

## SKID MARK GARAGE

### Axillary Fuel Supply

*\*Disclaimer: Our Axillary Fuel kits are designed to fit most late model GM vehicles with minimum modifications. While not quite a "universal" kit for all, it has been tested on several generations of Camaro, but may require some amount of customization from you the installer. The basics are covered below along with pics from the installation on our 9xx+ Whp 2017 Camaro. Again, you may choose to mount a few things differently, and this kit has the flexibility to allow you to do just that.*

#### **Included with your kit**

1. Preassembled fuel pump assembly. Hoses will be attached but loose, just so you know how they go, **final tightening will be needed once installed.**
2. Wire harness and zip ties to secure it out of the way. Your kit will contain a fully assembled wire harness package.
3. New tube of thread sealant, no need to use entire tube, just enough to coat the NPT threads of the inline fuel, tank fitting and pressure switch only. You can discard the rest. (do not use on the AN fittings)
4. Bag containing a length of vacuum line, and barbed brass switch fitting.

#### **Tools and/or additional parts needed (not included in this kit)**

##### Tools

1. Drill, drill bit and tap (sold separately). **Drill bit size 37/64 and 3/8" NPT tap**, can usually be purchased as a kit online at smgspeed.com or your local hardware store.
2. Misc. wrenches to tighten fittings once installed
3. Socket wrench and various sockets.
4. Jack and jackstands or automotive hoist, drain pan or bucket to catch spilled fuel.
5. Tools to remove right front wheel and wheel liner (t15 torx for liner screws)
6. Screw driver assortment
7. Safety glasses to protect your eyes from debris and fuel when drilling and working under your car will also be a smart idea.

#### **Pre-installation prep work**

1. Drive the car, you want the fuel tank as empty as possible as you will be drilling a small hole in the fuel tank to attach the new feed line to the aux fuel system. We drove our car till it was nearly on fumes and still had some spillage. When the car says its on "e" there is probably another Gallon or so in the tank.
2. Working in a well-ventilated area, Jack up the rear of the car, or use a hoist, making sure the rear of the car is several inches higher than the front to make sure as little as possible fuel spills when tapping the rear of the tank.
3. A drain pan or bucket should be handy to catch any spilled fuel. Fire extinguisher and appropriate safety equipment also advised.

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4. Disconnect negative battery terminal as we will be working with fuel and electrical systems.

## Installation begins!

### Work under the vehicle

1. 1<sup>st</sup> step is to ensure your fuel tank is empty, so if you didn't drive it till "e" go do it , or drain it by some means.
2. We'll need to locate the ideal on the drivers frame rail where you will mount the pump assembly, (using 2 of the included the self-tapping screws). This guide is written generically so that it will work with all variations of the GM FS truck lines from short bed, single cab to crew long beds and more.
3. Best way to determine ideal location is to find a spot just forward of the drivers side fuel tank, but with a clear path this protective cover:



4. We'll be needing access just behind that panel, you can see in the center of the opening at the top a quick disconnect. We'll actually be tapping the feed line which is just behind the cover.



The blue clipped line is the feed to the engine we'll be with

5. Bending the plastic cover down will expose 2 lines, the one with the blue clip is the one we'll be working with. Take the blue clip out and separate that fitting, if you didn't drain your tank prior, it will now. Our kit included little plastic tags that tell you where each connection goes, find the one that says "Main feed". The black aluminum adapter will snap into place between those two sides of the fuel line you just separated. But 1<sup>st</sup> you'll need to apply the included sealant to the small 6AN adapter on the side, so unscrew it and apply the thread sealant to the small threads only (do not apply to the hose side of the fitting). Using a wrench, reassemble the fitting and snug tight, then unscrew the cap from the back of the fitting and insert the oem male end of the hose into the opening, re-attach the screw cap and snug, then proceed to insert the male side of the adapter into the female OEM fuel line, once in place re-attach the blue clip you removed prior. Make sure it's locked in place and re-attach the short hose from the pump back to this fitting.
6. Now you know the approximate length you have to work with when locating a place on the frame to mount the pump.
7. Mark 2 small holes and pre-drill or use the self-tapping screws to mount the pump clamps in place. Attach the short ground lead on the pump to one of these self-tapping screws to ground the pump.
8. With the pump mounted, route the longer hose back towards the fuel tank. You'll want it as far toward the back as you can (again universal to all GM trucks so your tank size may vary). Once you've routed the hose towards the back, find a suitable place to tap the fuel tank so that the hose will lay naturally when attached to the 90-degree fitting. Low and on the side is ideal.

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9. Mark that location and drill the hole. See above for drill bit and tap size if you kit didn't include one. (when tapping, be sure not to bottom out the tap, only about 2/3 of the way in is ideal)
10. Take the 90-degree NPT to O6AN adapter off the hose and test fit it into the tapped hole. If it screws in nicely, remove and coat the threads of the NPT portion with the included sealant. Work into the threads, and leave it on a little thick, you want to be able to seal any small voids in the threads. Thread the fitting into the tank and end about 2/3-3/4 of the way to the bottom of the threads. Make sure its snug and the O6AN fitting is facing forward towards your pump.
11. Reattach the hose and use the included hose clamps/zip ties to route the hose safely from harm's way.
12. Go back and snug your fittings, you should go back and check for leaks again later once fuel it in the system as well. The plumbing portion is now done. Moving onto wiring.



### Onto the Wiring portion

1. If using a lift, lower the vehicle back down to allow you to work under the hood.
2. In your kit, located the Hobbs pressure switch that looks like this. It was prewired and designed to be mounted in relative proximity to the relay where you'll have easy access later should you want to adjust the pressure sensitivity (pressure adjust covered on last page). Newly included in your kit is a brass barbed fitting designed to connect your Hobbs switch to a vacuum/boost source.

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- 3.
4. This switch is pre-wired and ready for you to simply add the barbed fitting and vacuum line to your manifold. The threaded end can also be attached directly to a “manifold” as well, but the preferred method is a vacuum line to limit wire length. (Wires going to the switch would need to be extended if you opt for this route).

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5. If your vehicle has an aftermarket boost adder, you should have some sort of vacuum manifold or “tree” to feed a mechanical boost gauge, bypass valve etc. similar to this.



6. Attach your vacuum line from the Hobbs switch here or your preferred boost reference location.
7. Safely route the Vacuum line back to the hobs switch avoiding any pinch points or hot parts that would melt the hose (exhaust manifolds, turbos etc. You will ultimately place the relay harness and switch assembly next to the fuse box and secure it to a bolt and or a zip-tie on the inner fender or suitable location. Use included zip to secure any loose wires and vacuum lines for best appearance and safety.
8. Located the power supply typically near the fuse box, or you can route to your battery.

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9. Your Wiring harness is designed to be used with constant and/or switched power, your car may or may not have a “switched” power terminal here, many are just constant power, which is fine, but switched power is ideal. As with the hoses, your wires are labeled for dummy-proof installation. Place each wire in a suitable location per your build and fasten, then zip-tie wires. (example below)



10.

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11. Secure the relay to a similar location of your choosing



12. We choose to mount the Hobbs pressure switch like shown just above, you are free to mount as you wish. Keep in mind this kit can be used in several applications and as such has flexibility built in.
13. Secure any under hood wires with zip ties to your liking and close the hood, for now we are done under hood.
14. Raise the vehicle back up and finish routing the long pump power lead from the relay to the pump, making sure to route it from and moving parts or sharp edges, connect the red tipped lead to the pump+ terminal, (the negative terminal should already be attached to a short ground wire and to the frame when you mounted the pump)
15. Secure the wire with included zip ties and tuck away any slack.

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16. We will now double check the fuel fittings for snug, zip tie any hose that hangs low to the underbody holes. Lower the vehicle, add additional fuel if your tank was empty, it's time to start it up and check for leaks. Reattach the battery if disconnected.
17. With the car started and warm, look underneath, touch the fuel fittings and make sure no wet fuel is present on any fittings, if found, shut off car, snug a bit tighter, and verify leak is gone. Repeat step 17 until no leaks are found.
18. Reattach the dust cover if you removed one, at this point you can verify that you snugged up the pump mount as well. Installation is complete.

### **Adjusting the trigger point of the Hobbs switch.**

1. Your Hobbs switch is preset at ~4psi boost pressure which is suitable for most applications. You may custom tailor it to come on sooner or later depending on your need.
2. If you find you need to adjust the pressure setting on the Hobbs Switch, there is a small rubber cover on the top of the plastic stem of the housing, underneath it a hex head set screw, turn it clock wise (in) and the pressure required to trigger it goes up, counter clockwise (out) and the pressure required goes down. The switch included has a window of ~1psi~10psi. Higher rated switches are available on a custom order basis. Test and tune as you would with any adjustable fuel modification to find what works best for you.
3. If you monitor fuel pressure on a gauge or via your preferred tuning software, you should now see the increased low side fuel pressure under load. Some cars may need the FPCM programmed to take full advantage of the increased fuel, consult your tuner for more info

That's it! Your install is complete and you are ready to go tear up the competition.

*Our goal is to offer high quality, in demand products for your car for less than the competition. To help keep our prices low, we keep our overhead low. Paid advertising is kept to a minimum, and forum sponsorships are non-existent.*

*That means we need your help spreading the word. If you could take a few moments and drop us a review on a board or 2 and rate us or tag us on Facebook, that would be greatly appreciated.*

*Our Auxiliary fuel systems are manufactured in house and use proven top-quality components and tested before they ship. Should you have a problem with your kit due to failure of a component within the 1<sup>st</sup> year, we will replace it at no charge. Physical damage, nor faulty installation of the kits are covered under this policy.*

*Thank you for your business.*

*- Jeremy Dominick  
Owner- Skid Mark Garage*

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