

Lowrance Product Bulletin:

FA-8 & RAA-3 External Antenna Installation Instructions

04-10-07:

FA-8 and RAA-3 Antennas

The following Lowrance Product Bulletin covers the mounting options for the FA-8 and RAA-3 external antenna modules. Both the FA-8 and RAA-3 external antennas are optional accessories sold through the LEI Extras web site. The packaging for both antennas includes three different base mounts. The following product bulletin will explain how to use each of the three different antenna base mounts.



The three base mounts shipped with the optional FA-8 and RAA-3 external antenna modules are, from left, the flat base mount, the magnetic base mount (center) and the suction cup base mount, far right. You will need to purchase additional screws to secure the flat base mount to a surface.

If a GPS unit has difficulty receiving satellite signals you can use an optional external antenna. Certain vehicles are equipped with special windshields containing metal in the glass. These models may prevent a GPS unit from receiving satellite signals and establishing a "lock." If the GPS unit has trouble locking onto satellite signals inside the vehicle, test the unit outside the car. Also, confirm the windshield type by consulting your vehicle's owner's manual or the vehicle dealer. Some of these windshields have a specific location where the external antenna will work. Otherwise, you must place the external antenna near a side window, a rear window or on the car exterior using a magnetic mount.

External Antenna Installation

For best results, a GPS antenna requires a clear view of the sky. Inside a vehicle, a GPS unit can sometimes maintain satellite lock while resting on the seat beside you but we don't recommend this for optimum performance. Since the view of the sky is restricted to what can be seen through the vehicle's windows, sometimes the GPS unit will operate best with an optional external antenna mounted to the windshield, on the dash or on top of the vehicle.

Deciding which base mount to use will depend on several factors, including where you plan to mount the external antenna module and whether or not you want to make the base mount installation permanent or temporary. Three different base mounts are included in the packaging for the FA-8 and RAA-3 external antenna modules.

The FA-8 and RAA-3 external antennas can be used with the suction cup mount, flat base mount or magnetic base mount. You may also achieve good results by placing the external antenna on top of the dash at the base of the windshield; especially in vehicles with larger dash boards. Use a piece of rubber "non-skid" shelf liner material under the antenna to hold the antenna module in place. Non-skid shelf liner material is available in most recreational vehicle supply stores.

To use either of the external antenna modules, they should be mounted in a location with an unobstructed view of the sky. Plug the external antenna's "male" connector into the GPS unit's antenna socket. The GPS unit will automatically switch between the *active* RAA-3 external antenna module and the unit's internal antenna.



The two mounting screws (actual size not shown) included with the external antenna are very small. Take care when opening the plastic bag containing the base mounts.



The external antenna's "male" connector.

If you purchase the *passive* FA-8 external antenna, you may have to use a menu check box to manually switch between it and the GPS unit's internal antenna. Check the manual included with your GPS unit for instructions on how to switch between the unit's internal antenna and the external *passive* antenna.

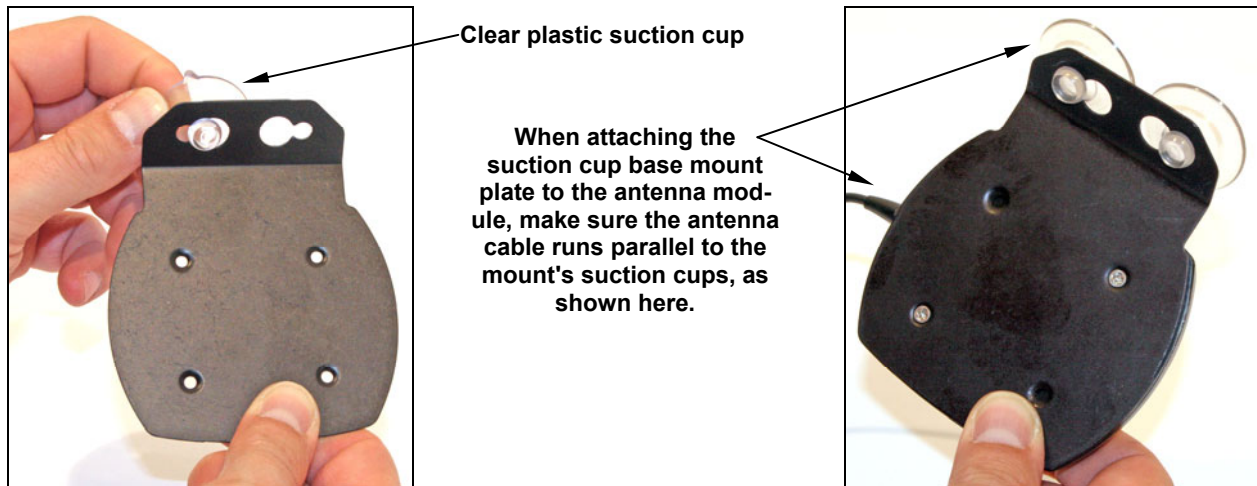
Caution:

If you do not connect the external antenna to the GPS unit correctly it could prevent the unit from receiving satellite signals with the external antenna. Also, do not mount in line with a radar antenna. Radar radiates high energy signals that can interfere with GPS signal reception.

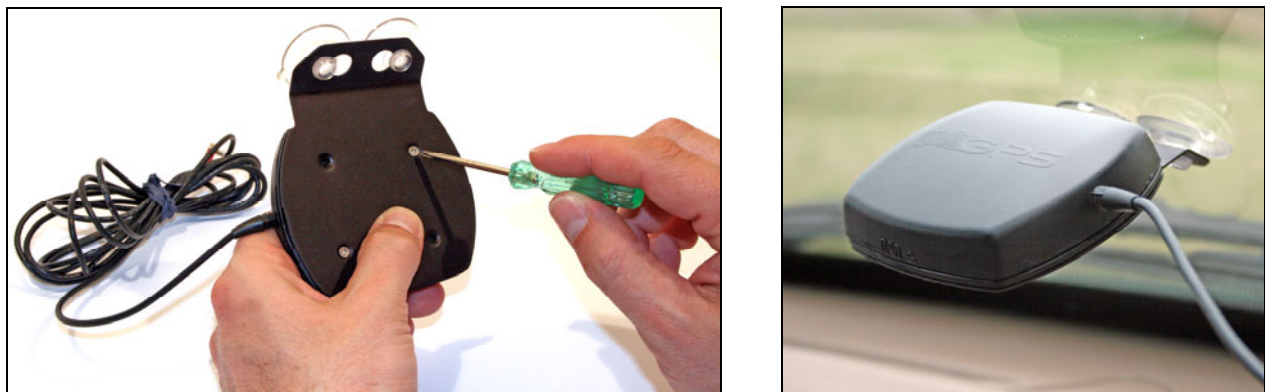
Attaching the Suction Cup Base Mount

Use the suction cup base mount to attach the antenna module to a car windshield. The suction cup base mount allows you to temporarily attach the antenna module to a glass surface. First, attach the two clear plastic suction cups to the suction cup base mount plate. Now, use the two small screws provided in the base mounting package to attach the external antenna module to the suction cup base mount plate.

Make sure to connect the antenna module to the suction cup base mount so that the antenna cable is parallel to the mount's suction cups, see the following figures. Once the antenna module is attached to the suction cup base mount, the antenna module is ready to mount to a vehicle's windshield. If the suction cup mount has trouble staying on, clean the mounting surface and the suction cup with alcohol then reinstall. Moistening the suction cup may help adhesion in some cases.



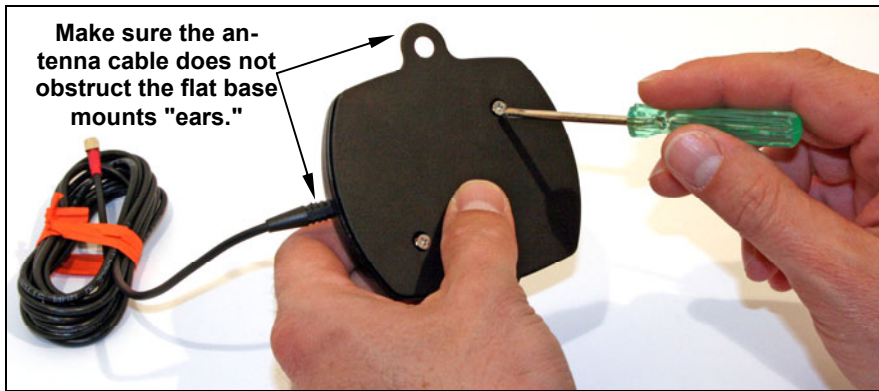
Attach the two clear plastic suction cups to the suction cup base mount plate. To attach the clear plastic suction cups, place the plastic base (knob end) of the suction cup through the larger hole in the mounting plate, then slide it left or right into the smaller hole. This may take some effort.



Use the two included screws to affix the antenna module to the suction cup base mount. As shown in the left figure, the antenna module is mounted to the suction cup base so that the antenna cable runs parallel to the mount's suction cups. At right, the external antenna is attached to a vehicle's windshield using the suction cup base mount.

Attaching the Flat Base Mount

The flat base mount attaches to the external antenna module in the same manner as the suction cup base mount. Use the provided screws to affix the antenna module to the flat base plate. When attaching the antenna module to the flat base plate, make sure the antenna cable does not cover the flat base mounts "ears". The ears will be used to secure the plate and antenna to a flat surface.



As shown in the right figure, make sure the antenna module cable does not obstruct the "ears" on the flat base mount. A proper installation of the antenna module to the flat base mount plate is shown above, at right.

Caution:

When choosing screws to attach the flat base mount to some surface, be sure to match the screw type and size to the mounting surface material and thickness.

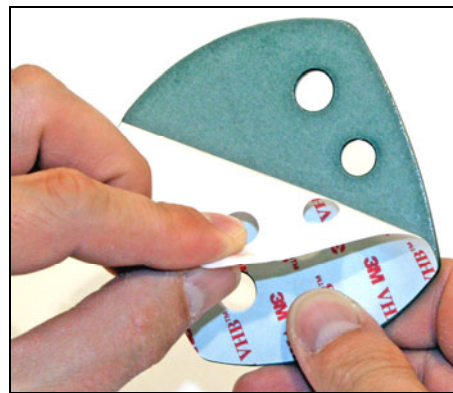
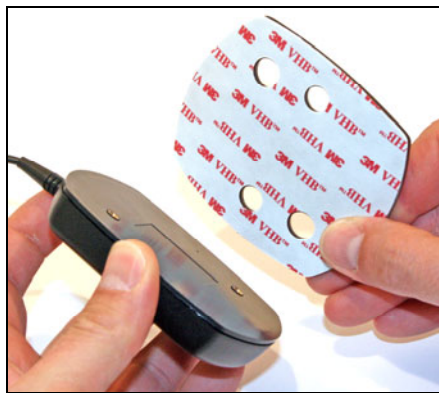
Attaching the Magnetic Base Mount

To use the magnetic base, peel the cover off the magnet's adhesive coating. Turn the antenna upside down and position the magnetic base (sticky side down) over the antenna. Align the edge of the magnet with the edge of the antenna and press down firmly. Maintain pressure for at least 20 seconds to ensure the adhesive bonds securely. Once the magnetic base is secured the antenna is ready to use.

NOTE:

When attached, the magnetic base mount is difficult or impossible to remove from the antenna module.

When attaching the antenna module with magnetic base to the outside of your vehicle, we recommend running the antenna cable through an open window. Roll the window up on the cable taking care not to crimp the antenna cable. We *do not* recommend running the cable between the car door and frame as this may crimp or even cut the cable.



Before attaching the magnetic base to the bottom of the antenna module (shown at left) you will need to remove the adhesive's cover, at right. You may want to consider cleaning the bottom of the antenna module with rubbing alcohol before attaching the magnet.

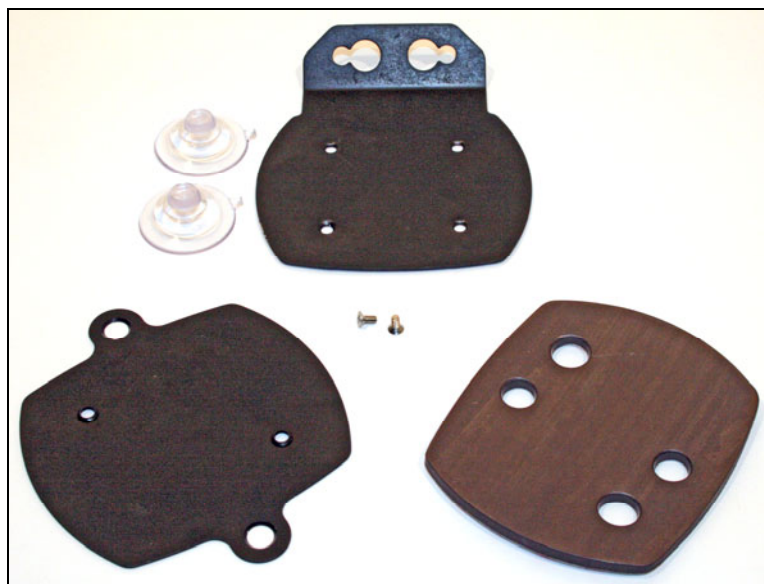
Differences Between Active and Passive Antennas

Both antenna modules, the more powerful RAA-3 external *active* antenna and FA-8 external *passive* antenna, will work with *most* iFINDER® units. Check the documentation included with the GPS unit to determine if it is compatible with the external antenna module. The RAA-3 has an internal amplifier that boosts the satellite signal received by the GPS unit.

The drawback for the *active* antenna is that the GPS unit must provide DC voltage to power the amplifier located inside the RAA-3 antenna module. In other words, while the RAA-3 boosts the satellite signal reception, it also draws power from the GPS unit. The FA-8 antenna module does not draw power from the GPS unit. The performance boost offered by the RAA-3 can be useful when operating in regions that include dense forests, mountains or metropolitan areas with tall buildings, which can obstruct GPS signals.



The optional FA-8 and RAA-3 external antennas look identical but the FA-8 is a passive antenna while the RAA-3 is an active antenna.



The base mount package included with the optional FA-8 and RAA-3 external antenna modules includes three different base mounts. The base mount package shipped with both the external antennas should include everything you see here.