

**Part Number: PTR41-21070**

**NOTE:** Part number of this accessory may not be the same as the part number shown

**Kit Contents**

Item	Qty	Description
1	1	Supercharger Main Assembly
2	1	Heat Shield, TRD modified
3	1	TRD Upper Air Box Assembly
4	1	Airbox, Lower TRD
5	1	Hose, Upper Engine Radiator
6	1	Intake Boot, Fender to Airbox
7	1	Air Filter 17801-03010
8	1	Hose Assy., Oil Return Hard Line
9	1	Oil Pan w/ return tube braze-in
10	1	Hose, Airbox to SC intake "Tuba"
11	1	Hose, SC to Throttle Body
12	1	Intake Manifold, Cast Aluminum TRD
13	1	Bypass Valve, Bosch
14	3	Bolts, SHCS 6 x 1.0 x 16 x 5 mm Allen WF
14	1	Wire Loom 1/2 " 8 inch length
15	3	Flat Washers, 6mm
16	1	O-Ring for SC Inlet Manifold 3.237 " ID
17	3	Bolts, 3/8-16 UNC x 1" x 5/16 Allen WF
18	1	Bracket, Cast Aluminum Transmission Mount
19	2	Bolts, SHCS 10 x 1.50 x 70 x 8mm Allen WF
19	1	Hose, Bypass to SC Intake
20	2	Nuts, 10 x 1.5, 6Pt, Self Locking 17mm WF
20	1	CPS Extension Wire
21	1	Hose Assy., Blue Parker Push Loc Oil Feed
22	1	Bracket, AC Line Rear
23	1	Bracket, Lower Airbox
24	1	Bracket, AC Line Front
25	3	Rubber Grommets, Airbox Lower
25	2	Bolts, Flange Head 6 x 1.0 x 12 for AC line brackets
26	3	Metal Spacers, Airbox Lower (Not Shown)
26	1	T fitting, 1/4 x 1/4 x 3/16 vacuum line
27	1	Fitting, Hexagonal "T" Oil Feed
28	1	Plastic Clamp, Fuel Supply Line 23842-28010
29	1	Bolt, Flange Head 10x1.25x25 x 14WF (captured)
30	2	Bolts, SHCS 12 x 1.25 x 80 x 10mm AllenWF
31	1	71°C (160°F) Thermostat
32	4	Fuel Injectors, TRD
33	4	Spark Plugs, TRD Denso K22PR-U
34	1	Adell Clamp, dash 12, Galv. Steel w/ rubber
35	1	Bolt, 8 x 1.25 x 16 x 13WF, Oil Return Line
36	1	Crimp Nut, 8 x 1.25 x 13 mm WF, Oil Return
37	1	Washer, 8 mm Flat, Oil Return Line
38	5	Hose Clamps 25-40 mm
39	2	Zip Ty-Wrap, Small
40	1	Fuel Supply Line, TRD
41	1	Belt, Serpentine Drive 7PK2325 (Dayco)
42	2	Hose Clamps, Oil Return Line, Spring Preload
43	1	Wire Loom 3/4" 7 inch length

45	1	Hose, 3/16" vacuum, Bypass to Throttle Body 16" long
46	1	Hose Clamp 70-90 mm
47	2	Zip Ty-Wrap, 7 inch/Medium TY525MX
48	1	Bolt, Hi-Strength 12-Pt Crank Bolt w/captured washer 14 x 1.5 x 45 x 19WF
49	3	Hose Clamps 60-80 mm
50	3	Zip Ty-Wrap, OE anchor style, 82711-16830
51	3	Badge, TRD, PTR01-3500E-EM
52	3	Badge, Supercharged, PTR01-3500T-RD
53	1	Belt Routing Label
54	1	Fitting, Oil Feed 1/8"MNPT x dash 4 37°M AN (Not Shown)
54	1	Tune-Up Label
55	2	EO Label
56	1	Premium Fuel Only Decals
57		
58	1	Warranty Card, TRD Supercharger
58	1	Mirror Hanger
58	1	Registration Card
58	1	Installation Instructions
59	1	VSV Rubber mounting bracket
59	1	Bypass Valve Tube
60	1	Bypass Hose, Tube to Bypass Valve

**Additional Items Required For Installation**

Item #	Quantity Req'd.	Description
1	Toyota Diagnostic Scanner/Techstream	Diagnostic Tester/Scan Tool
2	GR8 Battery Charger	

**Conflicts**

TRD Strut Brace: PTR-02-21060 PTR-02-21070
TRD Cold Air Intake: PTR-03-21060 PTR-03-21070

**Recommended Tools**

<b>Personal &amp; Vehicle Protection</b>	<b>Notes</b>
Safety Glasses	
Fender Blankets	
Protective Gloves	
<b>Special Tools</b>	<b>Notes</b>
Serpentine Belt tool	<b>SST 09249-63010</b>
Fuel Supply Hose tool	<b>SST 09268-21010</b>
Crankshaft Pulley Holder	<b>SST 09213-54015</b>
Pulley Holder Lever Arm	<b>SST 09330-00021</b>
Gasket Seal Cutter	<b>SST 09032-00100</b>
Oil Filter Wrench	<b>09228-06501 or equivalent</b>
<b>Installation Tools</b>	<b>Notes</b>
Mechanic's Hand Tools	Combo wrenches & sockets Metric AND Standard
½" Drive Torque Wrench	For crank pulley bolt install
19 mm 12-point socket ½"	For crank pulley bolt install drive
Electric Drill and Drill Bits	
Uni-Bit up to ½" diameter	
<b>Special Chemicals</b>	<b>Notes</b>
Anti-Seize Assembly Lube	For Spark Plugs
Toyota Seal Packing (FIPG) <b>08826-00080 or 00295-00102 or 00295-00103</b>	Or equivalent for oil pan reinstallation.
Loctite 242 Blue	Or equivalent
Loctite 272 Red	Or equivalent
Loctite 567PST Teflon Paste	Or equivalent

**General Applicability**

(2007- ) Scion tC (2AZ motor)

**Recommended Sequence of Application**

Item #	Accessory
1	R&R Thermostat
2	R&R Oil Pan
3	Remove Airbox Assy.
4	R&R Crank Bolt
5	Install Supercharger
6	Install Intake System
7	Re-Flash ECU w/ TRD Map
8	Test

\*Mandatory

**Vehicle Service Parts** (required for reassembly)

Item #	Quantity Req'd.	Description
1	1	Oil Filter , <b>90915-YZZF1</b>
2	1	Oil Drain Gasket <b>90430-12031</b>
3	4.0 ~ 4.8 Quarts	Oil, SAE 5W-30
4	1 roll	Black Electrical Tape, 600 V

**Legend**

	<b>STOP:</b> Damage to the vehicle may occur. Do not proceed until process has been complied with.
	<b>OPERATOR SAFETY:</b> Use caution to avoid risk of injury.
	<b>CAUTION:</b> A process that must be carefully observed in order to reduce the risk of damage to the accessory/vehicle and to ensure a quality installation.
	<b>TOOLS &amp; EQUIPMENT:</b> Used in Figures calls out the specific tools and equipment recommended for this process.
	<b>REVISION MARK:</b> This mark highlights a change in installation with respect to previous issue.

Kit Contents



Care must be taken when installing this accessory to ensure damage does not occur to the vehicle. The installation of this accessory should follow approved guidelines to ensure a quality installation.

These guidelines can be found in the "Accessory Installation Practices" document.

This document covers such items as:-

- Vehicle Protection (use of covers and blankets, cleaning chemicals, etc.).
- Safety (eye protection, rechecking torque procedure, etc.).
- Vehicle Disassembly/Reassembly (panel removal, part storage, etc.).
- Electrical Component Disassembly/Reassembly (battery disconnection, connector removal, etc.).

Please see your Toyota dealer for a copy of this document.



12 mm Wrench



### 1. Installation review and vehicle preparation.

- Review entire installation instructions provided with this supercharger kit before beginning the installation.
- Review parts list/kit contents to ensure that all parts are present before beginning the installation. If any items are missing contact Technical Support at **(800) 688-5912** before proceeding.



- Remove any low-octane fuel from vehicle. Ensure that **ONLY 91 octane or higher** unleaded gasoline is used.

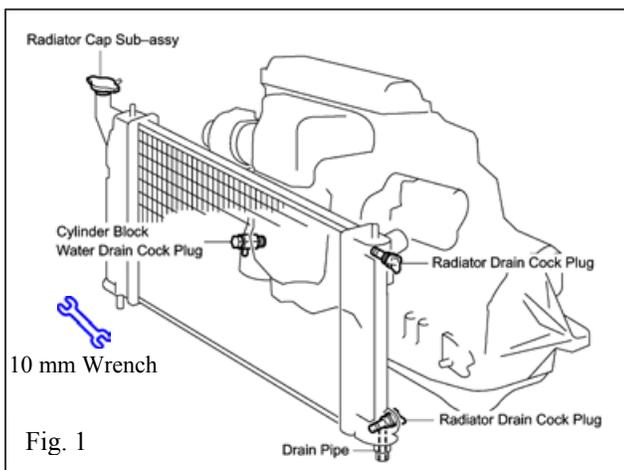


- Place vehicle onto vehicle hoist.
- Place fender protection blankets over fenders and front of vehicle to protect cosmetics of vehicle.

### 2. Coolant System Parts Removal & Installation.



- Disconnect battery** negative terminal. 10mm wrench. Then disconnect battery positive terminal. Remove battery hold down strap. Remove battery and plastic tray from engine compartment. **Caution:** Batteries contain an acid solution, be sure to wear eye protection and gloves when handling the battery. Place battery onto workbench until replacement later. Do not place battery on cement or concrete floors.



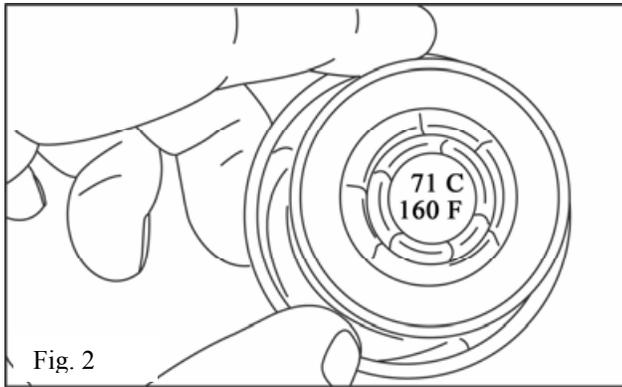


Fig. 2

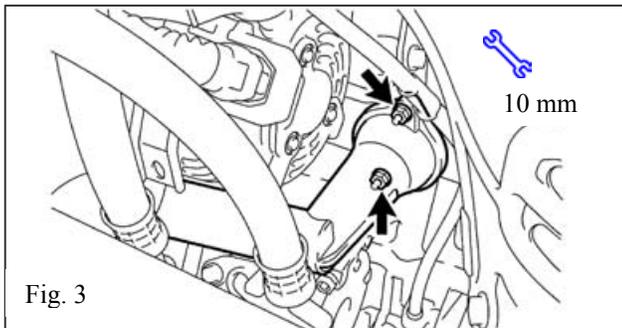


Fig. 3

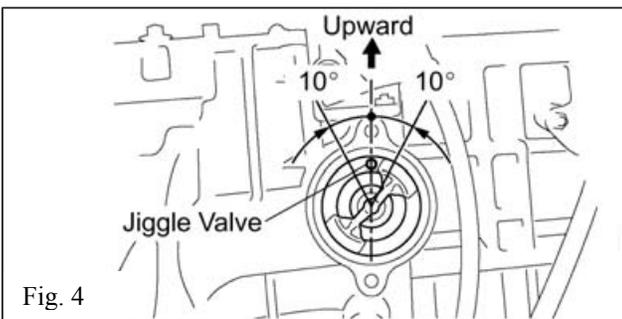


Fig. 4

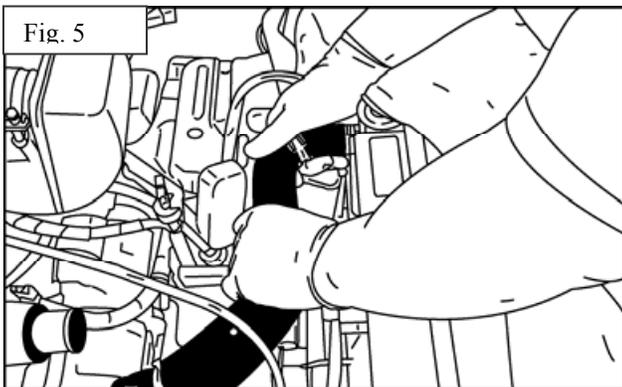


Fig. 5

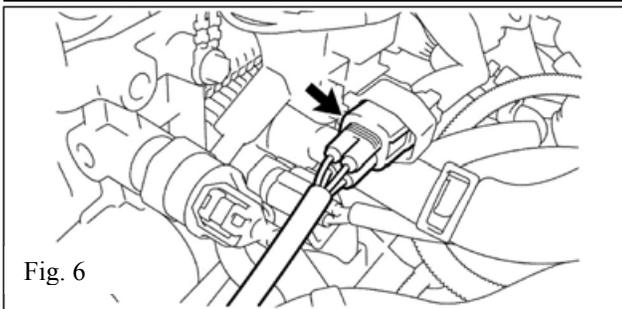
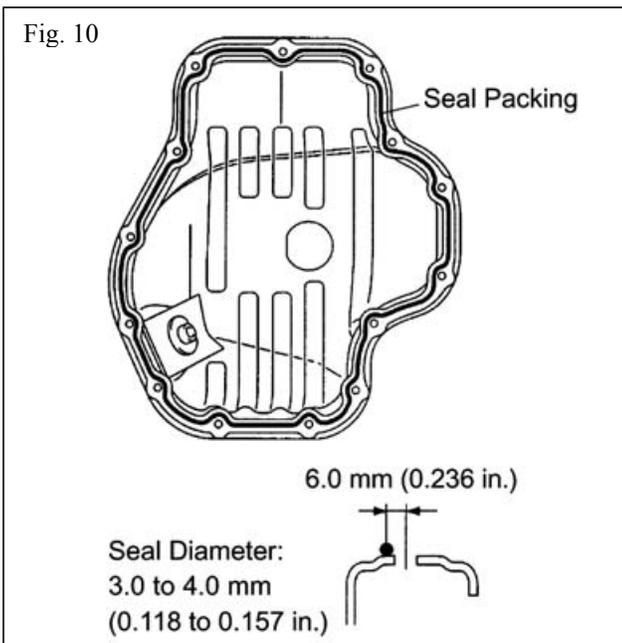
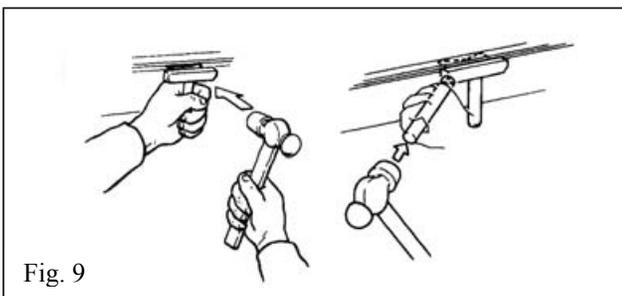
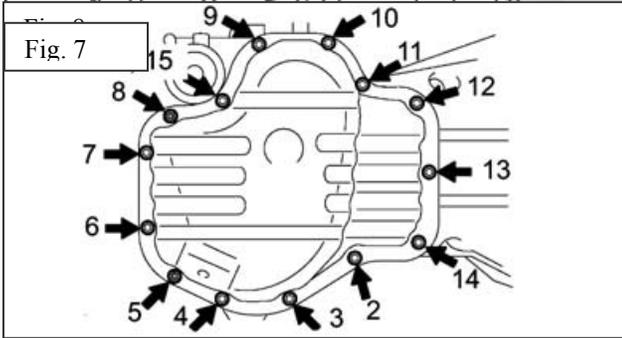
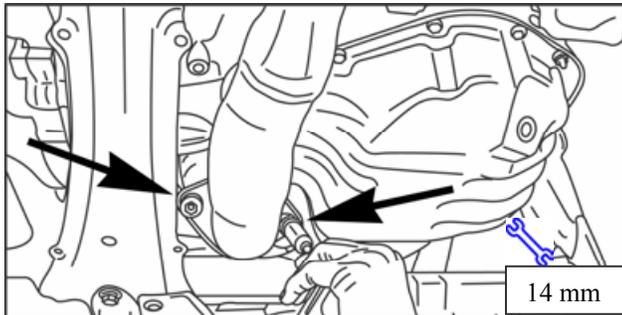


Fig. 6



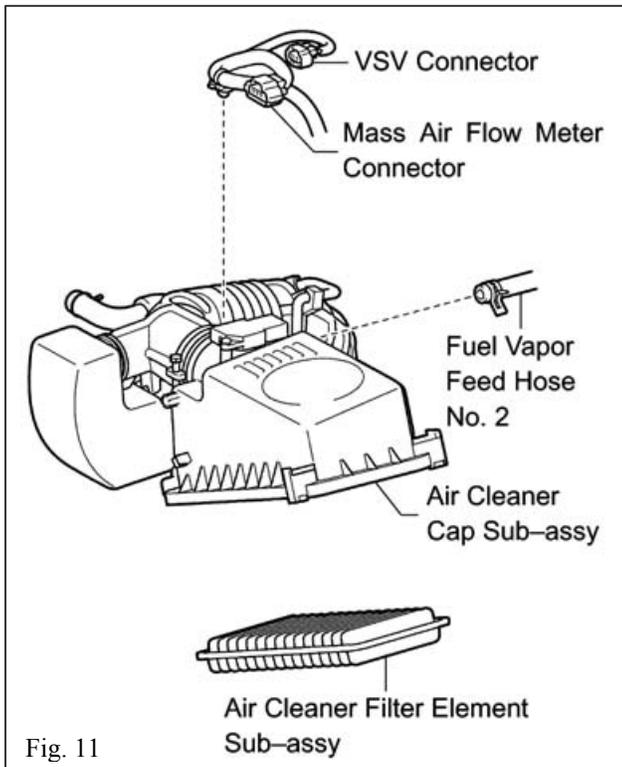
- (b) Remove top engine cover. 10 mm socket.
- (c) **Drain engine coolant** into a clean receptacle for re-use later. **Caution:** Be sure to wear eye and hand protection. Also, be sure to allow radiator and engine to cool sufficiently before opening system to drain. Loosen Radiator Drain Cock Plug (Wingbolt by hand) and Cylinder Block Water Drain Cock Plug. 10 mm wrench. Fig. 1.
- (d) **Check TRD thermostat.** Be sure Thermostat reads 71°C / 160°F on the inside bottom of the Thermostat. Fig. 2.
- (e) **Remove OE Thermostat** housing and factory 82° C (180°F) thermostat. (Fig. 3.) Note: You may need to temporarily remove oil dipstick for better access. Use OE rubber thermostat gasket and place onto the TRD supplied 71°C (160°F) thermostat.
- (f) **Install TRD 71° C (160°F) thermostat.** Be sure jiggle valve is in the 12 O'Clock position within +/- 10 degrees. (Fig. 4). Replace thermostat housing. (**Torque to 80 in-lbs**)
- (g) **Remove upper radiator hose.** Fig. 5. This will not be re-used. Temporarily disconnect Air Fuel Ratio (AFR) Sensor at the electrical connector Fig 6. Place the blacken section on after supercharger bolt tightening



### 3. Oil Pan Parts Removal & Replacement.

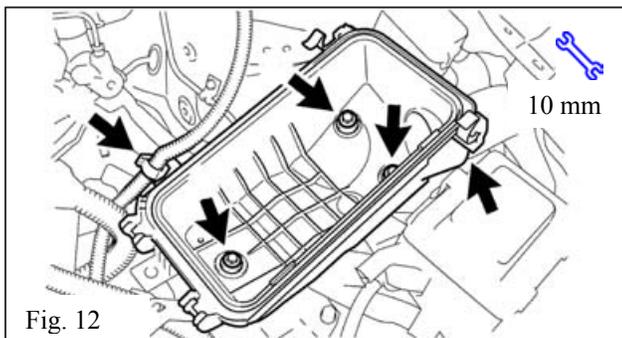
- (a) Drain engine oil (**14 mm wrench**) into proper receptacle. The OE oil pan will be removed and replaced with a TRD supplied oil pan after draining.
- (b) Temporarily remove 2 exhaust bolts and let exhaust pipe hang down low in order to gain access to oil pan bolts. Fig. 7.
- (c) Remove the oil pan by removing the 12 bolts and 2 nuts. Fig. 8. Use **SST 09032-00100** to remove pan from crankcase. See Figure 9. **Caution:** Be careful not to damage the sealing surface of the crankcase, chain cover, or oil pan.
- (d) Carefully clean the mating surfaces on the crankcase, chain cover and TRD supplied oil pan.
- (e) Apply a continuous bead of **00295-00103 FIPG** seal packing (3.0 to 4.0 mm in diameter) to the sealing surface of the oil pan as shown in Figure 10. **CAUTION:** Remove **ANY** and **ALL** oil residue from the sealing surfaces first. Install the oil pan within 3 minutes of applying sealant. Do **NOT** put engine oil into the engine for **at least 2 hours** after installing the oil pan.
- (f) Uniformly tighten the fasteners on the oil pan in the sequence shown in Figure 8. Torque to **80 in-lbs**.
- (g) Re-attach exhaust pipe, and re-install 2 exhaust bolts removed previously. **Torque to 32 ft-lbs**. Install oil drain plug and new drain plug gasket. **Torque plug to 30 ft-lbs**. Clean off any excess oil from engine, oil filter, pan and exhaust. Replace oil filter as needed. Prime new oil filter with SAE 5W-30.



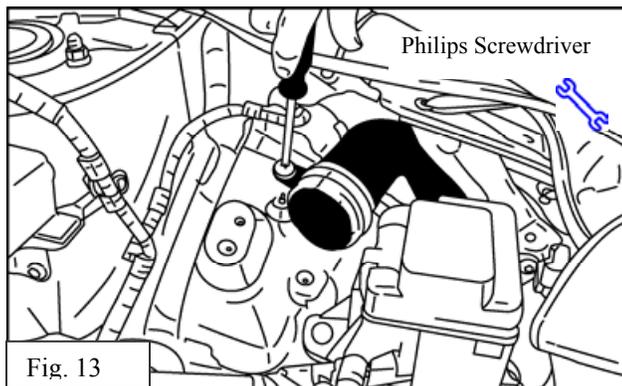


#### 4. Intake & Wiring System.

- (a) **Remove factory Air Intake Tube and Air Cleaner Cap Sub-Assembly including Air Filter Element.** See Fig 11. Temporarily cover throttle body intake with a shop rag and/or duct tape.



- (b) Remove factory lower airbox. You will need to disconnect the engine wire from the airbox lower before removing. See Fig. 12. **NOTE:** Remove and save the 3 mounting fasteners. They will be re-used to mount the new TRD-supplied lower airbox. Remove fender intake tube as shown in Fig 13. The fender intake tube will NOT be reused.



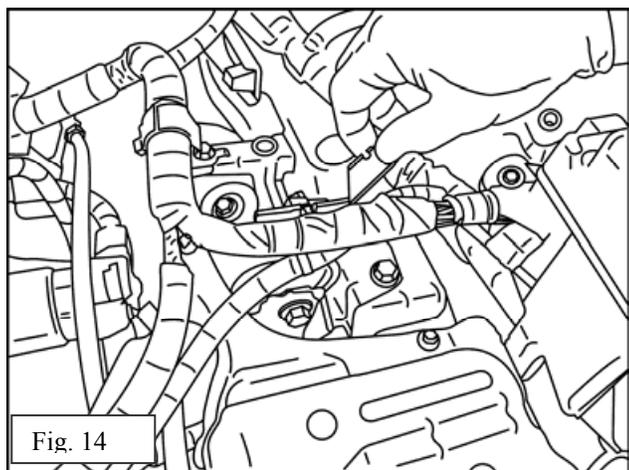


Fig. 14



- (c) In order to access wiring loom support plastic, carefully cut and / or remove electrical tape on loom support plastic as shown in Fig. 14. Be sure not to cut any of the wires or damage the insulation.

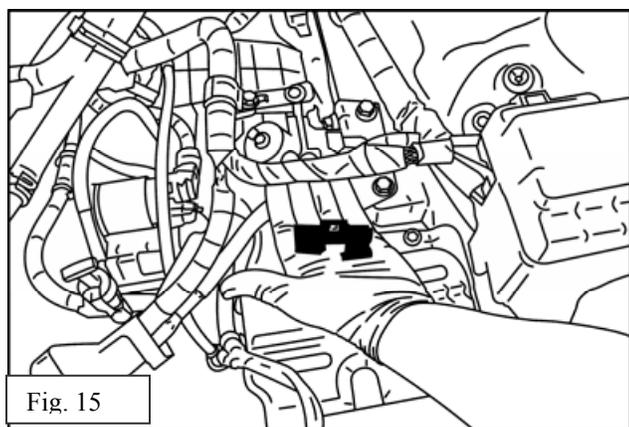


Fig. 15

- (d) Remove wiring loom support plastic. Fig. 15.

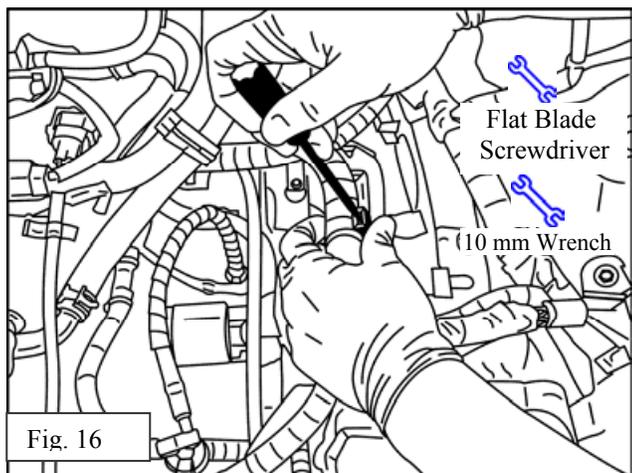


Fig. 16

- (e) Remove plastic wiring loom clamp (small flat blade screwdriver) and remove metal clamp bracket (10mm wrench). Fig 16. Be sure to support metal bracket with your hand when removing 6 mm bolt to prevent bracket from bending or twisting out of position.

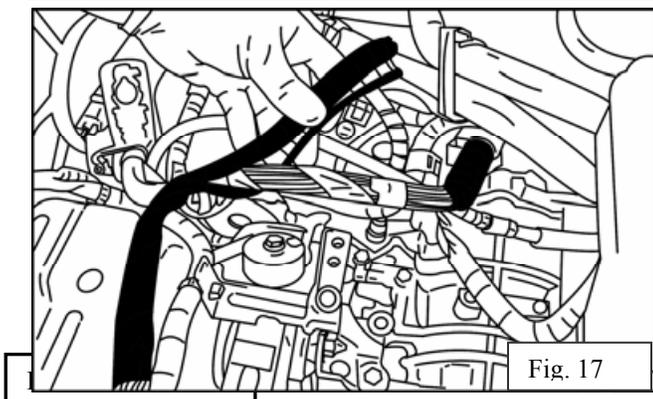
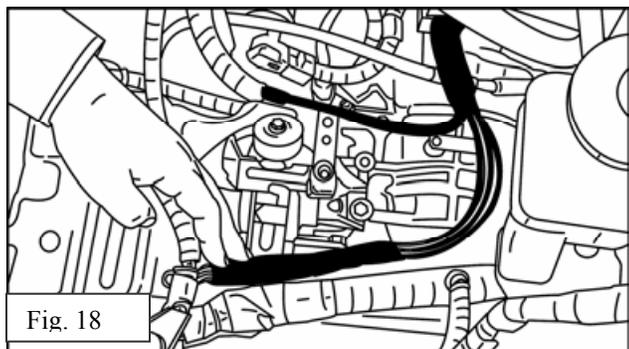
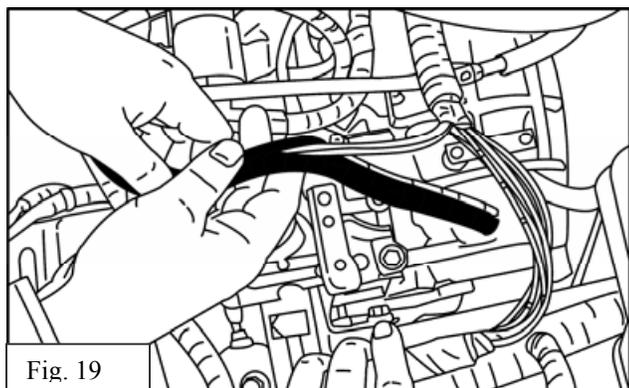


Fig. 17

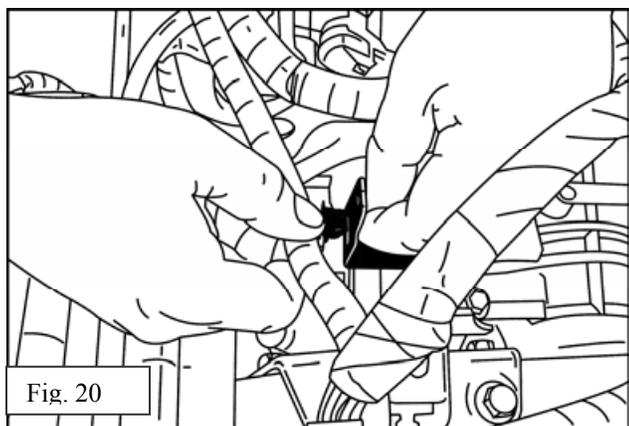
- (f) Temporarily remove OE wire loom cover at area shown in Fig 17.



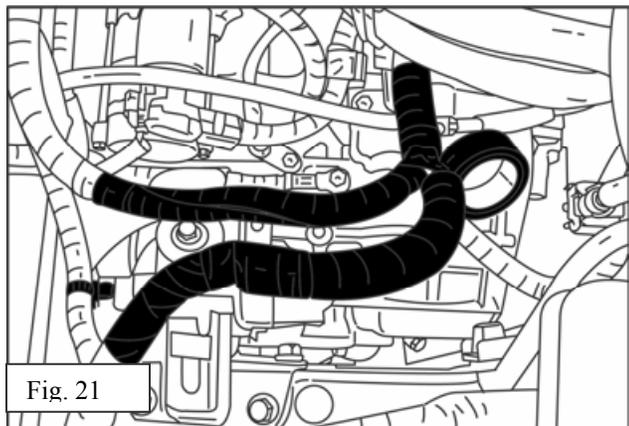
- (g) Remove any electrical tape and Split wiring loom into 2 separate runs. Fig 18. NOTE: The large gage black wire with the red stripe will be on it's own, while all the other wires will be grouped together.



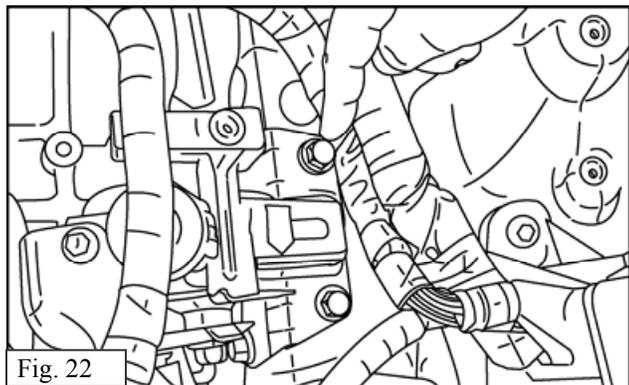
- (h) Wrap exposed wires with TRD supplied loom wrap. See Fig 19. NOTE: Smaller diameter loom wrap is used for the large gage black wire with the red stripe.



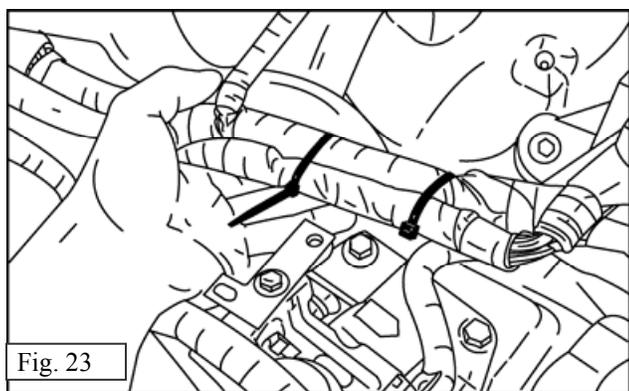
- (i) Remove plastic loom clip from metal bracket as shown in Fig 20.



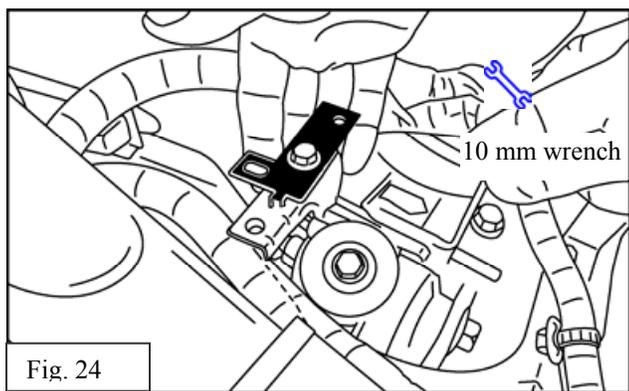
- (j) Using electrical tape, wrap wire loom assemblies as shown in Fig. 21.



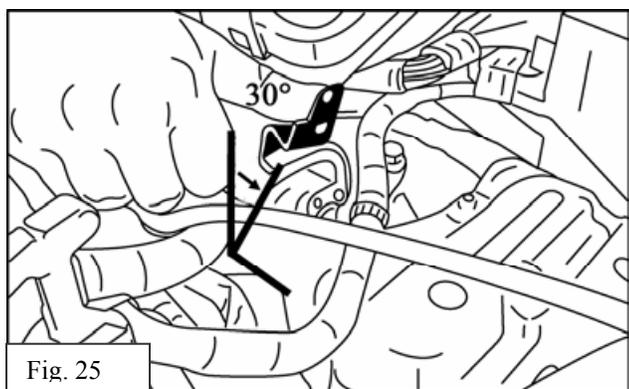
- (k) Be sure to route the wires properly as shown. This is to prevent the wires from getting pinched once the Airbox is installed. See Fig. 22.



- (l) Install supplied Zip Ties onto wiring looms as shown in Fig. 23.



- (m) Attach TRD supplied Airbox bracket. Fig. 24. Reuse OE 6mm bolt to secure bracket into place.



- (n) Adjust metal bracket towards front of vehicle, from vertical to approximately 30° degrees from the vertical plane as shown in Fig 25. This is to allow for proper clearance for the new TRD lower Airbox which will be installed later.

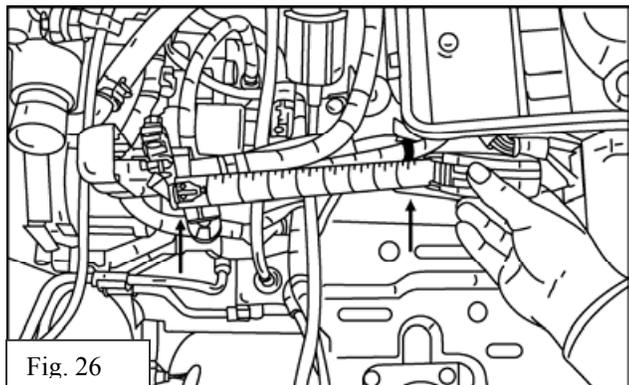


Fig. 26

- (o) With a suitable ink pen, mark Battery cable approximately 6 to 7 inches from post terminal end of cable (Arrows). This will be the new location of the OE cable retainer. See Fig 26 and Fig 27.

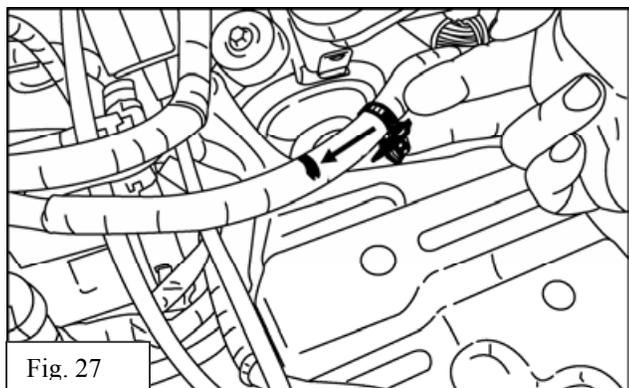


Fig. 27

- (p) Remove OE cable retainer. Install TRD supplied cable retainer at new location (Arrow) as shown in Fig 27.

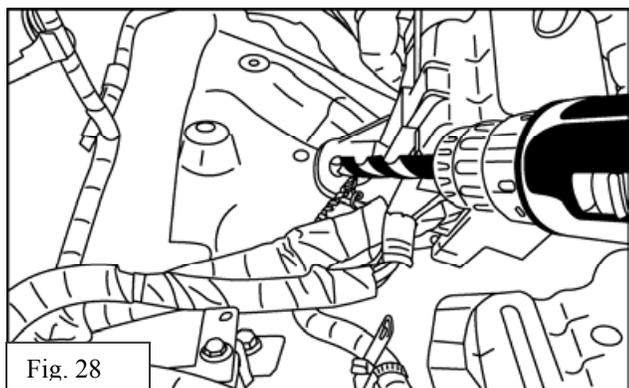


Fig. 28

- (q) Temporarily unbolt OE Fuse Box and drill out 3 OE mounting holes using a 1/2" diameter drill bit. NOTE: You may need another person to hold fuse box while you drill out the 3 holes. This operation is to allow the fuse box to be mounted slightly forward of it's OE position so that there will be room for the larger TRD airbox. See Fig 28, Fig 29, and Fig 30.

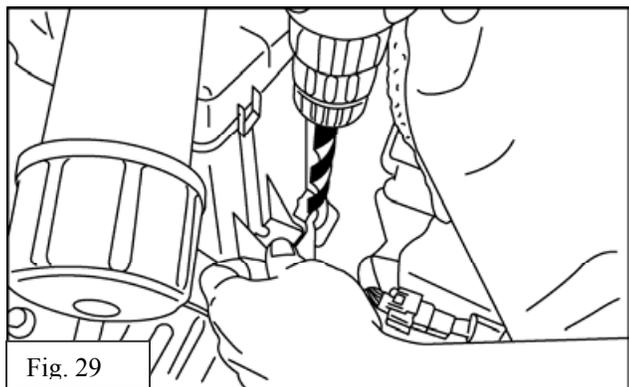
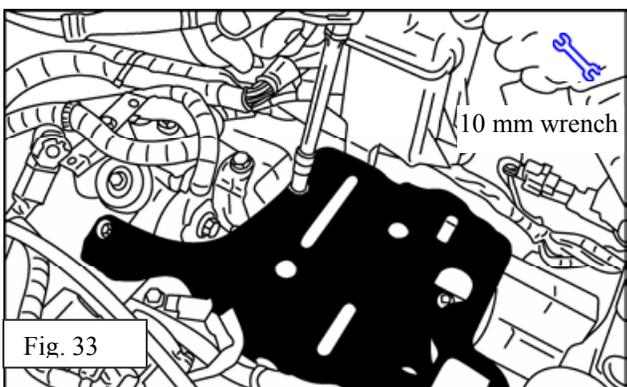
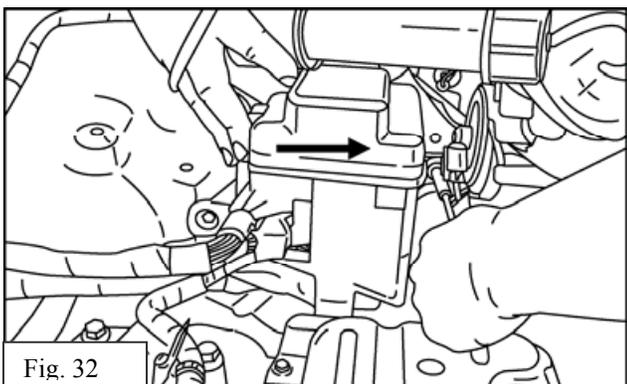
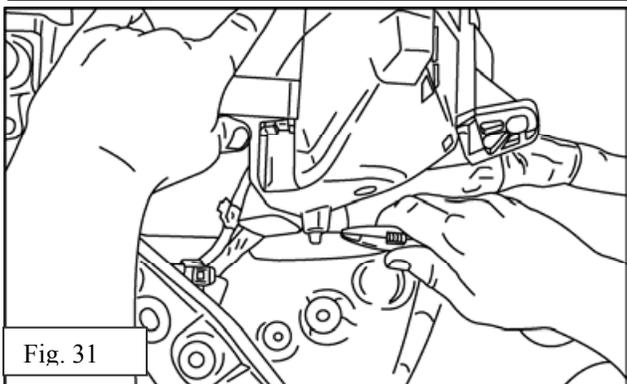
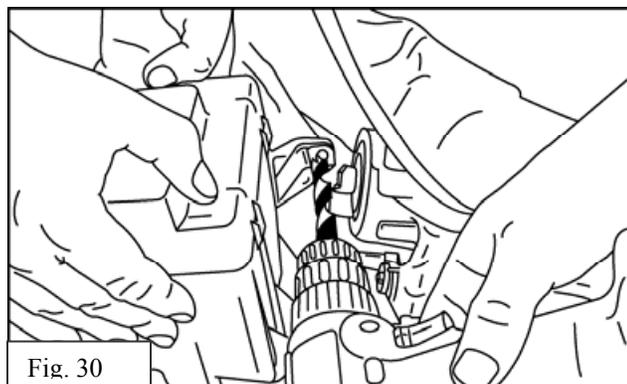


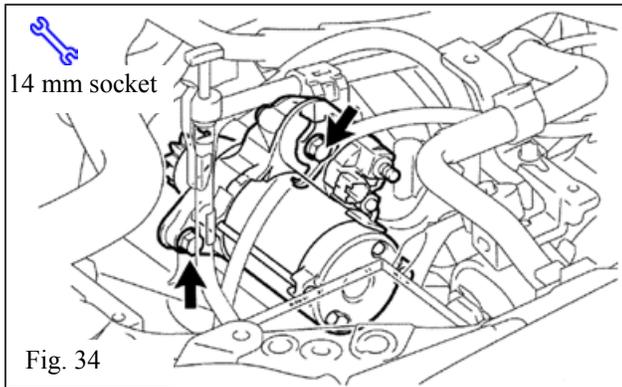
Fig. 29



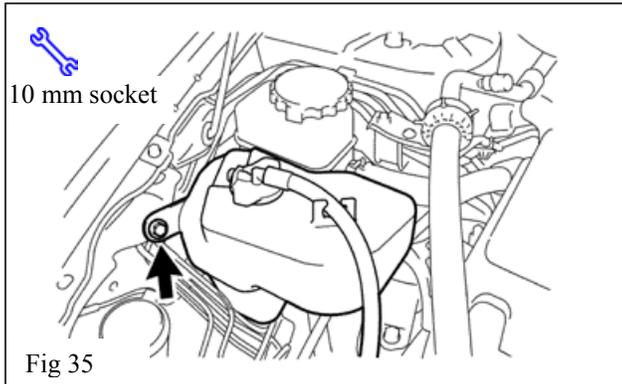
(r) Cut off the drain nipple on the bottom of the fuse box with a pair of side cutters or other appropriate tool. This is to allow the fuse box to be able to slide forward away from TRD airbox. Fig 31.

(s) Slide the fuse box into position and replace all 3 OE fasteners. Slide the fuse box as far forward as possible while tightening the 3 fasteners (10mm socket). This operation is done to allow the larger TRD Airbox lower to fit properly into place. Fig. 32.

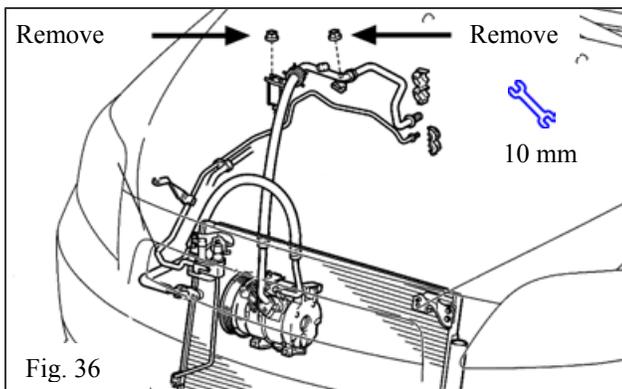
(t) Remove metal battery tray and temporarily set aside on a workbench until re-installation later on. 10mm socket. Fig. 33.



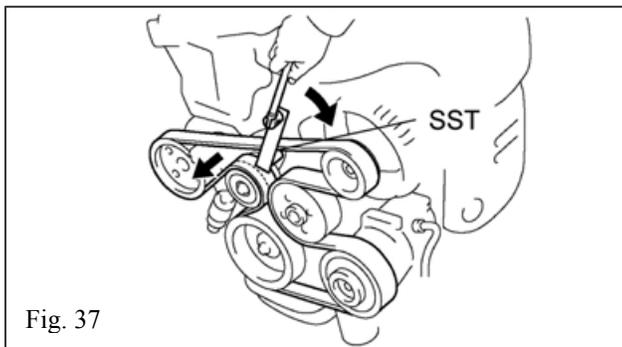
- (u) Temporarily disconnect starter motor wires (12mm socket) and remove the two starter-motor mounting bolts (14mm socket). Remove the starter motor and set it aside for now. Removing the starter motor will provide the necessary room and access to install the supercharger assembly. Fig. 34.



- (v) Temporarily remove white plastic cooling system reservoir and set it aside. Be careful not to spill the coolant contained inside. This is removed to access to the serpentine drive belt as well for access to install supercharger assembly fasteners. 10mm wrench. See Fig 35.



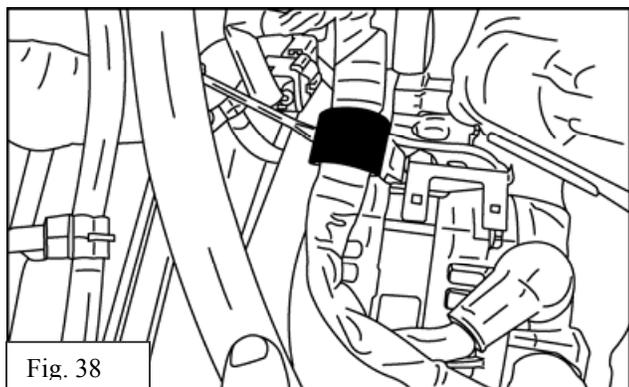
- (w) Temporarily remove the 2 indicated retaining nuts on the AC line mounts as seen in Fig 36. (10 mm socket). NOTE: Save these fasteners. They WILL be reused later.



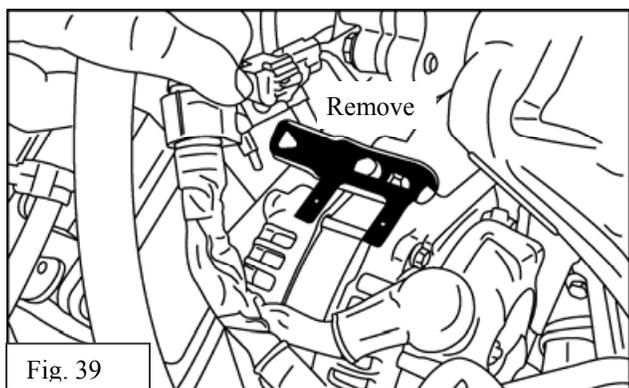
- (x) Remove factory serpentine drive belt. Utilize **SST 09249-63010** leverage tool with 19mm, 6-point socket and lever arm or ratchet. See Fig 37. The tensioner moves slowly. While applying medium tension, allow the tensioner to “float” forward. Applying too much tension or forcing the tensioner can cause the assembly to break.



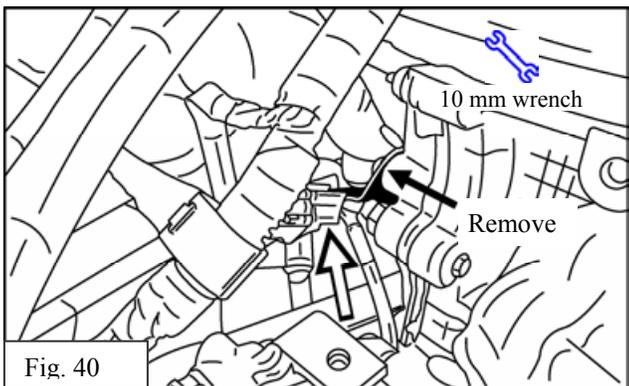
### 5. OE Wiring Disconnect.



- (a) Using a small flat blade tool, remove the plastic retainer clip from the wire harness on the alternator. Fig. 38.



- (b) Remove the metal alternator bracket using a 10mm socket as seen in Fig 39. This bracket will NOT be reused. Save the bolt as it will be used later.



- (c) Disconnect Plastic Crank Position Sensor Connector from metal retainer bracket (White Arrow) and also remove metal retainer bracket from engine (Black Arrow). 10mm wrench. See Fig 40. This bracket will NOT be reused.



- (d) Disconnect Crank Position Sensor (CPS) Wiring Connector. Fig. 41.

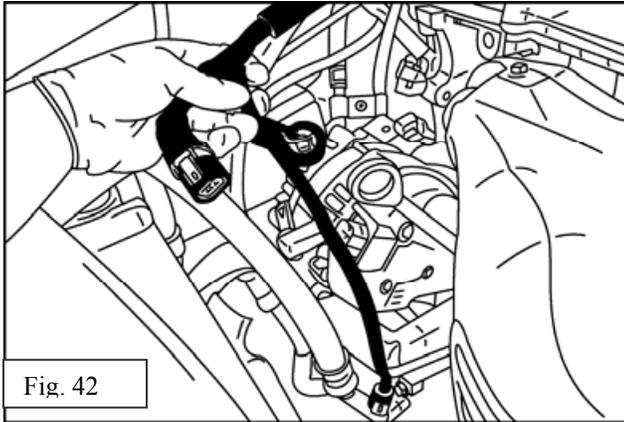


Fig. 42

- (e) Disconnect Alternator wiring and AC Pump wire, including AC Pump white-plastic wire-retainer clip. See Fig 42. Set these aside out of the way until supercharger is installed.

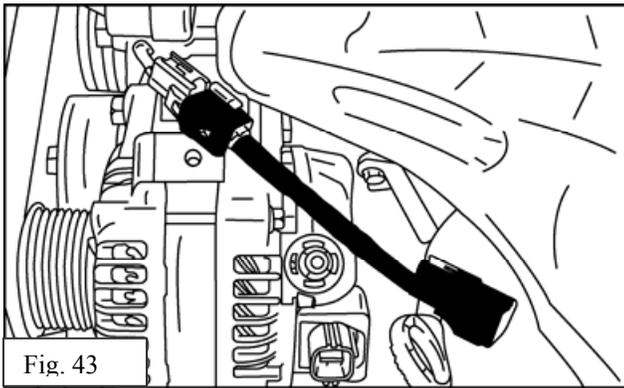


Fig. 43

- (f) Add TRD-supplied CPS extension wire to connector. Let this wire hang loose for now. It will be connected and secured later on. Fig. 43.

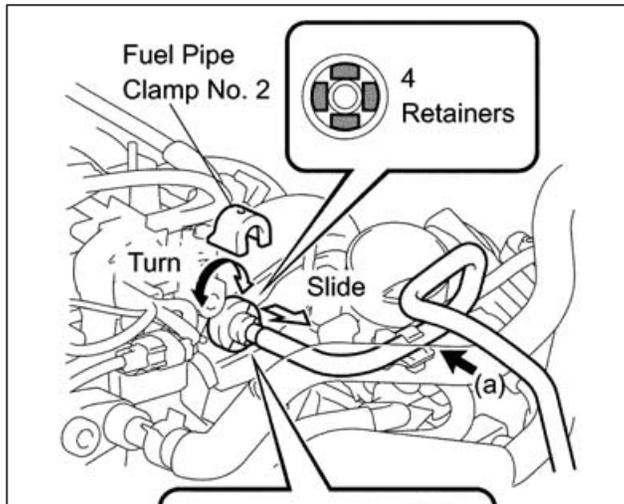


Fig. 45

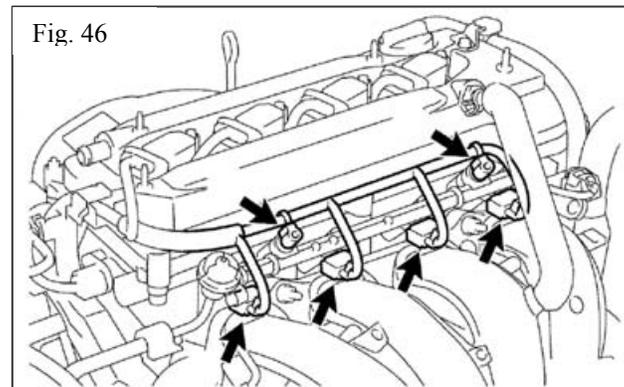
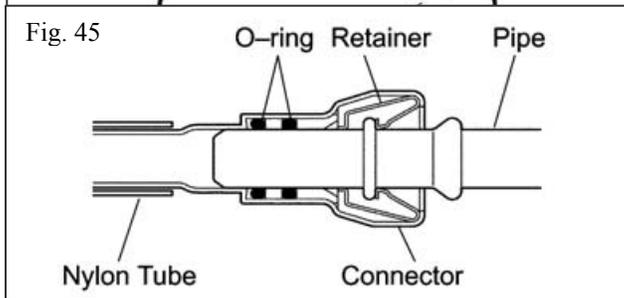


Fig. 46

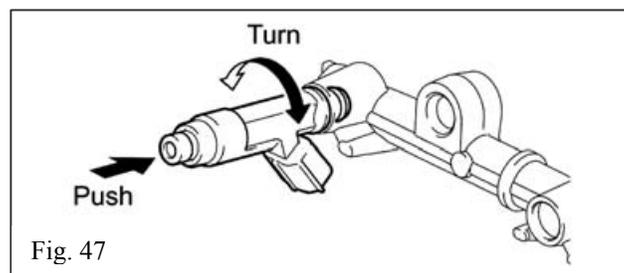


Fig. 47

6. Fuel System.



(a) **Disconnect factory fuel supply hose.** This will not be reused, but replaced later with a new, TRD-supplied fuel supply hose. Utilize **SST 09268-21010**. **Caution:** Fuel system is under high pressure. Cover area with dry shop rags and be sure to wear approved eye and hand protection before beginning removal. See Figure 44 and 45. Remove fuel line from vehicle hard line.



(b) Disconnect the rear valve cover ventilation hose, the 2 wire harness zip-tie clamps, from the fuel rail and the 4 fuel injector electrical connectors. Fig. 46. Blow dirt and debris away from fuel injectors and cylinder head to prevent dirt from getting into engine.

(c) Remove fuel rail fasteners (12 mm wrench) and then remove the fuel rail along with the 4 OE fuel injectors. Be careful not to drop the fuel injectors while removing the assembly.

(d) Remove factory fuel injectors from the fuel rail. Check to ensure all o-rings have been removed from the cylinder head



(e) Apply a light coat of gasoline or motor oil to the fuel injector o-rings as needed. Carefully install the four TRD hi-flow fuel injectors into the fuel rail. Fig. 47.



(f) Replace fuel rail assembly. Be sure that the two spacers are in place. Ensure cylinder head o-rings are properly seated. Check that the fuel injectors rotate freely and then tighten fuel rail fasteners. (**Torque to 15 ft-lbs**)



(g) Install TRD-supplied fuel supply hose. Be sure it locks properly into place Install the new TRD-supplied Fuel Pipe Clamp over the connection at the fuel rail and O.E. clamp hard line.

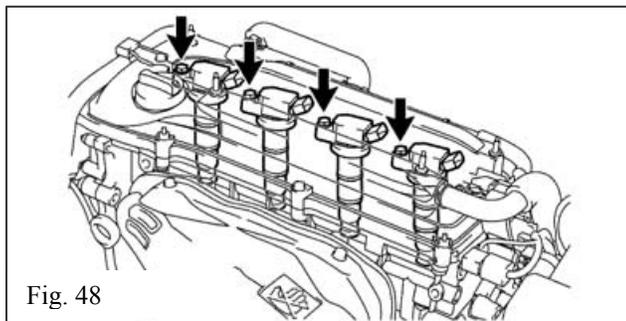


Fig. 48

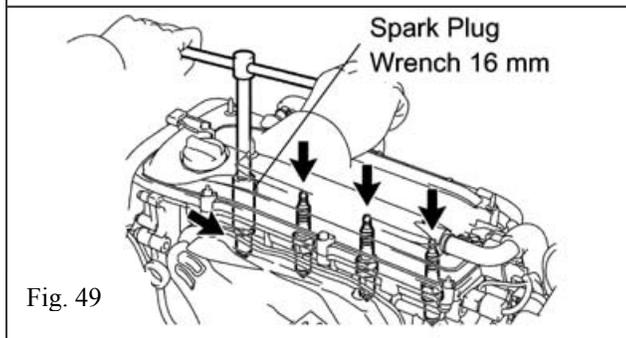


Fig. 49

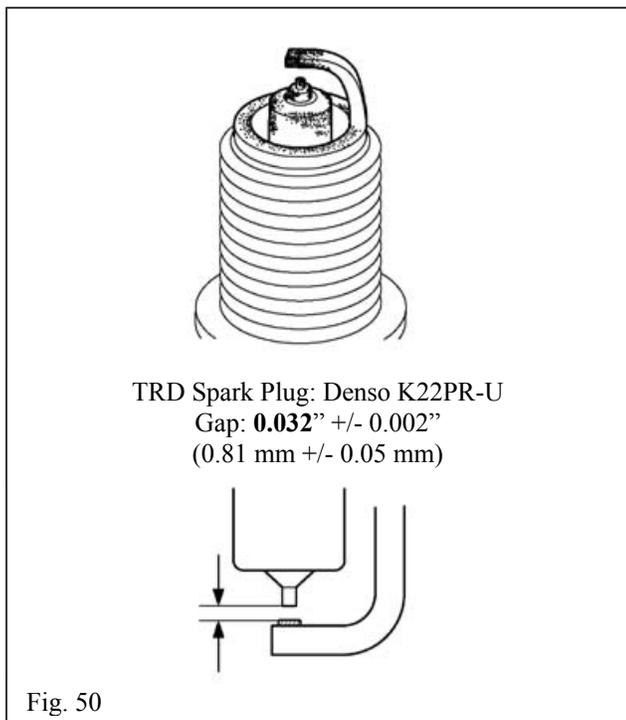


Fig. 50

## 7. Spark Plugs.

(a) Remove factory ignition coils. Fig. 48.



(b) Remove factory spark plugs. Use a 16 mm or 5/8" spark plug socket. (Stock spark plug is: **Denso SK20R11 or NGK IFR6A11**) Fig. 49.



(c) Ensure that all TRD (P/N PTR24-21050-00) **Denso K22PR-U** spark plugs are **Gapped to 0.032"** (0.81mm). Figure 50.

(d) Adjust ALL TRD spark plug gaps to **0.032"** (0.81 mm) as needed, before installation.



(e) Apply a small amount of anti-seize to the spark plug threads prior to installation. Install TRD spark plugs. Be sure to use a spark plug socket to install so as to prevent damage to the spark plug gap and /or electrode. **Torque to 14 ft-lbs.**

(f) Install factory ignition coils. 10 mm socket. **Torque to 80 in-lbs.** Fig. 48.

(g) Reconnect spark plug ignition coil connectors.

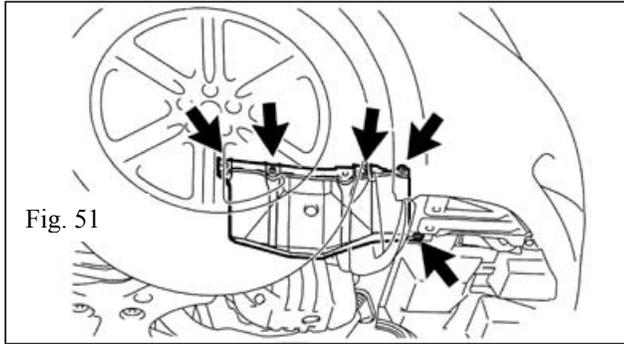


Fig. 51

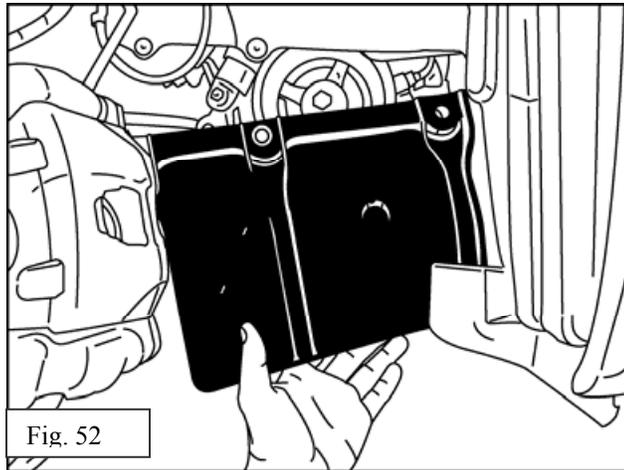


Fig. 52

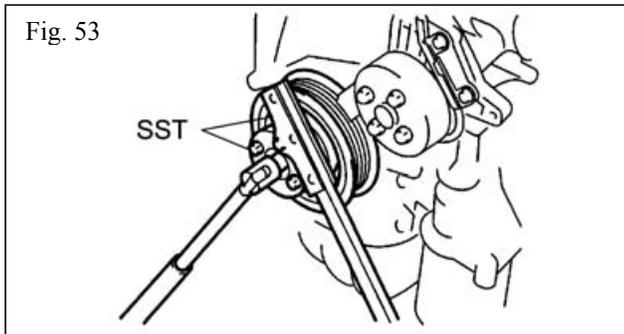


Fig. 53

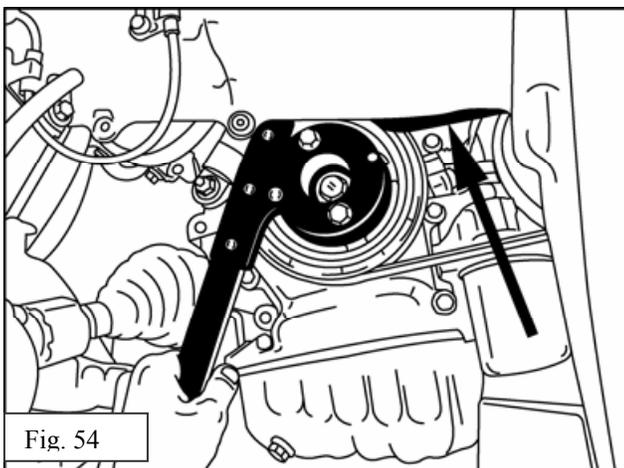


Fig. 54

## 8. Crankshaft Pulley Bolt.

(a) Remove Passenger Side Front Wheel in order to properly access fender shroud and crankshaft pulley bolt.



(b) Remove passenger side plastic body/fender shrouds in order to gain access to crankshaft pulley. Fig. 51 and Fig. 52.

(c) Remove factory crankshaft pulley bolt. Utilize **SST 09213-54015-01 and 09330-00021**. Fig. 53. **CAUTION:** be careful not to damage OE power steering hard line when working with crankshaft pulley. See arrow in Fig. 54.



(d) **DO NOT remove pulley from crankshaft!** Remove **ONLY** the retaining bolt. **NOTE:** some crankcase oil may drip out. This is normal.

(e) Clean and coat the threads of the TRD Hi-Strength 12-Point Bolt with **Red Loctite 272** Thread Locking Compound or equivalent. Install into crankshaft pulley. Using the SSTs and a 1/2 inch drive TORQUE WRENCH, **Torque to 150 ft-lbs.**

(f) Leave passenger side plastic body/fender shroud and fasteners off until the very end of the installation. This will make it much easier to install the TRD supplied serpentine belt later on. Leave passenger side front wheel assembly off as well, until the end of the installation.

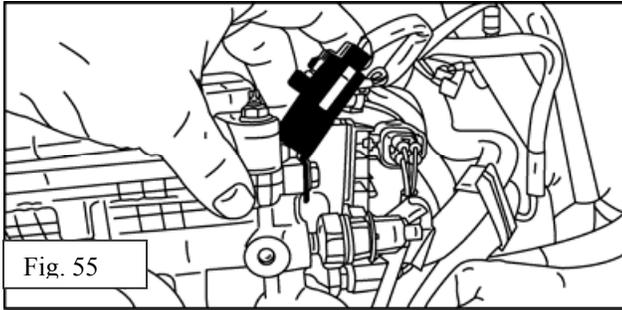


Fig. 55

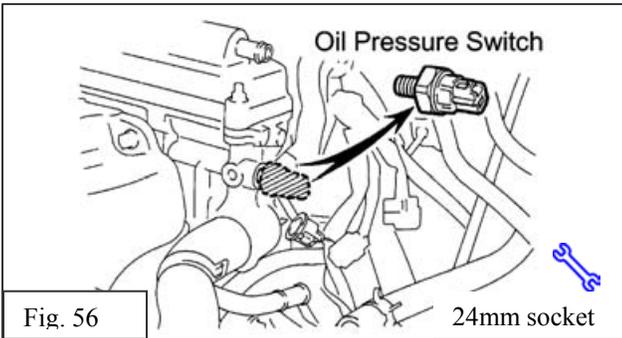


Fig. 56

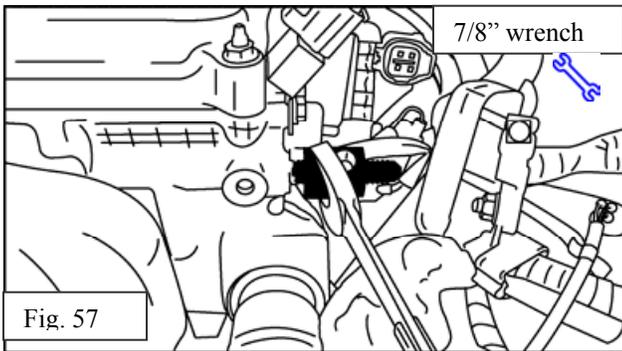


Fig. 57

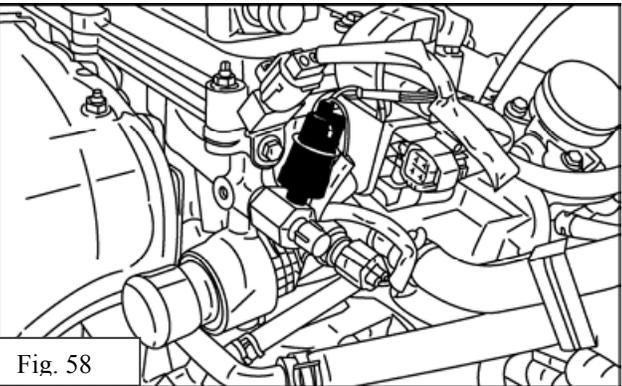
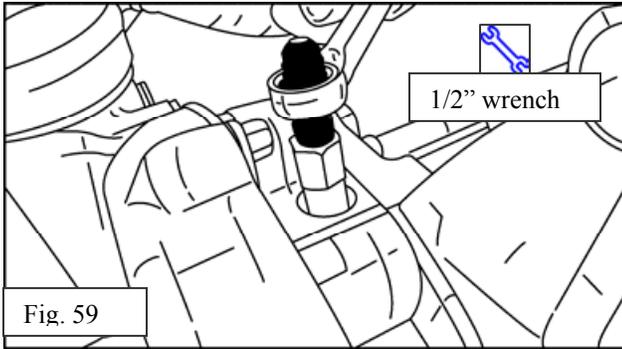


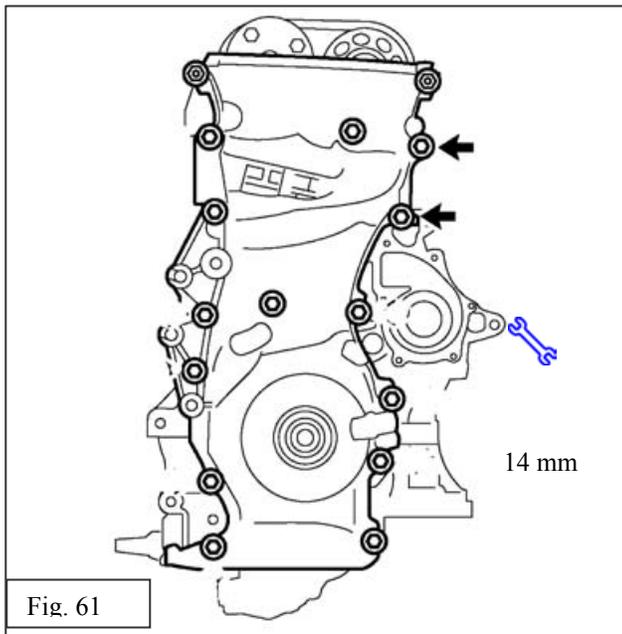
Fig. 58

## 9. Mechanical

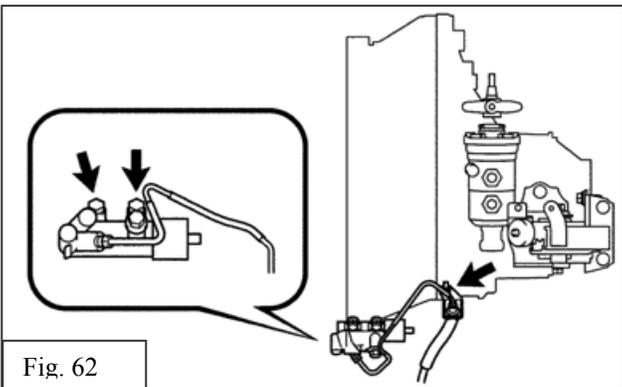
- (a) Rotate radio noise suppressor up at approximately a 45 degree angle. Fig. 55.
- (b) Unplug oil pressure switch. Remove OE oil pressure sending unit. Use a deep 24 mm (or 15/16") socket to remove. Fig. 56.
- (c) Place a small amount of Teflon paste onto threads and Insert TRD hexagonal T fitting. (Torque to 11-ft-lbs). NOTE: The female threads need to be pointing upwards within about +/- 10 degrees from the 12 O'Clock position. You will need a **7/8 inch** (22mm) combination wrench. 
- (d) Place a small amount of Teflon paste onto threads and Thread in OE Oil Pressure Switch into the top of TRD hexagonal T fitting. (**Torque to 11-ft-lbs**). Reconnect electrical connector. Fig. 58. Be sure that the wires are in a relaxed, strain-free position.
- (e) Apply a small amount of motor oil onto the male pipe threads of the TRD Supercharger Oil Feed Line An Fitting. Do not use Teflon tape on AN fittings.



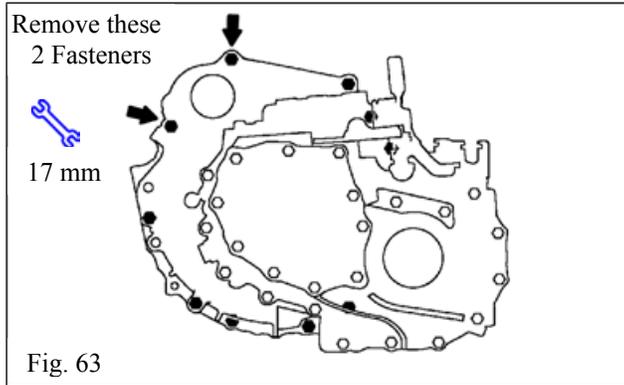
- (f) Remove supercharger assembly from packaging and place onto a workbench. Apply a small amount of Teflon paste to the fitting threads. Attach TRD Supercharger Oil Feed Line Fitting to Supercharger using a 1/2" box wrench. Fig. 59. NOTE: Use a second wrench to hold the supercharger fitting in place as you tighten the TRD fitting into it.



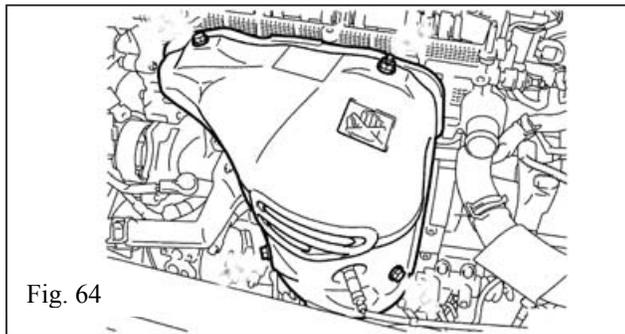
- (g) Remove alternator pivot bolt indicated by the wrench in Figure 61.



- (h) Temporarily remove clutch slave cylinder bolts to gain access to transmission bell housing bolts and for clearance to install TRD bolts as well. Carefully secure slave cylinder assembly out of way until re-assembly later on. Fig. 62. **(Manual Transmission Only)**
- (i) Remove transmission dip stick from transmission using 10 mm wrench. For clearance to install TRD bolts and supercharger rear bracket. **(Automatic Transmission Only)** The dipstick tube will be replaced with TRD supplied tube.



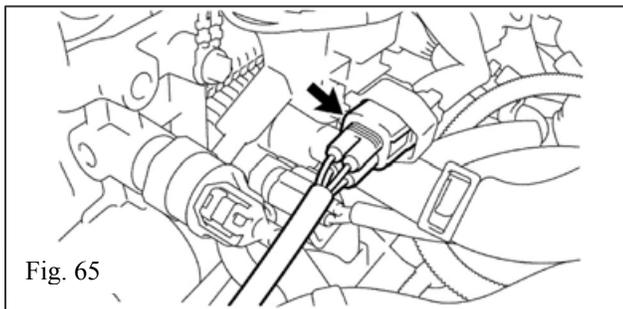
- (j) Remove two OE transmission bell-housing bolts (17 mm wrench) as shown in Figure 63. These will NOT be re-used.



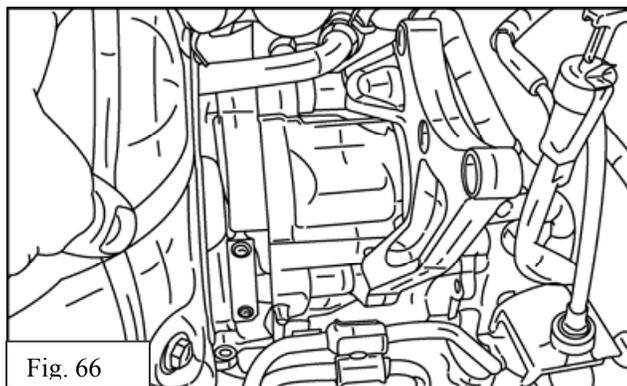
- (k) Replace OE heat shield with TRD provided pre-bent heat shield. See Fig 64. You will need to remove 4 bolts, **CAUTION:** The sheet metal heat shield has many sharp edges! Care should be taken when handling to avoid getting cut.



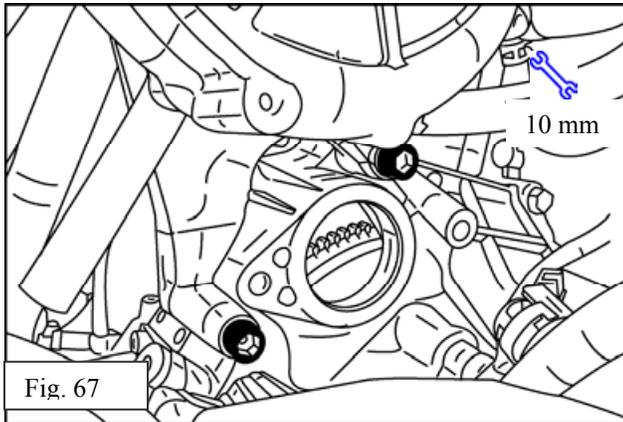
- (l) After all of the fasteners are removed, carefully remove the OE heat shield.



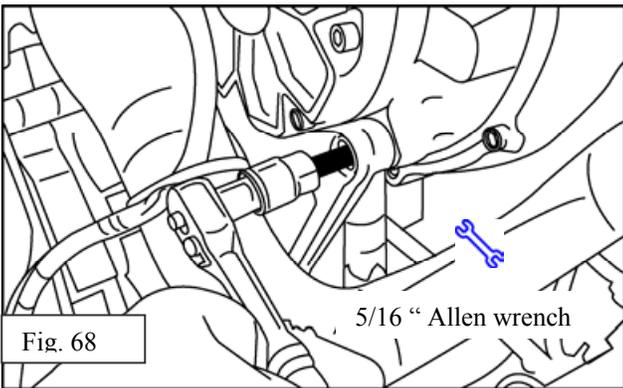
- (m) Now install the TRD supplied heat shield. Secure heat shield with the 4 O.E. bolts **Torque to 9 ft-lbs.**
- (n) Reconnect the AFR sensor wire connector and secure wires to radiator hose with OE wire clip. See Fig 65.



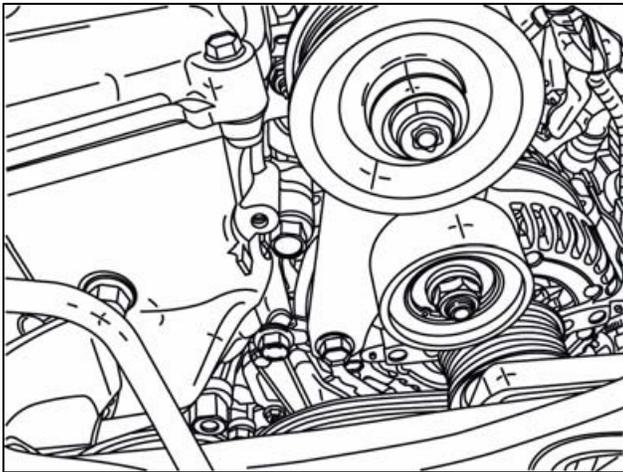
- (o) Utilize TRD transmission mounting bracket to attach supercharger assembly to engine block and bell housing. Fig. 66.
- (p) Set supercharger assembly onto engine.



- (q) Install using (12 x 1.25 x 80 SHCS) TRD bolts provided (10 mm LONG Allen wrench). Leave bolts loose. See Fig 67.



- (r) Install the three 3/8"-16 UNC x 1" Socket Head Cap Screws that mount the supercharger to the engine/bell housing bracket. 5/16 inch Allen wrench. Fig. 68
- Torque bolts to 25 ft-lbs.



- (s) Place alternator bolt through supercharger bracket and thread into alternator. Leave loose for now.
- Feed CPS wire through front supercharger bracket. Attach TRD supplied CPS extension wire.

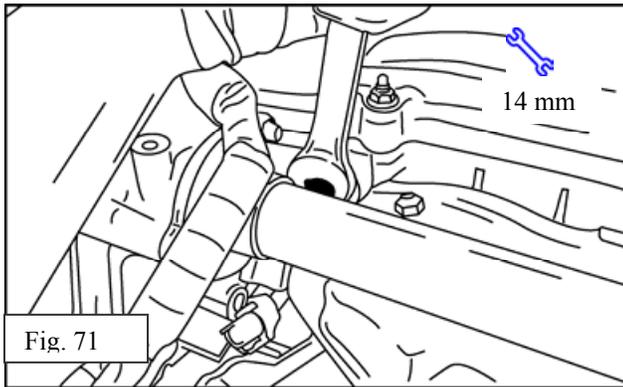


Fig. 71

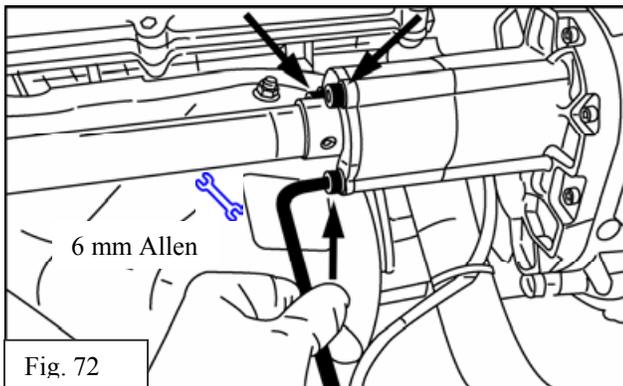


Fig. 72

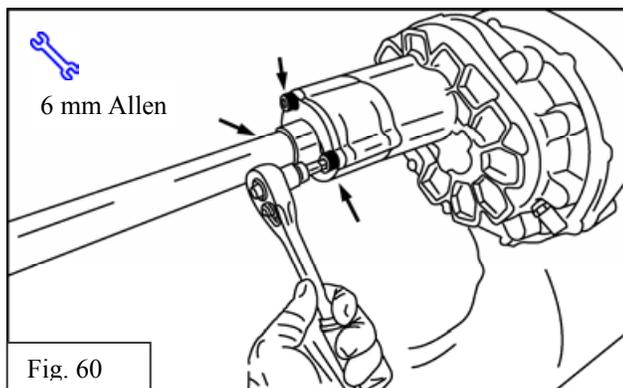


Fig. 60

- (t) Thread in captured TRD (10 x 1.25 x 25 flange head) bolt into engine at cylinder head hanger hole. 14 mm wrench. Leave loose for now. Fig. 71.

- (u) Ensure supercharger assembly and brackets are properly aligned or “seated” and then proceed to uniformly tighten ALL supercharger fasteners at this time. **(See Note if supercharger assembly is not seated correctly)** You must tighten in the following order. Torque the Alternator pivot bolt, then the front bracket bolt to cylinder head, then the supercharger rear bracket bolts.



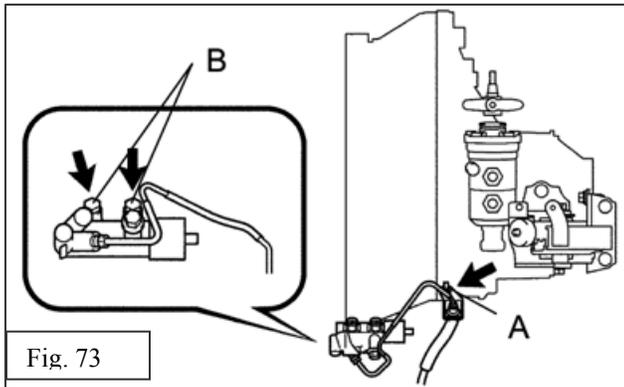
**Torque fasteners as follows:**

**Alternator Pivot Bolt: 16 ft-lbs**

**TRD Flange Head Bolt: 16 ft-lbs**

**Supercharger Rear Bracket Bolt: 47 ft-lbs**

**Note:** If supercharger assembly is not aligned or “seated” properly, you must follow these steps. Temporarily loosen the three “horseshoe” bracket fasteners a few revolutions, as shown in Fig. 60. 6mm Allen wrench. Do NOT take the bolts out of their respective holes. **Then tighten the assembly in this order: First tighten the 3 “horseshoe” bracket fasteners Fig 72. NOTE: A wobble drive Allen wrench may be the preferred tool here. Then tighten the Alternator pivot bolt, then the front bracket bolt to cylinder head, then last the supercharger rear bracket bolts.**



- (v) Replace Clutch Slave Cylinder assembly and fasteners. Fig. 73.

**Torque fasteners as follows:**

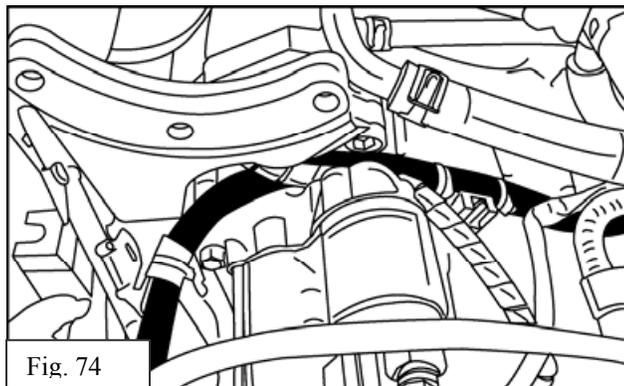
**Bolt A: 5.75 ft-lbs**

**Bolt B: 9 ft-lbs.**

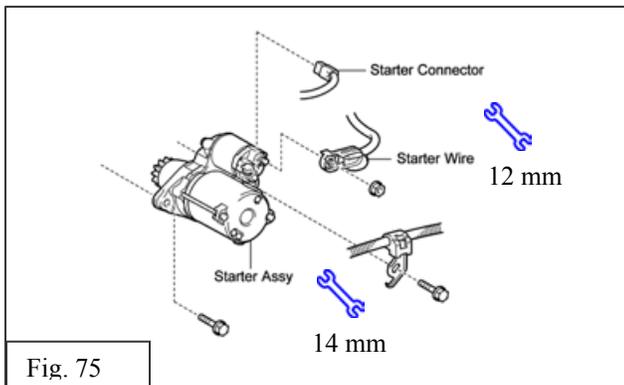
Ensure that the clutch fluid line is clear of any abrasion or sharp edges. Adjust as needed.

**(Manual Transmission Only)**

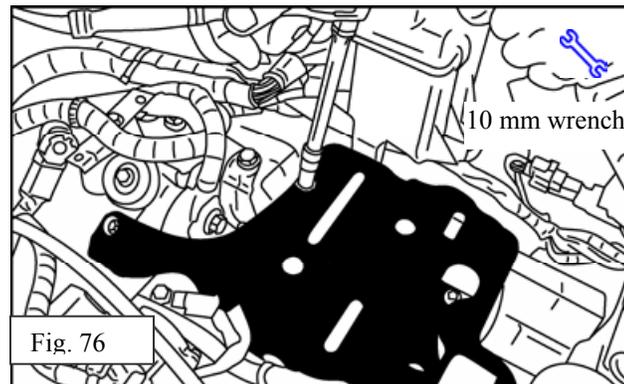
- (w) Route the wiring loom and automatic transmission breather hose (if applicable) before and/or during starter motor installation. See Fig. 74. NOTE: Supercharger is removed in photo for clarity.



- (x) Reinstall starter motor and starter motor wires. Tighten starter motor mounting bolts. 14 mm wrench. **Torque to 27 ft-lbs**



- (y) Re-connect Starter Connector wire plug and main Starter Wire. 12 mm wrench. **Torque to 7 ft-lbs.**



- (z) Re-install the metal battery tray. Fig. 76.

- (aa) Install TRD-supplied upper radiator hose.

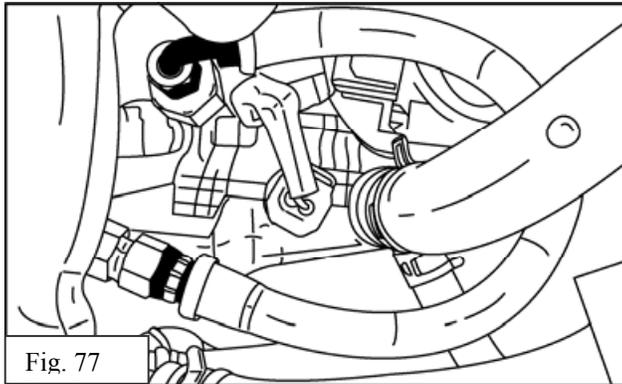


Fig. 77

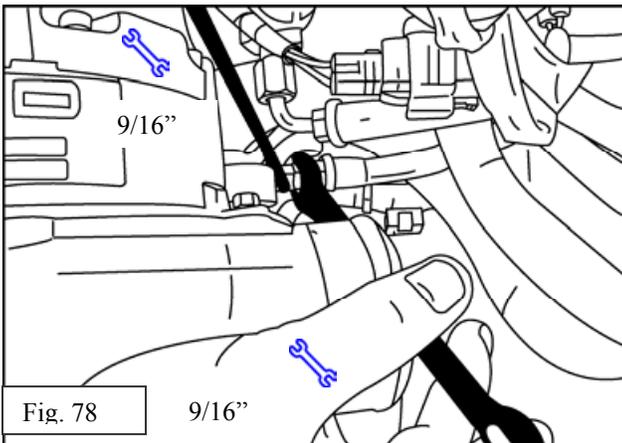


Fig. 78

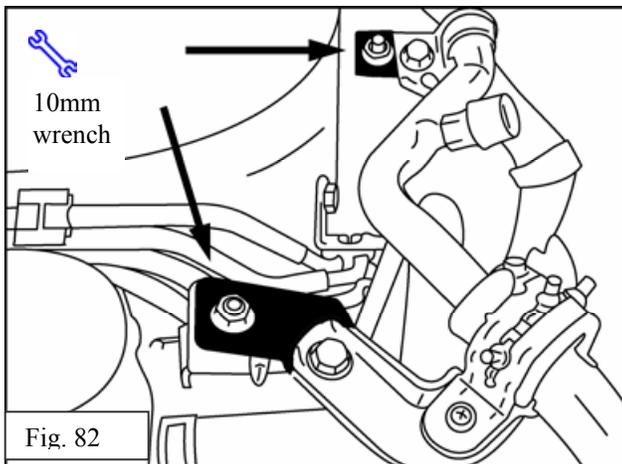


Fig. 82

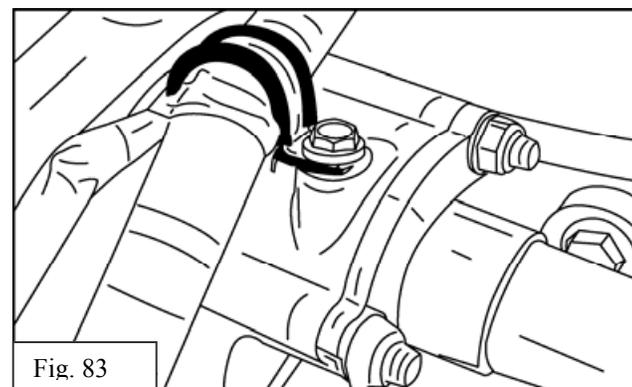


Fig. 83

## 10. Oil Feed Line & Air Conditioner Hose.

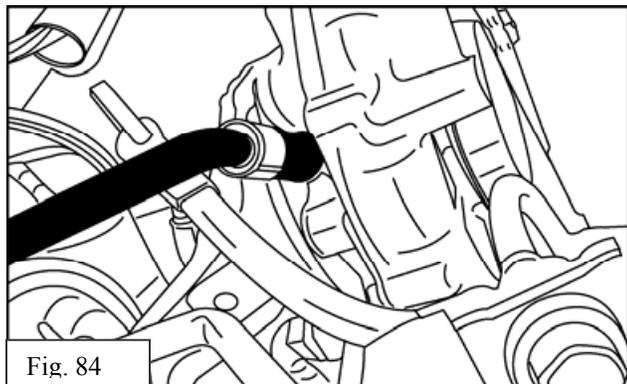
- (a) Next, attach TRD supercharger Oil Feed Line to TRD hexagonal T fitting. Connect the 90 degree bend end of the oil feed line to the T fitting. Leave hand tight for now. Fig. 77.
- (b) Attach the other, straight end, of Oil Feed Line to supercharger fitting. Leave hand tight for now. See Fig 77. **Do not use Teflon paste on AN fittings.** The feed tube should route between heater hoses. Heater hose clamp will need to be relocated about 8 inches rearward.
- (c) Adjust plastic water line clamp as needed to reposition water lines so that they do not interfere with Oil Feed Line.
- (d) Now **carefully** tighten both ends of the Oil Feed Line (9/16" wrench) and recheck for clearance around line. Loosen and re-clock as needed until line is clear and then re-tighten into place. Fig. 78. **Do not over-tighten AN fittings!**
- (e) Install the two different AC-hose relocation brackets. You will utilize one TRD-supplied 6 x 1.0 x 12 mm flange head bolt for each bracket, *in addition to* the OE fasteners.
- (f) Reconnect Alternator, Crank Position Sensor, and AC Pump wires.
- (g) Add wire clamp to A/C line at the supercharger front bearing bracket. Reuse OE 6mm bolt removed from alternator in previous step to fasten clamp to cast aluminum SC bracket. Use 2 small TRD-provided zip ties to secure CPS wire to wire loom. Keep wires and wire connectors strain-free and away from the exhaust manifold heat and drive pulley as much as possible. See Fig. 83

- (h) Re-connect alternator and air conditioner wires.

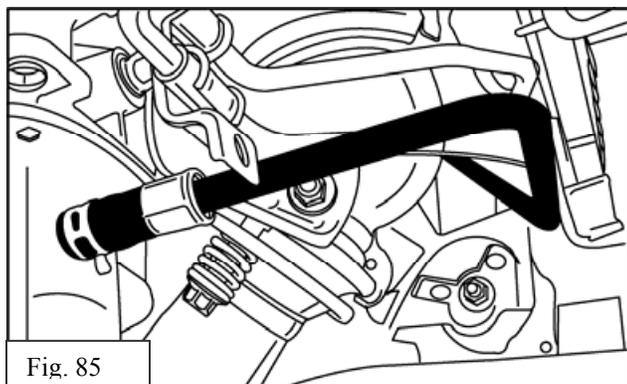
### 11. Oil Return Line.

- (a) Attach supercharger Oil Return Line between TRD oil pan and oil fitting on bottom of supercharger housing. Fig. 84.

**NOTE:** You will need to place the TRD supplied hose clamps onto the hose ends before installing assembly onto the motor.



- (b) Be sure hose clamps are secure and in place. Fig. 85



- (c) Fasten Oil Return Line mounting bracket to OE engine mount with the TRD supplied hardware. 8 x 1.25 x 16 bolt, 8mm flat washer and 8 x 1.25 self locking nut. 13 mm wrench. See Fig. 86. **Torque to 10-ft. lbs.**



- (d) Visually check that Oil Return Line is free of abrasion and interference with any other item. .  
**\*\*IMPORTANT: The oil drain line MUST allow oil from the supercharger to drain “downhill” into the oil pan. Any uphill sections may influence improper drainage resulting in supercharger damage.**

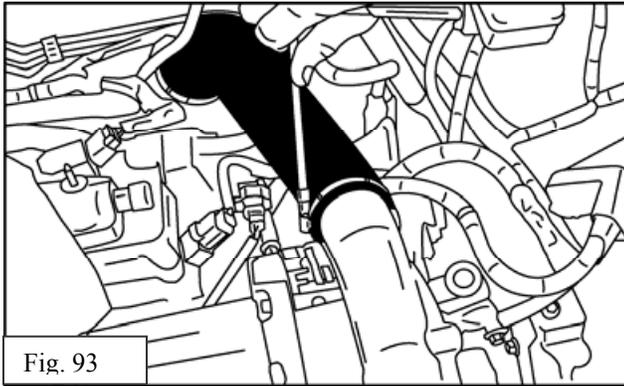


Fig. 93

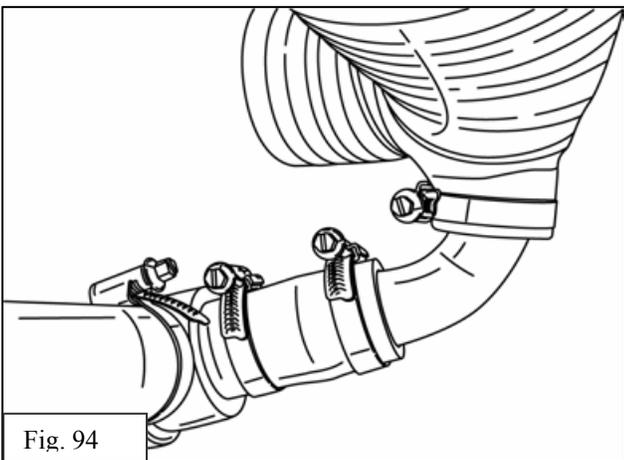


Fig. 94

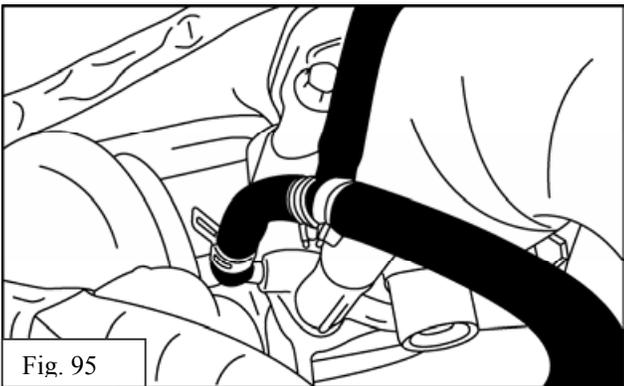


Fig. 95

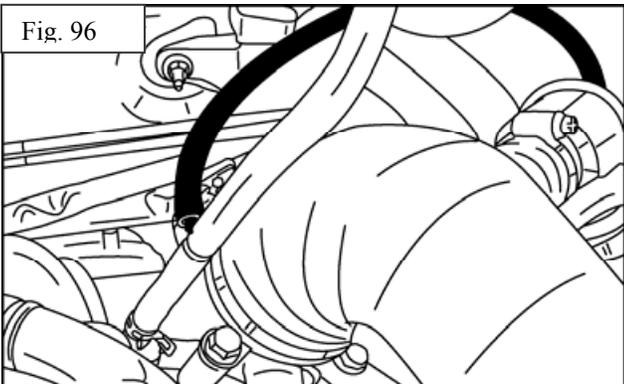
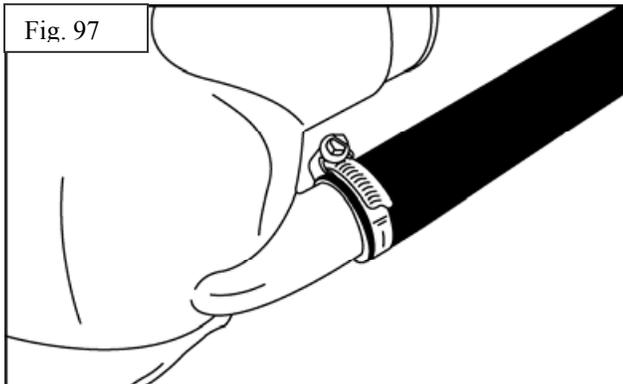


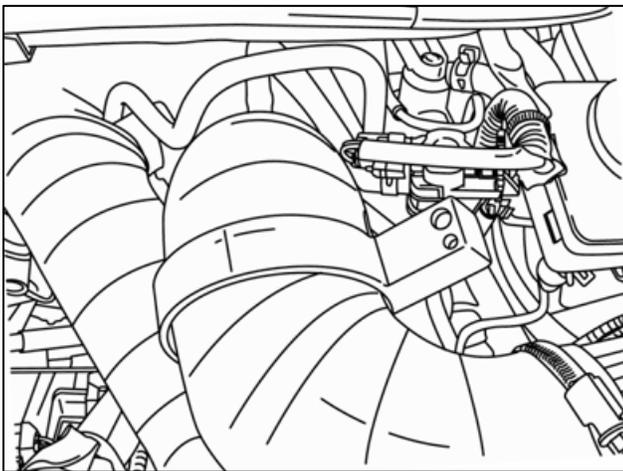
Fig. 96

## 12. Intake System.

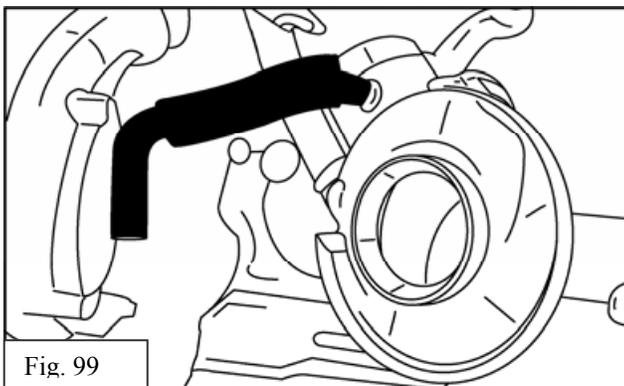
- (a) Install rubber TRD intake tube between S/C and Throttle Body. Be sure to install the hose clamps over the tube before fitting into place. Fig. 93.
- (b) Attach angled bypass hard line into discharge hose. Press in until tube is even with the inside diameter of the discharge hose.
- (c) Attach bypass valve to intake tube with the 90 degree tube and 2 ½ in rubber hose with the appropriate hose clamp.
- (d) Orient hose clamps as shown in Figure 94.
- (e) Cut OE vacuum line near throttle body and insert TRD-provided plastic T fitting and TRD-provided vacuum hose. See Fig 95.
- (f) Connect other end of TRD-provided vacuum hose to nipple on end of bypass valve. Fig. 96.



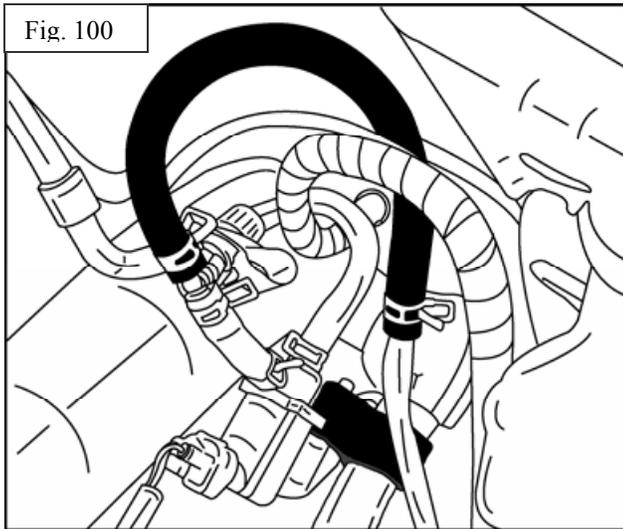
- (g) Install bypass-to-supercharger inlet hose onto cast aluminum TRD intake manifold. Be sure to install hose clamp with the proper orientation and clocking, as seen in Fig. 97.



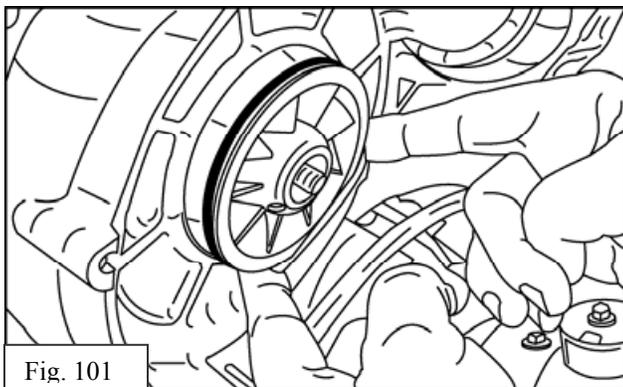
- (h) Install TRD-provided rubber VSV mount to "Tuba" intake hose. See Fig. 98.



- (i) Install OE valve cover breather hose and OE clamp onto cast aluminum TRD intake manifold. Install intake with bypass hose to bypass valve. Do not tighten hose clamps yet. Fig. 99.



- (j) Re-use 90 degree OE vacuum line and attach to VSV. Insert VSV into rubber TRD VSV mount.



- (k) Fit intake manifold O-Ring to supercharger assembly. Be sure to use some assembly lube or motor oil on O-Ring prior to installation. Fig. 101.



- (l) Install "Tuba" intake hose onto inlet manifold and secure with hose clamp. NOTE: Proper orientation of "tuba" hose is with large diameter end attached to aluminum intake manifold. Fig. 102. Orient hose clamp as shown

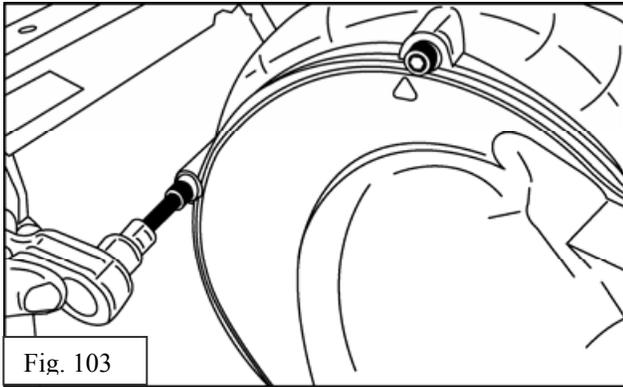


Fig. 103

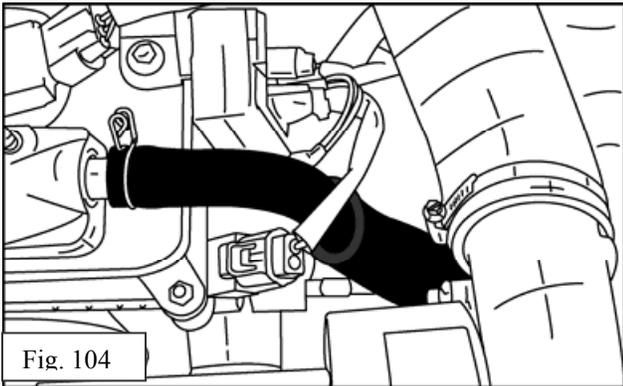


Fig. 104

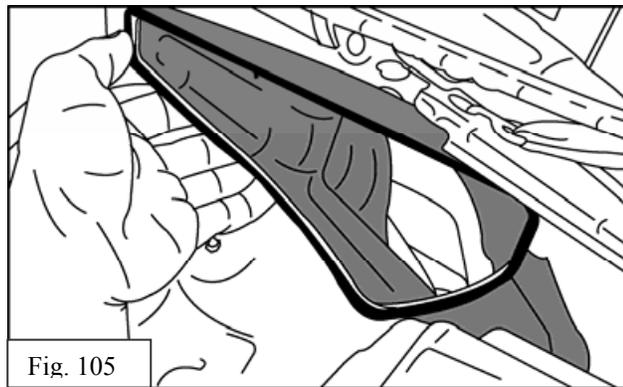


Fig. 105

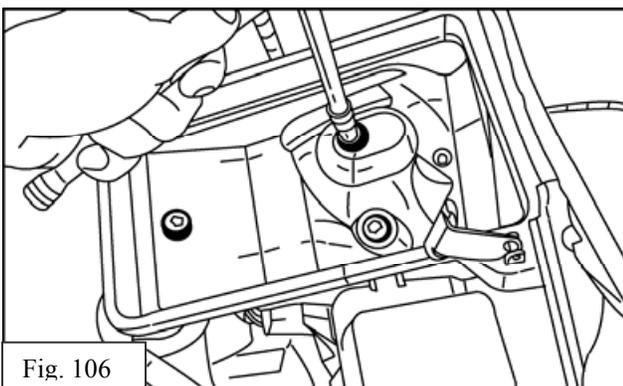


Fig. 106

- (m) Fit TRD inlet manifold to supercharger.  
NOTE: Use a small amount of motor oil or equivalent to lubricate the intake bore and O-ring surface interface prior to assembly. Be sure to align manifold so that all hoses are free from kinks and away from any sharp edges. Using the cast-in locator arrow, align arrow approximately with top fastener hole. See Fig 103. **Torque to 15 inch-lbs.**
- (n) Utilizing the 3 TRD supplied 6 x 1.0 x 16mm SHCS and three 6 mm flat washers, clamp down TRD inlet manifold to supercharger assembly. 5 mm Allen wrench. See Fig. 103.
- (o) Tighten all hose clamps for bypass hose and inlet manifold hose.
- (p) Install valve cover breather hose onto valve cover. Fig. 104.  
Be sure hose is not kinked. Re-adjust as necessary.
- (q) Install the TRD flexible rubber fender inlet piece onto lower air box assembly.
- (r) Install the low-profile TRD supplied spacers and grommets into the TRD supplied lower airbox. Now install airbox assembly into place, making sure that the flexible rubber inlet fits correctly into fender hole without obstruction (See Fig 105). Using the 3 OE fasteners, secure into place. **Torque to 44 inch-lbs.** See Fig. 106. Remove mass airflow sensor from O.E. upper airbox and install into TRD upper airbox using O.E. screws.

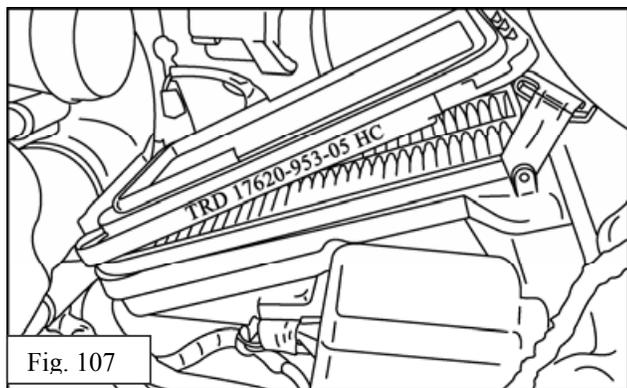


Fig. 107

- (s) Install TRD supplied air filter See Fig. 107.
- (t) Install TRD supplied upper air box housing
- (u) Assemble airbox components together.
- (v) Secure TRD inlet “Tuba” tube between Airbox and supercharger inlet. Be sure to install the hose clamps over the tube before fitting into place.

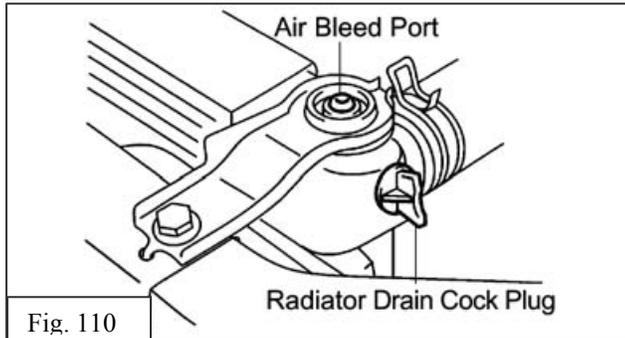


Fig. 110

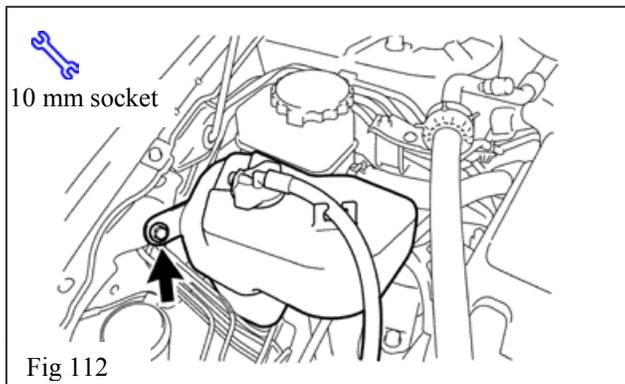
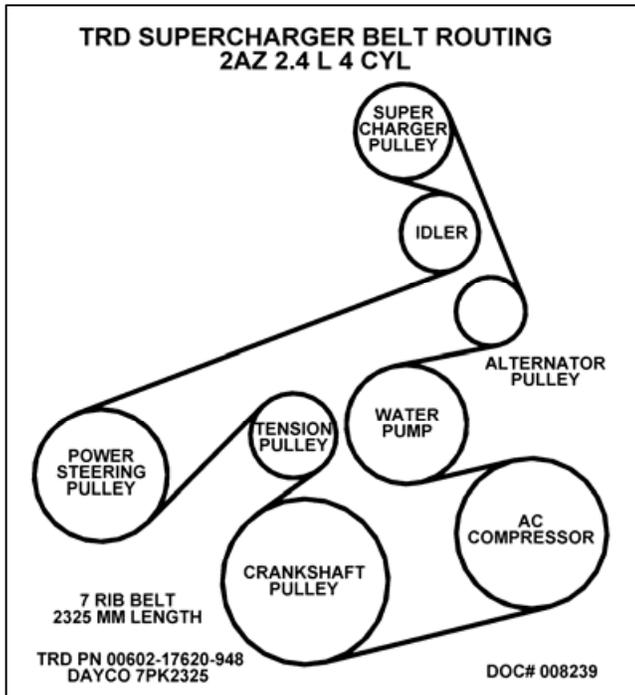


Fig 112

### 13. Final Assembly

(a) Be sure both coolant system drain cocks are closed. Engine block drain cock should be torqued to 9 ft-lbs. Place clear vinyl hose onto bleeder nipple on upper right side of radiator. Crack open upper bleeder valve three turns. Pour any remaining OE coolant back into radiator filler mouth. Use only Toyota Super Long Life Coolant or equivalent. Fill system up with coolant/water mix (approximately 50-50). Close bleeder port when done. Cap radiator. Wipe up any spilled or excess coolant.

(b) Install TRD Supercharger Serpentine Drive Belt. As before, utilize SST **09249-63010** leverage tool with 19mm, 6-point socket and lever arm, or ratchet. See Fig 111.

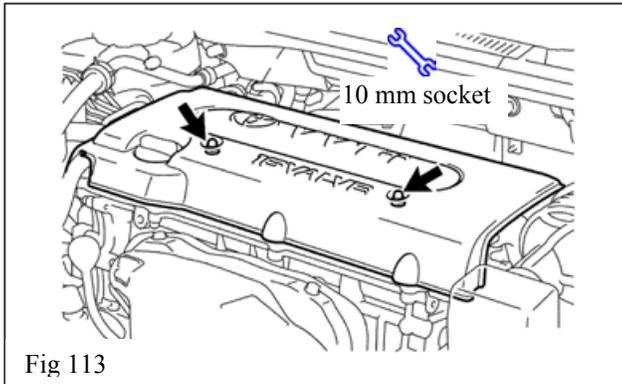
TRD Part Number: PTR30-21070

BE SURE that the belt is properly seated into ALL of the pulleys.

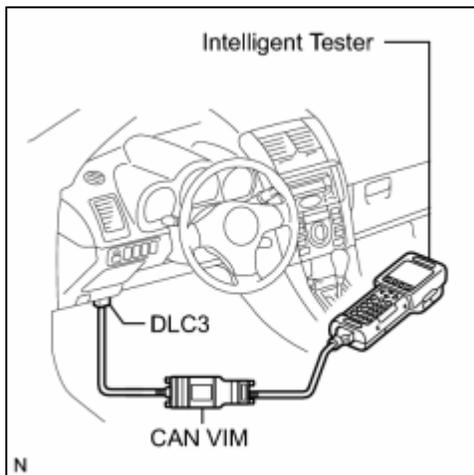
(c) Reinstall radiator reserve tank and torque fastener to **44 inch-lbs.** See Fig 112.

(d) **ADD ENGINE OIL!!!**

Use SAE 5W-30, 4 U.S. Quarts minimum. Check oil level on engine dipstick. Add oil as needed. **\*\*IMPORTANT: DO NOT overfill the engine with oil. Excessive oil fill level may cause supercharger seal and engine damage.**



- (e) Replace engine cover. **Torque to 62 inch-lbs.**
- (f) Select a suitable location under the vehicle hood and install the **Belt Routing Label**, the **CARB EO Emissions Compliant Label**, and the **TRD Tune-Up Label**. Clean the area first of any dirt or contamination so that the labels will adhere properly. **NOTE:** Do NOT cover over any OE labels.
- (g) Install **Premium Fuel Only** decals. Place one on dash near fuel gage AND also one near fuel filler cap.
- (h) Replace plastic battery tray and battery. **NOTE:** Be sure to locate battery in battery tray all the way forward AND all the way toward the driver side of the tray. Replace hold down strap.
- (i) Connect Battery Positive. **Be sure to route Battery (B+) cable safely away from engine components, supercharger components, abrasive surfaces, and any sharp objects.** Recommend routing is between battery and air box assembly.
- (j) Connect Battery Negative.



#### 14. ECM Re-Flash

- (a) After completing the main supercharger installation instructions, download ECM Calibration Update from TIS.

**Manual: 3YW20300**

**Automatic: 3YW20400**

**Note: Refer to TSB# SS002-01 for ECU Reprogramming**

MODEL	MODEL YEAR	PREVIOUS CALIBRATION ID	NEW CALIBRATION ID
Scion tC	2007 ATM	32111000	3YW20400
Scion tC	2007 MTM	32110000	3YW20300

(b) Download the Calibration Update into the Toyota Diagnostic Tester Tool using the TIS Calibration Update Wizard

(c) Follow standard Toyota instructions for re-flashing the ECM

**Note: The GR8 Battery charger MUST be used in Power Supply Mode to maintain battery voltage at 13.5 volts while flash reprogramming the vehicle.**

**For details on how to use the GR8 Battery charger please refer to the GR8 Instructions Manual located on TIS, Diagnostics-Battery**

(d) Note: Vehicle will NOT operate properly without this update.

### 15. Testing and Evaluation.



- (a) Start motor and let it idle.
- (b) Check the fuel system for any leaks.
- (c) Check Oil system for any leaks.
- (d) Check Coolant system for any leaks.
- (e) Check the Air Intake system to ensure there are no leaks and for tightness.



- (f) **IMPORTANT:** Check the serpentine drive belt for correct alignment on ALL pulleys, especially the two TRD idler pulleys.
- (g) Turn off engine and allow it to sit for approximately 5 to 10 minutes.

- (h) Re-check engine oil level. Add engine oil as needed to correct level on dipstick.
- (i) Drive test vehicle. If all OK, park and proceed to next step. If not, troubleshoot as needed.
- (j) Use diagnostic scan tool to check for ECU error codes.
- (k) Install mirror hangtag placard.
- (l) Fill out warranty card/ give to customer/ service writer.
- (m) Place all factory hardware, components, and this instruction sheet, into TRD box and give to customer and/or place into vehicle cargo compartment.
- (n) **IMPORTANT:** Review with the customer/end-user that the supercharger will have a slight rattling and or chirping sound especially at idle and that **these are normal noises** for this type of supercharger.
- (o) **IMPORTANT:** Review with the customer/end-user that it is imperative that only **91 octane or higher fuel** be used after supercharger is installed. Performance will suffer and engine damage is possible otherwise.

Checklist - these points **MUST** be checked to ensure a quality installation.

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#### Accessory Function Checks

- IMPORTANT: Ensure that Battery Positive Cable does NOT touch or rub on supercharger. Adjust as necessary.
  - Verify correct belt alignment. When engine is running, belt should not be running of edge of any pulleys.
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#### Vehicle Function Checks

- NVH on plastic in cabin near accelerator pedal. Use Adhesive Foam Tape or equivalent as needed.
- Be sure to follow recommended factory engine break-in procedures and maintenance schedules.
- Be sure to initialize each door's power window and moon roof per factory procedure.