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## Fuel Rail Kit for Polaris® Pro XP® Models Assembly Instructions

### Part Number 560-0362

#### DISCLAIMER:

Many S&S parts are designed for high performance, closed course, racing applications and are intended for the very experienced rider only. The installation of S&S parts may void or adversely affect your factory warranty. In addition such installation and use may violate certain federal, state, and local laws, rules and ordinances as well as other laws when used on motor vehicles used on public highways. Always check federal, state, and local laws before modifying your motorcycle. It is the sole and exclusive responsibility of the user to determine the suitability of the product for his or her use, and the user shall assume all legal, personal injury risk and liability and all other obligations, duties, and risks associated therewith.

DISCLAIMER: NOT LEGAL FOR SALE OR USE IN CALIFORNIA ON ANY  
POLLUTION CONTROLLED MOTOR VEHICLE

\*Qualified Manufacturer Declared Federal Emissions Compliant Product

#### IMPORTANT NOTICE:

Statements in this instruction sheet preceded by the following words are of special significance.



#### WARNING

Means there is the possibility of injury to yourself or others.



#### CAUTION

Means there is the possibility of damage to the part or motorcycle.

#### NOTE

*Other information of particular importance has been placed in italic type.*

*S&S recommends you take special notice of these items.*

#### SAFE INSTALLATION AND OPERATION RULES:

Before installing your new S&S part, it is your responsibility to read and follow the installation and maintenance procedures in these instructions and follow the basic rules below for your personal safety.

- Gasoline is extremely flammable and explosive under certain conditions and toxic when breathed. Do not smoke. Perform installation in a well ventilated area away from open flames or sparks.
- If motorcycle has been running, wait until engine and exhaust pipes have cooled down to avoid getting burned before performing any installation steps.
- Before performing any installation steps, disconnect battery to eliminate potential sparks and inadvertent engagement of starter while working on electrical components.
- Read instructions thoroughly and carefully so all procedures are completely understood before performing any installation steps. Contact S&S with any questions you may have if any steps are unclear or any abnormalities occur during installation or operation of motorcycle with an S&S part on it.
- Consult an appropriate service manual for your motorcycle for correct disassembly and reassembly procedures for any parts that need to be removed to facilitate installation.
- Use good judgment when performing installation and operating motorcycle. Good judgment begins with a clear head. Don't let alcohol, drugs or fatigue impair your judgment. Start installation when you are fresh.
- Be sure all federal, state and local laws are obeyed with the installation.
- For optimum performance and safety and to minimize potential damage to carb or other components, use all mounting hardware that is provided and follow all installation instructions.
- Motorcycle exhaust fumes are toxic and poisonous and must not be breathed. Run motorcycle in a well ventilated area where fumes can dissipate.

#### WARRANTY:

All S&S parts are guaranteed to the original purchaser to be free of manufacturing defects in materials and workmanship for a period of twenty-four (24) months from the date of purchase. Merchandise that fails to conform to these conditions will be repaired or replaced at S&S's option if the parts are returned to us by the purchaser within the 24 month warranty period or within 10 days thereafter. Some parts may additionally be covered under a provided emissions defects warranty.

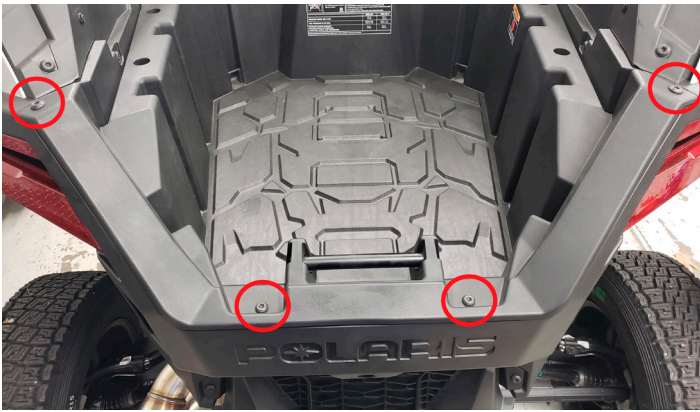
In the event warranty service is required, the original purchaser must call or write S&S immediately with the problem. Some problems can be rectified by a telephone call and need no further course of action.

A part that is suspect of being defective must not be replaced by a Dealer without prior authorization from S&S. If it is deemed necessary for S&S to make an evaluation to determine whether the part was defective, a return authorization number must be obtained from S&S. The parts must be packaged properly so as to not cause further damage and be returned prepaid to S&S with a copy of the original invoice of purchase and a detailed letter outlining the nature of the problem, how the part was used and the circumstances at the time of failure. If after an evaluation has been made by S&S and the part was found to be defective, repair, replacement or refund will be granted.

#### ADDITIONAL WARRANTY PROVISIONS:

- (1) S&S shall have no obligation in the event an S&S part is modified by any other person or organization.
- (2) S&S shall have no obligation if an S&S part becomes defective in whole or in part as a result of improper installation, improper maintenance, improper use, abnormal operation, or any other misuse or mistreatment of the S&S part.
- (3) S&S shall not be liable for any consequential or incidental damages resulting from the failure of an S&S part, the breach of any warranties, the failure to deliver, delay in delivery, delivery in non-conforming condition, or for any other breach of contract or duty between S&S and a customer.

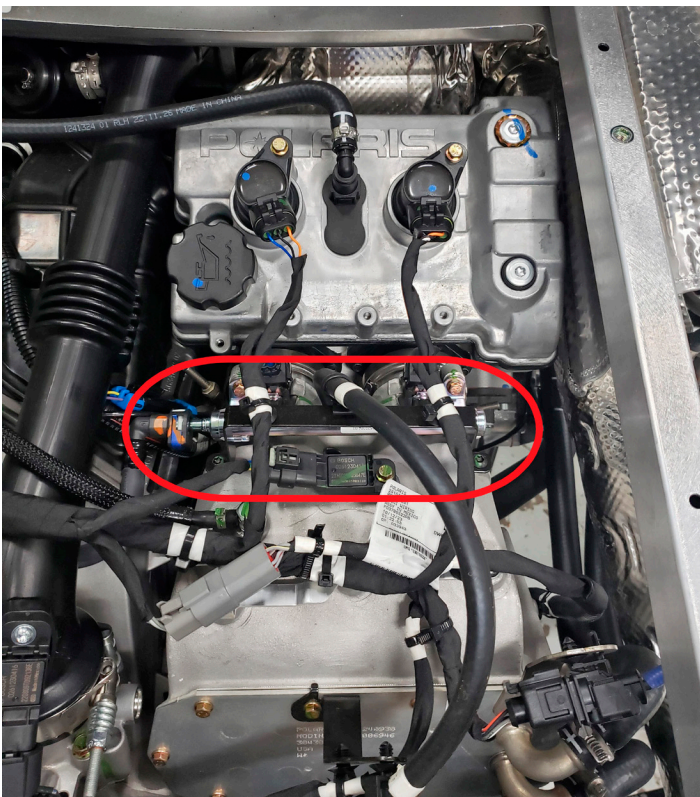
1. Start installation with vehicle transmission in Park (P) and with the key in the "Off" position. Be sure to perform fuel rail installation in a well-ventilated area, as some minor fuel spillage / fumes are unavoidable.
2. Remove the vehicle's rear cargo bed. On Pro XP models, there will be four T40 head screws to remove in the rear of the bed (picture 1). After removing those four screws, remove the bed from the vehicle.



Picture 1

3. Locate the vehicle's OEM fuel rail. (See picture 2)

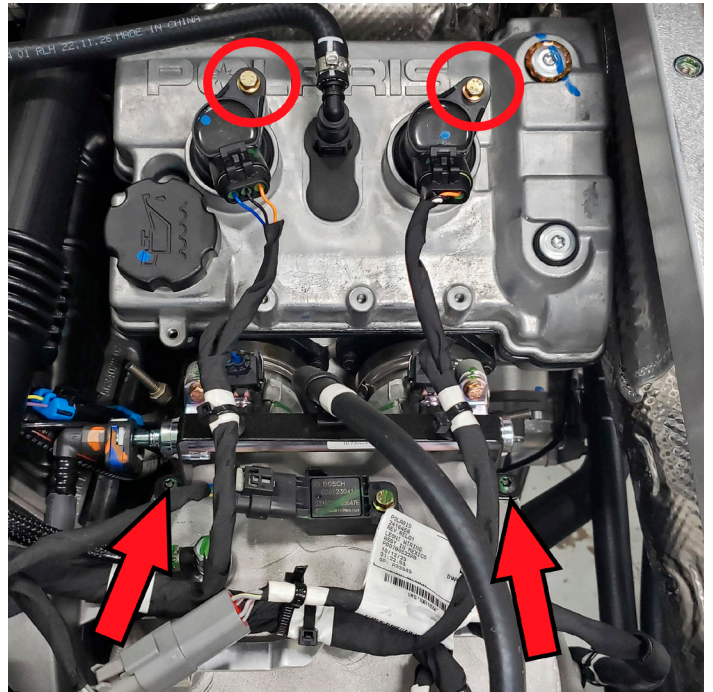
**NOTE:** We recommend cleaning the area around the fuel rail before removing the OEM fuel rail. This way, there is less chance of dirt / debris making its way into your engine during installation.



Picture 2

4. Disconnect the fuel line from the fuel rail. The push connector design varies with model year, but typically requires one or two plastic tabs to be slid out with your fingers. The fuel line should then be free to pull off of the barbed fitting. If you have trouble, refer to your factory Polaris® service manual to remove the fuel line from the rail.

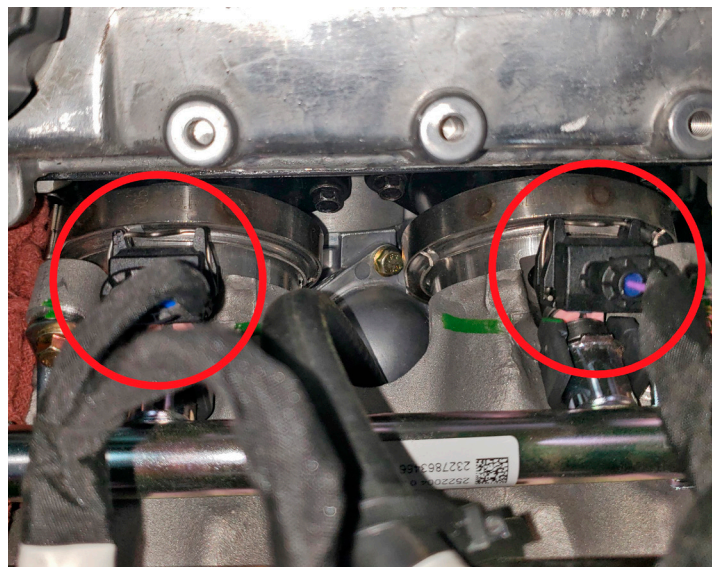
5. Remove the two M8 head screws that mount the coils to the valve cover. (Circled in Picture 3) Then pull the coils up out of the valve cover. Place them rearward of the fuel rail, out of the way.



Picture 3

6. Remove the two T30 head screws that mount the hose / wiring bracket to the intake manifold. (Arrows in Picture 3)

7. Depress the wire tabs on the fuel injector wiring connectors, and while holding down on the tabs, slide the connectors off of the injectors. (See picture 4)

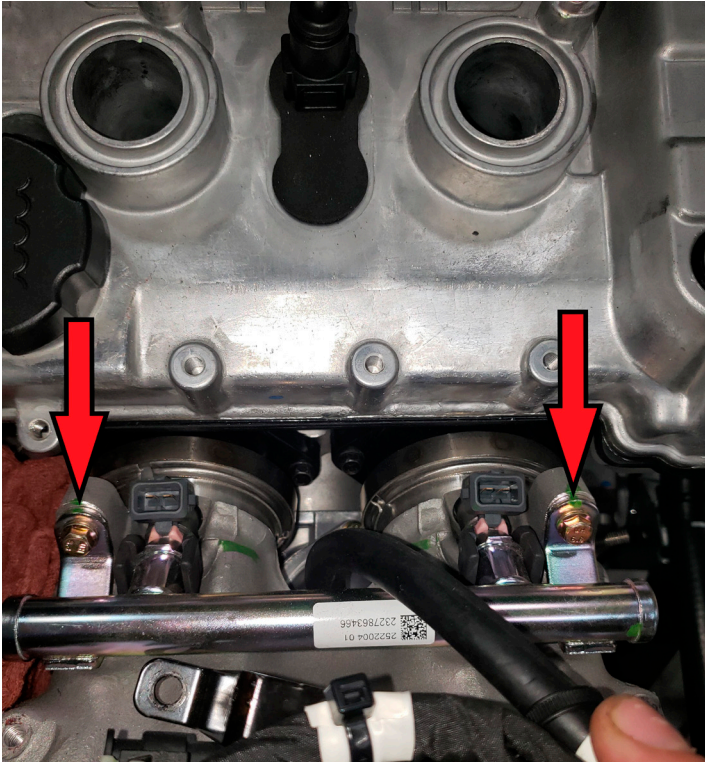


Picture 4

**⚠ WARNING:** Fuel rail and line may be pressurized, be prepared for the possibility of a small amount of spraying fuel when the line is removed from the rail. Wear safety glasses and/or other PPE as deemed necessary. It's also recommended to place a rag beneath the fitting, in order to catch any fuel that may leak out when the line is removed.

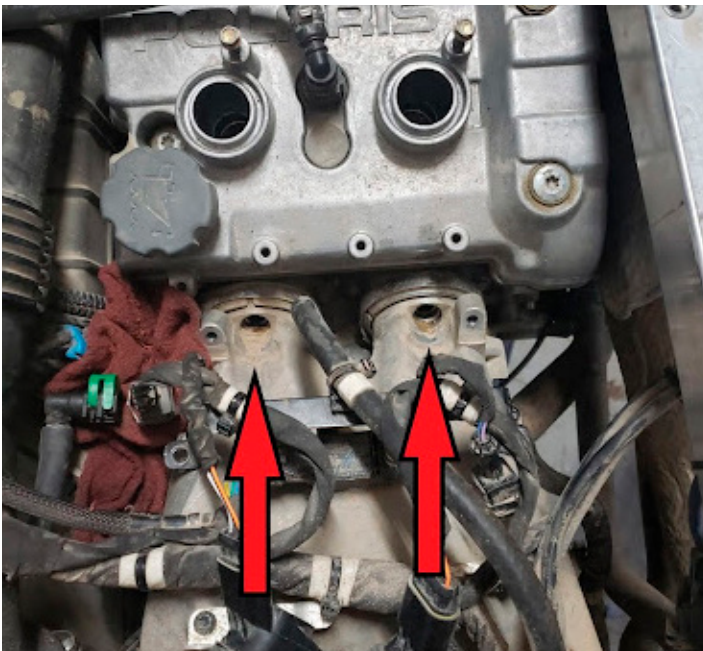


8. Remove the two M8 head screws that mount the fuel rail to the intake manifold. (Picture 5) Then carefully remove the OEM fuel rail from the vehicle, so as to prevent any dirt from falling into the intake manifold.



Picture 5

**NOTE:** With the OEM fuel rail and injectors removed, we recommend using a vacuum to suck any loose dirt / debris out of the injector bore area of the intake manifold (where the injectors seat in the intake manifold, see picture 6). There is typically some grime buildup in this area that should be carefully removed so as to not fall into the manifold when the injectors / new rail are installed back into the manifold. A cotton swab (Q-tip) wetted with brake parts cleaner works well to clean the remainder of the debris out of the injector bore area after vacuuming out the loose debris.



Picture 6

9. With the OEM fuel rail removed from the vehicle, slide off the plastic clips which secure the injectors to the fuel rail. Remove both injectors from the rail.

10. Thoroughly clean the removed injectors and clips using warm soapy water. Dry these components (compressed air works well for this).

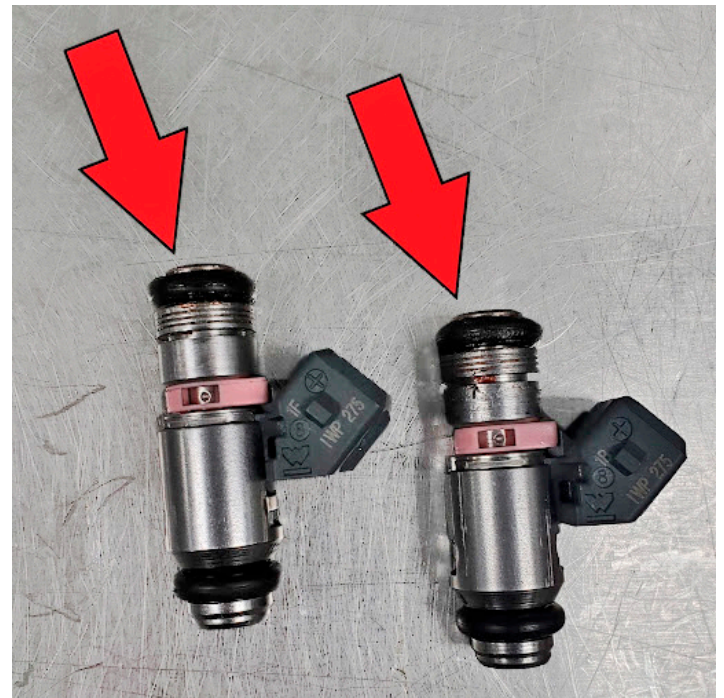
**CAUTION:** Do not use strong chemicals ( i.e. brake parts cleaner, acetone, etc) to clean the injectors as this may cause the o-rings on the injector to swell and / or degrade, which may lead to fuel leaks upon reinstallation into the vehicle.

**NOTE:** Avoid using sharp / abrasive tools when cleaning injectors, as these may damage the o-rings, preventing proper sealing from occurring upon re-installation.

11. With the injectors dried after cleaning, carefully inspect both o-rings of the injectors for any sign of tearing / damage. Discard and replace any damaged injector o-rings with new Genuine Polaris® o-rings from your Polaris® dealer.

12. Apply a thin coating of grease to the o-ring on each injector that will be inserted into the fuel rail. Do not put excess grease on the o-rings. As long as all visible surfaces of the installed o-ring appear "wetted" by grease, there will be a sufficient amount to lubricate the o-ring and prevent damage during installation into the new fuel rail.

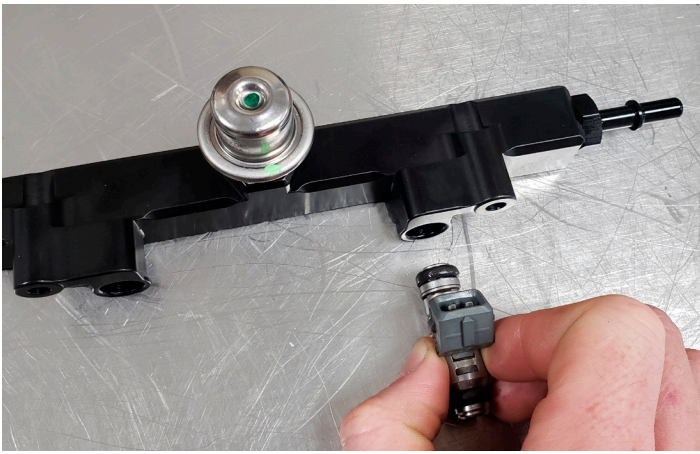
**NOTE:** If you do not remember which end goes into the fuel rail, recall that the opening of the electrical connector (where you can see the two pins) faces up in the direction of the fuel rail. (See picture 7 for quick reference)



Picture 7

13. With the o-rings lightly lubricated, align the S&S fuel rail and the injectors as shown in picture 8. Carefully insert the injector into the injector bores of the fuel rail. Insert to a depth so that the machined hole for the injector clip is about  $\frac{3}{16}$ " above the boss of the fuel rail. (see picture 9)





Picture 8

**NOTE:** Careful insertion of the injectors into the fuel rail is critical. Apply as little pressure as possible and do not aggressively force the injector into the bore. It helps to rock and / or rotate the injector while applying pressure to press it into its bore.



Picture 9

**WARNING:** If excessive force is applied with injector misaligned to the bore, o-ring damage is possible, which may result in fuel leakage upon installation and create a fire hazard.

14. Next, install the injector clips. The clip should be installed in relation to the rail, in the orientation shown in picture 10.



Picture 10

a. Align the grooves on the inside face of the clip with the corresponding "ledge" on the top of the injector bore of the fuel rail. This ledge is meant to key into the female groove of the clip. (See picture 11)



Picture 11

b. While sliding the clip onto the rail, adjust the insertion depth and / or rotation of the injector itself, so that the machined hole of the injector aligns with the pin on the inside of the clip. (See picture 12) The pin inside the clip should fit inside the machined hole of the injector.



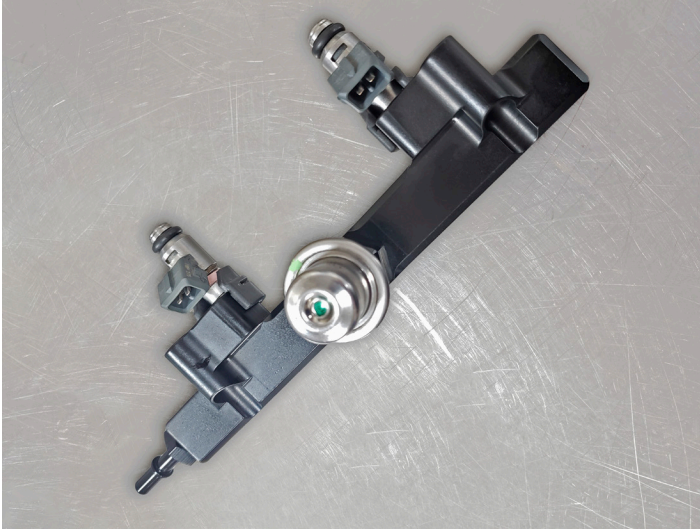
Picture 12

**NOTE:** Injector and clip are installed correctly when the upper ridge of the rail is keyed into the groove of the clip, and the clip pin is inserted into the machined hole of the injector. At this point, you should not be able to pull the injector out of the rail with light pressure. If you try to rotate the injector, it should spin both directions a few degrees, but not be free to rotate completely around with light pressure.

**NOTE:** If you are able to move the injector in and out of the bore, it is likely that the upper ridge of the rail is not keyed into the female slot on the inside of the injector clip. If you are able to rotate the injector in its place with light pressure, it is likely that the clip pin is not locked into the machined hole of the injector. Correct these problems so that the injector is locked in place before attempting to install the assembled rail to the vehicle.



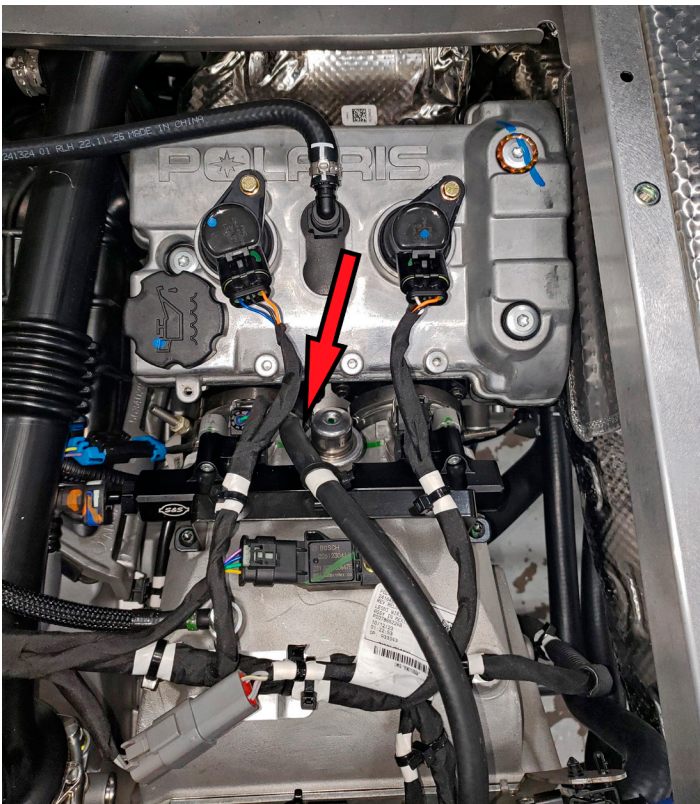
**NOTE:** At this point, your S&S fuel rail assembly is ready to install in the vehicle. Ensure that the injectors and clips are aligned as shown in picture 13.



Picture 13

15. Apply a light coating of grease to the o-rings on the bottom side of the injector, which will be inserted into the intake manifold. Do not use excess grease. As long as the o-rings appear “wetted” with a light layer of grease, they will have sufficient lubrication to assist in alignment and help the o-rings find their home in the machined grooves of the intake manifold when the rail is re-installed in the vehicle.

16. Get the fuel rail assembly into position to be installed into the intake manifold of the vehicle. Carefully route the rail assembly between the manifold and the rubber hose shown in picture 14. Proper orientation should have this rubber hose run along the left (driver’s) side of the pressure damper as shown in picture 14.



Picture 14

17. With the bottoms of the fuel injectors aligned concentrically with the injector bores of the intake manifold, lightly press on the rail so that the injectors fully seat into their bores on the intake manifold. Use a 5mm hex driver and the supplied two mounting screws to secure the rail assembly to the manifold. Torque the mount bolts to 11 lb-ft (132 lb-in).

18. Reverse the steps taken to remove the OEM fuel rail to complete the installation of your S&S Fuel Rail Kit. Start the vehicle and check for leaks before re-installing the cargo bed onto the vehicle.

**NOTE:** Although your S&S Fuel Rail assembly passed a pressure retention test before being shipped to you, it is recommended to turn the ignition key to the “ON” position to prime the fuel system and check for any fuel leaks **BEFORE** replacing the cargo bed on your vehicle (this way it is visually much easier to detect any leaks). If no leaks are seen after the fuel pump primes, start the vehicle and let it run for a few seconds while watching the area around the newly installed fuel rail. Make sure there are no leaks before replacing the vehicle’s cargo bed.