Power	Verify power supply and connection from panel to pump.
		Verify proper voltage. Some models are dual voltage (115/230).
	Flow Restriction	Ensure valves are open.
		Ensure plumbing is clear, including suction strainers, check valves, etc.
	Flow Restriction	Verify check valve orientation and direction of permitted flow.



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