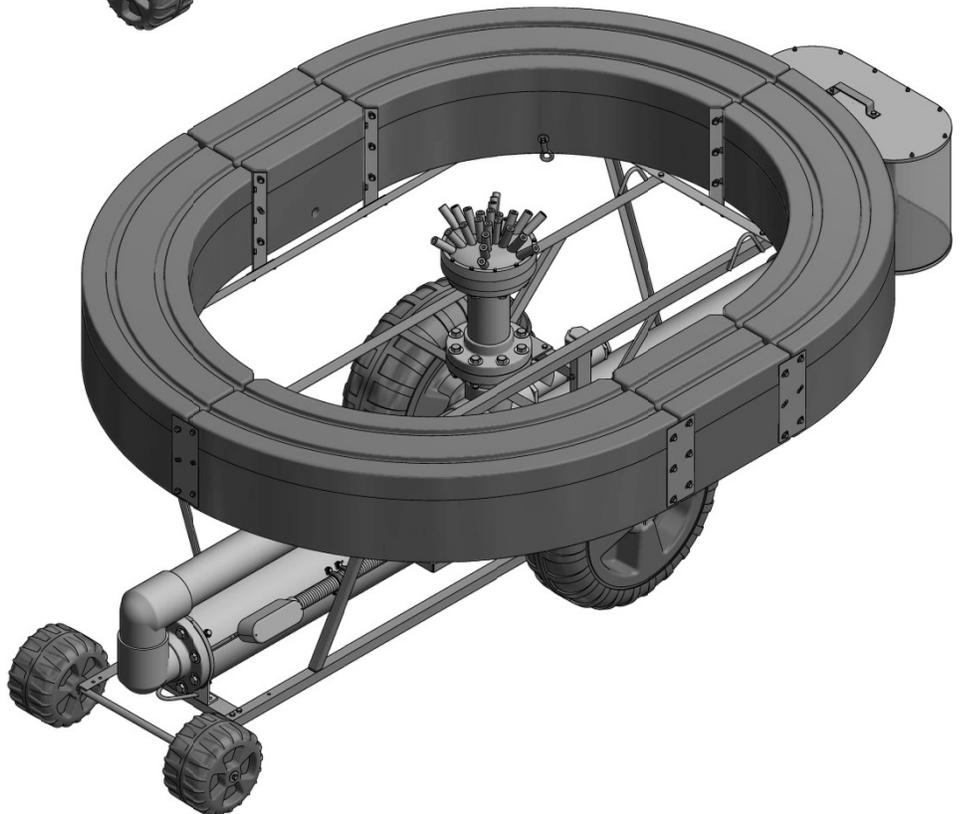
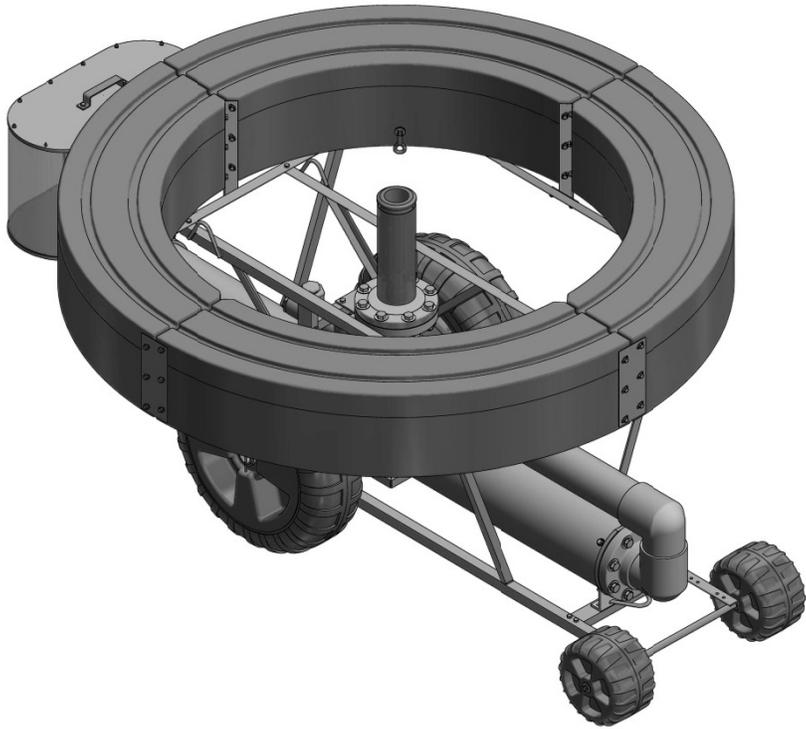




# Otterbine Barebo Inc. Giant Fountain 60Hz Installation Manual



## SAFETY INSTRUCTIONS

 <b>WARNING</b>	
	PLEASE READ THIS MANUAL COMPLETELY BEFORE INSTALLING AND USING THIS PRODUCT. SAVE THIS MANUAL FOR FUTURE REFERENCE AND KEEP IN THE VICINITY OF THE PRODUCT.

**ALL ELECTRICAL WORK MUST BE PERFORMED BY A QUALIFIED LICENSED ELECTRICIAN AND CONFORM WITH ALL APPLICABLE ELECTRICAL SAFETY CODES**

Tous travaux électriques doivent être effectués par un électricien professionnel qualifié et conforme à tous les codes applicables sécurité électrique

**ALWAYS SWITCH OFF/DISCONNECT ALL EQUIPMENT IN THE WATER BEFORE SERVICING OR PERFORMING ANY MAINTENANCE**

Toujours éteindre l'équipement dans l'eau avant entretien ou de tout entretien

**DO NOT OPERATE THE FOUNTAIN WHEN PEOPLE ARE IN THE WATER**

Ne pas utiliser la fontaine quand les gens sont dans l'eau

**CAUTION: KEEP HANDS CLEAR OF THE IMPELLER WHEN OPERATING!**

ATTENTION: Garder les mains loin du turbine lors de l'utilisation!

 <b>WARNING</b> 	
	
<b>ELECTRICAL SHOCK HAZARD</b> Disconnect From Electrical Supply When Servicing This Equipment  Unplug Or Switch Off All Appliances In The Water Before Carrying Out Maintenance  This Product Must Be Properly Grounded	

<b>DANGER</b>	
STAY OUT OF WATER WHEN EQUIPMENT IS ENERGIZED	
	
	<b>WARNING</b> HAZARDOUS VOLTAGE. Contact may cause electric shock or burn. Turn off and lock out power before servicing.

<b>DANGER</b>	
<b>SPINNING IMPELLER</b> TURBINE ROTATIVE	
	
<b>KEEP HANDS CLEAR</b> TENIR LES MAINS ÉLOIGNÉE	

### WARNINGS

- Before entering, wading in or swimming in the water in which Otterbine Aerators or Fountains are installed, make sure they are PHYSICALLY disconnected from their electrical power sources.
- Aerators located in or near garden ponds and similar locations must be equipped with Ground Fault Circuit Interrupter.
- The permissible temperature range for this equipment is -12° to 40° C/10° to 104° F.
- If the power cord is damaged, it must be replaced by a special cord or assembly available from Otterbine Barebo, Inc. or an authorized Otterbine Barebo, Inc. sales and service center.
- Avant d'entrer, pataugeant dans ou en nageant dans l'eau dans laquelle Aérateurs Otterbine ou fontaines sont installées, assurez-vous qu'ils sont physiquement déconnectés de leur source d'alimentation électrique.
- Aérateurs situés dans ou à proximité des bassins de jardin et des emplacements similaires doivent être équipés de disjoncteur.
- La plage de température admissible pour cet appareil est -12 o à 40 oC/10 o à 104 oF aux.
- Si le cordon d'alimentation est endommagé, il doit être remplacé par un cordon spécial ou de montage disponible à partir Otterbine / Barebo, Inc ou une autorisation Otterbine / Barebo, les ventes Inc et centre de service.

## INSPECT EQUIPMENT

Immediately report any shipping damage to the carrier that delivered your unit.

Inspect your equipment and verify the following:

**Unit** - Check the nameplate located on the housing of the unit to make sure you have received the correct horsepower and voltage unit.

**Power Control Center** - Verify the PCC is compatible with the unit horsepower and voltage. Refer to the electrical specifications on the nameplate located inside on the door of the PCC.

**Power Cable Assembly** - Verify the correct cable gauge and length.

**For proper warranty consideration return your Otterbine warranty registration card.**

## ELECTRICAL/PCC INSTALLATION

**ELECTRICAL INSTALLATION MUST BE PERFORMED BY A QUALIFIED LICENSED ELECTRICIAN AND CONFORM TO ALL APPLICABLE LOCAL AND NATIONAL CODES**

**DISCONNECT EQUIPMENT FROM ELECTRICAL SUPPLY BEFORE SERVICING OR PERFORMING MAINTENANCE**

**Use Only OTTERBINE power cord. Do not splice or repair the cord, replacement is necessary if damage occurs.**

The standard Power Control Center includes a fiberglass NEMA 4X or 3R enclosure with twenty-four hour timer control in the auto setting or manual control of the unit, the required motor short circuit, ground fault and overcurrent protection, surge protection, and personnel GFCI protection. (Except 460V and above 60Hz. applications, on these units EPD (Equipment Protection Device) is an optional accessory to provide 5, 10 or 30 mA ground fault protection)

**Caution: GFCI Protection is required. If GFCI protection is not used, serious or FATAL electrical shock may occur.**

**Attention: GFCI/RCD de protection est nécessaire. Graves ou mortelles choc électrique peut se produire s'il n'est pas utilisé.**

### **A. Feeder**

1. Proper feeder circuit protection in accordance with all applicable local and national codes **must** be provided to the power control center.
2. Be certain to properly size feeder conductors to allow for no more than 5% voltage drop for the entire circuit from the feeder source to the unit. Failure to do so may damage the unit and void product warranty.

<b>60Hz. Electrical Specifications</b>			
<b>HP</b>	<b>Volts</b>	<b>Phase</b>	<b>Full Load Amps</b>
10	230	1	47
10	230	3	30
10	380	3	19
10	460	3	15
10	575	3	12.9
15	230	1	67
15	230	3	44
15	380	3	28
15	460	3	22
15	575	3	16.7
25	230	3	70
25	380	3	45
25	460	3	35
25	575	3	26.8

### **B. PCC Location**

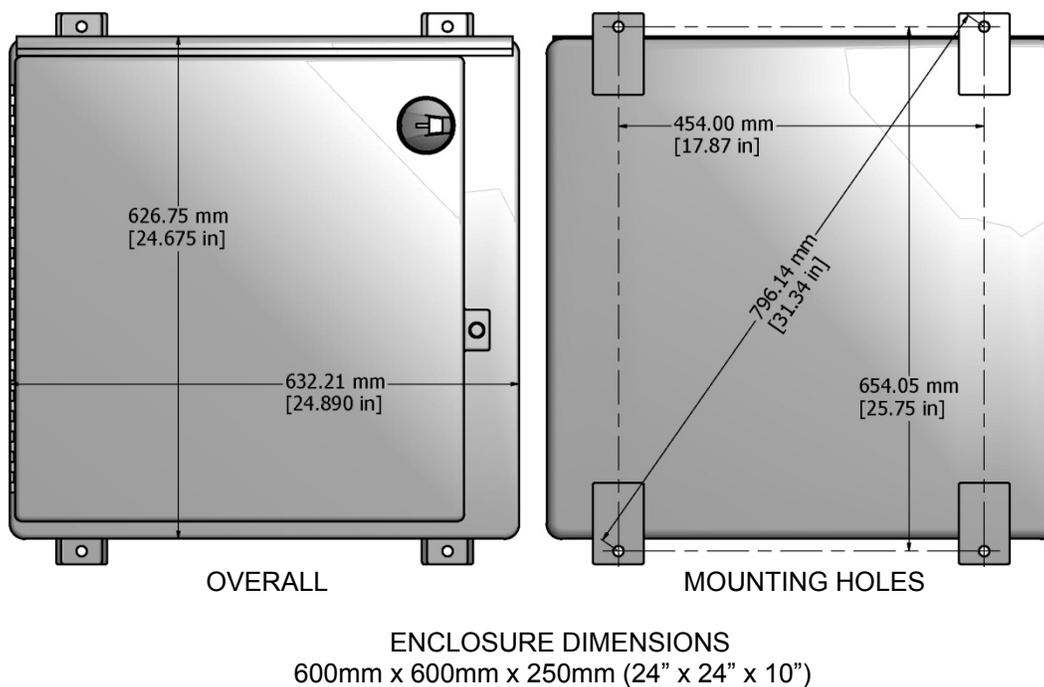
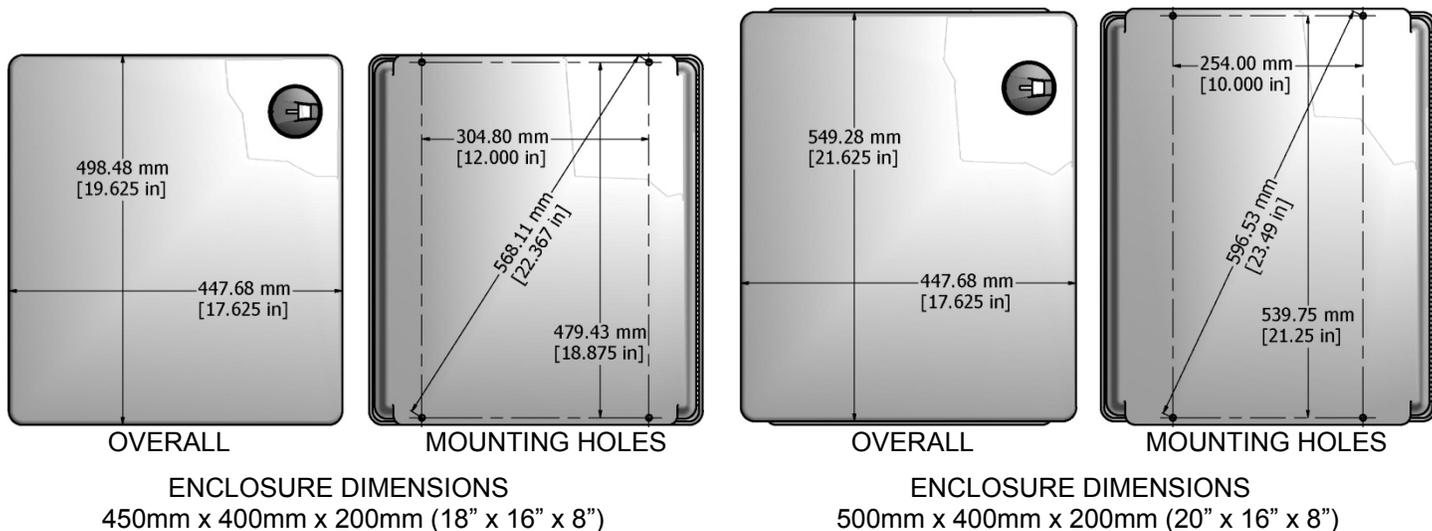
1. The power control center shall be mounted where easily visible from the shoreline where the unit is located.

**Important:** The power control center **shall not** be accessible from the water.

**Important:** Le Centre de Contrôle de la puissance ne doit pas être accessible à partir de l'eau

### C. PCC Mounting

1. To prevent damage to the enclosure mount the enclosure using all four (4) mounting holes.
2. Whenever possible do not mount the PCC in direct sun light.



### D. PCC Cables & Connections

1. Only Otterbine Barebo, Inc. factory approved power cord is to be used from the PCC to the unit with no junction boxes or splices. **Only** use power cord gauges and lengths specified by Otterbine at the time of cable purchase. (Contact your Otterbine Distributor for proper cable sizing)
2. It is recommended that all exposed cable between the PCC and the shoreline be installed in non-metallic conduit. It is **important** the unit and lighting cables be installed in individual conduits to avoid induced interference between cables which causes random GFCI tripping.
3. **Always** use strain relief cord connectors to attach the Otterbine cable to the PCC.
4. Cables and conduits must only enter into the bottom of the PCC.
5. Factory connections may loosen during shipping. Verify tightness of all screw terminal connections before energizing.
6. Power input and output wiring connections are accessed from the bottom of the enclosure.

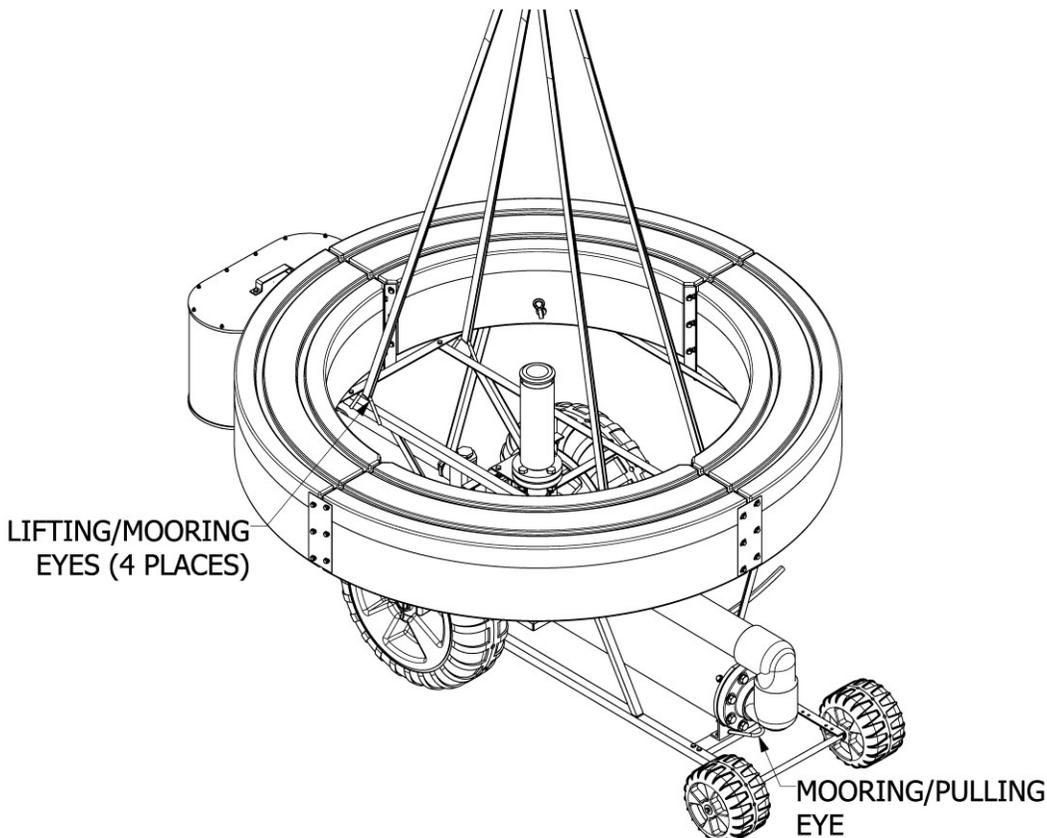
Terminal Torque Values: **Input & Output** – 5 N-m (45 in./lb.) Maximum

**!Warning! To Prevent Damage**

**DAMAGE CAUSED DUE TO FREEZING WILL NOT BE ELIGIBLE FOR WARRANTY CONSIDERATION**

- **Never** operate the Giant Fountain when not submersed
- Remove the unit from the water when temperatures are expected below 0°C (32°F)
- Always store the unit at temperatures above 0°C (32°F)
- Operating Depth of the Giant Fountain is 1m (40in.)
- Remove and clean intake screen as necessary
- Inspect and clean the pattern head and nozzle components as required
- As a minimum annually clean and inspect the unit and cables for physical damage

**LIFTING**  
**WARNING! ONLY**  
**LIFT THE UNIT USING**  
**THE LIFTING EYES**

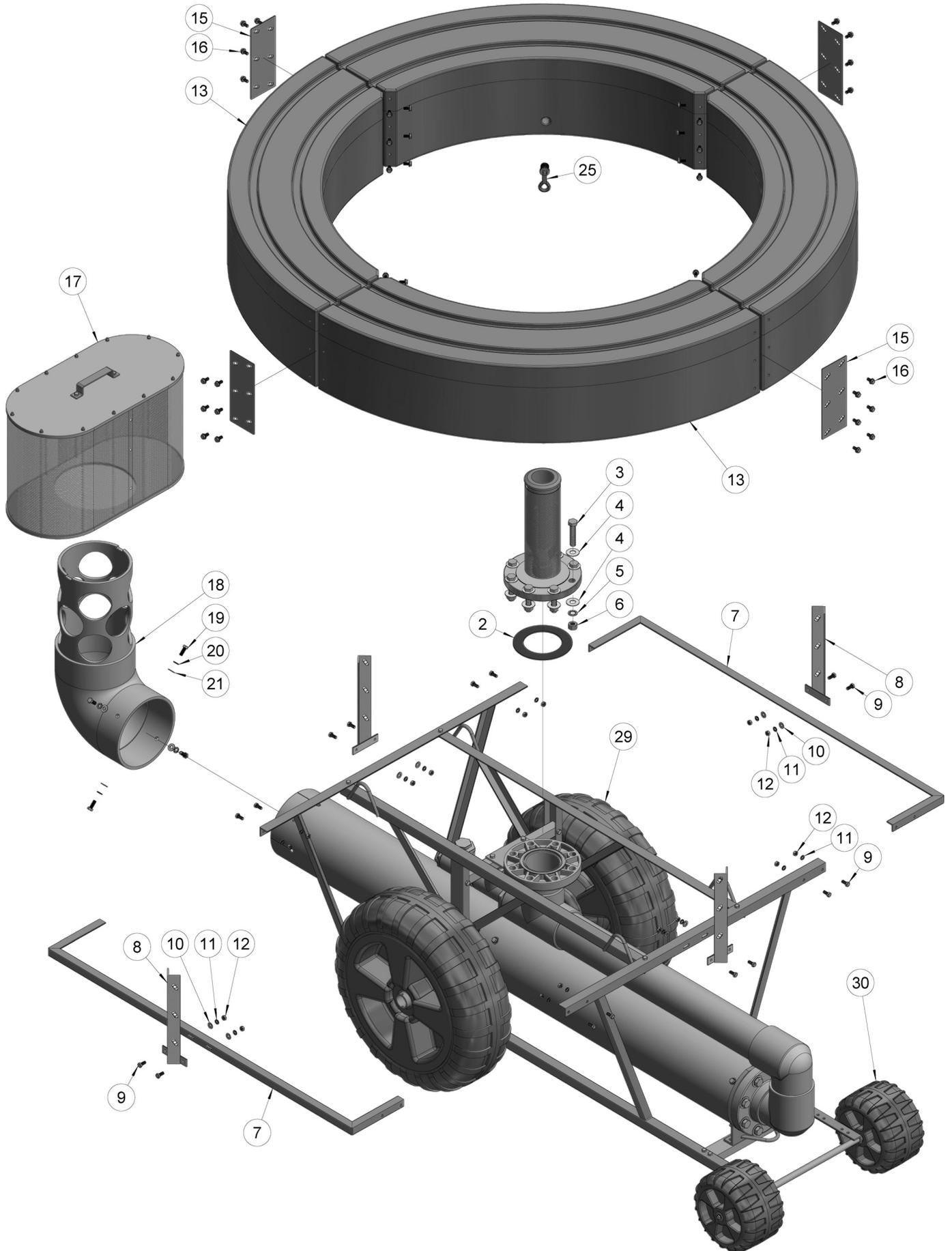


**GIANT FOUNTAIN PARTS LIST**

Parts List			Parts List		
ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION
1	10-311 to 10-0316	Mystic	13	42-0004	Float, 1/4 Circle
	10-331 to 10-0336	Polaris	14	42-0005	Float, 16" Extension (25HP)
	10-341 to 10-0346	Triad	15	40-0039	Bracket, Exterior Float
	10-351 to 10-0356	Super Nova	16	22-0012	Bolt, 5/16"-18 X 5/8" Flange
	10-361 to 10-0366	Aquastar	17	10-0230	Intake Screen
	10-371 to 10-0376	Equinox	18	10-0231	Intake Pipe
	10-381 to 10-0386	Aries	19	22-0015	Bolt, 3/8"-16 x 1" Hex
2	49-0064	Gasket, 4" Flange	20	EP6301	Washer, 3/8" Lock
3	22-0037	Bolt, 5/8-11 x 3.00" Hex	21	927-003	Washer, 3/8" Flat
4	28-0011	Washer, 5/8 Flat	22	46-0036	Hose, 32mm (1-1/4")
5	28-0028	Washer, 5/8" Internal Star	23	46-0037	Clamp, 32mm (1-1/4")
6	26-0015	Nut, 5/8-11 Hex	24	46-0045	Clamp, 57mm (2-1/4")
7	10-0205	Float Support, 10 &15HP	25	46-0026	Plug, Float
	10-0208	Float Support, 25HP	26	65-0018	Adapter, Hose
8	10-0202	Bracket, Float	27	40-0057	Bracket A, Pattern Ring
9	106-302	Bolt, 5/16"-18 X 3/4" Hex	28	40-0058	Bracket B, Pattern Ring
10	28-0018	Washer, 5/16" Flat	29	46-0201	Wheel, Large Rear
11	28-0019	Washer, 5/16" Lock	30	46-0200	Wheel, Small Front
12	660-002	Nut, 5/16"-18 Hex	31	48-0016	Anti-Sieze Compound

# GIANT FOUNTAIN EXPLODED VIEW

10HP GIANT FOUNTAIN SHOWN

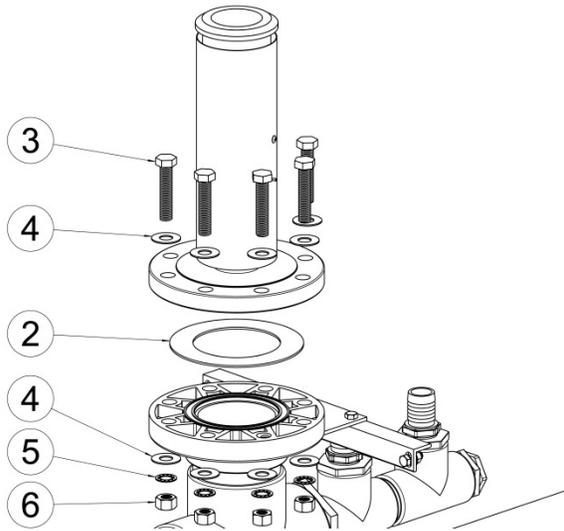


### UNIT ASSEMBLY

**NOTE:** Before proceeding follow instructions provided with splice kit and splice cable to motor leads.  
If quick disconnect option is provided plug connectors together before launching.

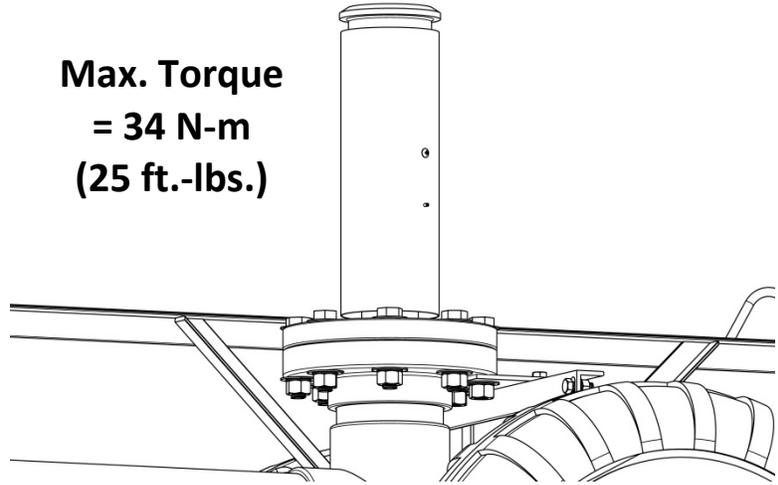
#### STEP 1 – INSTALL NOZZLE OR PATTERN HEAD

A



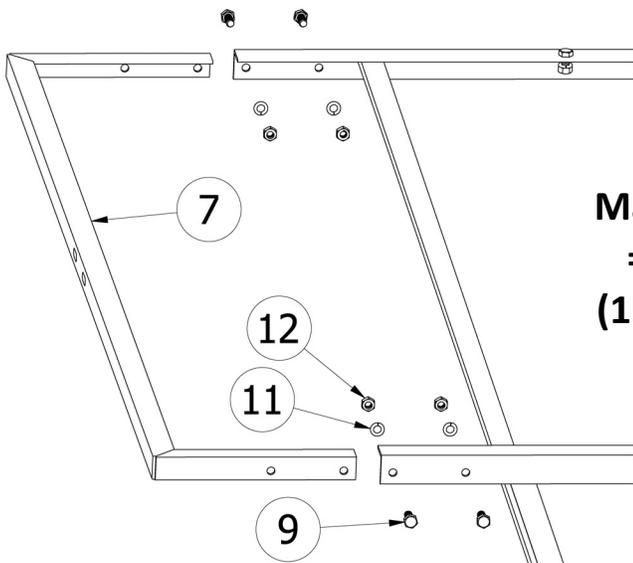
B

**Max. Torque  
= 34 N-m  
(25 ft.-lbs.)**



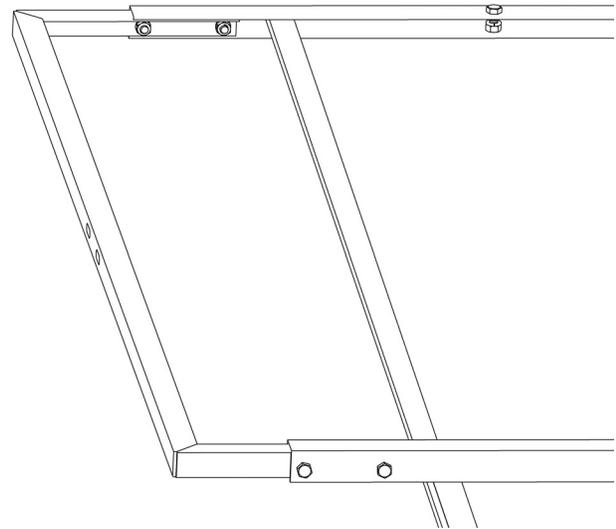
#### STEP 2 – INSTALL (2) FLOAT EXTENSION BRACKETS

A



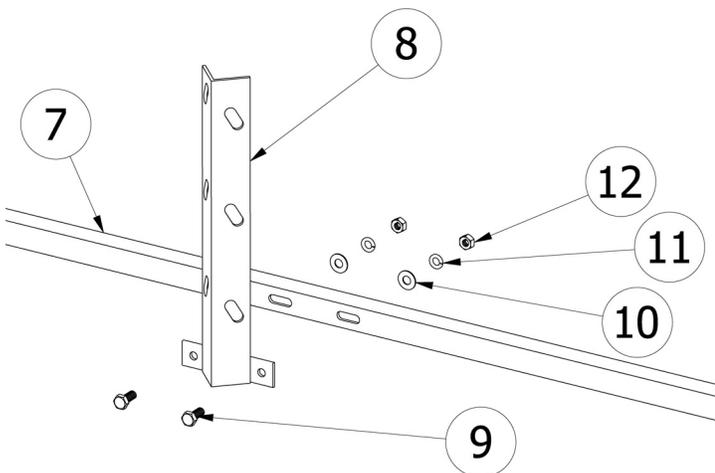
B

**Max. Torque  
= 17 N-m  
(150 in.-lbs.)**



#### STEP 3 – INSTALL (QTY. OF 4 - 10&15HP)(QTY. OF 6 - 25HP) FLOAT MOUNTING BRACKETS

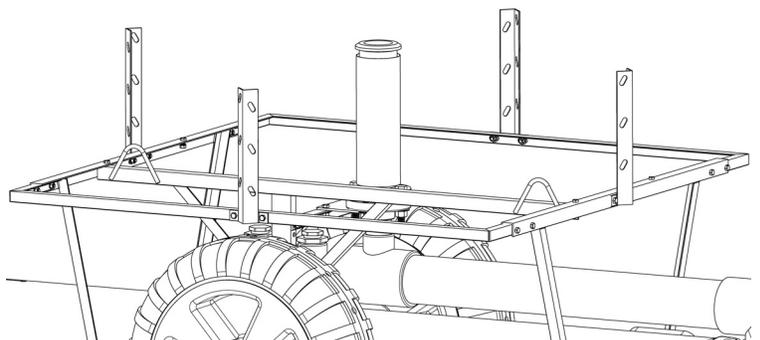
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B

**DO NOT TIGHTEN FLOAT BRACKET BOLTS  
COMPLETELY UNTIL FLOATS ARE INSTALLED**

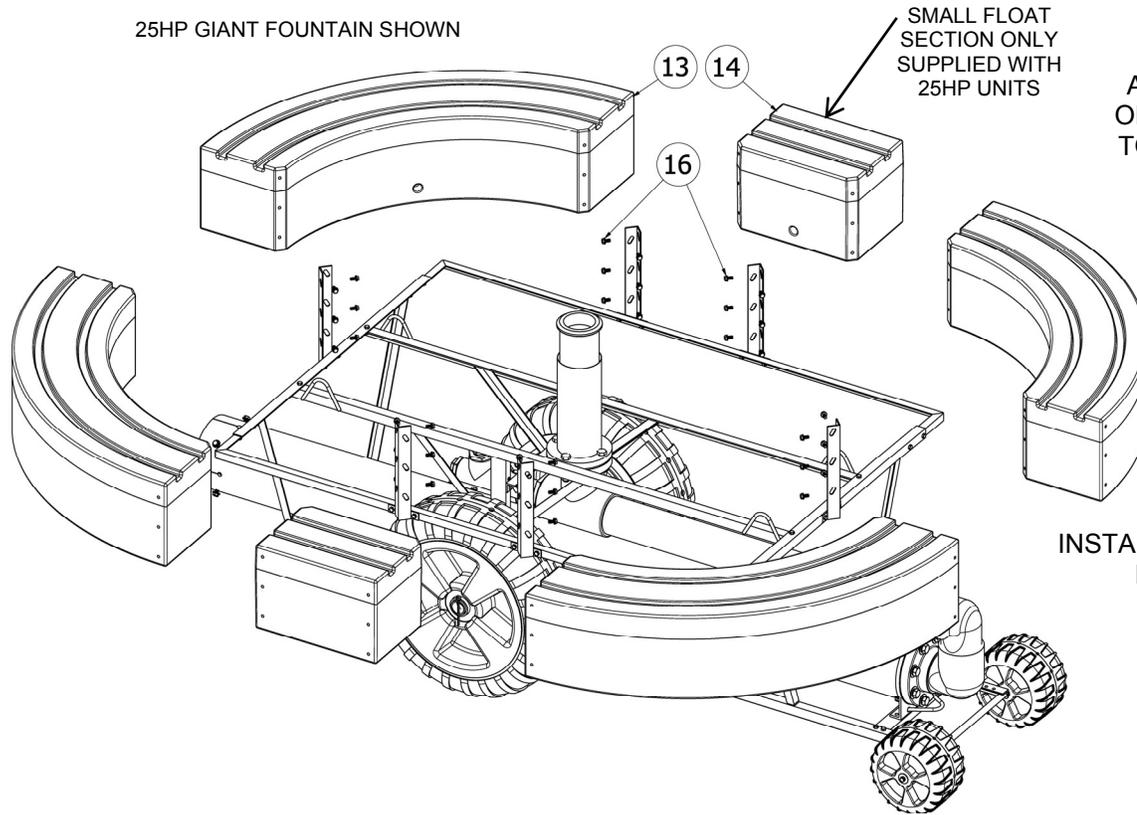
10HP GIANT FOUNTAIN SHOWN



## STEP 4 – INSTALL FLOATS

A

25HP GIANT FOUNTAIN SHOWN



SMALL FLOAT SECTION ONLY SUPPLIED WITH 25HP UNITS

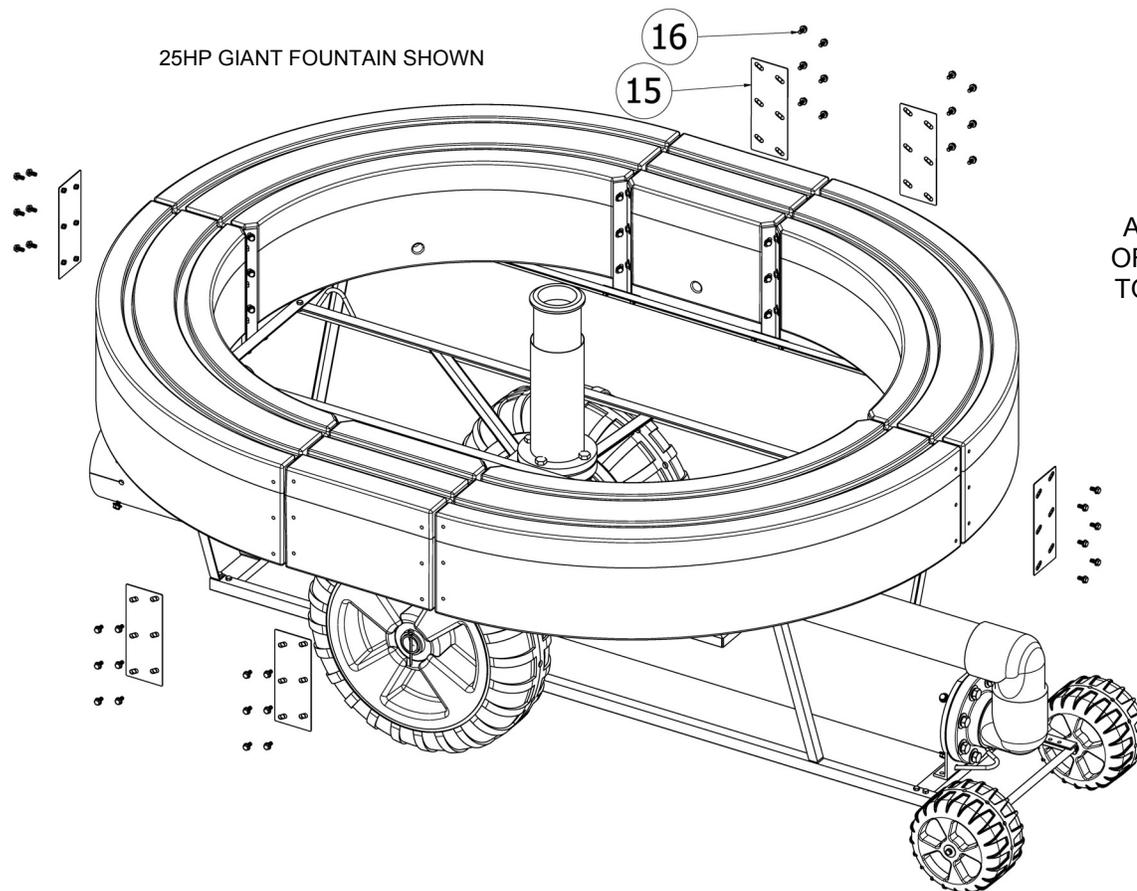
APPLY SMALL AMOUNT OF COMPOUND (ITEM 31) TO EACH BOLT (ITEM 16) BEFORE THREADING INTO FLOAT

INSTALL ALL BOLTS (ITEM 16) DO NOT TIGHTEN COMPLETELY

## STEP 5 – INSTALL OUTSIDE FLOAT BRACKETS

A

25HP GIANT FOUNTAIN SHOWN

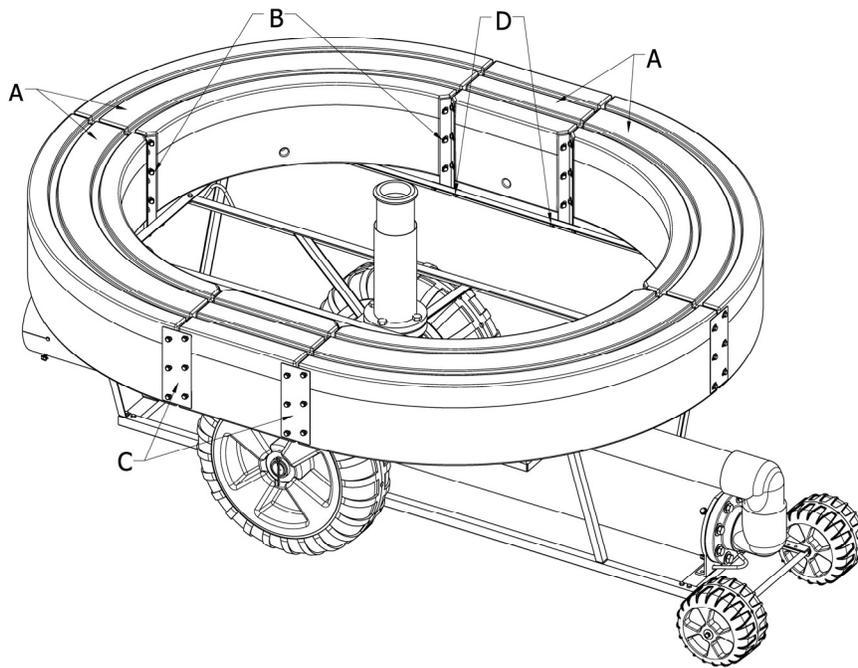


APPLY SMALL AMOUNT OF COMPOUND (ITEM 31) TO EACH BOLT (ITEM 16) BEFORE THREADING INTO FLOAT

INSTALL ALL BOLTS (ITEM 16) DO NOT TIGHTEN

### STEP 6 – ALIGN FLOATS AND TIGHTEN ALL FLOAT BRACKETING BOLTS

A



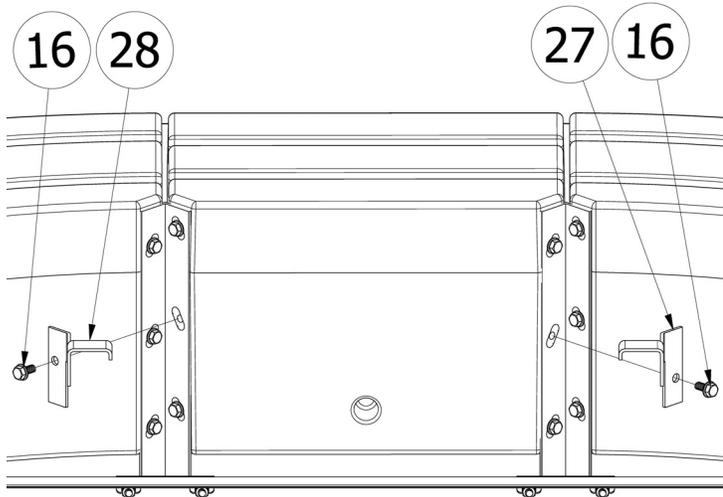
- A) ALIGN THE TOP OF ADJACENT FLOATS FLUSH
- B) TIGHTEN INSIDE FLOAT BRACKET BOLTS
- C) TIGHTEN OUTSIDE FLOAT PLATE BOLTS
- D) TIGHTEN INSIDE FLOAT BRACKETS TO FRAME

**! IMPORTANT !**  
 VERIFY **ALL** BOLTS ARE TIGHTENED  
 (DO NOT OVERTIGHTEN)

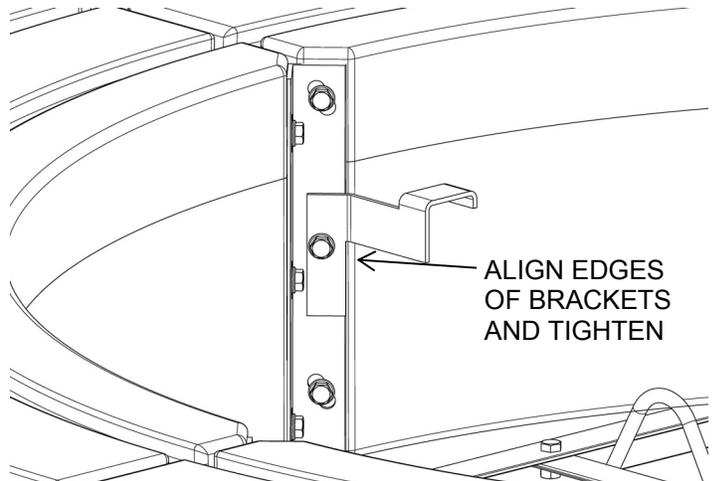
**Max. Torque**  
 = 15 N-m  
 (130 in.-lbs.)

### STEP 7 – INSTALL PATTERN RING (required with TRIAD & AQUASTAR)

A

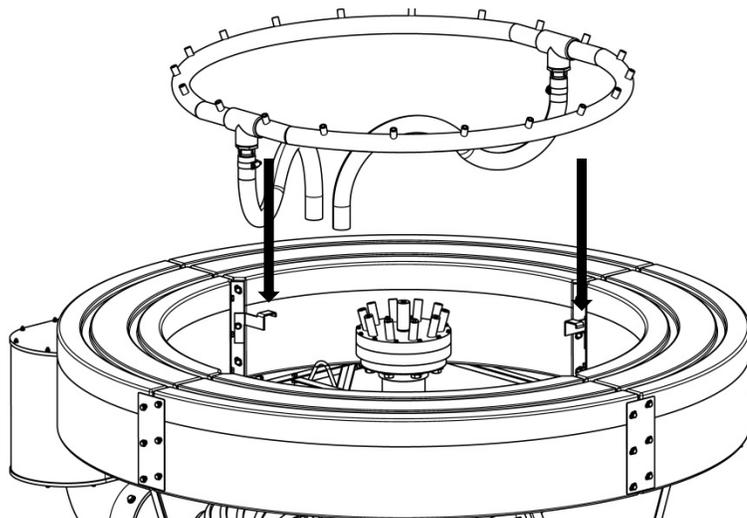


B

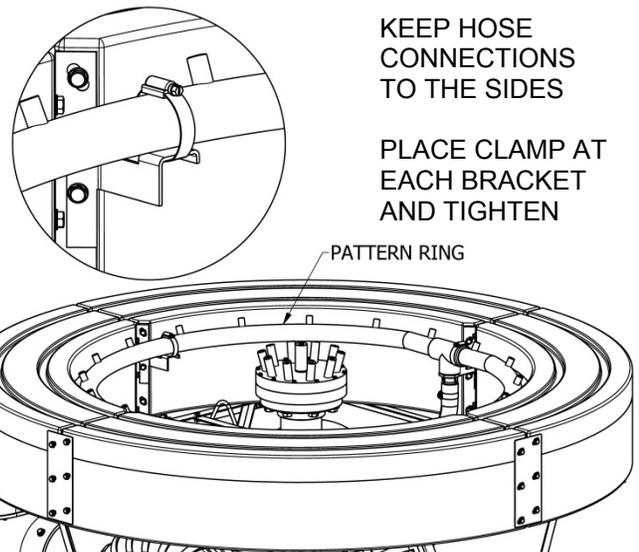


C

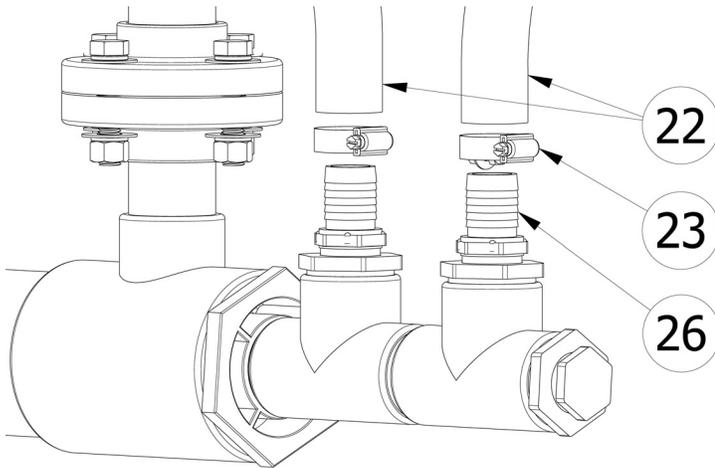
SET PATTERN RING ON BRACKETS  
 TEES LOCATED TOWARDS SIDES OF FRAME



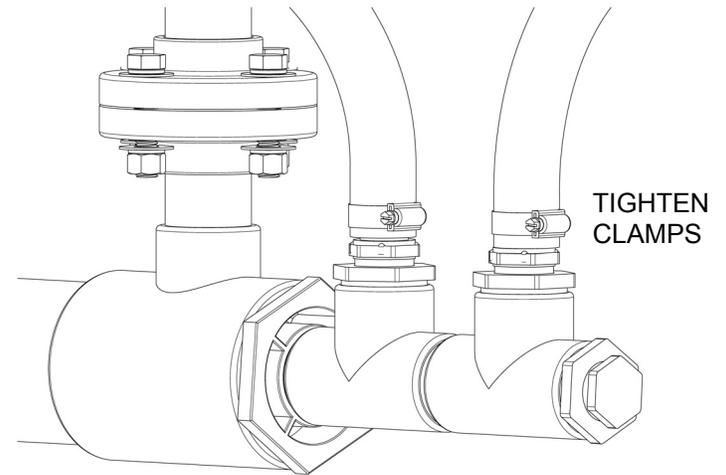
D



E



F

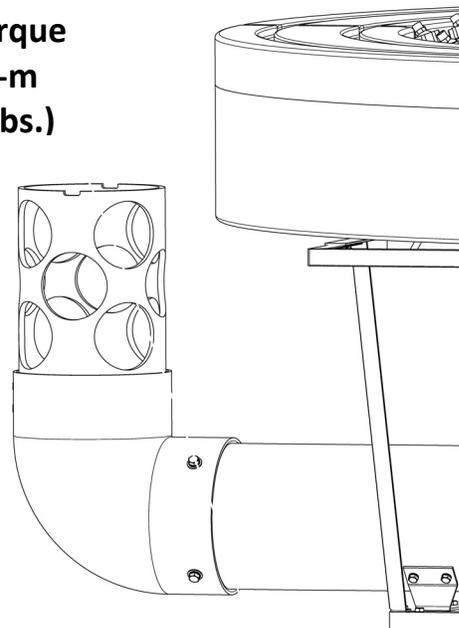
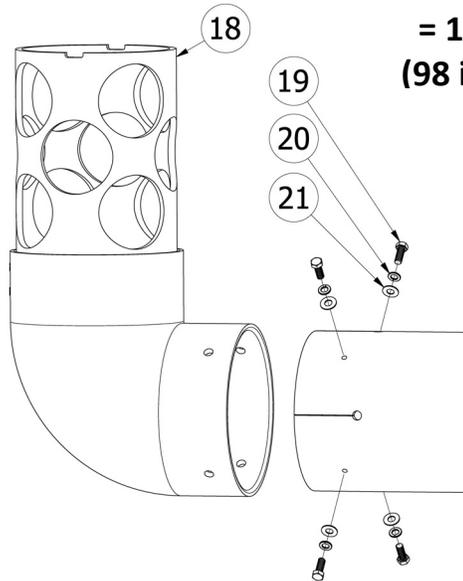


**STEP 8 – INSTALL INTAKE PIPE & SCREEN**

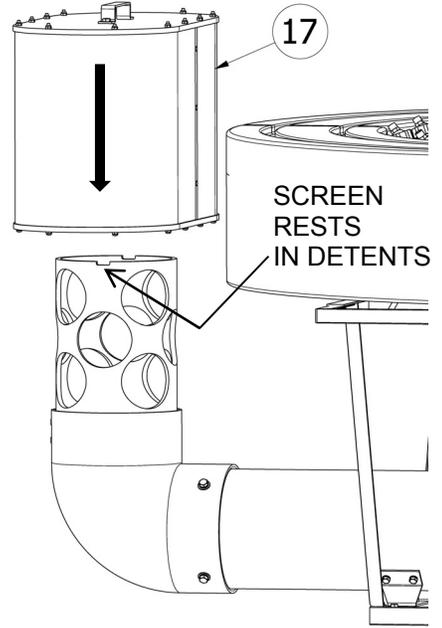
A

B

Max. Torque  
= 11 N-m  
(98 in.-lbs.)

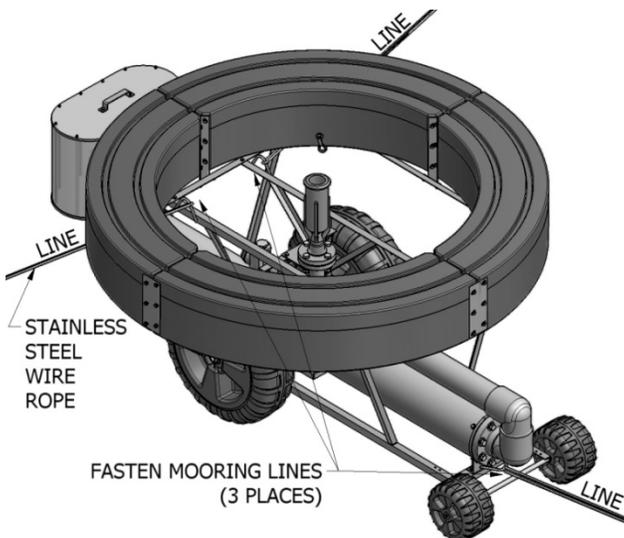


C



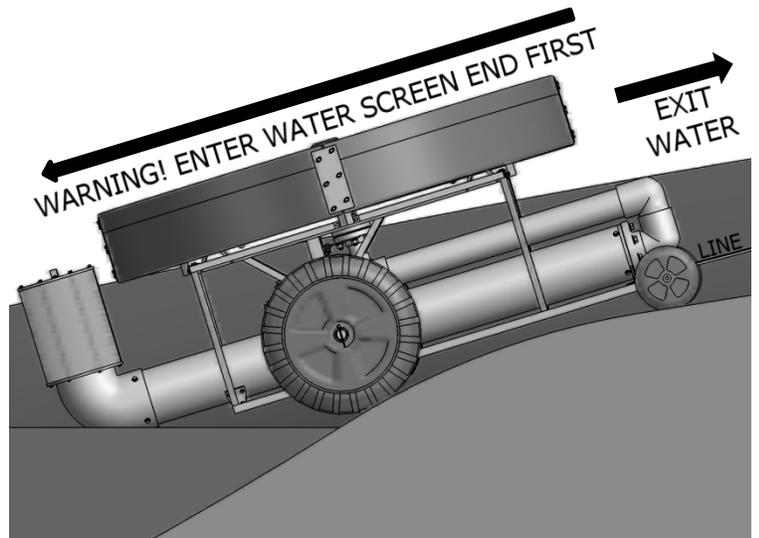
**STEP 9 – MOORING/ANCHORING LINES**

MOORING – USE SHORE MOUNTED STAKES OR EARTH ANCHORS  
ANCHORING – USE 3 WEIGHTS, MINIMUM OF 20kg (45lb.)

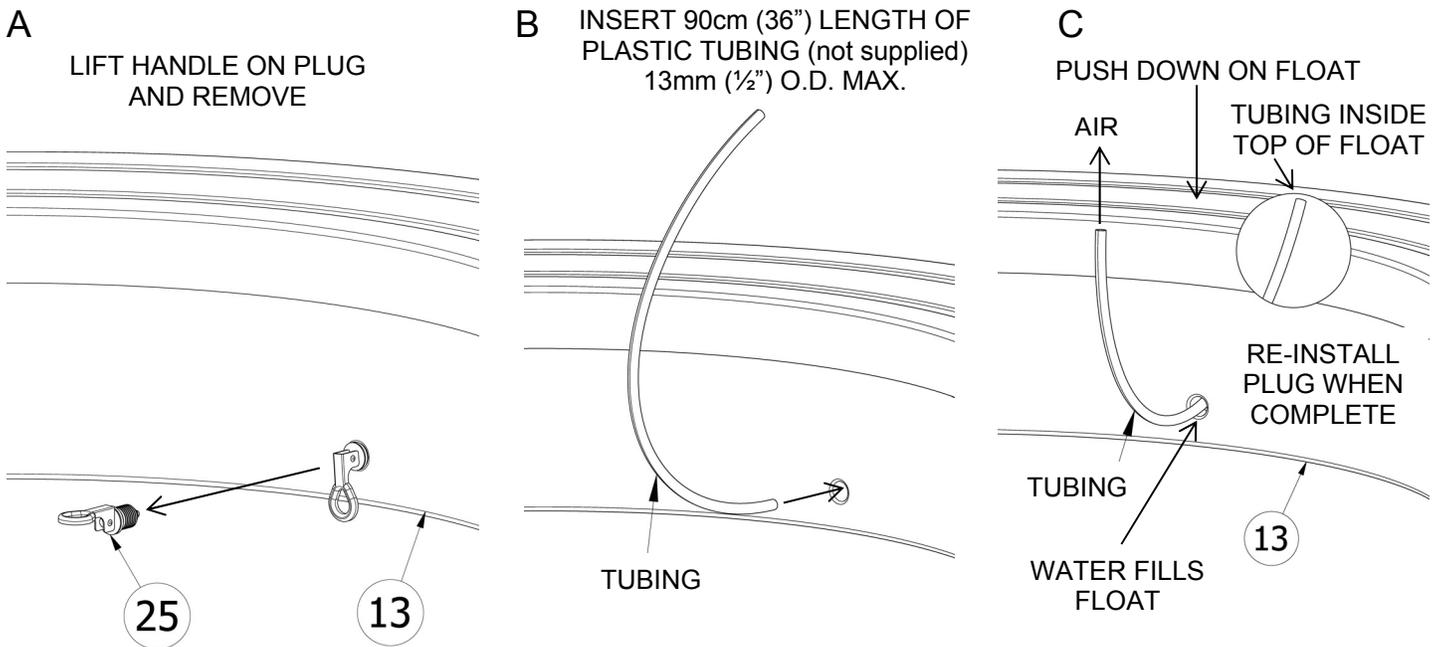


**STEP 10 – LAUNCHING**

RETRIEVAL – USE FRONT MOUNTED PULLING/MOORING EYE  
LOCATE – PULL TO DESIRED LOCATION AND MOOR/ANCHOR



## STEP 11 – BALLASTING/LEVELING UNIT



## SYSTEM STARTUP

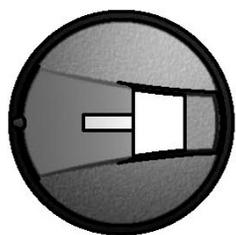
**DO NOT ALLOW THE AERATOR TO OPERATE “DRY” OUT OF THE WATER**

**IMPORTANT:** Otterbine aerators are designed to run in a Counterclockwise direction facing the top impeller end.  
Current unbalance for three phase systems shall not exceed 5%.

**IMPORTANT:** Aérateurs Otterbine sont conçus pour fonctionner dans le sens antihoraire regardant l'extrémité supérieure de la turbine. Courant de déséquilibre pour les trois systèmes de la phase ne doit pas dépasser 5%

### A. User Control Functions

#### 1. Main Disconnect Switch



**MAIN DISCONNECT OFF**  
Removes Power to the Aerator for Maintenance, Servicing or Repair  
Timers are not powered  
Time of Day Needs to be Reset



**MAIN DISCONNECT ON**  
Power Applied  
Mode of Operation Dependent on the Position of MOA Switch  
Timers are Operating

#### 2. Motor Controller



**OFF OR TRIPPED**  
Operator Handle in Horizontal Position

Operator Handle Returns to the OFF Position in the Event of a Motor or Wiring Short Circuit, Motor Overcurrent Condition, General Ground Fault or When the GFCI Has Tripped & the Red Light is Present



**ON**  
Operator Handle in Vertical Position

#### 3. MANUAL-OFF-AUTO switch.



**M-O-A IN OFF**  
Aerator & Lighting Will Not Function, With Main Disconnect ON Timers are Powered and Operating, GFCI's may be Reset



**M-O-A IN AUTO**  
Aerator & Lighting Controlled by Timers & Other Control Options



**M-O-A IN MANUAL**  
Turns on Aerator Bypasses Timer & Non-Critical Control Functions

4. Aerator GFCI (Ground Fault Circuit Interrupter) operation.
  - a. Turn M-O-A switch to the off (center) position. Unit may start if M-O-A is not set to OFF.
  - b. Apply power to PCC.
  - c. Turn disconnect switch clockwise to on (vertical).
  - d. Green light on GFCI will come on. GFCI is enabled.



AERATOR GFCI

**CAUTION**  
**UNIT GFCI AUTOMATICALLY RESETS**  
**WHEN POWER IS RESTORED TO PCC**

5. Enable **Lighting GFCI**:
  - a. With power applied to the PCC and the disconnect switch on. Press the reset button.



LIGHTING GFCI

Test all GFCI's every 6 months by pressing the TEST (OFF) button. When testing the aerator GFCI the GREEN light should be on, press "TEST", the RED light should turn on and the motor controller should trip.

6. Timer operation.
 

Setting the Clock

  - a. Press and hold the "CLOCK" key. Press the "DAY" key to display the correct day. Do the same with the "HOUR" and "MIN" keys.

- Setting the Timer
- a. Press the "DAY" key to select one of the 15 daily programs. Then press the "TIMER" key to display "1 ON" and set the turn on time by pressing the "HOUR" and "MIN" keys. To set the turn off time press the "TIMER" key again to display "1 OFF". Then again set the hour and minutes. Repeat this process for up to 8 on/off cycles per day. To enable the timer press the "MANUAL" key until the line is above "AUTO". Refer to timer instructions supplied for more detailed operation.



**B. Energizing the Unit (To be performed by a qualified technician)**

1. Single Phase Units: Motor rotation is factory determined and not field adjustable.
2. Three Phase Units: Verify correct motor rotation (Counter Clockwise looking at the top/impeller end of the unit). Check current readings on each phase. Verify three phase operating currents are balanced within 5%.

To calculate the percent of current unbalance:

Determine the Average Current:

- a. Measure each of the three phase currents
- b. Add the three phase amperage values together.
- c. Divide the sum by three.
- d. This is the average current value.

Determine Current Unbalance:

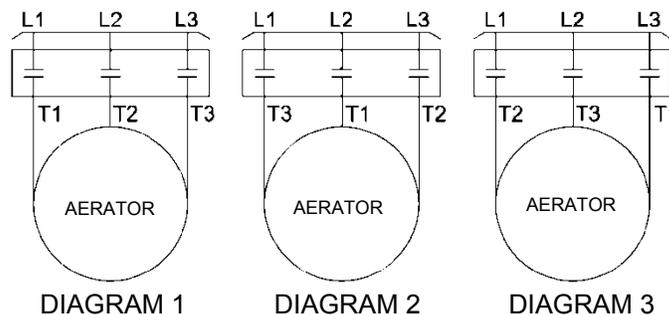
- a. Select the phase current with the greatest difference from the average (calculated above).
- b. Determine the difference between this phase current and the average current value.
- c. Divide the difference by the average.
- d. Multiply the result by 100 to determine percent of unbalance.

3. Use connection diagram 1, 2 or 3 at right which results in the lowest current unbalance. Roll the motor cable leads on the aerator output terminal block in the same direction to avoid motor reversal. If the current unbalance is not corrected by rolling leads, locate the source of the unbalance and correct it.

- a. When the phase farthest from the average stays on the same power lead after being moved the primary cause of unbalance is the power source.
- b. When the phase farthest from the average moves on each of the hookups with a particular motor lead, then the primary cause of unbalance is the "motor side" of the circuit.

Consider: damaged cable, leaking splice, poor connection, or a faulty motor as possible causes.

4. After unit is operational record the operating voltage, amperage, power control center serial number, power cable length and cable gauge on the label inside the power control panel.



**Limited 2 Year Warranty**  
**Otterbine® Product**

**WARRANTY:** Barebo, Inc 3840 Main Road East, Emmaus Pennsylvania 18049, U.S.A. hereby warrants, subject to the conditions herein below set forth, that should the **OTTERBINE** product prove defective by reason of improper workmanship or materials at any time during the warranty period the Purchaser at retail will be guaranteed that **BAREBO** will repair or replace the said **OTTERBINE** product as may be necessary to restore it to satisfactory operating condition, without any charge for materials or labor necessarily incident to such repair or replacement, provided that:

- a) The enclosed Warranty Registration Card should be mailed to **BAREBO** within fifteen (15) days of the original receipt by the Purchaser at retail in order to avoid delays:
- b) The **OTTERBINE** product must be delivered or shipped, prepaid, in its original container or a container offering an equal degree of protection, to **BAREBO** or a facility authorized by **BAREBO** to render the said repair or replacement services or, if purchased from an authorized **OTTERBINE** dealer, to such dealer;
- c) The **OTTERBINE** product must not have been altered, repaired or serviced by anyone other than **BAREBO**, a service facility authorized by **BAREBO** to render such service, or by an authorized **BAREBO** dealer, and the serial number of the **OTTERBINE** product must not have been removed or altered: and
- d) The **OTTERBINE** product must not have been subjected to lightning strikes and other Acts of God, vandalism, freezing-in, accident, misuse or abuse, and must have been installed in conformance with applicable electrical codes (including proper electrical protection), and also installed, operated and maintained in accordance with guidelines in the Owner's Manual shipped with the Otterbine product.

No implied warranties of any kind are made by **BAREBO** in connection with this **OTTERBINE** product, and no other warranties, whether expressed or implied, including implied warranties of merchantability and fitness for a particular purpose, shall apply to this **OTTERBINE** product. Should this **OTTERBINE** product prove defective in workmanship or material, the retail Purchaser's sole remedy shall be repair or replacement as is hereinabove expressly provided and, under no circumstances, shall **BAREBO** be liable for any loss, damage or injury, direct or consequential, arising out of the use of, or inability to use, the **OTTERBINE** product, including but not limited to retail Purchaser's cost, loss of profits, goodwill, damages due to loss of product or interruption of service, or personal injuries to Purchaser or any person.

MODEL:   Polaris   Mystic   Triad   Super Nova   Aquastar   Equinox   Aries

HORSEPOWER:           10           15           25

VOLTAGE/PHASE/Hz:   230/1/60   230/3/60   380/3/60   460/3/60   575/3/60

CORD GAUGE & LENGTH \_\_\_\_\_

UNIT SERIAL NUMBER \_\_\_\_\_

PANEL SERIAL NUMBER \_\_\_\_\_

OPTIONS \_\_\_\_\_



## ***Water Works With Otterbine!***

**FOR FURTHER INFORMATION OR INSTRUCTIONS  
ON OTTERBINE PRODUCTS  
VISIT OUR WEBSITE:**

**[www.otterbine.com](http://www.otterbine.com)**

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