ROUSH CLEANTECH

Ford E-150 / 250 / 350 Cargo Van & Wagon
Liquid Propane Autogas Fuel System – Under Vehicle Tank

Installation Instructions

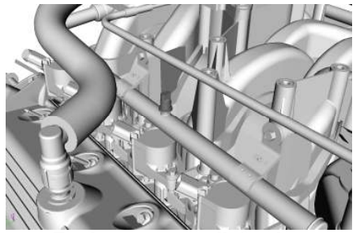
P11GD-01F001-AA

July, 2012

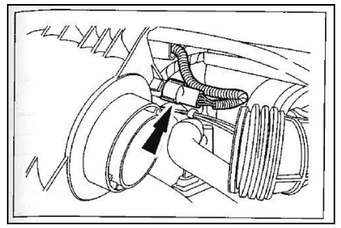
CONTENTS

REMOVING THE POWERTRAIN CONTROL MODULE

1. Using a scan tool, check for all error codes. Correct all errors before continuing.
2. Remove four (4) push-pin retainers and remove close-out panel from over the radiator.
3. Disconnect the mass air flow (MAF) sensor connector and remove the air cleaner assembly.
4. De-pressurize the fuel rail using the procedure described in the *Ford Workshop Manual Section 310-00 Fuel System, General Information*.
5. Disconnect and remove the battery from the vehicle.

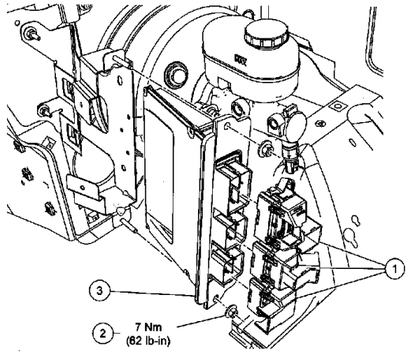


Fuel pressure relief valve



MAF sensor connector

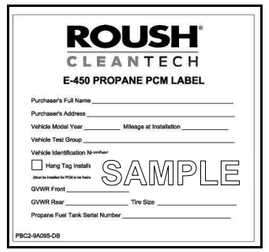
Close-out panel (over radiator)

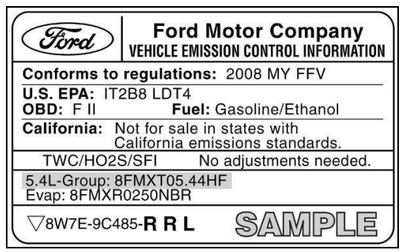


PCM connections

6. Remove the powertrain control module (PCM) following the procedure in the *Ford Workshop Manual, Section 303-14, Electronic Engine Controls.* Disconnect the three (3) PCM connectors by lifting the grey levers over the connector back shell and lifting the connectors from their sockets (Part 1). Remove the two (2) nuts (Part 2) and position the PCM wiring harness aside. Remove the PCM (Part 3) from the vehicle by pulling the PCM forward and lifting it out of the engine compartment. Keep all fasteners for reuse.
7. Install the hang tag label (P11BB-01A020-A) onto the rear view mirror of the vehicle.
8. Unlatch and remove the engine cover.

SENDING THE PCM FOR REPROGRAMMING





1. Write the requested information, including the gross vehicle weight rating (GVWR), on the PCM Return Label (P10C2-9A095-E). The group information will be found on the original vehicle emission control information (VECI) label (example: 6.8L – Group: 9FMXE06.8BWX). The propane fuel tank serial number can be found on the raised serial badge welded to the side of the tank. Once all information has been completed, apply the label to the back side of the PCM.

Note: Do NOT alter or remove the original VECI label from the vehicle. This label is required by law. Failure to heed this notice may void all warranties.

2. Pack the PCM securely in the shipping box (P10C2-SB-A) provided. Enter your name and address in the **FROM** area of the shipping label provided and apply the label to the box.
3. Call for a **FedEx package pickup. Dial 1-800-463-3339, then 0, and speak to an agent in person.** Do NOT use the automated option to schedule a pickup.

FedEx will deliver the package to ROUSH CleanTech via overnight service. ROUSH CleanTech will reprogram the PCM during the day in which it is received and return it to you via overnight service.

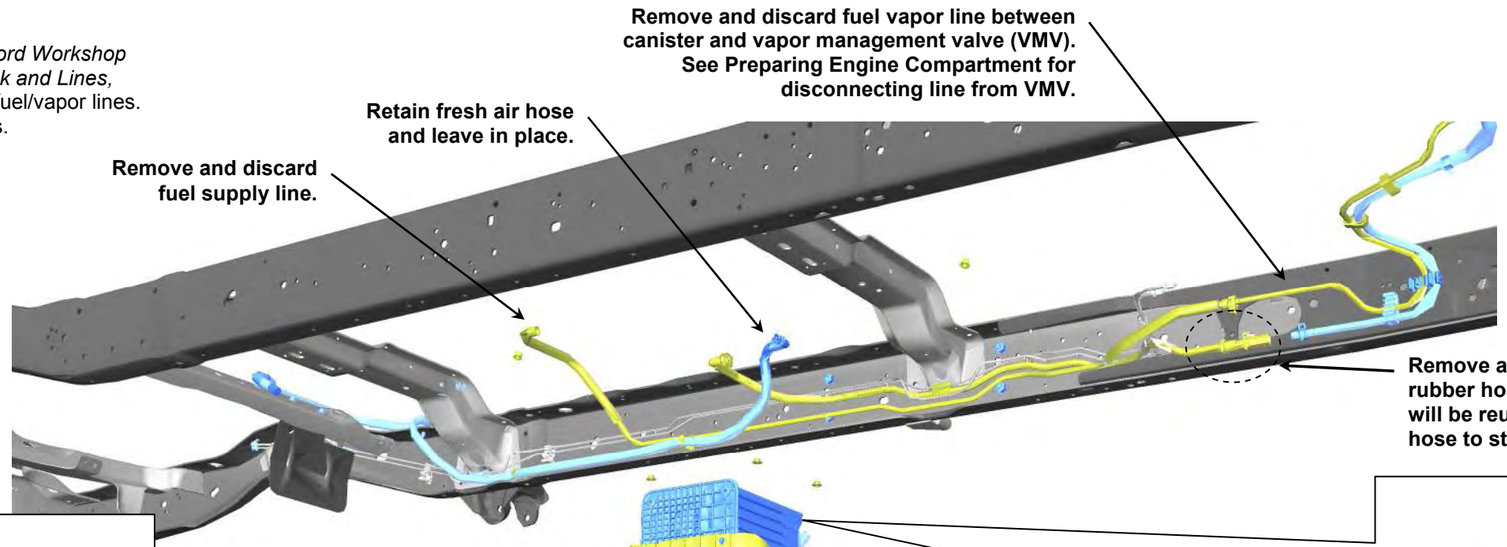
Included with the returned newly flashed PCM will be a ROUSH CleanTech VECI label and supplemental instructions for installing the new VECI label.

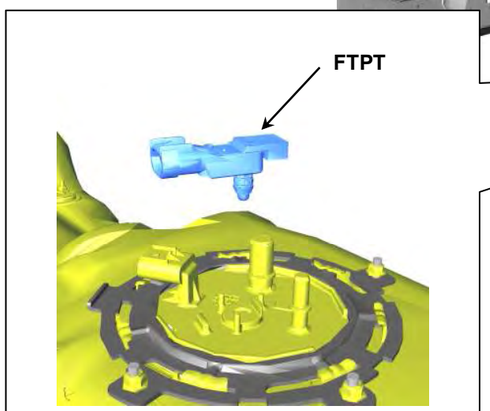
Note: ROUSH CleanTech Certified Installers who are authorized to perform on-site PCM flashing should consult the appropriate training materials for proper VECI label selection and disposition. Failure to properly follow the training guidelines could result in non-conformance to federal and local regulations.

DISCARD **REUSE** **NEW**

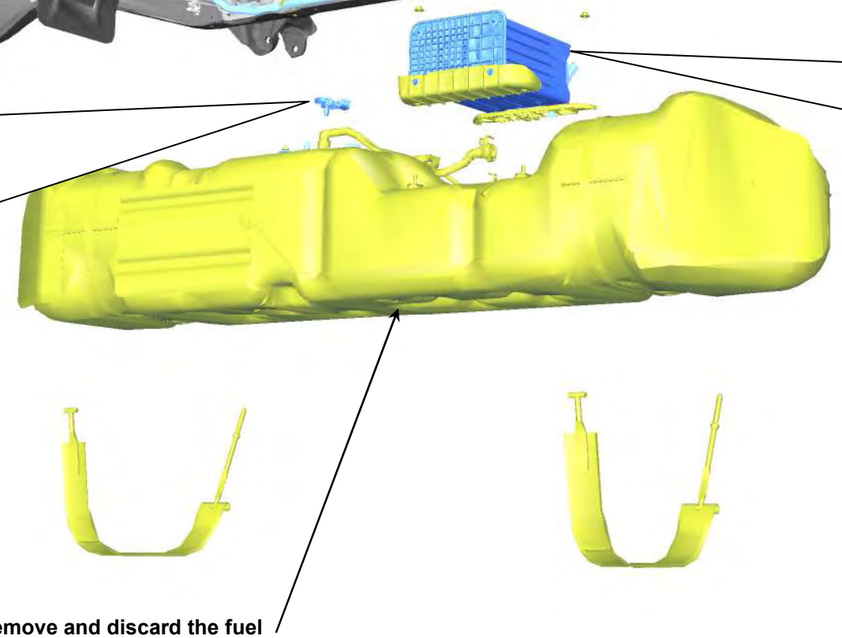
REMOVING THE ORIGINAL FUEL TANK AND FUEL/VAPOR LINES

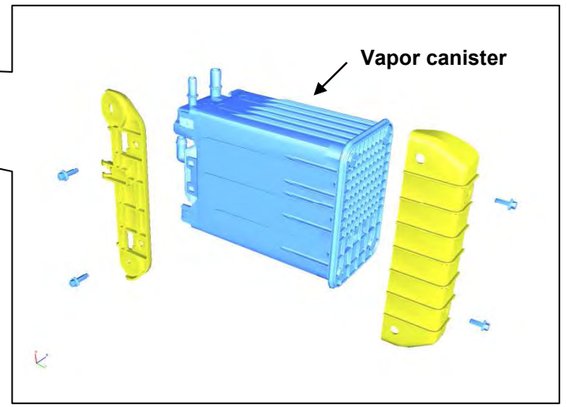
1. Following the instructions in the *Ford Workshop Manual, Section 310-01, Fuel Tank and Lines,* remove the original fuel tank and fuel/vapor lines. **Note:** Do NOT remove brake lines.





2. Remove the fuel tank pressure transducer (FTPT) sensor from the fuel delivery module by gently prying up on two (2) sides of the sensor. SAVE THE FTPT FOR LATER USE.



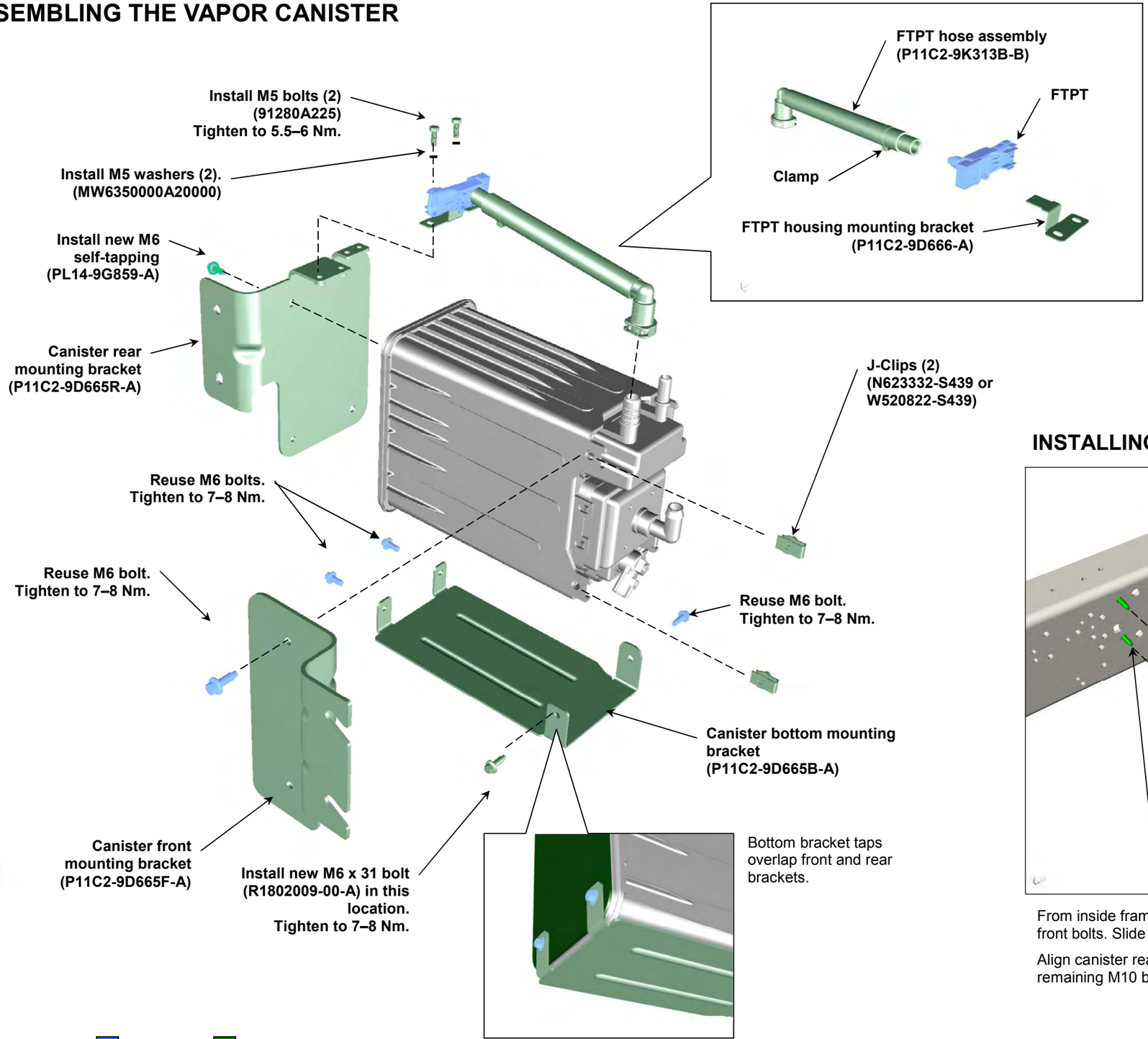


3. After the fuel tank has been removed from the vehicle, remove the vapor canister assembly from the fuel tank (disconnect two [2] quick connects and electrical connector).
4. Remove and discard the original mounting brackets from each end of the vapor canister.
5. Save the vapor canister and four (4) bracket mounting bolts for reuse.

6. Remove and discard the fuel fill line and cap extending from the fuel door mounting bracket to the fuel tank.

DISCARD REUSE NEW

ASSEMBLING THE VAPOR CANISTER



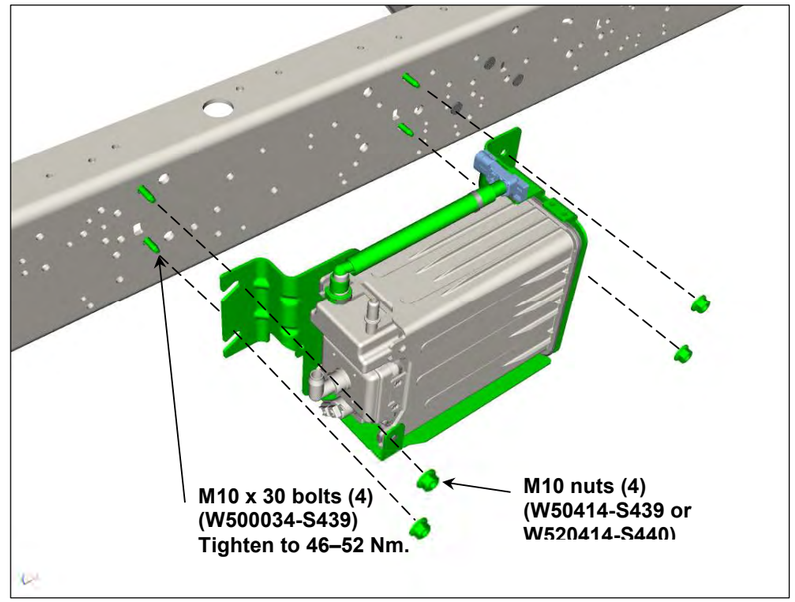
Bottom bracket taps overlap front and rear brackets.

Inspect the FTPT seal to ensure that it is clean.

Apply glass cleaner to the open end of the hose assembly and install the FTPT, oriented as shown.

Note: Parts for assembling the vapor canister are found in hardware kit P11GD-EVAPKIT-A.

INSTALLING THE VAPOR CANISTER



From inside frame rail, insert front two (2) M10 bolts and thread nuts part way onto front bolts. Slide slotted holes of canister bracket onto bolts.

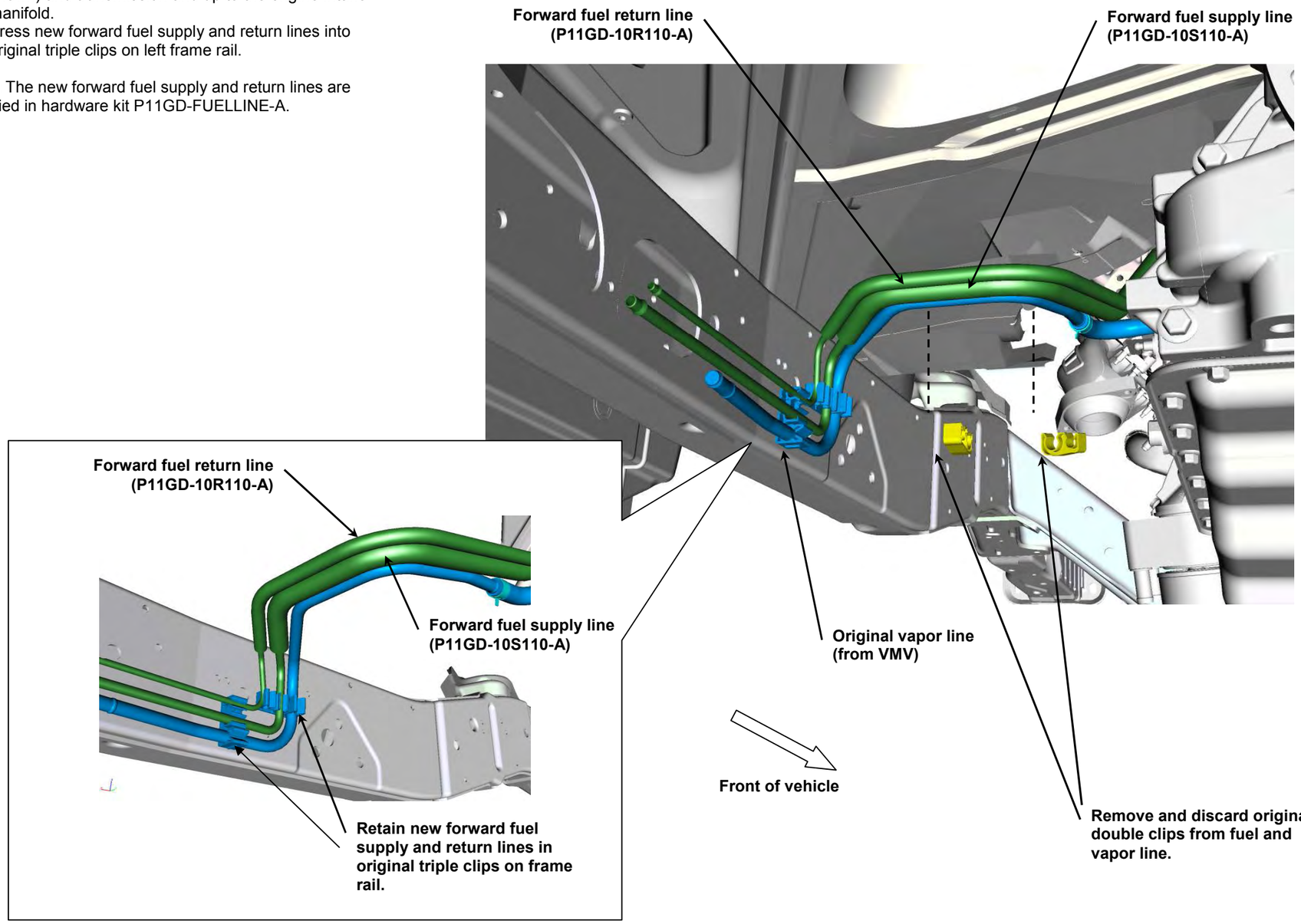
Align canister rear bracket mounting holes with frame boles and install two (2) remaining M10 bolts.

DISCARD REUSE NEW

INSTALLING NEW FORWARD FUEL LINES

1. From underneath the vehicle, route the fuel supply and return lines over the exhaust pipe heat shield (not shown) and transmission and up to the engine intake manifold.
2. Press new forward fuel supply and return lines into original triple clips on left frame rail.

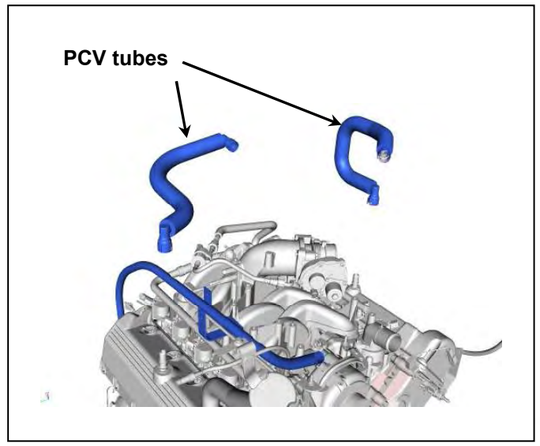
Note: The new forward fuel supply and return lines are supplied in hardware kit P11GD-FUELLINE-A.

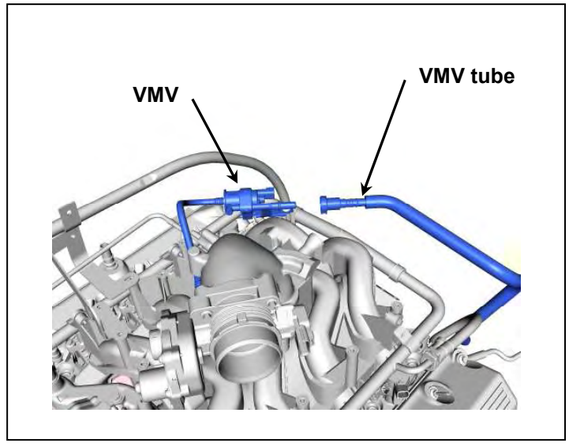


DISCARD REUSE NEW

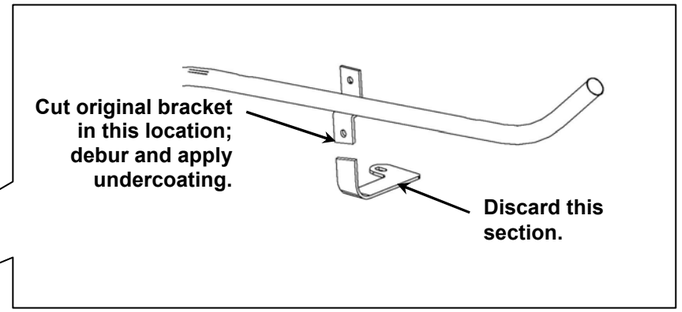
PREPARING ENGINE COMPARTMENT

1. Disconnect and remove both positive crankcase ventilation (PCV) tubes for additional working clearance.
2. Disconnect the tube from the VMV. Do NOT remove the VMV from the engine.





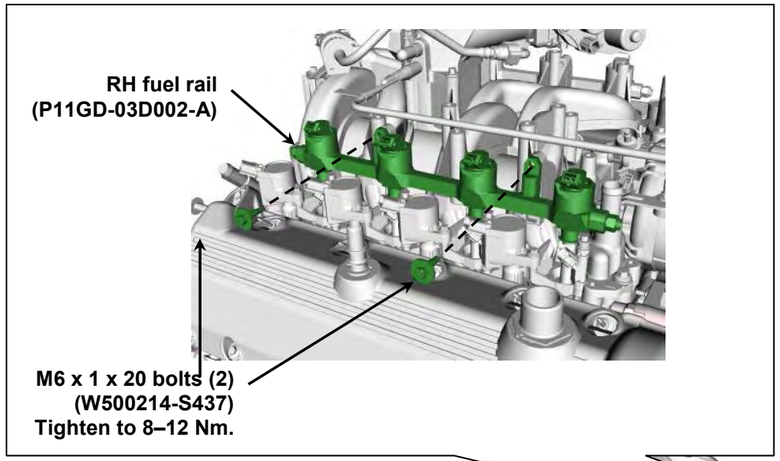
3. Remove the bolt that retains the transmission dipstick mounting bracket to the intake manifold. Do NOT remove the dipstick tube from the transmission. The following modification can be done in vehicle. Place a suitable cloth below the dipstick mounting bracket to cover engine components and catch metal cuttings and debris. Carefully remove cloth and clean away any dirt and/or dropped metal cuttings from around injector ports before removing fuel rails.

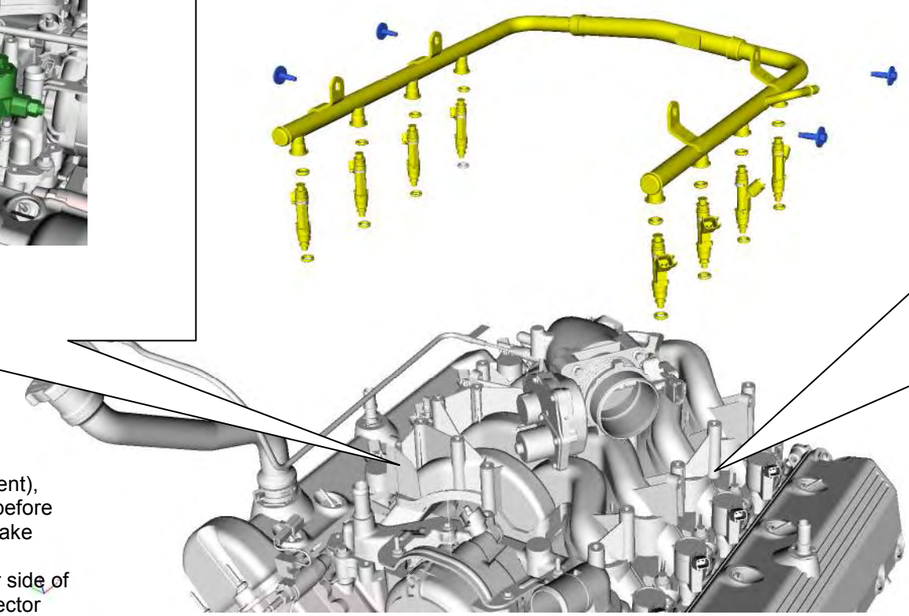


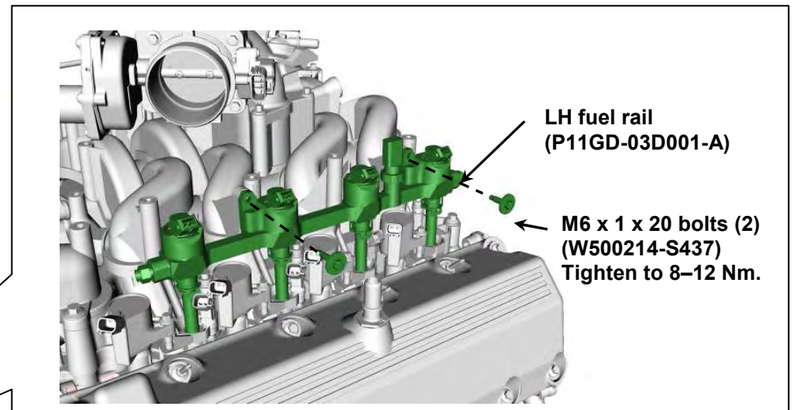
DISCARD REUSE NEW

INSTALLING NEW FUEL RAILS

1. Disconnect the wiring harness connectors from the fuel injectors.
2. Remove the four (4) mounting bolts and remove the fuel rail assembly from the engine. Save three of the mounting bolts for reuse in mounting the transmission dipstick bracket, P10C2-7H379A.

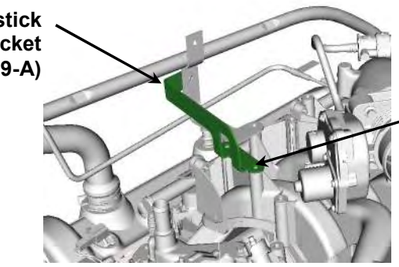


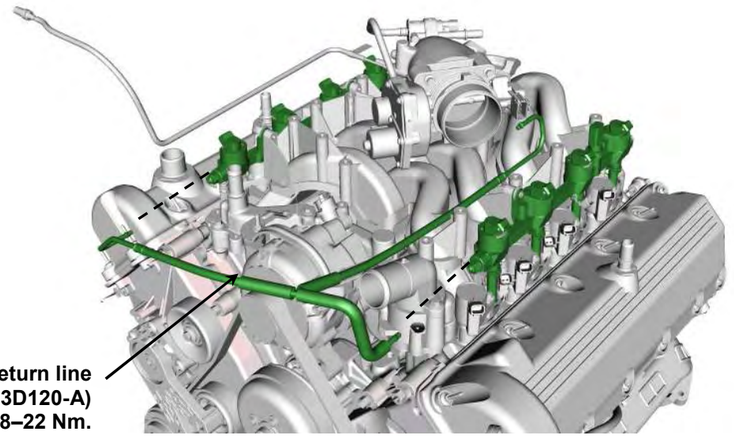




3. Using engine oil (Motorcrafᵗ SAE 5W-20 or equivalent), lubricate the lower O-rings on the injector nozzles before seating the ROUSH fuel rail assemblies into the intake manifold injector bores.
4. Starting with the LH fuel rail assembly on the driver side of the intake manifold, fully seat the nozzles in the injector bores. Using two (2) M6 bolts found in hardware kit P11GD-ENGKIT-A, secure the LH fuel rail to the intake manifold. Carefully install bolts by hand to avoid cross-threading; then, tighten to specification.
5. Repeat Step 4 to install the RH fuel rail assembly on the passenger side of the intake manifold.

6. Orient and install the fuel rail return line and tee assembly onto the forward ends of the fuel rails and tighten the fittings to specification. **Note:** The rear connection of the fuel rail return line will be done later after the FRPCM is installed.
7. Install the new dipstick mounting bracket (P10C2-7H379-A) found in hardware kit (P11GD-ENGKIT-A) to both the intake manifold and modified transmission dipstick mounting bracket. Secure the bracket reusing M6 mounting bolts removed from the original fuel rails.

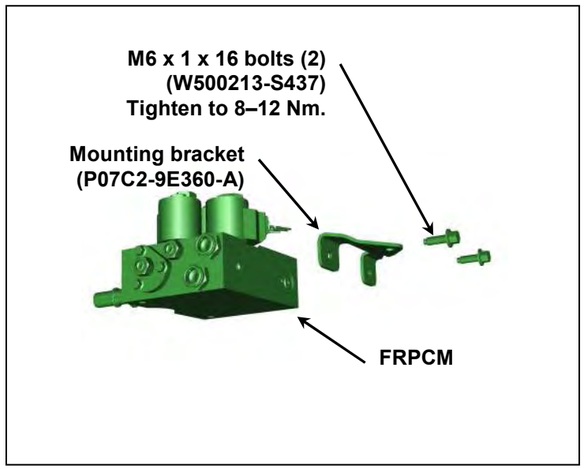




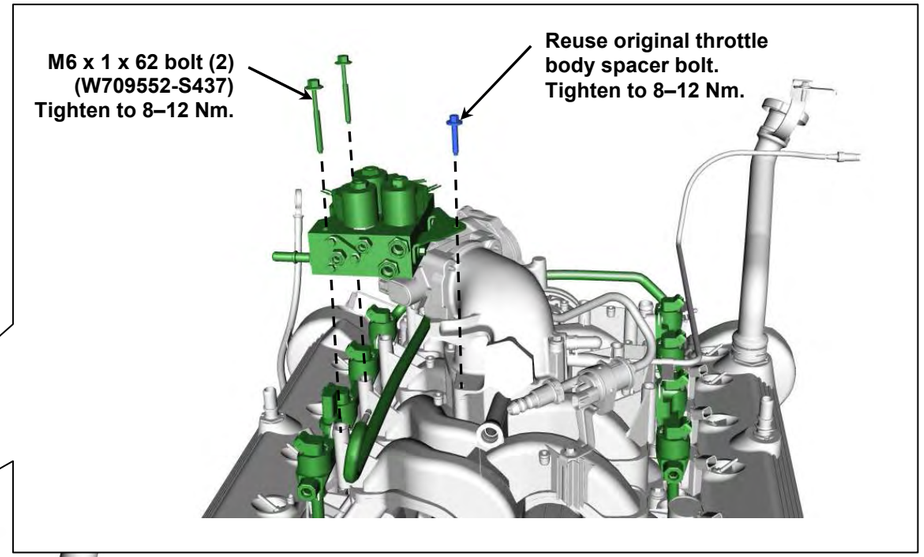
DISCARD REUSE NEW

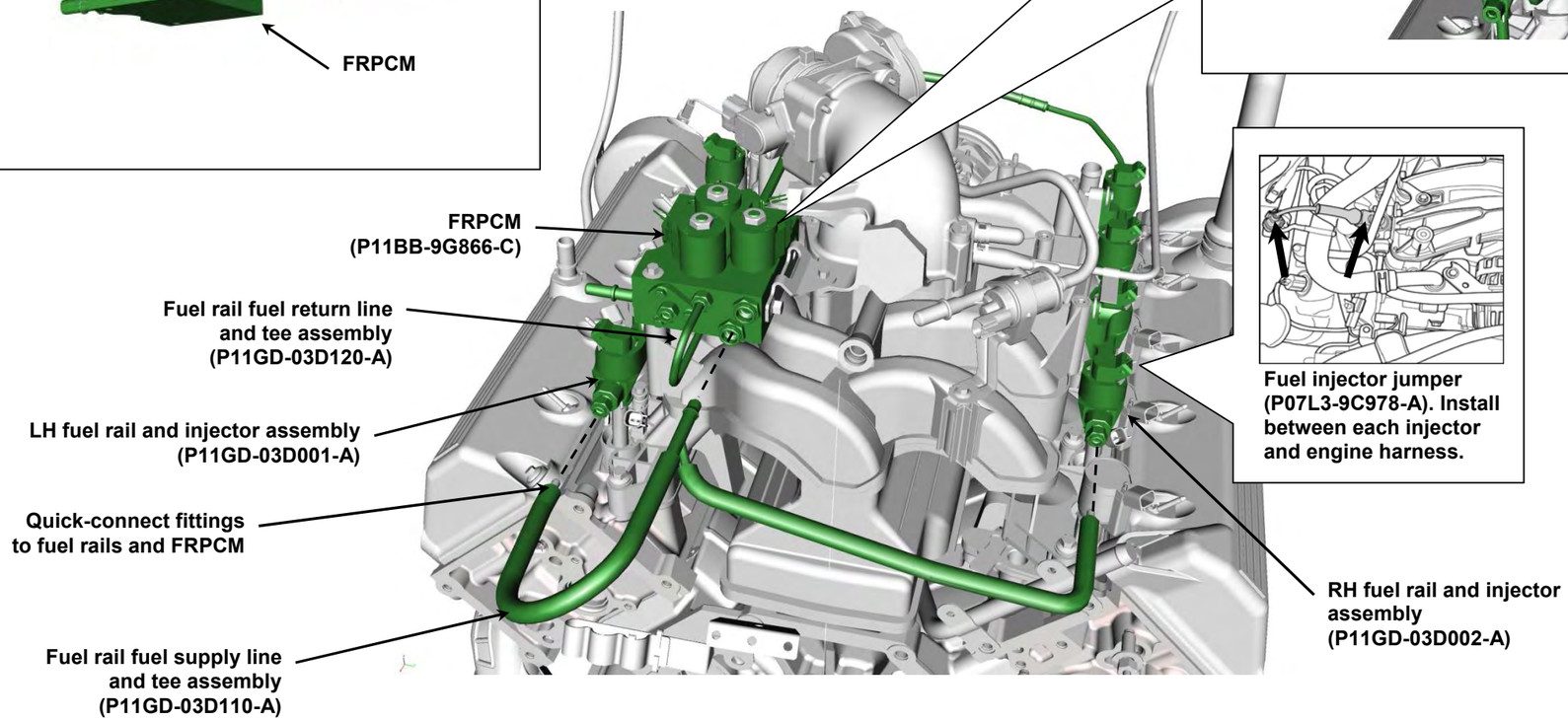
INSTALLING FUEL PRESSURE CONTROL MODULE (FRPCM) ASSEMBLY

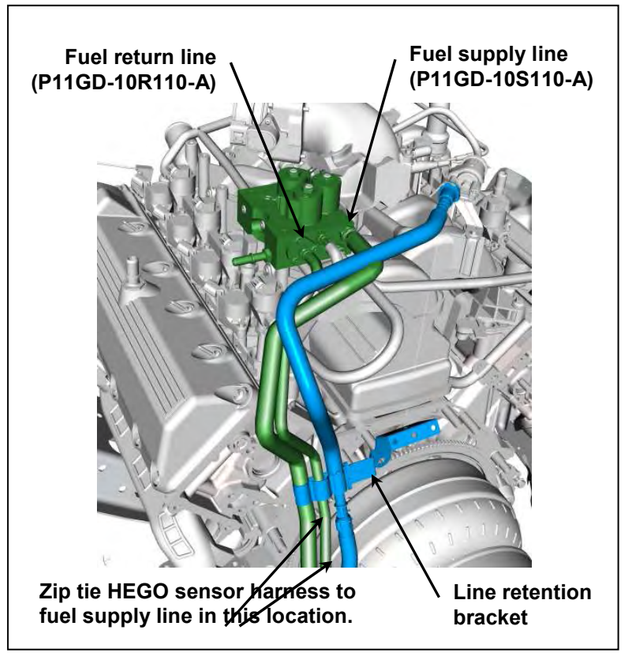
1. Attach mounting bracket to the FRPCM using two (2) M6 bolts. These parts are supplied in hardware kit P11GD-ENGKIT-A.



2. Remove and retain the left-rear throttle body spacer-to-intake manifold bolt.
3. Position the FRPCM on the two (2) vertical bosses located on the left rear corner of the intake manifold. Loosely install two (2) M6 fasteners found in hardware kit P11GD-ENGKIT-A to secure the FRPCM to the intake manifold. The mounting bracket should now be aligned with the rear left throttle spacer mounting hole. Reinstall the throttle spacer bolt.







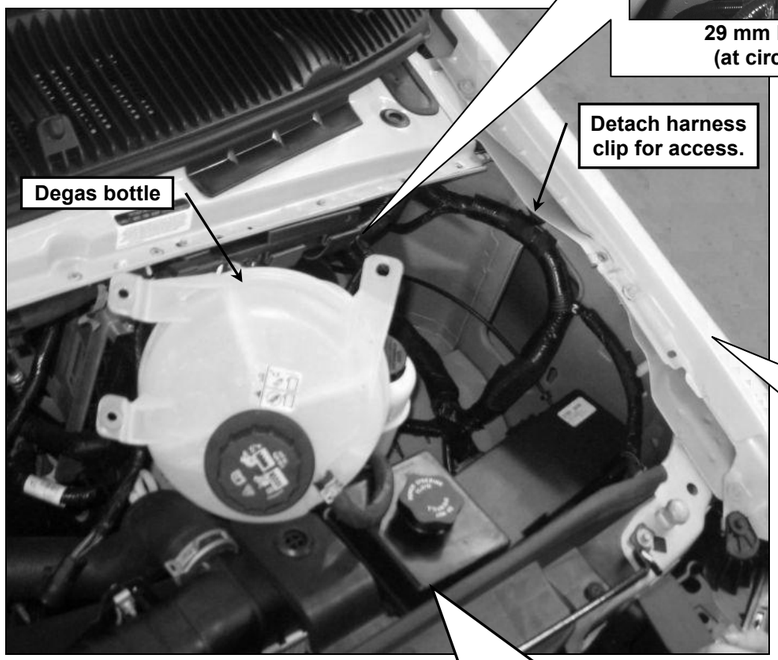
4. Connect the fuel rail fuel return line and tee assembly installed earlier into the top left port on the FRPCM.
5. Install the fuel rail fuel supply line and tee assembly between the fuel rails and bottom right port of the FRPCM.
6. Connect one (1) fuel injector jumper to each original harness connector (8 locations). These jumper harnesses are supplied in hardware kit P11GD-ENGKIT-A. Ensure that each jumper is attached to the correct mating connector to avoid cross wiring.
7. Connect the forward fuel supply and return lines to the FRPCM.
8. Install original PVC tubes.
9. Install the purge hose assembly (P10C2-9K313-A) to the bleeder port on the FRPCM and tee it into the VMV and the original VMV hose.
10. Detach the HEGO sensor retainer clip from the line retention bracket and clamp the fuel supply and return lines along with the vapor line in the retention bracket at the transmission.
11. Using zip ties, secure the HEGO sensor harness to the fuel supply line.

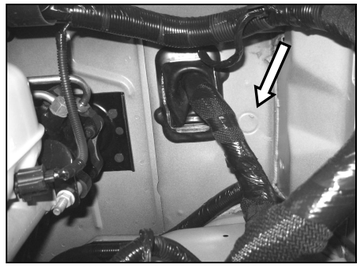
DISCARD REUSE NEW

INSTALLING SMART RELAY MODULE AND AUXILLIARY FUSE BOX BRACKET

Note: All parts for installing the smart relay module (SRM) and the auxiliary fuse box bracket are supplied in hardware kit P11GD-ELECKIT-A.

1. Remove and retain the three (3) degas bottle mounting fasteners. Lay the degas bottle on its side atop the brake booster as shown.



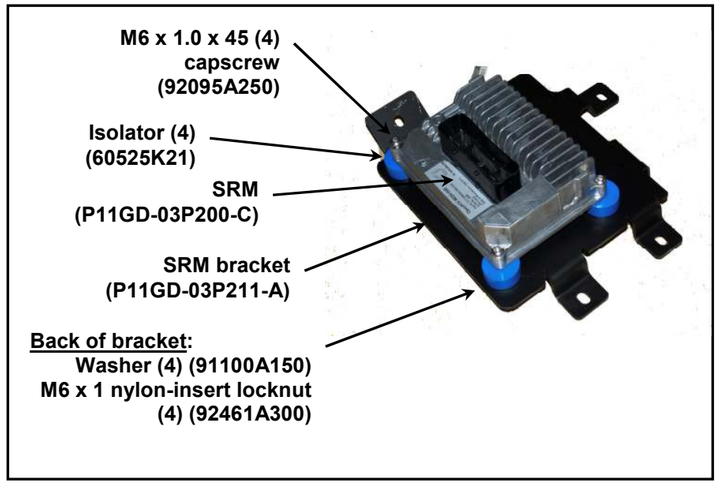


29 mm hole location (at circular indent)

2. Drill a 29 mm (1-1/8”) hole in the dash panel to the right of the master cylinder and main wiring pass through in the location shown (see circular indent in sheet metal).

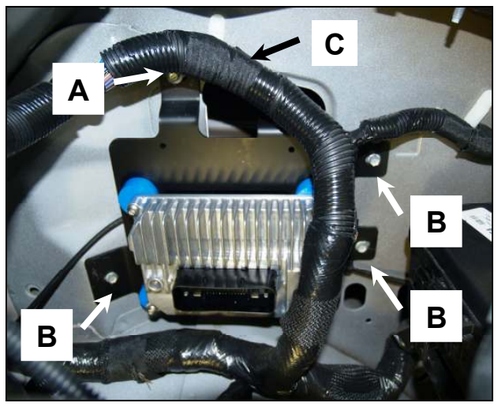
   Use care when drilling to avoid damaging the wiring harness in the cab interior behind the panel. Use a 29 mm hole saw with a pilot bit extending NO MORE than 13 mm (1/2”) beyond the saw teeth and push the drill no deeper than what is necessary to cut through the metal panel.

3. Assemble the SRM to the SRM bracket using four (4) M6 socket-head capscrews, washers and nylon-insert locknuts. Tighten until snug.



4. Remove retainer clip securing the Ford harness to the fender panel and install one (1) M6 x 1 J-clip on the retainer hole.
5. Place the SRM and bracket assembly in position on the fender panel as shown and install one (1) M6 x 1.0 x 16 bolt in the top rear hole (hole with J-clip).
6. Center punch and install an M6 x 16 self-tapping screw in each of the three (3) remaining mounting holes.

M6 x 1 J-clip (N623332-S439 or W520822-S439) (used in top hole of SRM bracket)

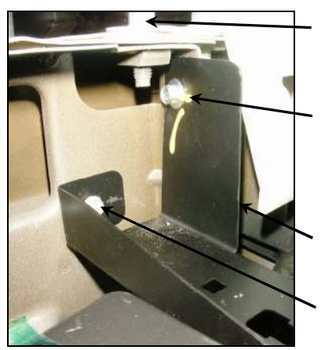


A – M6 x 1.0 x 16 bolt (W500213-S437) Tighten to 8–12 Nm.

B – M6 x 16 self-tapping screw (91324A580)

C – Harness clip

7. Install one M6 x 1 J-clip in hole at top of body flange (between fuse box and radiator).
8. Install the auxiliary fuse box bracket with an M6 x 16 bolt in the top hole.
9. Center punch and install an M6 x 16 self-tapping screw in the lower mounting hole to secure the bracket.



Back out bolt for better access when installing bracket.

M6 x 16 bolt (W500213-S437) used with M6 J-clip (N623332-S439 or W520822-S439) Tighten to 8–12 Nm.

Aux. fuse box bracket (P11GD-18E301-A)

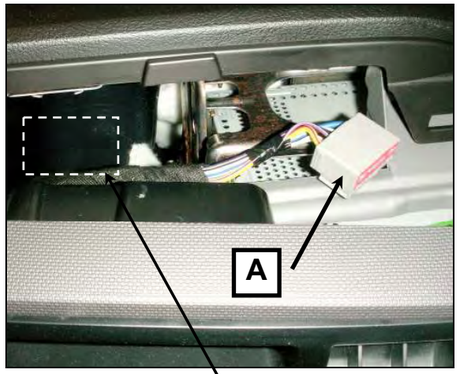
M6 x 16 self-tapping screw (91324A580)

10. Position the original Ford harness over the SRM and secure in place with the harness clip.

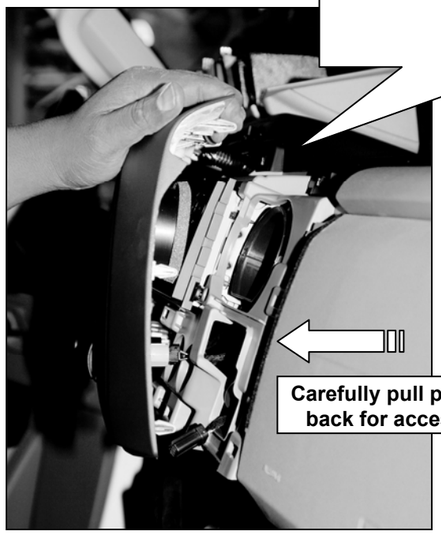
DISCARD REUSE NEW

INSTALLING INSTRUMENT PANEL WIRING HARNESS

1. From the passenger side of the instrument panel, grasp the instrument cluster finish panel at the lower right corner and the top and carefully pull back to release the retention tabs. Carefully continue to pull the right side of the panel back just enough (approximately 76 mm [3"]) to gain access to connectors for completing the ROUSH CleanTech CAN harness connections.
2. If vehicle is equipped with an electronic trailer brake controller, disconnect the harness from the brake controller. On models not equipped with the electronic brake controller, the unused original wiring harness connector "A" is stowed in an area at the right side of the finish panel as shown here.

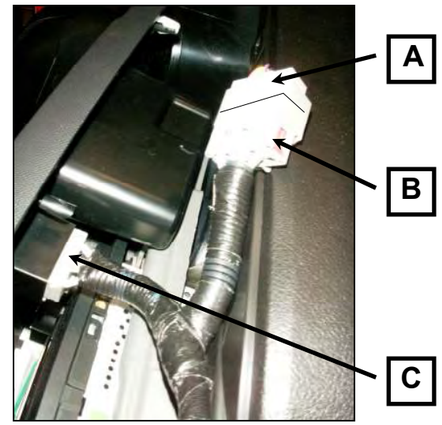


Brake controller located here, if equipped.



ROUSH CleanTech CAN harness connections

1. Connect the terminal end "B" of the controller area network (CAN) harness to the vehicle harness connector "A".
2. Connect the terminal end "**C**" to the brake controller (if equipped) or stow the unused terminal end "**C**" in the slot at the back of the instrument finish panel (see image at right).

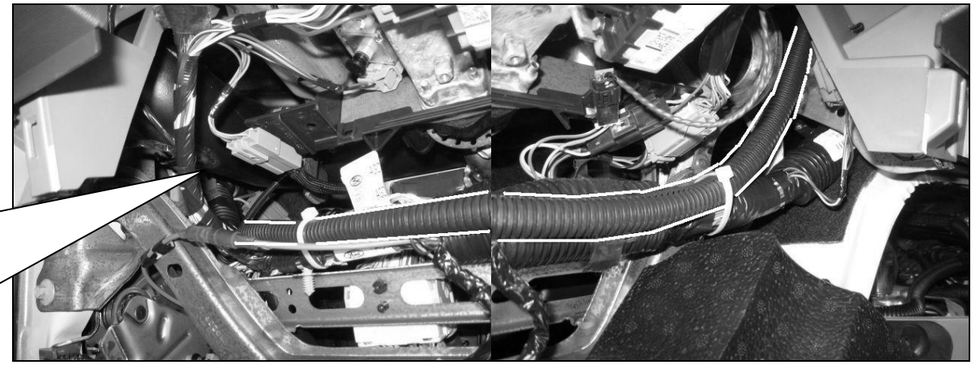


CAN harness (P11GD-18B100-A)

CAN harness routing to engine compartment

1. With connections to vehicle harness and the brake controller (if equipped) complete, route the harness end with the single connector down behind the finish panel and to the area behind the close-out panel under the steering column. (The close-out panel must be removed to access this area.)
2. Route the CAN harness under the steering column and over to the newly drilled 29 mm pass-through hole (see *Installing Smart Relay Module [SRM] and Auxiliary Fuse Box Bracket*). Using zip ties, secure the CAN harness to the original factory wiring harness.

With connections B and C complete, route the harness down through the instrument panel, under the steering column and to the engine compartment through the 29 mm hole drilled in the dash panel.



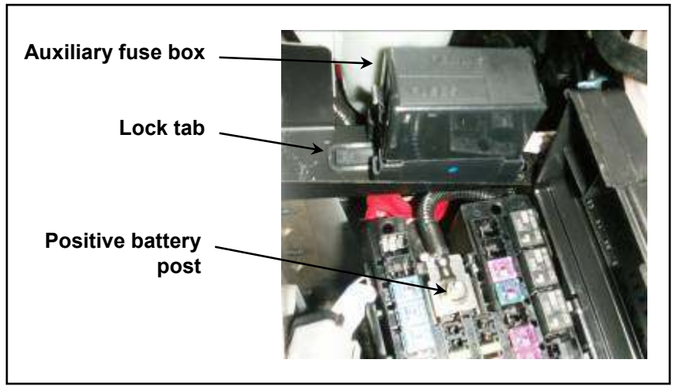
Pass-through hole

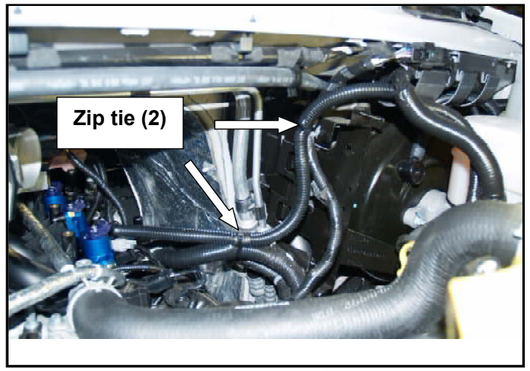
3. Insert the CAN harness single-connector end through the 29 mm pass-through hole to engine compartment. From the engine compartment, carefully pull the harness through the dash panel until the grommet is correctly seated in the pass-through hole.
   Note: See *Installing Smart Relay Module (SRM) and Auxiliary Fuse Box Bracket* for connecting CAN harness to underhood harness.
4. Reinstall the instrument cluster finish panel and the close-out panel below the steering column.

DISCARD **REUSE** **NEW**

INSTALLING UNDERHOOD WIRING HARNESS

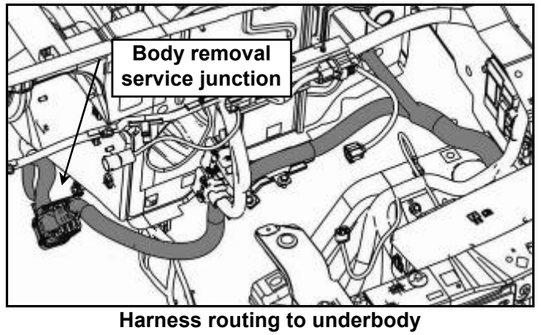
5. Install the auxiliary fuse box (part of harness) on the mounting bracket. Check to ensure that fuse box tabs are fully seated and locked in place. Add a zip tie to secure the harness to the bracket.
6. Open the Ford fuse box and connect the new underhood harness battery positive eyelet to the positive post.





Harness routing to FRPCM and IPTS

7. Route the break out with the FRPCM and integrated pressure temperature sensor (IPTS) connectors along the cowl above the brake booster. Continue routing along the left side of engine and make the connections to the FRPCM and the IPTS. Using zip ties, secure the break out to the Ford harness and to the Ford harness below the FRPCM.

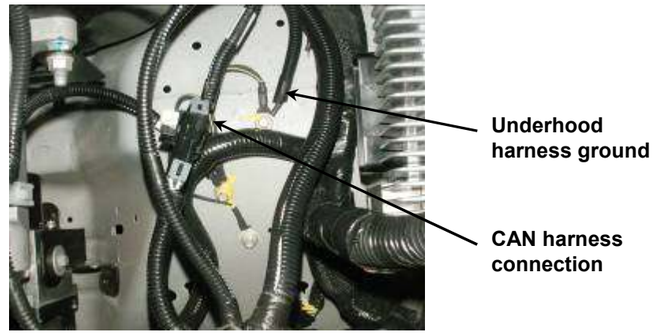


Harness routing to underbody

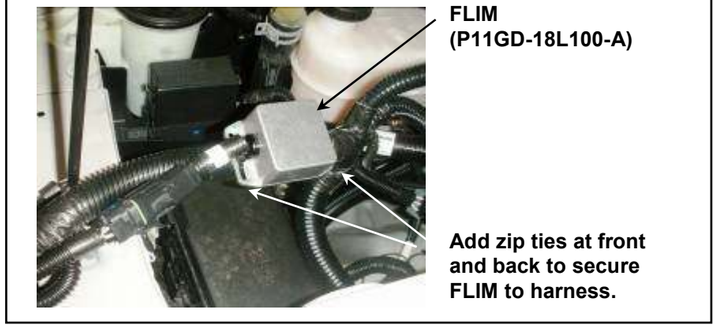
8. Route the break out with the 6-pin service connection along the wheel well and back toward the left (driver side) frame rail, following the Ford chassis harness to the left of the steering column. Note: Make sure to secure the ROUSH CleanTech underhood harness to keep it away from the steering column.

9. Reinstall the degas bottle using the original fasteners.

1. Connect the underhood harness ground eyelet to the existing Ford ground location on wheel well near the SRM.
2. Attach the underhood harness connector to the SRM.
3. Connect the CAN harness to the underhood harness.



6. Plug the fuel level interface module (FLIM) into the underhood wiring harness. Use narrow zip ties to secure the FLIM to the underhood harness.



Note: All parts for installing the ROUSH CleanTech underhood harness are supplied in hardware kit P11GD-ELECKIT-A.

Note: It is recommended to route the entire harness and make all connections prior to retaining the harness with zip ties. Retaining the harness with zip ties should be the final step.

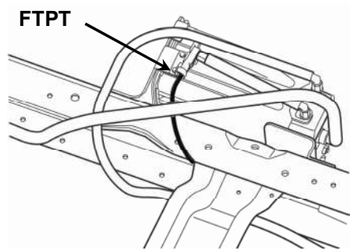
DISCARD REUSE NEW

INSTALLING NEW CHASSIS WIRING HARNESS

1. Install and route the ROUSH CleanTech rear frame harness along the original vehicle harness from the ROUSH CleanTech underhood harness along the left frame to the original electric fuel pump relay (EFPR) at the rear of the rail. Do NOT secure the harness with zip ties until all connections have been made.
2. Install a new EFPR just forward of the original EFPR. Use spacers between the EFPR and the frame rail when installing the M8 mounting bolts and M8 x 1.25 locknuts (92461A400). These parts are supplied in hardware kit P11GD-ELECKIT-A.
3. Connect the ROUSH CleanTech rear frame harness to both EFPRs and the vehicle harness. Use zip ties to secure the new harness to the vehicle harness.
4. Connect the rear frame harness ground lead to the frame.

Note: To make sure a good connection to ground is made, remove the OEM paint under the ground location.

Rear frame harness (P11GD18C200-A) ground — use M6 x 1.0 x 16 bolt (W500213-S437) and nut (90591A151). Tighten to 8–12 Nm.



5. Route the FTPT harness lead from the original vehicle harness over the left frame rail and connect it to the FTPT sensor.

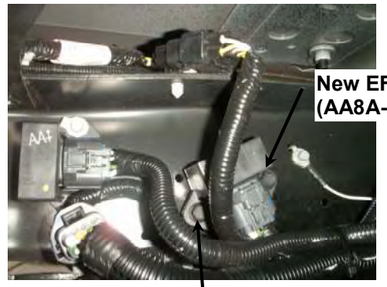
Front of vehicle

Underhood harness (P11GD-18A100-A)

To 4-pin vehicle connector

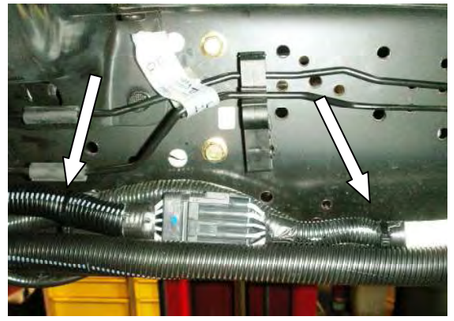
Rear frame harness (P11GD-18C200-A)

Place spacers (AS75-18-32) over the M8 bolts between the EFPR and the frame.



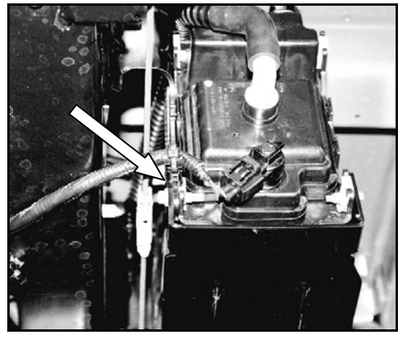
New EFPR (AA8A-9D412-C)

M8 x 1.25 x 35 bolts (98093A553) and M8 x 1.25 locknuts (92461A400). Tighten to 20–30 Nm.



Use zip ties (1A868) to secure harness at both sides of 6-pin connector.

Note: The three (3) fuel tank connections will be done later after the tank is installed. Harness leads are then secured to the original vehicle harness inside the frame flange.

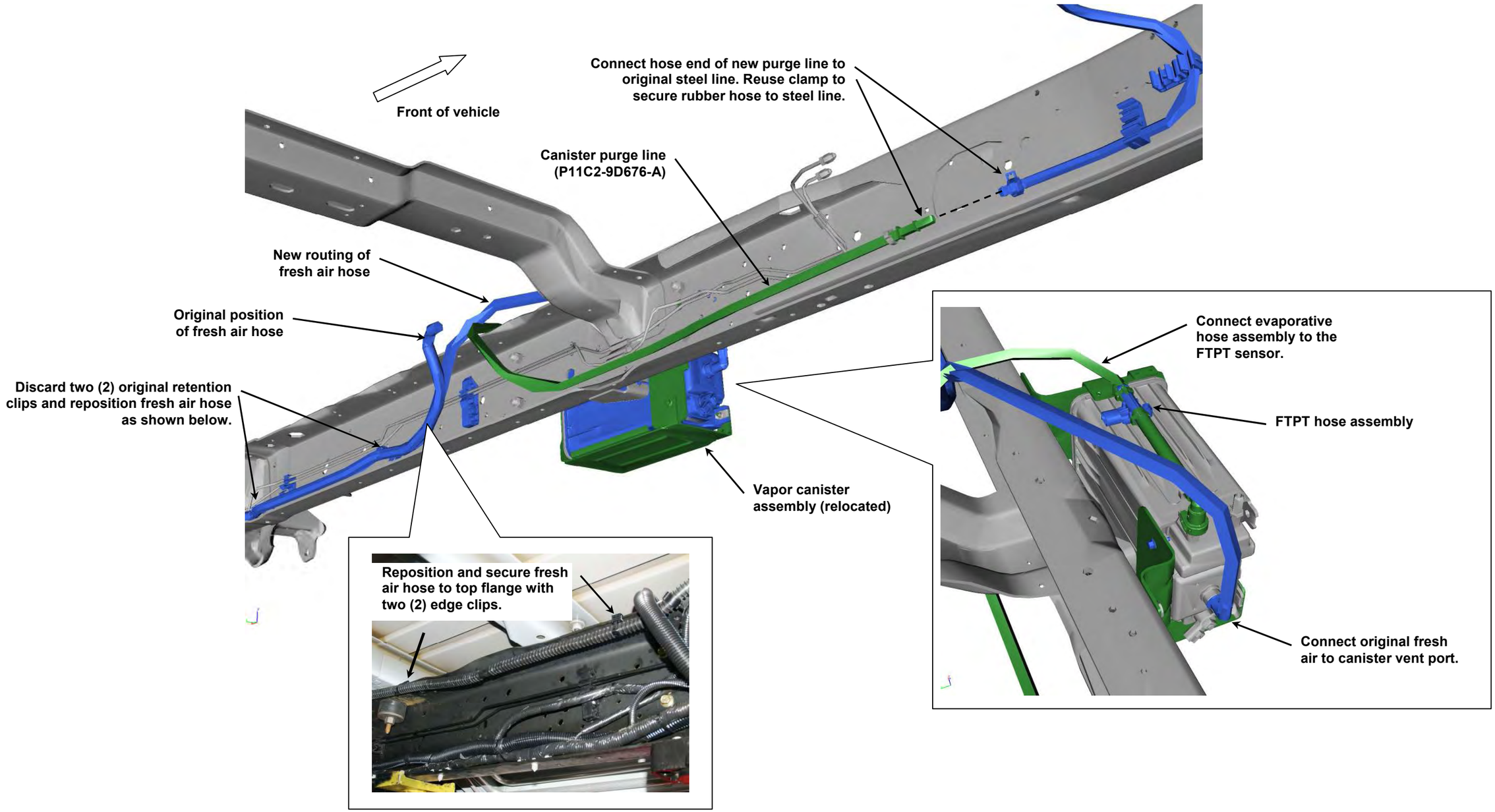


Use a zip tie (1A868) to secure the vent harness lead to the canister front bracket.

6. Connect the rear harness to the underhood harness. Use zip ties to secure the 6-pin harness connector to the vehicle harness inside the frame flange.

7. Route the original canister vent harness lead under the left frame rail and connect the lead to the vent solenoid.

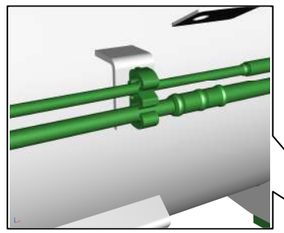
INSTALLING VAPOR CANISTER PURGE LINE AND FRESH AIR HOSE



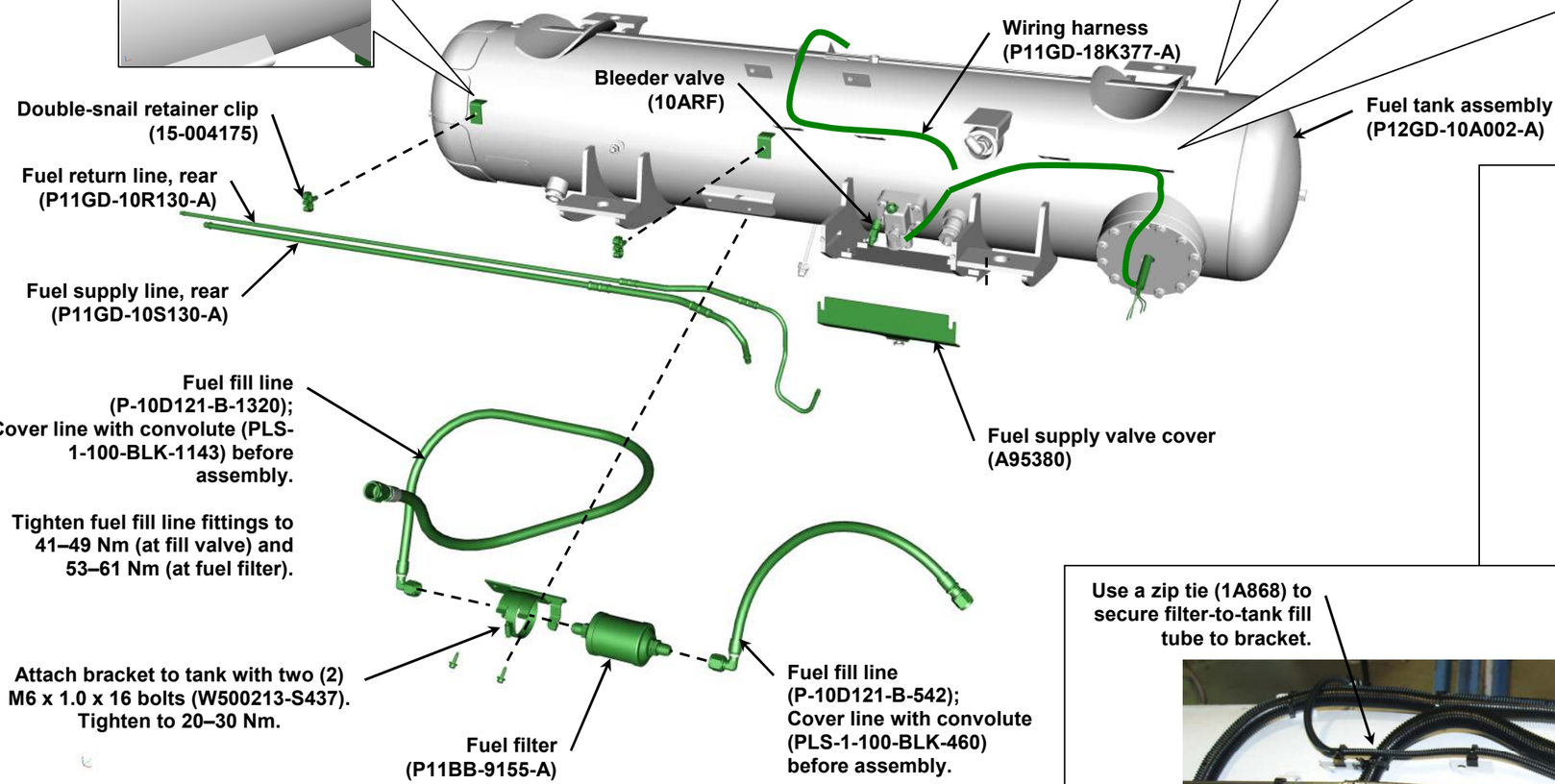
DISCARD REUSE NEW

PREPARING NEW TANK ASSEMBLY

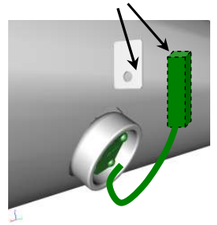
1. Install the wiring harness, attaching it to the fuel supply valve, fuel pump and fuel liquid level sensor terminals. Secure the harness with zip ties at angle brackets (7 locations).
2. Remove the fuel supply valve cover and install the fuel supply and return lines.
3. Install convolute over the fuel fill lines, making sure to cover the entire braided portion of the line. Secure at both ends with zip ties.
4. Position the fuel filter bracket (P11GD-10D220-A) and install the two M6 bolts. Tighten the bracket bolts to 8-12 Nm.
5. Unscrew the worm clamp (6P-300-52) and install it onto the filter bracket. Orient the clamp so that it can be easily tightened. Close the clamp and start a few of the threads to hold the clamp in place on the bracket, but loose enough to install the filter.
6. Slide the filter over the bracket and through the clamp until the filter is correctly engaged with the bracket. The filter must be oriented so that the arrows are facing the direction of fuel flow; in from the fill valve and out to the tank.
7. Tighten the clamp to secure the filter to the bracket.



8. Secure the fuel fill line (fuel fill valve-to-filter) with edge clips at angle brackets on tank (2 locations) and the fuel fill line (filter-to-tank) with one standard zip tie at a third angle bracket.

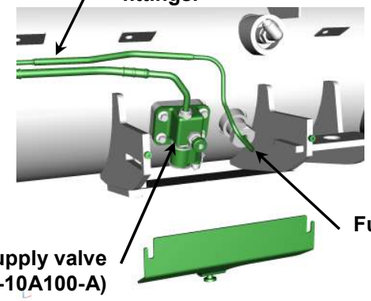


Zip tie connector to bracket.

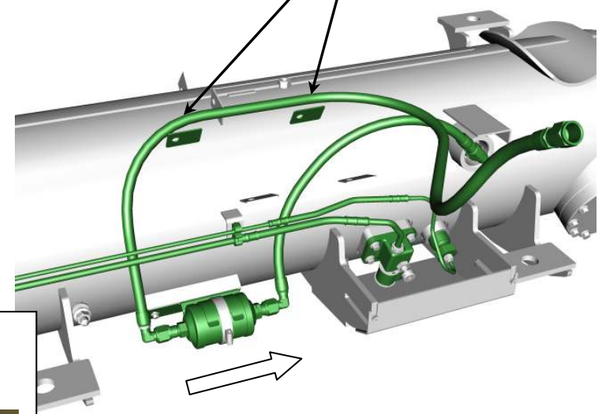


Fuel liquid level gauge (RH side of tank)

Both rear fuel supply and return lines are equipped with quick-connect fittings.

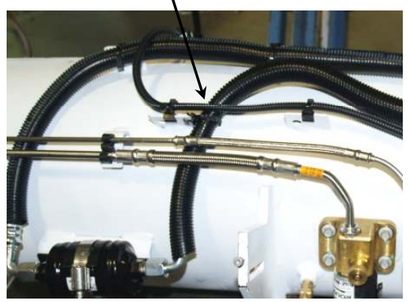


Secure fuel fill line with edge clips (156-01007) in three (3) locations.



Direction of fuel flow through filter.

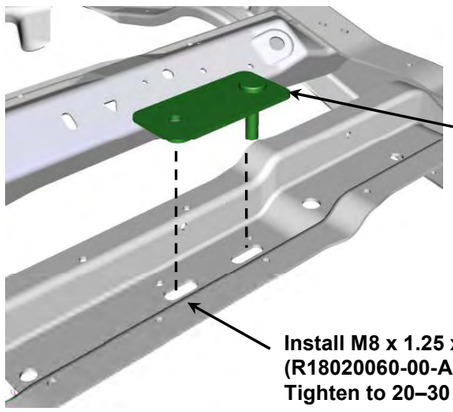
Use a zip tie (1A868) to secure filter-to-tank fill tube to bracket.



DISCARD REUSE NEW

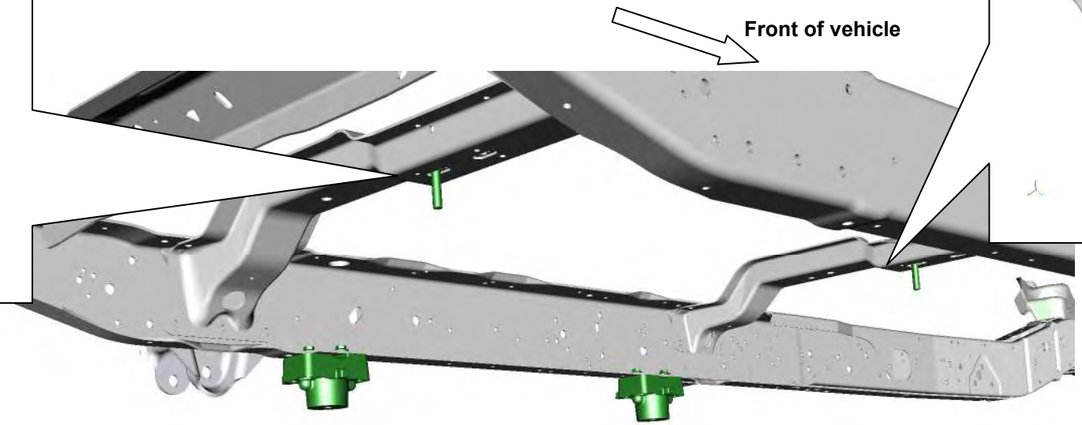
PREPARING THE FRAME

1. Drill out three (3) existing frame holes shown (two front and one rear) to 11 mm. Debur and coat all bare metal using a premium undercoating. ROUSH CleanTech suggests Motorcraft Premium Undercoating (PM-25-A).
2. Install the tank outboard frame brackets using M10 x 1.5 x 36 bolts. The brackets and bolts can be found in hardware kit P11GD-TANKMNT1-A and Supplemental Kits P11GD-TANKMNT-A (E-150/250) and P11GD-TANKMNT-B (E-350).
3. Tighten the bolts to specification.
   Note: The E-150/250 outboard frame brackets are higher than those of the E-350 due to the narrower frame web.

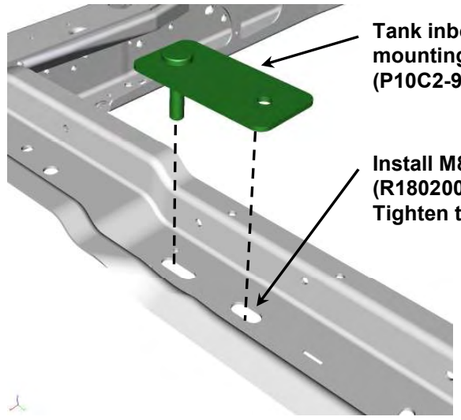


Tank inboard mounting bracket (P10C2-9A041-A)

Install M8 x 1.25 x 28 bolt (R18020060-00-A) Tighten to 20–30 Nm.

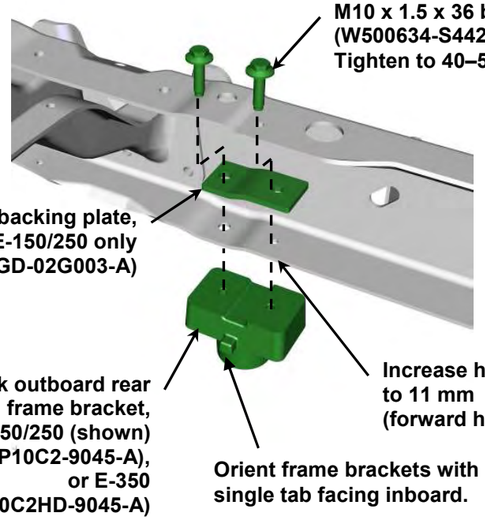


Front of vehicle



Tank inboard mounting bracket (P10C2-9A041-A)

Install M8 x 1.25 x 28 bolt (R18020060-00-A) Tighten to 20–30 Nm.



M10 x 1.5 x 36 bolts (2) (W500634-S442) Tighten to 40–55 Nm.

Rear backing plate, E-150/250 only (P11GD-02G003-A)

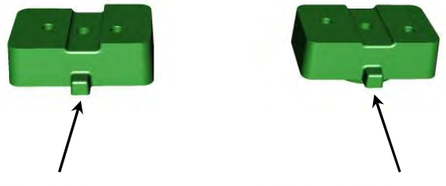
Tank outboard rear frame bracket, E-150/250 (shown) (P10C2-9045-A), or E-350 (P10C2HD-9045-A)

Increase hole size to 11 mm (forward hole only).

Orient frame brackets with single tab facing inboard.

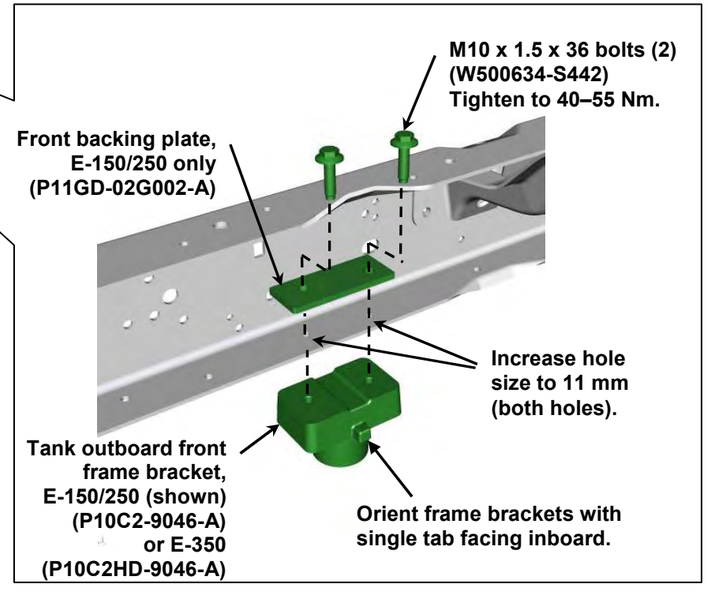
4. Install the tank crossmember mounting brackets on the mid and rear crossmembers. Loosely install the M8 bolts. Do NOT fully tighten these bolts at this time to allow for adjustment as needed during tank installation.

E-350 outboard frame brackets



P10C2HD-9045-A (rear) **P10C2HD-9046-A (front)**

Note: Backing plates are not required with E-350 frame brackets.



M10 x 1.5 x 36 bolts (2) (W500634-S442) Tighten to 40–55 Nm.

Front backing plate, E-150/250 only (P11GD-02G002-A)

Increase hole size to 11 mm (both holes).

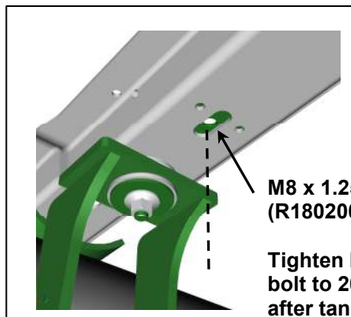
Tank outboard front frame bracket, E-150/250 (shown) (P10C2-9046-A) or E-350 (P10C2HD-9046-A)

Orient frame brackets with single tab facing inboard.

DISCARD **REUSE** **NEW**

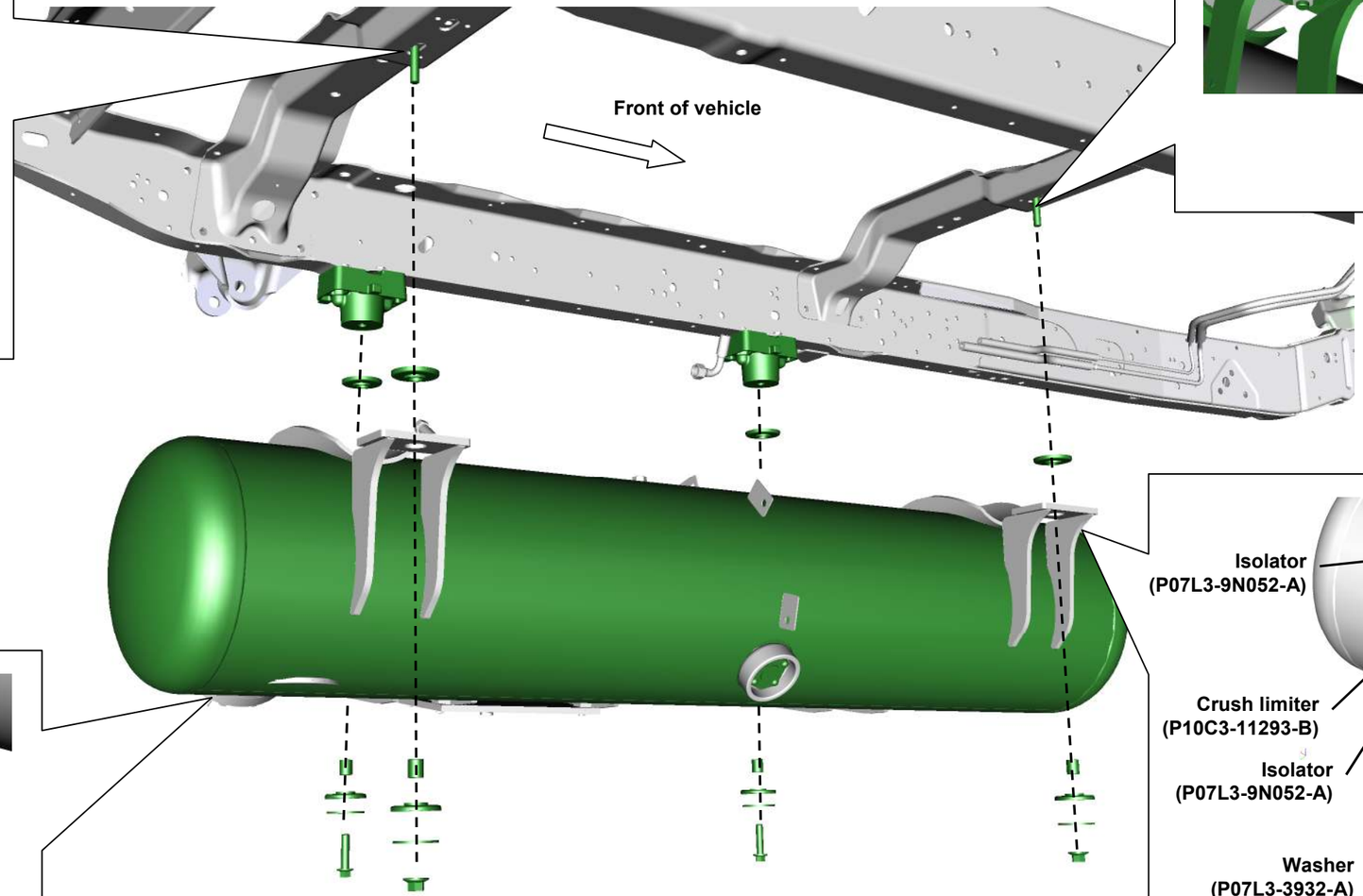
INSTALLING NEW FUEL TANK

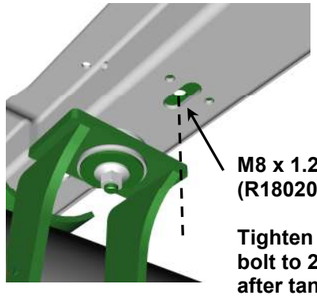
1. With the fuel fill line tucked up against the fuel tank, slowly begin to raise the tank into position. Stop approximately 12”–18” from its final position. This will allow for room to complete step 2.
2. Route the fuel fill line (P-10D121-B-1320) from the fuel filter up and over the frame rail. This line will be secured to the fuel fill valve once the tank is fully installed into the vehicle.
3. Raise the tank into position, being careful to align the mounting holes on the tank with the four (4) respective mounting brackets before fully seating on four (4) locations.



M8 x 1.25 x 28 bolt (R18020060-00-A)

Tighten M8 bracket bolt to 20–30 Nm after tank mounting bolts are tightened.

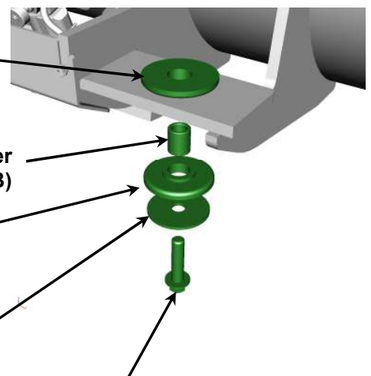




M8 x 1.25 x 28 bolt (R18020060-00-A)

Tighten M8 bracket bolt to 20–30 Nm after tank mounting bolts are tightened.

Note: Secure one (1) isolator to the top side of each of the four (4) tank mounting brackets using a high-strength, fast curing adhesive. This will keep the isolators properly positioned during tank installation.



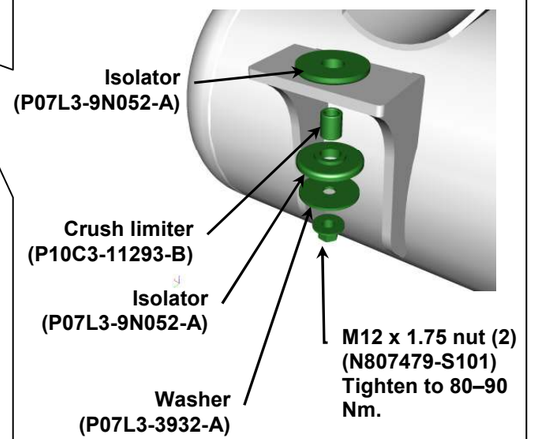
Isolator (P07L3-9N052-A)

Crush limiter (P10C3-11293-B)

Isolator (P07L3-9N052-A)

Washer (P07L3-3932-A)

M12 x 1.75 x 50 bolt (2) (W709529-S437) Tighten to 80–90 Nm.



Isolator (P07L3-9N052-A)

Crush limiter (P10C3-11293-B)

Isolator (P07L3-9N052-A)

Washer (P07L3-3932-A)

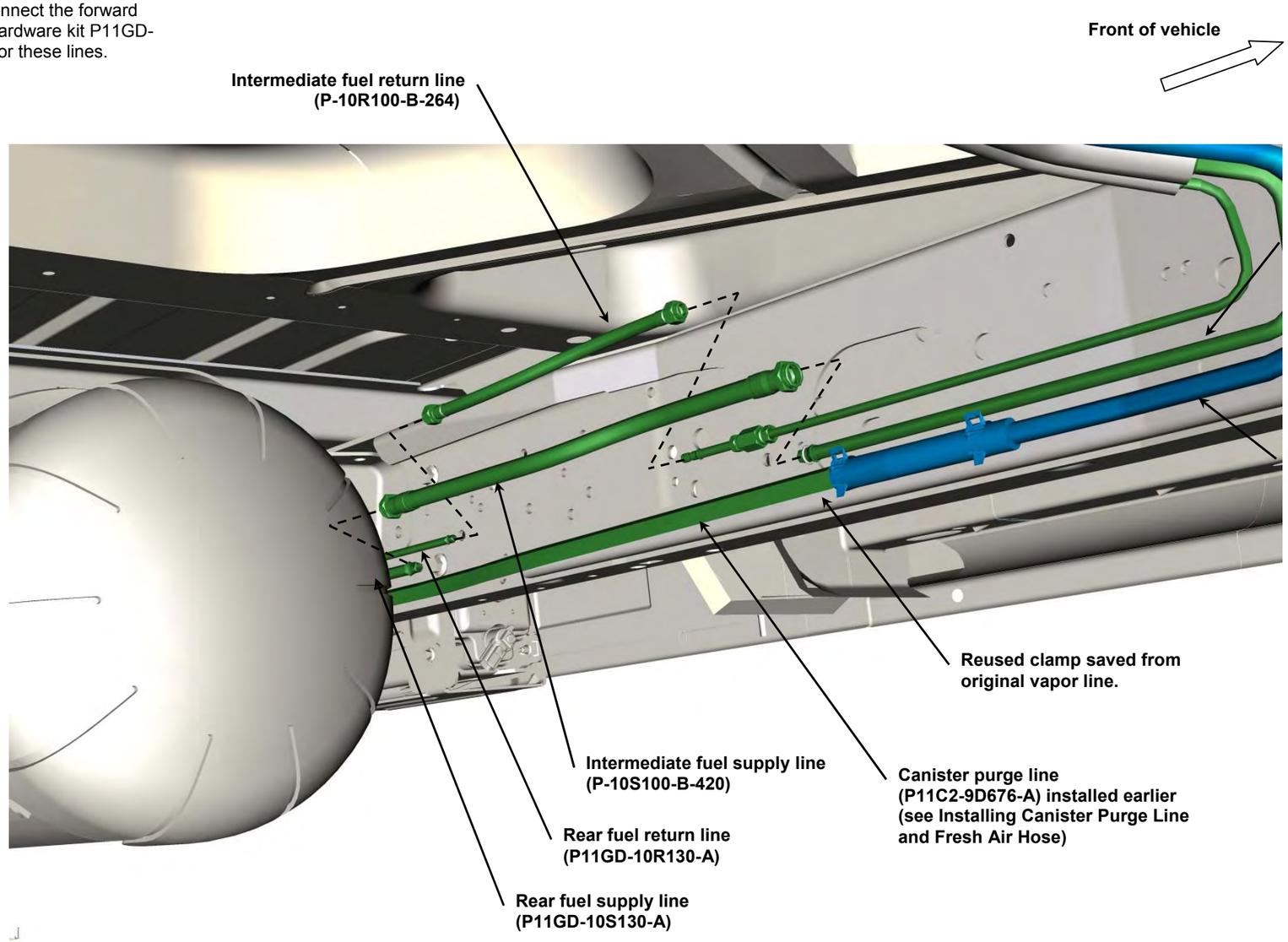
M12 x 1.75 nut (2) (N807479-S101) Tighten to 80–90 Nm.

4. Once all of the tank mounting brackets are aligned and seated firmly against their mating components on the frame and cross members, install four (4) crush limiters and the four (4) remaining tank mounting isolators into the underside holes on the tank mounting brackets (4 places). These can be found in hardware kit P11GD-TANKMNT1-A.
5. **Outboard frame mounts:** Loosely install the M12 x 50 bolts and washers found in hardware kit P11GD-TANKMNT1-A (2 places). Do NOT tighten the bolts at this time.
6. **Cross member mounts:** Loosely install the M12 nuts and washers found in hardware kit P11GD-TANKMNT1-A (2 places).
7. Once all tank mounting fasteners have been installed, tighten the M12 bolts and nuts to specification. Then, tighten the crossmember mounting bracket M8 bolts to specification.

DISCARD **REUSE** **NEW**

INSTALLING NEW CHASSIS FUEL AND VAPOR LINES

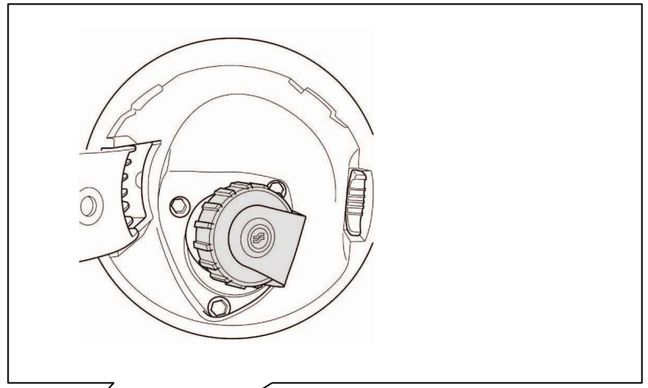
Install the flex fuel supply and return lines to connect the forward and rear fuel supply and return lines found in hardware kit P11GD-FUELLINE-A. Quick-connect fittings are used for these lines.

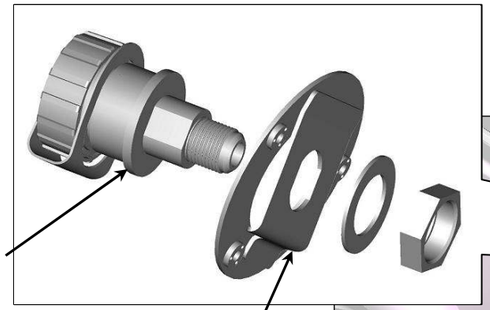


DISCARD REUSE NEW

INSTALLING NEW FUEL FILL SYSTEM

1. Attach the fuel fill valve to the filler neck mounting bracket using the washer and nut supplied with the valve. Both the fill valve and mounting bracket are found in hardware kit P11GD-FILLKIT-A.
2. Route the fuel fill line from the filter on the tank over the frame rail.
3. Attach the fuel fill valve and mounting bracket assembly to the open end of the fill hose.
4. Position the fill valve and hose assembly in position at the back side of the fill-door mount. From outside the vehicle, secure the assembly to the mount with three (3) M5 bolts supplied in hardware kit P11GD-FILLKIT-A.
5. From underneath the vehicle, tighten the fuel fill line-to-fill valve line nut to specification.
6. Using a zip tie, secure the fuel fill line to the original retention bracket.



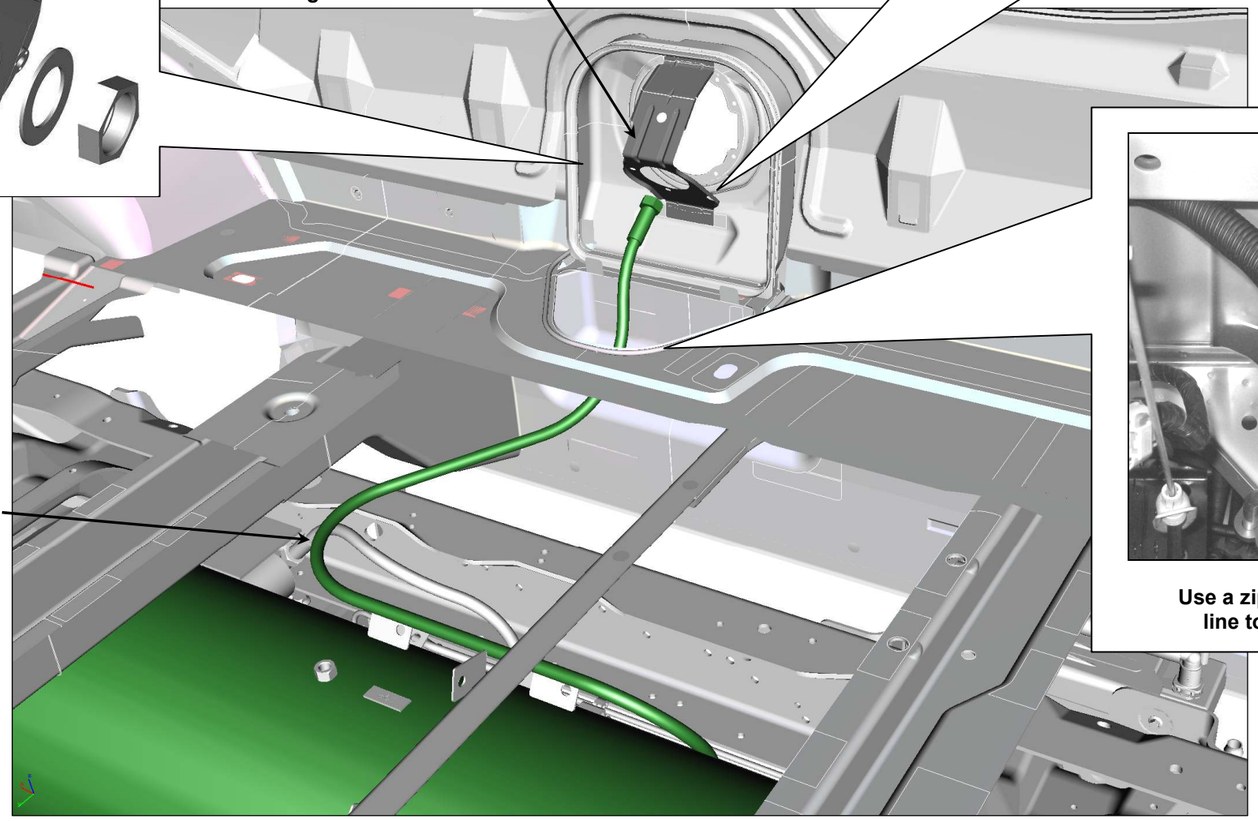


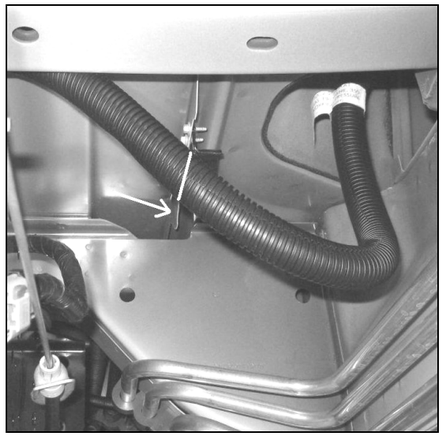
Fuel fill valve (ME602-8)

Connect fuel fill line to fuel fill valve. Tighten to 41–49 Nm.

Support the filler neck mounting bracket (P10C2-9B213-A) and tighten the fuel fill valve nut securely.

Fuel fill line (fuel fill valve-to-fuel filter) (P-10D121-B-1320)





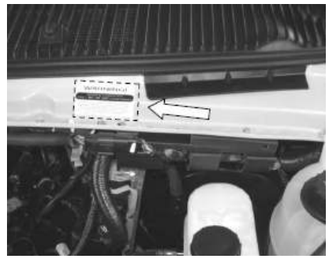
Use a zip tie to secure the fuel fill line to the retention bracket.

DISCARD REUSE NEW

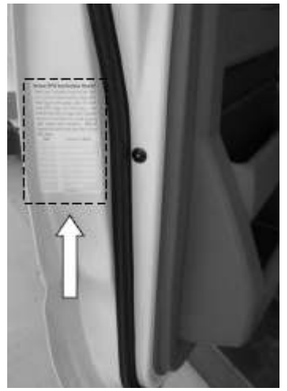
INSTALLING BADGES AND LABELS AND COMPLETING THE KIT INSTALLATION

Badges and Labels

1. To prevent damage, label and badge installation should be performed in an environment with temperatures above 60°F. Clean and dry the area on the vehicle where labels will be placed. Labels can be found in hardware kit P11GD-LABELS-A.
2. Apply the labels in the locations shown.
3. Apply the ROUSH CleanTech VECI label to the location specified in the supplemental instructions included with the returned PCM. **Note:** These VECI labels are vehicle-specific and are required by law to be applied to the vehicle to which they are assigned. Use the labels included with the PCM when returned to you by ROUSH CleanTech.

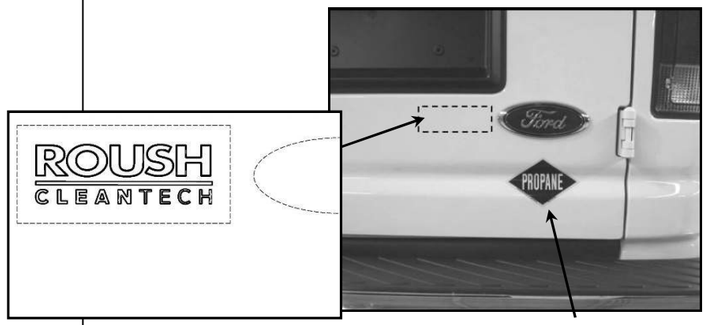


PCM Tamper Label (R07100008-A) on cowl near PCM



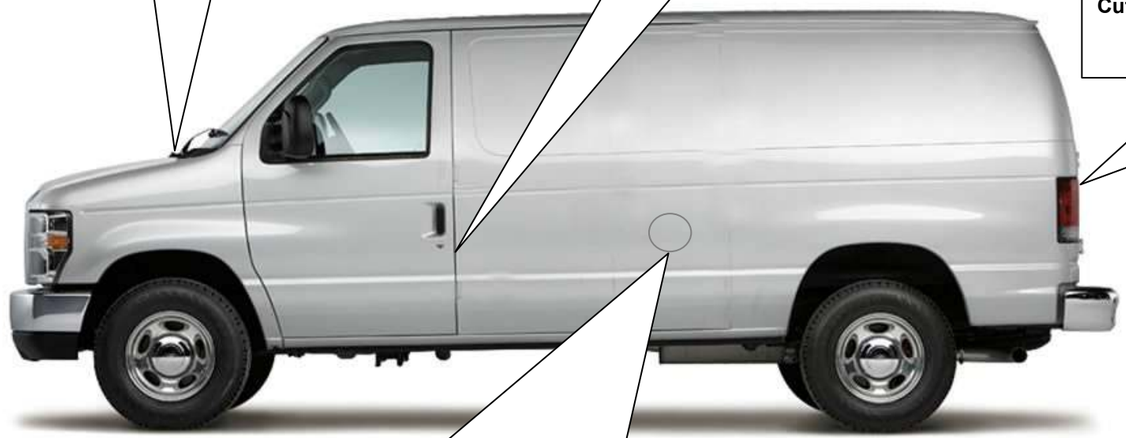
Overflow Protection Device Label (P07L3-9A095-C) to driver side door

Right corner of passenger side rear door

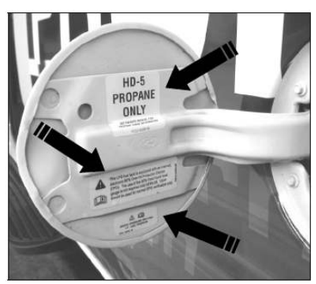


Apply the ROUSH CleanTech Badge (P-01G100-A) to the left of the Ford logo using the template for correct positioning. Note: The template can be found on the next page of this document. Cut the template out of the page.

Apply the D85 Propane Label to the door as shown.



Overflow Protection Device Label (P11BB-01C200-B) at mid-door



HD5 Propane Label (P07L3-9A095-A) at top

350 PSI Working Pressure Label (P07L3-9A095-I) at bottom

Completing the Kit Installation

1. Install the reprogrammed PCM following the procedure in the *Ford Workshop Manual, Section 303-14, Electronic Engine Controls.*
2. Install the vehicle battery and connect the positive and negative terminals. Tighten to 8-12 Nm.
3. Perform the Fill/Start/End-of-Line Check following the established ROUSH CleanTech procedure.
4. After system leak check, close the bleeder valve on the tank, and open the remote bleeder valve (if applicable) to evacuate the bleed line. When complete, close the remote bleeder valve as well.
5. Install the supply valve cover and tighten the cover screw securely.
6. Install the air induction system in the reverse order it was removed.
7. Reconnect the MAF sensor.
8. Install the close-out panel over the radiator, securing it with the four (4) push-pin retainers.
9. Install the engine cover to its location inside the passenger compartment.

ROUSH CLEANTECH BADGE INSTALLATION

Cut the template out of this page, and if necessary, save for reuse. Cut along all dotted lines. Use non-marring tape to secure the template to the vehicle.

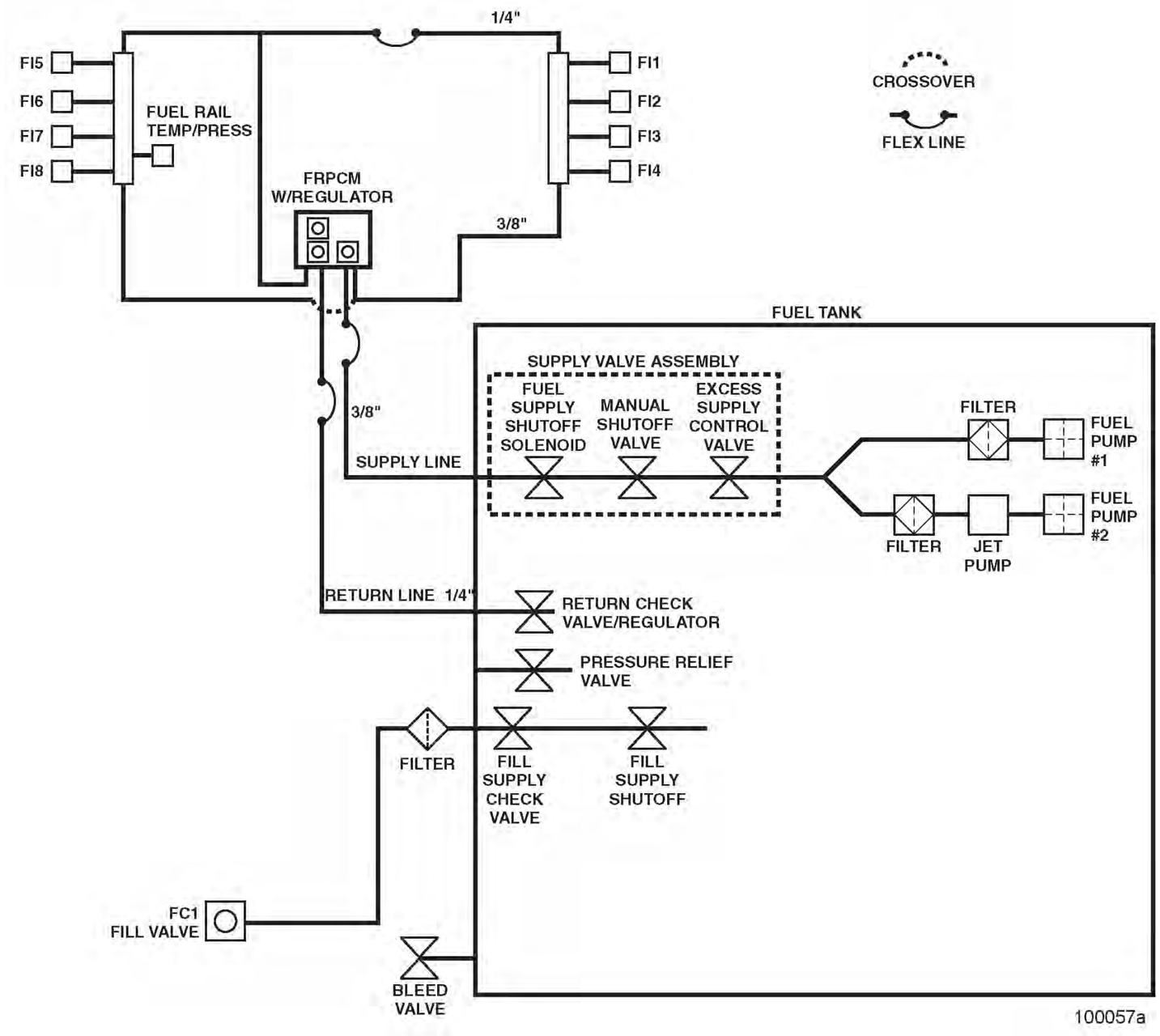
ROUSH
CLEANTECH

ROUSH CLEANTECH BADGE INSTALLATION TEMPLATE

For E-150/250/350 Van/Wagon and E-250/350 Extended Range Vehicles

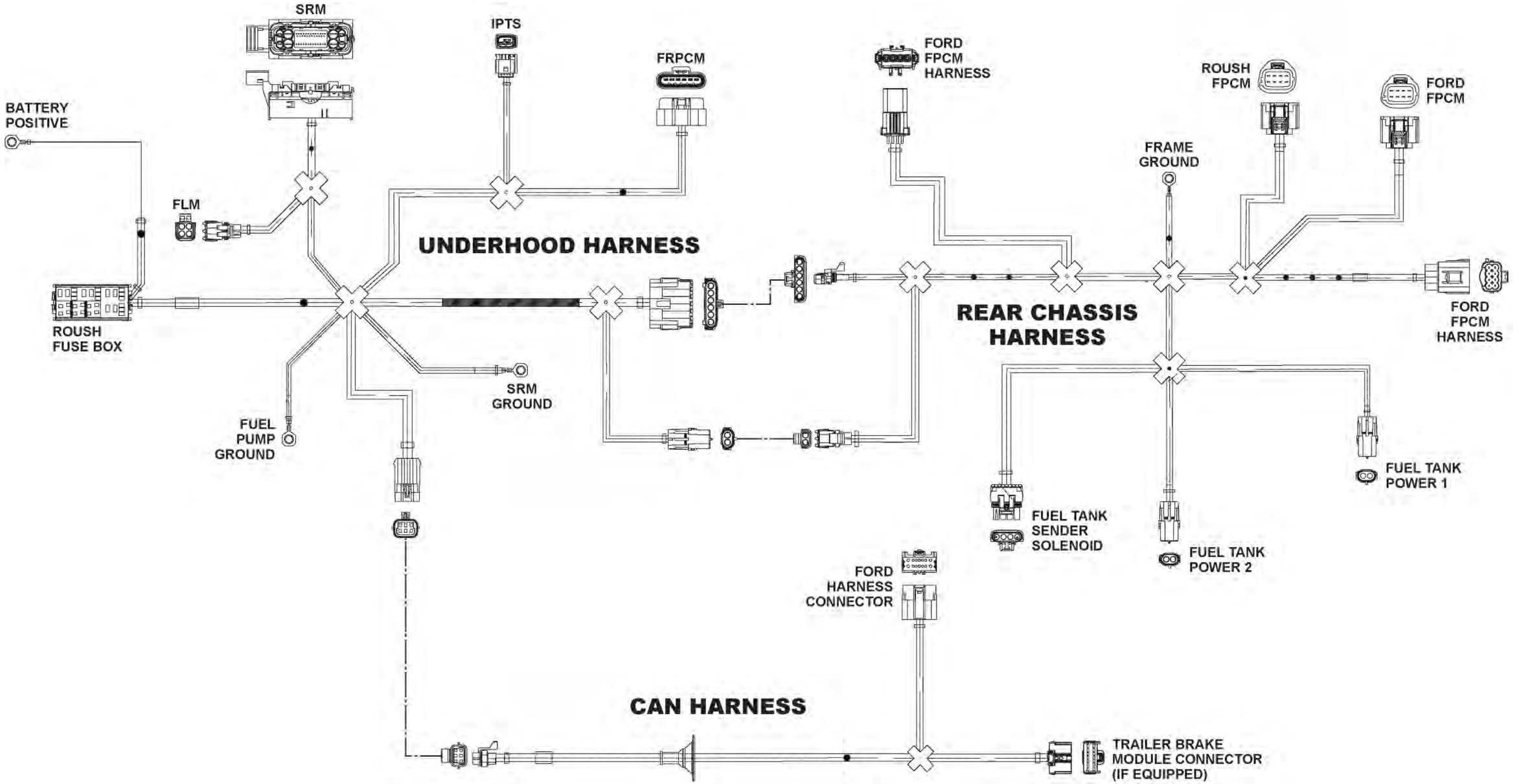
1. Clean the badge bonding area using isopropyl alcohol with a lint free towel.
2. Wipe the bonding surface dry immediately with a dry, lint free cloth or allow the solvent time to flash off.
   Note: The time between surface preparation and badge install must NOT exceed 20 minutes.
3. Using non-marring tape, secure this template to the right rear door of the vehicle.
4. Remove the backing by pulling it back at approximately 180 degrees.
   Note: The time prior to application of the badge must NOT exceed three minutes.
   Note: Avoid finger contact with the adhesive surface of the badge at all times.
5. Locate the badge to the body using the template for alignment.
   Note: Application of the badge should be done between 60–90°F (16–32°C).
6. Remove the carrier strip by pulling it back at an angle of approximately 180 degrees.
7. Pressurize the badge by applying consistent and uniform force over the entire surface of the badge, including a minimum of three seconds of dwell time.
   Note: If available, use a roller, a bladder or a bladder roller for best results.
8. Remove the template.

SCHEMATIC — FUEL SYSTEM

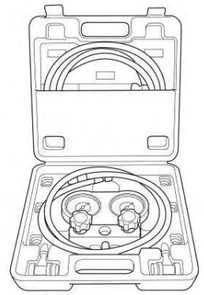


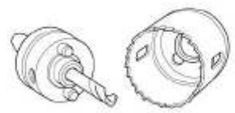
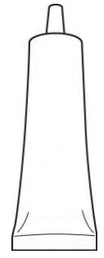
SCHEMATIC — WIRING HARNESS

Note: This wiring harness print does not include the attachment locations for the ROUSH CleanTech tank harness in the rear of the vehicle.



SPECIAL TOOLS

							
Touch-Up Paint	**Liquid Leak Detector**	**Premium Aerosol Undercoating**	**Torque Wrenches (to 22 Nm and to 200 Nm)**	**5/8”-11 Eyebolt and Locknut**	**A/C Manifold Gauge Kit**	**Gloves (Approved for Propane)**	**Scan Tool**

					
Jiffy-Tite Disconnect Tool (1/4” and 3/8”)	**Hole Saw — 29 mm**	**Drill Bit c 11 and 15 mm**	**Vacuum Gauge**	**Vacuum Pump**	**Dielectric Grease**