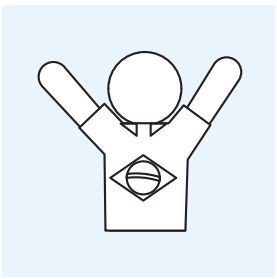
Fresh Air Exhaust Installation Instructions For Dual Exhaust Boats



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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- Installation and Positioning
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- Fill out Warranty and submit pictures
- Enjoy the Fresh Air Experience

"Scan for installation video" "Support bracket/mounting for your FAE may differ than what is shown in video. See additional instructions for more information."

Tools and Supplies Needed

Fresh Air Exhaust

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. If needed, be prepared to text pictures if you can. We are available by phone to answer your installation questions. 512.647.7321 – Central Time – Any day – 8am to 8pm.

There are lots of packaging peanuts, so have a clean garbage bag ready to dump them into. 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 clean. If any hose clamps have blue tape wrapped around them, for now, leave those hose clamps alone.

Tools and supplies needed.

- Silicone sealant – any brand
- 5/16" socket wrench or nut driver
- Phillips Screwdriver (if removing the swim platform)
- Typical wrench set
- Hacksaw, Sawzall or other metal cutting tool (to cut Square Tube and All-Thread bolt)
- Ruler
- Drill Motor with 5/16" and 3/8" drill bits or Step Bits
- Anti-Seize or oil for threads (See below)

Hardware included with your FAE

(1) Tee and Down Pipe
(4) 3" hose couplings
(4) #52 hose clamps/ 2 of those will be in the package with the screws for locking the elbows
(12) #48 hose clamps, 4 will be put on the Tee top and the other 8 in a clear bag
If applicable- pair of flanges (with or without flappers) and cork gaskets
Mounting hardware - specific for your order - see hardware bag in packaging

If your FAE is a 3-part FAE it needs to be "unfolded" from the shipping position: note the "Rotate" labels on the elbows. To rotate, loosen the hose clamps that do not have blue tape around them. As you rotate the two 90-degree elbows, adjust the overall width of the FAE to fit the width of the boat's exhaust outlets (the two elbows slide in and out inside the Tee). If your FAE jams while turning, just pull it out and try again. Start closer to your final position. If it is too wide and resists going narrower, you can hit the corner against a carpeted floor.

There may be additional instructions in the shipping box, the parts bags or sent by email. Please be sure to look at all the instructions. If your FAE is a 3-part FAE, remove and read the instructions in the parts bag that contains two hose clamps and a couple of small screws.

For all bolts, use oil (or suntan lotion) on the threads. You should use the standard nuts to position everything; then complete the installation with the Nyloc nuts. Once you install a Nyloc nut it is very difficult to remove. While completing the installation, you can either remove the standard nut and replace it with a Nyloc nut or just screw the Nyloc nut over the standard nut. Interesting fact: stainless steel creates friction in the threads when turning a nut/bolt. The friction can get so hot that it melts the stainless steel and cold welds the steel. Game over; you cannot undo it. So, in addition to putting oil on the threads, turn the wrench slowly.

During installation you may need to cut the long all-thread bolt. Before cutting, place a regular nut on the bolt; on the side of the bolt that you want to keep. That way when you remove the nut after cutting the bolt, the nut will help clean up the threads you just cut.

Step Bit

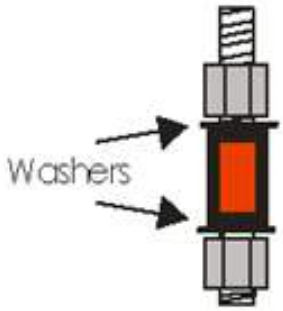
When drilling into stainless, the trick is to have the drill motor spin slowly but use firm downward pressure. A step bit works well; it is fat so you can press firmly with less chance of breaking the bit. Dribble or spray water on the tip of the bit to keep it cool.

Use a 5/16” socket wrench or nut driver to tighten the hose clamps; a screwdriver is not adequate. Check the tightness on one of the hose clamps marked with blue tape to feel how tight we tighten them. When a hose clamp is properly tightened, the portion of the band that sticks out will deviate to the side (as shown in drawing). Before tightening the hose clamps, position them so the bands are straight and parallel with each other, and the screw head is hidden on the inside if possible (just looks better). There will be four hose clamps per rubber hose (a few boats may only have three hose clamps per hose).

2 Long All-Thread Bolt & Exhaust Outlets/ Tips

The long all-thread bolt passes through the red rubber hose. The red rubber hose is located in the round tube welded to the corner of the FAE elbow (see picture). The all-thread bolt can be installed with the bolt head (welded nut) either on top or on the bottom. The all-thread can be positioned vertical (green line) or angled forward (purple line), whichever works best. If necessary, you may make a slight bend in the all-thread about 1-1/2" from the end. Initially position the all-thread bolts with the regular nuts, not the nyloc nuts. You must install washers above and below the Red Rubber Hose (see drawing).

If the all-thread was packaged with a round stainless-steel tube you will use that to cover the all-thread bolt. You will need to cut the round tube to length based upon the Z measurement (see final page of instructions for information on this measurement).



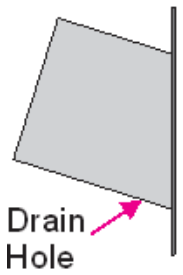
Exhaust Outlets/Tips

If your boat has turned down tips (see picture below right) we should have already spoken with you about your options. Look for the additional instructions included in the box. If your boat's exhaust outlet/tip is not shown here, look for additional instructions emailed or in the box. This includes many Moomba and Supra boats.

If your boat has an exhaust outlet as shown in two pictures below left; remove the 2 screws and "half-moon" stainless plate holding the rubber flapper. Next remove the 2 or 3 screws that were underneath the rubber flapper. That is all; do not remove the exhaust outlet. Save the flapper and all screws. We recommend storing them in the event they are needed.

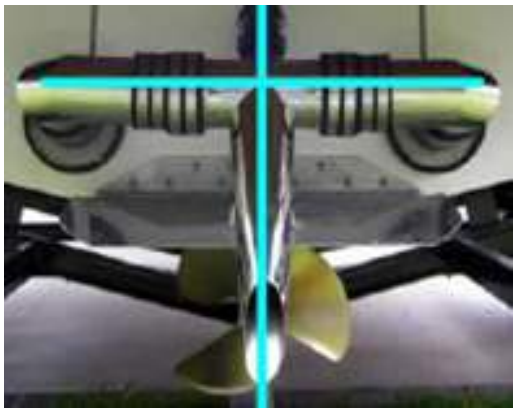
You will now install the FAE flange into/onto your boat's exhaust outlet. You may re-use the original screws or use those we supply. You need to confirm that the screws tighten snugly. You will use a silicone sealant only on the screws holding the FAE flange in place. Just leave the cork gasket in place and do not coat it with sealant.

If your FAE-Flange is angled, position the angle directed upwards as shown in this picture. When placing the rubber hose over the flange leave the drain hole uncovered. If your FAE flange is straight (not angled) there will not be a drain hole.



Positioning

Looking from the rear, position the FAE centered, horizontal and vertical (blue lines). Confirm that the longest edge of the FAE downpipe faces towards the front of the boat. Tighten the hose clamps snug but do not tighten firmly yet. If your boat has an adjustable trim tab, verify that the trim tab does not touch the FAE when it is in the full up position (red line) or during up and down travel. On most boats, position the downpipe vertical or angled slightly rearward (looking from the side – green line). This does not apply to the Wedge or Stinger plates.

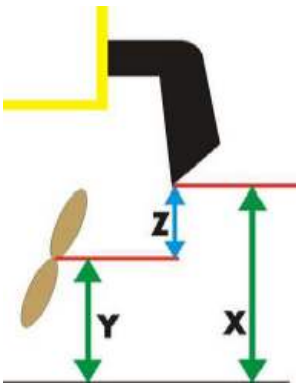


Measurement Z

Measurement Z is the distance from the tip of the FAE downpipe to the center of the propeller (blue arrow in drawing below). When making this measurement the boat needs to be approximately level, and on level ground. If the boat is in a lift just measure to the surface of the water.

The target for most boats (this does not apply to the Malibu Wedge) is a Z measurement of 2.5" to 3.5" (this is a "sweet spot" we've learned from our experience with FAE installed upon 1,000s of boats). Some boats Z measurement will be more or less than the above range with no problems. We use this measurement to confirm our design, and where we start the discussion if there are any issues with your boat's FAE performance. To put this into perspective, when we first began building FAE, the downpipe was almost 5" longer and there are 100's of FAE installed at this length, with no problems. If the downpipe is too short, carbon monoxide and other exhaust gas may not be removed from the back of the boat. The longer the downpipe though the greater the suction of the exhaust out of the engine, thus improved engine performance. The "sweet spot" is a balance between improved engine performance and minimizing drag in the water.

Measurement Z is determined by measuring from the bottom tip of the FAE to the ground (X) and then minus the measurement from the center of the propeller to the ground (Y) with the difference being Measure Z.



Secondary Mounting

***See additional instructions related to your particular secondary mounting/support bracket(s).**

If your FAE is mounted thru the hull, with the boat's factory exhaust outlet removed, there will not be any secondary mounting/support bracket. Your thru hull or secondary mounting instructions will be included in the box, a parts bag and by email. Secondary mounting can be to the swim platform, the transom, the trim hinge, or the drain plug. The positioning and adjustments to the secondary mounting will impact the Z measurement.

Final Step

Once everything is in place and aligned, the trim tab clearance verified and the Z measurement verified, install the Nyloc nuts (remember to use oil and turn slowly). It is now okay to loosen any of the hose clamps to reposition them, so they are evenly spaced and parallel. Position the hose clamp screw heads so they are hidden towards the middle/inside of the FAE. Verify that all the hose clamps are tight. Remove the plastic wrap and blue tape. Give your FAE a final inspection; you should be able to firmly push and pull on the downpipe without much movement.

It is recommended that you spend your first outing on the water at wake surf speeds (below 15 mph). After your first outing, double check that all bolts and hose clamps are tight before going faster.

If you have questions after reviewing these instructions, we are available by phone or email for support. Before you call, please be ready to send pictures by text message.

FAE Care

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 (sold in most grocery stores and hardware stores) or 3M #7447 ScotchBrite pad (available from hardware stores and online). Never use steel wool (or SOS Pad) as that will cause your FAE to rust. Inspect your FAE periodically; it is so quiet you may forget it is there.

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!

FAE

Fresh Air Exhaust