



ROUSH INDUSTRIES, INC.

777 Republic Drive
Allen Park, Michigan 48101

INSTALLATION CENTER NOTIFICATION

Safety Recall Notice: Injector Retention Clip on Certain Roush CleanTech Propane Autogas Fuel Systems Sold for Installation on specific Model Year E-Series Vehicles	11V-033
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AFFECTED EQUIPMENT:

Roush Industries, Inc. ("Roush") has determined that a defect which relates to motor vehicle safety exists in certain "ROUSH CleanTech Propane Autogas Fuel Systems" sold for installation on MY 2007- 2008 Ford E350 5.4L Engine Dual Rear Wheel, MY 2009 – 2011 Ford E Series 150, 250 and 350 5.4L Engine Vans/Wagons, and MY 2009 - 2011 Ford E 450 6.8L Engine Cutaways.

KITS COVERED BY THIS RECALL:

E-Series Rails

<u>Item ID</u>	<u>Description</u>	<u>Retail</u>
P07C2-176KIT-AB		E-350 (Dual Rear Wheel)
P10-SO-RKIT-BA		E-350
P10C2-R150KIT-AC		E-150/250 Kit
P10C2-R350KIT-AC		E-350 Kit
P10C2-RCOMKIT-AB		E-150/250/350 Kit (Common)
P11C2-R150KIT-AA		E-150/250 Kit
P11C2-R150KIT-AB		E-150/250 Kit
P11C2-R350KIT-AA		E-350 Kit
P11C2-R350KIT-AB		E-350 Kit

E450 Rails

<u>Item ID</u>	<u>Description</u>	<u>Retail</u>
PBC2-RKIT158-AB		E-450 158" Kit
PBC2-RKIT176-AB		E-450 176" Kit
PBC2-RKITMB-AC		E-450 Kit

REASON FOR THIS SAFETY RECALL:

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

REMEDIAL ACTION:

The remedy for this condition will consist of removing all the existing injector retention clips from the fuel rails and replacing each with a new, properly seated clip, at no charge. The remedy is available now. You should complete the recall remedy before delivering a vehicle in which a covered Kits has been installed.

UNDELIVERED VEHICLES WITH KITS:

FEDERAL LAW REQUIRES THAT YOU COMPLETE THE REMEDY BEFORE DELIVERING A VEHICLE IN WHICH A COVERED KIT HAS BEEN INSTALLED.

TITLE BRANDED / SALVAGED VEHICLES:

Affected title branded and salvaged vehicles are eligible for this safety recall.

UNINSTALLED KITS IN YOUR INVENTORY.

For any uninstalled Kits in your inventory please follow the **Claim Preparation and Submission** requirement identified on Page 2 of this notice.

SOLD KITS:

For any vehicle(s) on which you installed a covered Kit and have not yet advised Roush of the vehicle identification number (VIN) of the vehicle(s) and the name and address of the current owner(s), please call Roush at **800-59-ROUSH (1-800-597-6874)** and provide us with that information (if you know it) so we may contact them about this recall.

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

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

ATTACHMENT A

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 *NOTE: If claim is URGENT, please call ROUSH Warranty 800-59.ROUSH			

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.

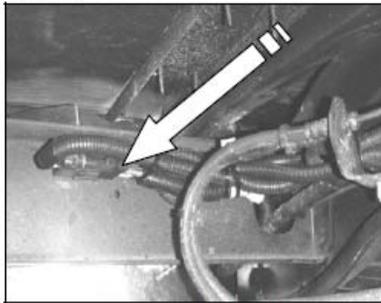
Remove Engine cover from inside of vehicle to allow engine access for the following procedure.



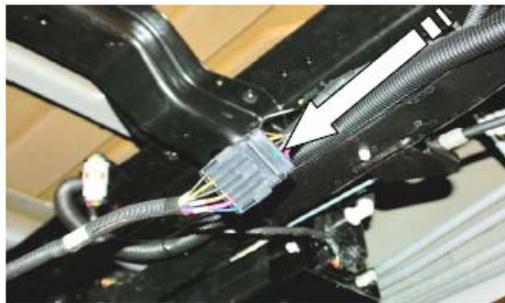
Caution: Ensure fuel rail system does not have pressure prior to removal of fittings by checking with pressure gauge at Service Port.

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.

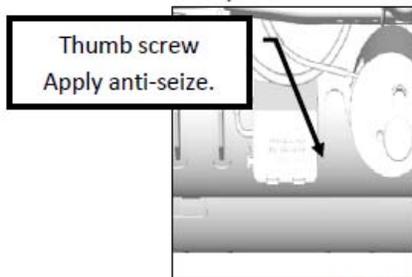


E-350 E-450 DRW

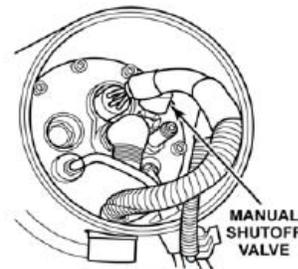
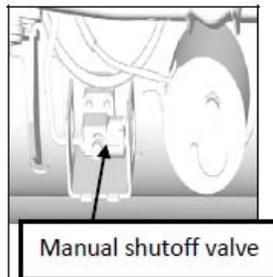


E-Series Underbody

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



E-350/E-450 Aft Axle



E-Series Underbody

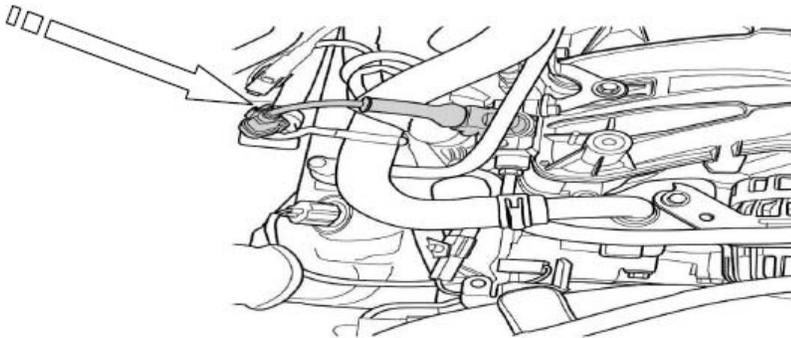
3. Attempt to start vehicle to purge lines and rails (Vehicle may not start or run rough for a short time). DTC faults will set and will need to be cleared after all repairs are completed.
Note: Step 3 may be repeated along with using a fuel pressure gauge on fuel rail to ensure no pressure present.

Fuel Rail Removal and Installation on E150 - E450

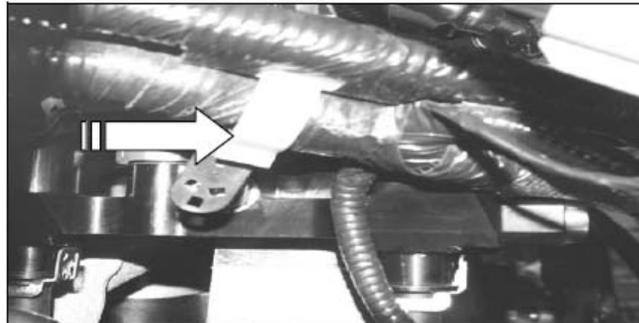


Caution: Clean area around injector nozzles to intake to ensure no dirt or debris present prior to removal of fuel lines or rails from engine.

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.

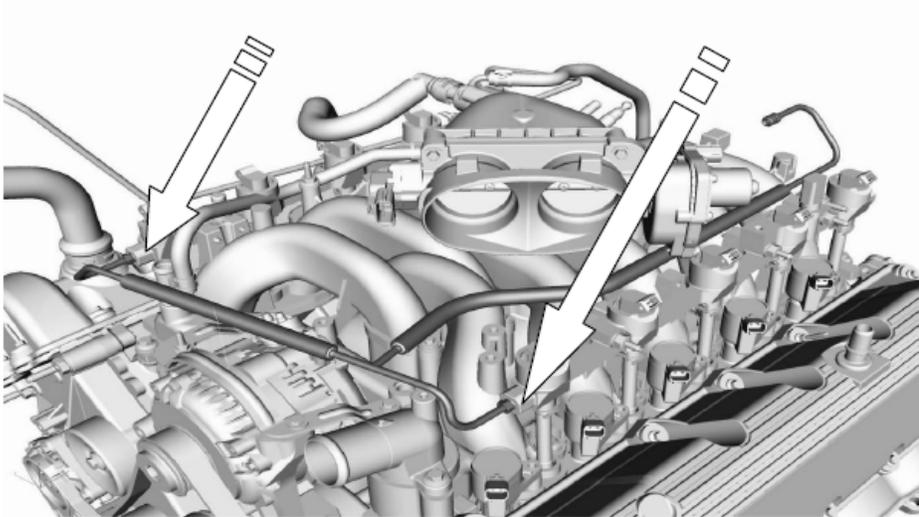


4. Remove wiring harness from fuel rail attachment bolt studs.

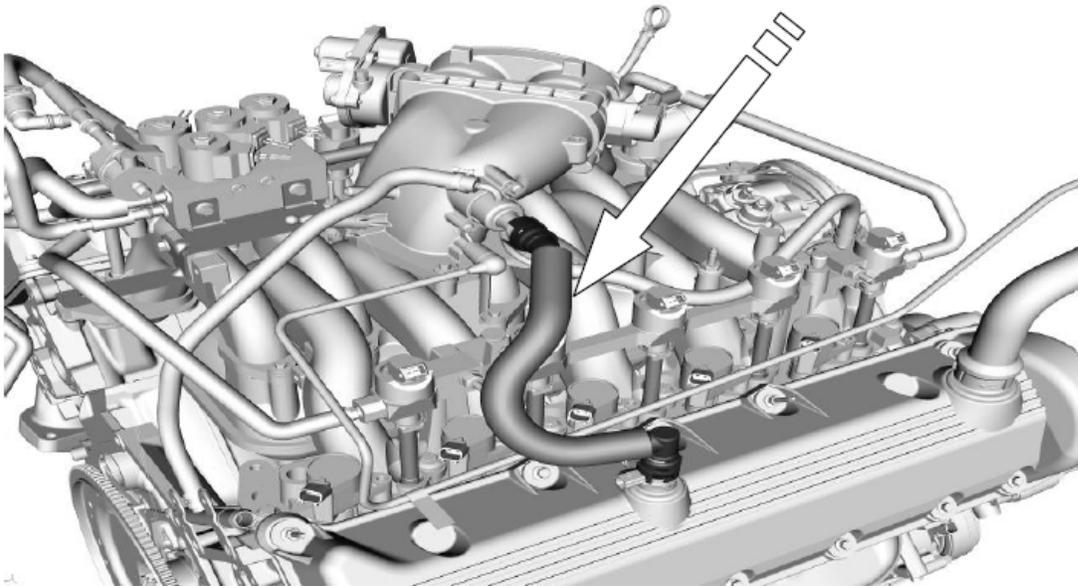


Fuel Rail Removal and Installation on E150 - E450

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

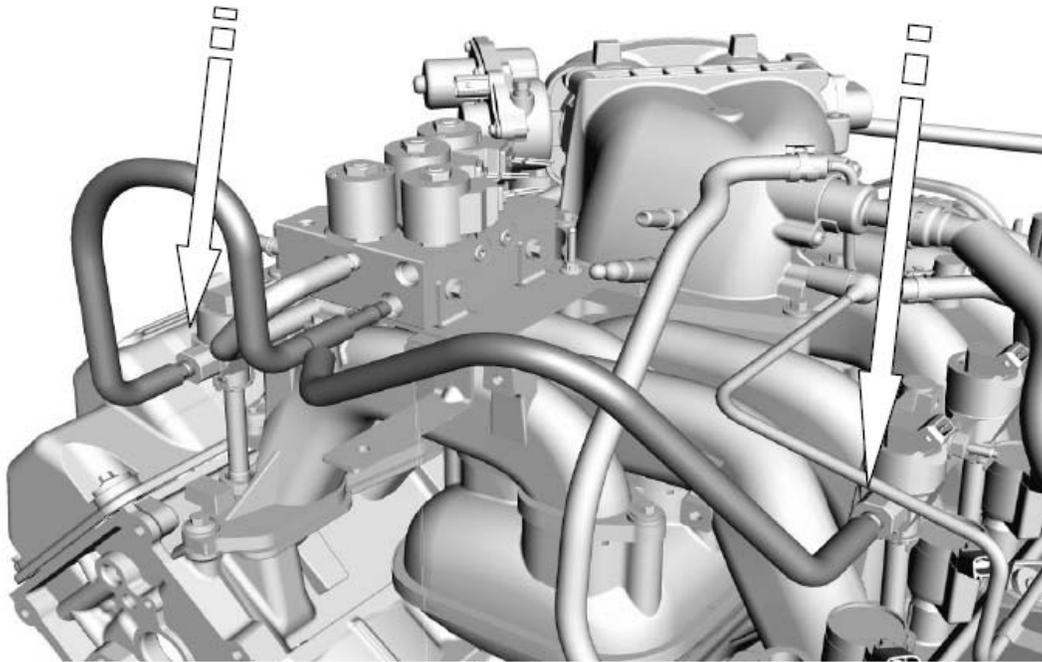


6. Remove the PCV hose from intake connection and rotate for proper clearance to remove right hand fuel rail. (5.4L v8 is only a cross over line on early applications from right bank to left bank with no return to FRPCM.)

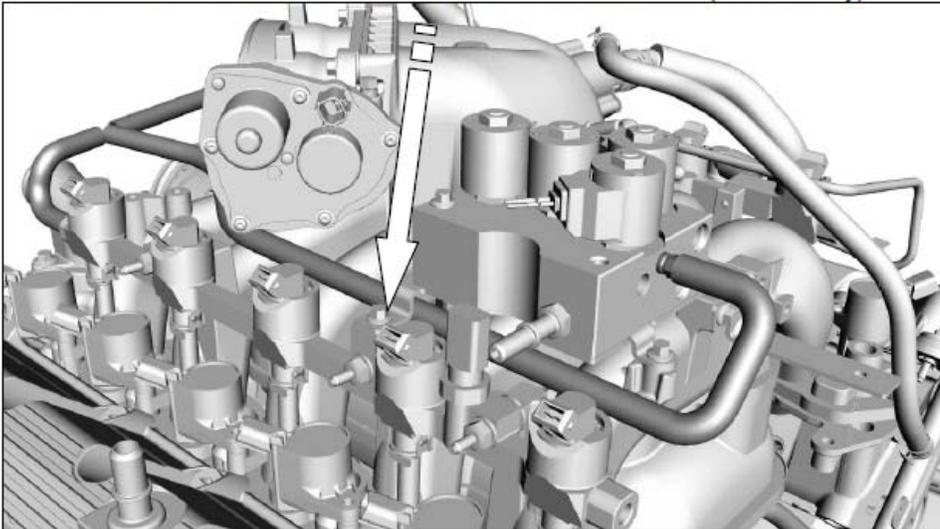


Fuel Rail Removal and Installation on E150 - E450

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).

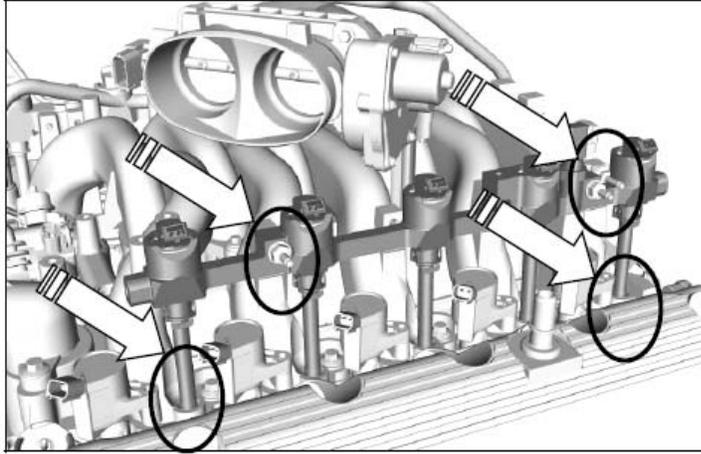


9. Remove left fuel rail two attachment bolts (M6 x 53 stud bolts) and remove fuel rail assembly.

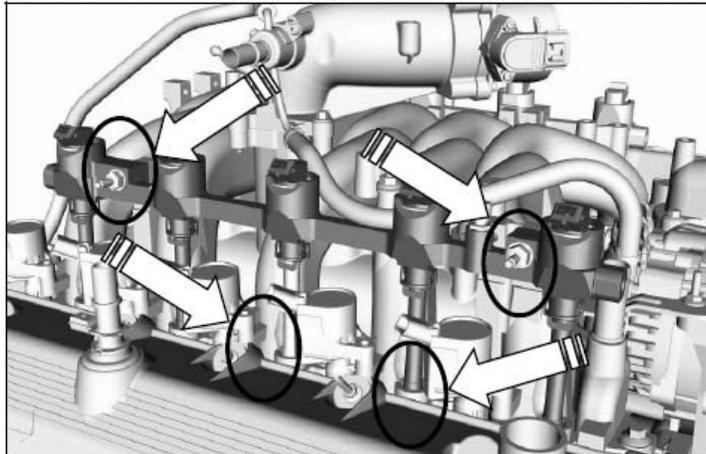
Fuel Rail Removal and Installation on E150 - E450



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

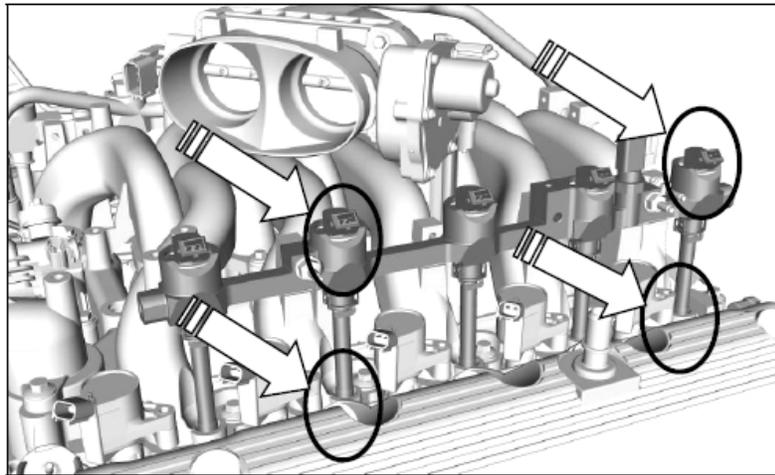


Caution: Hand tighten all fuel line connectors and fasteners before applying a wrench to avoid cross threading. Failure to heed this caution may result in property damage.

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.

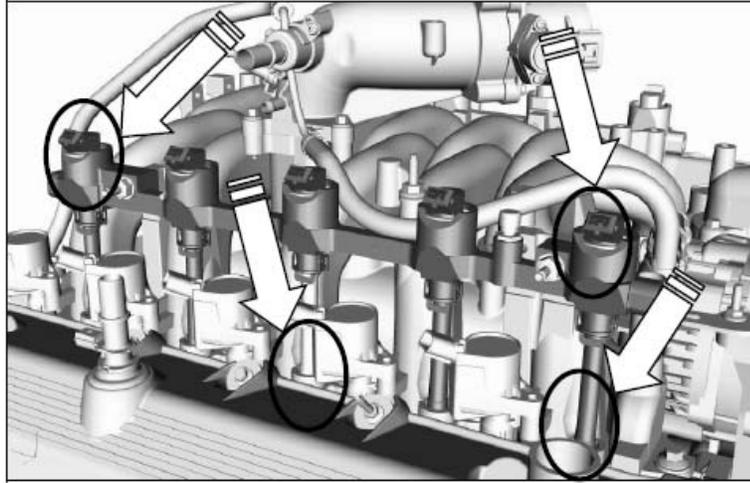


3. Position the right hand fuel rail assembly (PBC2-9F899-B) onto the passenger side of the intake manifold and fully seat the nozzles. Using two M6 x 53 stud bolts, secure the RH fuel rail to the intake manifold. Tighten bolts to 8–12 Nm.

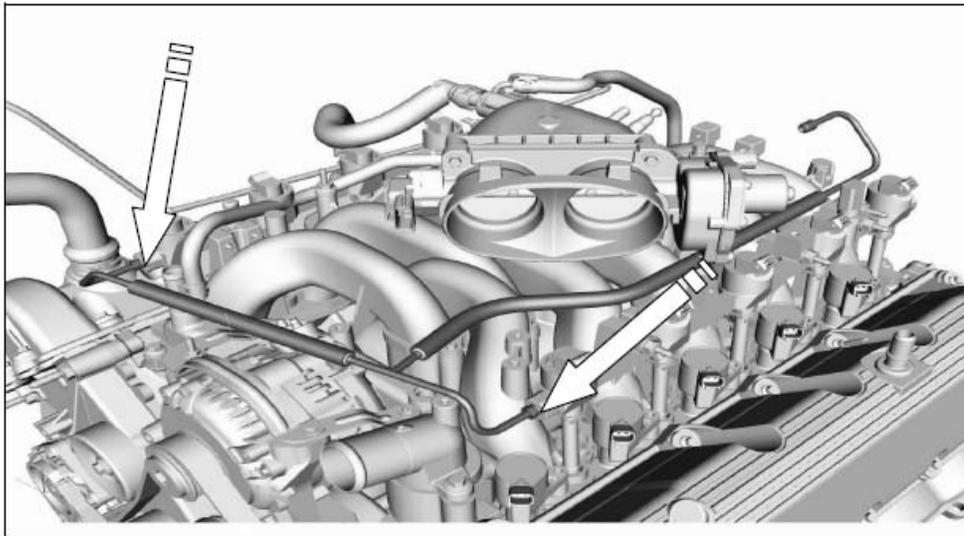
Fuel Rail Removal and Installation on E150 - E450



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.)

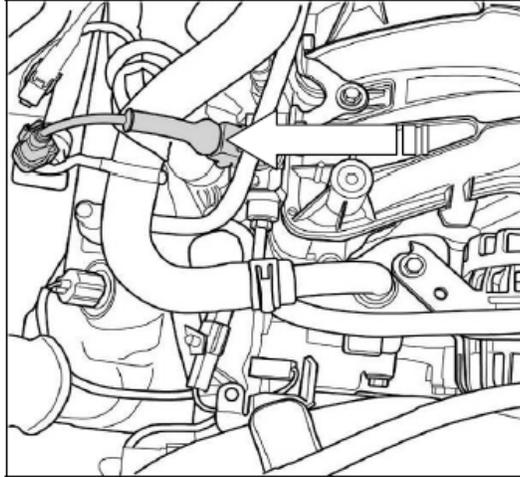
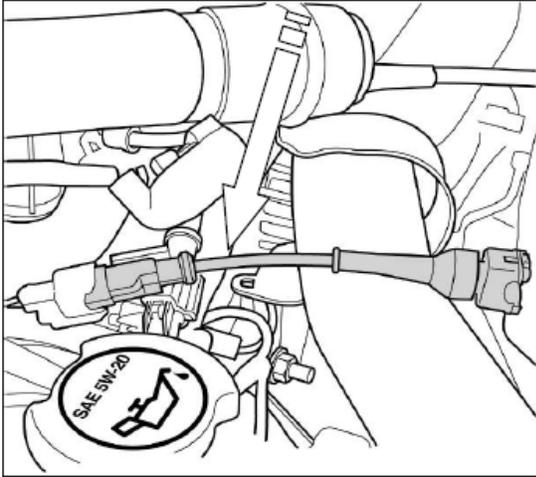


Fuel Rail Removal and Installation on E150 - E450

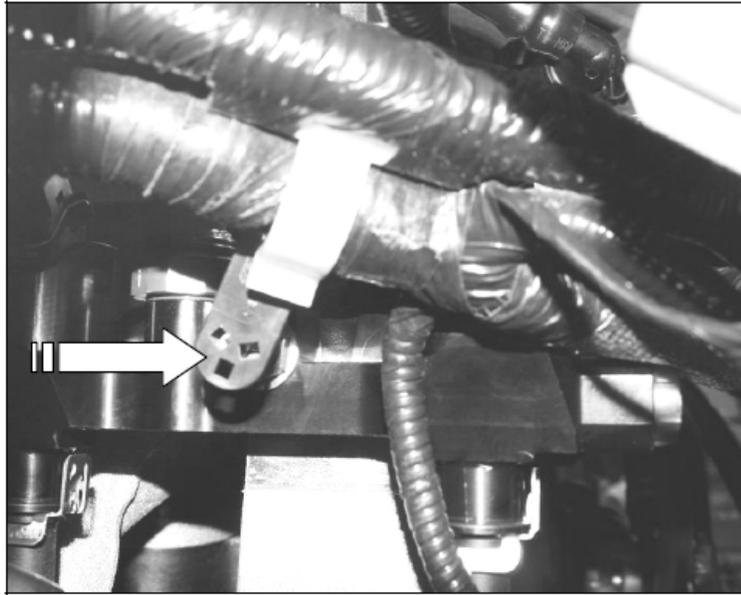
5. Connect one fuel injector jumper (P07L3-9C978-A) to each original harness connector (10 places). Connect the opposite end of each jumper to its respective fuel injector.



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.

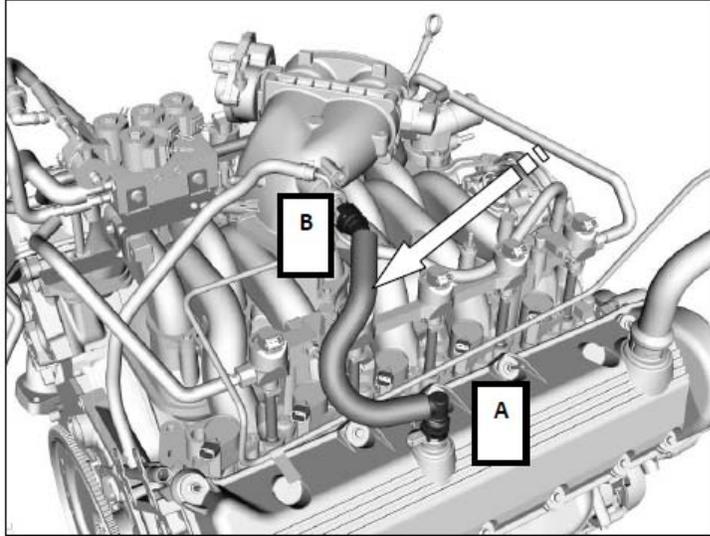


6. Reinstall the engine wiring harness retention clips onto the fuel rail mounting studs.

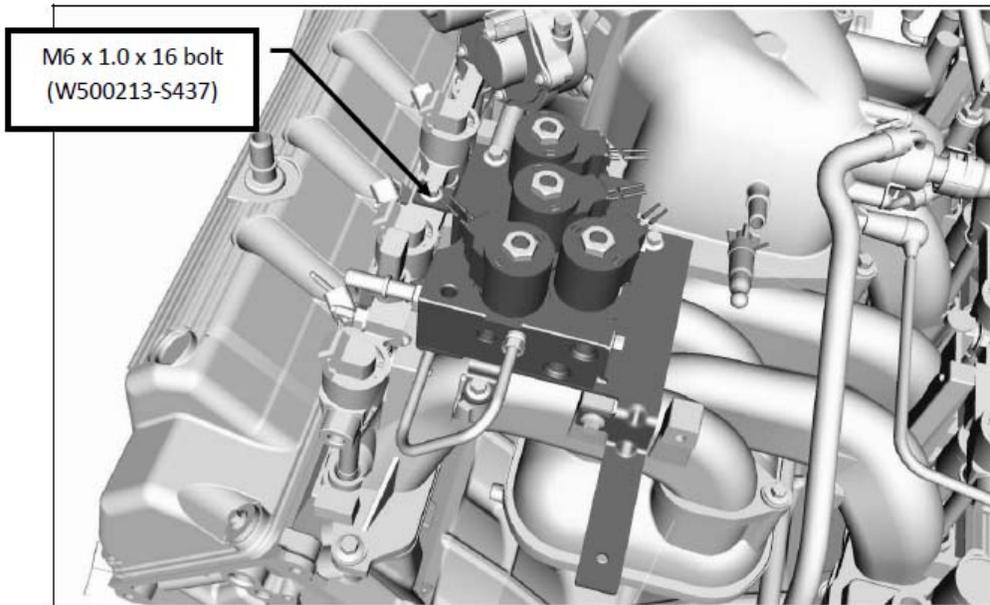


Fuel Rail Removal and Installation on E150 - E450

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.)

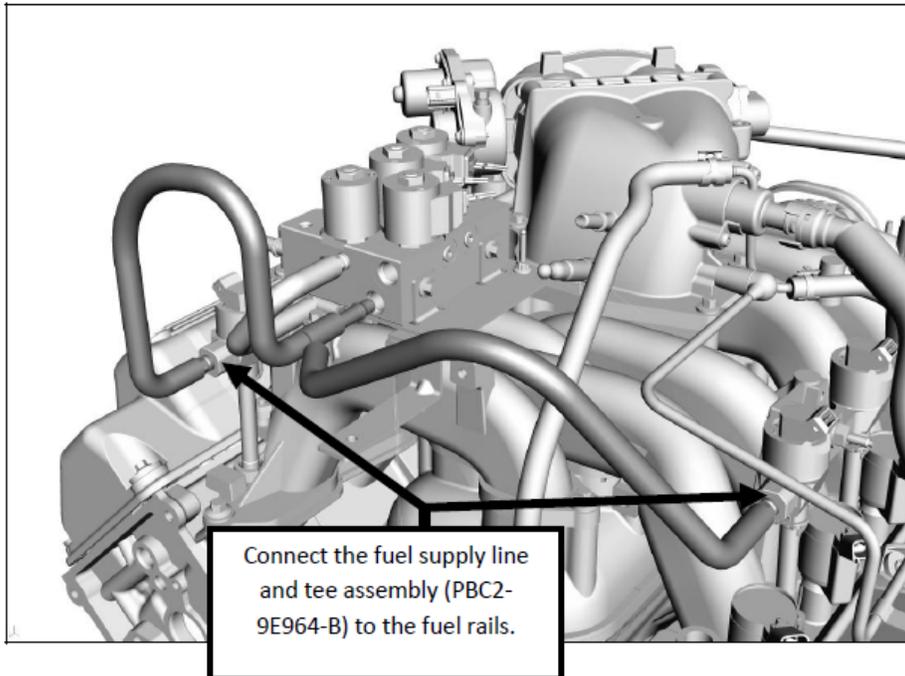


8. Loosely install one M6 x 1.0 x 16 fastener to secure the FRPCM to the LH fuel rail. Tighten the FRPCM bracket bolts to 8–12 Nm.



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.