



INSTALLATION MANUAL



FASS DIESEL FUEL SYSTEMS® / ENGINEERED EXCELLENCE



***Thank you for choosing FASS, from
Diesel Performance Products, Inc.***

FASS specializes in building extremely high-quality fuel products. We have earned an unsurpassed reputation for excellence in our industry by using only the highest-quality American-made components. In order to support our American workers and our American economy, more than 98+ percent of our products are manufactured completely in the United States.

Of course, that dedication to excellence comes at a price, but it is important to remember that price does not dictate quality-quality dictates price! We will never compromise by using cheaper, foreign-made components, like so many of our competitors do.

Customer satisfaction is our top priority and we strive always to provide outstanding customer service. Our Research and Development department, in conjunction with our Dealer Support Department, continually searches for ways to improve quality, expand our product line, and provide superb support. Our exclusive ViP Network ensures that customers receive the proper products and support at the local level. The extended one year warranty is only available on products purchased from the network. There is no warranty on products not purchased outside the network.

IMPORTANT:

In order to qualify for the one year extended warranty, your product registration form and proof of purchase from an authorized dealer must be submitted to FASS Fuel Systems within 30 days of purchase. Failure to comply will void the warranty. We have the right to deny any warranty believed to be false, altered or purchased through an unauthorized or terminated dealer. A current list of authorized dealers can be found on our website, FASSRide.com.

The complete conditions of the Limitation of Warranty can be found in the back of this manual, and FASSRide.com.

***For more information,
contact Technical
Support: Diesel
Performance Products,
Inc. 16234 State Hwy 0.
Marthasville, MO 63357
636-433-5410***



WARNING!

This product has NO WARRANTY unless:

- 1. It has been purchased from an Authorized or ViP FASS Dealer. If in doubt, check www.FASSRide.com.**
- 2. It is registered within thirty (30) days of purchase. Other conditions may apply. Please see full warranty information.**

***NOTE:* Warranty is **void** if product was purchased below FASS website advertised pricing.**

ATTENTION!

**Before you begin installation
Register for your Warranty **ONLINE**
at**

**<https://www.fassride.com/register-a-warranty/> No online access, call our
TECH Support at
1-866-769-3747**

WARNING — AIRBAG AND VISIBILITY: Do not mount any device or gauge in an airbag deployment zone or where it obstructs the driver's view, OEM instruments, or vehicle controls.

NOTICE — MOUNTING LAWS: Follow local laws on windshield/dash mounting and device placement; some jurisdictions restrict windshield mounts.

NOTICE — POWER, CABLES, AND HEAT: Route power cables to avoid entanglement or interference with pedals/controls. Do not place devices where heat, glare, or loose movement could create a hazard.

NOTICE — CALIBRATION AND UNITS: Verify calibration, sensor settings, and units of measure after installation, app updates, or device changes.

NOTICE — SOFTWARE UPDATES/BETA: Features labeled beta may be incomplete. Review release notes and do not rely on beta features for critical decisions.

WARNING — OEM ALERTS TAKE PRIORITY: Do not ignore vehicle warning lights, alarms, or OEM instructions based on app/gauge information.

NOTICE — INTERFERENCE: Avoid installing near airbags, sensors, antennas, or other electronics that could cause interference or be affected by it. If unusual vehicle behavior occurs, discontinue use and seek service.

NOTICE — WATER AND CLEANING: Avoid moisture exposure unless the hardware is rated for it. Clean with a dry cloth only; do not use solvents.

NOTICE — MODIFICATION/TAMPERING: Do not alter firmware, sensors, or wiring. Unauthorized modifications may cause malfunction and void the warranty.

NOTICE — PRIVACY AND DATA: Telemetry may be collected to provide services and diagnostics. Review the Privacy Policy before use.

NOTICE — PASSENGERS/CHILDREN: Do not allow passengers, especially children, to interact with the app while the vehicle is moving.

WARNING — DISTRACTED DRIVING HAZARD: Do not interact with or adjust the App or installed gauge while the vehicle is in motion. Use only when the vehicle is safely parked. Always keep any mobile device in a secure mount and obey all applicable laws.

WARNING — SUPPLEMENTAL DISPLAY ONLY: The gauge and app provide supplemental information. Do not rely on them as the sole indicator for any driving or maintenance decision. Always confirm with the vehicle's primary instrumentation and OEM guidance.

NOTICE — ACCURACY AND AVAILABILITY: Readings may be delayed, interrupted, or affected by sensor condition, connectivity, device settings, and environmental factors. Data is provided "as available" and may not reflect real-time conditions.

NOTICE — INSTALLATION AND MOUNTING: Install the gauge and any connections per the instructions. Improper installation or an unsecured mobile device can cause malfunction or a distraction hazard. If you are not qualified, seek professional installation.

NOTICE — TERMS AND WARRANTY: Use of the app and gauge is subject to the End User License Agreement, privacy policy, and limited warranty, which include important disclaimers and limitations of liability. Review and accept these terms during setup.

FOLLOW THESE STEPS TO ENSURE A SIMPLE, CORRECT INSTALLATION.

ATTENTION:

Be sure to identify the proper FASS System and fuel line configuration. For help, our product finder can be found at www.FASSride.com. Follow the instructions to see fuel line detail.

- 1** Be sure the serial number on this installation manual matches that on the outside of the box.
- 2** Pay close attention to ALL WARNINGS
- 3** Read all instructions before starting installation of this product.
- 4** Inventory the package components. Notify the place of purchase immediately of any parts missing or damaged.
- 5** The installation recommendations contained herein are guidelines. Use good judgment and take into consideration your vehicles' accessories.
- 6** For best results in accuracy and efficiency (due to training, communication, and our relationship with our dealer network), we recommend a VIP FASS dealer for the installation. They are prepared to install the FASS fuel pumps with the most efficiency. If a situation or problem arises during the installation, the dealer is prepared to handle it. Diesel Performance Products, Inc. is not responsible for any installation mistakes.
- 7** If you have any questions or concerns that cannot be addressed with your dealer, email or call FASS.

If any installation procedure is uncertain, contact FASS technical support. Call customer service at 636-433-5410, or send us an e-mail: techsupport@FASSride.com with the following information:

Pages

- 3: Warranty registration information.**
- 4-5: Safety warnings.**
- 8-9: Box contents and optional accessories.**
- 10-13: Gauge and ECU mounting.**
- 14-19: Gauge and ECU wiring.**
- 20-34: Fuel pressure and temperature sensor installation.**
- 35: Bluetooth pairing.**
- 36: Checking ECU for updates.**
- 37: Checking the gauge for updates.**
- 38: Sensor setup using the FASS Connect app.**
- 39: Sensor setup using the FASS Connect Gauge.**
- 40: Filter life monitor setup.**
- 41: Adjusting gauge appearance using the FASS Connect app.**
- 42: Relay trigger circuit setup.**
- 43: ECU naming and PIN change.**
- 44: Connect Gauge night mode.**
- 45: Connect Gauge main menu.**
- 46: Adjusting the settings through the Connect Gauge.**
- 47: Warranty information.**
- 48: Troubleshooting.**

CONTENTS

NOTE: Owner's Manual available for download on
our website, www.FASSride.com



FC1000



FC1001



FC1002
Pressure Sensor/Harness



**(Two) Ring
Terminals**



ADD-A-CIRCUIT
46177

46116



ADD-A-CIRCUIT
46044

46251

***Optional
Accessories
(Sold Separately)***



FC1002K
0-100 PSI Pressure
Sensor/Harness with
Adapter Bushing



FC1003K
-40° - 260°F Temperature
Sensor/Harness with
Adapter Bushing



FC1004K
2,000°F Pyrometer
Assembly

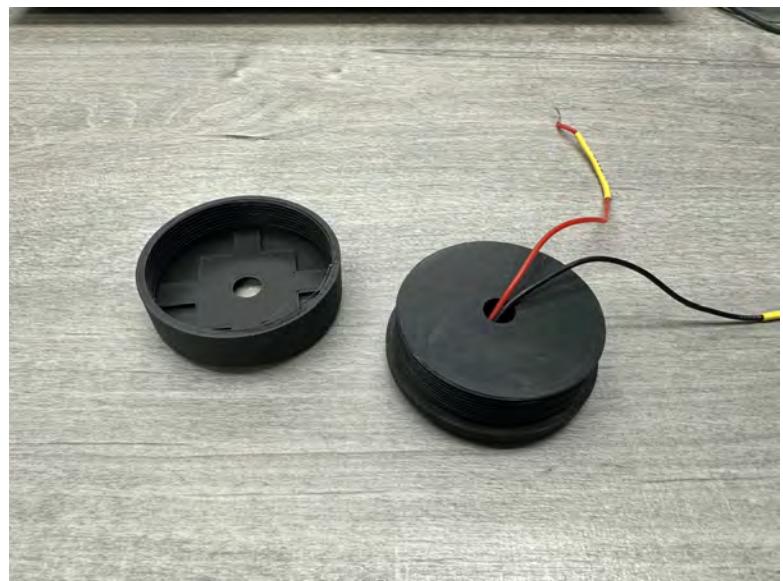


FC1005K
Drop-In Series
Pressure/Temperature
Sensor Adapter Fitting Kit

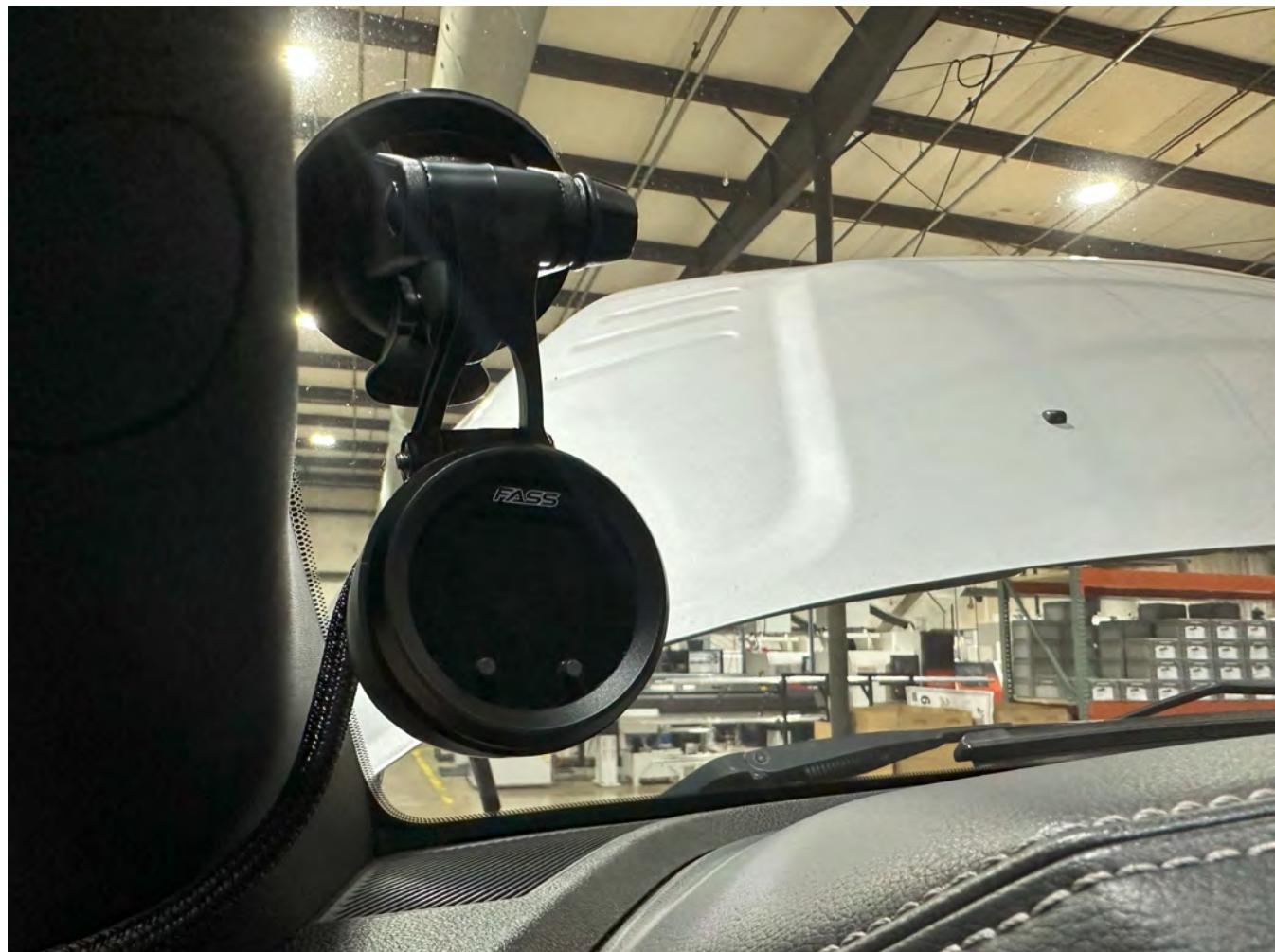
STEP 1:
**Mount the Gauge
and ECU****Note:**

The FASS Connect gauge can be surface mounted using velcro or double-sided tape. When surface mounting, apply the adhesive directly to the back of the Connect gauge.

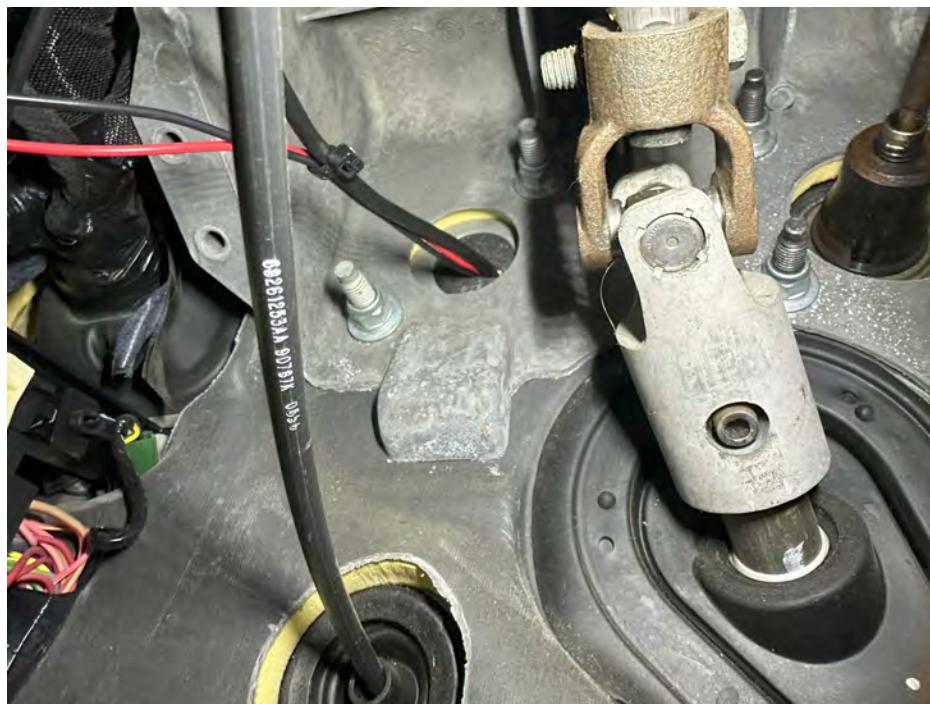
When installing the Connect gauge in a 2-1/16" gauge pod, the rear housing of the connect gauge must be removed, this is threaded and can be removed by hand.

Surface Mounting**Remove back cover when
installing in a gauge pod.**

A. Mount the FASS Connect Gauge in the desired location in the cab. Any 2-1/6" gauge pod can be used to mount the FASS gauge, or it can be surface mounted with velcro/double sided tape.



B. The single black wire of the FASS Connect Gauge can be grounded at the nearest body ground or straight to the battery negative terminal. Route the single red wire near the fuse panel, but do not connect to power at this time.



C. Select your desired ECU mounting location. In most applications, the ECU can be mounted directly to the top of the fuse panel. Velcro or double-sided tape can be used for most applications. We have also provided two mounting holes for securing the ECU with screws.



THE FASS CONNECT ECU WIRING OPTIONS:

- 1. Key-on power. The FASS Connect ECU will only have power when the key is in the run position.**
- 2. Battery power at all times. This method will allow you to power-on the FASS Fuel Heaters when the truck is turned off to thaw gelled fuel or power accessories like rock lights when the truck is not running. THE FASS CONNECT ECU DRAWS APPROXIMATELY 10ma AT MINIMUM! If this method is chosen, you will need still to wire the FASS Connect Gauge to key-on power.**

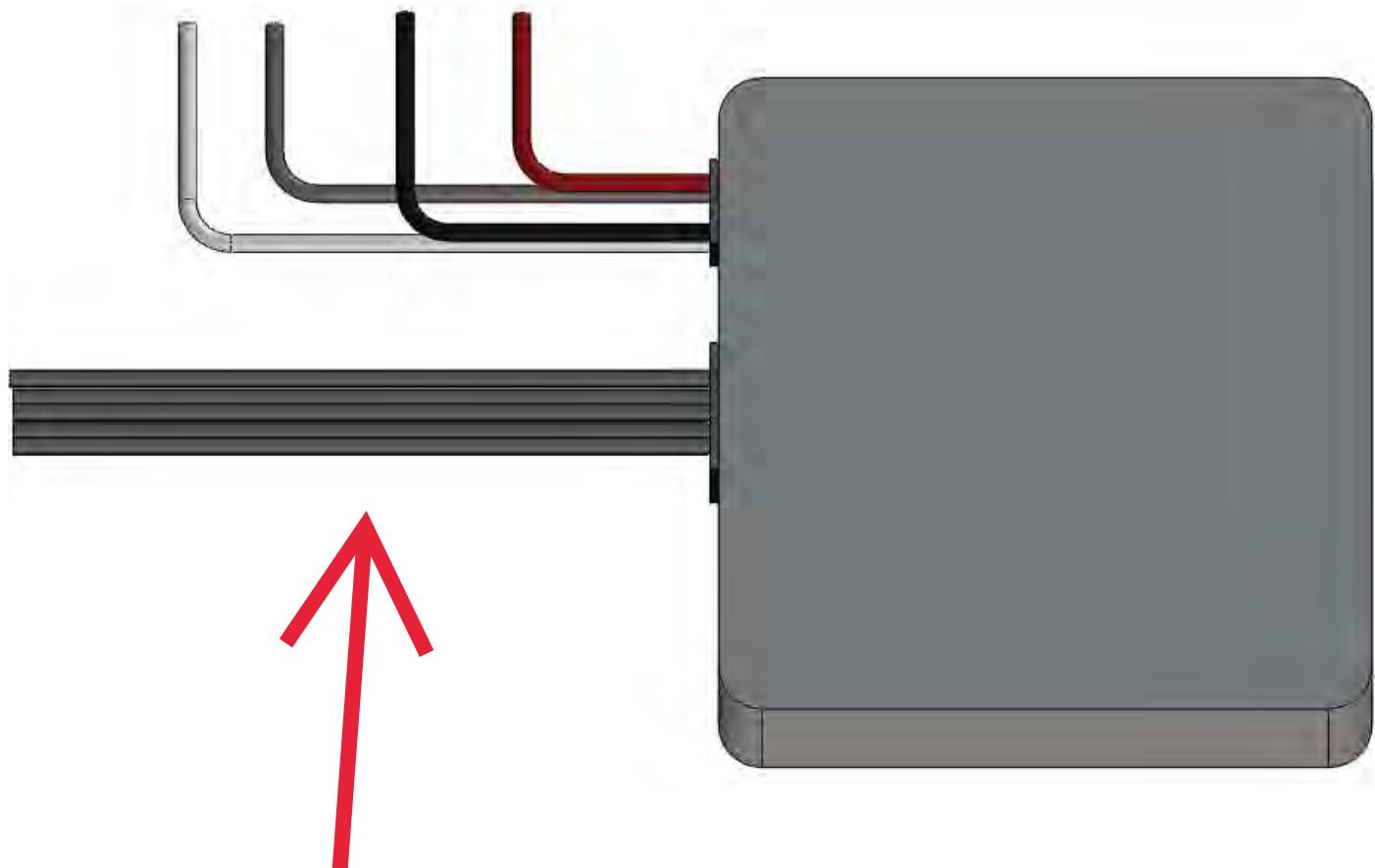
Below is an ECU wiring diagram for reference:

Single Red Wire = Key-On Power Wire/Battery + Single

Black Wire = Battery Negative

Single Gray Wire = Relay Trigger Wire 1 (1 amp max!)

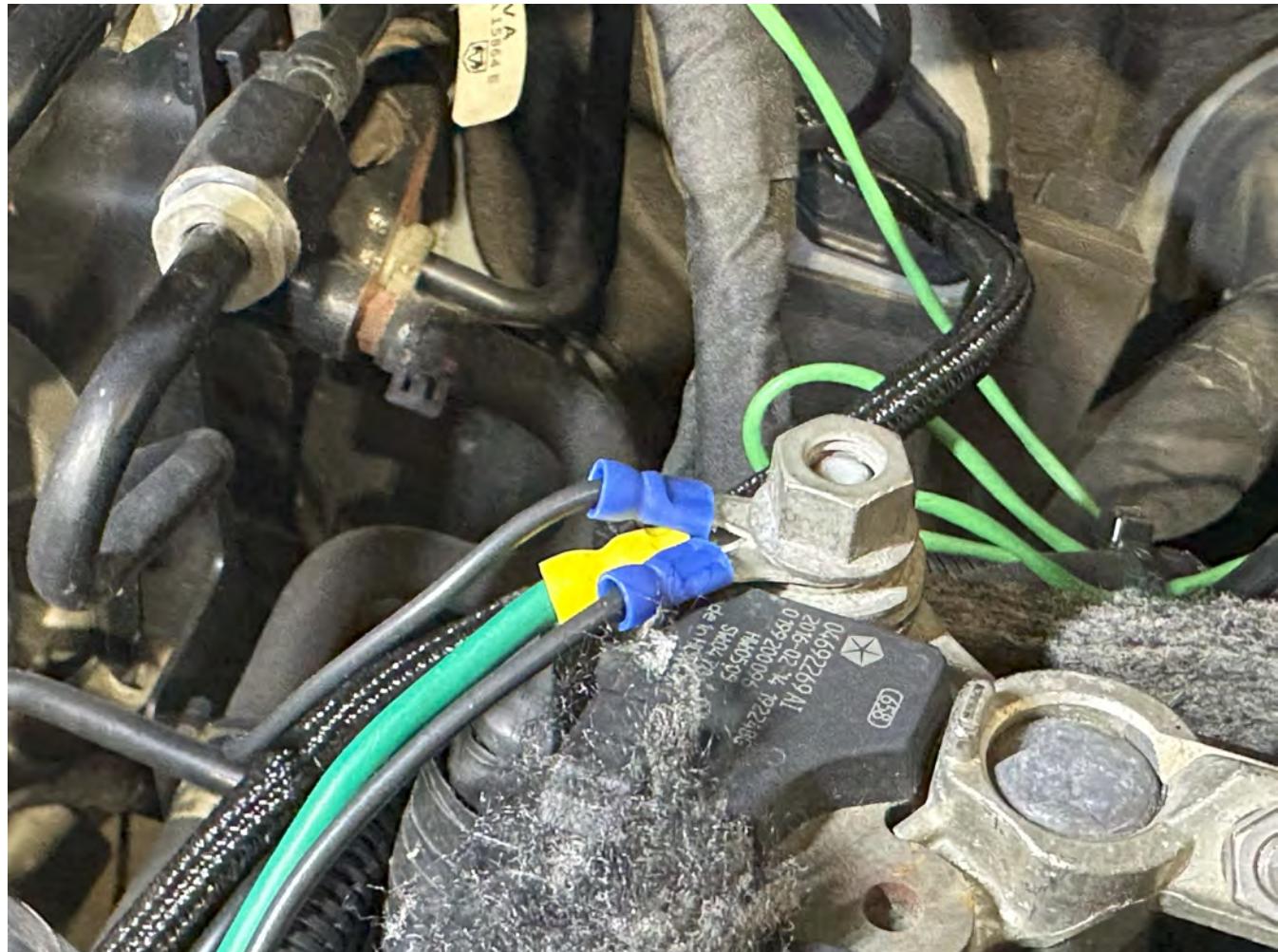
Single White Wire = Relay Trigger Wire 2 (1 amp max!)



5x Black Quick Connect Cables = Sensor Connections

Wiring the Gauge and ECU

D. Route the single black wire from the ECU and single black wire from the gauge to the negative battery terminal, trim to length accordingly. Remove 1/4-1/2" of insulation from the wires and crimp a supplied ring terminal onto each wire. Connect the ring terminals to the negative battery post.



Wiring the Gauge and ECU

E. Using a test light, locate a key-on hot fuse in the fuse panel. Remove the selected fuse and install that fuse into the bottom slot of the Add-a-Circuit. Install the supplied fuse in the top slot and install the Add-a-Circuit into the fuse panel.

NOTE: IF BATTERY + POWER IS CHOSEN, INSTALL THE ADD-A-CIRCUIT INTO A HOT-AT-ALL-TIMES FUSE POSITION.

New Fuse Location

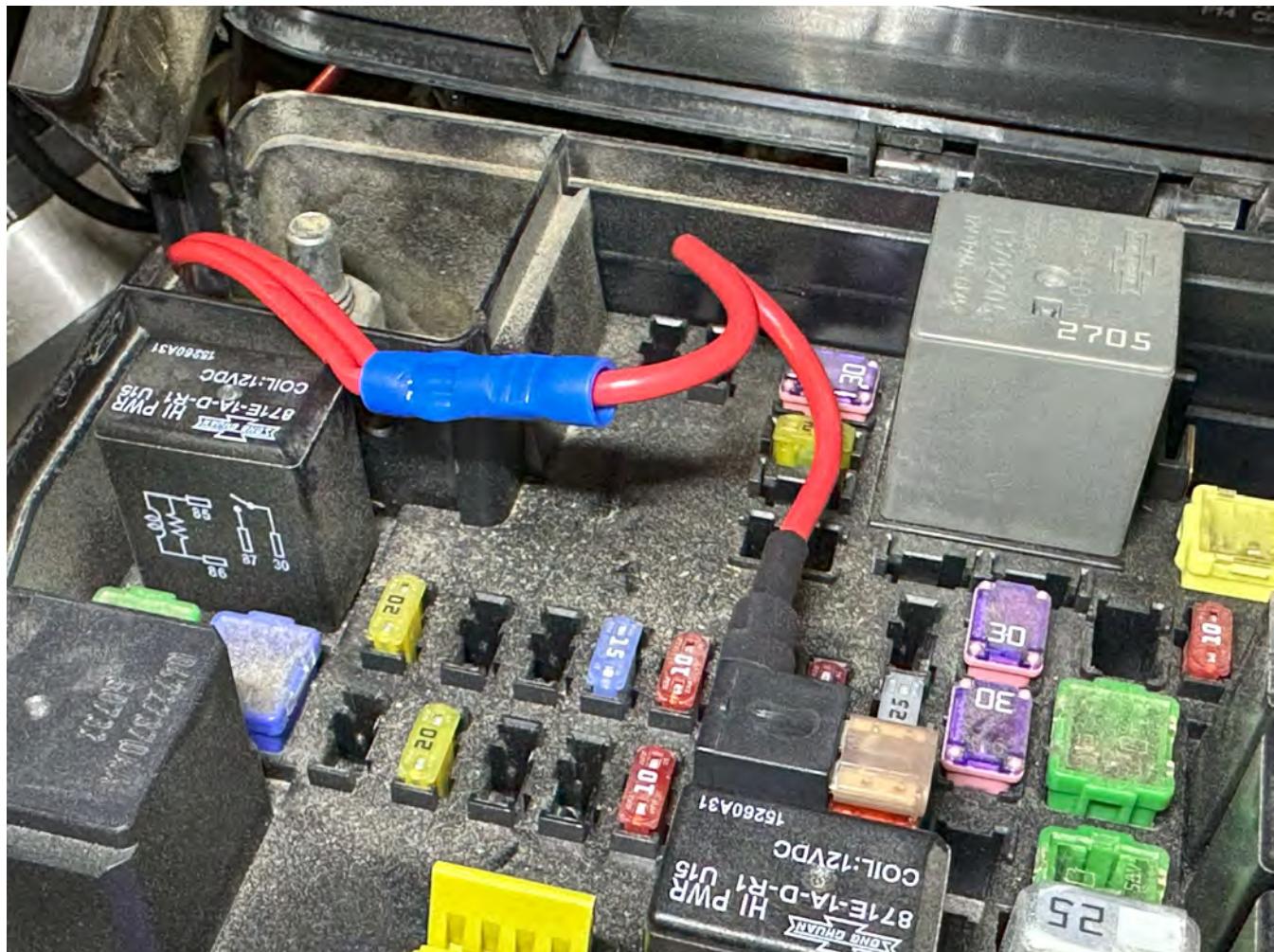
OEM Fuse Location



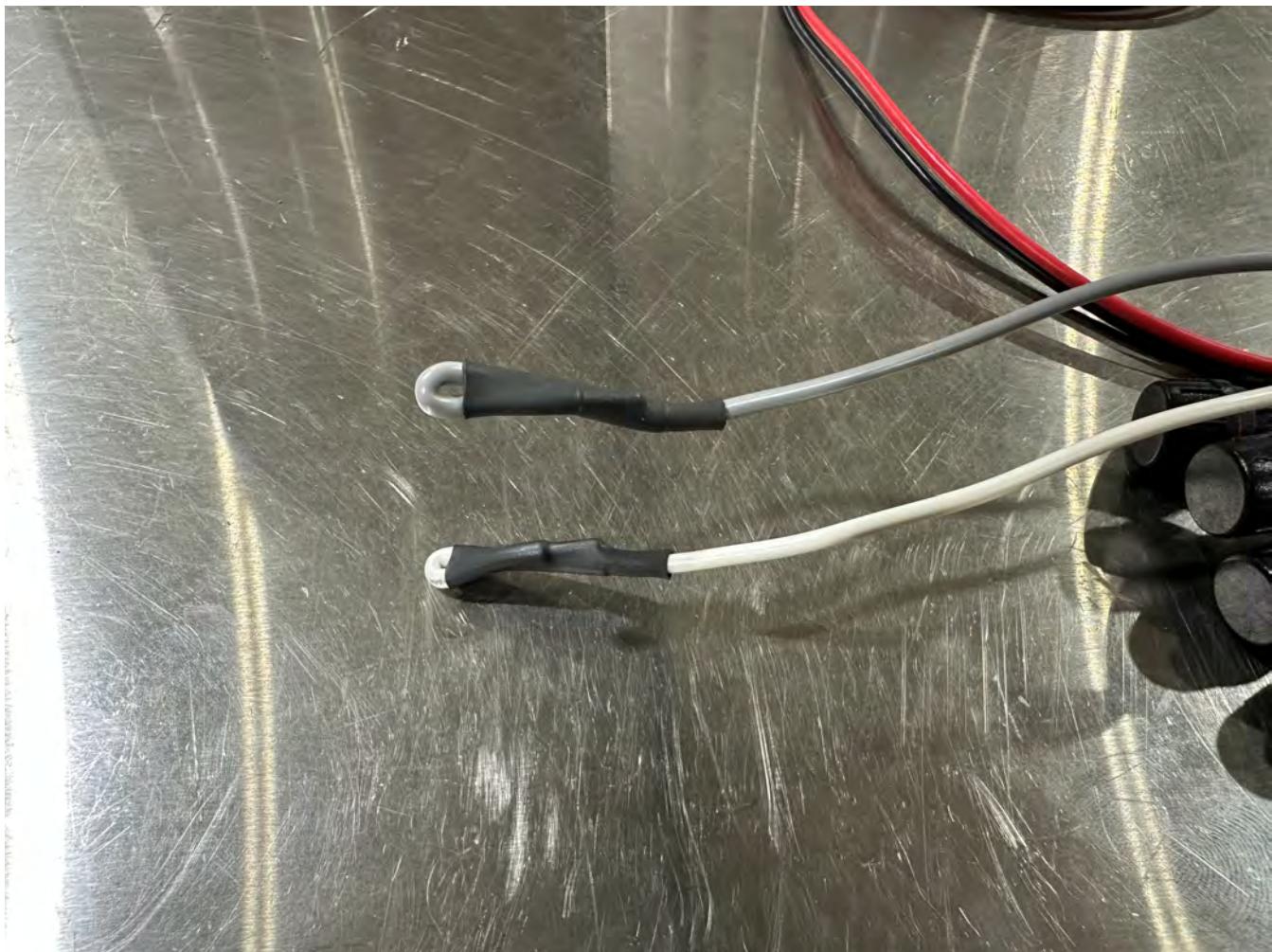
Wiring the Gauge and ECU

F. Route the single red wire from the ECU and single red wire from the gauge to the fuse panel and trim the wires to length at the Add-a-Circuit. Remove 1/8 to 1/2" of insulation from both wires and place both wires into the Add-a-Circuit butt connector. Crimp the butt connector accordingly.

NOTE: IF THE ECU HAS POWER AT ALL TIMES, THE CONNECT GAUGE MUST BE PLACED ON A KEY-ON FUSE CIRCUIT. FAILURE TO DO THIS WILL RESULT IN THE GAUGE BEING POWERED ON AT ALL TIMES.



G. If one or both of the relay circuits are unused, the exposed wires MUST BE COVERED to avoid an electrical short. Folding the wire over onto itself and using heat shrink or electrical tape is a great way of insulating these circuits.



Sensor Installation

G. The following pages will be a guideline on where to install your fuel pressure sensors depending on the application.



**0-100 PSI Pressure
Sensor
1/8" NPT Thread**



**-40-260°
Temperature
Sensor
1/8" NPT Thread**



**2,000° EGT
Sensor
1/8" NPT Thread**

*When using a single pressure sensor,
the sensor must be installed in the "E"
port as this is the engine supply fuel
pressure.*

**BE SURE TO USE THREAD TAPE ON
SENSOR!**



When using a dual pressure sensors, one sensor must be installed in the "E" port as this is the engine supply fuel pressure and one must be installed in the electric heater port shown below. The electric heater port will measure the fuel pressure before the fuel enters the XWS3002.

BE SURE TO USE THREAD TAPE ON SENSORS AND BUSHING!



**FUEL
TEMPERATURE
SENSOR:**

When using a fuel temperature sensor, the sensor must be installed in the electric heater port as shown.

BE SURE TO USE THREAD TAPE ON SENSOR AND BUSHING!



**FASS Connect
Plumbing Diagram
RAM Drop-In Series
SINGLE PRESSURE
SENSOR:**

***When using a single pressure sensor,
the sensor must be installed in the "E"
port as this is the engine supply fuel
pressure.***

***BE SURE TO USE THREAD TAPE ON
SENSOR!***



When using a dual pressure sensors, one sensor must be installed in the "E" port as this is the engine supply fuel pressure and one must be installed in the electric heater port shown below. The electric heater port will measure the fuel pressure before the fuel enters the XWS3002.

BE SURE TO USE THREAD TAPE ON SENSORS!



**FUEL
TEMPERATURE
SENSOR:**

When using a fuel temperature sensor, the sensor must be installed in the electric heater port as shown.

BE SURE TO USE THREAD TAPE ON SENSOR!



**Plumbing Diagram Drop-In
Series L5P Duramax *SINGLE
PRESSURE SENSOR:***

***When using a single pressure sensor,
the sensor must be installed in the "E"
port as this is the engine supply fuel
pressure.***

***BE SURE TO USE THREAD TAPE ON
SENSOR!***



FASS Connect
Plumbing Diagram Drop-In Series
L5P Duramax
DUAL PRESSURE SENSORS:

When using a dual pressure sensors, one sensor must be installed in the "E" port as this is the engine supply fuel pressure and one must be installed in the electric heater port shown below. The electric heater port will measure the fuel pressure before the fuel enters the XWS3002.

BE SURE TO USE THREAD TAPE ON SENSORS!



**FASS Connect
Plumbing Diagram
RAM Drop-In Series
FUEL
TEMPERATURE
SENSOR:**

When using a fuel temperature sensor, the sensor must be installed in the electric heater port as shown.

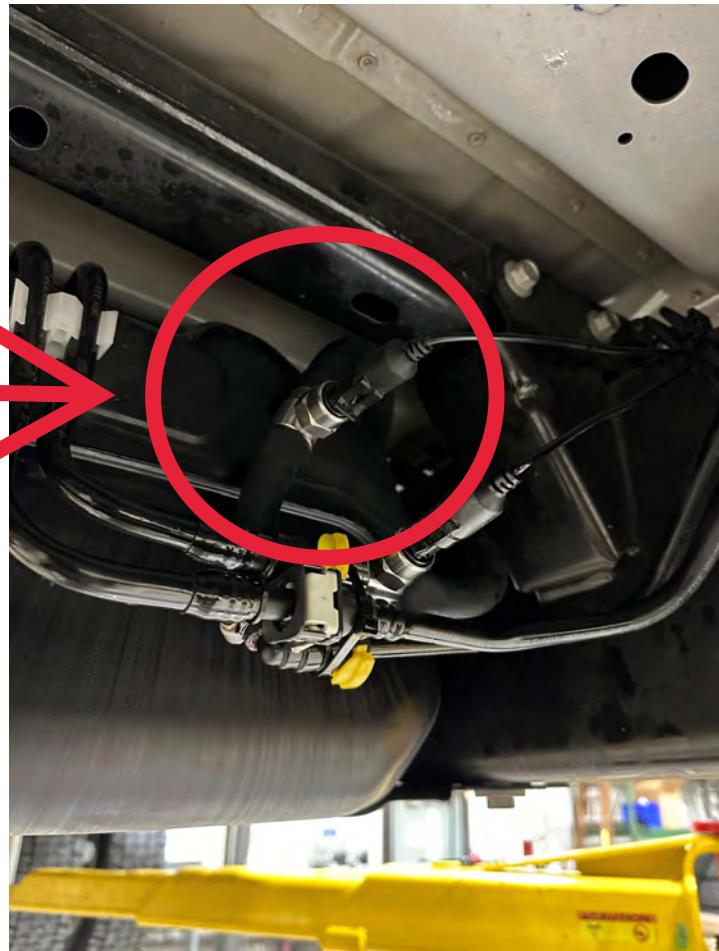
BE SURE TO USE THREAD TAPE ON SENSOR!



**Plumbing Diagram Drop-In Series
6.7L Powerstroke
SINGLE PRESSURE SENSOR:**

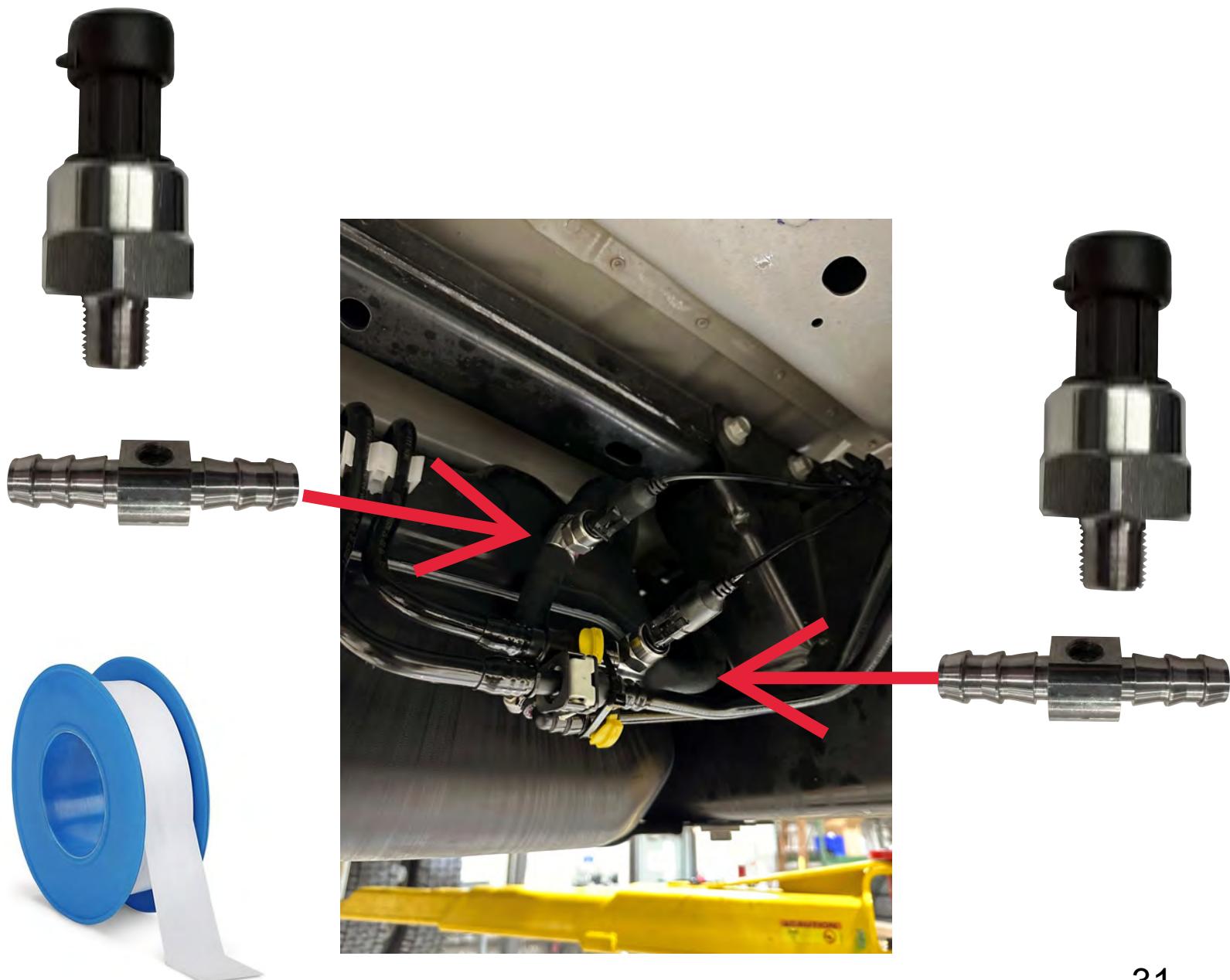
When installing a single pressure sensor in a 6.7L Powerstroke equipped with a FASS Drop-In Series System, you must tie into the FASS outlet line using PLB-500-2x-1E-NPT. These are push-lock fittings that do not require hose clamps!

BE SURE TO USE THREAD TAPE ON SENSOR!



When installing dual pressure sensors on a 6.7L Powerstroke with a FASS Drop-In Series System, you must tie in with the fuel inlet/outlet lines using PLB-500-2x-1E-NPT fittings. These are push-lock fittings that do not require clamps.

BE SURE TO USE THREAD TAPE ON SENSORS!



FASS Connect
Plumbing Diagram 6.7L
Powerstroke Drop-In Series
FUEL
TEMPERATURE
SENSOR:

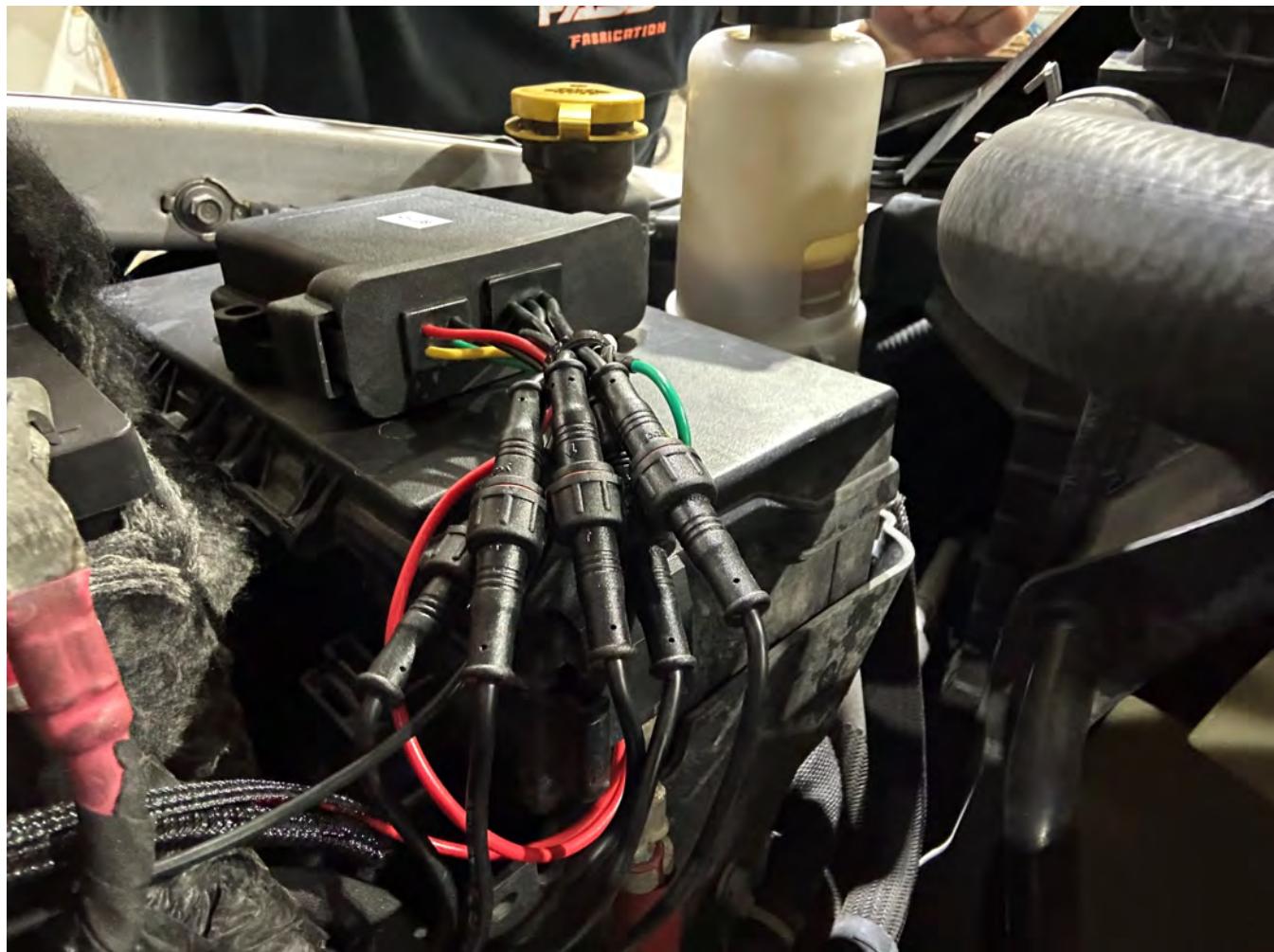
When using a fuel temperature sensor, the sensor must be installed in the electric heater port as shown.

BE SURE TO USE THREAD TAPE ON SENSOR!



Sensor Installation

F. Remove the protective cap from the ECU connectors that you will be using. Connect each sensor harness to the ECU and route each harness to the appropriate sensor.



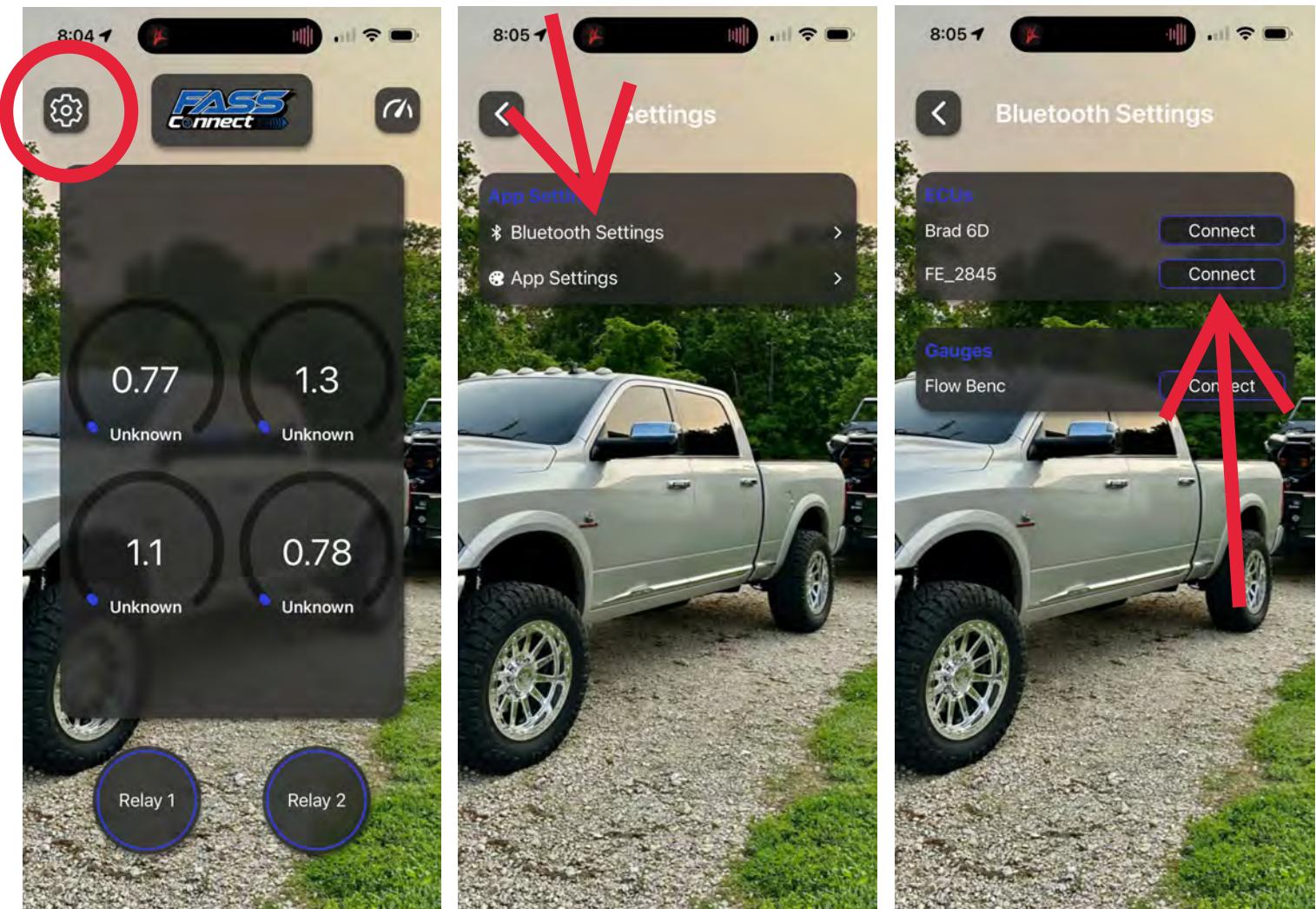
Sensor Installation

F. Route the harness to the sensor(s) location, but DO NOT CONNECT AT THIS TIME!



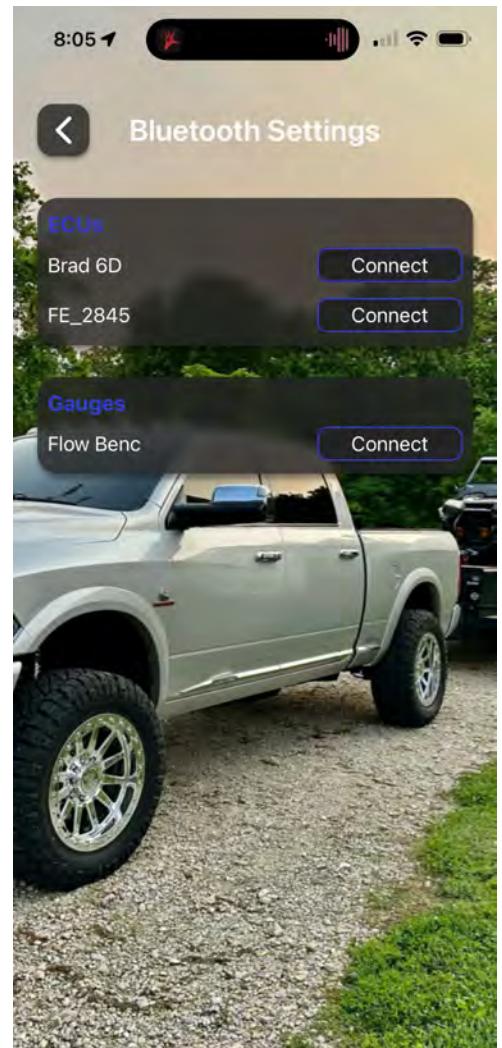
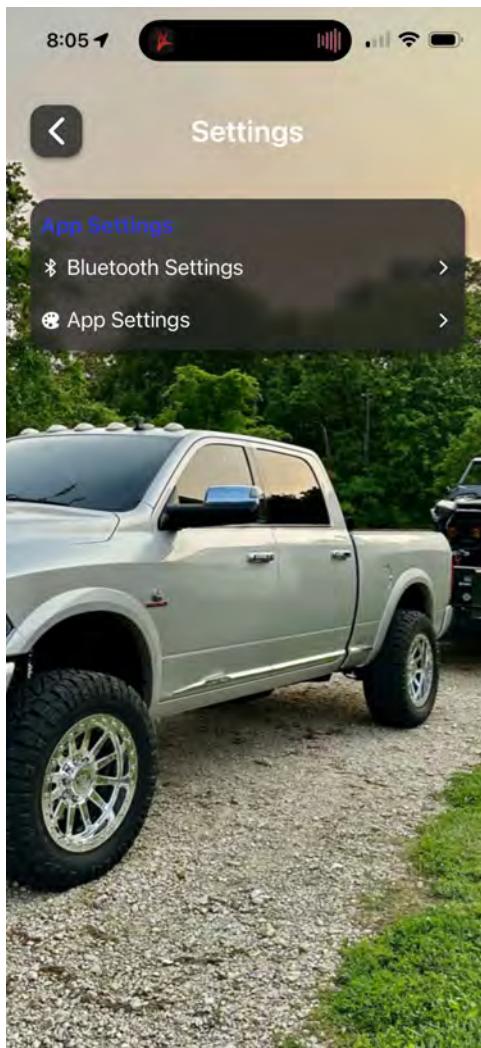
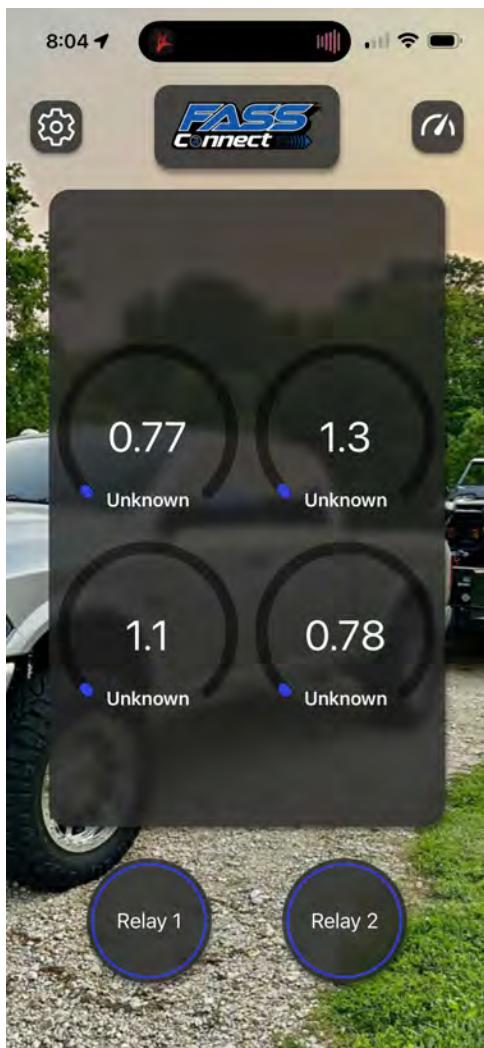
A. Power on the FASS Connect ECU.

Select the top left settings button > Bluetooth Settings > Select the ECU you would like to pair with. Enter PIN # 654321 to pair.



A. Power on the FASS Connect ECU.

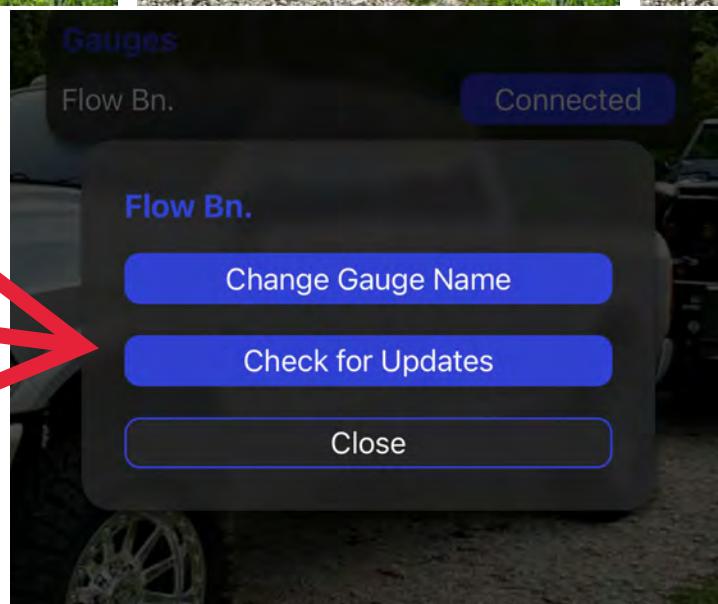
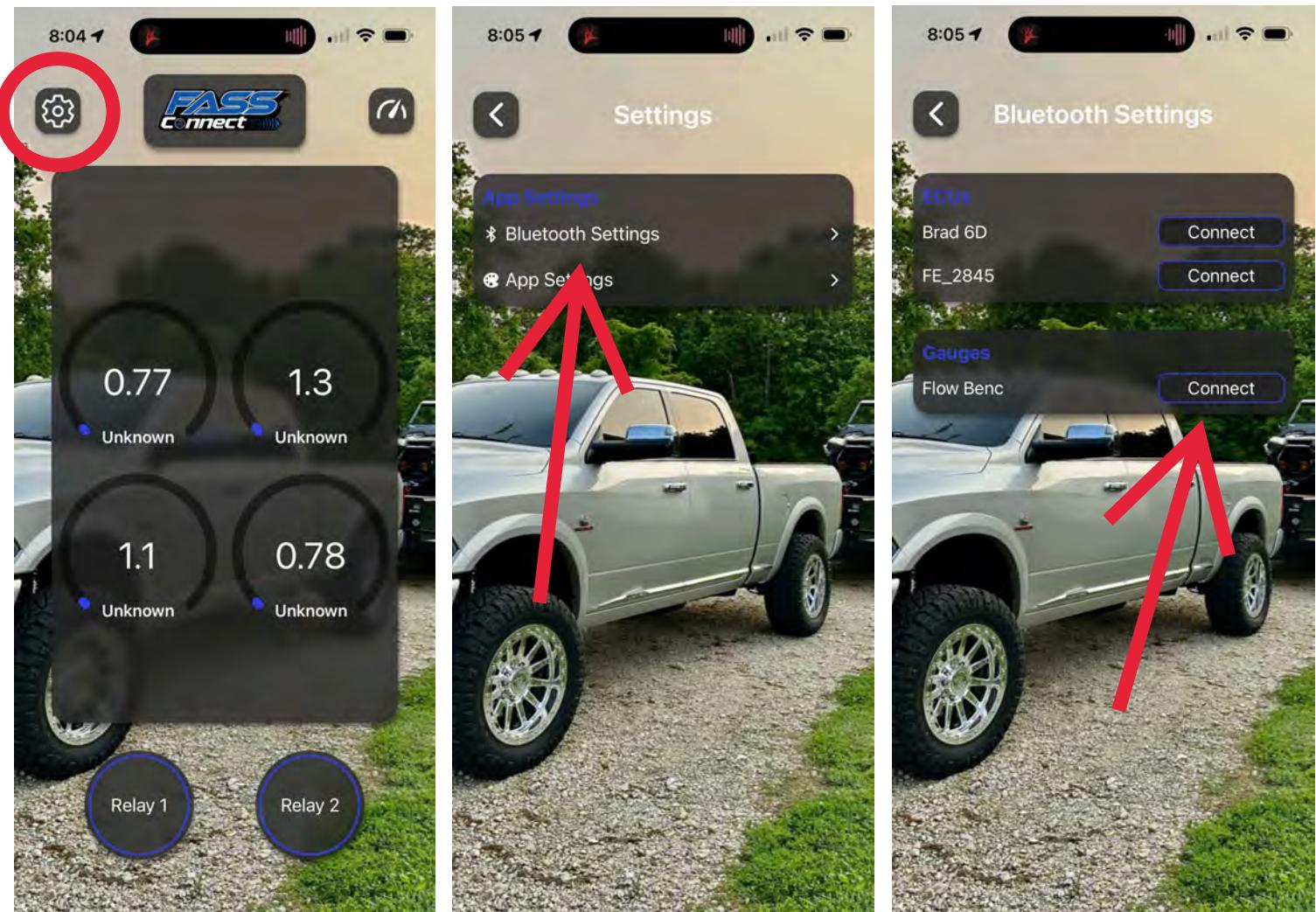
If there is an update for the FASS Connect ECU, the app will automatically as if you would like to update.



Checking the Gauge for Updates

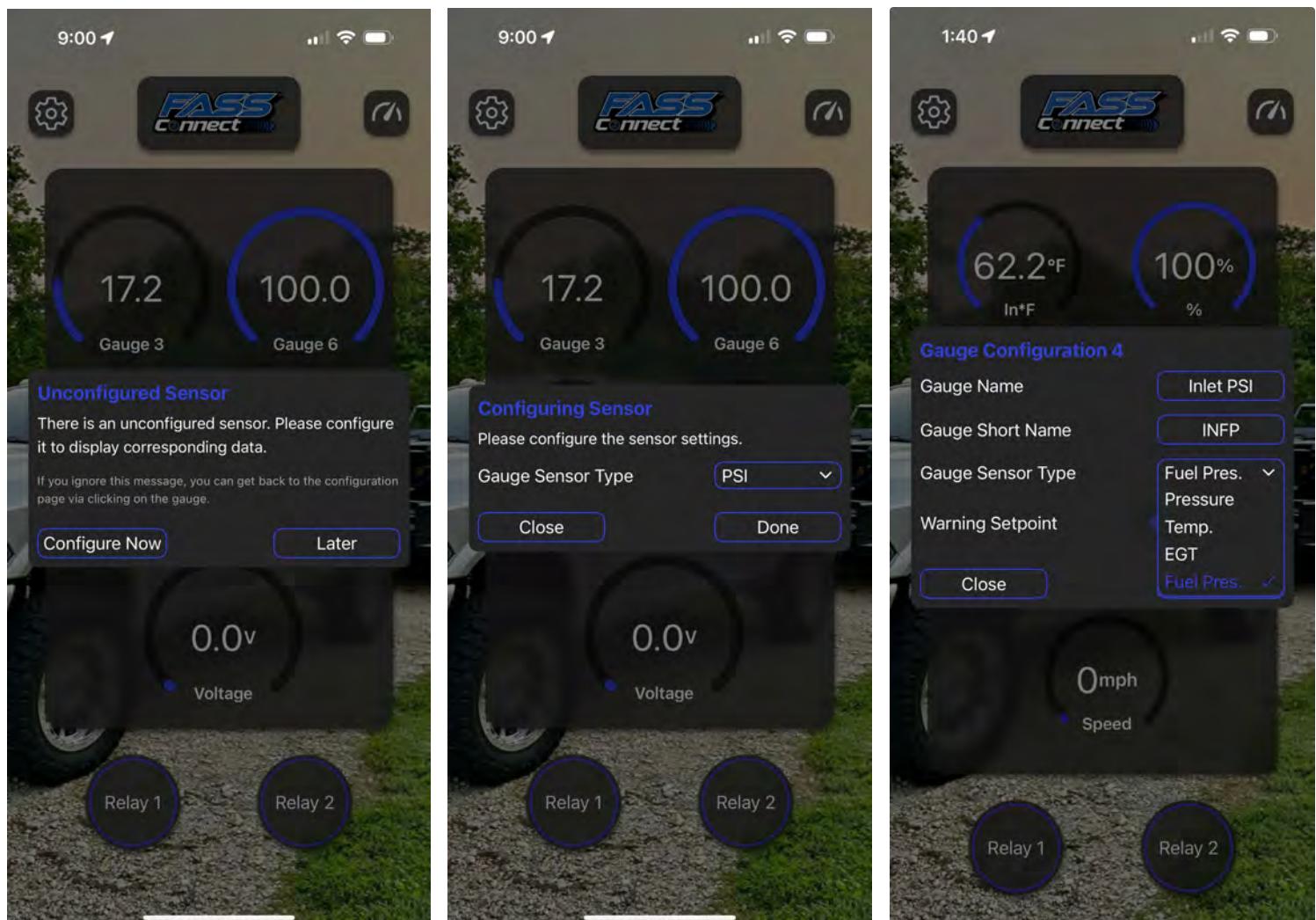
A. Power on the FASS Connect gauge.

Open the settings menu > Bluetooth Settings > connect to the desired gauge using PIN # 654321. Select "Check for Updates" and update accordingly.



A. Power on the FASS Connect, connect one sensor at a time and set up the sensor type through the app as seen in the pictures below. The PIDs can each be named to the user's preference.

NOTE: For fuel pressure, be sure to select "Fuel Pres."



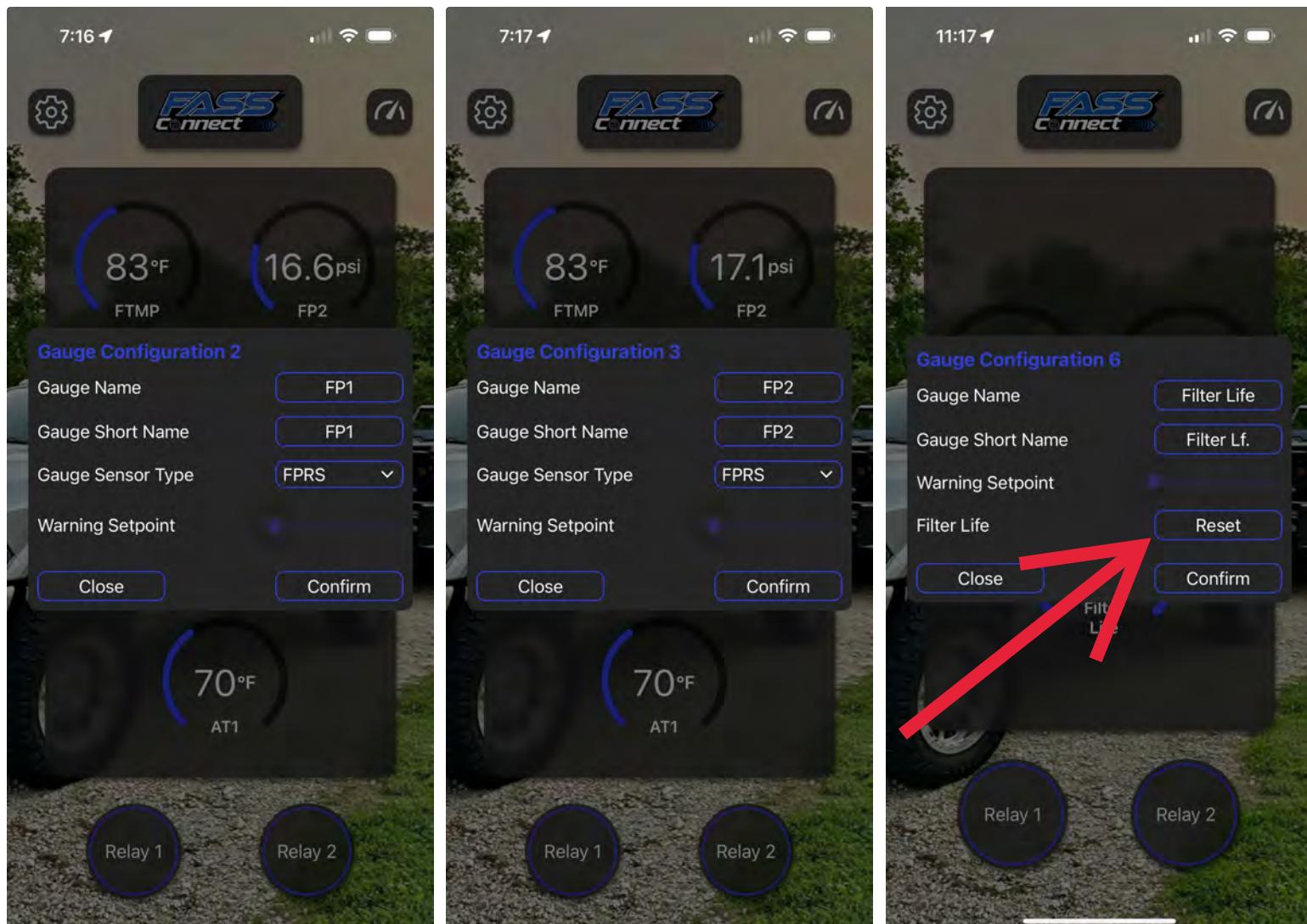
***Sensor Setup
Using The FASS
Connect Gauge***

A. Power on the FASS Connect, connect one sensor at a time and set up each sensor type through the gauge as seen in the picture below. Each sensor must be configured prior to connecting additional sensors.



Note: FILTER LIFE MUST BE SETUP THROUGH THE FASS CONNECT APP!

A. Ensure the two fuel pressure sensors installed in the correct ports as seen in the beginning of this installation manual. Verify that each pressure sensor is set to "Fuel Pres." in the FASS Connect App. From the main app screen, click on the "Filter Life Display" and hit reset. This will zero out the filter life from the base differential pressure of the filter.



Gauge Settings

A. The number of PIDs displayed, which PIDs are displayed, gauge color, and gauge brightness can be set through the gauge or APP as shown below.



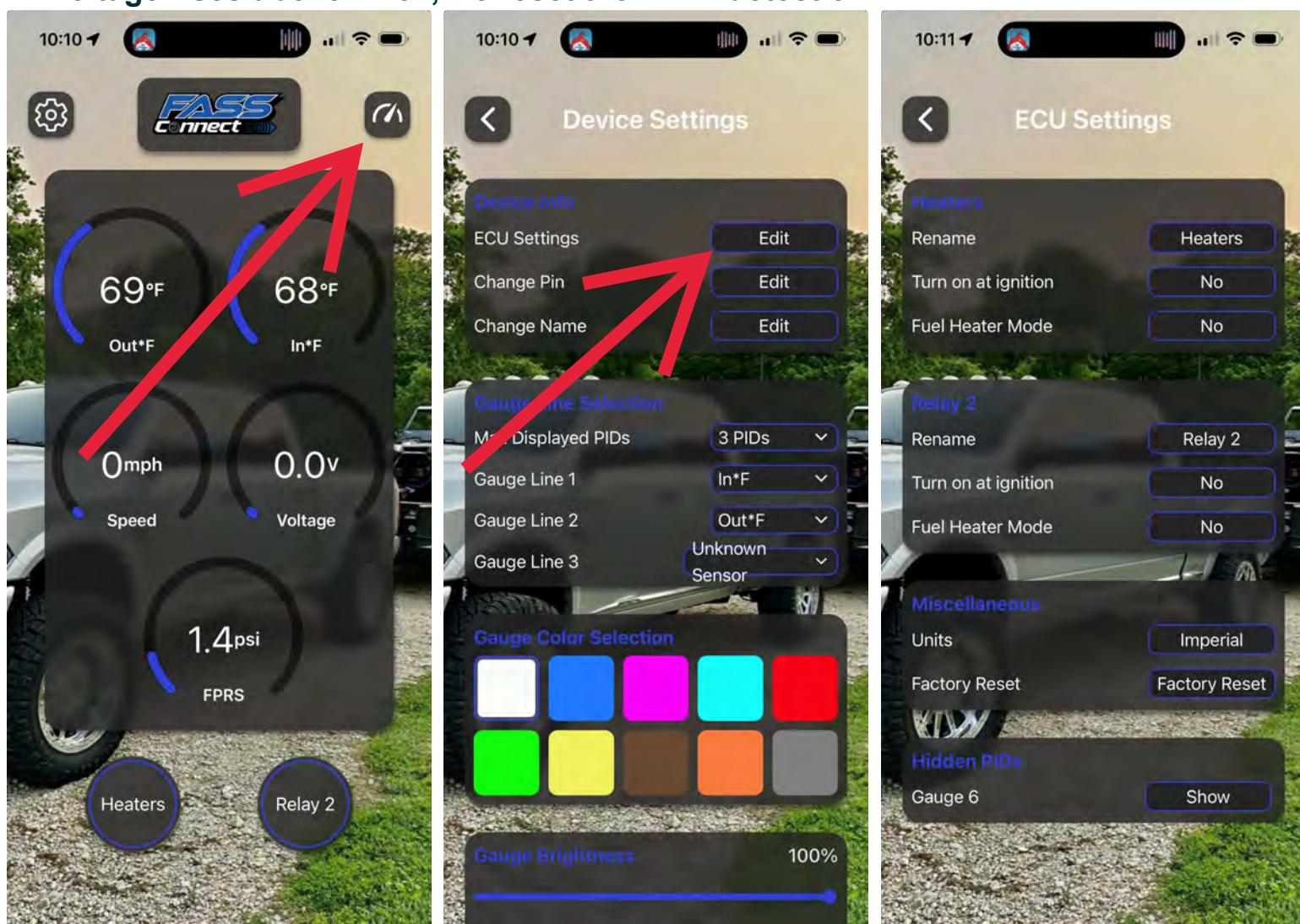
A. Enter the "ECU Settings" menu. The trigger circuit can be named and setup to power-on with the ignition.

NOTE: WHEN SELECTING "TURN ON AT IGNITION", THE ECU MUST BE CONNECTED TO KEY-ON POWER.

Fuel Heater Mode Info:

If the user turns the relay on, it stays on indefinitely unless any of the below situations occur.

- If the voltage drops below 12v, the relay shuts off after 5 minutes.
- If the user restarts the heater when it is below 12v, it will run for an additional 5 minutes.
- If voltage drops below 11.2v, the relay shuts off immediately.
- If below 11.2v and the relay has shut off, the user can override it by turning it on again. It will run indefinitely in this state unless the below situation occurs.
- If voltage rises above 11.5v, we reset the 11.2v detection.



A. The recommend giving your ECU a unique name and updating the PIN number. These settings can be adjusted through the menu below.



A. Holding the right button will enter and exit night mode.



Hold for night mode.

***Entering
The Main
Menu on
the Gauge***

A. Holding the left button will enter the main menu and display system information. Pressing the left button will navigate through the gauge settings.



Hold to enter the main menu and display system information.

Adjusting Misc. Settings Through The Gauge

A. Gauge color settings, gauge brightness, auto dim, number of PIDs, filter life reset, and uninstalling the sensors can be done directly through the gauge.

Button Function:

Right button - Pressing the right button will adjust the setting.

Left Button - Pressing the left button will take you to the next page.



Problem	Possible Cause	Possible Solution
FASS Connect won't power on.	1. Poor electrical connection.	1. Check and repair power and ground connections. 2. Make sure the fuse is not blown in the Add-A-Circuit.
FASS Connect app will not show ECU or Gauge in Bluetooth Devices.	1. App version out of date. 2. Gauge and ECU do not have power or ground.	1. Check and ensure your app version is the latest available. 2. Repair electrical connection issues and check fuse.
FASS Connect app is showing the ECU and gauge in Bluetooth devices but fails to connect.	1. Bluetooth connectivity issue. 2. Incorrect PIN entered. 3. Device needs to be reset.	1. Go to your Bluetooth devices on your mobile device and erase the ECU and gauge from the list of devices and try to re-pair. 2. The default PIN is 654321. 3. Restart power to the ECU and gauge.
Cannot figure out which sensor is which in the app display or on the gauge display.	1. Sensors were not configured properly.	1. Ensure ECU and gauge are updated to the latest software. 2. Perform a "Factory Reset" or uninstall sensors through the gauge. After the sensors have been reset, follow the install instructions for new sensor setup.
Cannot get Fuel Filter Life to display on the gauge or app.	1. Incorrect number of fuel pressure sensors. 2. Fuel pressure sensors are not configured correctly.	1. You must have <u>two</u> fuel pressure sensors installed, one upstream of our XWS and one downstream. 2. Ensure the fuel pressures are set at "Fuel Pres." in the app or on the gauge.
Connect Gauge won't connect to the ECU though it was previously paired.	1. ECU isn't getting power or has a poor ground.	1. Test the Bluetooth connection to the ECU with your phone if you phone does not show the ECU or is unable to connect, check the power and ground connections.



LIMITATION OF ONE YEAR WARRANTY

www.fassride.com

(866) 769.3747

Disclaimer: To help insure you receive the proper system and customer support at the local level, FASS has a VIP and Authorized Dealer network representing FASS products. This is one reason you must purchase through a dealer to comply with our warranty policies. If you do not, there is no warranty! We recommend you go to www.FASSride.com, click "Find a Dealer", put in their ZIP code, select the type of dealer, and see if the company you purchased from is listed. If they are not, put their phone number in the field below the ZIP code field to see if they are listed. Below these two fields is a list of "Terminated/Unauthorized" dealers. You may want to review this list. If the company is not listed or is on the "Terminated/Unauthorized" list, we suggest you return the product immediately to that dealer and call FASS. We'll recommend you to the nearest dealer.

Diesel Performance Products, Inc. (hereafter "SELLER") gives Limited Warranty as to description, quality, merchantability, fitness for any product's purpose, productiveness, or any other matter of SELLER'S product sold herewith. The SELLER shall be in no way responsible for the product's open use and service and the BUYER hereby waives all rights other than those expressly written herein. This Warranty shall not be extended or varied except by a written instrument signed by SELLER and BUYER.

When MANUFACTURER receives the "ORIGINAL" PRODUCT REGISTRATION form with a copy of the "BILL OF SALE/SALES RECEIPT" within 30 days of the sale, then the following applies! The Warranty will then and only then be validated to that of which typically accompanies your unit for your specific application from the date of sale or for recommended service life and limited solely to the original purchaser and/or vehicle and parts contained within the product's kit. This warranty does not cover normal wear on consumable items such as but not limited to filters, fuel line, wire harness & etc. The warranty does not cover seized gears due to lack of filtration. Warranty is voided if used with other than diesel fuel. Returned items will arrive prepaid to the place of purchase. Diesel Performance Products, Inc. will repair, without cost, any product found to be defective during the warranty period; parts only, or at its option, will replace such products in exchange for the product. Repair or replacements are warranted for the remainder of the original warranty period. All Warranty claims are subject to approval by Diesel Performance Products, Inc.

A Return Material Authorization (RMA) number must be obtained before any product is to be returned to Diesel Performance Products, Inc. for warranty consideration, repair or product return. Requests for product returns must be offset by an equal value order. Return parts must be completed and in resalable condition. No returns after 30 days.

Your Name, Address, and Phone Number's

Model and Serial Number (Not Motor Number) Example: Model HD Series, Serial: 00125966 VIN Number of Vehicle

Date of Purchase

Nature of Problem

RMA and Product Serial Number must be on all paperwork and correspondence. Failure to obtain the required information or paperwork will result in \$25.00/item penalty and delay or denial of any warranty claim.

Under no circumstances shall the SELLER and/or MANUFACTURER be liable for any labor charged or travel time incurred in diagnosis for defects, removal, or reinstallation of this product, or any other contingent expenses.

Under no circumstances shall the SELLER and/or MANUFACTURER be liable for any damage or expenses insured by reason of the use or sale of any such equipment. This warranty does not apply to products which Diesel Performance Products, Inc. has determined to have been misused or abused, improperly maintained by the user, or where the malfunction or defect can be attributed to the use of non-genuine Diesel Performance Products, Inc. parts.

IN THE EVENT THAT THE BUYER DOES NOT AGREE WITH THIS AGREEMENT: THE BUYER MAY PROMPLY RETURN THIS PRODUCT, IN A NEW AND UNUSED CONDITION, WITH A DATED PROOF OF PURCHASE, TO THE PLACE OF PURCHASE WITHIN THIRTY (30) DAYS FROM DATE OF PURCHASE FOR A FULL REFUND LESS SHIPPING. THE INSTALLATION OF THIS PRODUCT INDICATES THAT THE BUYER HAS READ AND UNDERSTANDS THIS AGREEMENT AND ACCEPTS ITS TERMS AND CONDITIONS.