

Carb2EFI Fuel System Conversion Kit Intank Fuel Pump (GSS 190 or 255 LPH)

Thanks for your purchase of this kit. We have worked hard to provide kits that contain exactly what you need—No more (meaning you don't pay for something you don't need) and no less (meaning you don't find yourself on Sunday afternoon needing 4 more hose clamps.) Further, we have engineered these kits to give great performance without the excessive costs normally associated with AN-style plumbing. That said, let's get started!

This kit is for you if you prefer an in-tank fuel pump solution and if you recognize that fuel tanks on OE carbureted vehicles generally require some engineering to create a mounting solution for the pump inside the tank. If words like "engineering" and "creating" concern you a bit, then please consider opting for one of our Carb2EFI In-Line Fuel System Conversion Kits.

DISCLAIMER: *This kit is offered without guarantee of suitability for any application. Buyer/Installer/User accepts all responsibility for safe installation and operation, as well as property damage, physical injury or death that might occur from the installation/use of this product. While we believe this to be a high-quality product that is safe to install (when installed by experienced professionals) and safe to use (when used in a manner consistent with all applicable laws and regulations), it is the sole responsibility of the buyer/installer/user to make this determination on their own. This product is offered only for non-emissions controlled vehicles which will never be used on the street.*

Tank Requirement: If you are going to upgrade to an in-tank fuel pump in your factory carbureted vehicle, we recommend you carefully consider your fuel tank. Your fuel tank is going to need three things in order for this to be a success:

1. Access Port (Removeable Cover Plate) Large Enough for Fuel Pump
2. Return Fuel Port (which we can provide)
3. Power and Ground Connections (which we can provide)

Since we offer solutions for the return fuel port and the power and ground connections, the access port is the biggest obstacle. For most folks there is no practical way to create a hole large enough for a fuel pump and then seal it back up. If your tank does not meet these requirements, consider the following:

1. Buy a purpose-built EFI tank for your application (pricey, not available for all applications)
2. Find an EFI tank for another application that will fit in your vehicle
3. Opt for the Inline kit (unless you need more than 255 LPH or to run E85)

Component Listing and Images

Regulator After Fuel Rail

Walbro / TI Automotive	
Intank Fuel Pump (190 or 255 LPH)	1
Sock Filter	1
10 Micron Post-Filter	1
Pump Wiring Harness	1
Hose Clamps, 3/8 inch	12
Butt Connectors	2
Adjustable Fuel Pressure Regulator	1
Fittings, -8 ORB to -6 AN Male	1
Fittings, -6 AN Female to 3/8 HB	1
Fittings, -6 ORB Male to 3/8 HB	1
Fittings, -8 ORB Male Port Plug	1

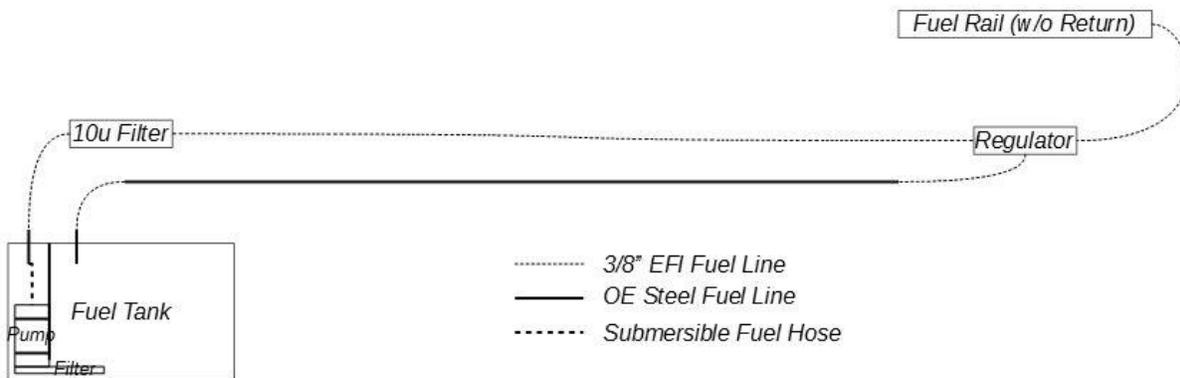
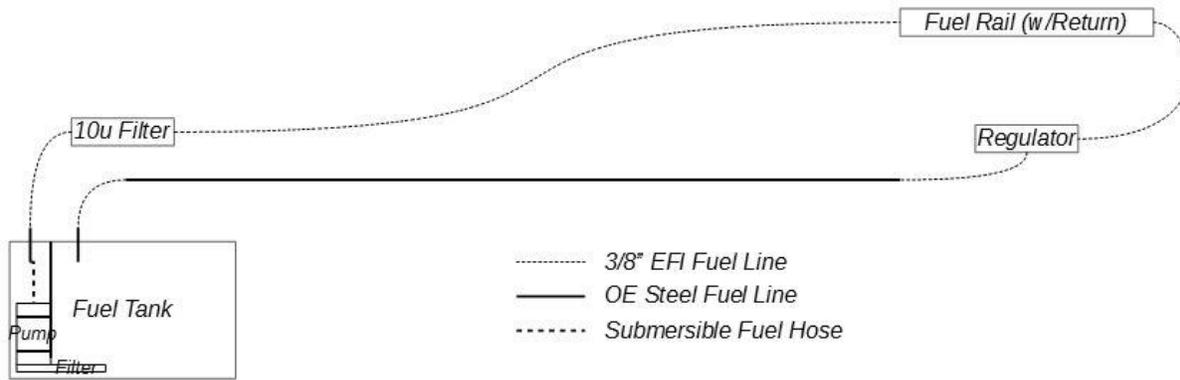


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Step 1: Begin With The End In Mind



There are commonly two ways to install a return-style fuel pressure regulator: After the fuel rail (for fuel rails that provide a return) and before the fuel rail (for fuel rails that do not provide a return.) If you have the option, it is always best to flow fuel through the fuel rail and then into the regulator, but either will work just fine. We offer separate kits to accommodate each style, but the only difference is that one kit has a plug for the side of the regulator that is not used and the other provides a hose barb fitting to flow fuel out of the regulator and into the fuel rail. Select the kit that is right for you.

A few comments are appropriate:

1. We recommend using the existing steel fuel line running from the tank to the engine compartment as a **return** line. This line is likely 5/6-Inch or 1/4-Inch but everything in the kit is 3/8-inch. The small original line is adequate for return line but we prefer 3/8-inch feed lines to ensure maximum fuel flow.
2. We do not include fuel line, though we do offer it for purchase. Be sure to buy only EFI fuel line, not just "fuel hose". There is a difference. Absolutely never re-use any of the existing fuel hose.
3. We do not include the fuel pickup line, though we do offer it for purchase. Be sure to only use fuel line that is rated as "submersible" in your tank.

Step 2. Designing the Pump Mount

As stated earlier, this kit requires that you engineer an appropriate fuel pump hanger. While we are not going to give complete instructions on that there are a few things to keep in mind. First, the fuel pump with the included filter sock attached must be securely located so that the sock is continuously under the fuel level. Some tanks have a well or baffles for that purpose. If so, we recommend mounting the pump so that the filter is horizontal at the bottom of that area.

Since the fuel tank on vehicles with carburetors rarely had a “hanger” for a pump, it is going to be necessary for one to be fabricated. Your ultimate success in this installation depends on your success in this step. If the hanger breaks off from the weight of the pump when going down a rough road, you’re in trouble. If the sock filter isn’t placed appropriately in the tank you’ll find yourself out of fuel at 1/4 tank (particularly when cornering.) Again, if you’re not sure, it’s still not too late to return this kit and get one of the excellent **Carb2EFI Inline Kits**.



Finally, connect the in-tank fuel pump to the hard line passing through the tank. Do this **ONLY** with fuel hose that is rated as “submersible.” Regular EFI fuel hose uses a different compound on the outside to keep the cost more manageable. Used inside the tank, this compound can break down and become a problem. We offer submersible fuel line by the inch so you can buy only as much of this expensive hose as you need.

Step 3. 3/8-Inch Fuel Port (Available, Not Included)

Your new EFI fuel system is different from your original fuel system in that it requires you to run a return-style regulator. This regulator maintains pressure by returning to the tank whatever fuel is not required to keep the intended PSI. While fuel tanks in carbureted vehicles normally don’t have accommodation for a return line, they usually come with some sort of a vent and we know many have utilized that vent as a return. Certainly that can



work but it's not the best practice. The biggest reason is that the feed line on the tank is probably less than 3/8-inch. Since you have purchased a new fuel system that uses larger 3/8-inch plumbing, why restrict yourself coming out of the tank?

Instead, use the OE feed line for the return. But what to do about a feed line? We offer 3/8-inch fuel port fitting (shown above-right.) It requires that a hole be drilled in the top of the tank, only in the cover plate through which the fuel pump will be accessed, and only after the cover has been removed and thoroughly washed and dried. **WE DO NOT RECOMMEND DRILLING YOUR FUEL TANK, ONLY THE COVER PLATE.**

Step 4. Wiring Bulkhead (Available, Not Included)

The fuel tank in most factory carbureted vehicles does not have access for power and ground for the pump. We offer a 2-wire bulkhead through-tank fitting. Like the return port above, it requires that a hole be drilled in the top of the tank, only in the cover plate through which the fuel pump will be accessed, and only after the cover has been removed and thoroughly washed and dried. **WE DO NOT RECOMMEND DRILLING YOUR FUEL TANK.**



It is left to the installer to determine the best method of wiring. It is always recommended to use a 30-amp relay, a 20-amp fuse, and use the ECU fuel pump output to switch the fuel pump on/off. Never use the ignition power or any other power source other than the ECU to switch the fuel pump on. The ECU will always shut off the fuel pump when the engine is not running and that is vital in the event the fuel line is cut.

Step 5. Plumbing

When you have completed steps 2-4 your fuel pump should be ready to install. You are only required to complete the plumbing. Here are the basic components.

Feed Line: As suggested earlier, we recommend that you add a 3/8-inch feed port (if your tank doesn't already have one) and use the original metal fuel line as the return. We recommend using rigid 3/8-inch tubing for the bulk of the under-car run. Where using rubber hose, use only EFI-rate fuel line, not common fuel hose. Ensure it is well secured, protected from debris, snags, or pinches, has no kinks and is not affected by suspension travel. Only connect hose to rigid line where a barb or bead exists. Start

by connecting to the feed port and then connect each component in series, using one of the EFI-rated 3/8-inch hose clamps included in the kit.

10-Micron Fuel Filter: A 10-micron fuel filter is provided with this kit suitable to the flow rating of the fuel pump. When installing, be sure to note the direction of flow and install in the proper direction. This 10-micron steel-canister filter has 3/8-inch hose inlet and outlet hose barbs. No assembly is necessary and the filter is disposable.

Fuel Pressure Regulator (FPR): The included Holley HP adjustable Fuel Pressure Regulator provides two pressure and one return port. Assemble based on the images shown. If the fuel rail has a return then the return is connected to one of the pressure ports and the second port is capped with -8 AN cap included in the kit for return-style rails. If you have a fuel rail without a return and purchased the non-return style rail kit, it will include the second 2-piece hose barb assembly. Do not use any thread tape or sealant on these fittings. The return port on the bottom of the regulator should be connected back to the fuel tank, preferably using the stock rigid fuel line on the vehicle. A hex tool can be used to remove the 1/8th NPT plug in the front center of the FPR and insert the optionally-available pressure gauge.



Fuel Rail: There are a wide number of fuel rail fittings so rather than try to include a hose-barb adapter for every possible combination we offer those as optional add-on items. Plumb the fuel rail as shown in the diagram, either from the 10-Micron filter (return-style fuel rail) or from the fuel pressure regulator (for non-return style fuel rails.)