

C. Throttle Body and Air Tube Installation

NOTE: If your vehicle has an EGR system, see Sec. 4 on Page 18.

1. Using the gasket, OE Fasteners , install the throttle body onto the supercharger's manifold.

IMPORTANT: Do not reuse the OE metal gasket (A, figure 31) on the throttle body. It will reduce boost output by 1½ lbs. Use the gasket supplied with the kit (B, figure 31), and make sure that it is positioned properly. Its shape must coincide with that of the throttle body. If not, you will create a vacuum leak.

2. Torque each bolt to the specs provided in the Toyota Shop Manual. Do not overtighten.
3. Install the throttle position sensor plug, the coil plug (if removed), and the IAC valve connector.
4. Attach the PCV hose to the PCV valve on the passenger's side of the engine.
5. Install the air inlet tube to the throttle body and Mass Air Flow Sensor and reconnect its hoses and tubes. Be careful not to damage the sensor (figure 32).
6. Install the proper cable bracket to the top of the manifold. TRD supplies three throttle cable brackets. The bracket with only one U-shaped cable mount is to be used **only** on Tacoma 4WD manual-transmission vehicles. The bracket with two U-shaped cable mounts is to be used on **all** other models except 2001 and newer 4Runners. For 2001 and newer 4Runners, use cable bracket number 00602-17620-080.
7. Remove the transmission cable clamp from the manifold support. Clamp is no longer needed.
8. Remove the throttle cable/evaporative canister hose bracket and bolt from the stock manifold. Install the bracket on the supercharger as shown (see arrow A, figure 33). Insert the throttle cable and evaporative canister hose, and install the Zip Tys on the throttle cable and evaporative canister hose as shown (see arrows B, figure 33).

*NOTE: 2001 TACOMA WITH "DRIVE BY WIRE" THROTTLE BODY
The two lower factory throttle body studs will be reused in the new supercharger installation. Take care to remove and replace both studs without damage. Torque both nuts to 18 ft./lbs.*

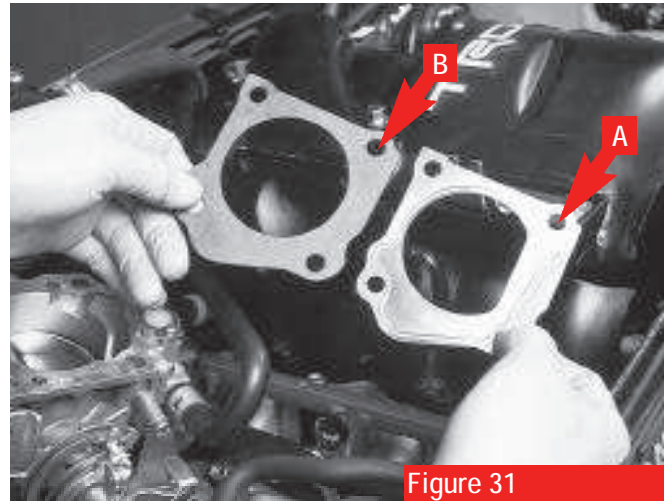


Figure 31

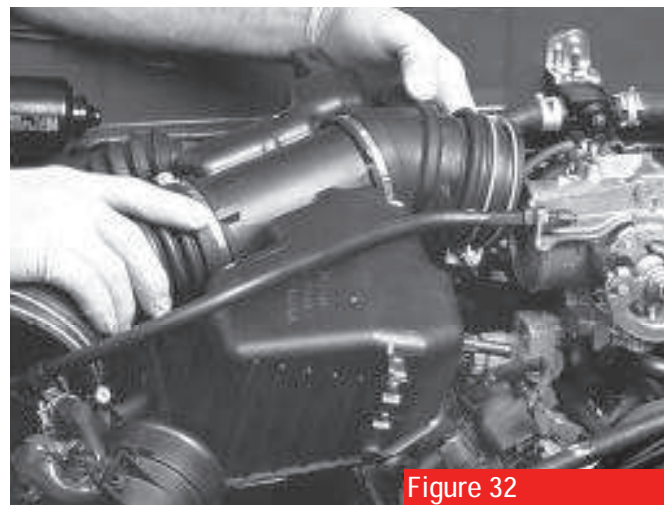


Figure 32

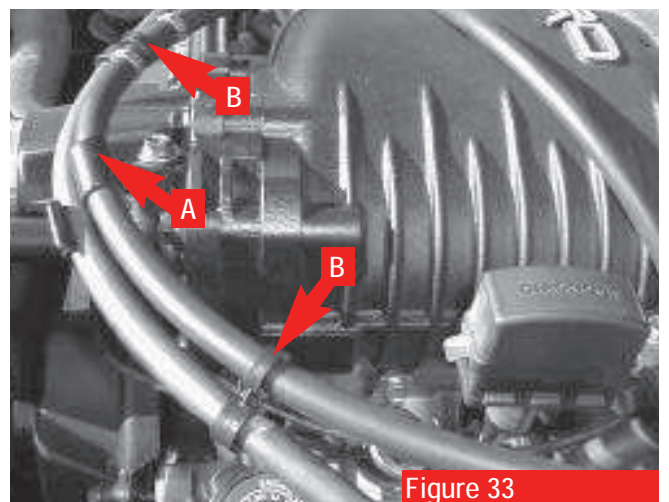


Figure 33

9. Place the throttle and automatic transmission kickdown cable ends in their original throttle body levers. Refer to Step 11 in Section 2 on Page 4 and Figure 8.
10. Install the transmission kickdown cable (**see arrow A, figure 34**) and throttle cable (**see arrow B, figure 34**) in the bracket.
11. Proper throttle cable tension can be accomplished by viewing Figures 35 & 36. With a light but firm pressure you will be able to hear a distinctive "click" when pressing down (**see figure 35**). Release finger pressure and you should hear another "click" as bracket meets bracket (**figure 36**).

Important: If the throttle cable is not properly adjusted, engine performance will suffer. Refer to a factory setup if necessary.

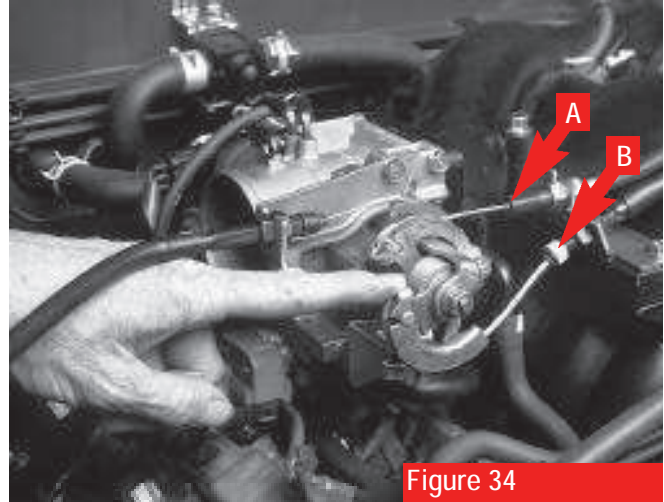


Figure 34

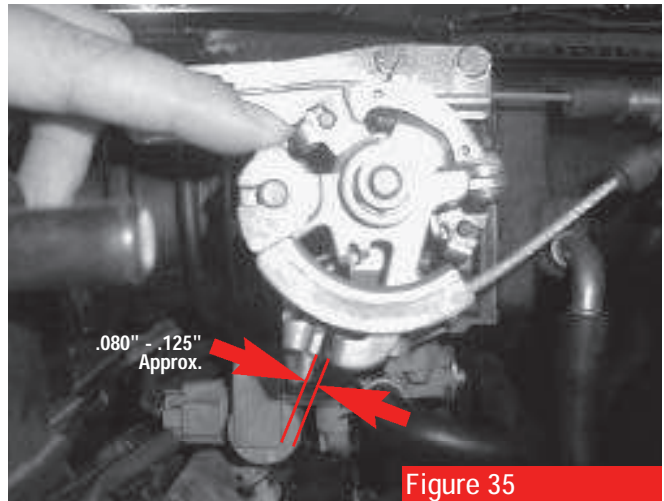


Figure 35

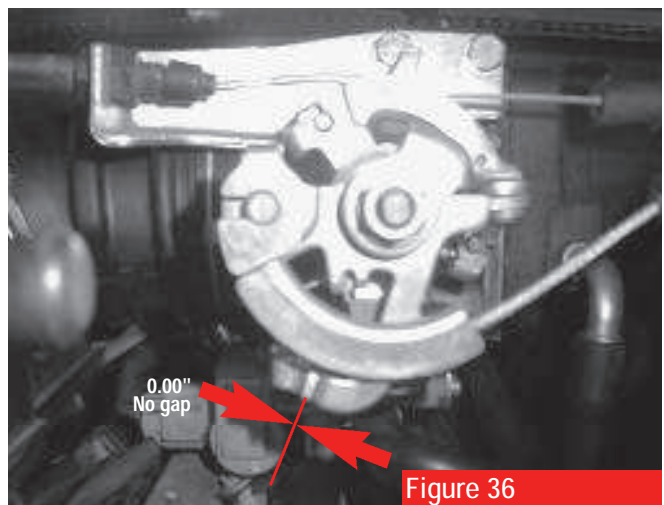


Figure 36

12. Install the diagnostic plug bracket and the ground connector to the driver's side of the supercharger. Install the diagnostic plug **(see arrow A, figure 37)**.
13. Install the fuel return line bracket to the driver's side of the manifold **(see arrow B, figure 37)**.
14. Using your diagrams, and those in the back of this manual, double check the routing of vacuum hoses, cables and brackets and correct any problems **(figure 38)**.
15. Install the gravel guard.
16. Attach the ground cable to the battery.
17. Apply the premium-fuel stickers to the fuel gauge and fuel filler door.
18. Apply a TRD belt routing sticker and the Executive Order (EO) label to the underside of the hood. The EO will alert state smog inspectors that the TRD supercharger has been certified emissions legal in all 50 states.
19. The kit also includes three "TRD" badges and three "Supercharged" emblems. They should be applied to your truck's front fenders and tailgate but, before you do, make sure the paint surface is clean and dry. Any dirt, grease or wax will cause the badges to stick poorly.

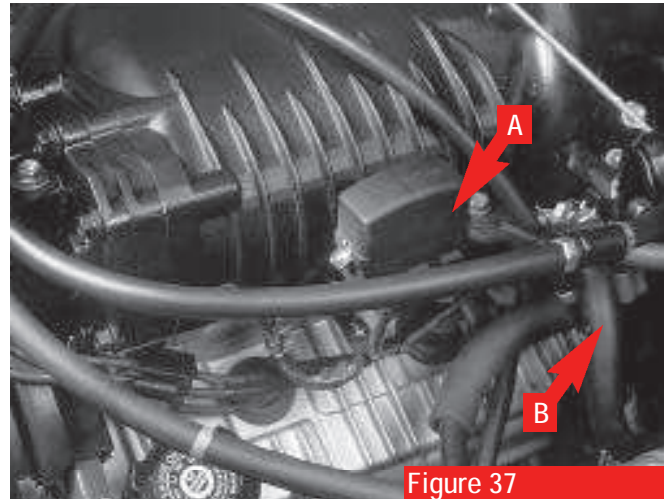


Figure 37

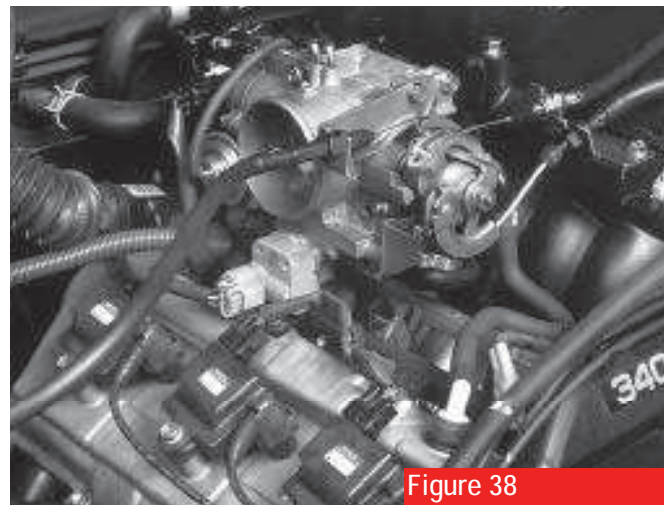


Figure 38

D. Throttle Body and Air Tube Installation
for 2001 and newer 4Runner only with Drive by
Wire throttle system

1. Remove rubber plug (see arrow A, figure 39) and hose (see arrow B, figure 39). Retain the plug for reuse, but the hose is not used on the supercharger install.
2. Place the rubber plug on the open air box nipple (see arrow, figure 40).
3. The rubber plug for the brake booster moves to same location nipple on supercharger housing.
4. The rubber plug from the metal vacuum tube at top rear of manifold will move to the barb on the throttle body mounting surface.
5. Rotate the stock heater hose assembly (see arrow, figure 41) located on the firewall and rotate approximately 30 degrees upward. This will provide proper clearance away from re-routed valve cover breather hose.

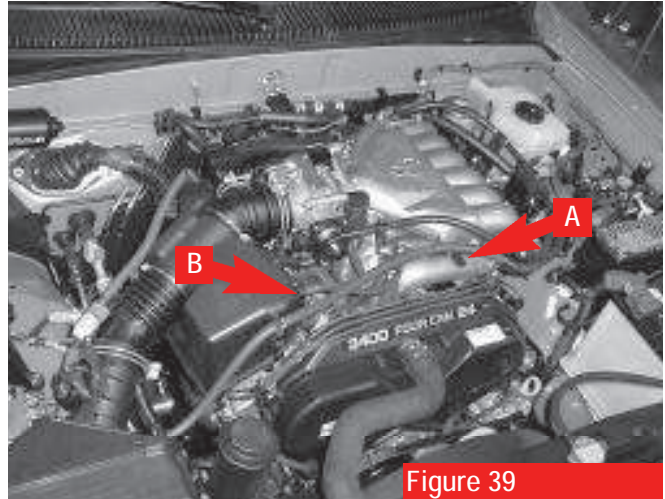


Figure 39

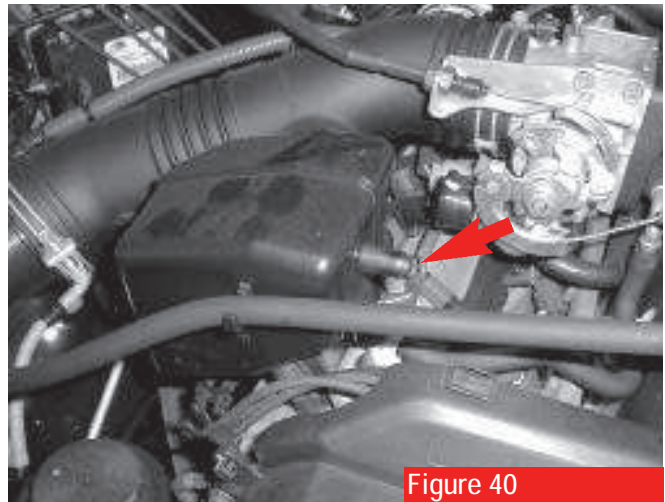


Figure 40

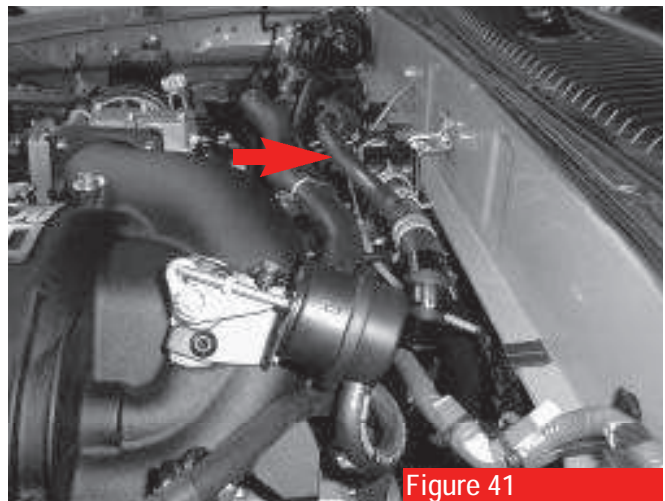


Figure 41

Section 4: EGR Removal and Installation

If your Tacoma or T-100 is equipped with an Exhaust Gas Recirculation (EGR) valve (**see arrow, figure 42**), you will need to remove the valve from the stock intake manifold and reattach it to the TRD supercharger manifold. Here's how:

A. Removal

1. Loosen the EGR pipe from the driver's side exhaust manifold. This will ease the removal and installation procedures (**figure 42**).
2. Loosen or remove the clamp holding the pipe to the back of the engine.
3. Remove the two nuts holding the EGR pipe to the EGR valve and separate the two.
4. Remove the two nuts holding the valve and its gasket to the studs on the intake manifold.
5. Remove the EGR valve and gasket from the intake manifold and set to one side. If necessary, remove the EGR hose and vacuum hose but **don't disconnect** the two water bypass hoses. They're the ones with the spring clamps.

B. Installation

1. Remove the EGR block-off plate from the two studs on the supercharger manifold and using these nuts and washers, install the EGR gasket and valve to the manifold and hand tighten (**see arrow A, figure 43**).
2. With the supercharger bolted to the engine, attach the EGR valve to the EGR pipe and hand tighten with the original nuts (**see arrow B, figure 43**).
3. Tighten the nuts holding the EGR pipe to the exhaust manifold (**figure 42**) and torque them to the specs provided in the Toyota Repair Manual.
4. Torque the EGR-pipe-to-EGR-valve nuts and the EGR-valve-to-manifold nuts to the specs provided in the Toyota Repair Manual.
5. Install the pipe clamp to the stud on the back of the engine and tighten the nut.

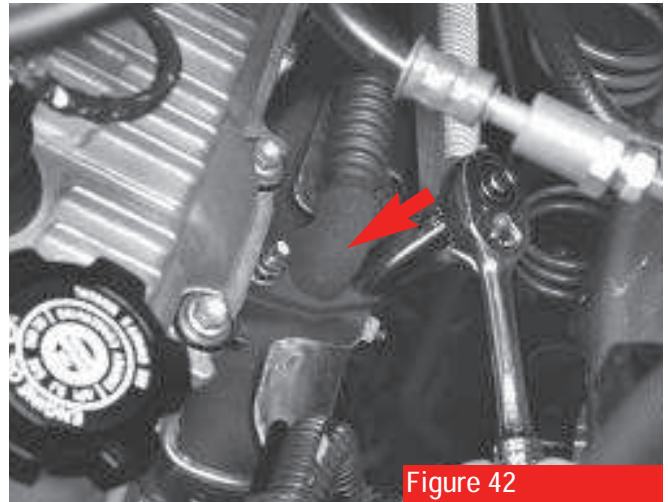


Figure 42

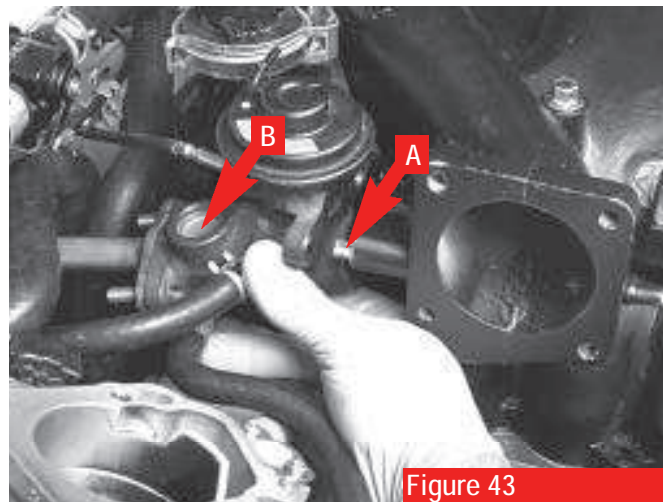


Figure 43

Supercharger Instruction FAQ's

1. Would it be a good idea to install a fuel pressure regulator along with the supercharger?

No. After extensive testing, TRD has learned that the fuel system has sufficient capacity to deliver the additional fuel to match the additional air induced by the supercharger.

2. I have heard of some incidents of the supercharger causing engine pinging because of inadequate fuel supply. I've also heard that the Kenne Bell Boost-A-Pump may be a solution for this issue.

The Toyota Electronic Control Unit's (ECU) program constantly "learns and adjusts." When the driving style changes—as when a supercharger is installed—the ECU will require a few hundred miles to learn and adjust for the difference. During this period, under certain transitory conditions (rapid throttle opening, for example), the engine may "ping" for a second while the ECU adjusts fuel enrichment and ignition timing. Unless the "pinging" continues over a period of sustained driving, this does not pose a problem. The Boost-a-Pump product raises the voltage supplied to the vehicle's electric fuel pump, which can increase the pump's theoretical output capacity and delivery pressure. The Toyota OE fuel pump has adequate delivery capacity, and the fuel pressure regulator is unchanged when the supercharger is installed. This means that the system will still be regulated at approximately 48-52 psi, so there's no need for higher output.

3. What air filter does TRD recommend?

A new factory air filter will work, for best results TRD recommends the use of our washable/reusable high flow air filters available at the nearest Toyota dealer or by calling TRD direct at (800) 688-5912.

4. What is the added benefit if I also installed TRD headers and an exhaust system?

Additional power can be gained from headers and a performance exhaust system. At the time of this printing, TRD offers all stainless-steel headers and cat-back exhaust systems for most vehicles equipped with the 5VZFE engine.

5. There has been some confusion as to which vehicles the supercharger works best on. Please clarify.

While the supercharger will fit the engine, the Electronic Control Units (ECUs) used in 1995 and 1996 T-100 and Tacoma trucks do not respond as well to supercharging as do the 1997 and later vehicles. For this reason, TRD does NOT recommend the supercharger for the 1995 and 1996 Tacoma and T-100 trucks.

6. I don't see an EGR setup on my truck. How do I know if I have one?

Refer to figures 14, 44 and 45 in the instruction manual.

7. How will installing a supercharger affect my gas mileage?

During part-throttle driving, around town and highway cruise, for example, the supercharger should not noticeably affect gas mileage. Overall fuel mileage decreases with increased full throttle operation, and decreases more when supercharged. Simply put, additional power requires additional fuel and during boosted, full-power operation, the fuel mileage will decrease more than when the engine is normally aspirated.

8. I would like to install the supercharger myself. Does it hurt the stock warranty or does the warranty stay for everything but the supercharger?

Regardless of whether the supercharger is installed by the Toyota dealer or by you, the Toyota New Car Warranty is unaffected. If the supercharger is installed at the dealership, the warranty on the supercharger is for either 5 years or the remaining vehicle powertrain warranty, (whichever comes first). If the supercharger is installed by other than a Toyota dealership, the warranty on the supercharger is for one year. Each supercharger kit includes a warranty card, which fully explains the details. **After reading the warranty information, please fill out the card and mail it back to TRD.**

9. Do I have to change my exhaust system?

No, however upgrading to TRD headers and a cat-back exhaust system is strongly recommended for best performance.

10. If I do choose to take it to a Toyota dealer to be installed, can you recommend one in my area?

TRD's website, www.trdusa.com, has a dealer locator function. If you prefer, please call TRD's helpline at (800) 688-5912, and we will be glad to assist you in locating a TRD stocking dealer.

11. How much boost should the TRD supercharger make? Is a smaller pulley available for the supercharger, so that it might make more boost?

The TRD supercharger comes with one pulley size only, designed to deliver approximately 7 psi of boost pressure. The pulley size, as you understand, affects the driver ratio between the supercharger and the engine. Increasing the speed of the supercharger relative to the engine will raise the boosted manifold pressure, but not the actual torque and power output of the engine. TRD has conducted hundreds of hours of dynamometer testing, and found in some cases that raising the boost level may actually decrease engine performance. The pulley size, and boost level, of the supercharger have been designed to achieve the best mix of performance, efficiency and overall reliability. Changing the pulley WILL void the warranty on the supercharger.

12. Does it matter if the transmission is manual or automatic?

The supercharger will work properly regardless of transmission type.

13. Do I need to add a transmission cooler if I do not intend to do any towing?

A transmission cooler provides added protection for your automatic transmission, regardless of your intended use. TRD strongly recommends installing the transmission cooler on any vehicle that may be used for towing, especially if a supercharger is installed.

14. Do I have to change the vehicle's computer (ECU)? Do you suppose it's possible to change out the 1995 or 1996 computer (ECU) with the '97 or '98 model?

TRD does NOT recommend using any computer for your vehicle other than the one that is made for the specific vehicle by Toyota. TRD offers no modified or alternative computers, as the TRD supercharger has been designed to be compatible with the factory computer.

TRD does not recommend the addition of our Supercharger Kits to any 1994-1995 T100, Tacoma or 4Runner. The older vehicle engine management electronics does not lend itself to supercharging.

Figure G

Year	1997-1998
Model	T-100 2WD & 4WD

Notes:

P/S Valve Circuit not on all models. Installation requires an additional 5/16" "T"-Fitting that is not included in the kit.

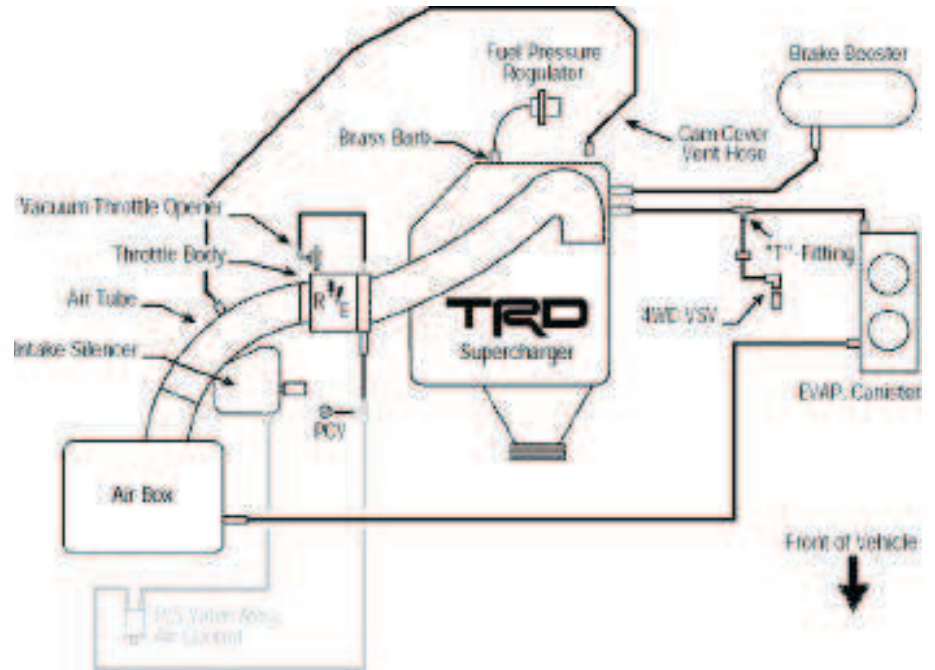
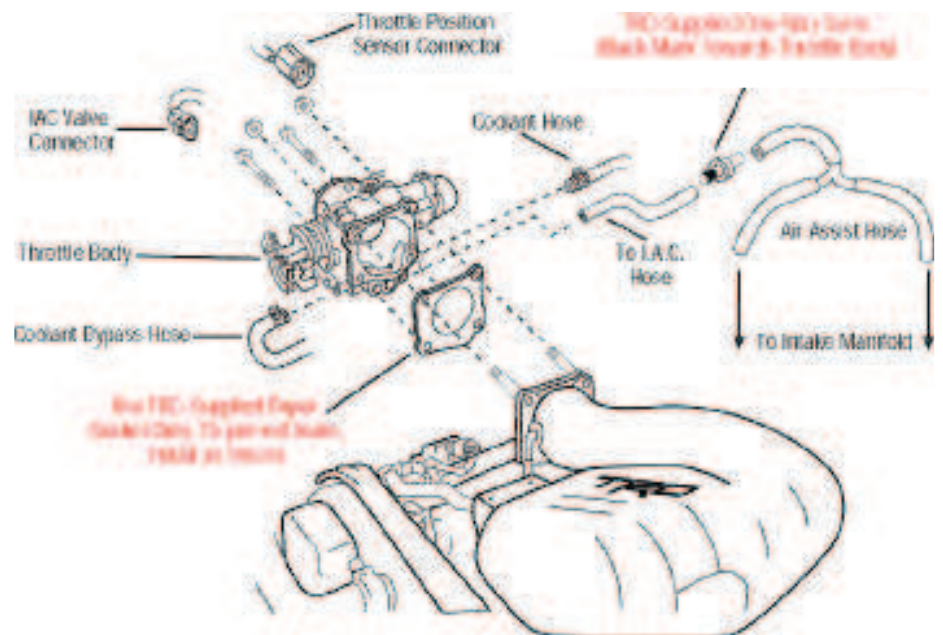


Figure H

One-Way Valve Installation Diagram

Notes:



Symptom	Possible Causes	Corrective Action
Idles rough, "pings" (Trouble Code P0171—Lean Code)	Lean condition— vacuum leak	Check vacuum line connections for leaks and cracked ends. Review factory service manual for proper factory vacuum routing. Review instructions for proper vacuum line routing. Check installation of the TRD throttle body gasket. If gasket is installed improperly, a vacuum leak will occur. Recheck torque on throttle body bolts. Leak at manifold gasket. Recheck torque on intake manifold bolts.
Pings during acceleration	Low octane fuel Computer has yet to adjust to supercharger Insufficient fuel delivery	Fill tank with PREMIUMFUEL . Drive several hundred miles in different driving modes (Not all steady-state highway cruising, for example). Fuel filter old—replace. Follow factory diagnosis and replacement procedures. Fuel pressure low. Follow factory diagnosis and replacement procedures. Injector(s) clogged. Follow factory repair/replacement procedures.
Low boost	Belt slipping Air filter dirty Throttle not fully opened	Check condition of belt—oily, worn, high mileage. Check/replace air filter. A dirty filter restricts the air intake. TRDdyno tests have shown that the TRD air filter is among the best on the market for flow and filtering characteristics. Recheck and adjust the throttle cable and transmission cable. Be sure that full depression on the gas pedal achieves full throttle opening at the throttle body. Check the supercharger bypass valve for proper operation.
Makes a moderately loud noise under full throttle—intake noise	Normal supercharger sound	No remedy. Superchargers are an air pump and the pumping action is impossible without some noise. Call TRD for further diagnosis.
Rattling at idle—goes away at just above idle	Normal supercharger sound	Slight rattle at idle is normal, but only if noise sharply decreases at 400-500 rpm above idle. Call TRD for further diagnosis.
Rattling above idle—gets louder with higher rpm or louder with more boost pressure	Drive housing bearing wear or backlash Idler pulley bearing wear or excessive freeplay	Call TRD for further diagnosis. Diagnose by removing belt from supercharger and running engine for less than 30 seconds. If noise continues, source of problem is not within supercharger.
Throttle cable does not properly line up	Incorrect bracket installed	The TRD Supercharger kit has three brackets. The single cable with throttle lever mount bracket is for use on Tacoma trucks with 4WD and manual transmission. These vehicles have a slightly different throttle arm. All other vehicles should use the two-cable mount. Manual transmission vehicles leave the transmission cable mount empty. Use bracket 00602-17620-080 for 2001 and newer 4Runner.
Supercharger belt jumps across pulley grooves	Misaligned pulley/idler Damaged pulleys Loose pulleys	Check to be sure that the crankshaft pulley is properly tightened. Re-tighten to specifications given, follow the procedure in the factory manual. Be sure that the pulleys all run true—no eccentricity. Check to be sure that the crankshaft pulley is properly tightened. Re-tighten to specifications given, follow the procedures in the factory manual.
Supercharger belt leaves grey/black powder on drive housing and other areas	Normal break-in residue	No corrective action. Belt should be fully broken in after 2000 miles.
Supercharger appears to leak oil from drive housing	Front seal not fully broken in	No immediate corrective action. Seal should be fully mated to pulley after 2000 miles. If leaking continues, contact TRD.

IMPORTANT WARRANTY INFORMATION

Dealers – Technicians:

Failure to completely and properly fill out and mail in your customer's Warranty Registration Card may result in possible reduction or complete denial of future warranty claims.

Customer installed units:

Failure to completely and properly fill out and mail in your Warranty Registration Card may result in possible reduction or complete denial of future warranty claims.