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Document No.
00602-05100-221
Revision B



TRD 3.4-liter V6 Supercharger Kit Installation Instructions

1996 and newer 4Runner, 1997-1998 T-100,
1997 and newer Tacoma, 2000 and newer Tundra



Supercharger Kit Part Number: 00602-17620-201



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.



1996 and newer 4Runner, 1997-1998 T-100,
1997 and newer Tacoma, 2000 and newer Tundra

Section 1: Installation Preparation Kit Contents

Qty	Description	Connection or Installation Location	Page	Part Number
1	Supercharger/Manifold Assembly	Main Assembly - Bolts directly to Factory Manifold	11	00602-17620-207
1	Supercharger Belt	Replaces Factory Alternator Belt	12-13	00602-17620-026
1	Assembly, Tensioner Plate and Pulley	Installed on front of engine	10	00602-17620-082*
1	Kit, Dynamic Tensioner Plate Installation Hardware		9	00602-17620-090
1	Dynamic Tensioner Plate	Installed on front of engine	9	00602-17620-015P-4
1	Bolt, 10 x 1.25 X 70mm Flat Head	Bolt Hole A	10	
1	Bolt, 10 x 1.25 X 135mm Hex Head	Bolt Hole B	10	
1	Washer, 10mm Flat Bolt	Hole C	10	
1	Wiring Loom Relocation Bracket	Installed on front of engine	9	00602-17620-077
1	Dipstick Relocation Bracket	Installed on front of engine	10	00602-17620-078
1	6 X 10 X 12mm Bolt	Dipstick relocation bracket	10	
1	6mm Flat Washer	Dipstick relocation bracket	10	
1	Kit, Literature			
1	Manual, 3.4 Installation - Revision B			00602-05100-221
1	Gasket, 3.4 S/C	Throttle Body Between Factory Throttle Body and TRD Supercharger	14	00602-17620-032
1	EO Sticker	Place underneath hood	15	
1	Warranty Card (Fill out and send to TRD)	** WARNING POTENTIAL LOSS OF WARRANTY ** see inside covers		
1	Warranty Certificate	Keep in red envelope, in glove compartment	-	
1	Hanger, Mirror SC Noise Warning	Makes customers aware of Roots-type supercharger whine	-	00602-05100-045
1	Sticker, TRD Sport Parts	Place as desired on external surfaces of vehicle	-	05100-SP100
1	Decal, Supercharger	Place as desired. Usually placed on Factory Timing Belt Cover	-	00602-17620-042
1	Template for Cutting Front Cover	Use to modify Factory Timing Belt Cover	8	00602-17620-2TP
1	Belt Routing Sticker	Under hood	15	
1	Premium Fuel Sticker	Place one on or near fuel gauge, the other inside fuel filler door	15	
3	Set, TRD S/C Emblems	Place as desired on external surfaces of vehicle	15	00602-17620-SCE
	Supercharger Brochure, Catalogs, Promo. Matl.		-	
1	Hose, Connector and Hardware Kit			
1	1/8" Vacuum Plug	2001 and newer Tacoma only w/Drive by Wire Throttle Body		1790339-07016
1	3/8" Vacuum Plug	Intake Silencer Plug		
1	Vacuum Hose - 1/2" x 34" long	Connects Air Tube to Cam Cover	21-23	
1	Vacuum Hose - 3mm x 9" long	Connects Vacuum Throttle Opener to Intake Manifold	21-23	
1	Vacuum Hose - 3mm x 5" long	Connects Vacuum Throttle Opener to Intake Manifold	12	
2	Hose Clips, Black Plastic	Retains Evaporative Canister Hose to Throttle Cable	14	
1	Vacuum Adapter Tee - 5/16" x 5/16" x 1/4" 4WD Only	See Hose Routing Schematic Figure B	21	
1	Valve, IAC Check	Installed near IAC Valve	23	00602-17620-065
1	Spacer, Manifold Support Bracket	Installed between manifold and Factory Support Bracket on driver's side	11	
1	Bolt, 8 x 1.25 x 35mm Flange Head	Used to secure Factory Support Bracket, through above spacer, to S/C Manifold	11	
1	Bolt, Hex, 8 x 1.25 x 170 w/10mm Wrench Flat	Installed through the top of supercharger to the Factory manifold	11	
4	Socket Head Cap Screws, 8 x 1.25 x 65mm	Attaches Throttle Body to TRD S/C Manifold	14	
4	Washer, 8mm Flat 1 per Socket Head Cap Screw	Used to attach Throttle Body to TRD S/C Manifold	14	
1	Bracket, Accelerator and Transmission Cable	Used on all applications except 4WD, Manual-Transmission Tacoma	14	
1	Bracket, Accelerator Cable 4WD MT Tacoma Only	Used on 4WD, Manual-Transmission Tacoma only	14	
1	Bracket, Throttle Cable	2001 and newer 4Runner only w/Drive by Wire Throttle Body		1400602-17620-080
2	Bolt, Hex, 6 x 1.0 x 12mm	Used to attach Throttle Cable Brackets to S/C Manifold	14	
2	Washer, Flat, 6mm	Used with bolts to attach Throttle Cable Brackets to S/C Manifold	14	

Tools Recommended

Basic Tools
 Basic Metric Socket, Allen & Open-End Wrench Sets
 Pencil & Paper for Drawing Schematics of Cable Routing
 1/2" Wide Masking Tape for Labeling Hardware, Parts and Belts
 2" Wide Masking Tape for Covering Intake Manifold while Working on Engine
 A Clean Work Bench
 A Parts Tray
 Rags or Shop Towels

Safety Tools

Safety Goggles

Special Tools

Thread Locking Liquid, Loctite® P/N 243 (recommended) or 242
 14 mm Angled (22.5 degrees) Flat Ratchet for Power Steering Belt Adjuster Bolt
 Scribe for Marking Outline on Timing Belt Cover
 Coping Saw Blade or other Flexible Saw for Cutting Plastic Timing Belt Cover
 Toyota Repair Manual (available from Toyota, 1-800-622-2033)

Section 2: Removal Procedure

A. Preparation for Removal of Stock Intake Manifold

- Before you begin, TRD recommends that you thoroughly clean the engine and engine compartment. If you don't, grease buildup on parts could become dislodged during the procedure and fall into the engine.
- Make sure the engine has cooled fully before you begin.
- To help you later, we suggest you draw diagrams of your engine's cable routing before you disconnect anything. You can do the same for the vacuum hoses; however, some of the vacuum connections on your stock manifold may not be the same as those on the supercharger. To ensure the proper hose connections, refer to the diagrams in the back of this manual.
- The TRD supercharger kit has been designed to reuse most of the stock nuts and bolts. Therefore, as you remove them, keep them with their components or label them for location. This will assure a faster, easier installation.

B. Removal of Stock Intake Manifold (figure 1)

1. Disconnect the battery ground cable.
2. With tape or a permanent marker, mark the **forward** edge of the power steering and the air conditioning compressor drive belts (**figure 2**). This will ensure that the belts will be returned to their original positions and that they will rotate in the same direction. If you reverse the direction of rotation, it may cause the belts to fray.



Figure 1

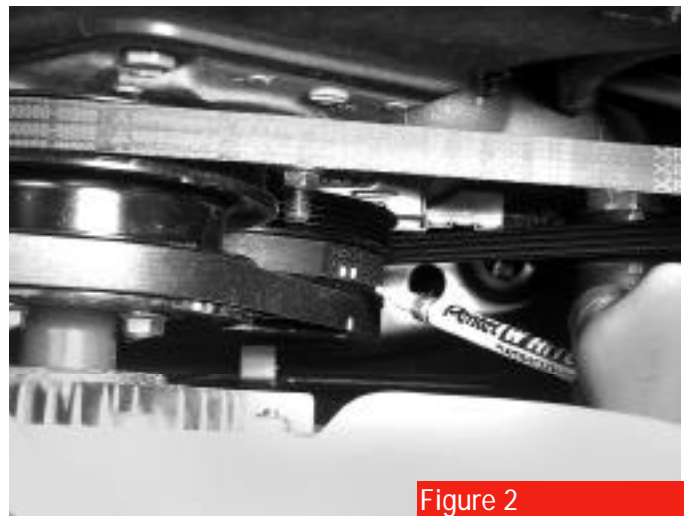


Figure 2

Installation Instructions for 3.4-liter V6 Supercharger Kit

1996 and newer 4Runner, 1997-1998 T-100,
1997 and newer Tacoma, 2000 and newer Tundra

3. If equipped, remove the gravel guard from beneath the radiator (**figure 3**). This will give you access to the A/C belt adjuster.

TIP: The gravel guard consists of two pieces but it's much easier to install if you remove it as a one-piece assembly.

4. Loosen the pinch nut in the center of the A/C compressor belt pulley and loosen the adjuster bolt enough to loosen the belt (**see arrow, figure 4**).
5. Using the angled flat ratchet, loosen the pinch nut and adjuster bolt for the power steering pump.
6. Remove the two belts.
7. Loosen the alternator pivot bolt (top), pinch nut and adjusting bolt and remove the alternator belt. During the installation procedure, it will be replaced with a belt supplied with the supercharger.
8. Loosen the air intake tube clamps at the throttle body and disconnect the Mass Air Flow Sensor plug.

*CAUTION: The air sensor (**see pointer, figure 5**) is fragile so be careful when working around it.*

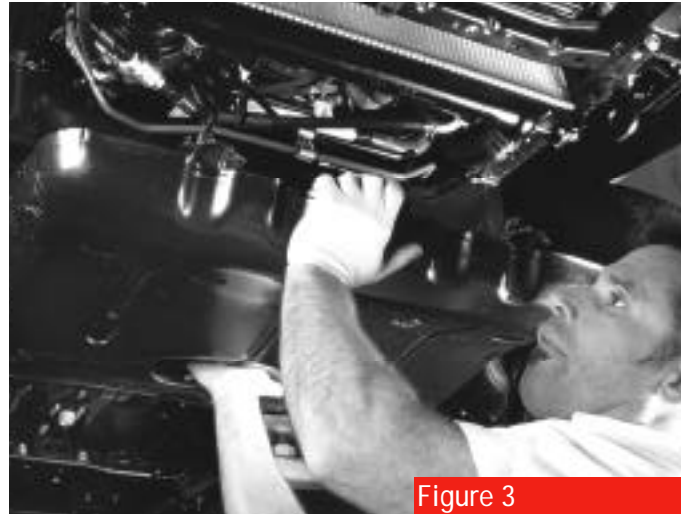


Figure 3

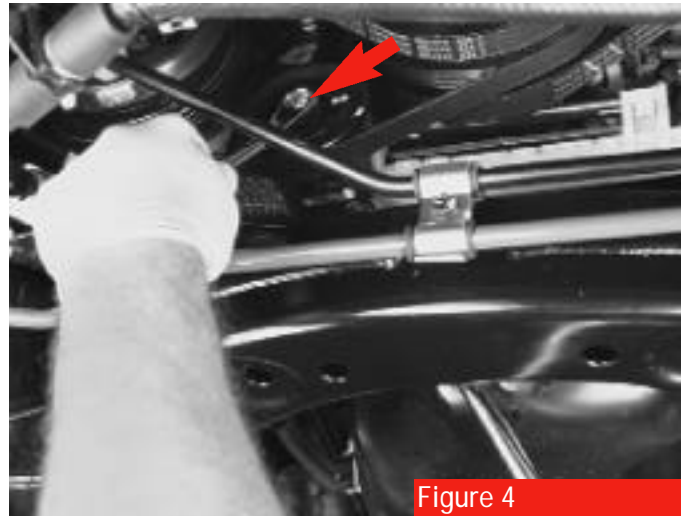


Figure 4

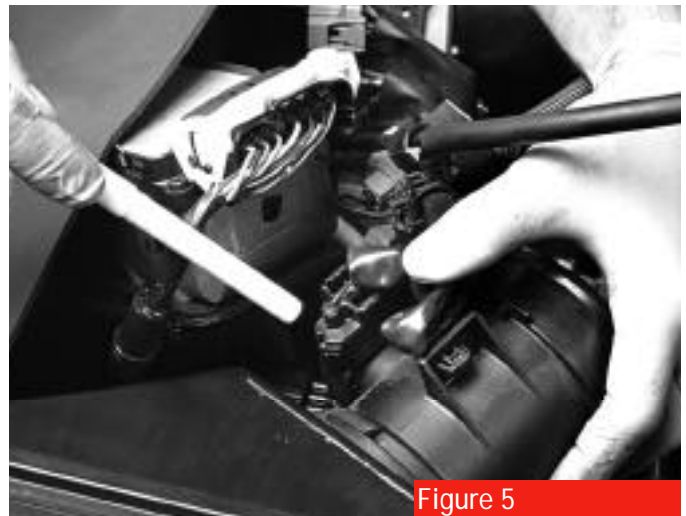


Figure 5

Installation Instructions for 3.4-liter V6 Supercharger Kit

1996 and newer 4Runner, 1997-1998 T-100,
1997 and newer Tacoma, 2000 and newer Tundra

9. Remove any connections from the air intake tube and remove the tube (**figure 6**).
10. Some trucks are equipped with one or two Vacuum Switched Valve (VSV) assemblies. To locate yours, consult the appropriate diagrams on **pages 20 through 23**. If the valve is mounted on the rear of the engine, it should be relocated to the firewall with the bracket supplied.
11. Note the tension and adjustment of the throttle cable and the transmission throttle-pressure (kickdown) cable (if equipped with an automatic transmission). You will need to re-create these adjustments during the assembly procedure. To help you remember, look for the small metal bead (the stake stopper, automatic transmission only) on the kickdown cable (**see arrow, figure 7**). If the cable is properly adjusted, the bead should be flush with the end of the cable's rubber sheath (**see arrow, figure 8**).

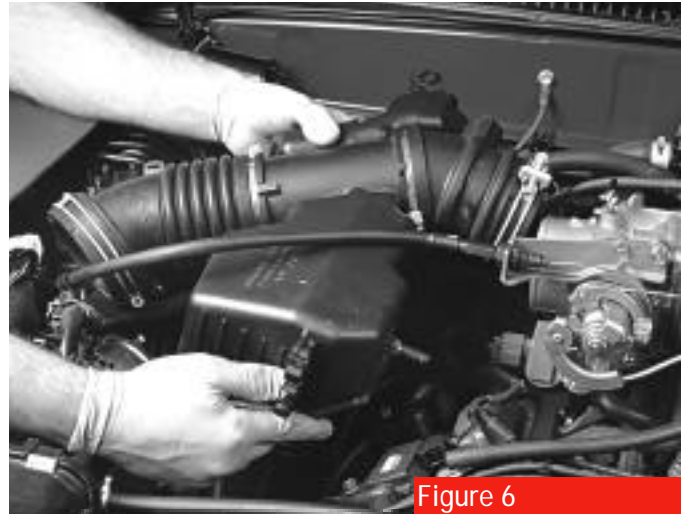


Figure 6

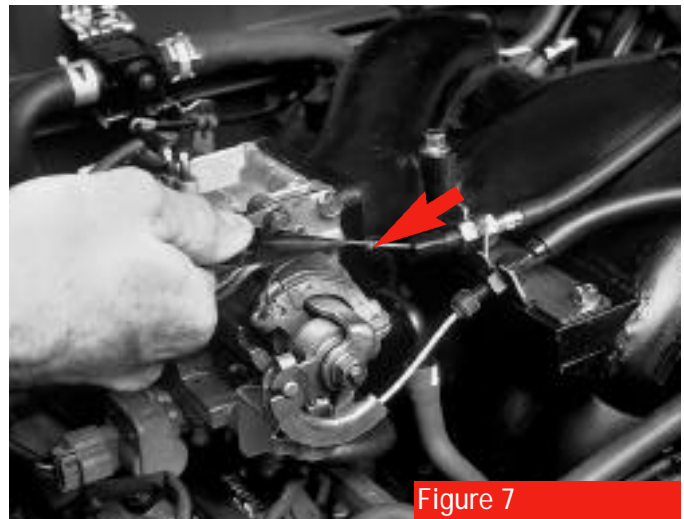


Figure 7

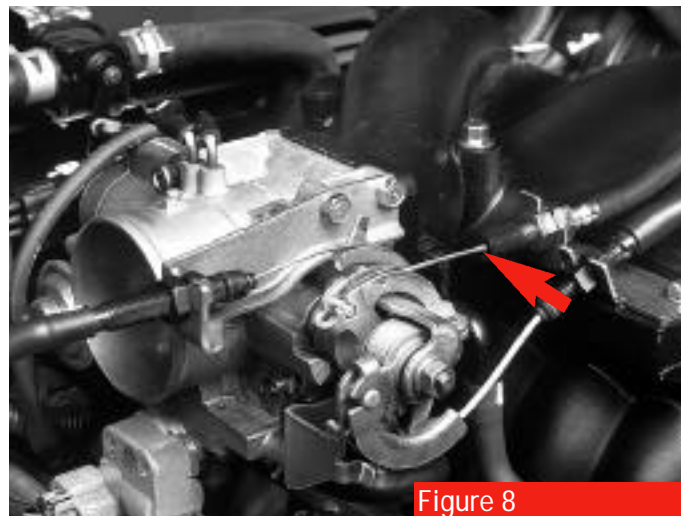


Figure 8

Installation Instructions for 3.4-liter V6 Supercharger Kit

1996 and newer 4Runner, 1997-1998 T-100,
1997 and newer Tacoma, 2000 and newer Tundra

TIP: If your vehicle is equipped with cruise control, do not remove the cruise cable from the throttle body. If you do, you will have to readjust it later.

12. Loosen but **don't remove** the cable nuts (**figure 9**).
Slide the cables from their brackets and remove the cable ends from the throttle-body levers.
13. Unplug the throttle-position sensor connector (A) and the IAC (Idle Air Control) valve connector (B) (**see arrows, figure 10 and diagram on page 23**).

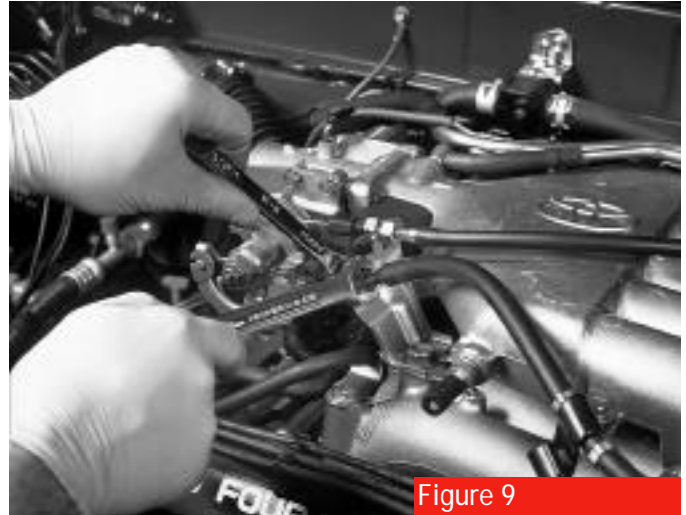


Figure 9

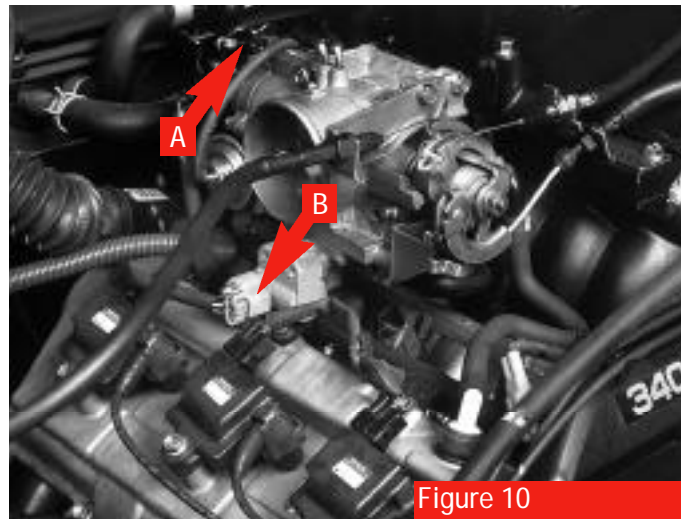


Figure 10

Installation Instructions for 3.4-liter V6 Supercharger Kit

1996 and newer 4Runner, 1997-1998 T-100,
1997 and newer Tacoma, 2000 and newer Tundra

14. Remove vacuum lines from the throttle body but **don't remove the two coolant hoses (figure 11)**.

TIP: The coolant hoses have clamps (see arrows, figure 12), the vacuum hoses do not.

15. Remove the throttlebody **with** attached coolant hoses and cruise control cable (if equipped) and set to the passenger's side (**figure 12**).
16. At the driver's side of the engine, remove the diagnostic plug from its mounting bracket (**upper arrow, figure 13**) and set it aside. Remove the bolt and bracket that hold the diagnostic connector to the stock manifold and save for reassembly. Remove the ground wire and move it to one side (**lower arrow, figure 13**).
17. Remove the vacuum hoses for the power brake, PCV and EVAP from their tubes on the upper manifold.

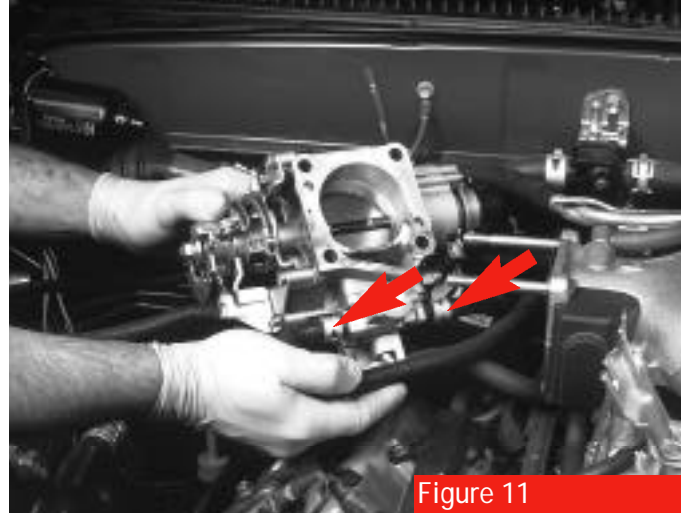


Figure 11

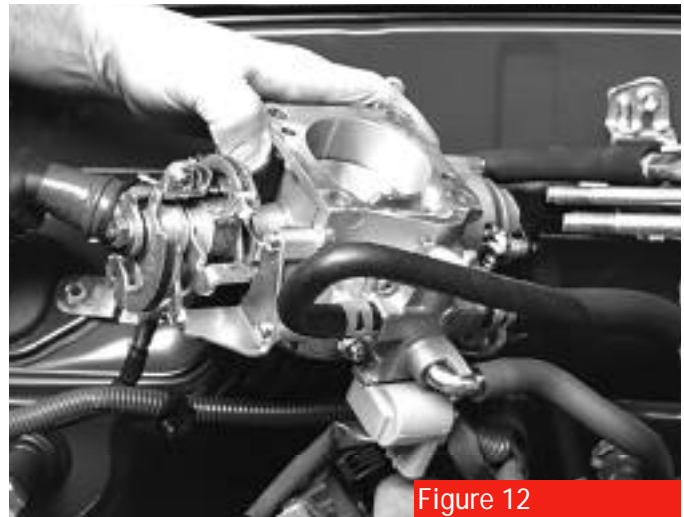


Figure 12

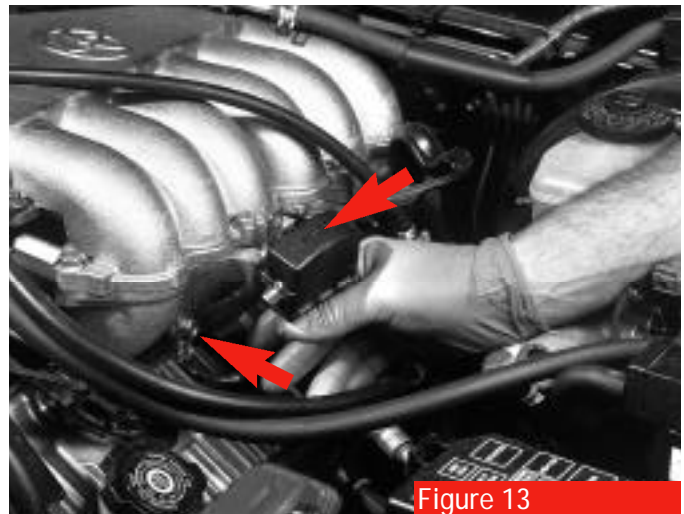


Figure 13

Installation Instructions for 3.4-liter V6 Supercharger Kit

1996 and newer 4Runner, 1997-1998 T-100,
1997 and newer Tacoma, 2000 and newer Tundra

18. A pre-2000 Tacoma or T-100 may be equipped with an EGR valve. To be sure, look for this tube (**see arrow, figure 14**) on the driver's-side exhaust manifold. Remove the valve according to the procedure on page 14.
19. Remove the bolt holding the manifold to the intake chamber stay (**see arrow, figure 30**). Save the bolt.
20. Remove the nuts and bolts from the upper half of the intake manifold and set it aside (**figure 15**).
21. Remove the 2 bolts and disconnect the fuel-return line bracket (**but don't disconnect the fuel hose**) from the driver's side of the lower manifold and remove the bolt from the wire-loom bracket.
22. Remove the bolts and nuts from the lower manifold.

TIP: The nuts at the far ends of the manifold will be reused during installation. To avoid losing them, pick them up with a magnet.

23. Remove the lower manifold (**figure 16**) and save the factory nuts, washers and two short bolts, as they will be reused.
24. Inspect the gasket. If it is in good shape, reuse it; if not, replace it with a new one (part# 17176-62040).

NOTE: The gasket between the surge tank and the manifold (figure 15) is interchangeable for use as the supercharger's intake manifold gasket (see section B – 2, page 11).

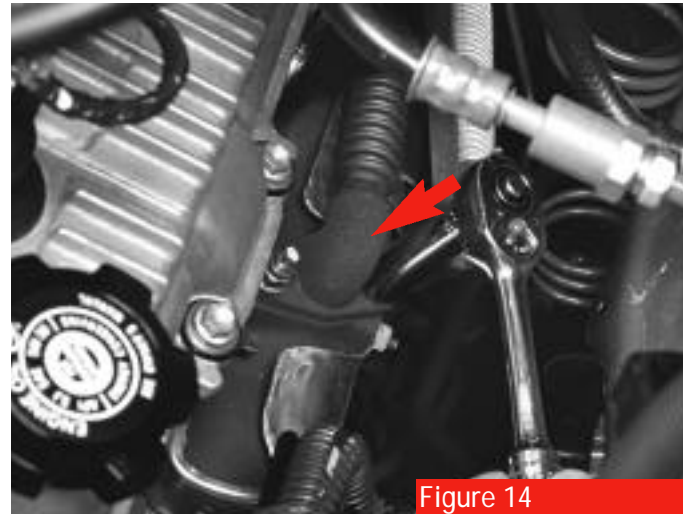


Figure 14

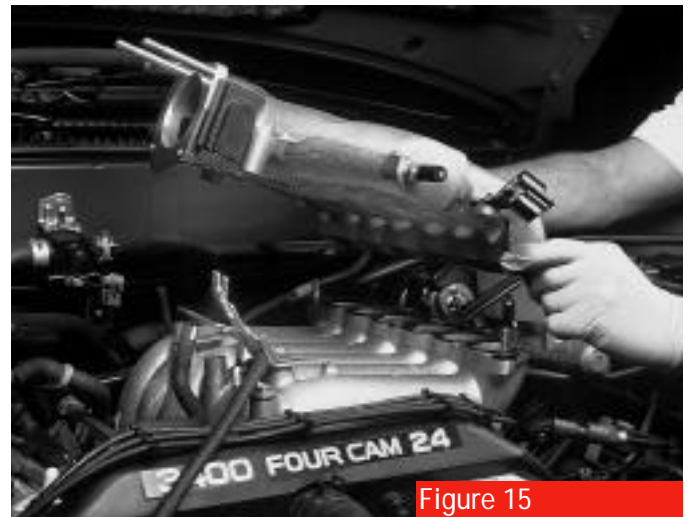


Figure 15

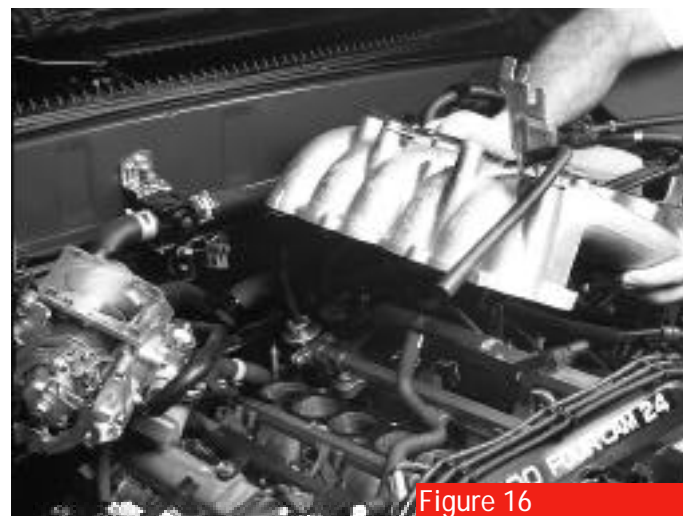


Figure 16

Installation Instructions for 3.4-liter V6 Supercharger Kit

1996 and newer 4Runner, 1997-1998 T-100,
1997 and newer Tacoma, 2000 and newer Tundra

25. Tape over or cover the engine manifold ports to keep out debris (**figure 17**).
26. Using the template supplied and a scribe or marker, mark the top of the timing belt cover around the template (**figure 18**).
27. Move any wires out of the way and with a coping saw blade or flexible saw, cut along the scribe mark (**figure 19**) and discard the cut-out piece. This cutaway will provide the clearance for the drive housing of the supercharger.



Figure 17



Figure 18



Figure 19

28. Attach the plastic wire looms to the cut edge of the front cover **(figure 20)**. The ignition wires will go beneath the supercharger drive housing.

Section 3: Installation Procedure

A. Installation of TRD Dynamic Belt Tensioner Assembly

1. Remove dipstick and dipstick tube.
2. Unclip the wire loom from the factory bracket and install the TRD-supplied wire loom relocation bracket **(see arrow, figure 21)**. Use the existing nut on the water pump housing's upper stud. Torque to factory specifications and clip the wire loom to the back of the TRD bracket.
3. Install the belt tensioner plate using the TRD flat head bolt (10 x 1.25 x 70mm) in Location A **(figure 22)**, do not fully tighten yet.

NOTE: If the vehicle has been in use, the holes (Arrows A & B in figure 22) may need to be cleaned out (i.e. tap).

4. Using the TRD-supplied bolt (10 x 1.25 x 135mm) **(figure 22)**, align the lower belt tensioner mounting bolt hole to Location B.

NOTE: TRD recommends the use of a thread locking liquid (such as Loctite 262) on the 10 x 1.25 x 70mm & 10 x 1.25 x 135mm bolts in Locations A & B.

5. Torque the bolt in Location A to 25 ft./lbs.



Figure 20

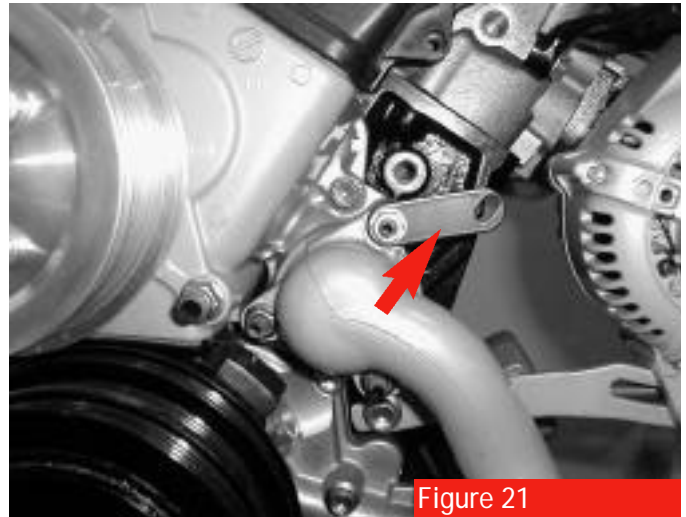


Figure 21

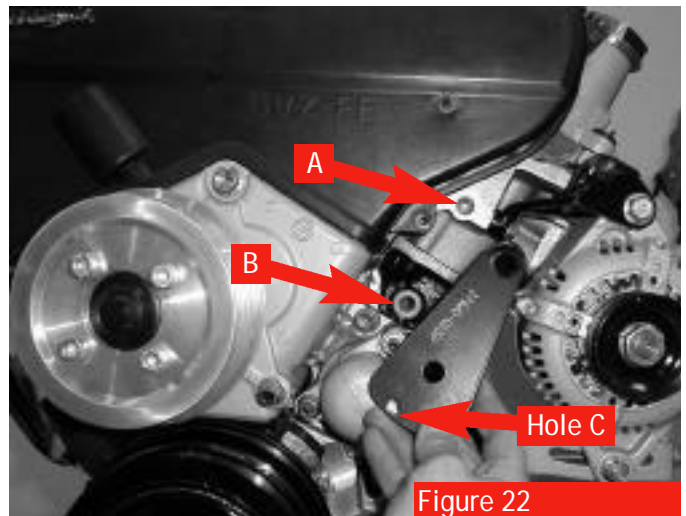


Figure 22

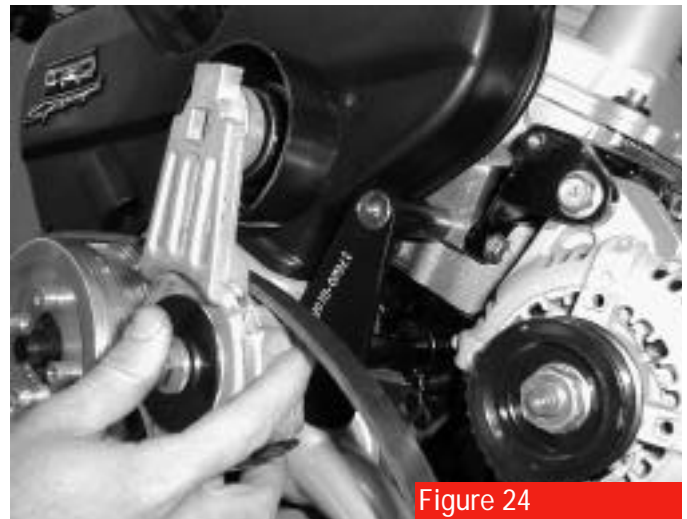
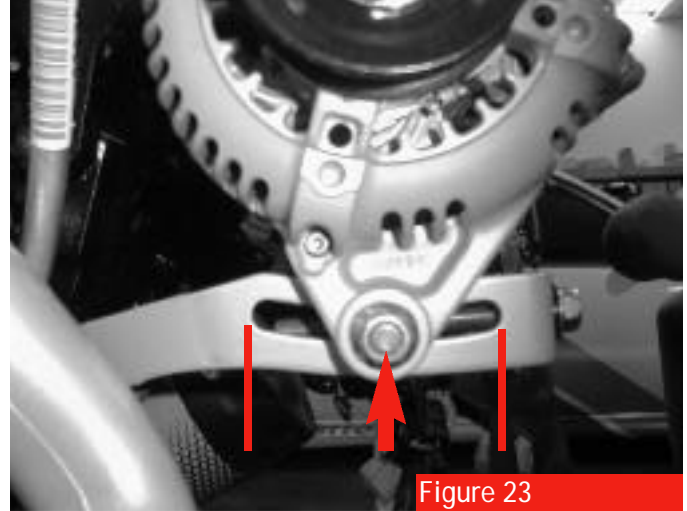
Installation Instructions for 3.4-liter V6 Supercharger Kit

1996 and newer 4Runner, 1997-1998 T-100,
1997 and newer Tacoma, 2000 and newer Tundra

6. Remove the bolt in Location B. Set the alternator to mid-point adjustment on the adjustable bracket (**see figure 23**). Torque the pivot bolt (top) and pinch nut (arrow) to factory specification.
7. Place the dynamic tensioner onto the mounting plate with the belt behind the pulley (**figure 24**).

NOTE: Align the stud on backside of tensioner to small hole "C" in belt tensioner plate (figure 22).

8. Install the hex head bolt (removed in Step 5) through the tensioner into the mounting plate and torque to 40 ft./lbs.



B. Installation of TRD Supercharger and Manifold Assembly

1. **(Skip this step for 2001 and newer 4Runner)** Cut the hose leading to the IAC valve connector at the location shown, and insert the kit's one-way valve into the straight part of the hose. The black end of the valve **(see arrow, figure 25 and diagram on page 23)** is closest to the throttle body.

***IMPORTANT:** The IAC hose and the coolant hoses are similar in size. Don't cut the wrong one. The coolant hoses have clamps, the IAC hose does not.*

2. Remove the tape from the intake manifold and reinstall the stock gasket.
3. Lower the supercharger and manifold into place making sure there are no hoses or wires in the way. The ignition wires should be routed beneath the supercharger's drive housing **(see arrow, figure 26)**.
4. When the assembly sits flat on the engine, put the stock manifold brace (driver's side) bolt and TRD spacer in first **(see arrow, figure 27)** and then install the stock nuts on the studs at each end of the manifold and hand tighten.
5. Install the TRD-supplied long manifold bolt (8 x 1.25 x 170mm) through the supercharger to the stock manifold followed by the two stock bolts. Alternating from one side to the other, torque the bolts and two nuts to the specs provided in the Toyota Repair Manual.

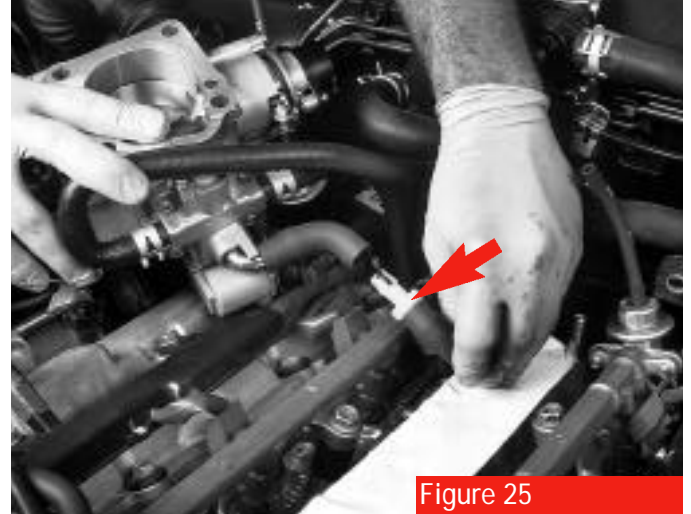


Figure 25

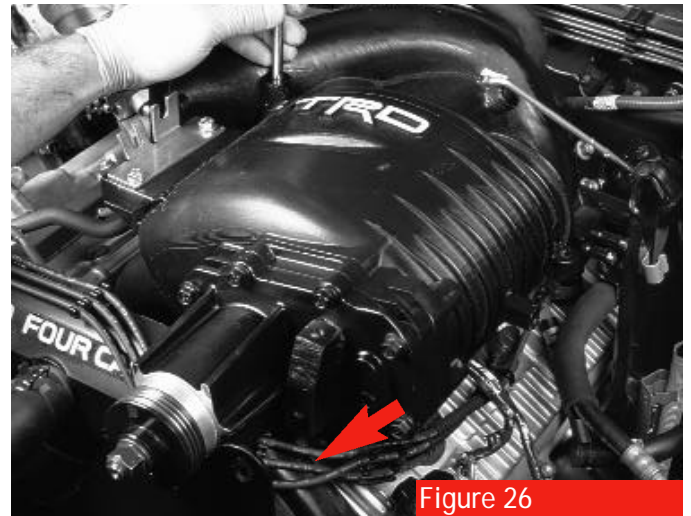


Figure 26

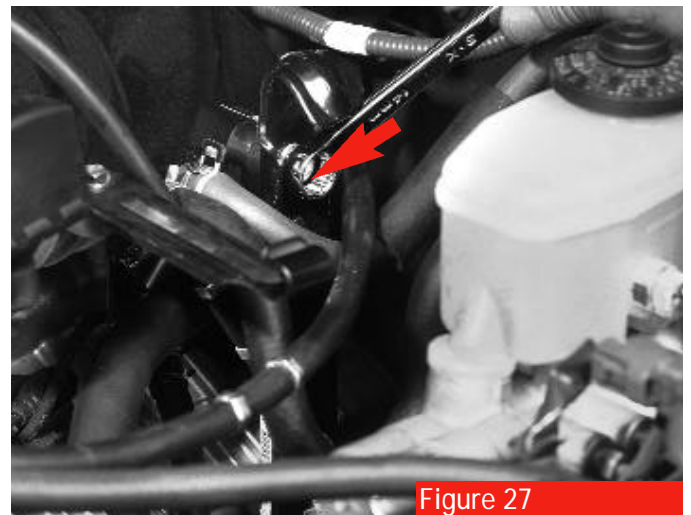


Figure 27

Installation Instructions for 3.4-liter V6 Supercharger Kit

1996 and newer 4Runner, 1997-1998 T-100,
1997 and newer Tacoma, 2000 and newer Tundra

6. Place the drive belt over the water pump pulley, the crankshaft pulley and the alternator pulley (**figure 28**). Make sure the belt is on the correct sides of and properly seated in the grooves of each pulley.
7. To assist in belt installation, using a 3/8" long handle ratchet (**figure 29**), pull down in direction of **arrow** to provide slack on belt.
8. Install the power steering and A/C belts according to the marks you made before removal (**see section 2, figure 2, page 2**).
9. Install the TRD-supplied dipstick relocation bracket (**see arrow, figure 30**) utilizing the factory bolt. Reinstall the factory dipstick and attach it to new bracket using the TRD-supplied bolt (6mm x 1.0 x 12mm) and the washer (6mm flat). Torque both bolts to 10 ft./lbs.

NOTE: Be sure to maintain proper dipstick tube seal at oil pan. Check rubber grommet at end of dipstick tube for engagement.

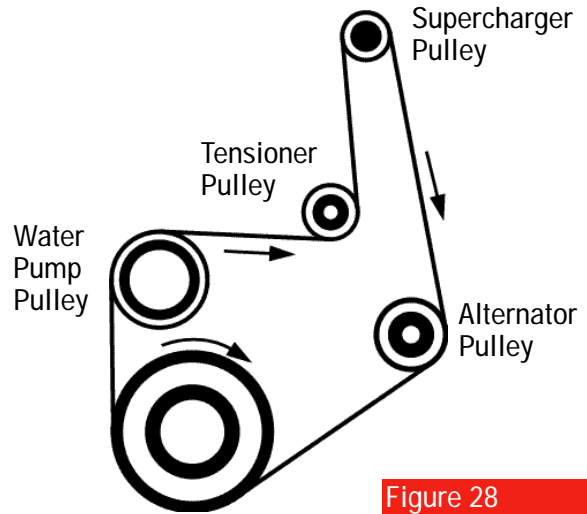


Figure 28

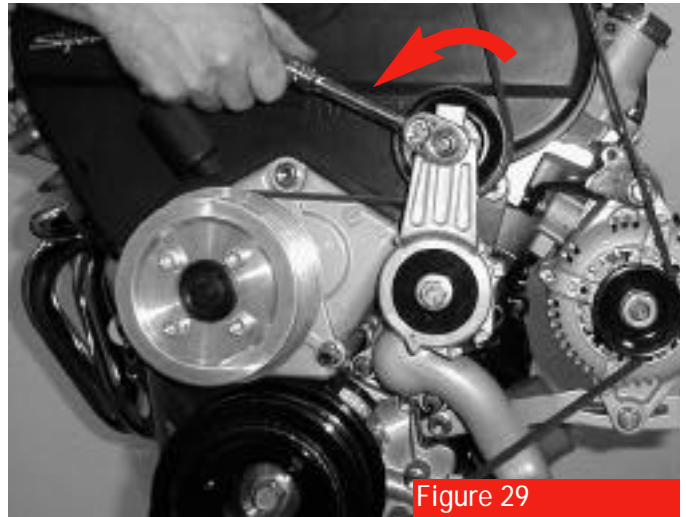


Figure 29

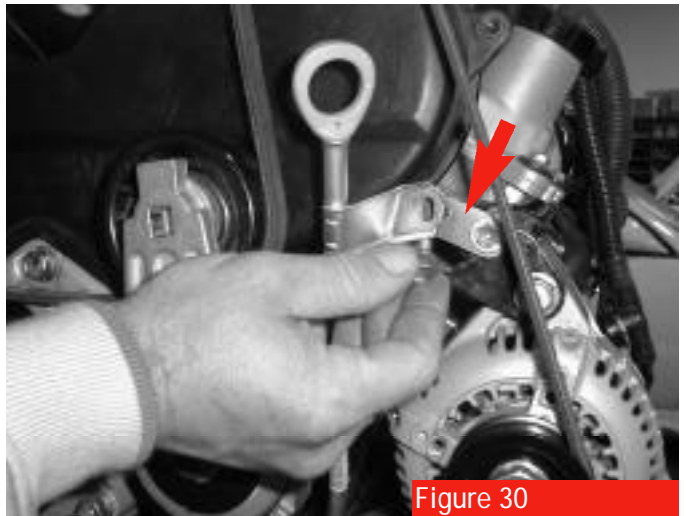


Figure 30

C. Throttle Body and Air Tube Installation

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

- Using the gasket, the Allen bolts and washers supplied, 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.

- Torque each bolt to the specs provided in the Toyota Shop Manual. Do not overtighten.
- Install the throttle position sensor plug, the coil plug (if removed), and the IAC valve connector.
- Attach the PCV hose to the PCV valve on the passenger's side of the engine.
- 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).
- 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.
- Remove the transmission cable clamp from the manifold support. Clamp is no longer needed.
- Remove the throttle cable/evaporative canister hose bracket and bolt from the stock manifold. Install the bracket on to the supercharger as shown (see arrow A, figure 33). Insert the throttle cable and evaporative canister hose, and install the supplied hose clips 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.*

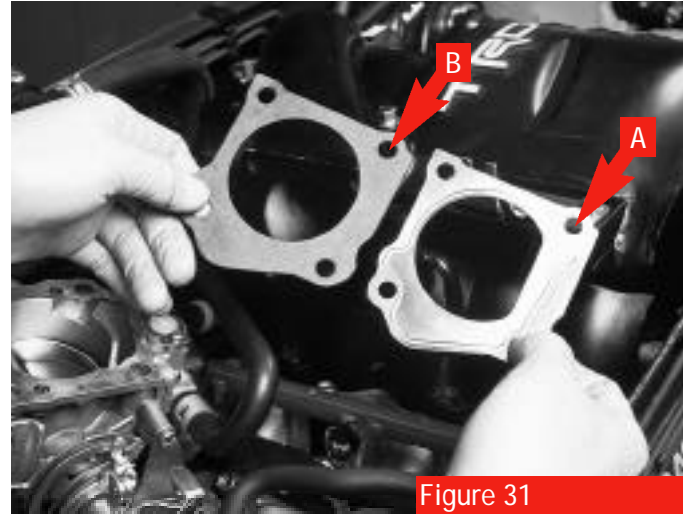


Figure 31

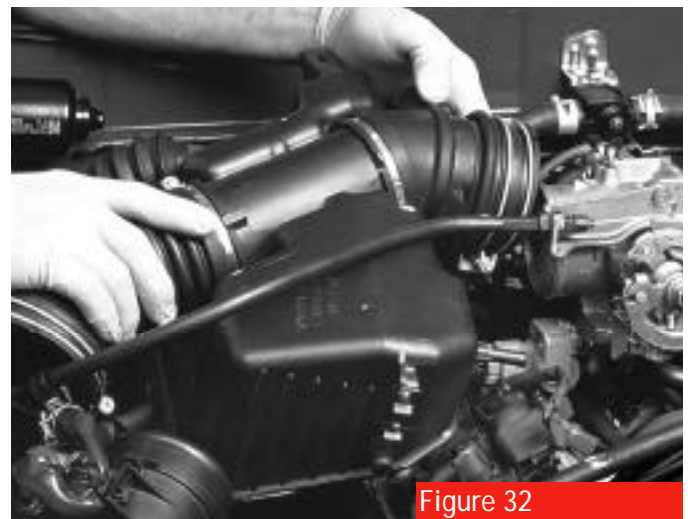


Figure 32

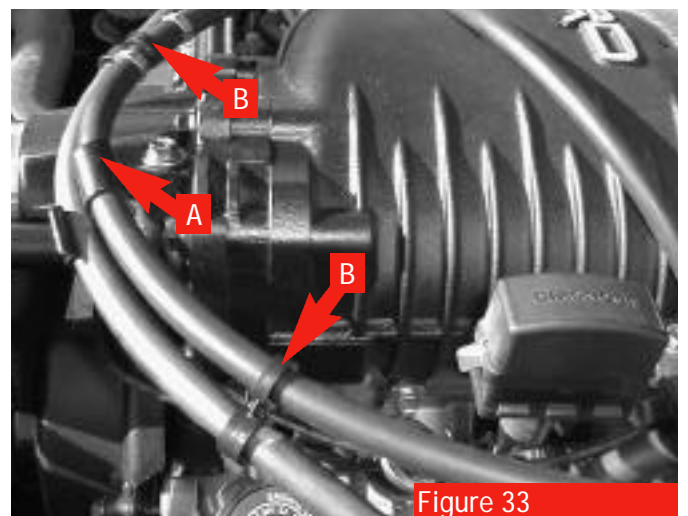


Figure 33

Installation Instructions for 3.4-liter V6 Supercharger Kit

1996 and newer 4Runner, 1997-1998 T-100,
1997 and newer Tacoma, 2000 and newer Tundra

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.

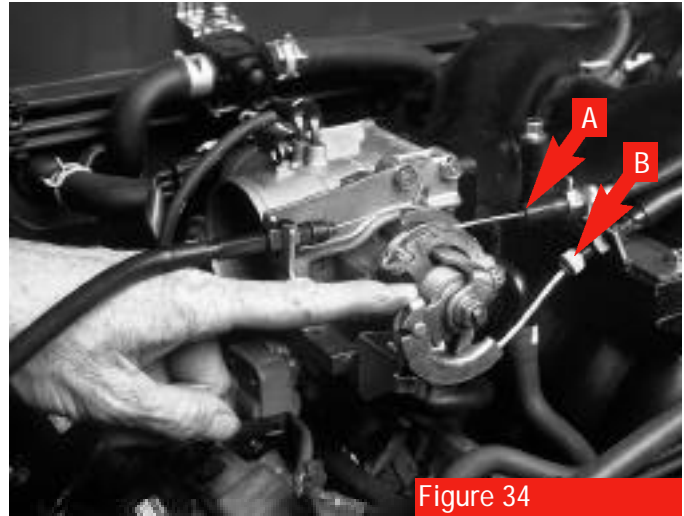


Figure 34

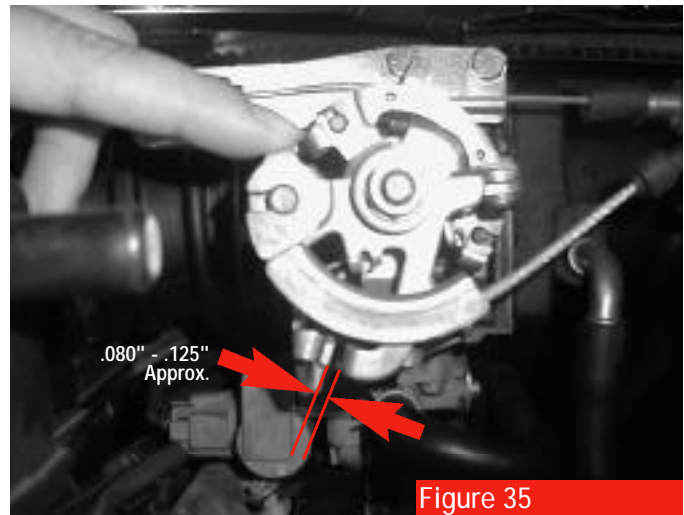


Figure 35

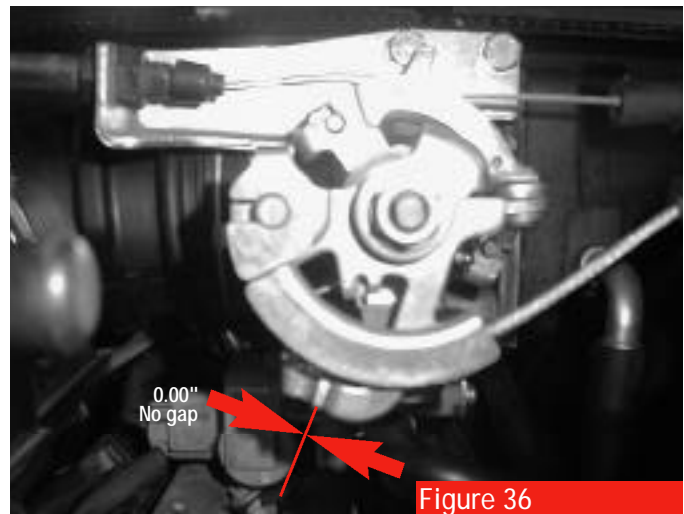


Figure 36

Installation Instructions for 3.4-liter V6 Supercharger Kit

1996 and newer 4Runner, 1997-1998 T-100,
1997 and newer Tacoma, 2000 and newer Tundra

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.

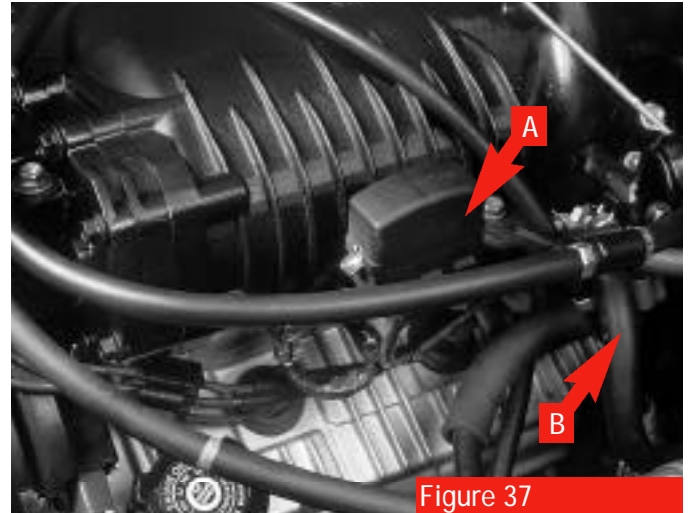


Figure 37

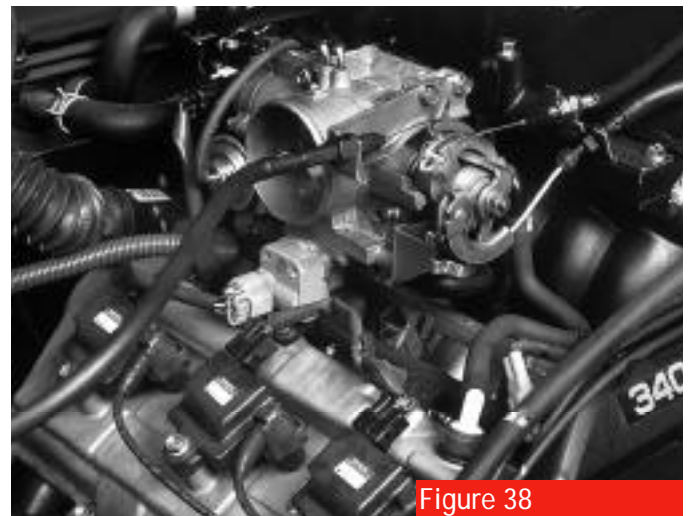


Figure 38

Installation Instructions for 3.4-liter V6 Supercharger Kit

1996 and newer 4Runner, 1997-1998 T-100,
1997 and newer Tacoma, 2000 and newer Tundra

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.

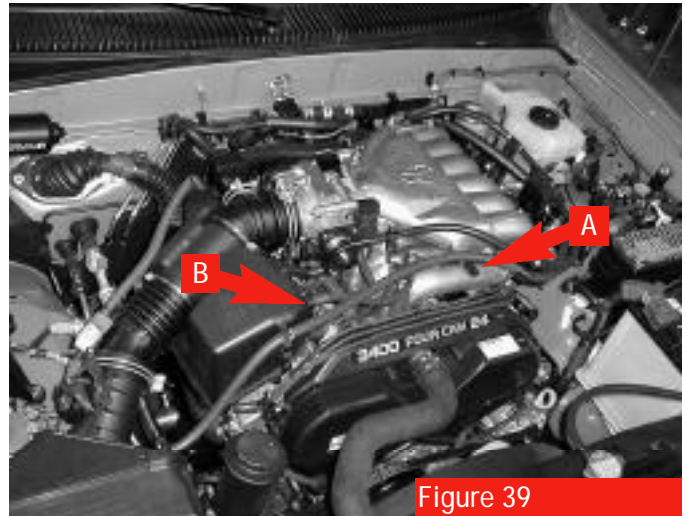


Figure 39

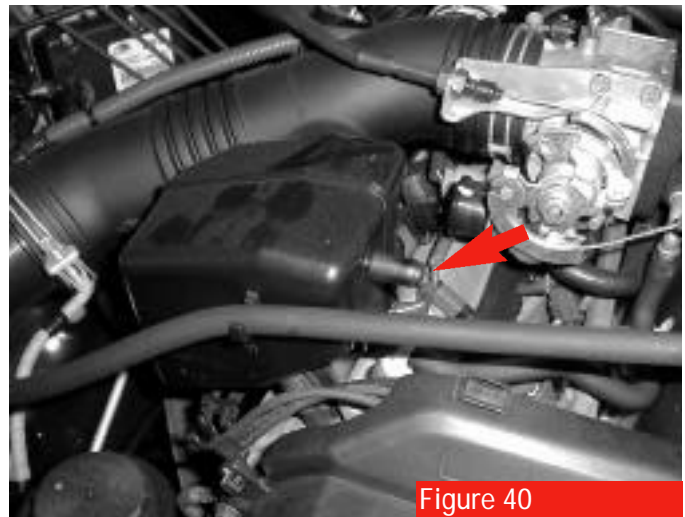


Figure 40

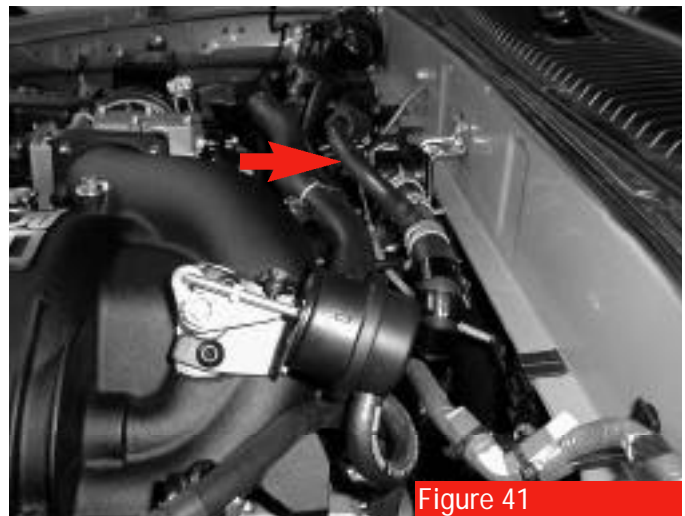


Figure 41

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.

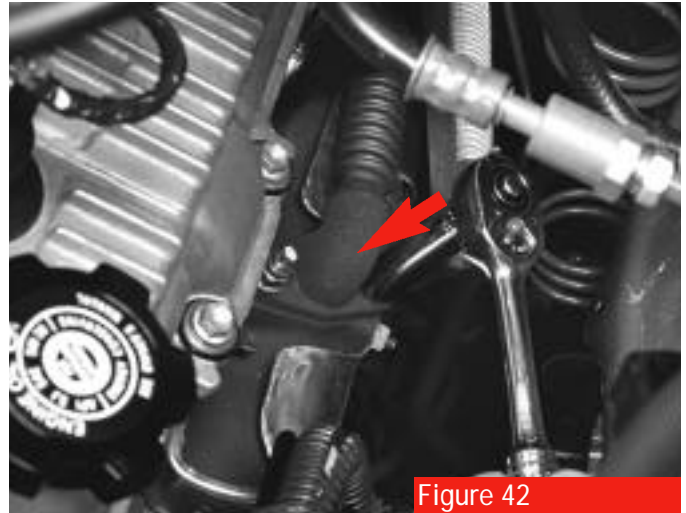


Figure 42

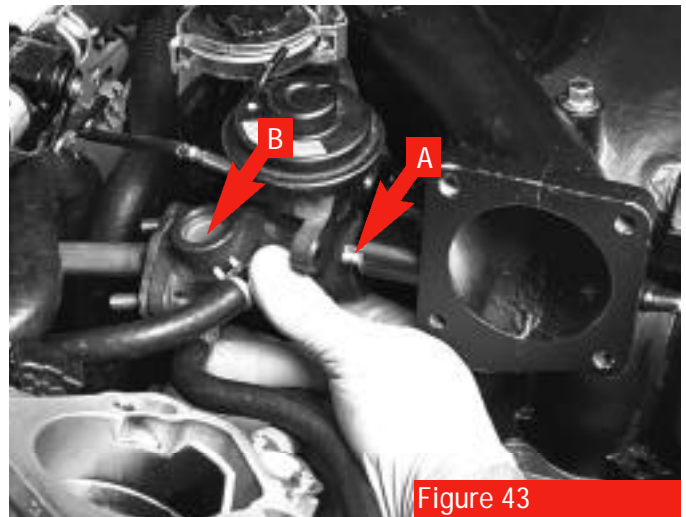


Figure 43

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.

Installation Instructions for 3.4-liter V6 Supercharger Kit

1996 and newer 4Runner, 1997-1998 T-100,
1997 and newer Tacoma, 2000 and newer Tundra

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.

Installation Instructions for 3.4-liter V6 Supercharger Kit

1996 and newer 4Runner, 1997-1998 T-100,
1997 and newer Tacoma, 2000 and newer Tundra

Figure A

Year	2001 and newer
Model	4Runner 2WD

Notes:

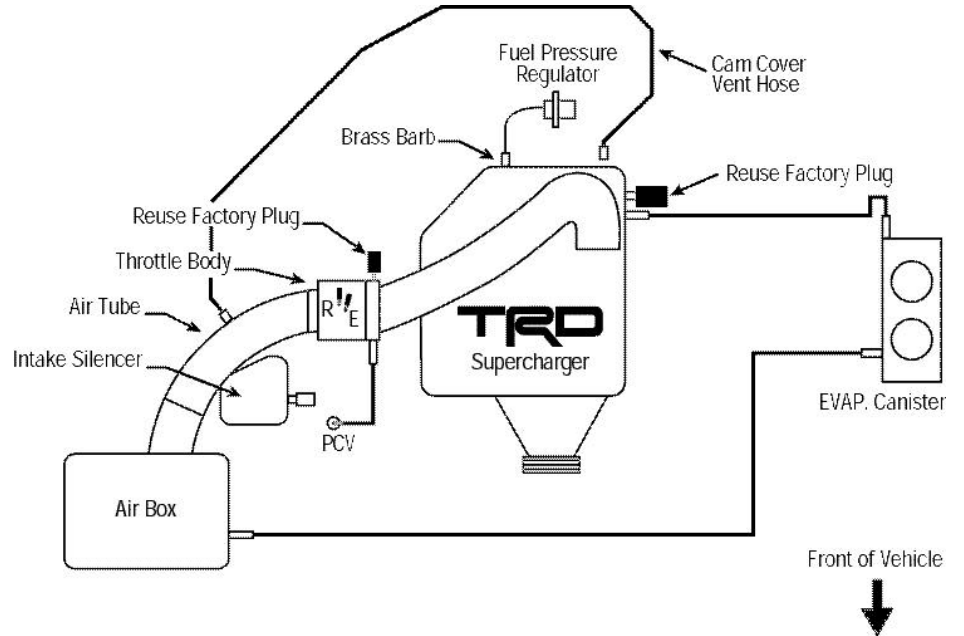
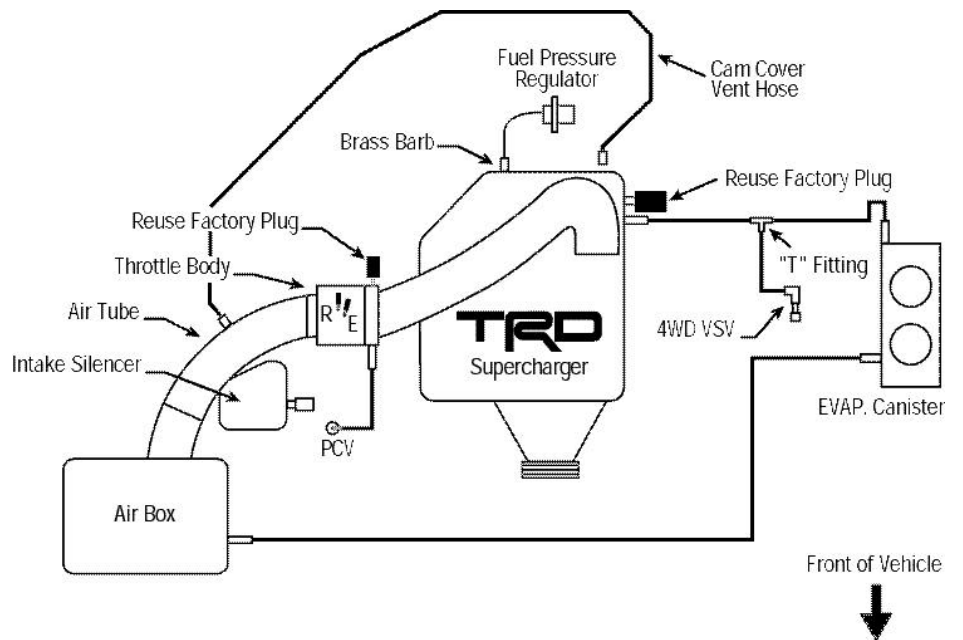


Figure B

Year	2001 and newer
Model	4Runner 4WD

Notes:



1997-2001 Tacoma, 1997-1998 T-100,
1996-2001 4Runner

Figure C

Year	2001 and newer
Model	Tacoma 2WD

Notes:

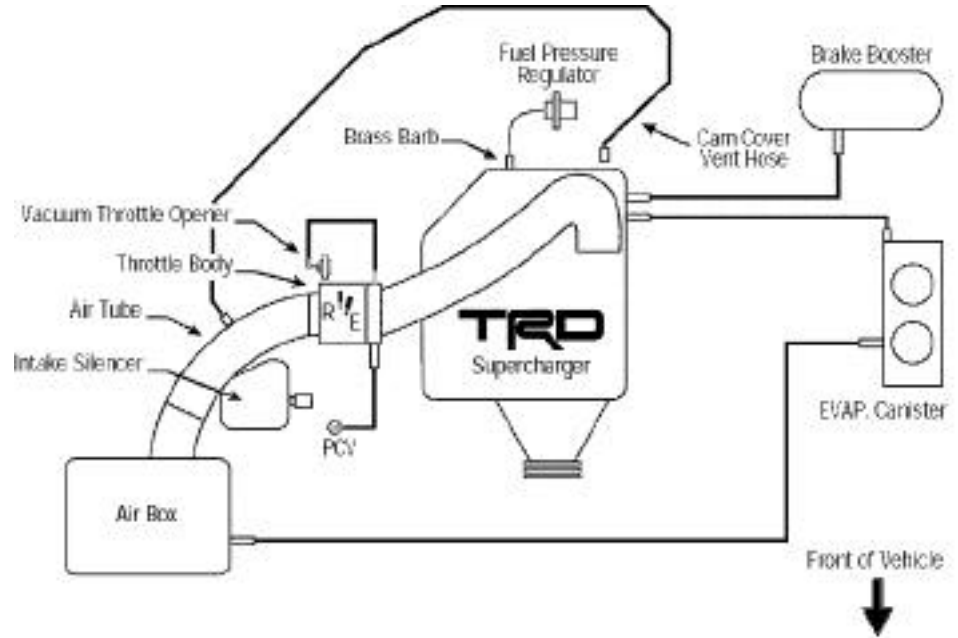
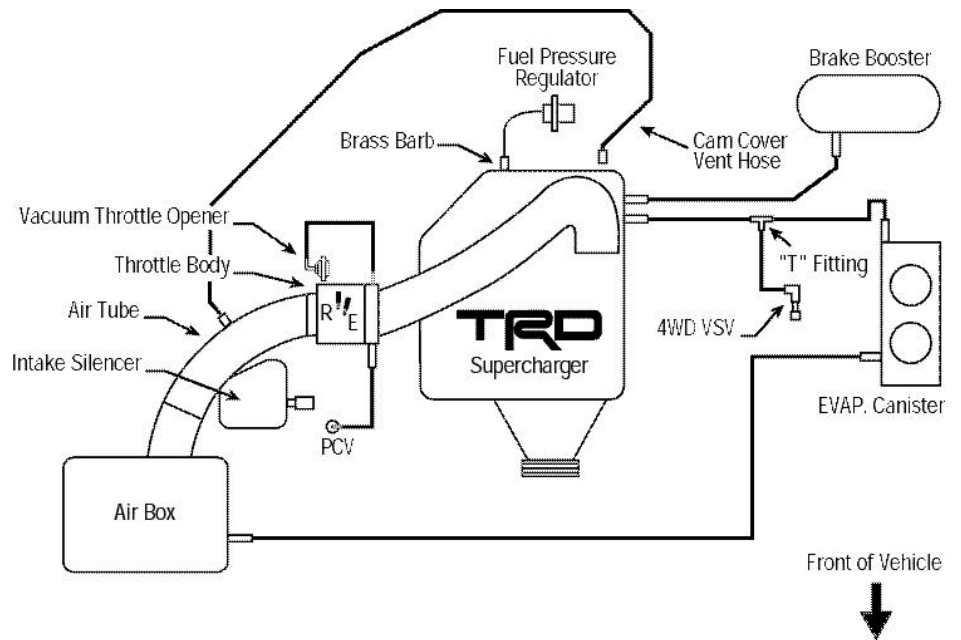


Figure D

Year	1997-2001
Model	Tacoma 4WD

Year	1996-2000
Model	4Runner 4WD

Notes:



Installation Instructions for 3.4-liter V6 Supercharger Kit

1996 and newer 4Runner, 1997-1998 T-100,
1997 and newer Tacoma, 2000 and newer Tundra

Figure E

Year	1997-1999
Model	Tacoma 2WD, EGR

Notes:

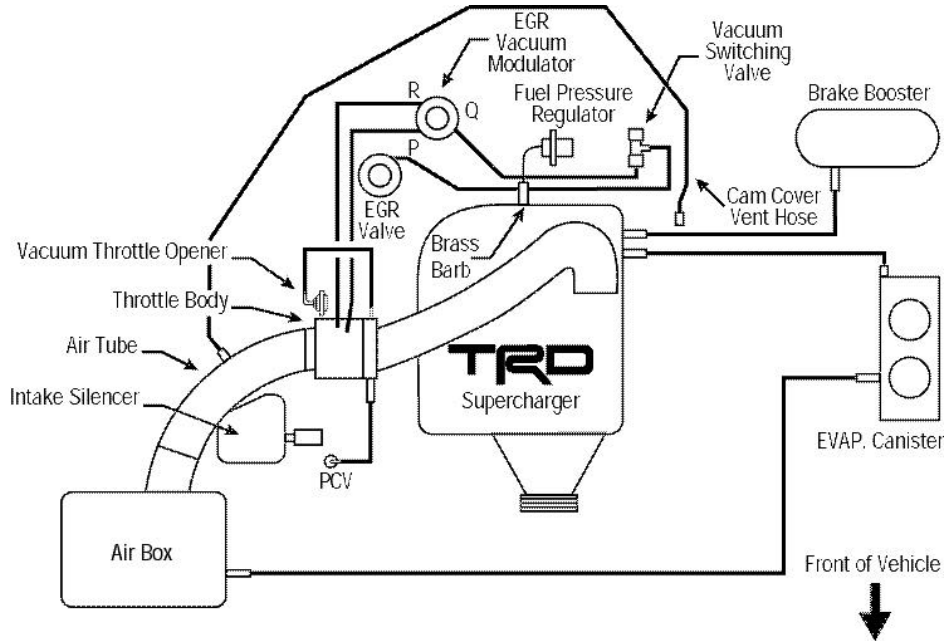
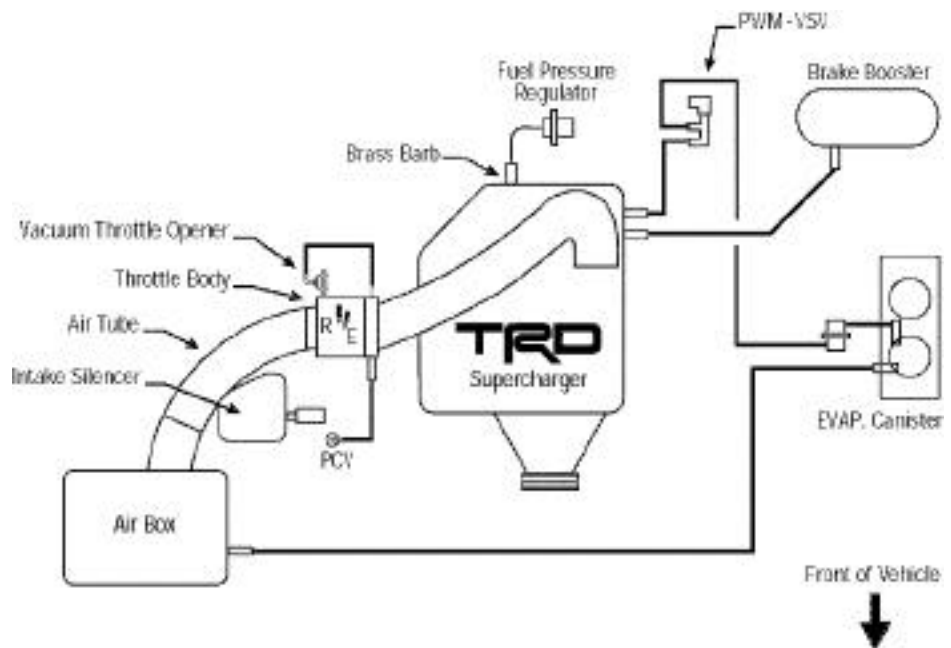


Figure F

Year	2001
Model	Tundra V6

Notes:



Installation Instructions for 3.4-liter V6 Supercharger Kit

1996 and newer 4Runner, 1997-1998 T-100,
1997 and newer Tacoma, 2000 and newer Tundra

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.

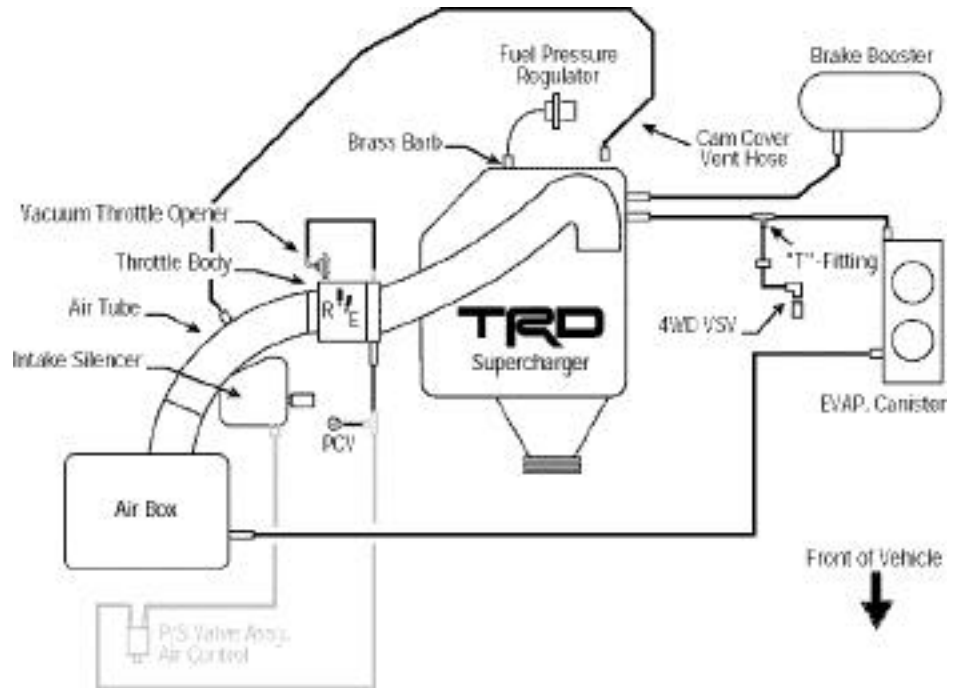
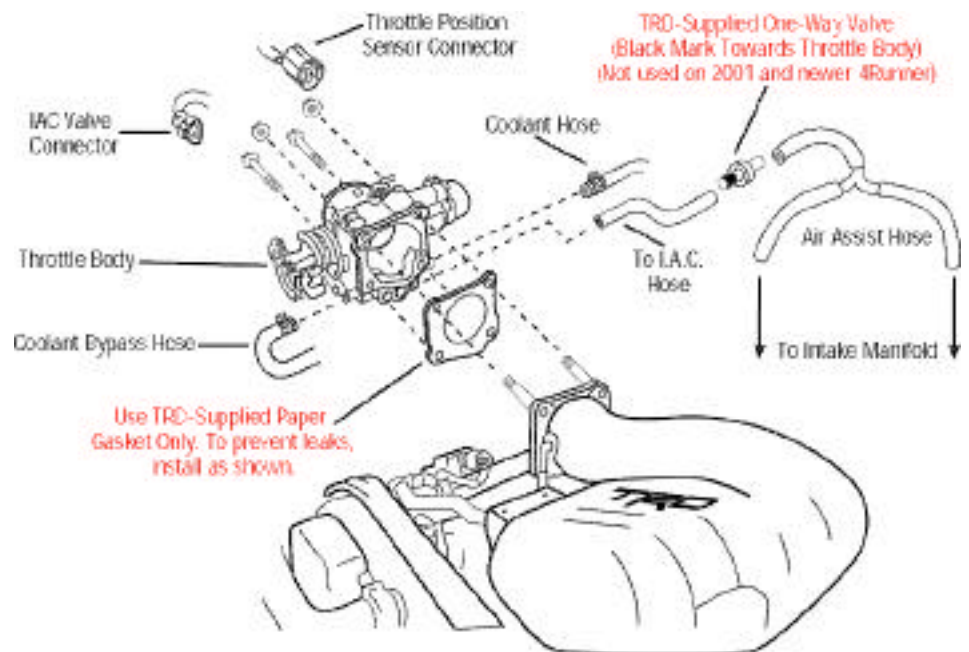


Figure H

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.