



Assembly and Installation Instructions

PAS Turbine Aerator

1. Mount the motor to the motor deck. Make sure the vibration isolators and washers are on the motors ½" studs in this order (motor-washer-isolator-motor deck). Tighten motor to motor deck using the large washer and ½"-self-locking nuts.
2. Insert the motor deck onto the pontoons. Insert the eye bolts through the motor deck and bolt down to the pontoons snugly. (see image below) The eye bolts are used to anchor the pontoons to the shore or bank. **Do not attempt to pick up the aerator using these pontoon eye bolts!** Instead, use the lifting strap provided (see image) to lift the aerator.
3. Use the eight (3/8-inch x 2-1/4 inch) hex head bolts to fasten down motor deck to the pontoons using the washers and lock washers supplied.
4. Turn unit on its side (or lift with a hoist), slide the air shaft onto the motor shaft and insert the Allen-cap screws into the threaded holes located on the motor shaft. The Allen cap screws already have *thread locker* applied to the threads (if not apply *thread locker* before inserting them.) Install the turbine on the air/drive shaft. (See assembly instructions for turbine) Do not install turbine if you are installing the optional debris sleeve, see debris sleeve installation).
5. **The air shaft is a precision-made component. Never grab it to use as a lever in lifting or moving the aerator. If you bend it, even slightly, you will void the warranty.**
6. Never let the air shaft drag on the ground or the bank of the lagoon.
7. After the electrical connections are made to the motor and control box. The motor should rotate in a clockwise direction when viewed from above. There should be very little, if any, vibration in the aerator while it is operating. If the aerator vibrates excessively, turn it off immediately and locate the source of the vibration (such as a loose air shaft.)
8. If you are using a VFD control panel, set the rpm to rotate between 1200 and 1750 rpm. Find the rpm setting that provides you the most efficient performance. A good starting point is 1750 rpm. Call us if you have questions. 432-894-9874. The aerator will perform best if it is allowed to run continuously. Avoid frequent starts and stops since this will shorten the life of the motor.
9. **All electrical connections should be made by a licensed electrician.**

Aeration Pontoon Assembly

Fasteners

8 – 3/8-16 x 2-1/4" pontoon bolts.

12 - 3/8 x 1" o.d. Flat washers.

12 - 3/8" Lock washers.

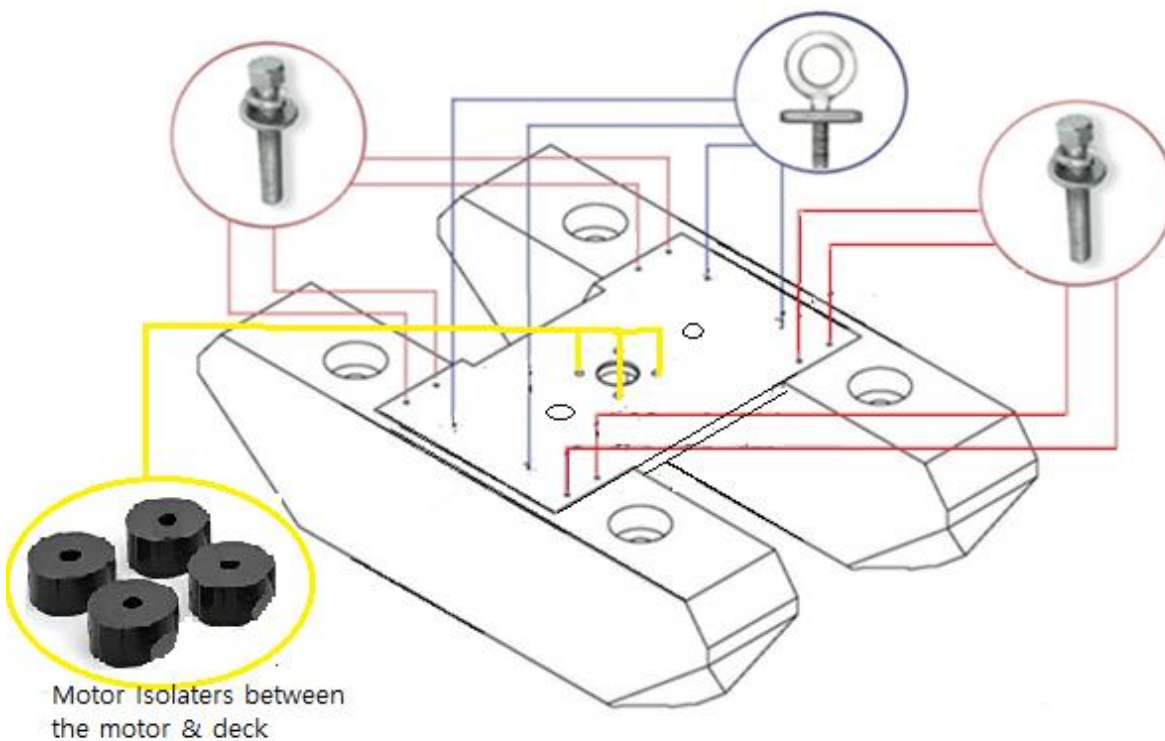
4 - 3/8-16 x 3" Eye bolts Stainless.

4 - 3/8-16 Nuts (thread nuts onto eyebolts then add washer).

4 – 1/2-13 x 2 1/2" motor studs

8 – 1/2 x 2" o.d. flat washers.

4 – 1/2 self-locking nuts



Turbine Assembly

ATTENTION! Don't use a hammer, just a small screwdriver.

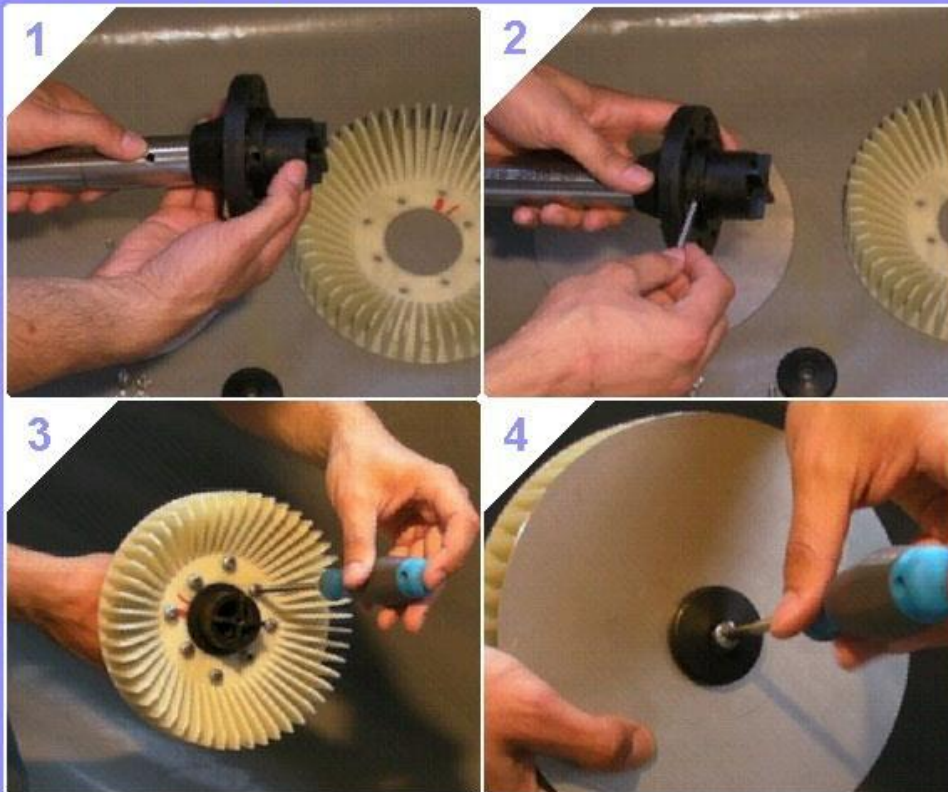


Operating Instructions

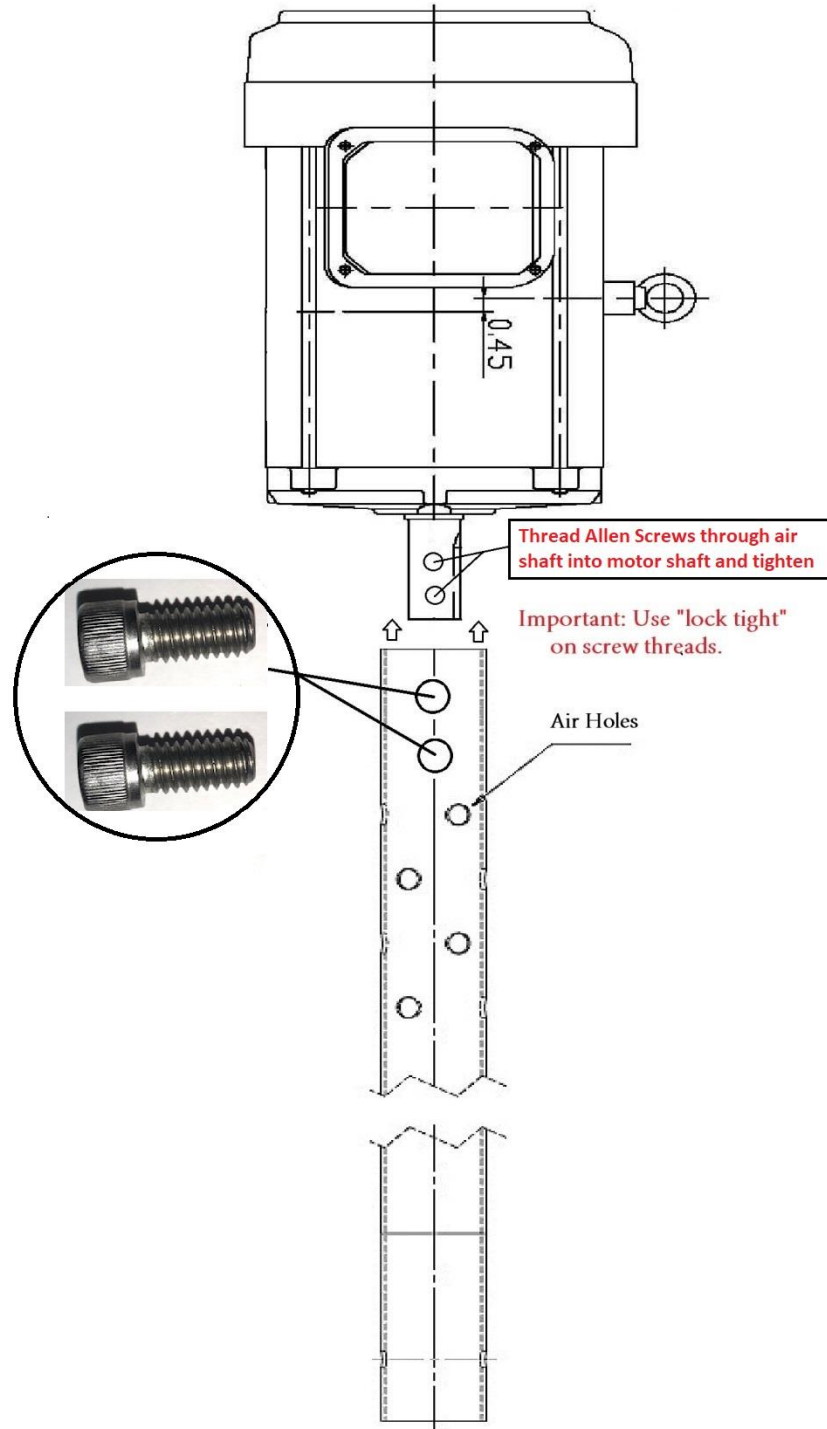
- 1.** The turbine shaft have to enter into axis without effort. The shaft diameter must be 33.7 mm.
- 2.** The safety needle should enter at effortlessly.
- 4.** Do not apply excessive force to tighten the screw in the stainless steel disc.

The turbine is made from a plastic composite reinforced with fiberglass, thanks to this special material this turbine is resistant to acidic than basic substances.

Turbine assembly:



Motor Shaft to Air Shaft Assembly

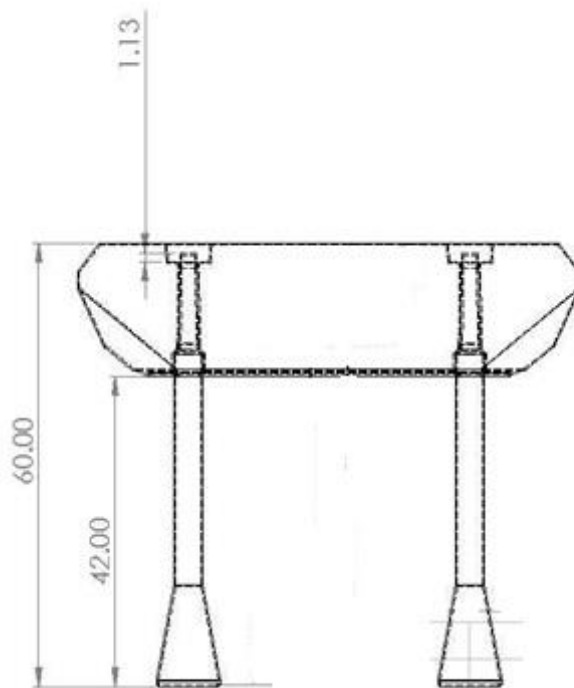




Technical drawing of a vertical pipe assembly. The drawing includes the following dimensions and annotations:

- Overall Height:** 58.63
- Top Section:** 2' threaded section (indicated by a leader line).
- Top Flange:**
 - Outer Diameter: $\phi 3.92$
 - Inner Diameter: $\phi 2.65$
 - Thickness: 2.08
- Main Body:**
 - Length: 31.29
 - Outer Diameter: $\phi 7.20$
- Bottom Flange:**
 - Outer Diameter: $\phi 7.20$
 - Inner Diameter: $\phi 7.20$
 - Thickness: 13.04
 - Radius: R0.75
- Other Dimensions:**
 - 13.71 (vertical distance from bottom flange to main body)
 - 13.71 (vertical distance from main body to top flange)
 - 7 (horizontal distance from centerline to outer edge of bottom flange)
 - 6 (horizontal distance from centerline to outer edge of main body)
 - 5 (horizontal distance from centerline to outer edge of top flange)

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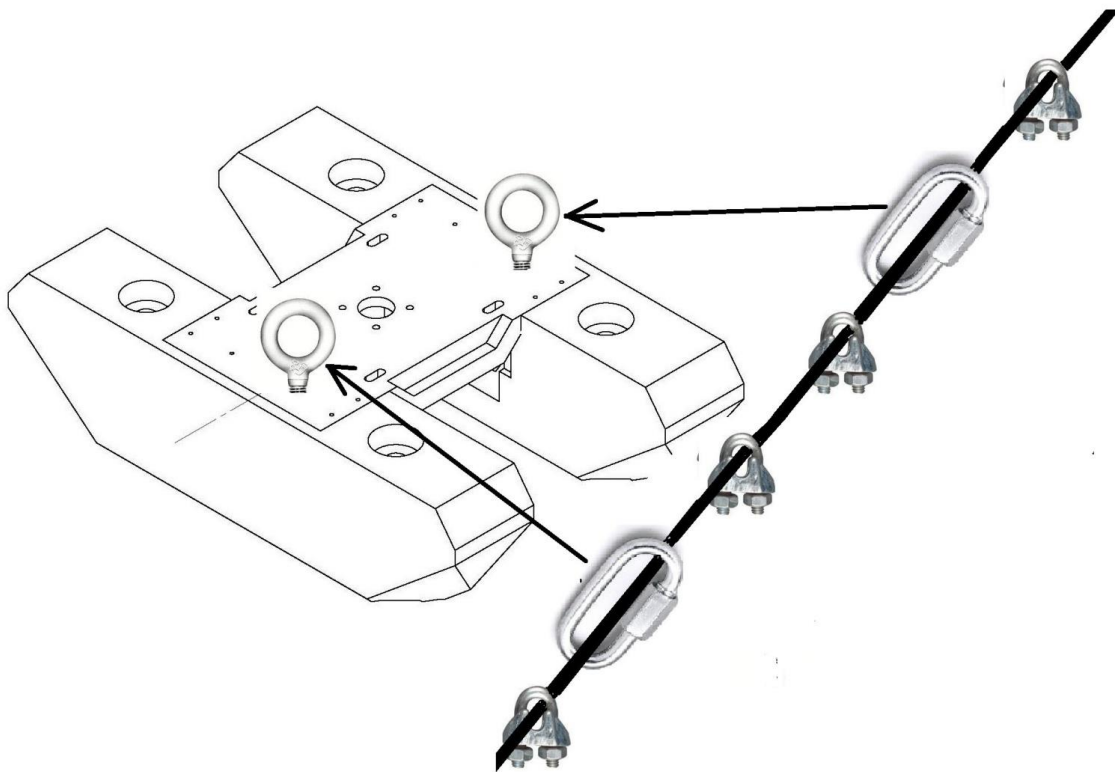
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Pontoon Attachment to Cable

4 – 3/16 Cable Clamps

2 – Quick Links

(Use minimum ¼ inch Stainless Steel Cable)



Secure “quick links” to pontoon eyebolts and cable then place cable clamps on each side of “quick links”.

Guy Wire Tension

Install guy wire with enough slack to allow for the different levels of water. See example. Anchor both cable ends to shore.



U-Bolt of all clips on
dead end of rope.

Correct



Staggered Clips

Incorrect



U-Bolt of all clips on
live end of rope.

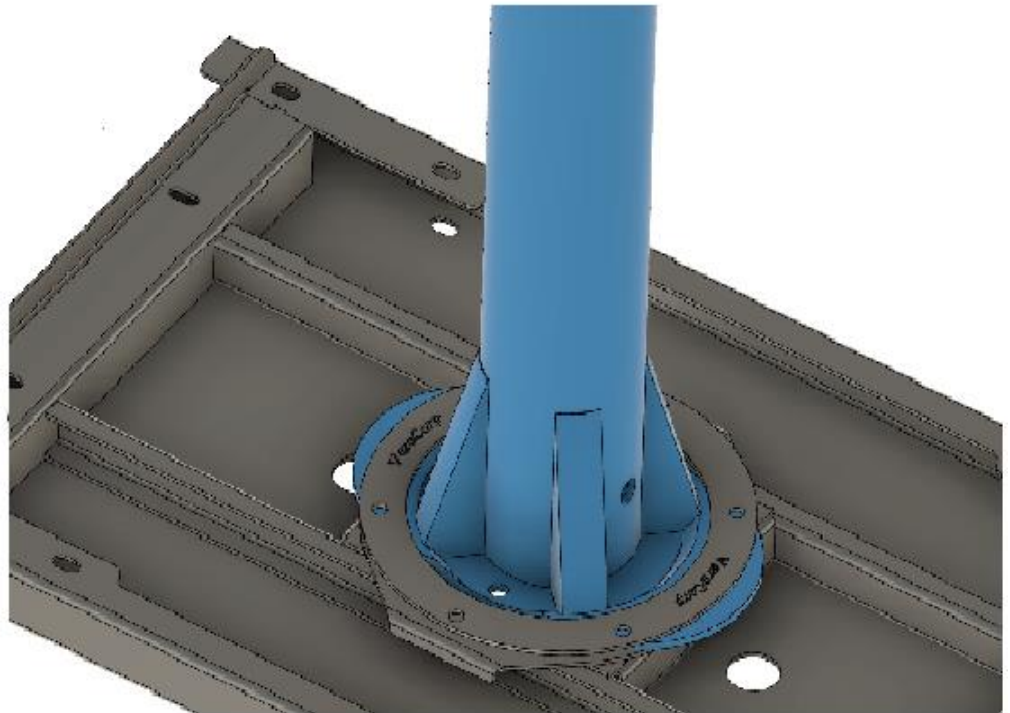
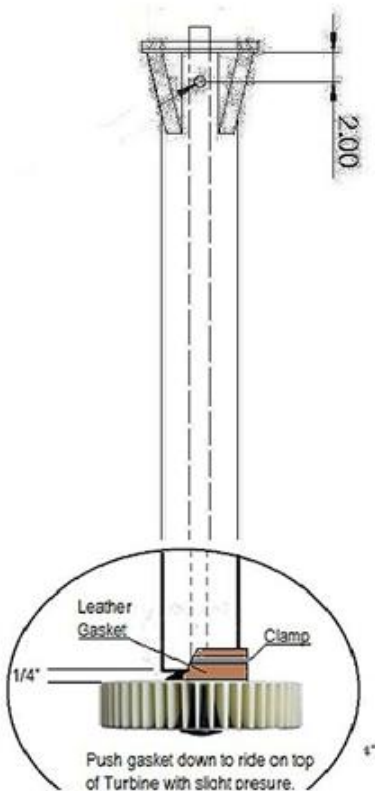
Incorrect



Optional Debris Sleeve

Use this option when rags, strings, etc... could wrap around shaft

Once the air/drive shaft is bolted to motor shaft, slide the black hub of the turbine assembly onto the air/drive shaft and pin it in place. (see turbine assembly) Slide the sleeve over the shaft and onto the metal ring on the underside of the motor deck, then place the retaining ring over the sleeve and bolt to motor deck. Slide the clamp & leather gasket (may have to presoak in water) onto the sleeve. Bolt the white turbine blade onto the hub. Slide the leather gasket down on top of the turbine with slight pressure (to insure a good seal with no



gaps.) Tighten the clamp and spin the turbine by hand to make certain there are no gaps.

Do not run motor out of water with gasket in place.



Use included lift strap as shown below.

