



AEROMOTIVE
Part # 18651 & 18652
Stealth Fuel Tank Sump
INSTALLATION INSTRUCTIONS

CAUTION:

Installation of this product requires detailed knowledge of automotive systems and repair procedures. We recommend that this installation be carried out by a qualified automotive technician.

Installation of this product requires handling of gasoline. Ensure you are working in a well ventilated area with an approved fire extinguisher nearby. Extinguish all open flames, prohibit smoking and eliminate all sources of ignition in the area of the vehicle before proceeding with the installation.

Installation of this product requires welding and modification to your existing fuel tank, failure to satisfy all safety considerations will result in fire, injury and/or loss of human life.

When installing this product, wear eye goggles and other safety apparel as needed to protect yourself from debris and sprayed gasoline.

WARNING!

The fuel system is under pressure. Do not open the fuel system until the pressure has been relieved. Refer to the appropriate vehicle service manual for the procedure and precautions for relieving the fuel system pressure.

Welding must be done in a well-ventilated area. Welding of galvanized steel produces a white zinc oxide fume, breathing these fumes can cause flu like symptoms.

Aeromotive system components are not legal for sale or use on emission controlled motor vehicles.

The following steps are typical of most installations:

- 1-1. Once the engine has been allowed to cool, disconnect the negative battery cable and relieve the fuel system pressure.
- 1-2. Raise the vehicle and support it with jack stands.
- 1-3. Referring to the appropriate vehicle service manual for instructions, drain, disconnect any electrical and fuel component connections and remove the OEM fuel tank. The removal of the vehicles exhaust system may be necessary for fuel tank removal.
- 1-4. Once the OEM fuel tank has been removed, **have it professionally cleaned to remove all traces of fuel and fuel vapors.** This can typically be done at your local radiator shop.
- 1-5. With the fuel tank upside-down find a suitable mounting location for the sump. For optimal results the sump should be located toward the rear of the tank and centered from side to side. Keep in mind that the components inside of the sump must be kept clear of the existing fuel level sender, in order for the fuel level sender to work properly. If this is not possible, you may need to purchase and install an aftermarket fuel level sender elsewhere in the fuel tank.

1-6. Set the sump, upside down, over the intended mounting location and trace the outside edges of the sump onto the fuel tank using a black marker.



1-7. Using an appropriate saw, cut the bottom of the fuel tank to accept the sump. It is usually best to cut the hole a little small to start with. Then gradually enlarge the hole until the sump edges just fit inside of the hole.

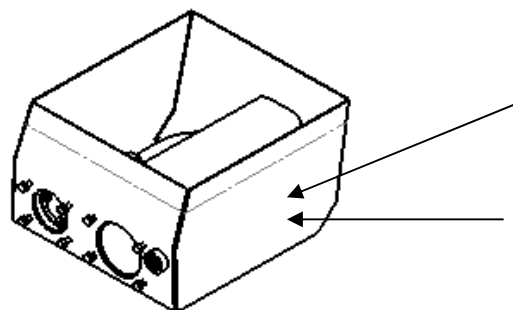
1-8. By measuring and observing the fuel tank interior and exterior, determine how deep the sump will sit in the tank. Typically the top of the sump will be approx. 1/4" from the top of the tank and the bottom of the sump will be level to 2" below the lowest part of the fuel tank. Trim the sump sidewalls down if necessary to avoid hanging the bottom of the fuel tank sump too close to the ground. Typically, the bottom of the sump will need to be 1" - 3" higher than the bottom of the differential, to protect the sump from being struck by obstacles in the road.

1-9. The sides of the sump have a slight taper to ease installation. Gradually enlarge the hole in the fuel tank until the sump sits at the proper depth in the hole.

1-10. With the sump properly positioned in the tank, using a permanent marker, mark the location of the bottom of the tank on each side of the sump.



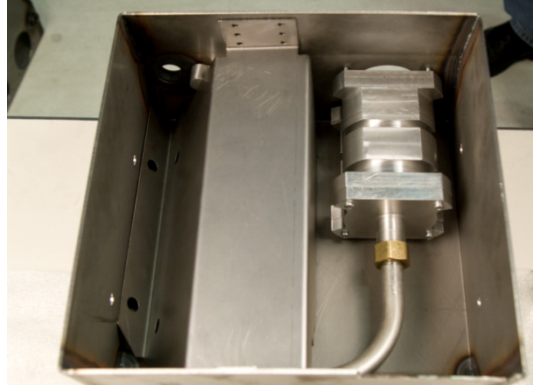
1-11. Remove the sump from the fuel tank, using the line marked on the side of the sump as a reference drill a 3/8" hole in each side of the sump, 1/8" above the bottom of the tank line, as shown below.



Drill 3/8" Hole in both sides of sump 1/8" above bottom of tank line, at a point near the lowest part of the tank.

Bottom of tank line.

- 1-12. Place the sump baffle into position inside of the sump as shown below. If the top edges of the sump were trimmed to fit inside of the fuel tank, it may be necessary to trim certain edges of the baffle as well. Trim the baffle as necessary to fit within the envelope of the sump box.



- 1-13. Tack weld the sump baffle into position inside of the sump box. Weld in 3 or more locations to securely fasten the baffle into place.
- 1-14. Insure that the sump box and fuel tank surfaces that will be welded are clean and free from dirt, oil and debris. Sand or grind any tank galvanizing away from the weld area to prevent weld contamination.

Note: We recommend purging the inside of the fuel tank with argon or CO2 to minimize the risk of explosion!

- 1-15. Place the sump into position in the fuel tank and tack weld the four corners of the sump. Then go back and tack weld each side every couple of inches.
- 1-16. Finish welding around the sump, alternating sides to minimize warpage.

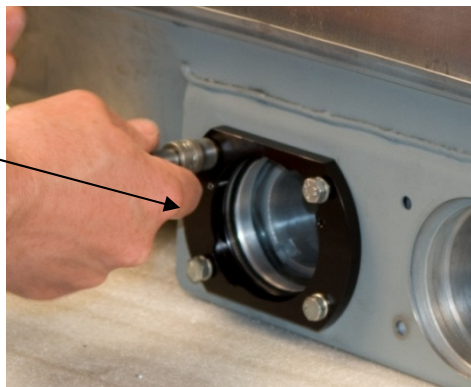
If you have a means for plugging all of the openings in the sump and tank and checking for leaks around the welds, it is recommended that you do so now. If not, then you may have to disassemble the unit to repair any weld leaks later.

- 1-17. Remove the 8 bolts and washers located on the front side of the sump. Locate the gasket that fits the bolt pattern and hole size on the right side of the sump. Working from the outside of the sump, slip the gasket in between the aluminum housing located inside of the sump and the inner wall of the sump. Do the same with the left side gasket.



- 1-18. Install the filter cover with the tab slots facing outward and the stop pin located in the upper left corner, with 4 of the bolts and washers removed earlier. Make sure that the gasket holes align properly with the bolts during installation. Do not tighten the 4 bolts yet.

Stop pin.



1-19. Reinstall 2 of the bolts in the pump housing, but do not tighten them.



1-20. Open the lubricant packet and apply a generous amount of o-ring lubricant to all 3 o-rings on the pump assembly. Center the pump assembly in the sump opening and slide the pump assembly into the pump housing, being careful to not nick or cut the o-rings.



1-21. Slide the pump assembly out far enough to remove the 2 bolts previously installed. Remove the 2 bolts, then slide the pump assembly in far enough to reinstall the bolts and washers. Thread 4 bolts and washers through the pump outlet endcap and into the pump housing, being sure that the gasket holes are properly aligned. Now tighten all 8 bolts on the front of the sump.

1-22. Apply a small amount of o-ring lubricant to the o-ring on the inside edge of the fuel filter element. Install the element by sliding it into the filter housing until you feel it snap into position.



- 1-23. Apply a generous amount of o-ring lubricant to the o-ring on the outside of the filter endcap. Align the tabs on the endcap with those in the filter cover and slide the endcap into place.



- 1-24. Using a wrench, rotate the filter endcap clockwise until you feel it stop. Then insert and tighten the 8-32 screw and lock washer to lock the endcap in place.



- 1-25. Properly cap and seal any stock fuel pickup and return holes that exist in the tank, as they are no longer needed.
- 1-26. Reinstall the fuel level sender, making sure that its operation is not impeded by the sump assembly.
- 1-27. Reinstall the fuel tank, reconnecting the fuel filler and vent lines as necessary.
- 1-28. Complete your fuel system installation using appropriate lines, fittings and wiring. The fuel pump outlet and sump return port require an AN-10 ORB fittings and o-rings, while the fuel pump terminals require a 12V feed capable of a minimum of 30 amps. We recommend using our wiring kit P/N 16301 to ensure that your fuel pump is wired correctly. The sump return port is used on return style fuel systems only; returnless systems require that this port be plugged with an AN-10 port plug and o-ring.
- 1-29. Lower the vehicle to the ground, fill the fuel tank with fuel and observe the fuel tank for any leaks. If no leaks are found, start the vehicle and recheck for leaks. **If any leaks are found at any time, shut the vehicle off, clean up any spilled fuel and fix the leaks before continuing.**

Section 2 – Filter Maintenance

Follow this procedure to check and clean the filter element contained in the fuel sump. Filter should be cleaned for the first time as soon as possible after the first 500 miles of use. Filter cleaning should be performed at regular intervals thereafter.

2-1. Raise the vehicle and support it with jack stands. Disconnect the battery ground cable.

CAUTION: While performing the following steps, a small amount of fuel will leak from the sump filter assembly. Extinguish all sources of ignition and prohibit smoking in the area before continuing. Make sure there is an approved fire extinguisher nearby.

2-2. Place a small drain pan underneath the sump. Remove the 8-32 screw and lock washer locking the filter endcap in place.

2-3. Turn the filter endcap counter clockwise until the tabs on the endcap line up with the slots in the filter cover. Pull the endcap out of the filter housing and set aside.



2-4. Grasp the end of the fuel filter element, contained inside of the filter housing, and pull it out. Clean or replace the element as needed.



2-5. Apply a small amount of grease to the o-ring on the inside edge of the filter element. Slide the element into the filter housing until you feel it snap into place.

2-6. Apply a small amount of grease to the o-ring on the filter endcap. Position the endcap over the filter cover, aligning the tabs and slots. Push the endcap into the housing, being careful not to nick or cut the o-ring.

2-7. Rotate the endcap clockwise until it stops. Insert and tighten the 8-32 screw and lock washer that were previously removed.

2-8. Check the sump for any leakage from the filter housing area.