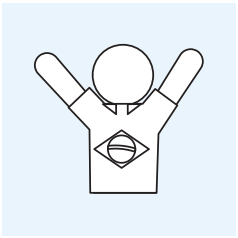
Fresh Air Exhaust Installation Instructions For Single Exhaust Outlet Boats

Applicable for most single exhaust boats using a through hull mount



Congrats on your FAE purchase! If at any point during the installation, you run into questions, please call us at 512-789-6266 or email us at mail@FreshAirExhaust.com. Don't forget to register your FAE warranty.

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Fresh Air Exhaust Installation

- Baffle Replacement/Removal* See additional instructions if applicable to your install
- Through hull or exhaust outlet replacement
- Sealant instructions - IMPORTANT / MUST FOLLOW
- Template

Scan for installation video.

The greatest compliment you could give us would be to tell your friends and community (in person and online) about the safety and quiet of FAE.
Thank you and welcome to the FAE family!

FreshAir Exhaust ◦ 5328 Reimers Road, Building 1, Spicewood, TX 78669 ◦ 512.647.7321

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Tools and Supplies Needed

For removing Exhaust Outlet:

- DeBond (Adhesive Remover)
- Wooden Wedges
- Rubber Hammer
- Phillips Screwdriver
- Long flat blade screwdriver
- Masking Tape - painters tape
- Paper Towels
- Silicone Lubricant Spray

For Assembly:

- Marine Sealant (3M 5200 Fast Cure recommended) 10 oz. cartridge
- Acetone or Mineral Spirits for cleanup
- Rubber gloves and paper towels
- 5/16” Nut Driver
- Two 1/2” wrenches
- Drill Motor
- 11/64” & 1/4” Drill Bits

Hardware Included with your FAE

(2) ¼-20x2 ¼ Screws Bolts
(6) ¼” washers & (3) Nylocs
(3) outside washers
(1) Transom Block (if Applicable)
Install Kit (If ordered) and will consist of:
(1) Slow or Fast Cure 5200 Sealant cartridge
(1) 11/64 drill bit
(1) can of Debond and scraper
(5) Wood shims

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Unpacking the FAE

PLEASE inspect your FAE and read the instructions before installation (before driving to the lake house). Let us know if you think you are missing anything or don’t understand something. Most instructions can be downloaded from our website at:
www.FreshAirExhaust.com

There are lots of packaging peanuts, so have a clean garbage bag ready to dump them into. Keep the peanuts and shipping box in case the FAE needs to be returned (typically no but if something is not correct, we will make it right). If you think you are missing parts, please inspect the peanuts for parts that settled downward during shipping. While installing the FAE, keep the plastic wrap in place to keep your FAE cleaner. If any hose clamps have blue tape wrapped around them, for now, leave those hose clamps alone.

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Removing and replacing the existing exhaust outlet(s)

Inside the boat you will remove the hose clamps from the exhaust outlet. As this picture shows there may be hoses, wires, pumps, etc. blocking easy access to the hose clamps. Typically, most obstructions can be moved out of the way. Before working in the engine compartment, disconnect the boat's battery/s, but first raise the center trim actuator as high as you can.

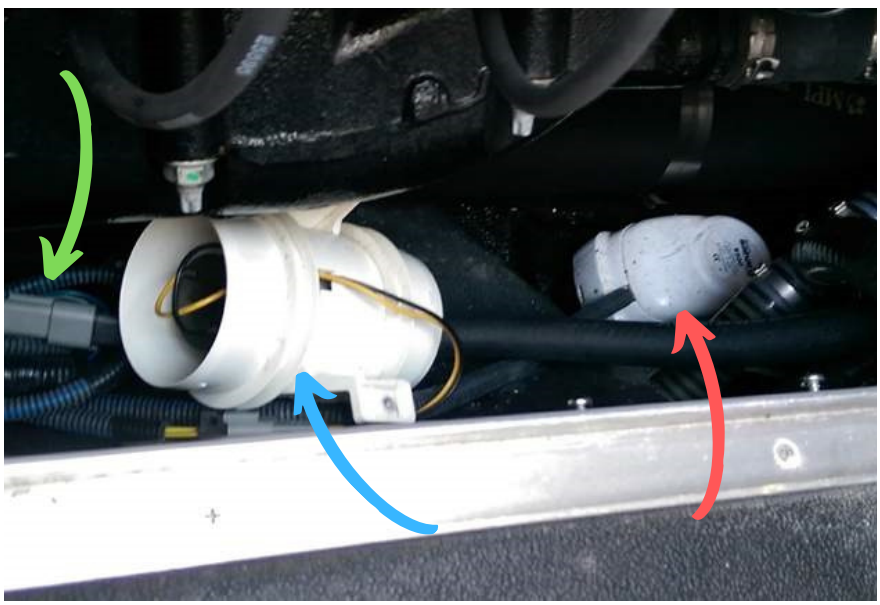
You may now wish to release the trim plate from the actuator. This makes it easier to verify clearance during installation. There is typically one bolt or two screws connecting the trim to the actuator. Only disconnect at the bottom end of the actuator, not the top. In the picture below, the bolt is replaced with a screwdriver.

This bilge pump was removed to give more working room. This pump had 2 clips on the sides that were disengaged to pull the top half off the strainer screwed to the hull.

View inside the boat looking at the transom

View inside the boat

The blue arrow points to the bilge exhaust fan. In this picture the fan has already been unscrewed and moved to the side. The bilge pump is also visible in this picture (red arrow). The green arrow is pointing to an electrical connecter. It may be convenient to unplug the fan and bilge pump to move them. If you are replacing the factory baffle, see "Baffle Instructions".



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Exhaust outlet removal & clean-up

We HIGHLY recommend using a poly-urethane adhesive remover (DeBond or Anti-Bond brands) to loosen the sealant/adhesive holding your existing exhaust outlet in place. You can order DeBond, sealant and wooden wedges from us (the wooden wedges help to remove the exhaust outlet). You can purchase Anti-Bond from West Marine.

It is not necessary, but you may wish to put Painter's Tape around the exhaust outlet you are removing. Spray DeBond at the edge of the exhaust outlet. If you get the DeBond on anything else just wipe it off with a wet rag. DeBond will damage decals or rubber but not fiberglass or steel.

Remove the 3 or 4 screws holding your exhaust outlet (exhaust tip) to the boat. Save the screws. Inside the boat, loosen the hose clamps on the exhaust outlet. There should be 2 per exhaust outlet.

Back outside the boat, take a long, medium sized flat blade screwdriver (or butter Knife) and gently probe the edge of the exhaust outlet to see if you can find a slight gap between the flange and the boat. Only probe in areas where you have room to work the wooden wedge without hitting other hardware. If you find a gap, that is where you want to start driving in the wooden wedge. A rubber hammer or wooden mallet is best for tapping the wedge. It is recommended to wrap the hammer with painters' tape, so it won't streak your gelcoat.

You will spray the DeBond, tap the wedge, add more wedges, spray the DeBond, and repeat.

Essentially you will “worry” the exhaust outlet loose. If your exhaust outlet is straight, you may be able to insert a piece of 2X4 into it. This gives you more leverage wiggling it out. At some point, the exhaust outlet will “pop” out. You will then use the DeBond and Orange Plastic Razor Blades to remove any remaining sealant. Remove as much as you reasonably can though it doesn’t have to be perfect. A steel razor blade will work best but it will also scratch the gel coat. If you use a steel blade, confine it to the area under the exhaust outlet flange as scratches will be hidden.

When done, wash the fiberglass with soap and water to neutralize and remove the DeBond. Also wash the FAE flange with soap and water to clean the surface before installing. You will also need to clean the inside edge of the fiberglass hole. A handheld round file or a rotary file, or a Dremel tool will do the job well.

CAUTION: Before you apply sealant, thoroughly review sealant instructions and complete all the steps, verifying that the FAE fits your boat.

For most boats we send both wood screws and machine screws. For mounting the FAE, you have two options. Either is fine as the holding power comes from the marine adhesive.

These are the two screw options for mounting the FAE.

Machine Screw

Wood Screw

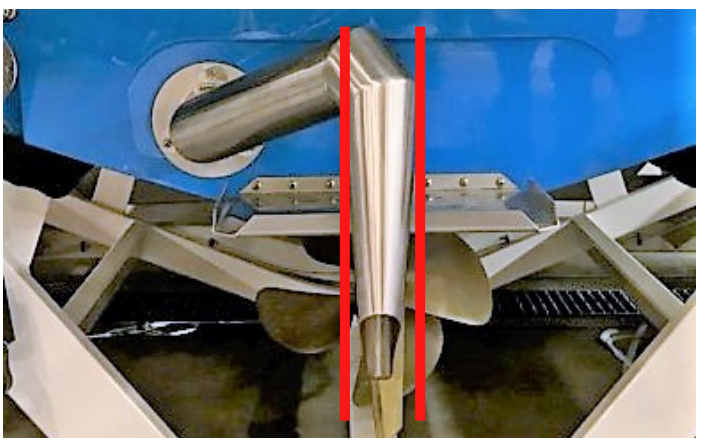
The machine screws require you to install the nuts inside the boat. For the machine screws use a 1/4" drill bit. If your FAE comes with a transom block (instructions will be packaged with the transom block), you will use machine screws. The transom block should be used on every boat where the transom is less than one inch thick.

If the wood screws are properly installed, they have excellent holding power. If you use wood screws, the most important thing is that they have the proper size drill hole. Decide which approach you want before you start drilling as the hole size for machine screws is too large for the wood screws.

For the wood screws, use the 11/64” drill bit. The hole size is slightly small so the screw will be very tight. You may have to screw in and then back out several times as you slowly cut the screw threads into the fiberglass. If the hole is too tight, re-drill it and "wallow" the hole out slightly or go to a 3/16" drill bit. The goal is to get the tightest fit. After you mount your FAE, before the final tightening of the screws, step back and verify that FAE downpipe is vertical. If not, the slots will allow you to make small adjustments.

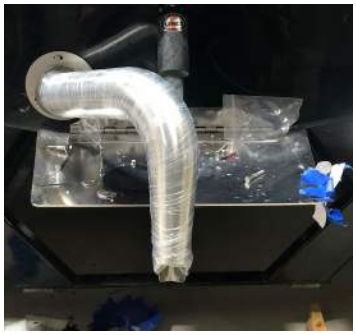
DO NOT BREAK A SCREW! PROCEED SLOWLY!

When starting the hole, switch the drill to reverse. This will “grind” a hole through the gelcoat and minimize chipping.



In the picture above, I am using a square and a ruler to mark the center line of the exhaust hole. Draw a line at the top of the hole, up about one inch. A template is attached to these instructions. Cut the center out, position and tape the template into place. Drill a small hole in the center of the top hole (see drilling screw holes- next page). Remove the template and install a wood screw into the hole you just drilled. Remove the screw, position the FAE, and re-install the screw. Now your FAE is hanging into position. Get help, or place blocks under the tip of the FAE so you can step back about 10 foot and verify that the FAE appears vertical.

Now drill the other two holes in the center of the slots. INSTALL THOSE 2 SCREWS AND AGAIN STEP BACK AND VERITY THE FAE IS VERTICAL.

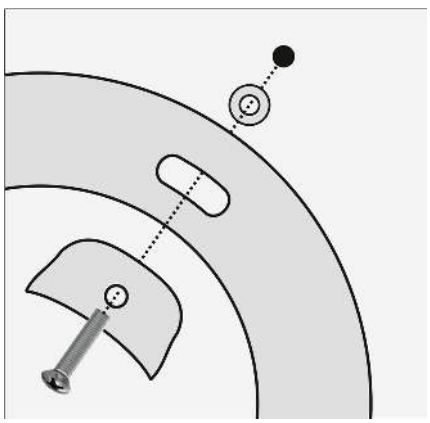


Raise and lower the trim tab all the way up and down and verify clearance. We design FAE to clear the trim tab by 3/4" aft and above the trim tab. If yours is closer but not touching, that is fine. If it is greater, that is fine. Let us know if significantly different from 3/4" so we can fine tune our design.

If your battery is disconnected, you can raise the actuator by screwing the silver part in clockwise till it stops or reaches the "weather line" on the silver part. That is the top of the travel. You then raise the disconnected trim tab up to the actuator; this is the point of highest travel.

Washers

The "shaped" large washer goes onto the screw first; this washer is on the outside of the boat and covers the slots in the FAE flange. The small washer goes over the screw on the back side of the flange. In other words, the small washer goes between the flange and transom of the boat. The small washer creates a narrow space between the FAE flange and the transom. This allows you to tighten the mounting screws firmly yet maintain a layer of adhesive; this will set the correct thickness of the adhesive.



Sealant Instructions - IMPORTANT INFORMATION
How to apply sealant

You MUST use a high-grade marine sealant. 3M 5200 Slow Cure is the strongest in the industry, but takes at least a week to cure and must remain above 40 degrees; use it if time and temperature allows. Tied at second strongest are 3M 5200 Fast Cure and Boat Life Seal. If not purchased with your FAE, your local hardware or marine store will likely carry these sealants.

Please note in this picture, the marine adhesive is shown as yellow. The adhesive needs to be this thick all the way around the tube. The goal is to use too much sealant. Measure your boat's transom thickness. Mark a line on your FAE equal to the thickness of the boat's transom (red line in photo). One and a quarter inch should work for most boats. If you get a chance, please let us know how thick your transom is. If your transom is less than one inch thick, you will need a transom block.

Put sealant on the flange (flat part) and the tube. Cover the flange and the tube with a medium layer (1/8” to 1/4” thick), then fill the corner even thicker. When you push the FAE into the hole in the transom, you want sealant filling the entire void between the FAE and the exhaust outlet hole (in the fiberglass). When you tighten the screws, you want sealant oozing out around the flange and inside the boat as well.

Don't forget to install the 3 small round washers between the flange and the transom. If you wish, you can also apply sealant under the large shaped washers as well (the three on the outside that cover the slots in the flange). Tighten the three screws snug. Step back and verify the FAE is aligned vertically. Then, tighten the three screws firmly.

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FAULTY SEALANT INSTALLATION AND FAILURE!

The picture below show an FAE that failed due to inadequate sealant.
YOU CANNOT USE TOO MUCH SEALANT.

Clean UP

Start cleaning up immediately.
3M 5200 cleans up easily with mineral spirits. Mineral spirits are less likely to damage decals than acetone might. You can clean-up inside the engine compartment or just leave alone. if you clean up inside the boat, be aware of breathing the vapors of the mineral spirits or acetone.

The sealant must have adequate time to cure, and the temperature must remain above 40 degrees during the entire process. We recommend:

- **3M 5200 - Slow Cure - 14 Days**
- **3M 5200 - Fast Cure - 3 Days**
- **Boat Life - 3 Days**

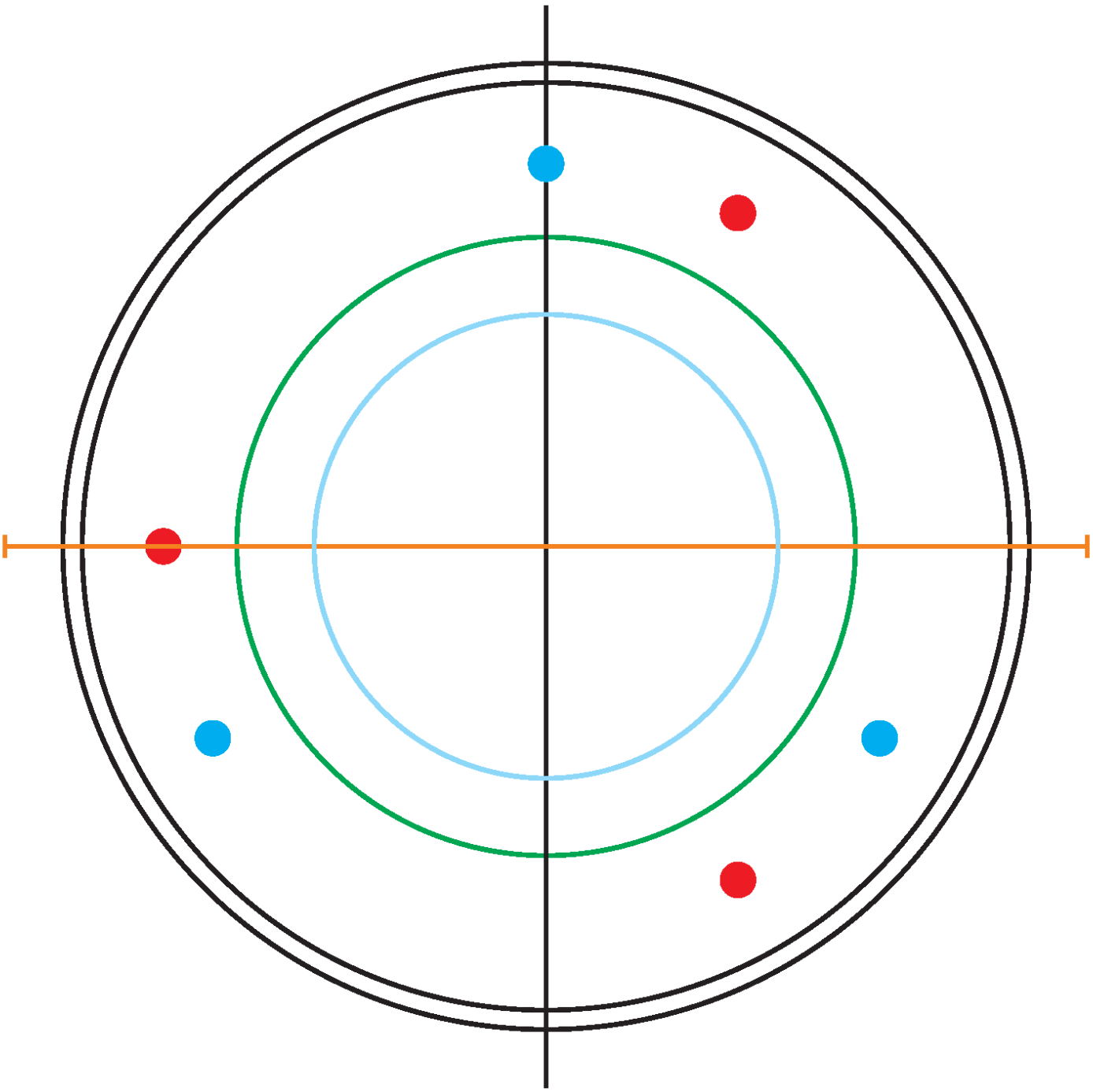
After waiting the cure time. for the first water test, it is recommended to not exceed 15 mph (surf speeds). After the first outing check that all FAE components are still tight. Once you have confirmed there is no movement of the FAE, resume high speed boating as you wish.

Clean and maintain your FAE just as you do the fiberglass on your boat. Coat your FAE with polish or wax if you wish. The brushed stainless finish can be “polished” with a ScotchBrite pad. We use the maroon colored ScotchBrite. Never use steel wool (or SOS Pad) as that will cause your FAE finish to rust. Inspect your FAE periodically; it is so quiet you may forget it is there.

If you have any questions, please ask us! Through customer discussion and feedback, you help us ensure that we are providing the best support.
You can reach our Support Team directly at 512-789-6266.

Exhaust Outlet Template

The orange line is 7.0 inches. Please measure to verify your printer is printing to the proper dimensions.



Blue dots - most thru hull FAE
Red dots - most Nautiques

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