

# PETTY'S GARAGE

## INSTALLATION MANUAL

### Petty's Garage Drop-In Dual Pump Billet Fuel System 6.2L HEMI Engine Equipped LA/LD Vehicles – 2015-2022 (Hellcats)

Please take a few moments to review this manual thoroughly before you begin work. Verify that your kit is complete (see parts list below). If you discover shipping damage or missing parts, please call us immediately. Review exactly what is required in terms of tools, time, and experience before undertaking this installation.

**Caution!** - Modifying your fuel system without the proper knowledge, tools, or precautions can be dangerous! Fuel level must be below 1/8 tank before beginning the installation process to avoid over-run. Check your area before you begin the installation process. Remove any open flames such as cigarettes or pilot lights. Install only in a well-ventilated area. DO NOT install inside of a standard garage or with the vehicle doors closed to avoid inhalation of toxic gas fumes and risk of explosion. DO NOT smoke in the installation area. Fumes and a small amount of fuel may be released when servicing the pump, basket or connections. In order to reduce the risk of personal injury, cover any fittings with a shop towel before disconnecting to catch any fuel that may leak out. Place the towel in an approved container when the job is complete.

Engine recalibrating devices can modify fuel and spark curve (including, but not limited to programmers) and are recommended when changing the pressure or volume of fuel delivered to the engine. Improper use of these programmers may cause engine damage or failure. Petty's Garage is not responsible for engine damage or any other consequential damages.

***Petty's Garage is not responsible for damages, injury, or death caused by improper installation of fuel systems or components. Fuel system installations should be completed only by an authorized and qualified technician.***

For technical support please contact:

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## Getting Started

### Tools Required:

- Safety glasses
- Flat or Curved Cutters
- Medium Flat Head Screwdriver
- 10 mm Metric Wrench or Equivalent
- 19 mm Metric Wrench or Equivalent
- Metric Allan Head Wrench Set
- Coarse Flat File

### Helpful Tools:

- Multimeter
- Shop Vacuum Cleaner
- Specialty Wrench: Fuel Hat Ring Remover OTC #6599
- Short and Long handle 3/8 drive ratchet drivers



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## **Preparation**

### **Step A.**

Remove any items in your trunk that will keep you from removing the carpet insert in your trunk.

### **Step B.**

Remove carpet insert from your trunk.



### **Step C.**

Using the 10 mm socket disconnect the vehicles negative wire connection to the battery.



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## Installation

### Step 1.

Find a solid, clean, organized and well-lit work area for the installation of the performance fuel system. Remove the rear seat and use the shop vacuum cleaner to remove any debris from around fuel pump access cover to ensure that no foreign materials enter the fuel tank.



### Step 2.

Move insulation blanket aside to expose top of fuel pump access cover.



### Step 3.

Lift access cover and disconnect the wiring harness from the fuel hat.



### Step 4.

Using care, turn the steel retainer ring 10 degrees counter-clockwise to release the retainer, allowing for removal. It is *strongly* recommended that the specialty tool OTC # 6599 be used for this step. A hammer and flathead screwdriver can also be used; but a *significant risk of damaging the fuel tank and / or creating sparks* exists.

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## Step 5.

Carefully remove the ring and lift the fuel pump inspection cover to allow access to the fuel pump & sending unit. A wiring harness is located on the underside of the lid; disconnect. Once disconnected the fuel pump inspection cover and o-ring can be removed and set aside for later use.

**NOTE:** Once the fuel hat lid is lifted from its original position, the trapped gasoline vapors will be released. Use **EXTREME CAUTION** during the rest of the basket installation as the gasoline vapors are **EXTREMELY** flammable. **\*\*NO SMOKING OR OPEN FLAMES!!!**



## Step 6.

With the fuel pump lid removed; note the fuel pump "basket" and the two lines connected to it. Locate the two blue 22 AGW wires connected to the fuel level sending unit. Cut these wires, leaving approximately 4" of wire on the sending unit. Remove the high-pressure line by pressing on the white tab and pulling away from the pump unit; remove the fuel return line by gently pulling up and away from the retaining tab. Remove the fuel pump basket from the tank, taking care to not damage the sending unit float arm. Move the fuel pump basket to the prepared work area for tear down.





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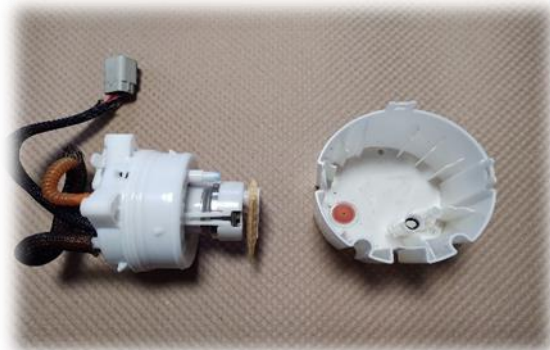
## Step 7.

Using extreme care remove the upper pump assembly from the lower "basket". This can be accomplished by prying the four tabs on the basket away from the stays on the upper pump assembly while applying a consent upward pressure.



## Step 8.

Set aside the upper pump assembly. NOTE: there is a small O-Ring that will be in the venturi well or in the venturi feed port that MUST BE retained for re-installation. Look for as the upper assembly is removed.



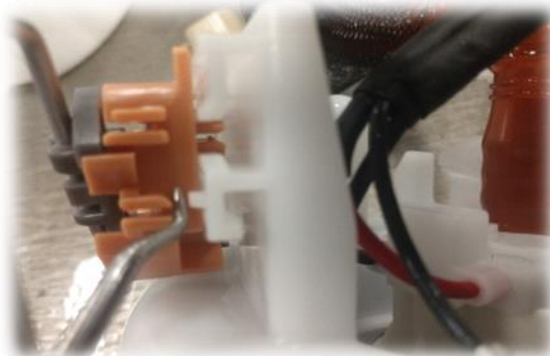
## Step 9.

Locate & retain the venturi feed port O-Ring.



## Step 10.

Remove and retain the fuel level sending unit for re-installation.



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## Step 11.

**NOTE: This step is critical.**

Position the lower basket as shown the photo to the right. Using side cutters remove the tab as shown, flush with the upper lip of the basket. The remaining three tabs **MUST** remain intact for proper operation of the pump unit. The tab to be remove is located between the two vertical half round indentations that provide clearance for the “spring legs” of the inspection cover.



## Step 12.

Install the O-Ring previously set aside on the venturi feed adapter as shown. (Note that the filter / strainers are not shown for clarity but **MUST** be on the pumps for the following steps).



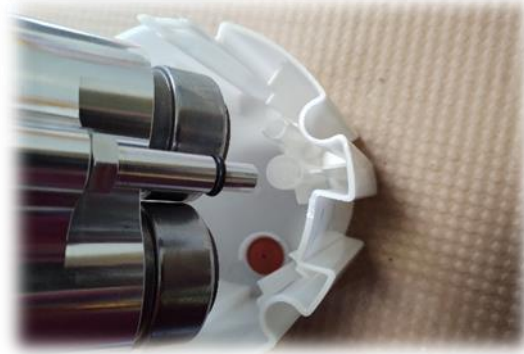
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## Step 13.

Install the billet dual pump assembly into the lower basket. Ensure that the venturi feed adaptor aligns with the venturi well as shown. (Note that the filter / strainers are not shown for clarity, but **MUST** be on the pumps for the following steps).

**Important!** Care should be taken to not nick or otherwise damage the O-Ring and that no foreign material or debris are in the basket.

**Note:** The orange anti-drain valve in the lower basket, is **REQUIRED** for correct operation of the fuel pump system.



## Step 14.

The photo on the right shows a properly prepared lower basket, ready to reinstall in the tank.

At this time locate the 2 blue 22 AGW wires on pump connector. Strip  $\frac{1}{4}$ " of insulation from the end of each of these wires.

**Note:** A small portion of the filter / strainers will be above the upper lip of the basket. This is intended and not a cause for concern.

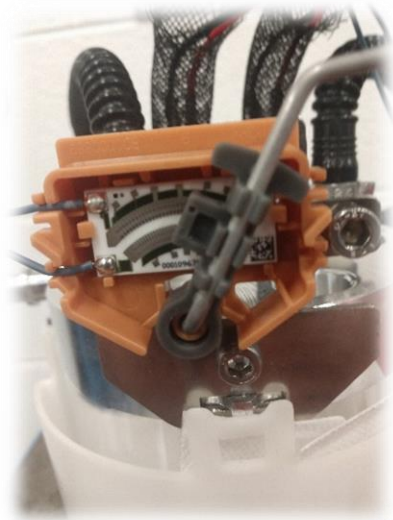




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## Step 15.

Install the sending unit on the sending unit mounting bracket as shown. Strip  $\frac{1}{4}$ " of insulation from the end of each of the sending unit wires. Install a small red Posi-Lock® connector on each wire. DO NOT install the sending unit on the pump module at this time, set aside for later installation.



## Step 16.

Lower the assembled pump module into the fuel tank. Using the supplied 5 mm socket head cap screw, secure the sending unit to the pump module. Securely tighten but do not over tighten. The sending unit should be installed while the pump module is in the tank to prevent damage to the unit.

## Step 17.

Orient the pump module in the tank so that the outlet faces the passenger side of the vehicle. Locate and inspect the supplied  $\frac{1}{2}$ " EFI outlet adapter, ensuring the O-Ring is intact and free of nicks or tears. Using a 19 mm wrench install the adaptor on the pump module and securely tighten but do not over-tighten.

Locate the two blue 22 AGW wires on the level sending unit and connect the Posi-Lock® connectors to the blue 22 AGW wires on the pump module's connector. NOTE: These connections are NOT polarity sensitive.

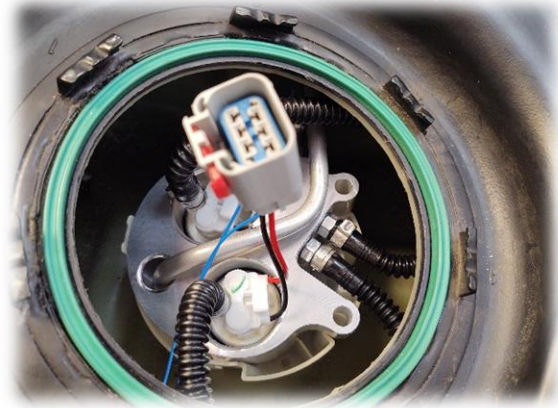


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## **Step 18.**

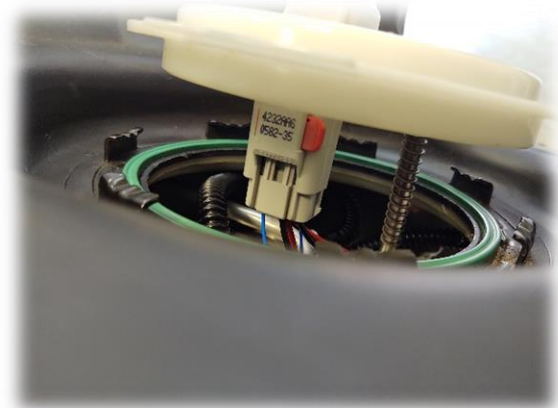
Locate the ½" Female EFI quick connect feed line and connect to the pump module.

Locate the 3/8" ID flexible return line in the tank, note that it has a pre-molded 90-degree hose end. Insert the end of the return hose into the pre-drilled hole located adjacent to the outlet.



## **Step 19.**

Locate the fuel pump inspection cover and o-ring. Install the o-ring and inspection cover and connect the fuel pump module connector to the cover as shown.



## **Step 20.**

Locate and install inspection cover locking ring.



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## Step 21.

With a sharp instrument make a horizontal slit in the wire grommet, starting from the right up to the harness pass-through area. Take care not to cut the existing wiring. Locate the double ended plug on the supplied wiring harness and pass through the slit as shown.



## Step 22.

Connect the double ended plug to the pump module and vehicle harness as shown.



## Step 23.

Arrange the plugs in a manner such that they do not interfere with the re-installation of the fuel pump body cover. Secure the fuel pump body cover.

Route the remainder of the harness to the rear trunk area.

Re-install the rear seat.

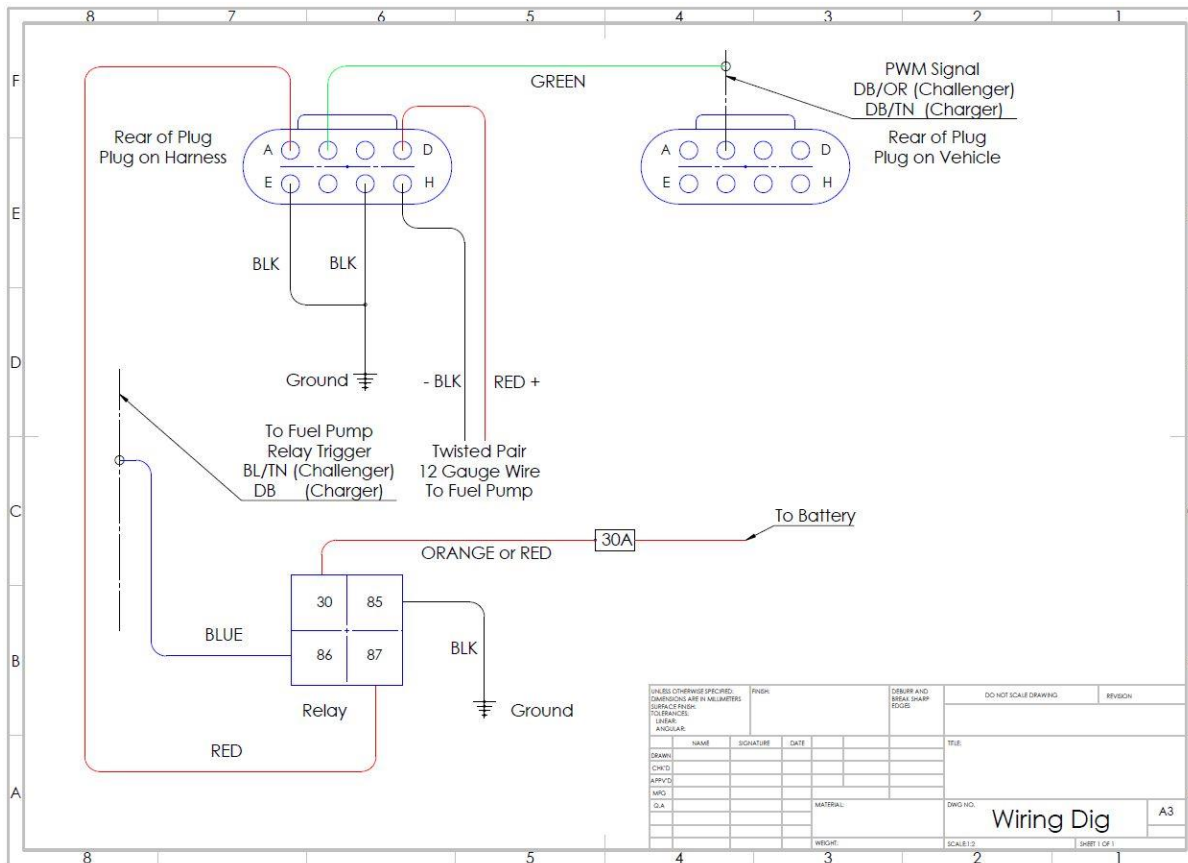




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## Wiring:

Please refer to the following illustrations in the following steps:



## Posi-Tap<sup>®</sup> Connector



Patents: 5,228,875 5,695,369 5,968,589 2,708,155 6,568,852 6,358,101B  
2,624,792 2,654,610 6,488,548B1 6,494,753B1 6,568,952 Jap 2981414 Aus 708700  
729018 Tia 103534 121365 152770 Can 2,204826 Mex 200626 China ZL97105562.9  
ZL98805391.8 and others pending Posi-Tap<sup>®</sup> is a registered trademark of Posi-Products, Inc.

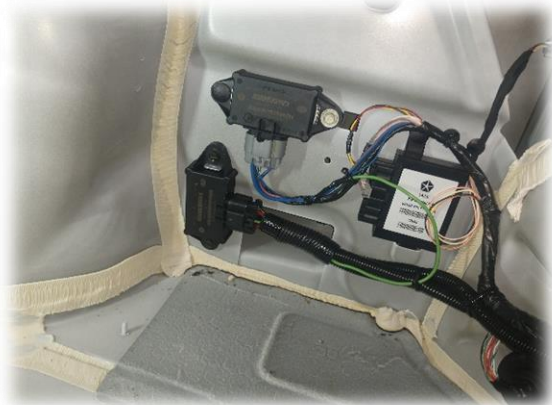
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## **Note:**

The following steps cover the necessary connections for the fuel pump control module wiring harness. Specific layout and routing are at the discretion of the installer.

## **Step 24.**

Carefully remove the passenger side and rear truck liners. Locate the Fuel Pump Control Module (FPCM) on the supplied harness. Mount the FPCM to the passenger side fender support as shown. Using the supplied POSI-TAP® connector, connect the green wire from the supplied harness to the PWM signal wire on the vehicle's FPCM harness.



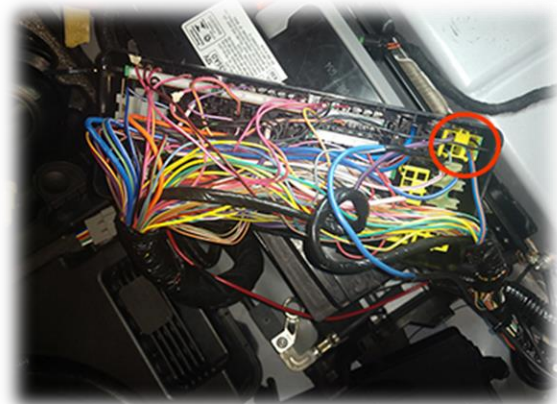
## **NOTE:**

**Wire colors vary by model / year. Ensure that the fuel pump control module PWM signal wire (Green) is connect to the correct pin on the car's stock fuel pump control module. See above wiring diagram for pin position.**

Route the remainder of the harness to the rear power distribution module / battery.

## **Step 25.**

Locate the rear power distribution module. Carefully remove the module from its mount and remove the lower cover. Locate the fuel pump relay connector indicated by the red circle in the photo to the right.

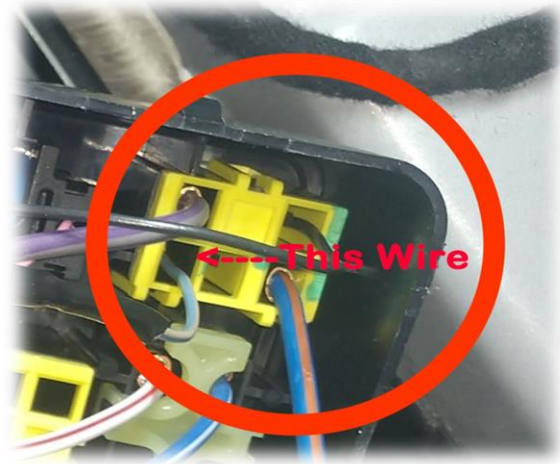




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## **Step 26.**

Locate the fuel pump relay trigger wire as shown in the photo to the right. Wire color varies by model. Using the supplied POSI-TAP® connector, connect the blue wire from the supplied harness to the fuel pump relay trigger wire. Reassemble the rear power distribution module, taking care to not pinch wires between the cover and block.



## **Step 27.**

Locate the positive lead of the supplied harness. This lead can be identified by the 30-amp inline fuse holder that is within 12" of the eyelet. Using a 10 mm wrench connect this lead to the positive lead on the rear power distribution module.

## **Step 28.**

Locate the two ground leads on the supplied harness. Using a 10 mm wrench connect these leads to the nearest grounds on the battery-body and rear power distribution module, respectively.

## **Step 28.**

Re-connect the vehicle's negative battery post.

## **Step 29.**

It is strongly recommended that the pump module be tested by temporarily installing a relay bypass switch in the fuel pump relay socket and energizing the fuel pump circuit with constant power. Using a current tester or multimeter insure both pump circuits have voltage / current.

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## ***Step 30.***

Route and secure the harness in a fashion that prevents chaffing or other vibration damage.  
Reassemble the trunk liners.

This completes the installation of your Petty's  
Garage Dual Fuel Pump Module

**From all of us at Petty's Garage, thank you for your purchase!**