

Instruction Manual

Scion xA/xB

2004-up models 5speed and Automatic

BLITZ

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VERSION 2.0 3/05

Safety Note

■ In beginning

- * Please read this thoroughly and fully understand this instruction manual.
- * Please have a factory service manual on hand. Refer to service manual for any addition procedures not provided in this instruction manual.
- * By installing this product, Blitz Co., Ltd. (Japan) will not be responsible for any damages, injuries, incidental parts and be liable for any type of cost and damages.
- * Please acknowledge that Blitz Co., Ltd. (Japan) and any of Blitz Co., Ltd. (Japan)'s Dealers will not be liable for any damages to the vehicle or injuries.
- * Blitz Co., Ltd. (Japan) has the right to change/upgrade any kits without prior notice.
- * Please look through the parts list before the installation of this product. Make sure that all parts are available before installation. If any parts are missing, please contact your place of purchase.
- * Please tighten the nuts/bolts securely with a suitable tool. Please do not over-tighten the bolts. Over-tightening the bolts may result in damage to the bolts, to the unit itself, and cause operating malfunctions.

Important Note:

- * This kit was produced for a standard stock car. In the case where this kit is installed on a vehicle other than stock, we are unable to guarantee its functional efficiency and durability of the product.
- * Please be careful when installing this product, whereas no foreign objects or liquids get into it. The result of foreign materials getting mixed into the products may cause malfunctions in the products.
- * During installation, in case of any uncertainties, it is important to have a factory service manual at hand. When there is no technical assistance, please refer to service manual.
- * Before test-driving the vehicle, make sure that everything is fully functioning in the vehicle. Check fluid levels such as oil, fuel, and water. Driving the vehicle with leaks may result in engine damage or even car fire.
- * This kit requires High Octane fuel. Low Octane fuel may generate knocking, and if knocking persists, it may result in engine detonation. Please use High Octane gas to prevent such a situation.
- * In the case where the kit is installed, please replace the "stock" spark plugs with "high heat-range" spark plugs. <We recommend Blitz Iridium 77 Spark Plugs>
- * Please do not attempt to disassemble the items within the kit. It may cause a change in computer pitch settings which may result in engine damage.
- * Blitz also recommends the use of intake systems (Sus Power Air Cleaner#26059/Sus Power Core type LM () to increase response and top-end power.
- * Blitz also recommends using a Nur W axle back exhaust system for less back pressure and increased flow #67050B/Mt2010xA.
- * Remove the EFI fuse for 15 second or more to reset ECU. Reconnect the fuse and check it.
- * Let the engine idle for 5-10 minutes until idle settles.
- * In the kits that include Fuel Controllers, please do not disassemble it for any reason. Doing so may cause the pitch settings to falter, which may result in engine damage.

< Installer >

After installation is complete, please be sure to return this instruction manual to the customer. Before starting job, please be sure to inspect the parts before installation.

■ Please make sure that there are no cracks in the factory hoses and belts. Also the car is in good running condition and does not need any type of maintenance or repair. If the car needs service please do so before installing the Blitz Compressor kit.

Check and familiarize yourself with all parts provided in this kit before installing.
















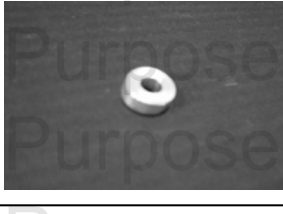

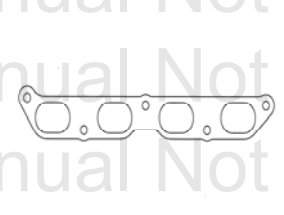
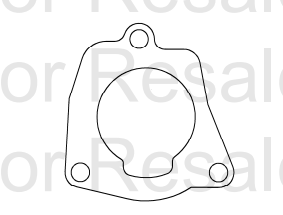

(2) Application





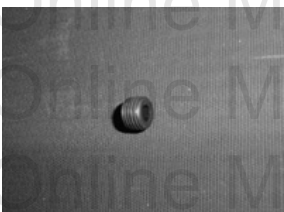






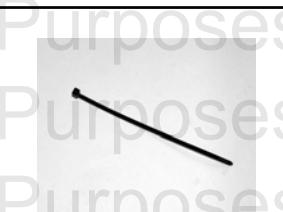

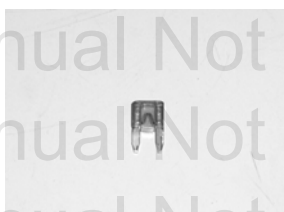






- * Product name: **BLITZ COMPRESSOR SYSTEM**

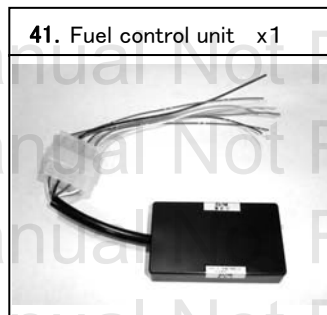
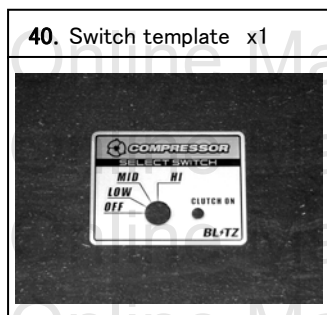
For Scion xA/xB 2004-up Models

Automatic and 5 speed

(3) Part list

1. Compressor Assy x1 	2. Compressor tube x1 	3. Intake manifold x 1 	4. Intake pipe x 1 
5. Compressor gasket x 1 	6. Alternator bracket x 1 	7. Bracket A x 1 	8. Tension bracket B x 1 
9. Bracket x 1 	10. Trans. Bracket x 1 	11. Dip stick bracket x 1 	12. Tension bolt x 1 
13. Tension adjuster x 1 	14. Pulley x 1 	15. Spacer x 1  $\phi 22-\phi 12 \quad h=16.5\text{mm}$	16. Spacer A x 1  $\phi 18-\phi 8 \quad h=7\text{mm}$
17. Spacer B x 2  $\phi 22-\phi 10 \quad h=4\text{mm}$	18. Ex. Manifold gasket x 1 	19. Throttle body gasket x 1 	20. Belt x1 

21. Vacuum fitting large x 2 	22. Vacuum fitting small x 1 	23. S/C activation box x1 	24. Relay harness x 1 
25. Press port plug x1 	26. Fuel regulator x1  NOT USED IN USA MODELS.	26B. Fuel regulator x1  NOT USED IN USA MODELS	27. Silicone hose x1 
28. Large hose clamp x2 	29. Small hose clamp x2 	30. Large wire ties x10 	31. Small wire ties x10 
32. Blitz emblem x 1 	33. 20v Amp fuse x 1 	34. Wire loom x 1 	35. Blitz warning decal x2 
36. Instruction manual x1 	37. Wire taps x11 	38. M/F bullet connectors 	39. Activation switch x1 



① Flange Bolt M6 × 16 7ヶ

② Flange Bolt M6 × 35 2ヶ

③ Flange Bolt M8 × 20 1ヶ

④ Flange Bolt M8 × 30 2ヶ

⑤ Flange Bolt M8 × 35 1ヶ

⑥ Flange Bolt M10 × 25 1ヶ

⑦ Flange Bolt M10 × 35 1ヶ

⑧ Big Bolt M10 × 55 3ヶ

⑨ Cap Bolt M6 × 25 2ヶ

⑩ Cap Bolt M8 × 20 2ヶ

⑪ Cap Bolt M8 × 30 2ヶ

⑫ Flange Nut M6 6ヶ

⑬ Flange Nut M8 2ヶ

⑭ Flange Nut M10 2ヶ

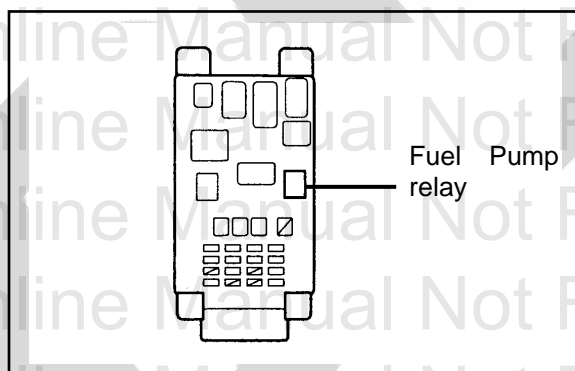
⑮ Washer M10 3ヶ

⑯ Stud Bolt M6 5ヶ

⑰ Stud Bolt M8 3ヶ

⑱ Flange Bolt M8 × 45 1ヶ

(4) Relieving fuel pressure on fuel pump Under Dash Fuse box



(1) Locate and remove the fuse box panel under dash. (It is located under the dash on the drivers side). Locate and remove fuel pump relay. It is the blue relay on the right hand side above the fuses

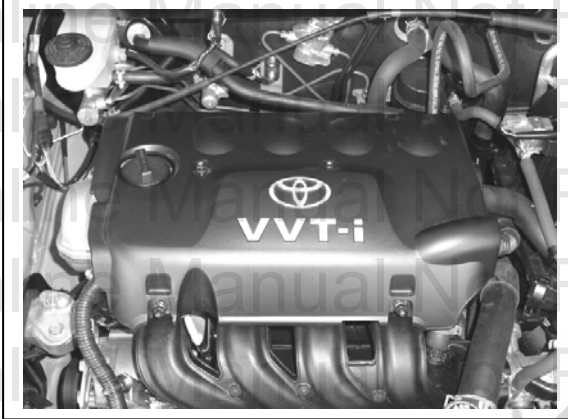
(2) Start motor and let the engine use up the excess fuel pressure (motor will stop in 10-15 sec due to no fuel pressure). Turn Ignition off after the car has stopped.

(3) Remove the negative terminal of the battery.

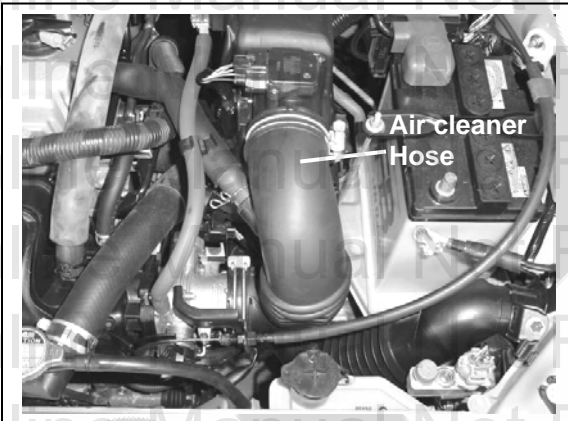
(4) Reinstall fuel pump relay.

* As for circuit opening relay it is under the right of the driver's seat handle.

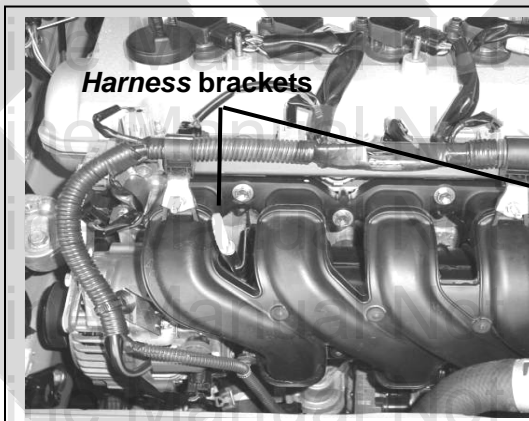
(5) Removal of OEM/factory parts



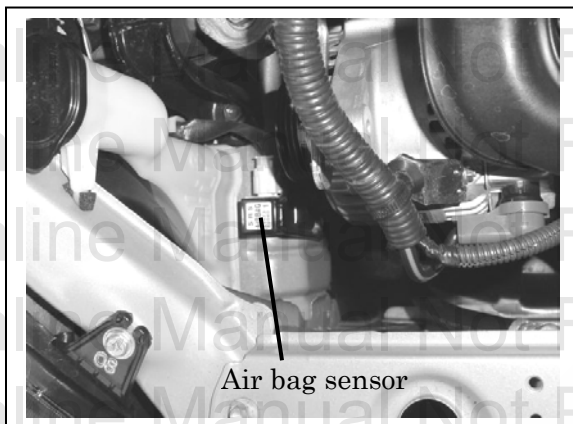
1. Remove engine cover.



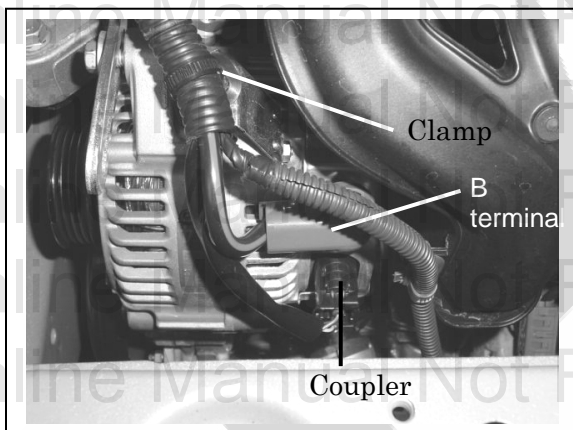
2. Remove the factory air cleaner hose.



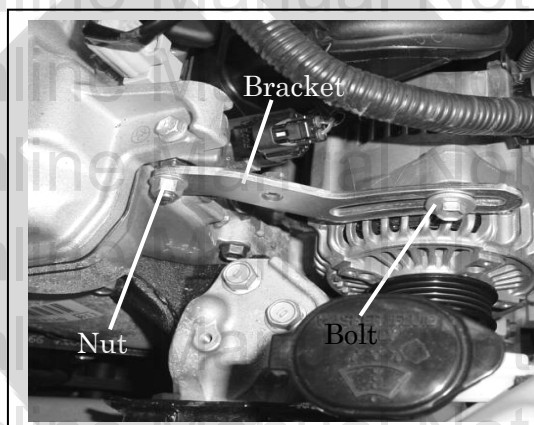
3. Remove the 2 bolts connecting engine harness to intake manifold. Remove brackets from engine harness.



4. Remove air bag sensor. ***WARNING**
Make sure the battery is disconnected*

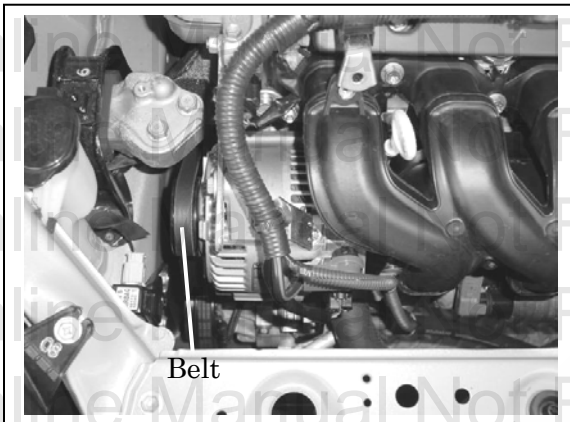


5. Remove alternator harness. Remove strap, +12V terminal, and the connector plug.



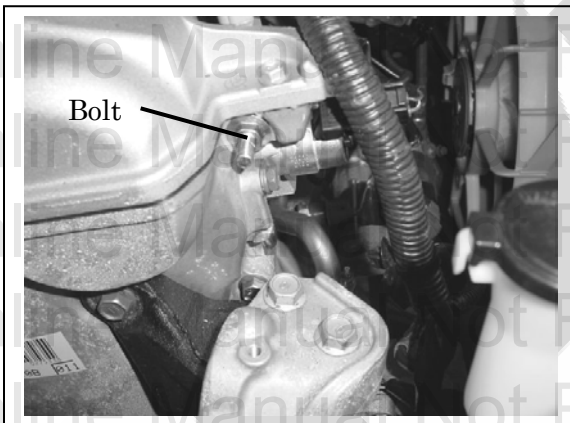
6. Loosen adjustment bolt, Remove alternator belt.

7. Remove nut, bolt, and alternator bracket as illustrated.

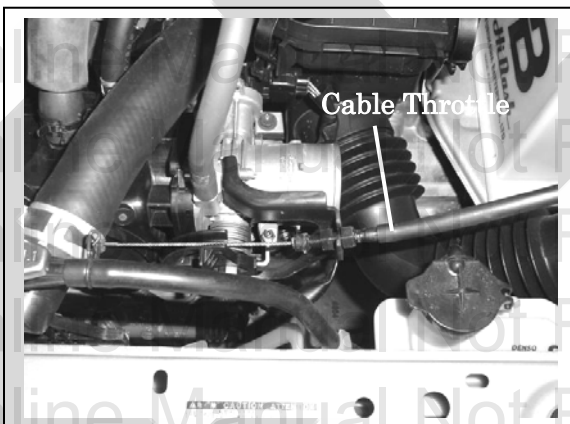


8a. Remove bolts under the Alternator.

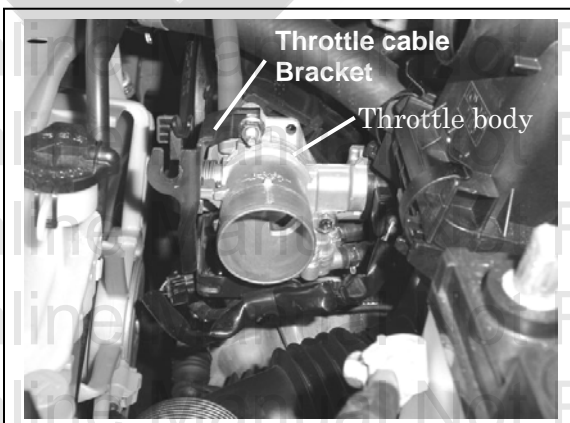
8b. Remove Alternator (see factory manuals for reference).



9. Remove bolt as illustrated.

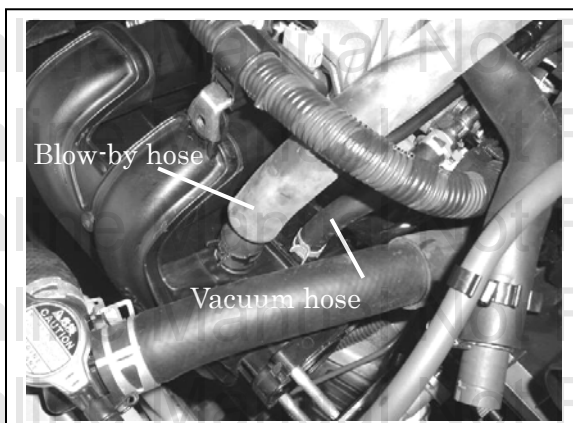


10. Remove Throttle Cable.

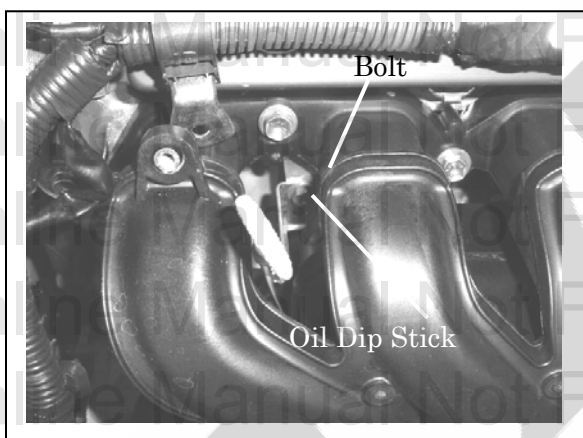


11. Remove throttle body, nut (2), bolt (1).
Remove throttle cable bracket and gasket.
Leave coolant lines attach to throttle body.

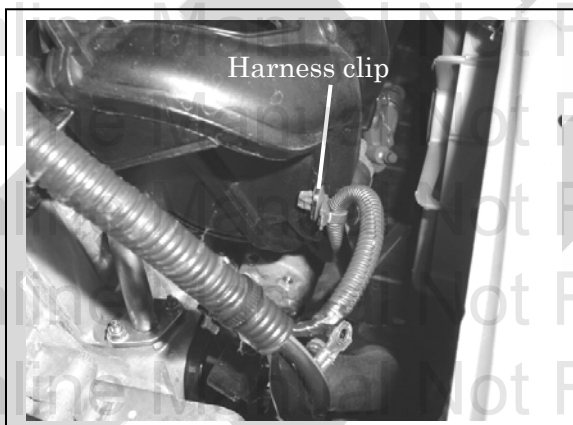
Put throttle body on the side so it will not get in the way.



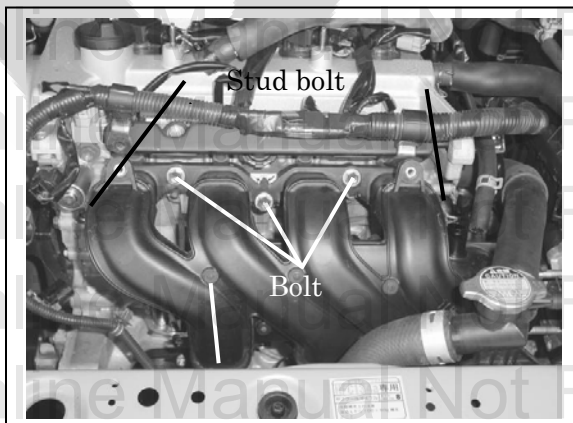
12. Remove blow-by hose and vacuum hose as shown in illustration.



13. Remove the bolt (1) on the dip stick bracket. Remove dip stick.



14. Remove all harness attachments on the intake manifold.



15. Remove intake manifold bolts (3) and nuts (2). Remove intake manifold.

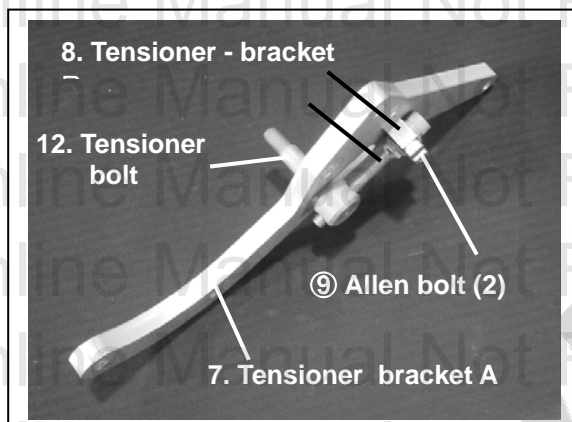
*If intake manifold is hard to remove, remove studs bolts first.

16. Remove intake manifold studs bolts off the cylinder head.

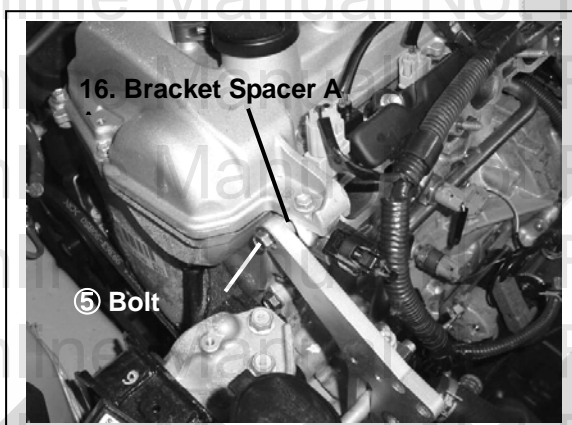
Note: Torque Specification

M6	7.38 Lbs/Inch
M8	13.6 Lbs/Inch
M10	25.8 Lbs/Inch

(6) Manifold and compressor mounting

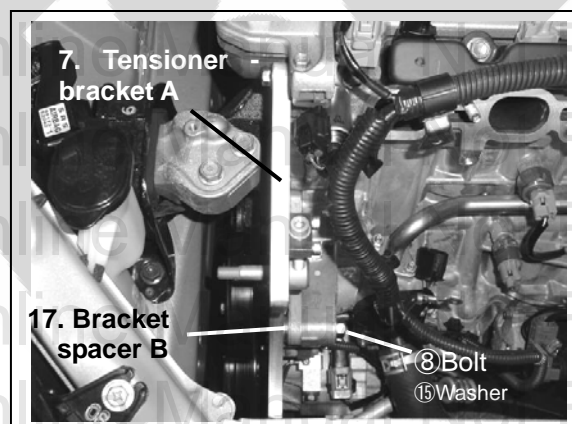


1. Using #7. bracket, assemble tensioner as illustrated. Attach adjuster bolt to #12 tensioner bolt. Attach #8 bracket with #13 adjuster bolt and secure bracket with ⑨ Allen bolt (2).



2. Use #16 (Bracket Spacer A), Attach # 7 tensioner bracket using the ⑤ bolt.

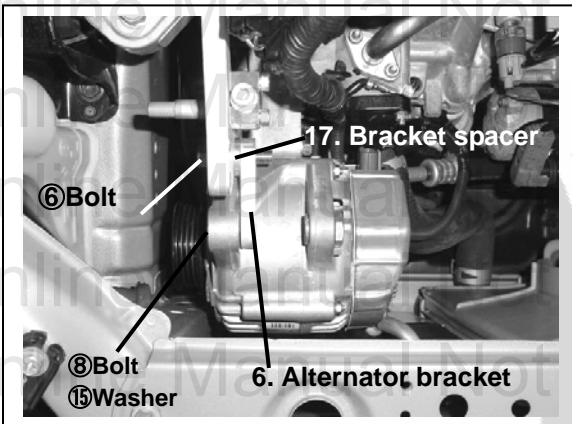
*Hint: Leave a little play on the assembly so it will make installation step #23 easier.



3. Using ⑧ head bolt (1), ⑮ washer (1), and #17 Bracket Spacer B -- attach the #7 bracket as shown in illustration.



4. Remove the alternator bracket as shown in the illustration.



5. Using the ⑥ bolt (1) and #17 bracket spacer B (1), attach #6 alternator bracket as shown in illustration. Install the alternator upside down. Using the ⑧ head bolt (1) and ⑮ washer (1), attach alternator to #6 Alternator Bracket.

6. Using ⑮ bolt (1) and ⑬ nut (1), attach the alternator on bottom alternator mount.

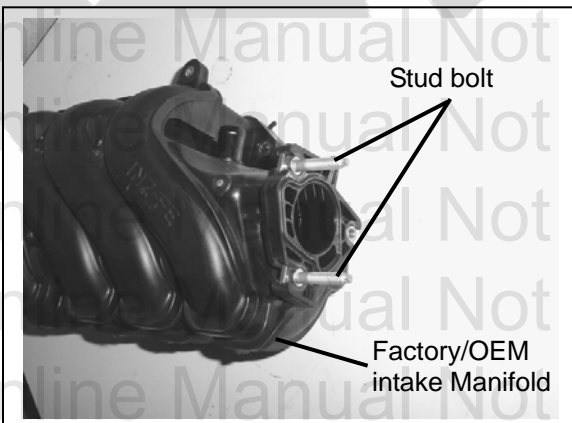
7. After installing alternator, make sure the A/C line does not interfere with belts. If it does, push the A/C line forward and make sure the alternator has enough clearance.

8. North American models will have addition A/C lines near engine mount (not shown here). Please adjust A/C line to clear alternator pulley. Please find a suitable spot where the A/C line will not interfere with the pulleys and tie the line down with zip ties.

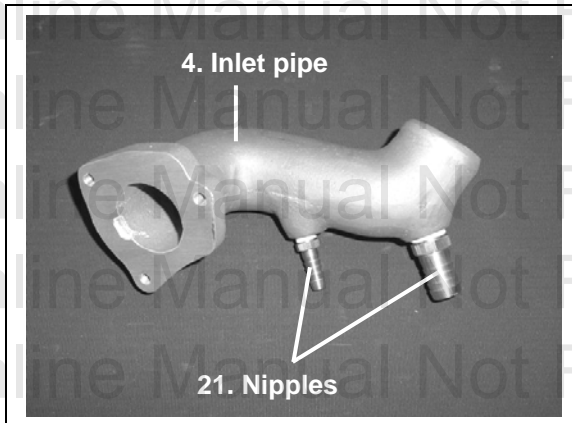
WARNING:

* Be sure that the alternator does not hit the front A/C line. The motor will torque forward when under driving conditions. Please make sure there is enough clearance between the A/C line and alternator. Also be careful when adjusting A/C lines, do not use tools to adjust, this might damage the lines and cause leakages.

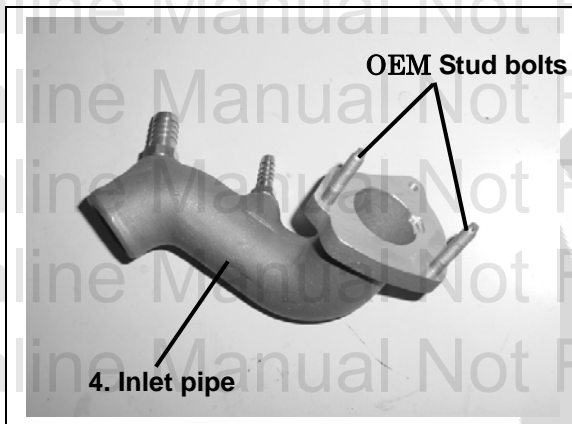
9. Reinstall air bag sensor.



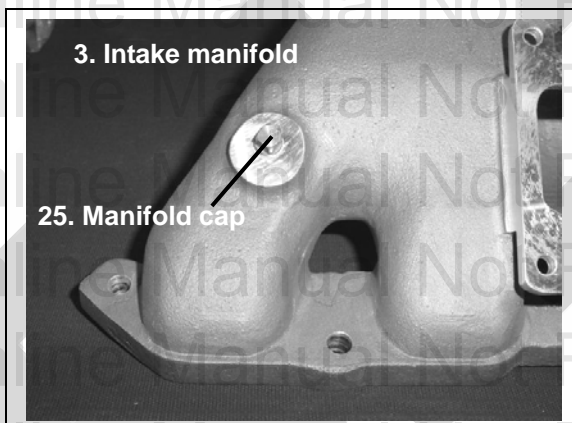
10. Remove studs bolts from intake factory intake manifold, as illustrated.



- 11.** Attach #21 Nipples (2) to #4 Inlet pipe.
 *Please use teflon tape to ensure proper sealing.



- 12.** Install OEM Stud bolts into #4 inlet pipe as shown.



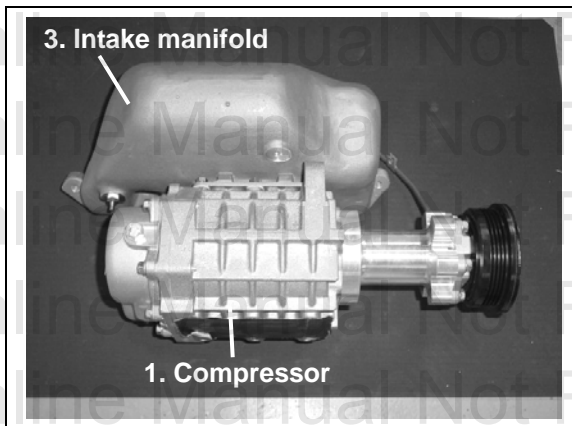
- 13.** In #3 Intake manifold, use #25 manifold cap.

* If a boost gauge is applicable, use #22 for vacuum source.

* Please use teflon tape to ensure proper sealing.



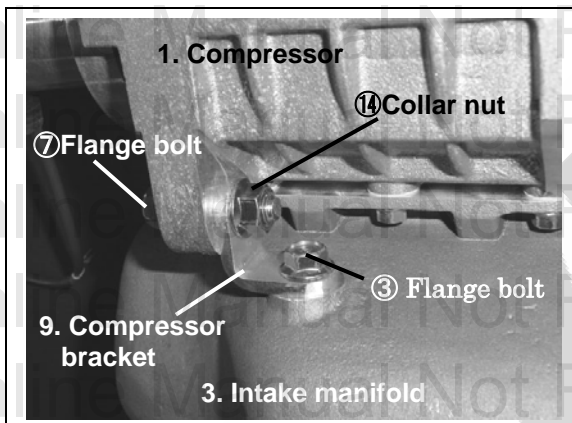
- 14.** Using ⑩ Stud bolt (5), install all 5 stud bolts into compressor. Install studs into circles as illustrated.



15. Attach compressor onto the intake manifold. Make sure the #5 Compressor gasket (1) is installed.

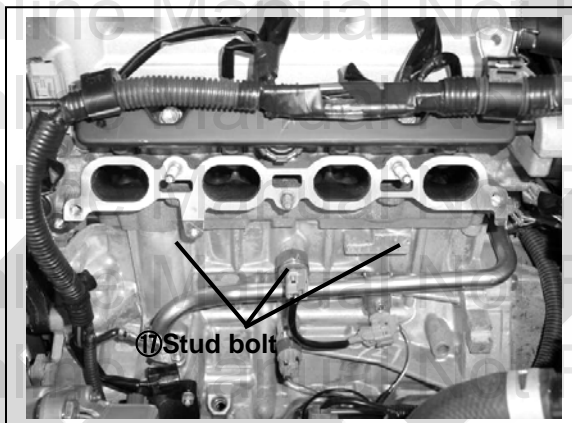
※ In place of stud bolt use ⑫ nut (5).

Use the ① bolt (1) for the last open hole.



16. Use #9 Compressor bracket to attach compressor and intake manifold. Use the ③ bolt (1), the ⑦ bolt (1), and the ⑭ nut (1) as shown in illustration.

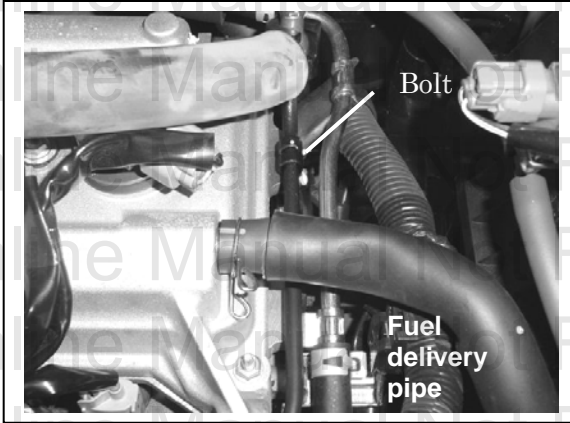
*Hint: Using #11 Bracket, attach flat end to ⑦ bolt, prior to bolting on #9 Compressor Bracket. Leave a little play on #11 Bracket, it will allow the installation of the dip stick easier. (refer ahead to Installation #25)



17. Install ⑰ Stud bolt (3) as shown in illustration.



18. Remove transmission bolt as shown.



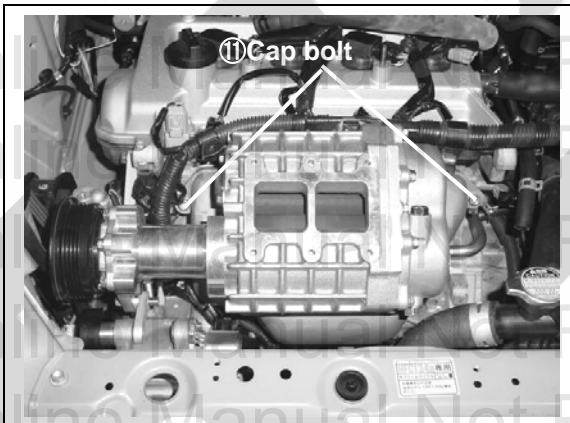
19. Remove bolt from the fuel delivery pipe bracket.



20. Remove the 2 bolts holding down the fuel rail. **NOTE:** You need to shift the fuel rail to install the intake manifold and the compressor.

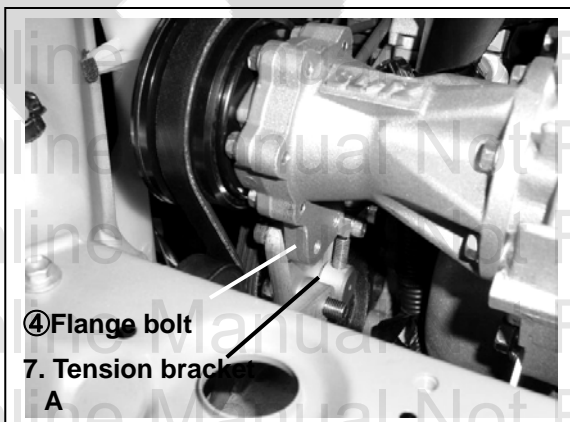
*Hint: Reinstall genuine dipstick 180 degrees from original position (Pointing towards front of vehicle.) – prior to installing the compressor and manifold. Refer ahead to #25 instruction.

* **WARNING:** Be careful when taking fuel rail off, be sure that the gas pressure is release before fuel rail is removed. When putting the fuel rail back, make sure the o-rings are in good condition. Do not force injectors back into place, this might cause the o-rings to break and cause a fuel leak. If the o-rings are difficult to put back use WD-40 or some type of lubricating fluid to make it easier to install.



21. Put #18 Intake manifold gasket, install intake manifold and compressor. Use genuine intake manifold nut (2), ⑪ Allen bolt (2), and ⑬ nut (1).

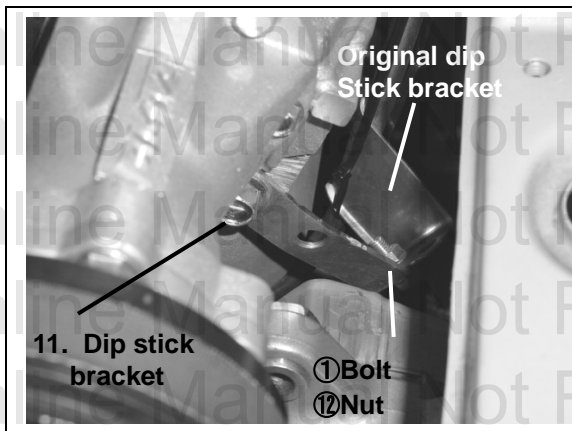
22. Replace fuel rail. Be careful when tightening down bolts holding fuel rail. Please refer to factory manual for specs.



23. Using ④ bolt (2), attach to #7 Tensioner bracket, 2 holes of top of #7 bracket.

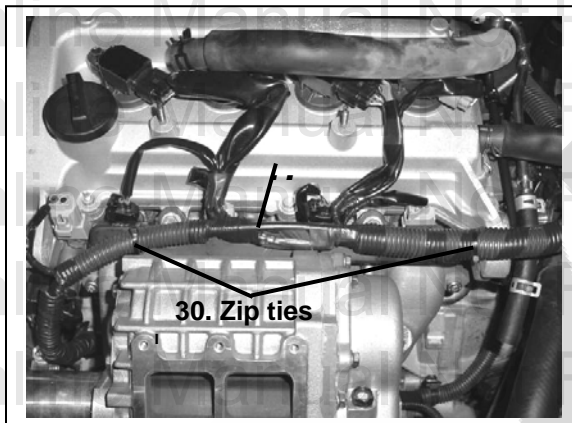
24. Once the compressor is attach to the bracket, **tighten and secure everything down.**

*Warning – Make sure to not over-tighten bolts.

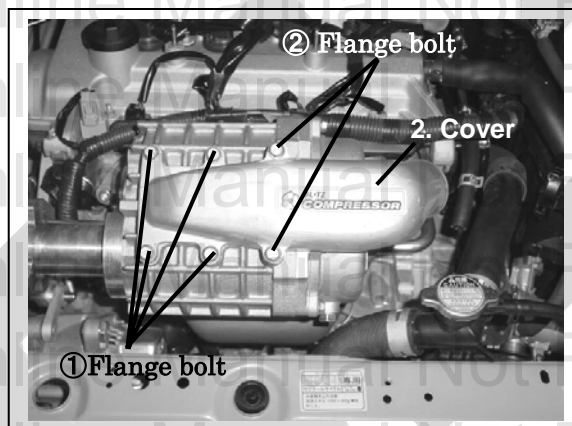


25. Using #11 bracket, attach one end to #9 bracket (this is the bracket holding the compressor and the intake manifold) and the other end to the genuine dip stick bracket. Use ① bolt (1) and ⑫ nut (1) to attach genuine dip stick and # 11 bracket.

*note: make sure everything is secure and tighten down.

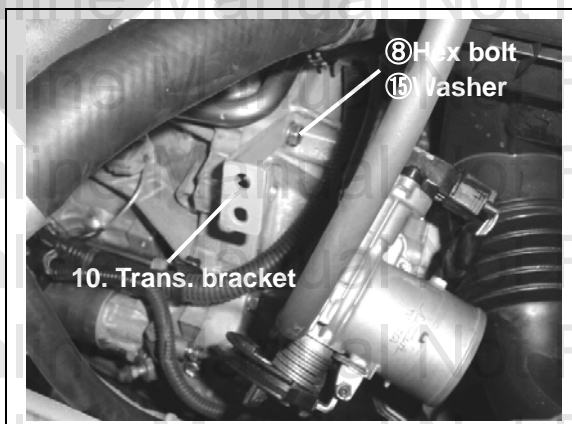


26. Using #30 zip ties, tie down the harness to the fuel rail.

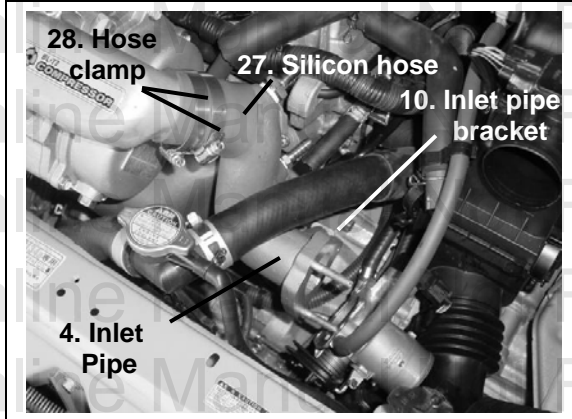


27. Install compressor cover. Use the #5 Compressor gasket, ① bolt (4), and ② bolt (2).

*note: make sure not to over tighten ① Flange bolt(s).

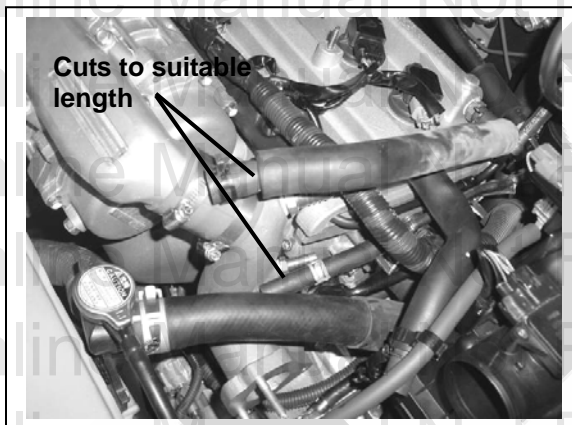


28. Using #10 bracket, attach to transmission as shown, using the ⑧ bolt (1), and the ⑮ washer (1). *Do not secure the bracket yet.



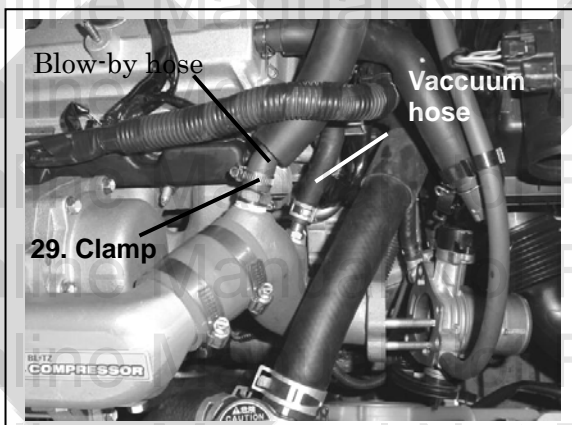
29. Using #27 Silicon hose, and #28 hose clamp (2) attach the #4 inlet pipe. Attached temporarily.

30. Using ⑩ Allen bolt (2), attach #10 bracket to #4 inlet pipe. Secure down bracket and inlet pipe.

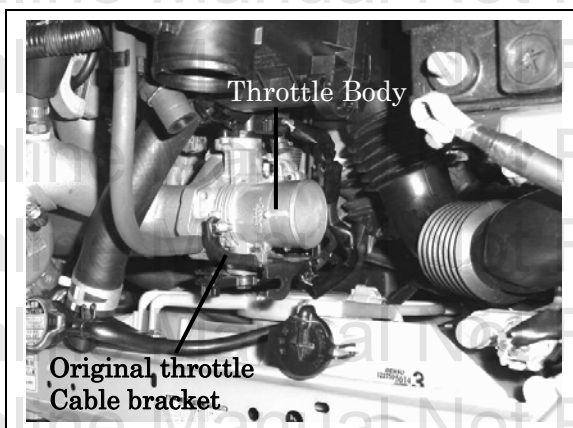


31. Installing the blow-by hose and vacuum line.

**** Because the blow-by hose and the vacuum hose will be long please cut to appropriate length.

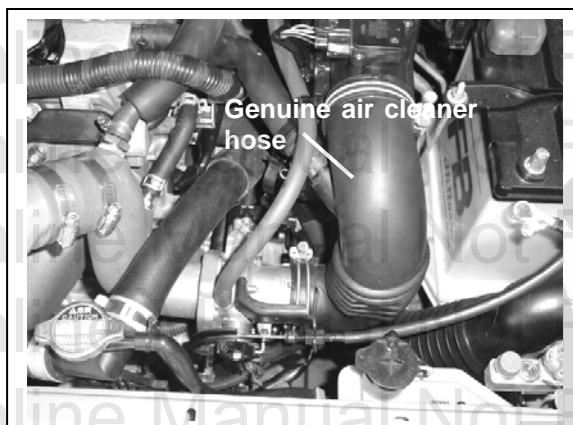


32. Using #29 hose clamp, secure down the blow-by hose. Use factory clamp for vacuum line.



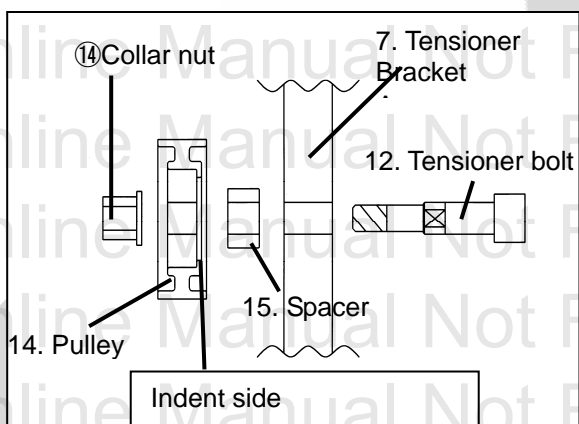
33. Use #19 throttle body gasket and reinstall the throttle body and the throttle cable bracket.

* Use factory bolts and nut.

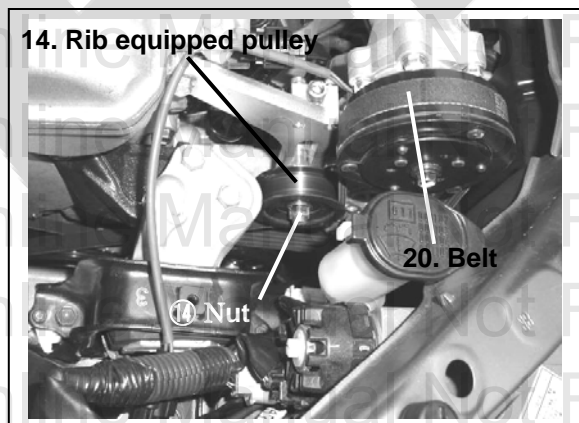


34. The factory air cleaner hose is re-installed.

Use factory hose clamps. Make sure all vacuum lines are installed in the correct position.

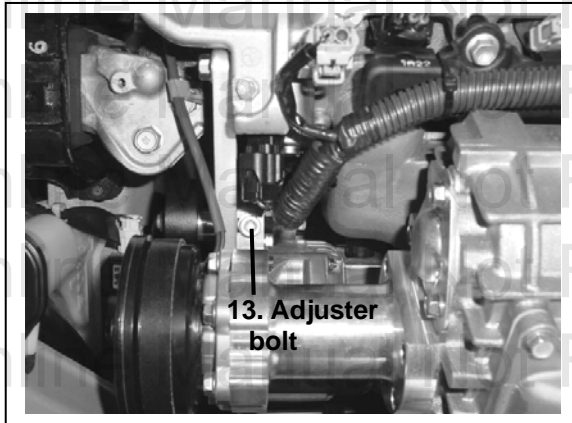


35. Attach tensioner pulley as shown in illustration. **Make sure that #14 pulley is installed as shown, with indent facing towards spacer.

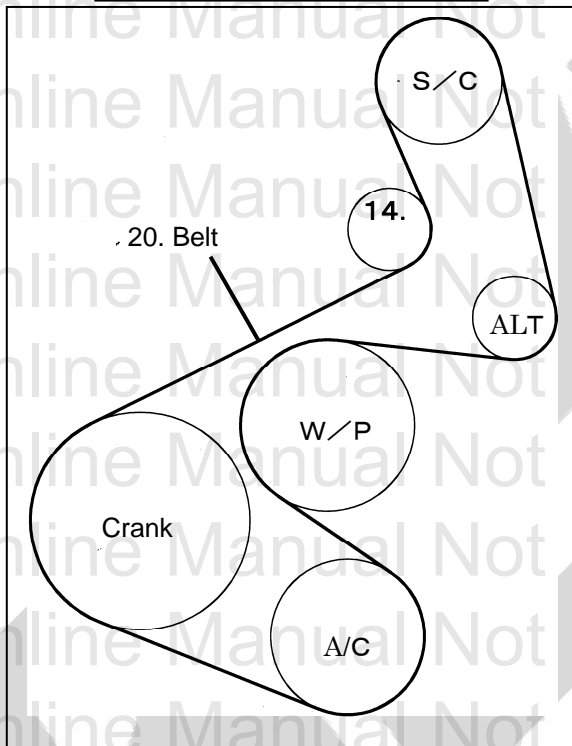


36. Install compressor belt (#20).

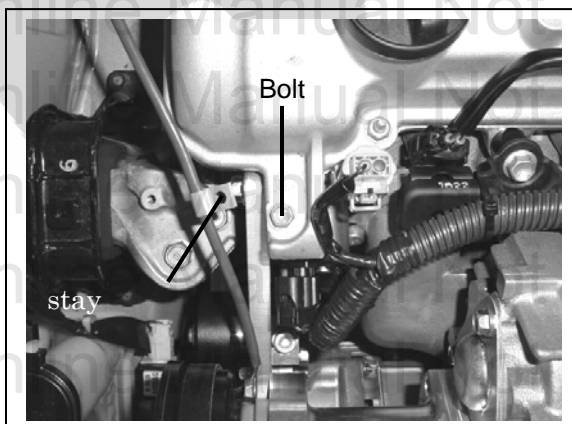
- * Be sure the ⑭ nut holding the tensioner pulley is not tight.
- * Be sure the tensioner pulley is all the way up.
- * Please put the belt over the water pump last.
- * Adjust tensioner until belt is tight, then tighten down ⑭ nut.



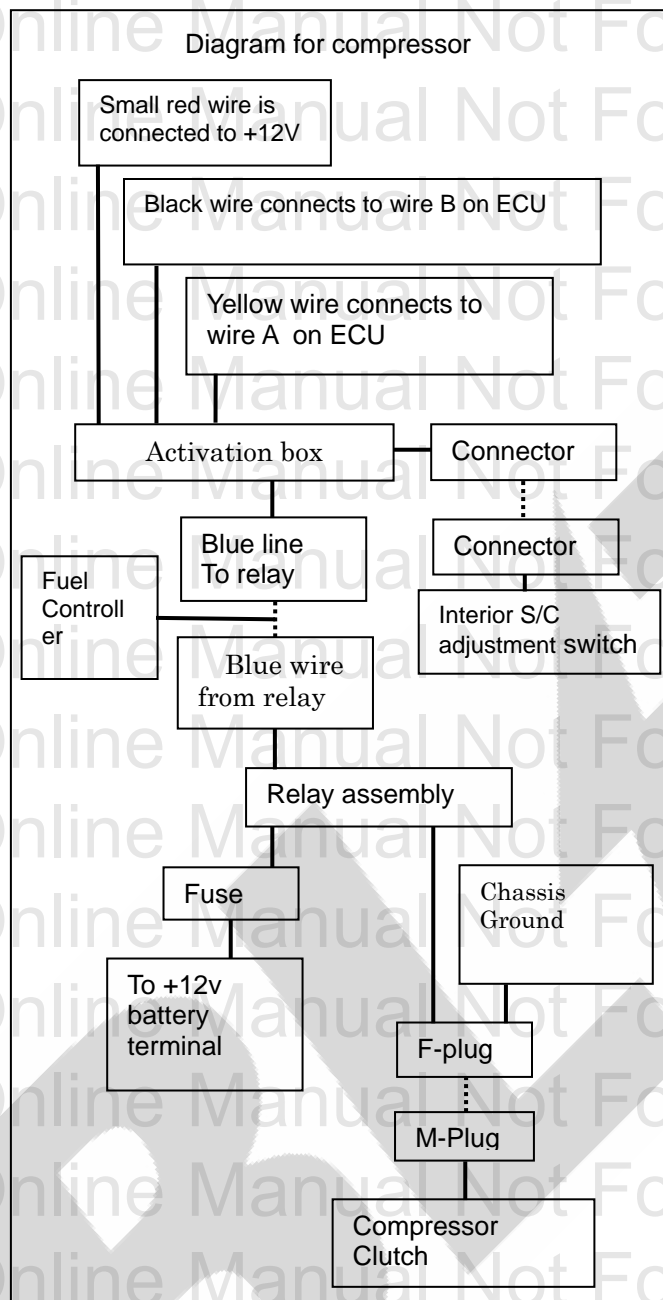
Belt illustration



37. Follow this illustration for pulley installation. Be sure the belt is installed correctly.



38. To secure compressor harness, use the factory valve cover bolt as shown in illustration.



Part 39. Wiring and routing of relay harness

In the Engine Bay

1. Connect the female relay harness plug to the male harness plug which comes out of the compressor . Make sure the harness plugs are connected securely.

2. Find a suitable location away from engine heat and moisture, and securely mount the relay to the body of the car. Using an existing 10mm bolt, ground the short red non-fused wire coming off the supercharger harness. Make sure plug is locked securely in place on the relay.

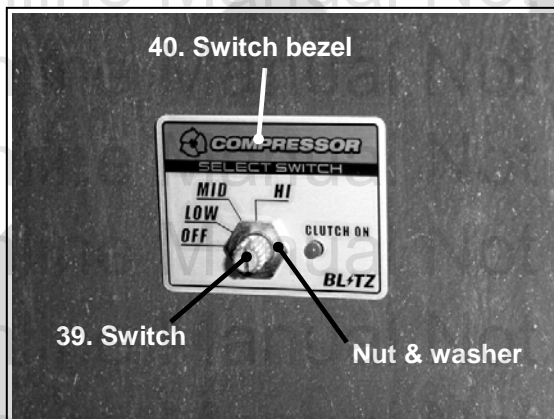
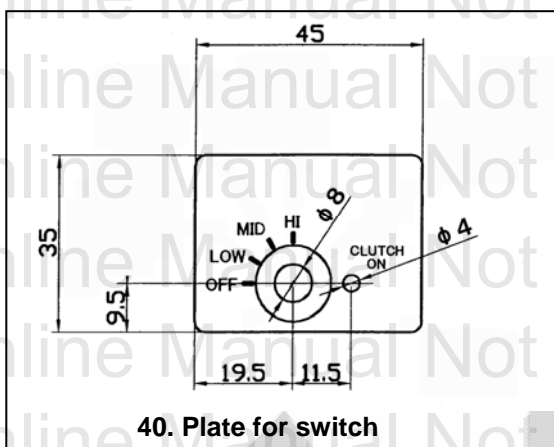
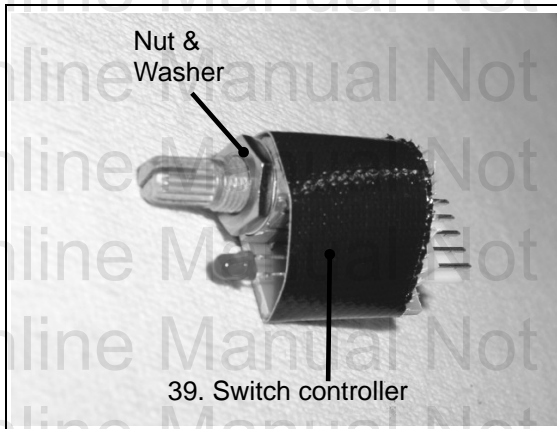
3. Connect the fused red wire from the relay harness to the +12v power terminal on the battery

4. Route the blue activation wire into the interior of the car on the passenger side.

****note:** The blue wire will be connected to the Activation Box.

5. Use the included zip ties and wire loom to secure the relay and wires. Make sure the routing of the wires do not interfere with any moving parts in the motor including the S/C pulley and belts.

Note: Make sure the wires are properly connected to 12V Battery power and ground. If the connections are not solid the supercharger may not activate correctly.

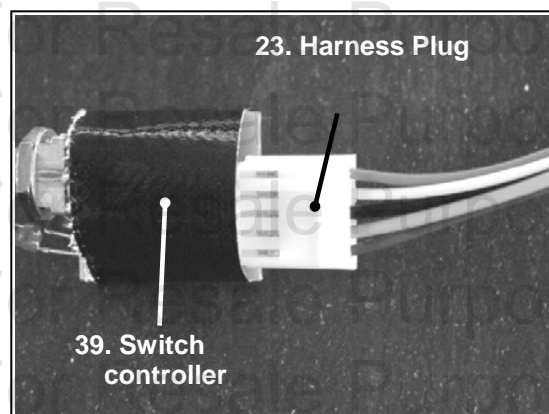


Part 40. Switch controller and bezel installation.

1. The nut and the washer of the switch controller are removed.
2. Find a suitable place to mount the switch controller and switch bezel. As for drilling hole size, please refer to 2nd illustration.
3. Make two holes, one for the switch and one for the LED. Refer to figure for sizing. After holes have been made, put switch controller in and test fit the switch bezel.
4. If everything fits correctly, remove paper backing and apply bezel into place. Reapply washer and nut back onto switch controller. Make sure area is clean so the adhesive will stick, otherwise clean area before installation.
5. Turn nut clockwise and lock into place. Do not over tighten. Make sure nut is snug and will not vibrate loose.

Note: Please turn the adjustment knob to the "OFF" position. Align the knob to the off position on the bezel and put it on.

6. Plug in the 5 wire harness plug from the activation box to the switch controller.
7. Check to see that the plug is securely attached. Please make sure wiring does not come in contact with metal or any moving parts. Wire tie down any excess wires if necessary. Find a suitable location to mount the activation box.
8. Run all the wires, except the red wire from the activation box, to the passenger side glove box area. (Leave the red wire on the driver's side for now.)



ECU/Under Dash wiring

(Wiring for the activation box)

1. Remove the engine control computer cover underneath the passenger side glove compartment. *Hint: removing the Factory glove compartment will make this part of the installation easier.(To remove, unlatch glove box and pull in an upward motion. Box is clipped onto dash.
2. Connect to the blue wire coming out from the firewall (from the outside relay) to the blue wire coming from the activation box and to the #5 (green) wire coming out of the Fuel controller.
**note: blue – (blue + green)
3. Connect the yellow wire coming off the activation box to wire “A” on the ECU. This is location #21 on the 34 pin harness that is located as the first harness plug on the far left on the ECU (closest to the center console).
4. Connect the black wire coming off the activation box to wire “B” on the ECU. This is location #28 on the 34 pin harness that is located as the first harness plug on the far left on the ECU (closest to the center console).
5. Connect the red wire coming off the activation box to a +12V ignition source. It can be connected to the 12volt ignition on wire off the ignition key switch.

(Wiring for the Fuel controller)

6. Find a suitable place to mount the fuel controller module. *Make sure the fuel controller does not come in contact with moving parts or won't be damaged by parts or persons in the passenger side compartment. If the glove box is removed it makes this part a lot easier.
 7. Using the wiring diagram on the next page. Wire up the 7 remaining wires from the fuel controller, using the included wire taps and connectors. Make sure there is sufficient slack on wiring so the unit and wires are not under unnecessary strain.
- * **NOTE:** Double check the color of the wires and location on the ECU before the final connection is made. Make sure the connections are secure and tight. Improper wiring and bad connection will cause the Supercharger to work intermittently and or cause engine damage.
8. Wire tie any loose wires and securely mount any loose parts. Reinstall the glove box and ECU cover after checking that all connections are secure.

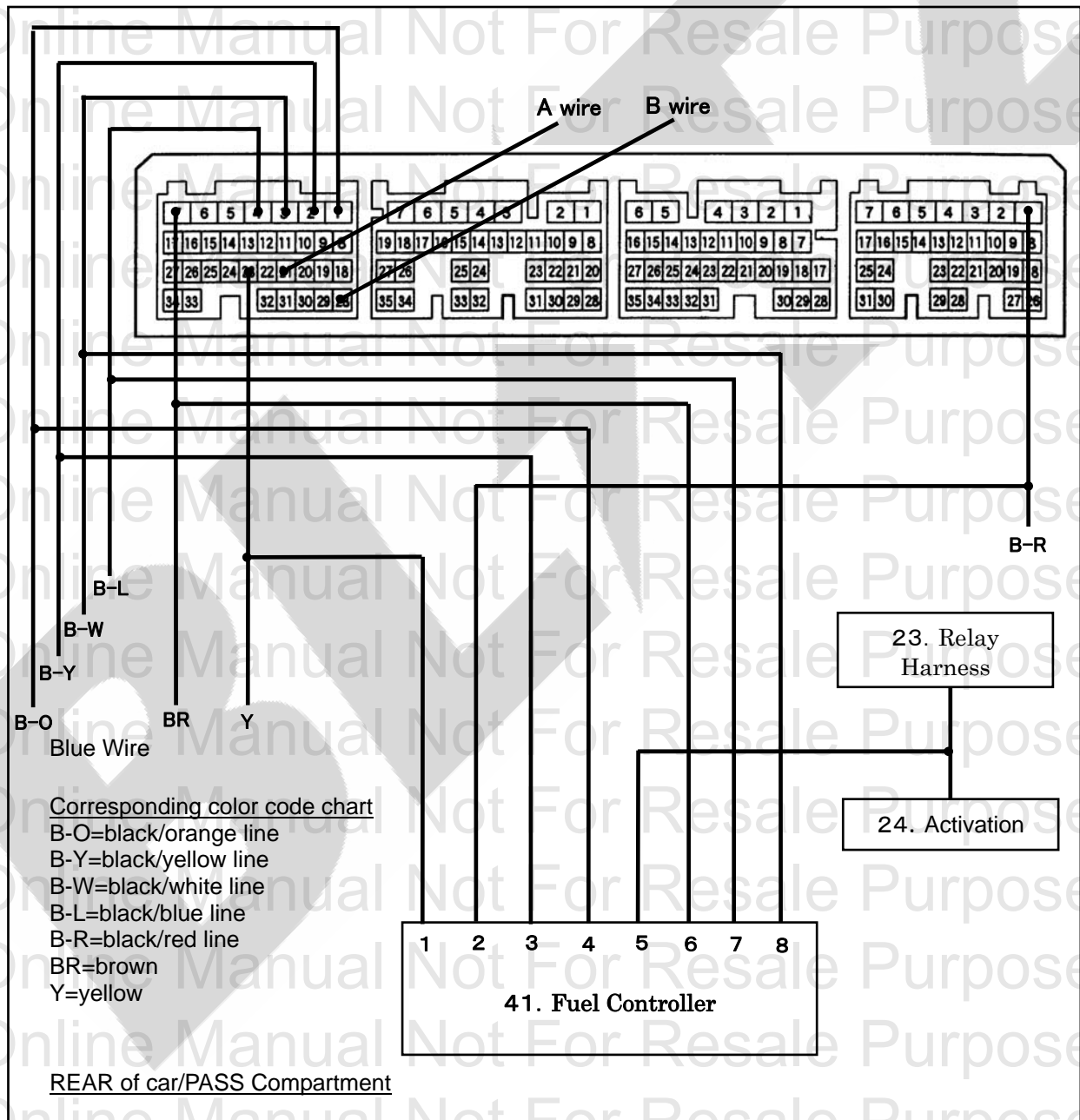
ECU arrangement differs depending upon car type * year system.

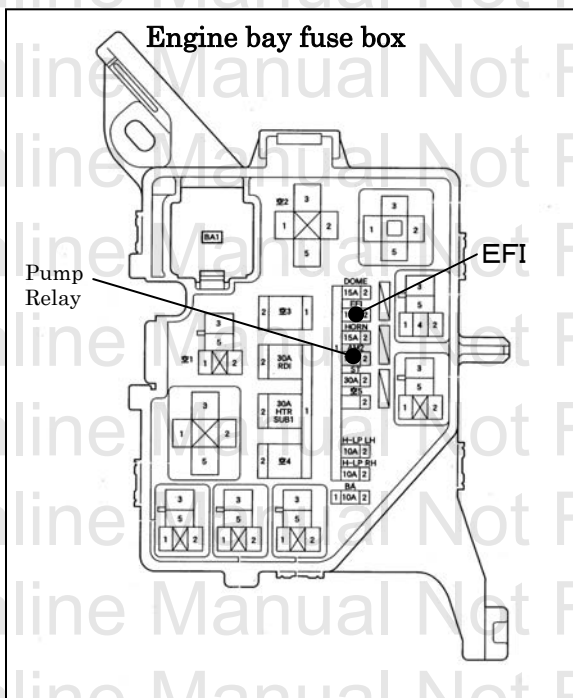
* As for ECU arrangement car type * It differs year depending upon formula. Please note.

41. Fuel controller diagram

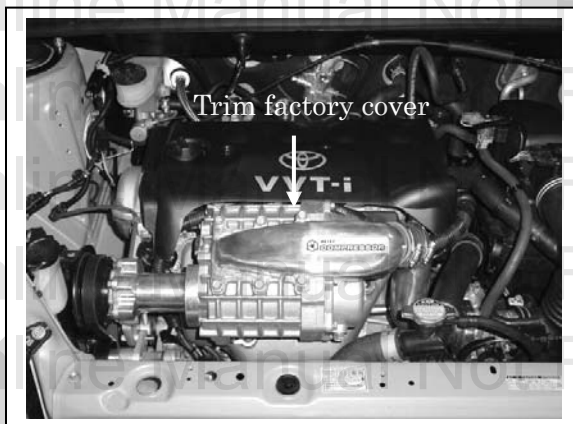
1 Pink	2 Red	3 Yellow	4 Orange
5 Green	6 Black	7 Blue	8 White

ECU Pin out diagram (NCP61, NCP65, および、All cars after 8-2002)





Front of Car



39. Locate main fuse box under the hood. Remove the fuel pump relay (listed as AM2). It is located in the engine compartment on the drivers side shock tower. Replace the 15A fuse with the supplied 20a fuse.

40. Reconnect the the negative side of the terminal on the battery.

41. Remove the EFI fuse for 30 seconds to clear the memory from the ECU, then replace it.

42. Turn the Ignition key on for 20 seconds then off again. Do this 5 times to prime the fuel line pressure.

43. In order for the factory engine cover to fit, it is necessary to trim the factory engine cover to fit around the supercharger.

44. Turn the S/C activation switch to low and turn ignition key to "ON", start the car and depresses the gas pedal at partial throttle to verify that the compressor activates.

* Without starting the engine, turn the ignition on. The S/C clutch should engage. (47) Start the engine, and after idling for 5-10min it will disengage. This is normal procedure.