



Roush Performance Products, Inc.
 39555 Schoolcraft Road
 Plymouth Twp., Michigan 48170

September 26, 2011

Safety Recall: Injector Retention Clip on Certain E-Series Vehicles Altered by Roush with the Roush CleanTech Propane Fuel System	11V-450
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AFFECTED VEHICLES:

The following Ford E-Series Vehicles altered by Roush to operate using the Roush CleanTech Liquid Propane Autogas Fuel System (“Affected Vehicles”):

- MY 2009 - 2011 Ford E-Series 150, 250 and 350 5.4L Engine Van/Wagons/Cutaways
- MY 2010 -2011 Ford E-Series 450 6.8L Engine Cutaways

REASON FOR THIS SAFETY RECALL:

Some of the injector retention clips installed on the fuel rails of Affected Vehicles may not be properly seated. This failure may result in possible leakage of propane autogas, which could lead to a fire.

REMEDIAL ACTION:

All owners of Affected Vehicles will be notified by Roush with an Owner Notification Letter that will direct them to contact Roush for instructions on how to obtain service. A generic copy of the Owner Notification Letter can be found at **Attachment A**. Roush CleanTech Authorized Service Centers are to replace all injector retention clips on the fuel rails of Affected Vehicles. This service must be performed on all Affected Vehicles at no charge to the vehicle owner.

OWNER REFUNDS:

Refunds or reimbursements are not authorized for this program.

RENTAL VEHICLES:

The use of rental vehicles is not authorized for this program.

ADDITIONAL LABOR TIME:

- If a condition exists that requires additional labor time to complete the repair, call the ROUSH Warranty Department to request approval **before** performing any additional labor. Requests for approval after completion of the repair will not be granted.
- If you encounter aftermarket equipment or modifications to the vehicle which might prevent the repair of the covered condition, call the ROUSH Warranty Department.

CLAIM PREPARATION AND SUBMISSION

Dealer MUST obtain an authorization number from ROUSH Warranty by submitting a Warranty Claim Form (Attachment B) before any service action. When the vehicle is scheduled, call ROUSH Warranty at **800-59-ROUSH (1-800-597-6874)** to begin the warranty process.

LABOR ALLOWANCES:

Description	Labor Operation	Labor Time
E-Series 5.4L V8	Remove & Replace All Injector Retention Clips on Right and Left Fuel Rail	2.6 Hours
E-450 6.8L V10	Remove & Replace All Injector Retention Clips on Right and Left Fuel Rail	3.0 Hours

PARTS REQUIREMENTS / ORDERING INFORMATION:

Please contact ROUSH Warranty and these parts will be provided to you free of charge.

Part Number	Description	Quantity
HO-118SS	Injector Retention Clip	8 for E-Series 5.4L Engines
HO-118SS	Injector Retention Clip	10 for E-450 6.8L Engines

REPAIR PROCEDURE:

Instructions for Replacing E150 - E450 Fuel Rail Injector Retention Clips (Snap Rings)

1. Remove both fuel rails from the vehicle according to the Roush CleanTech *Fuel Rail Removal and Installation on E150 - E450* Service Instructions found at **ATTACHMENT C** .
2. Remove and replace the injector retention clips (one at a time) found on each fuel rail according to the *E150-E450 Fuel Rail Injection Retention Clip (Snap Ring) Retrofit* instructions also found at **ATTACHMENT C**.
3. Once all injector retention clips have been removed and replaced on each fuel rail, reinstall each fuel rail into the vehicle according to the Roush CleanTech Fuel *Rail Removal and Installation on E150 - E450* Service Instructions.

QUESTIONS & ASSISTANCE

Questions may be directed to:

ROUSH Warranty Department.....**800-59-ROUSH (1-800-597-6874)**

ATTACHMENT A
CUSTOMER NOTIFICATION LETTER



Roush Performance Products, Inc.
39555 Schoolcraft Road
Plymouth Twp., Michigan 48170

Date

Customer Name
Address
City State and Zip

Re: Safety Recall Notice – 11V-450
Affected Vehicle(s) listed by Vehicle Identification Number(s):

Dear Valued Customer:

This notice is sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act.

Roush Performance Products ("Roush") has decided that a defect which relates to motor vehicle safety exists in certain MY 2007 and 2008 Ford E350 Van Wagons, MY 2009-2011 Ford E-Series 150, 250 and 350 Van/Wagons, and MY 2010-2011 Ford E-Series 450 Outaways altered by Roush to operate using the Roush CleanTech Liquid Propane Autogas Fuel System ("Affected Vehicle(s)"); more commonly advertised and sold as the "Roush Clean Tech E Series Liquid Propane Injection System." Our records indicate that you own the above-referenced Affected Vehicle(s).

Roush has determined that some injector retention clips installed on the fuel rails of the Affected Vehicles may not be properly seated. This failure may result in possible leakage of propane autogas, which could lead to a fire.

To remedy this problem, all the injector retention clips on the fuel rails of the Affected Vehicles will be replaced with new ones. This work will be performed free of charge to you. At your earliest convenience please call Roush at 800-59-ROUSH (1-800-597-6874), and we will provide further instructions on how to have your vehicle repaired. When you call, be prepared to provide us with your name and the Vehicle Identification Number(s) of your Affected Vehicle(s). We estimate that this repair will take approximately half a business day per vehicle.

If you no longer own (any of) the above-referenced vehicle(s), please call Roush at 800-59-ROUSH (1-800-597-6874) and provide us with the name and address of the current owner(s) (if you know them) so we may contact them about this recall.

If you believe that Roush has failed or is unable to remedy the defect without charge within a reasonable time, please contact Roush at 800-59-ROUSH (1-800-597-6874). You may also contact the Administrator, National Highway Traffic Safety Administration, 1200 New Jersey Avenue, SE., Washington, DC 20590; or call the toll-free Vehicle Safety Hotline at 1-888-327-4236 (TTY: 1-800-424-9153); or go to <http://www.safercar.gov>.

If you have leased any of the above-referenced vehicles to another person, federal regulations require you to send a copy of this notice to the lessee(s) by first-class mail within ten days of your receipt of this notice.

Thank you for your attention to this matter. We apologize for any inconvenience, but your safety is our priority.

Sincerely,

A handwritten signature in black ink, appearing to read 'Joe Thompson'.

Joseph Thompson
President of Roush Clean Tech acting as
the Authorized Representative of Roush Performance Products, Inc.

ATTACHMENT B

ROUSH WARRANTY CLAIM FORM



Warranty Claim Form

Warranty repair work must not begin until Roush Performance issues an authorization number. All warranty claims and authorizations are to proceed through the corporate office only.

No parts will be shipped until this form is returned with a copy of the RO to fax# 734-466-6907. For payment, fax invoice for approved repairs to 734-466-6907 or email to: rppwarranty@roush.com and return required part(s).

1) All Final Warranty Invoices must be submitted to ROUSH Performance for review and payment within 60 days of the Warranty Repair Completion. If the Final Invoice is not received in this time frame, the Warranty Claim will be closed. Any Invoices and Payment requests past 60 days will be Denied.

2) All Required Defective Part(s) (RMA Parts) must be Returned to ROUSH Performance within 30 days of the Warranty Repair Completion using the Call Tag provided by ROUSH Warranty. All Required Return Defective part(s) will require a PO at the time of the claim approval. If the Required part is not returned to ROUSH Performance within the 30 days, the cost of the Defective part will be charged to the Dealer's account using the PO provided.

Send Invoices for payment to:
Fax# 734-466-6907 or Email: RPPWarranty@roush.com
Mail: ROUSH Performance Products, Attn: Warranty Dept.
39555 Schoolcraft Rd
Plymouth Twp, MI 48170

Return Defective RMA Part(s) to:
ROUSH Performance Products
Attn: RMA# xxxxxxxx (provided on the approved claim)
39555 Schoolcraft Rd
Plymouth Twp, MI 48170

Dealer Name: _____

Dealer Contact Name: _____ RO#: _____

*Email address: _____ Mileage: _____

Contact Phone: _____ Warranty Start Date: _____

Contact Fax: _____ Complete VIN: _____

Claim Date: _____

Claim Description: _____

	Roush Part # Required:	Quantity:	Description:
If unknown leave blank <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>*NOTE: If claim is URGENT, please call ROUSH Warranty 800-59.ROUSH</p> </div>			

Ford Op # or Repair Type	Ford Standard Time	Ford Warranty Rate

Roush Use Only

Approved by: _____

Notes: _____

Authorization #


ATTACHMENT C
REPAIR PROCEDURE

Fuel Rail Removal and Installation on E150 - E450

This Procedure is illustrated using an E-450 6.8L v10 engine. The 5.4L v8 engine has no return line to FRPCM from front of rails as indicated in step 6 and one less injector on each bank.

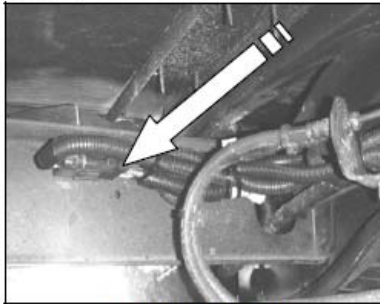
Note: All torque specs are the same for both engine platforms unless noted.

Remove Engine cover from inside of vehicle to allow engine access for the following procedure.

 **Caution: Ensure fuel rail system does not have pressure prior to removal of fittings by checking with pressure gauge at Service Port.**

Procedure to depressurize the fuel system for service

1. Disconnect the 6-way connector to fuel tank located near fuel tank at front of tank near cross member.

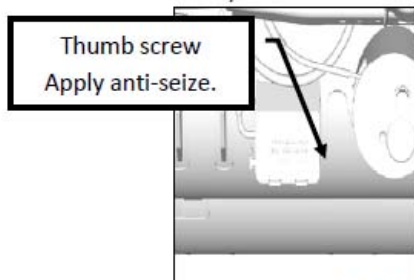


E-350 E-450 DRW

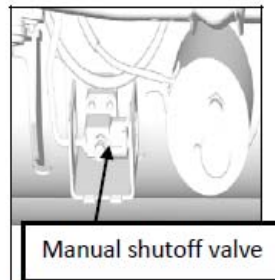


E-Series Underbody

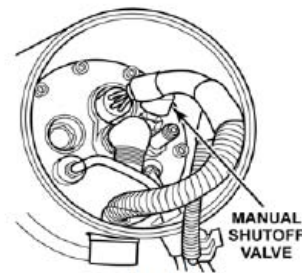
2. Remove supply valve cover and close Manual supply valve slowly clockwise to close (about 2 ½ turns).



E-350/E-450 Aft Axle



Manual shutoff valve



E-Series Underbody

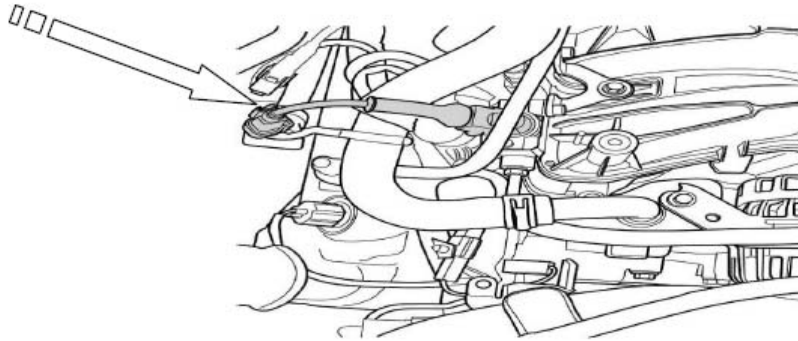
3. Attempt to start vehicle to purge lines and rails (Vehicle may not start or run rough for a short time). DTC faults will set and will need to be cleared after all repairs are completed.
Note: Step 3 may be repeated along with using a fuel pressure gauge on fuel rail to ensure no pressure present.

Fuel Rail Removal and Installation on E150 - E450

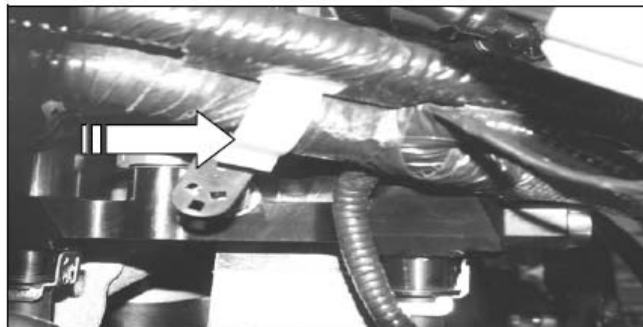


Caution: Clean area around injector nozzles to intake to ensure no dirt or debris present prior to removal of fuel lines or rails from engine.

1. Remove the air filter assembly Per Ford Service Manual to provide clearance and access to both fuel rail assemblies.
2. Disconnect the coil wires from each cylinder to provide clearance for removal of the fuel rail assemblies, Make sure to mark them for each cylinder removed from.
3. Disconnect all injector jumpers from injectors and make sure to mark them from which cylinder they were removed from. Then remove IPTS connector at left fuel rail.

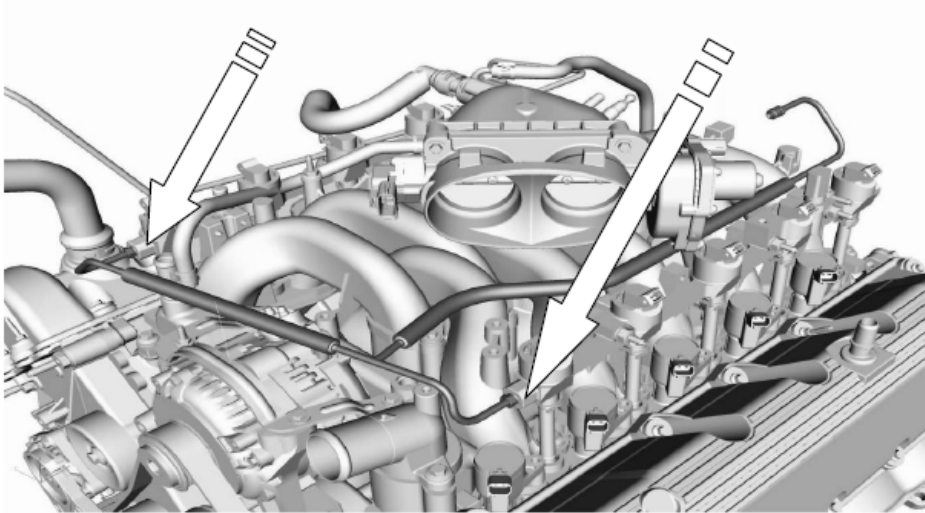


4. Remove wiring harness from fuel rail attachment bolt studs.

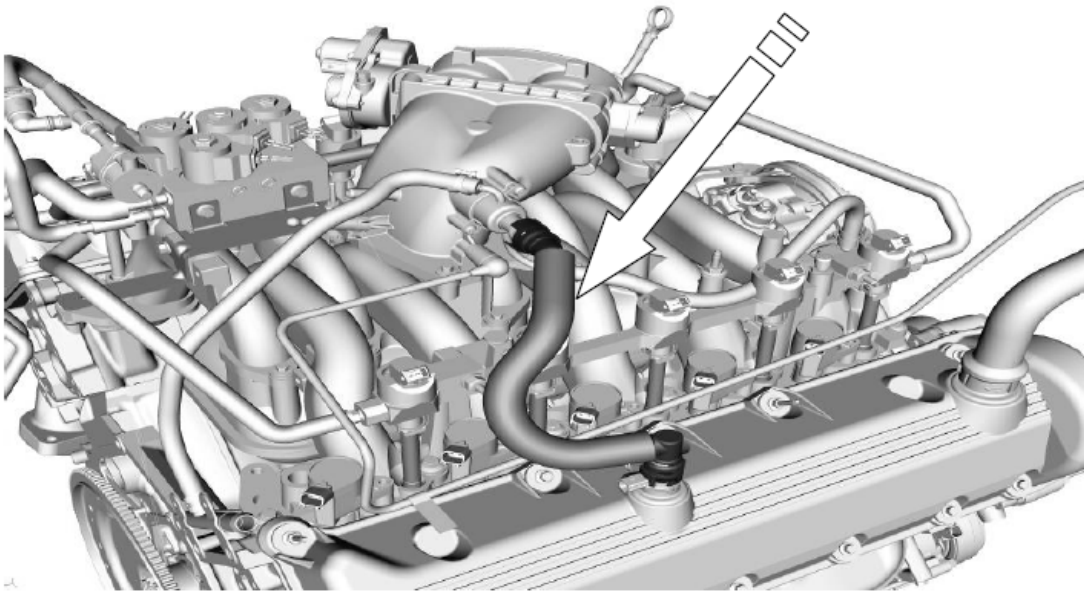


Fuel Rail Removal and Installation on E150 - E450

5. Remove Return line from both fuel rails and cap with suitable cap to keep clean.

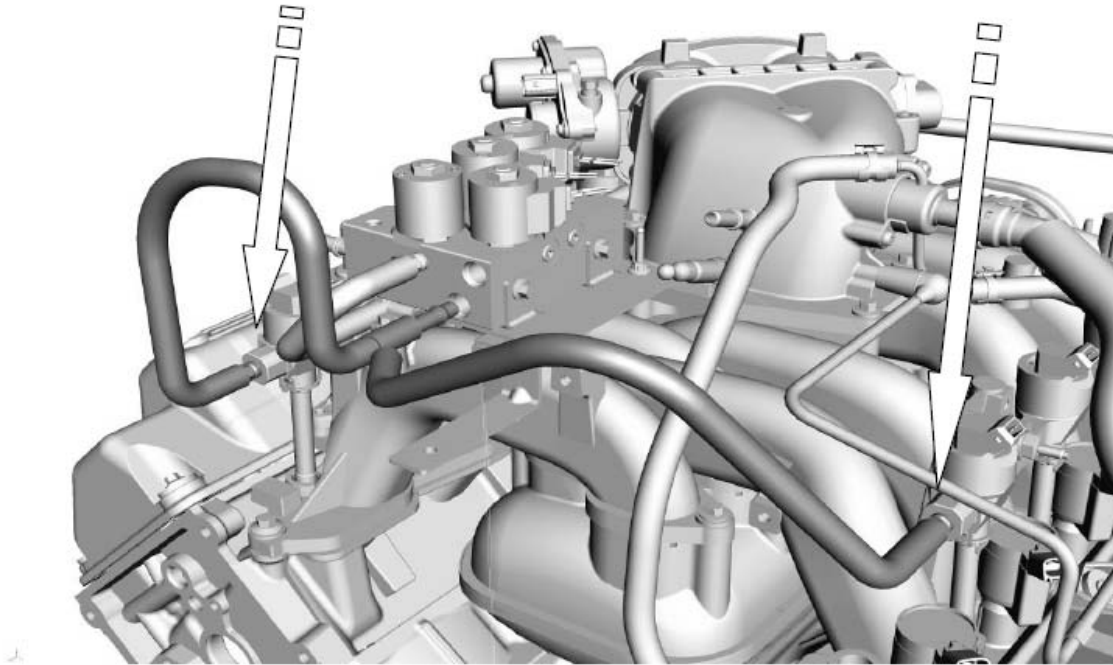


6. Remove the PCV hose from intake connection and rotate for proper clearance to remove right hand fuel rail. (5.4L v8 is only a cross over line on early applications from right bank to left bank with no return to FRPCM.)

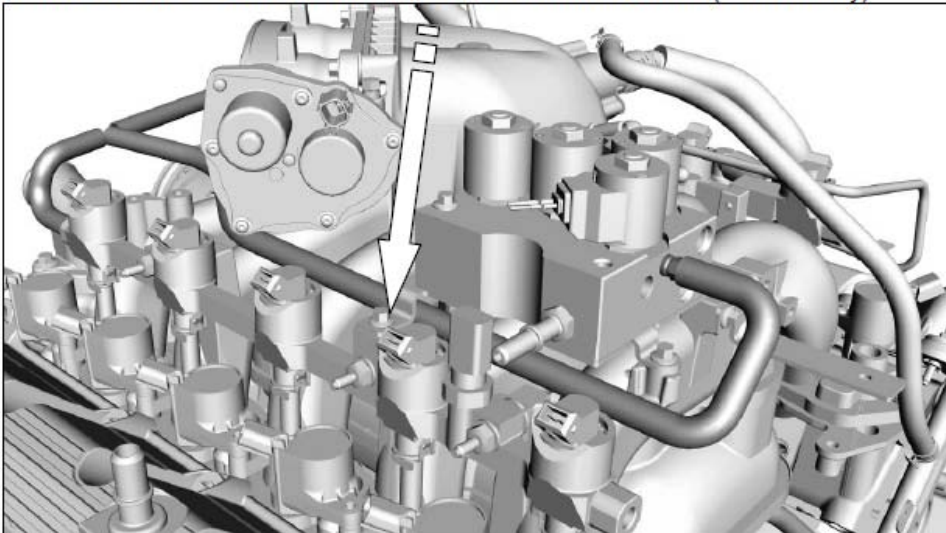


Fuel Rail Removal and Installation on E150 - E450

7. Disconnect the fuel supply line from both fuel rails and cap to keep clean.



8. Remove one M6 x 1.0 x 16 bolt from left fuel rail and save for install(6.8L v10 only).

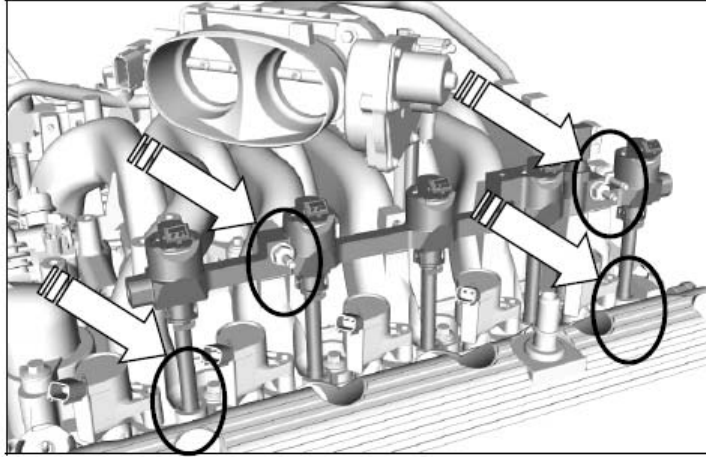


9. Remove left fuel rail two attachment bolts (M6 x 53 stud bolts) and remove fuel rail assembly.

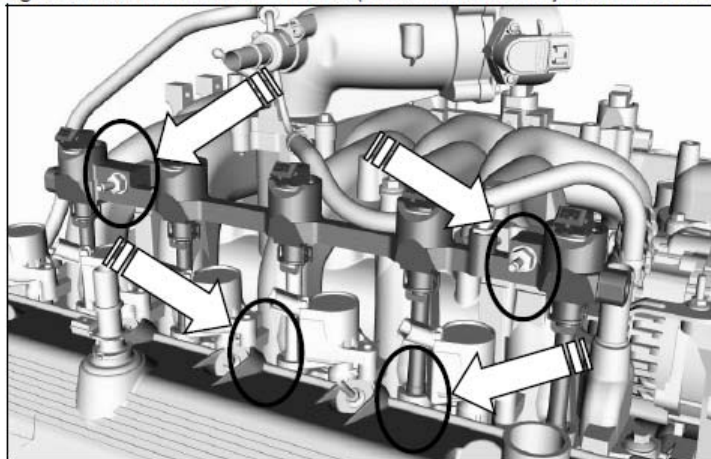
Fuel Rail Removal and Installation on E150 - E450



Caution: Ensure the nozzles all lift up evenly. Failure to heed this caution could result in serious property damage.



10. Remove right fuel rail two attachment bolts (M6 x 53 stud bolts) and remove fuel rail assembly.



For Fuel Injector or other fuel rail assembly service, please follow provided documentation and or review On-line Service or Install Manual for application. If no information available please contact ROUSH CleanTech at 1-800-59-ROUSH for assistance.

Fuel Rail Removal and Installation on E150 - E450

Installing the Fuel Rail Assemblies

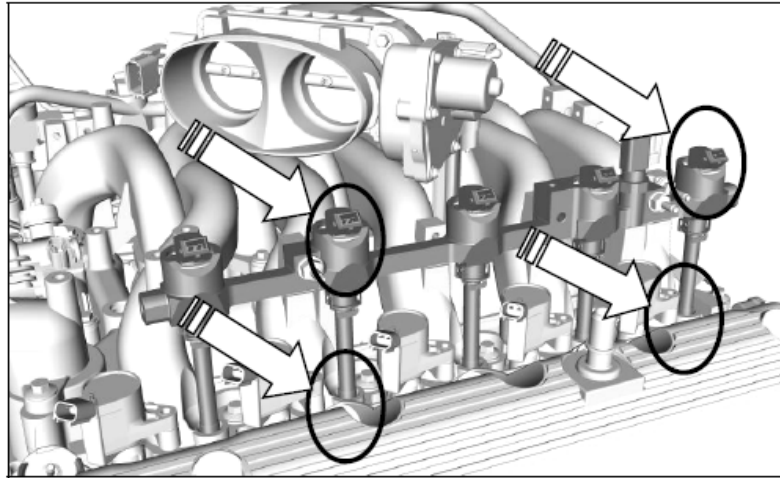


Caution: Hand tighten all fuel line connectors and fasteners before applying a wrench to avoid cross threading. Failure to heed this caution may result in property damage.

1. Using engine oil (Motorcraft SAE 5W-20 or equivalent), lubricate the lower O-rings on the injector nozzles before seating the rail assemblies into the intake manifold injector pockets.
2. Position the left hand fuel rail assembly (PBC2-9F899-A) onto the driver side of the intake manifold and fully seat the nozzles. Using two M6 x 53 stud bolts, secure the LH fuel rail to the intake manifold. Tighten bolts to 8–12 Nm.



Caution: Ensure the nozzles and injector connectors are correctly aligned before seating. Failure to heed this caution could result in serious property damage.

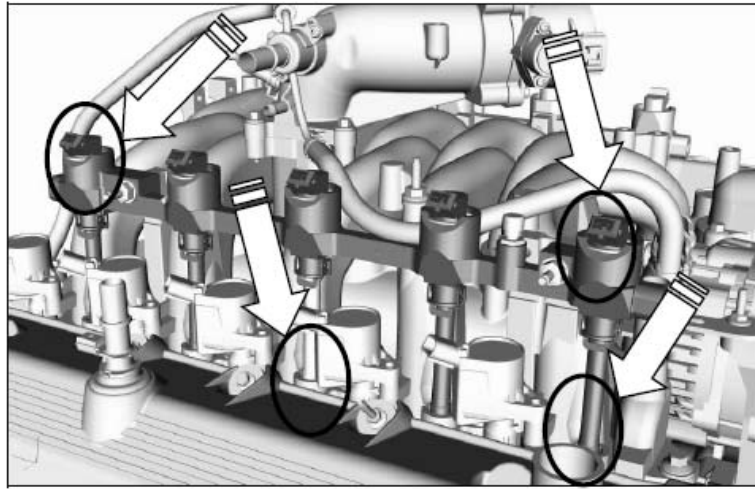


3. Position the right hand fuel rail assembly (PBC2-9F899-B) onto the passenger side of the intake manifold and fully seat the nozzles. Using two M6 x 53 stud bolts, secure the RH fuel rail to the intake manifold. Tighten bolts to 8–12 Nm.

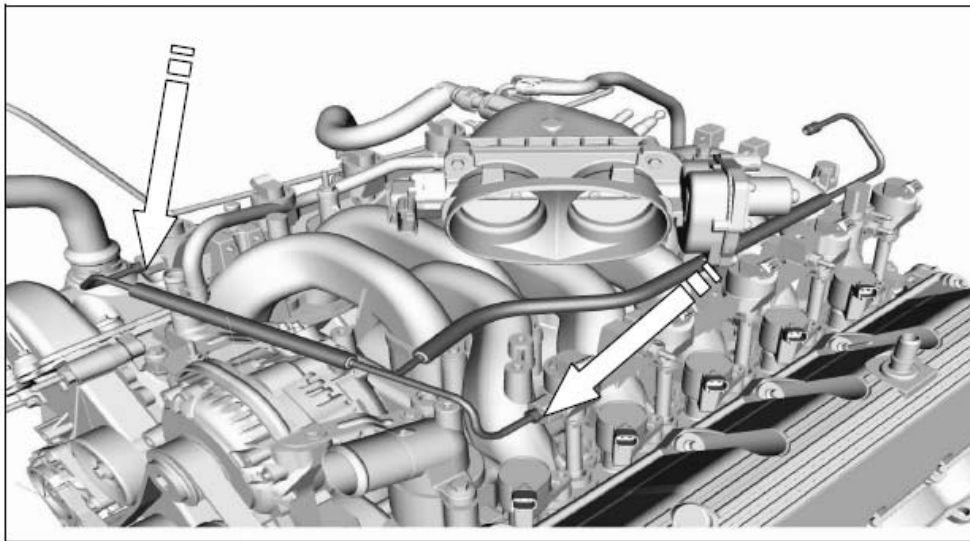
Fuel Rail Removal and Installation on E150 - E450



Caution: Ensure the injector nozzles and connectors are correctly aligned before seating. Failure to heed this caution could result in serious property damage.



4. Orient and install the fuel return line and tee assembly (PBC2-9E965-B) onto the forward ends of the fuel rails. Tighten connections to 18–22 Nm. (Inspect the line for proper routing under FRPCM.)

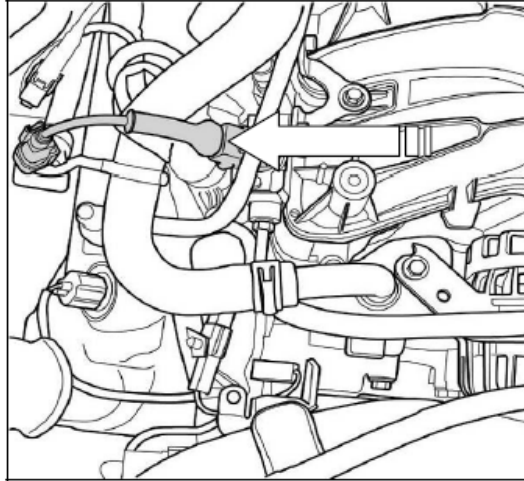
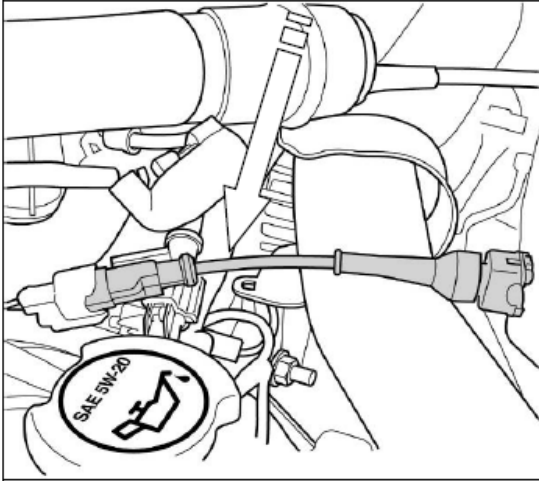


Fuel Rail Removal and Installation on E150 - E450

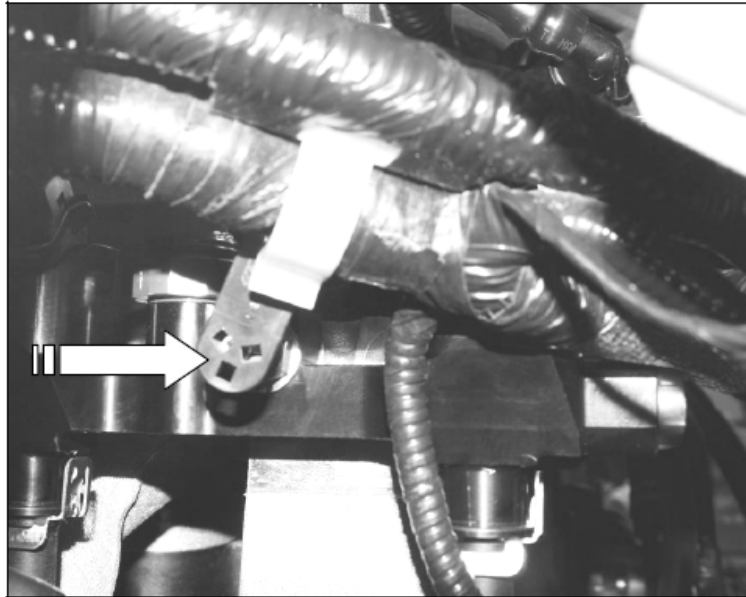
5. Connect one fuel injector jumper (P07L3-9C978-A) to each original harness connector (10 places). Connect the opposite end of each jumper to its respective fuel injector.



Caution: Ensure that each jumper attaches to its correct mating connector to avoid cross wiring. Failure to heed this caution will result in engine malfunction and possible property damage.

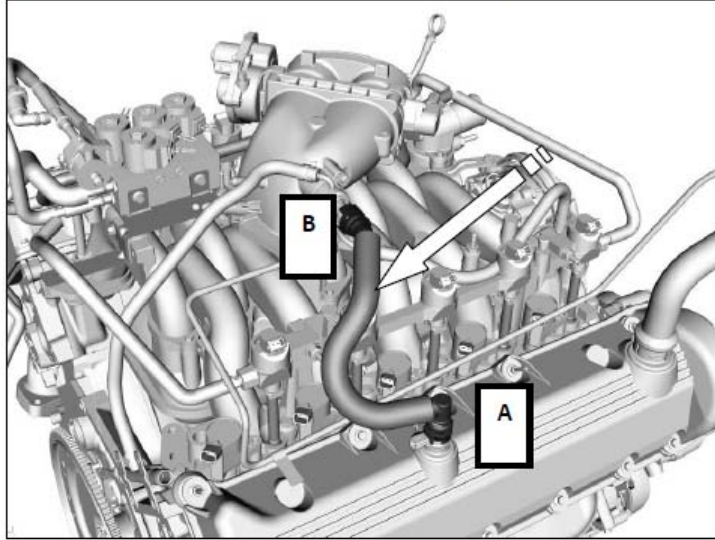


6. Reinstall the engine wiring harness retention clips onto the fuel rail mounting studs.

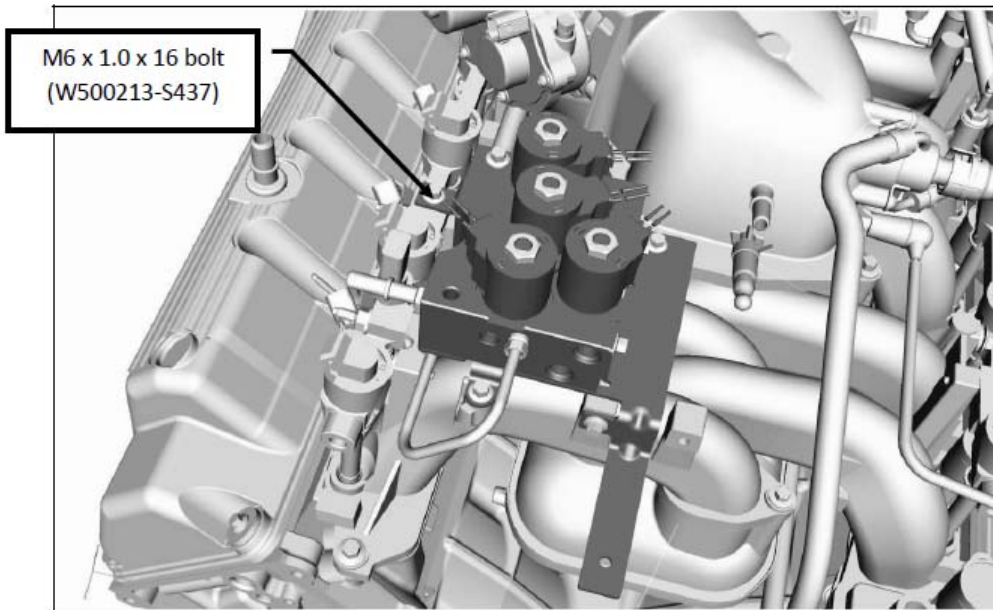


Fuel Rail Removal and Installation on E150 - E450

7. Reinstall the PCV hose to intake manifold. Ensure the hose has been flipped 180 degrees so the hose clears the new fuel rails. (The 90-degree quick connect fitting (A) goes on the cam cover port and the 45-degree quick connect fitting (B) goes on the manifold port.)

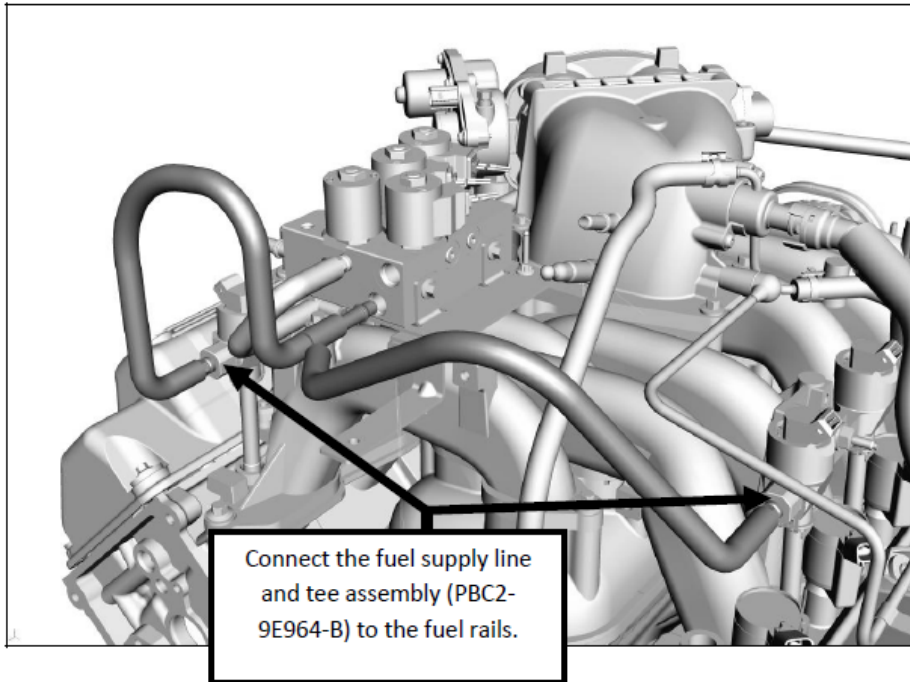


8. Loosely install one M6 x 1.0 x 16 fastener to secure the FRPCM to the LH fuel rail. Tighten the FRPCM bracket bolts to 8–12 Nm.



Fuel Rail Removal and Installation on E150 - E450

9. Install the fuel supply line and tee assembly (PBC2-9E964-B) between the left and right fuel rails. Tighten the line fittings at the fuel rails to 18–22 Nm.



After all fuel line connections are verified and torque performed the fuel system can be energized by the following steps so that a leak test can be performed.

1. Locate the supply valve and turn valve on slowly until fully open (about 2 ½ turns).
2. Locate and connect the fuel tank 6-way connector for fuel tank power.
3. Then cycle the ignition on and to the crank position and then cycle the key off prior to engine starting.(this will allow the fuel system to energize providing fuel to the rails).
4. Perform step 3 a couple of times while checking for fuel leak using soapy water(snoop or other non-toxic or corrosive soapy water mixture).
5. When no leaks are confirmed install air intake system per Ford Work Shop Manual.
6. Start vehicle and monitor for any concerns such as injector or coil connected to the incorrect cylinder.
7. Perform Manual vehicle entry using scan tool and clear any fault codes, Install engine cover.
8. Perform road test and evaluate for any concerns.
9. Package all replaced parts for shipment back to ROUSH CleanTech and return.
10. Return vehicle to customer.

E150 - E450 Fuel Rail Injection Retention Clip (Snap Ring) Retrofit



- To remove original snap ring, gently compress and lift half of the clip out of the machined groove.
- Lift snap ring up and release.

E150 - E450 Fuel Rail Injection Retention Clip (Snap Ring) Retrofit



- Turn the snap ring until it fits around the injector and can be removed.

E150 - E450 Fuel Rail Injection Retention Clip (Snap Ring) Retrofit



- Take a new snap ring (HO-118SS) marked with white dot facing up. Place around injector and into edge of groove. Turn injector 45 degrees toward leading edge of the clip.
- Compress snap ring and push down into the groove to seat it. Turning of the snap ring may be necessary. Listen for an audible click. If not heard, verify full engagement.

E150 - E450 Fuel Rail Injection Retention Clip (Snap Ring) Retrofit



- Ensure full engagement by pressing down on edges of the snap ring, and visually inspecting for any unseated areas.
- Rotate snap ring so that open end is facing opposite side of the machined fuel rail.
- Injector may now be turned to original position.

E150 - E450 Fuel Rail Injection Retention Clip (Snap Ring) Retrofit



- Picture depicts a properly oriented injector and snap ring side view.

E150 - E450 Fuel Rail Injection Retention Clip (Snap Ring) Retrofit



- Picture depicts a properly oriented injector and snap ring top view.