

## **READ THIS IMPORTANT NOTICE BEFORE INSTALLING THE TRD SUPERCHARGER SYSTEM.**

The TRD Supercharger System requires a special calibration that needs to be installed into the OEM ECU. The supercharger calibration is unique for each model variation and cannot be interchanged.

### **NOT ALL MODELS ARE ELIGIBLE FOR A SUPERCHARGER SYSTEM!**

**Do not install the TRD Supercharger System until the OE vehicle calibration ID can be verified, and a Supercharger Calibration exists for your vehicle.**

\*Ensure you have the latest set of installation instructions. The latest set of instructions can be downloaded through TIS, or may be obtained through your local Toyota Dealer. Check the OE Calibration ID of the vehicle that will have a TRD Supercharger System installed. Refer to [T-SB-0012-13](#) "Techstream ECU Flash Reprogramming Procedure". Verify that a Supercharger Calibration exists before proceeding with the installation. Compare the OE Calibration ID with the Supercharger Calibration chart near the end of these instructions.

**If the OE calibration IS NOT LISTED in the Target Calibration ID table, DO NOT INSTALL THE SUPERCHARGER SYSTEM!**

**Calibrations not listed on the Target Calibration ID Table will result in a "No Flash" condition!**

Refer to ASG or your Toyota Dealer for updated information regarding available supercharger calibrations.

**WARNING! – DO NOT INSTALL THE TRD SUPERCHARGER CALIBRATION FILE INTO A VEHICLE THAT WILL NOT HAVE A SUPERCHARGER SYSTEM INSTALLED.**

Installation of the TRD Supercharger calibration file is **NON-REVERSABLE!** Installation of a TRD supercharger calibration into a non-supercharged equipped vehicle will result in multiple malfunction codes. There is no way to remove a supercharger calibration once the ECU has been programmed.

**Replacement of the ECU will be required if an OE calibration is needed.**

Neither Toyota Motor Sales, USA, Inc. nor TRD will honor any warranty claim in which a non-supercharged vehicle was unintentionally programmed with a supercharger calibration.

TRD supercharger systems are only calibrated to operate on PREMIUM Gasoline (91 Octane or higher Unleaded Fuel) R+M / 2 method.

**Use of Flex-Fuels or Gasoline with more than 10% Ethanol is not approved.**

### **Emissions Compliance Information:**

A new process has been implemented. No longer is the Emissions Label included in the Supercharger Fit Kit.

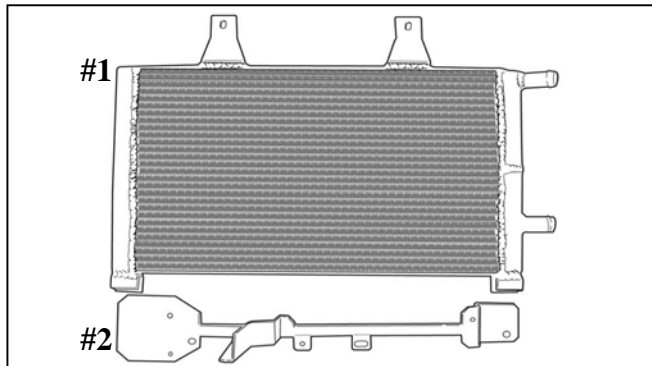
**If your state requires an Emissions Compliance Label, one may be ordered through your Toyota dealer or the Toyota Materials Distribution Center (MDC) 310-468-9800 or MDC@toyota.com**

This TRD Supercharger Kit has received 50-State Emissions Compliance via the California Air Resources Board (CARB). Not all states require the Emissions Compliance Label but TRD does recommend ordering one. To receive the proper Supercharger Emissions Compliance Label for this TRD Supercharger kit, please order MDC label part number **00602-34158**. Proof of ownership may be required.

**Part Number: PTR29-35120 (FIT KIT)**

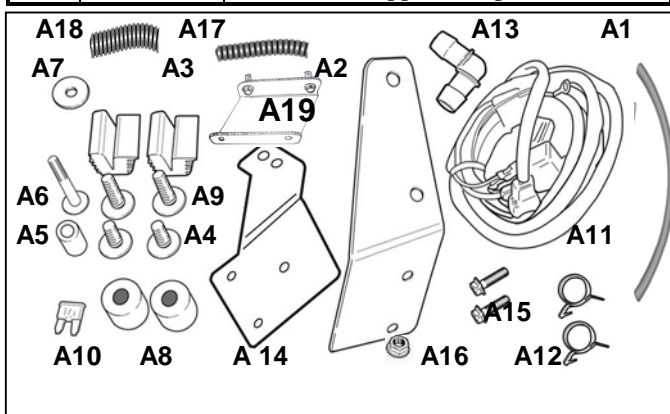
**Kit Contents (FIT KIT), P/N PTR29-35120**

Item	Qty Req'd	Description
1	1	Heat Exchanger - Low Temperature Radiator (LTR)
2	1	Hood Support Bracket
3	1	Hardware Bag "A"
4	1	Hardware Bag "L" (White Envelope)



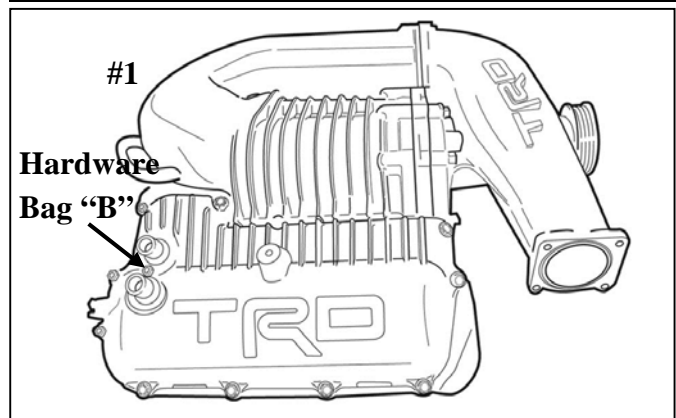
**Hardware Bag "A" Contents (FIT KIT)**

Item	Qty Req'd	Description
1	1	5/16" EVAP Hose
2	1	Reservoir Bracket
3	2	Rubber Grommet
4	2	M8 x 20mm Hex Flange Head Bolt
5	1	Spacer, .50" Dia x 0.75" Long
6	1	M6 x 50mm Hex Flange Head Bolt
7	1	M6 x 20mm Dia Washer
8	2	Spacer, .75" Dia x 0.75" Long
9	2	M8 x 30mm Hex Flange Head Bolt
10	1	10 Amp Mini Fuse
11	1	Intercooler Pump Harness
12	2	Wide Band Spring Clamp
13	1	3/4" x 3/4" 90 Elbow Hose Mender
14	1	Reservoir Bracket
15	2	M6 x 20mm Hex Flange Head Bolt
16	3	M6 Hex Nut
17	1	Tubing - convoluted 1/2" x 4"
18	18"	1" Wire Loom
19	1	2012 Hood Support Adapter Bracket



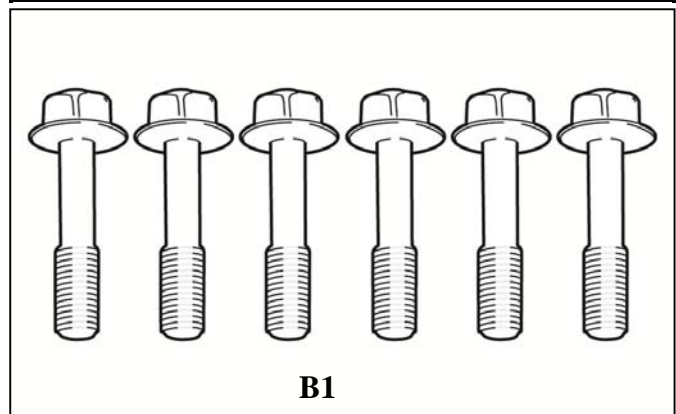
**Kit Contents (MAIN SUPERCHARGER KIT)  
P/N PTR29-35090**

Item	Qty Req'd	Description
1	1	Main Supercharger Assembly with Hardware Bag "B" attached to the coolant nipples at the rear of the intercooler lid.
2	1	TRD Air Filter (not illustrated)
3	1	Hardware Bag "C"
4	1	Hardware Bag "D"
5	1	Hardware Bag "E"
6	1	Hardware Bag "F"
7	1	Hardware Bag "G"
8	1	Hardware Bag "H"
9	1	Hardware Bag "I"
10	1	Hardware Bag "J"
11	1	Hardware Bag "K"



**Hardware Bag "B" Contents**

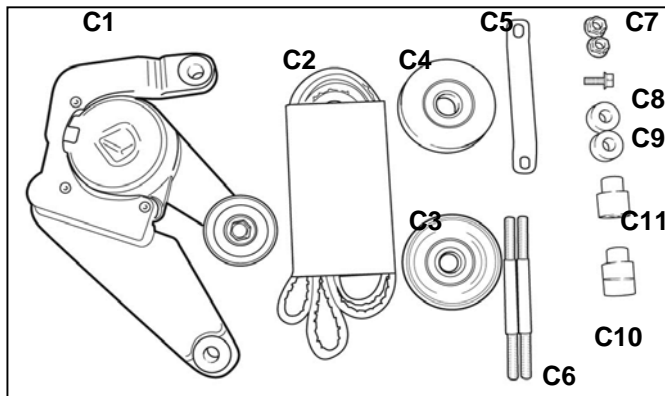
Item #	Qty Req'd	Description
1	6	M8 x 35 mm Reduced Shank Hex Head Bolts



Preparation

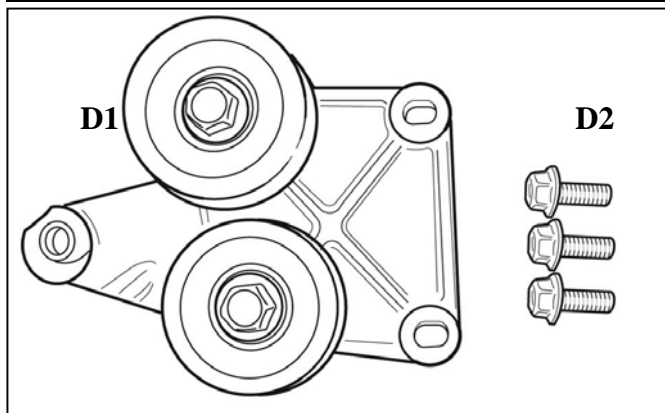
**Hardware Bag “C” Contents**

Item #	Qty Req'd	Description
1	1	Tensioner Bracket Assembly
2	1	5 Rib Belt
3	1	Smooth Idler Pulley
4	1	5 Rib Idler Pulley
5	1	Tensioner Strut Bracket
6	2	M10 Double Ended Stud
7	2	M10 Hex Flange Nut
8	1	M8 x 16mm Hex Flange Head Bolt
9	2	Short Spacers
10	1	Idler Spacer with Groove
11	1	Idler Spacer without Groove



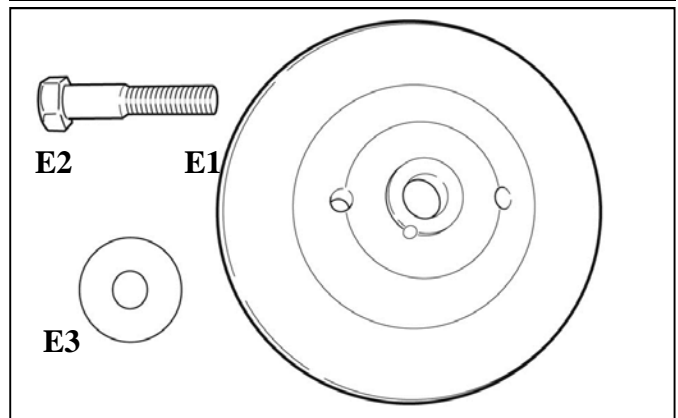
**Hardware Bag “D” Contents**

Item	Qty Req'd	Description
1	1	Upper Idler Bracket Assembly
2	3	M8 x 20mm Hex Flange Head Bolt



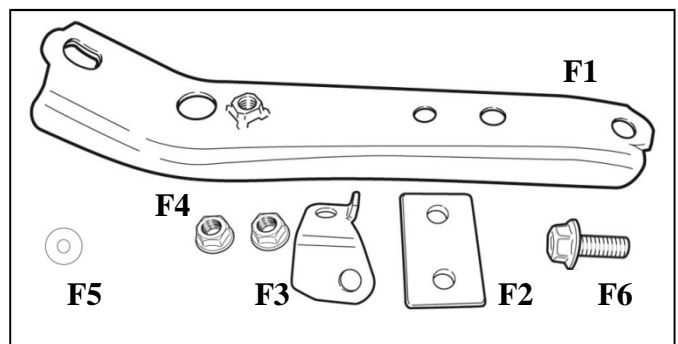
**Hardware Bag “E” Contents**

Item	Qty Req'd	Description
1	1	Crank Pulley
2	1	M16 x 70mm Hex Head bolt
3	1	M16 x 48mm Dia Washer



**Hardware Bag “F” Contents**

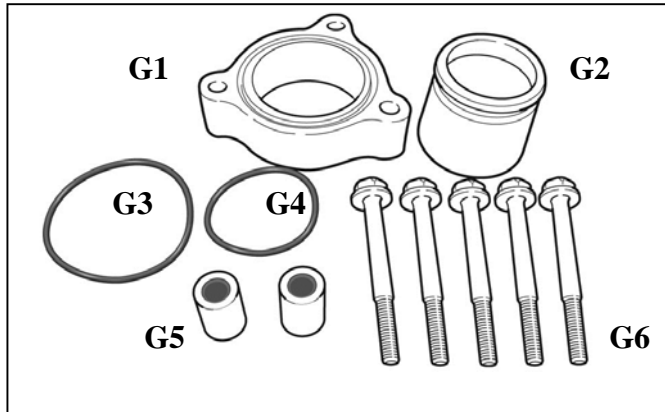
Item	Qty Req'd	Description
1	1	Supercharger Support Bracket
2	1	Air Box Bracket
3	1	VSV Bracket
4	2	M6 Hex Flange Nut
5	1	M6 Washer
6	1	M6 x 16mm Hex Flange Head Bolt



Preparation

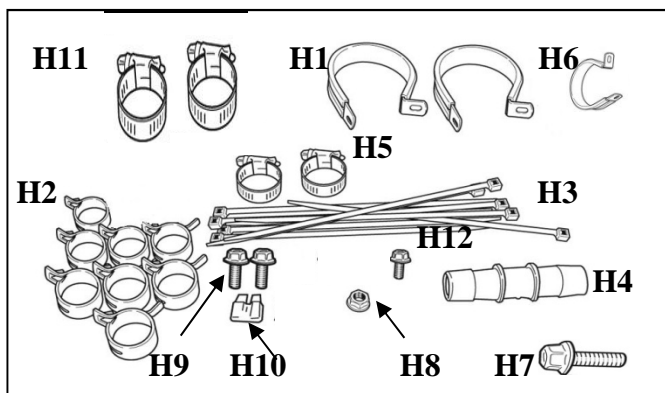
**Hardware Bag "G" Contents**

Item	Qty Req'd	Description
1	1	Thermostat Spacer
2	1	Water Pipe Spacer
3	1	O-ring – Large
4	1	O-Ring Small
5	2	Spacer
6	5	M6 x 55mm Hex Flange Head Bolt



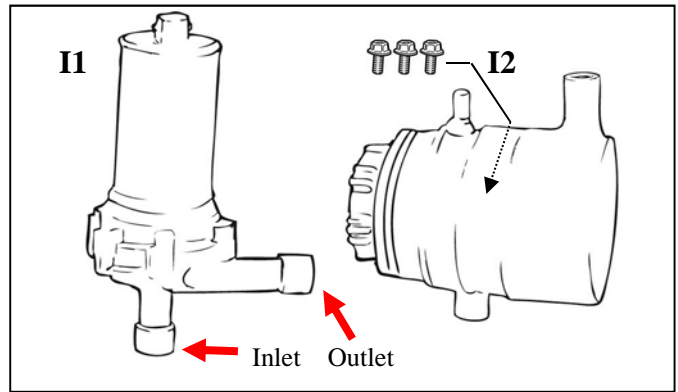
**Hardware Bag "H" Contents**

Item	Qty Req'd	Description
1	2	Adel Clamp, #36
2	8	Wide Band Spring Clamp
3	10	Tie Wrap, 7.5"
4	1	Hose Mender Fitting, 3/4"
5	2	Hose Clamp, #10
6	1	Adel Clamp, #16-2
7	1	M6 x 20mm Hex Flange Head Bolt
8	1	M6 Hex Flange Nut
9	2	M6 x 16mm Hex Flange Head Bolt
10	1	15 Amp Fuse
11	2	Hose Clamp, #20
12	1	M6 x 12 Hex Flange Head Bolt



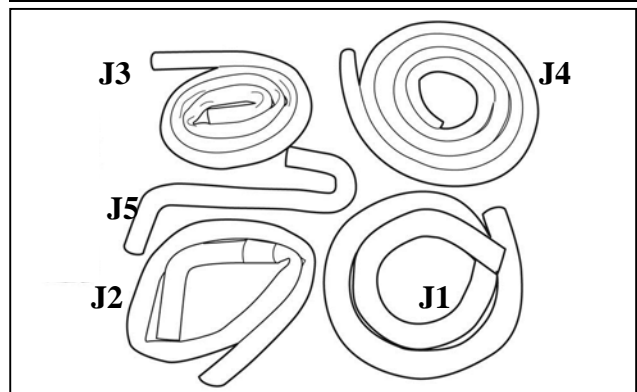
**Hardware Bag "I" Contents**

Item	Qty Req'd	Description
1	1	Intercooler Pump
2	1	Coolant Reservoir with Cap and Bolts



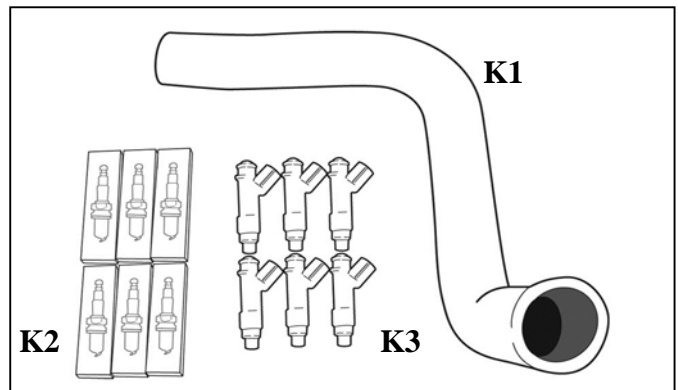
**Hardware Bag "J" Contents**

Item	Qty Req'd	Description
1	96"	1" Wire Loom
2	1	3/4" ID x 4" x 36" Coolant Hose
3	1	3/4" ID x 4" x 60" Coolant Hose
4	96"	3/4" Coolant Hose
5	1	3/4" Formed Hose, LTR to Pump Outlet



**Hardware Bag "K" Contents**

Item	Qty Req'd	Description
1	1	Lower Radiator Coolant Hose (loose in main box)
2	6	Spark Plugs
3	6	Fuel Injectors





Preparation

**Hardware Bag “L” Contents**

Item	Qty Req'd	Description
1	2	Sticker, TRD Supercharged
2	2	Sticker, TRD Development
3	2	Sticker, Premium Fuel Warning
4	2	Sticker, TRD Red TRD Logo
5	1	Warranty certificate, TRD
6	1	Warranty Registration Card
7	1	Mirror Hanger, S/C Noise
8	1	Label, Vacuum and Belt Routing
9	1	Installation Instruction Manual

**Additional Items Required For Installation**

Item #	Quantity Req'd.	Description
1	1	Main Supercharger Assembly, P/N PTR29-35090

**Conflicts**

Cold Air Intake System, Exhaust Headers
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**Recommended Tools**

<b>Personal &amp; Vehicle Protection</b>	<b>Notes</b>
Safety Glasses	
Fender Blankets	
Protective Gloves	
<b>Special Tools</b>	<b>Notes</b>
Toyota T.I.S. Techstream	9.30.029 or Later
GR8 Battery Charger	
Crankshaft Pulley Holder	SST-09213-54015
Pulley Holder Lever Arm	SST-09330-00021
<b>Installation Tools</b>	<b>Notes</b>
Mechanic's Hand Tools	Combo wrenches & sockets
½" & 3/8" Torque Wrenches	
<b>Special Chemicals</b>	<b>Notes</b>
Anti-Seize Assembly Lube	For Spark Plugs

**General Applicability**

All Tacoma with 1GR Engine
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**Recommended Sequence of Application**

Item #	Accessory
1	Not Applicable







\*Mandatory

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

Item #	Quantity Req'd.	Description
1	1 Gallon*	Toyota Pre-Mix Antifreeze Coolant
2		

\* Additional coolant will be required if the original coolant is not saved and reused.

**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.
	<b>SAFETY TORQUE:</b> This mark indicates that torque is related to safety.

**Recommended Installer Skill Level:**

**Expert Technician or higher.**

## Procedure

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.).
- The TIS Repair Manual can be referenced for additional details.

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

### 1. Review the Instructions and Prepare the Vehicle.

- (a) Review the entire installation instructions provided before beginning the installation.
- (b) Review the 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.



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



- (d) Place the vehicle onto vehicle hoist.
- (e) Protect the vehicle with protection blankets over the fenders and front of the vehicle.
- (f) Disconnect and remove the battery.

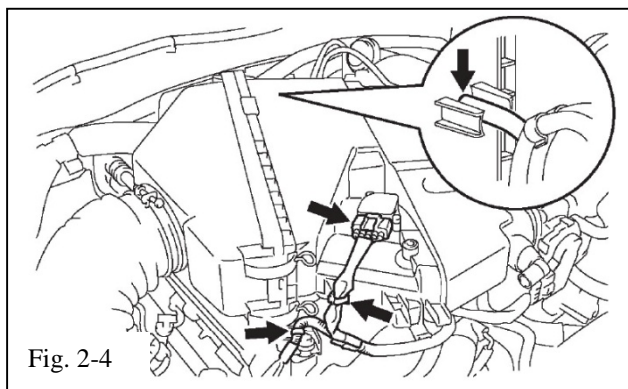
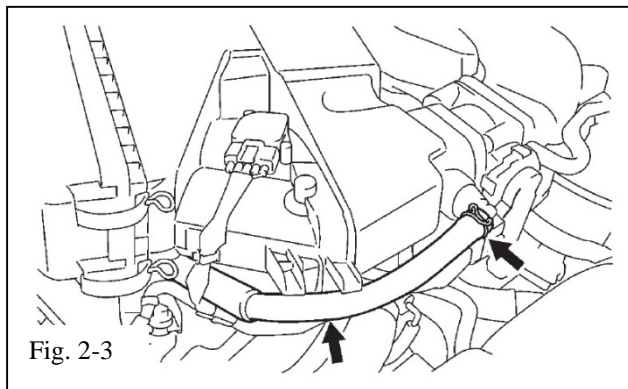
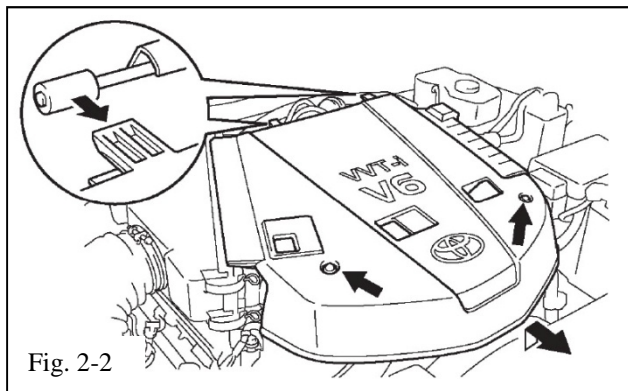
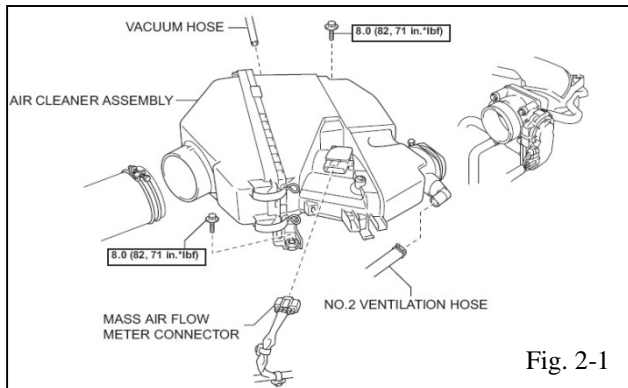


- (g) When draining the cooling system into a clean container in Step 7, save this coolant as it will be reused.



**CAUTION: To avoid the danger of being burned, do not remove the radiator cap while the engine and radiator are still hot. Thermal expansion will cause the hot engine coolant and steam to blow out from the radiator.**

- (h) All parts that are removed and not reused should be saved for the customer, i.e., “discard” means to save for the customer.



**2. Remove the Air Cleaner Assembly.**

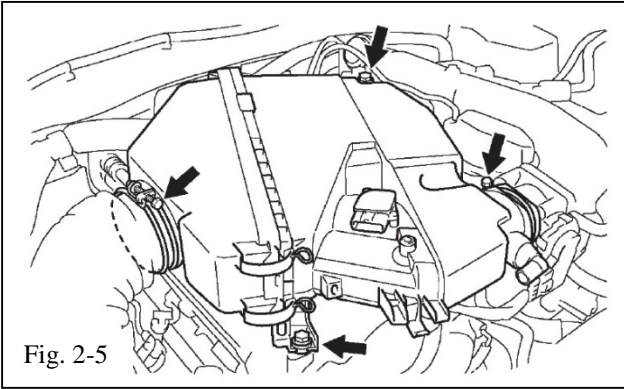
(a) Remove the engine V-bank cover by removing the two acorn nuts (Figs. 2-1 & 2-2).

(b) Disconnect the ventilation hose No. 2 (Fig. 2-3).

(c) Disconnect the vacuum hose (Fig. 2-4).

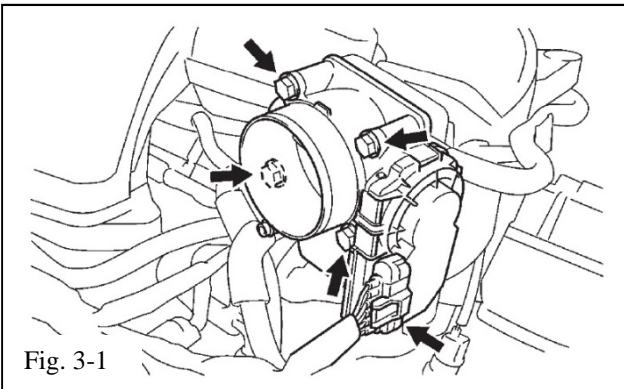
(d) Disconnect the mass air flow meter connector (Fig. 2-4).

(e) Remove the 2 wire harness clamps (Fig. 2-4).



- (f) Remove the air cleaner (Fig. 2-5).
  - (1) Loosen the 2 hose clamps.
  - (2) Remove the 2 bolts, then remove the air cleaner.
- (g) Remove the air filter from the air cleaner and replace it with the new TRD air filter. Set the air cleaner aside for now.

**3. Remove the Throttle Body with Motor Body Assembly.**



- (a) Disconnect the throttle body connector (Fig. 3-1).
- (b) Remove the 4 bolts, and then remove the throttle w/ motor body and gasket (Fig. 3-1).
- (c) Leave the throttle body connected to the coolant hoses for now.

**4. Remove the Intake Air Surge Tank.**

(a) Disconnect the fuel vapor feed hose (Fig. 4-1 & 4-2).

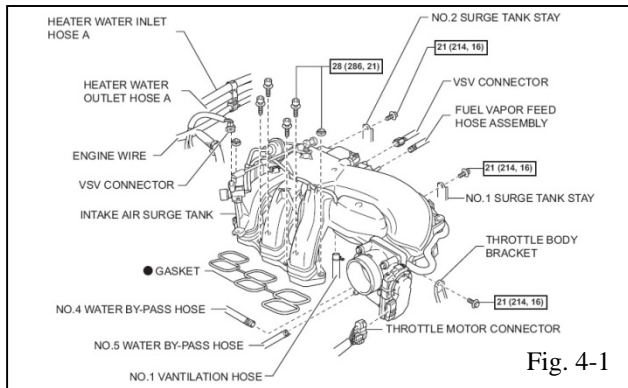


Fig. 4-1

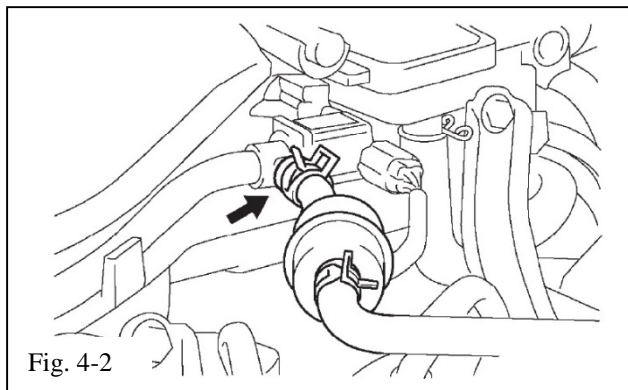


Fig. 4-2

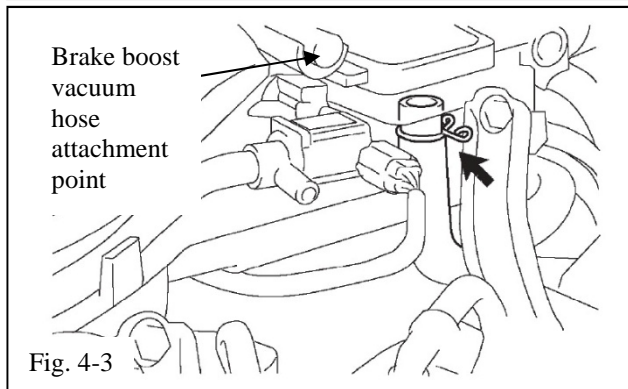


Fig. 4-3

(b) Disconnect the ventilation hose (Figs. 4-1 & 4-3). If equipped, remove the Brake Booster vacuum hose from the intake manifold.

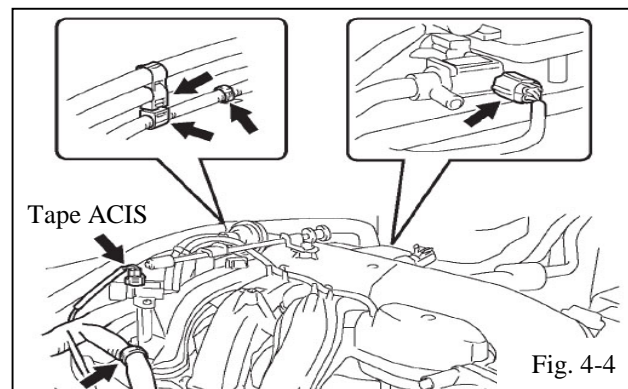


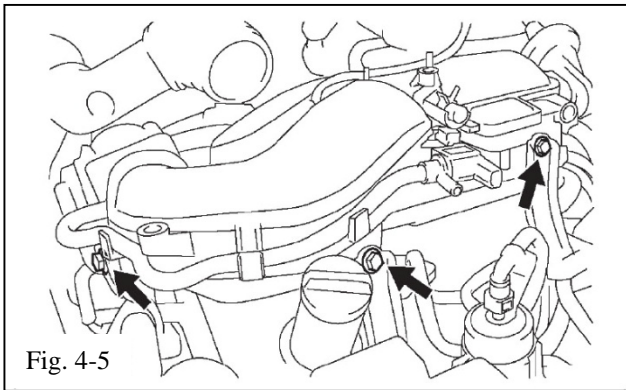
Fig. 4-4

(c) Disconnect the 2 VSV connectors (Figs. 4-1 & 4-4).

(d) Remove the 4 wire harness clamps and hose clamps (Figs. 4-1 & 4-4).

(e) Cover the end of the intake manifold ACIS housing with tape and secure the harness to the wiring bundle.





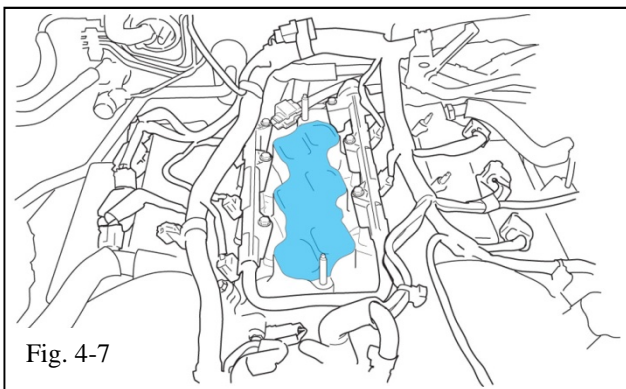
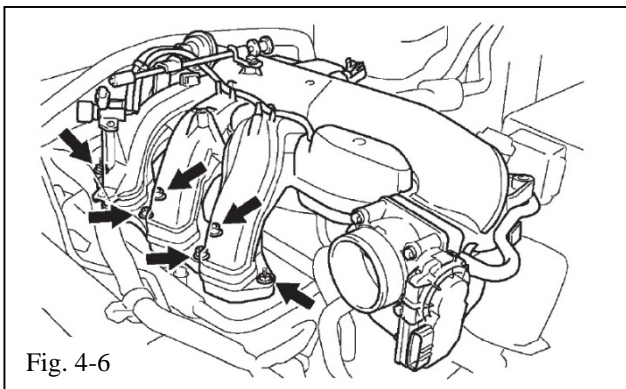
- (f) Remove the 3 upper bolts which are used to secure the 2 surge tank stays and throttle body bracket (Figs. 4-1 & 4-5).
- (g) Remove the 2 bolts that hold the brackets to the side of the cylinder head.
- (h) Remove and discard the bracket attached to the front of the cylinder head (Bracket stamped "A").



**CAUTION:** Before proceeding, make sure no dirt or debris is on or around the base of the surge tank. If any is, it must be removed so that it will not enter the engine when the surge tank is removed.



- (i) Use an 8mm Allen socket to remove the 4 bolts and a 12mm socket to remove the 2 nuts. Remove the surge tank and gasket (Fig. 4-6).



- (j) Wipe off the engine surface and apply tape to cover the intake ports (Fig. 4-7).

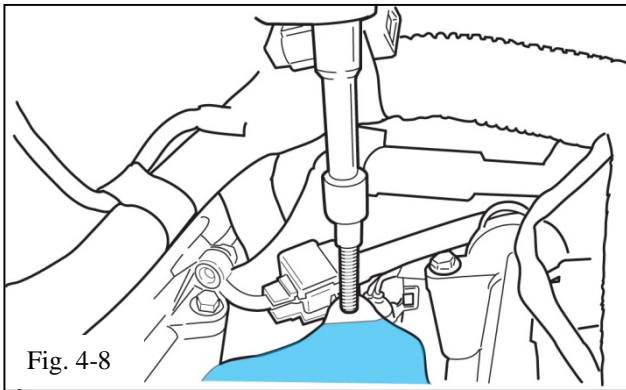


Fig. 4-8

(k) After the ports are taped over, use an E-5 internal Torx socket to remove the 2 studs from the intake manifold (Fig. 4-8).

**5. Replace the Fuel Injectors.**

**+** **Warning: The fuel system is under high pressure. Use safety glasses and fuel compatible gloves to prevent personal injury.**

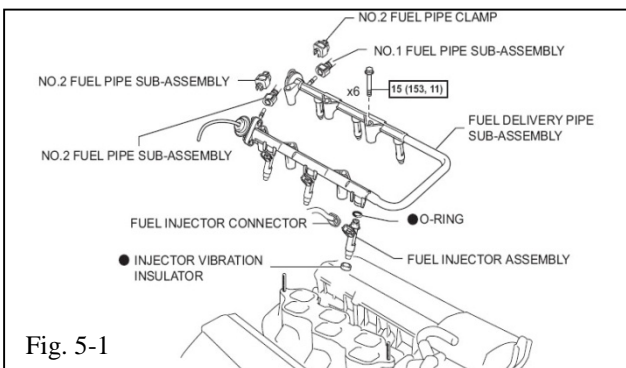


Fig. 5-1

(a) For the No. 1 fuel pipe, remove the fuel pipe clamp (Figs. 5-1 to 5-3).

- (1) Pinch the tube connector, and pull the fuel pipe out of the connector as shown.
- (2) Repeat for the No. 2 fuel pipe.

**NOTICE:**

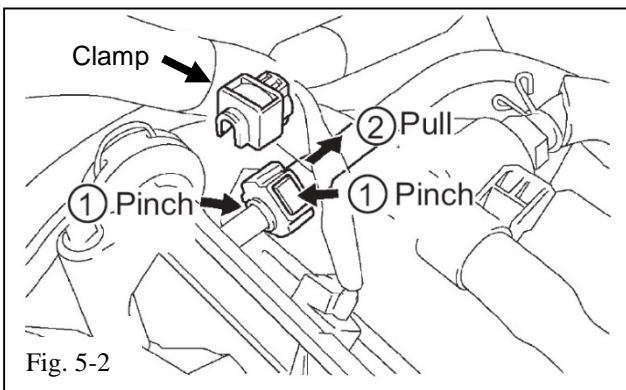


Fig. 5-2



- **Remove any dirt and foreign objects from the connectors before performing this work.**
- **Do not allow any scratches or foreign objects on the parts when disconnecting, as the fuel tube connector has the O-ring that seals the pipe.**
- **Perform this work by hand. Do not use any tools.**
- **Do not forcibly bend, twist or turn the nylon tube.**
- **Protect the disconnected parts by covering them with a plastic bag after disconnecting them.**
- **If the fuel tube connector and pipe are stuck, push and pull to release them.**

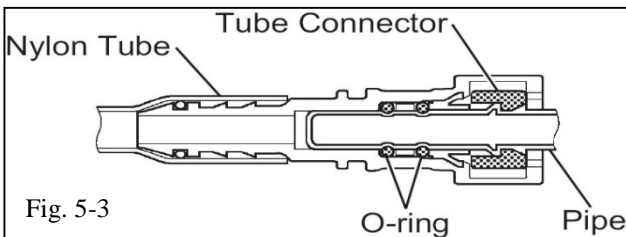


Fig. 5-3

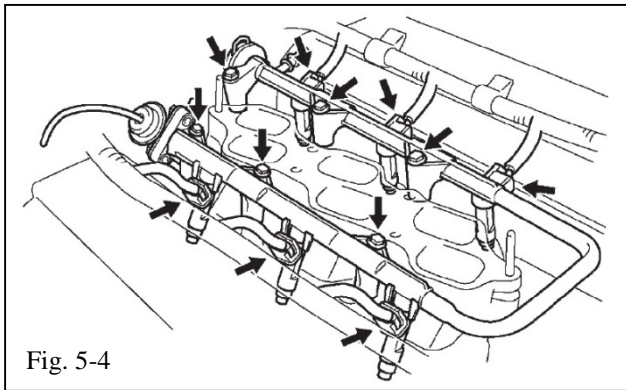


Fig. 5-4

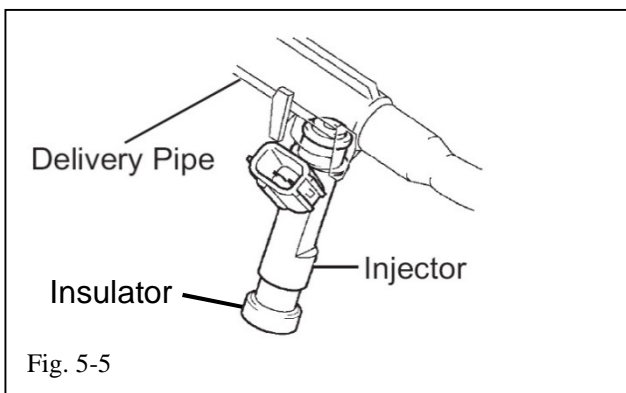




Fig. 5-5

- (b) Disconnect the 6 fuel injector electrical connectors (Figs. 5-1 & 5-4).
- (c) Remove the 6 bolts and fuel delivery pipe together with the 6 fuel injectors (Figs. 5-1 & 5-4).

- (d) Pull the 6 injectors out of the delivery pipe (Fig. 5-5). Discard the injectors as they will be replaced with new higher flow injectors. The old injectors should be saved for the customer.

**NOTE: The new injectors (K3) have Mustard colored bodies, while the old injectors have Blue colored bodies.**

 **Inspect the injector insulators for damage and wear. If wear or damage exists,**  
 **replace the insulator with Toyota part number 23291-23010 or equivalent superseded part.**

- (e) Install the fuel injectors into the fuel delivery pipe.

- (1) Place a light coat of spindle oil or gasoline on the O-ring on the top of each new injector.
- (2) While turning the fuel injector left or right, install it onto the fuel delivery pipe. Position the connector facing outward (Fig. 5-6).
- (3) Repeat for all six new injectors.
- (4) Apply a light coat of spindle oil on the injector insulators.

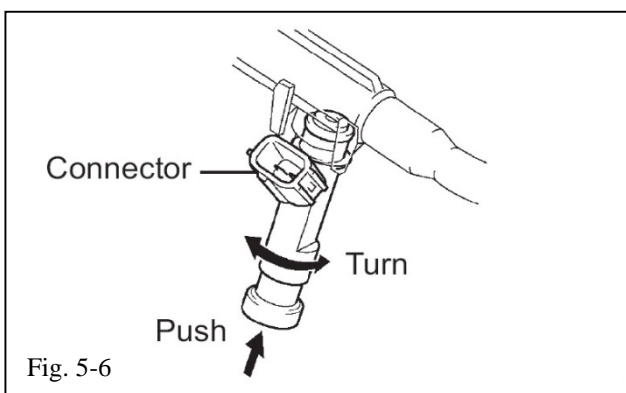
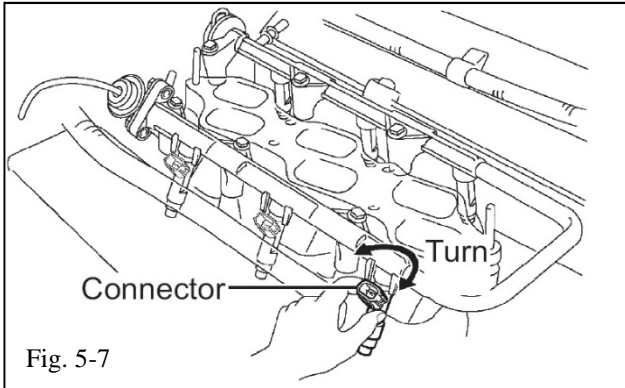


Fig. 5-6



- (5) Install the insulators in the lower intake manifold.
- (f) Install the fuel delivery pipe (Fig. 5-7).
  - (1) Place the fuel delivery pipe together with the new injectors on the intake manifold.
  - (2) Provisionally install the 6 bolts, which are used to hold the delivery pipe, onto the intake manifold.
  - (3) Check to see that the injectors rotate smoothly.
  - (4) Position the injector connectors facing outward.
  - (5) Tighten the 6 bolts.

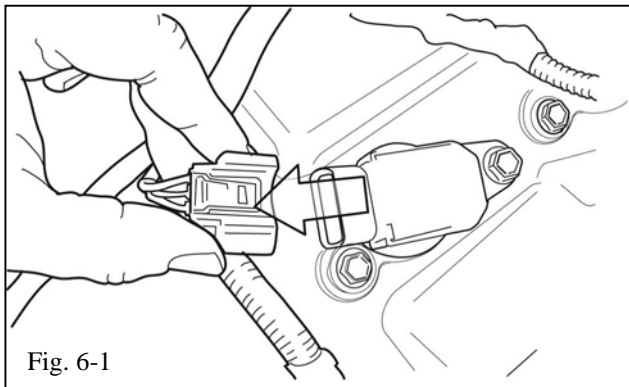
**⚠ Torque: 15 Nm (11 ft lbf)**

- (g) Reconnect the 6 fuel injector electrical connectors.
- (h) Reconnect the No. 1 and No. 2 fuel pipe sub-assemblies to the fuel delivery pipe connectors by pushing together until the connector makes a “click” sound.
  - (1) Check that the pipe and connector are securely connected by pulling on them.
  - (2) Reinstall the clamps on each connector.
- (i) To ensure clearance to the supercharger manifold, pry the wire loom retainer up and off of the stud on the LH cylinder head cover (Fig. 5-8). **NOTE: Do not omit this step.**

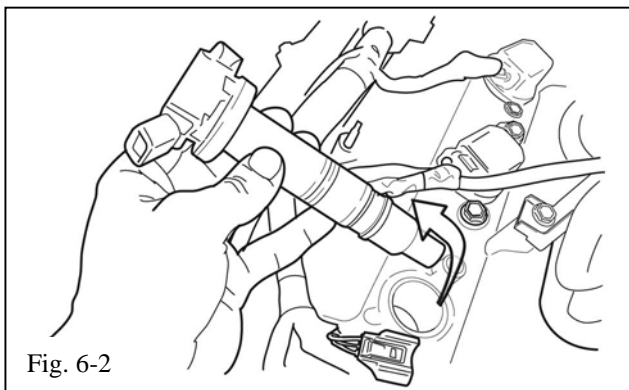


### 6. Replace the Spark Plugs.

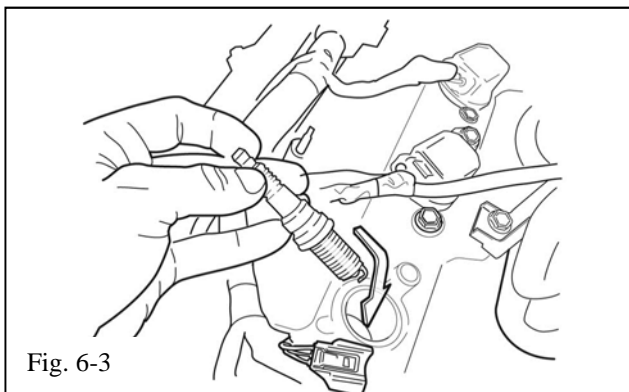
- (a) Unplug the electrical connector from each of the 6 ignition coils (Fig. 6-1).




- (b) Remove the 6 bolts, and then remove the 6 ignition coils (Fig. 6-2).




- (c) Remove the 6 spark plugs and place them in a box for the customer. New, colder plugs will be installed (Fig. 6-3).

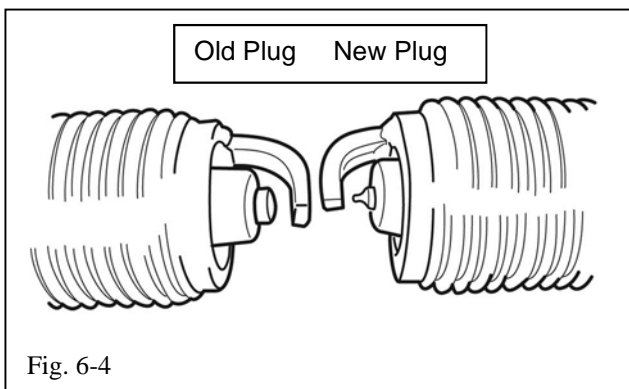


 **CAUTION: Blow any dirt or debris from around the spark plugs before removing them.**



 **Wear safety glasses when using compressed air.**

- (d) **Set the Spark Plug Gap at 0.8 mm (0.032")** (Fig. 6-4). Install the 6 new spark plugs (K2) (A little anti-seize on the plug threads will prevent seizing in the future).

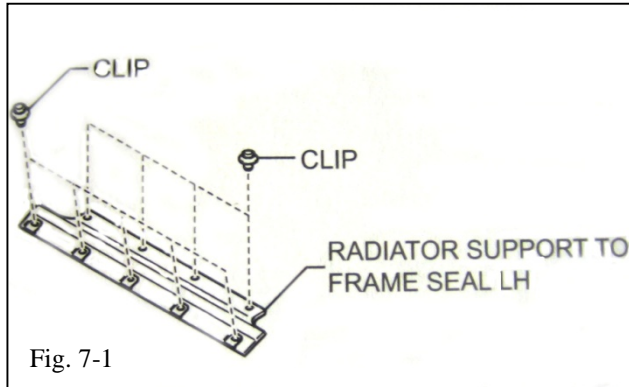


**Torque: 20 Nm (15 ft lbf)**

- (e) Reinstall the ignition coils and the bolts.

**Torque: 10 Nm (7.4 ft lbf)**





7. Remove the Coolant, Fan and Shroud.

- (a) Remove the 9 plastic clips from the black plastic seal cover at the top of the radiator and set it aside for reinstallation later (Fig. 7-1).
- (b) Drain the engine coolant.

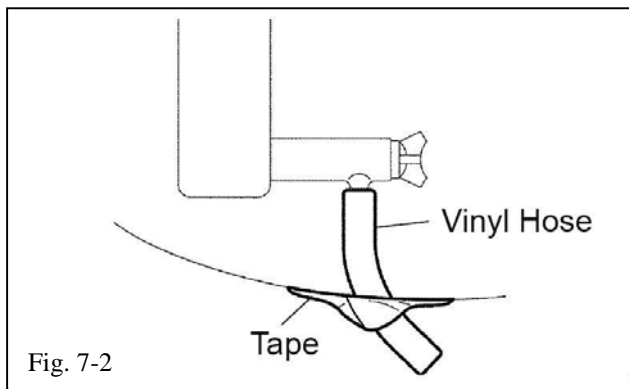


**CAUTION: To avoid the danger of being burned, do not remove the radiator cap while the engine and radiator are still hot. Thermal expansion will cause hot engine coolant and steam to blow out from the radiator.**

- (1) Remove the service hole cover from the engine under cover.

**NOTE: On some vehicles it may be necessary to remove the skid plate.**

- (2) Install a vinyl hose onto the drain on the radiator side (Fig. 7-2) and secure it with tape.

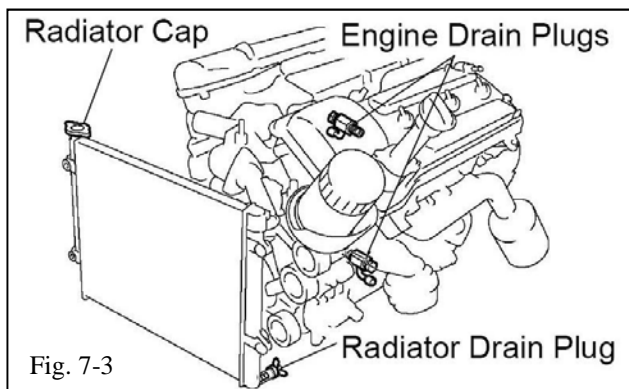


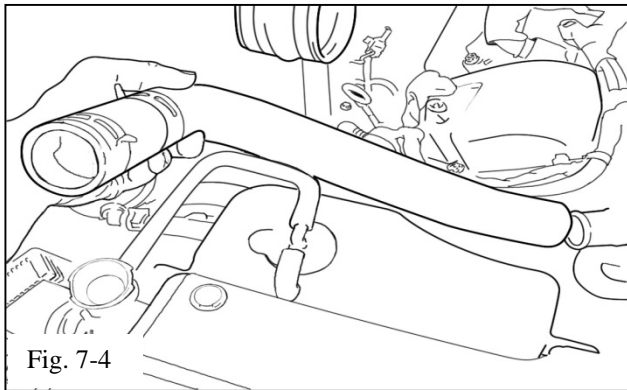
- (3) Loosen the three drain plugs on the engine and radiator and drain the coolant into a clean container (Fig. 7-3). Save the coolant as it will be reused.

- (4) Remove the radiator cap.
- (5) Drain the coolant from the reservoir tank.
- (6) Tighten the three drain plugs.

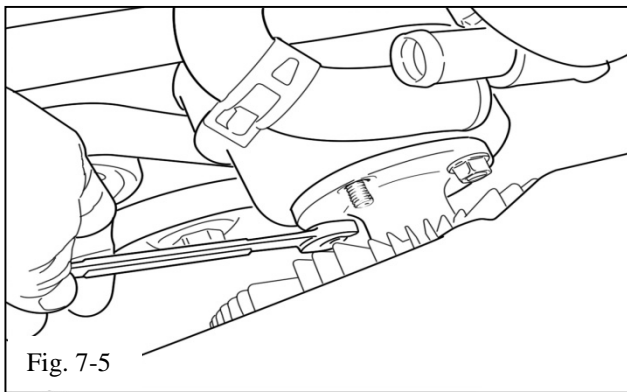
**Torque: 13 Nm (9.0 ft lbf) for the engine**

- (7) Remove the vinyl hose from the radiator.

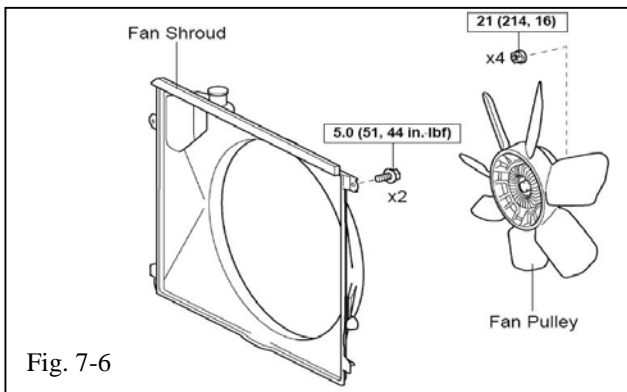




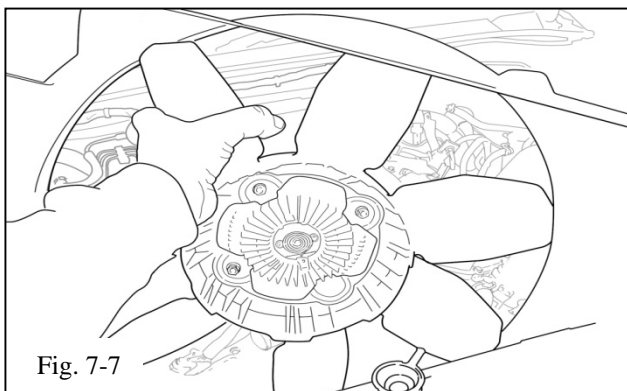
- (c) Remove the top radiator hose (Fig. 7-4). Save it for reuse.



- (d) Remove the four nuts that attach the fan/clutch to the fan pulley (Fig. 7-5). Leave the fan in place for now.

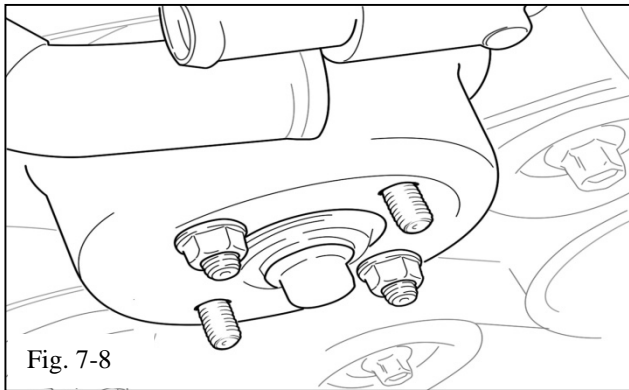


- (e) Remove the two bolts from the top corners of the fan shroud (Fig. 7-6).
- (f) Disconnect the coolant overflow tube from the radiator (Fig. 7-4). If the vehicle has a transmission oil cooler, it will be necessary to remove a clip holding a fluid line to the shroud.



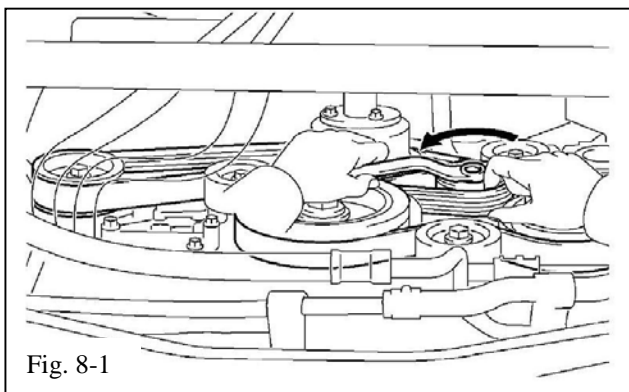
- (g) Carefully remove the fan and shroud together so you do not damage the radiator (Fig. 7-7).

**NOTE:** Tape a piece of cardboard (about the size of the radiator) to the back side of the radiator to prevent damage during subsequent steps.



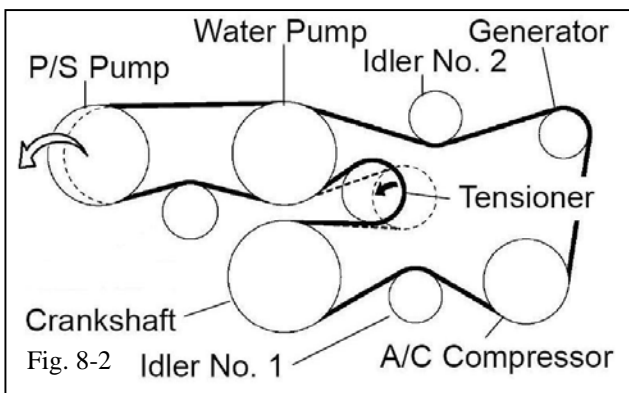
- (h) Reinstall two of the fan nuts (finger tight) so the fan pulley will not fall off (Fig. 7-8).
- (i) Remove the lower radiator hose. The hose will not be reused.

**8. Install the Auxiliary Drive Pulleys.**



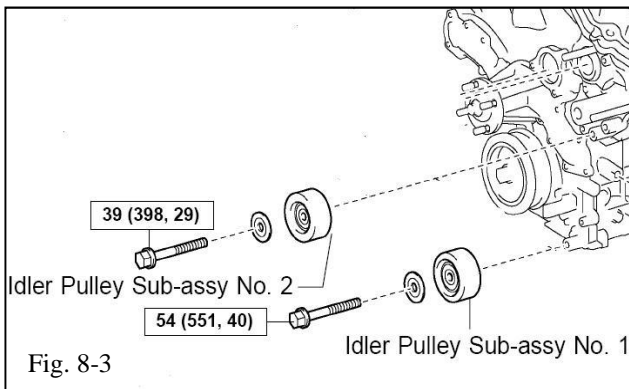
- (a) Release the belt tension by turning the belt tensioner counterclockwise and remove the belt from the power steering pump pulley (Figs. 8-1 & 8-2).

**NOTE: It is not necessary to completely remove the belt from the vehicle.**



- (b) Remove Idler No. 1 and discard the bolt (Figs. 8-2 & 8-3). Keep the thin step washer and pulley for the next step.

**NOTE: Some vehicles may not have the thin step washer.**



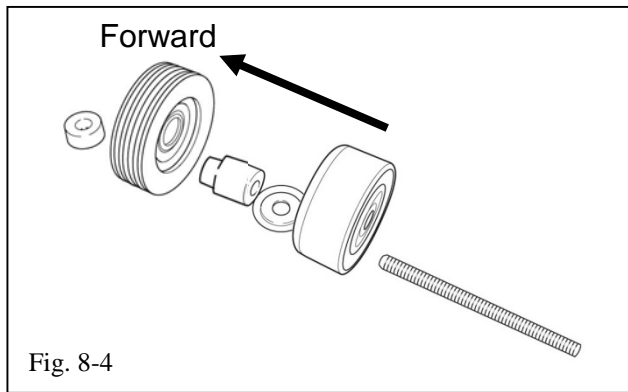


Fig. 8-4

- (c) Prepare Idler No. 1 (Fig. 8-4).
  - (1) Install one of the double ended M10 studs (C6) and snug it in place with a flat blade screwdriver.
  - (2) Reinstall the original smooth pulley and thin step washer (if present), the idler spacer without a groove (C11), the 5 rib idler pulley (C4) (snap ring facing the engine), and one of the short spacers (C9) (Fig. 8-4).
  - (3) Temporarily install the M10 nut (C7) finger tight.
- (d) Remove Idler No. 2 and discard the bolt (Figs. 8-2 & 8-3). Keep the thin step washer and pulley for the next step.

**NOTE: Do not mistake Idler No. 2 for the tensioner pulley.**

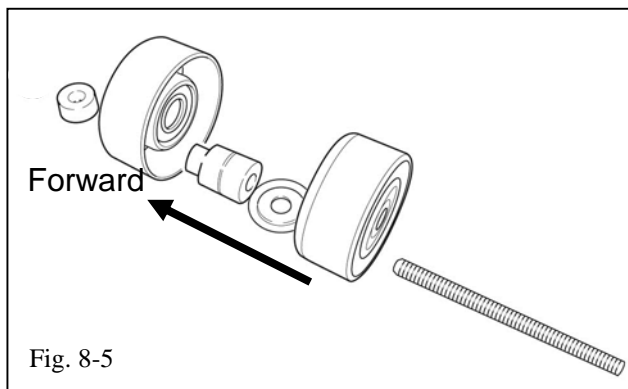


Fig. 8-5

- (e) Prepare Idler No. 1 (Fig. 8-5).
  - (1) Install the other double ended M10 stud (C6) and snug it in place with a flat blade screwdriver.
  - (2) Reinstall the original smooth pulley and thin step washer, the idler spacer with a groove (C10), the smooth idler pulley (C3), and the other short spacer (C9) (Fig. 8-5).
  - (3) Temporarily install the M10 nut (C7) finger tight.
- (f) Reinstall the fan and generator belt (Fig. 8-2).

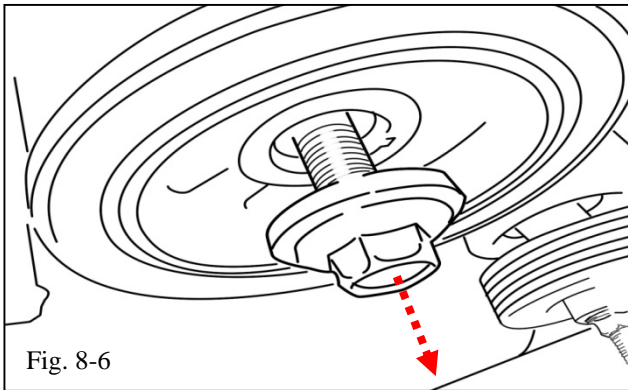


Fig. 8-6

- (g) Use an impact gun to remove the bolt and washer that secures the crankshaft pulley (Fig. 8-6). Discard the bolt and washer. **Do not remove the pulley.**

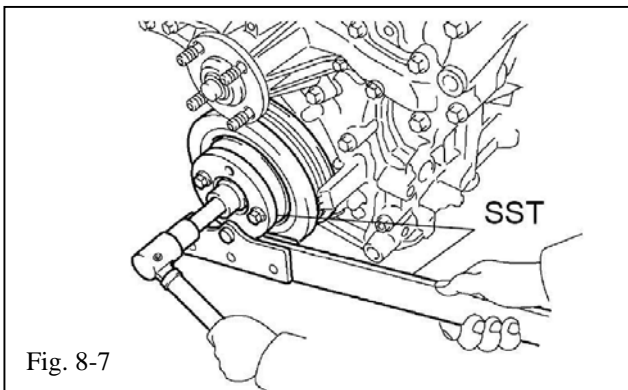


Fig. 8-7

- (h) Place the supplied crankshaft pulley (E1) in front of the existing crankshaft pulley, making certain that the dowel pin in the new pulley is aligned with the keyway in the existing pulley (Fig. 8-7).
- (i) Use the new supplied bolt (E2) and washer (E3) to secure the pulleys (Fig. 8-7).

**Torque: 277 Nm (204 ft lbf)**

SST 09213-54015 and SST 09330-00021

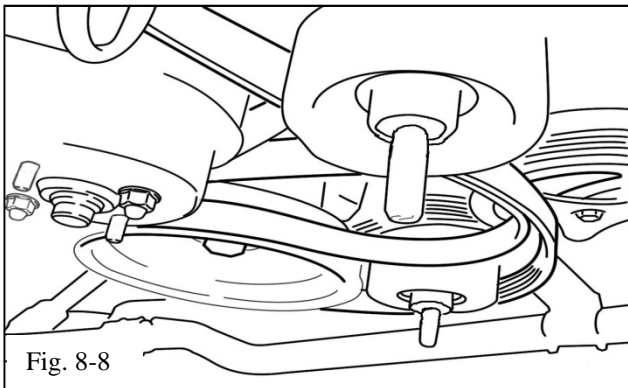


Fig. 8-8

- (j) Install the supercharger drive belt (C2) (Fig. 8-8).



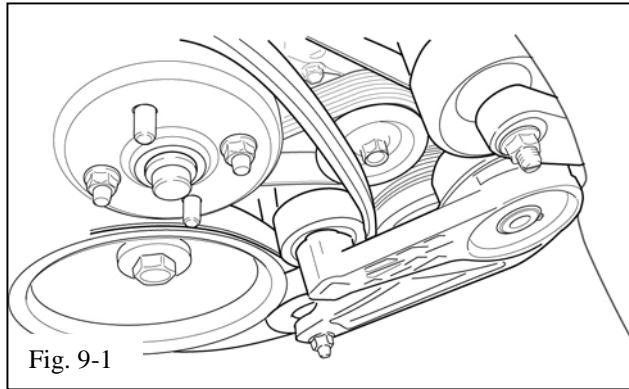


Fig. 9-1

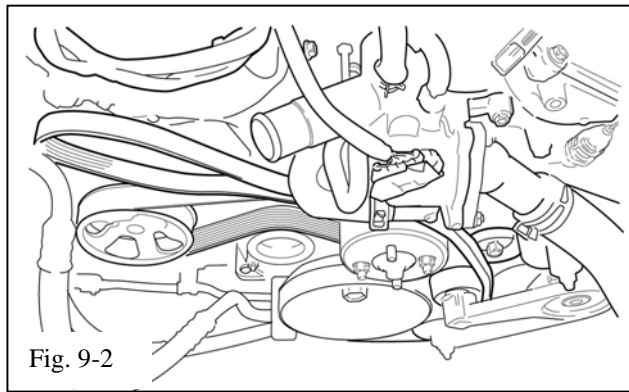


Fig. 9-2

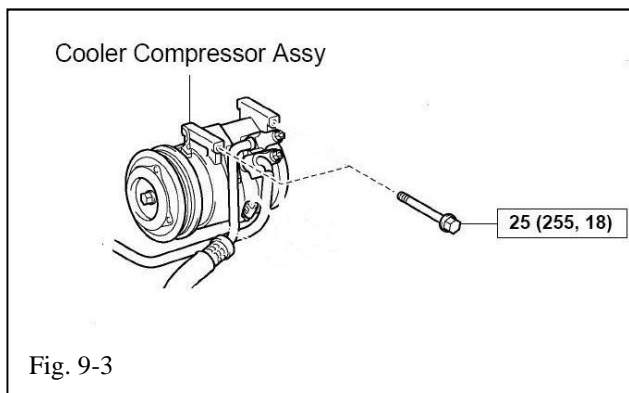


Fig. 9-3

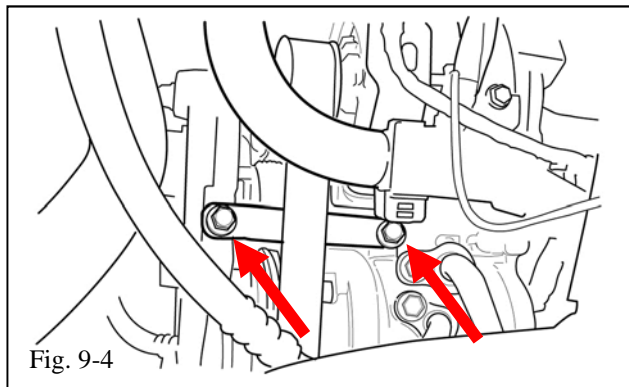


Fig. 9-4

**9. Install the Auxiliary Tensioner Assembly.**

- (a) Remove the 2 M10 nuts and then install the belt tensioner assembly (C1) onto the two double ended studs previously installed (Figs. 9-1 & 9-2).
  - (1) Make sure both sides of the supercharger drive belt are free between the tensioner pulley and the upper idler pulley.
  - (2) Reinstall the two M10 nuts (C7) finger tight.

- (b) Remove the top/forward AC compressor mounting bolt (Fig. 9-3).

**CAUTION: Do not remove the bolts that attach the AC lines to the compressor.**

- (c) Use the bolt removed in Step 9(b) to attach one end of the tensioner support bracket (C5) to the AC compressor finger tight (Fig. 9-4).
- (d) **NOTE: Notice that the bracket is placed behind the belt.**

- (e) Attach the other end of the strut bracket to the belt tensioner bracket using an M8 x 16 bolt (C8) (Fig. 9-4).
- (f) Tighten the two M10 nuts, then the M8 x 16 bolt, and finally the AC Compressor bolt.

**Torque: 39 Nm (29 ft lbf) for M10 nuts**

**Torque: 25 Nm (18 ft lbf) for M8 bolts**

- (g) Be sure the supercharger drive belt is on the bottom of the tensioner pulley (Fig. 9-1).

### 10. Install the Water Manifold Spacers.

- (a) Remove 2 throttle body bypass hoses, 2 small bypass hoses, and the larger bypass hose that are attached to the thermostat water manifold (Fig. 10-1).

- (1) Draw a diagram showing where all the hoses go.
- (2) Some vehicles may also have 2 oil cooler hoses to remove.

- (b) Remove and discard the 5 bolts attaching the thermostat water manifold to the engine. Make sure the 2 O-rings remain on the engine (Fig. 10-2).

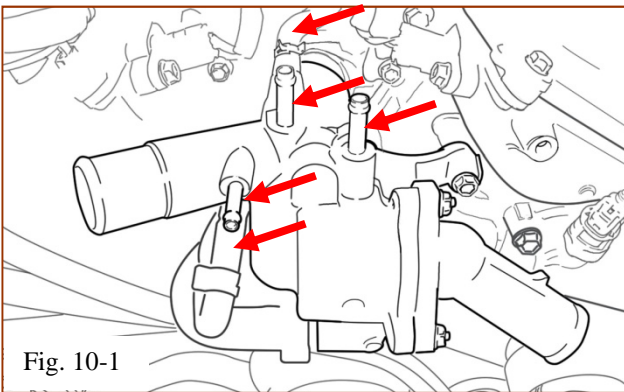


Fig. 10-1

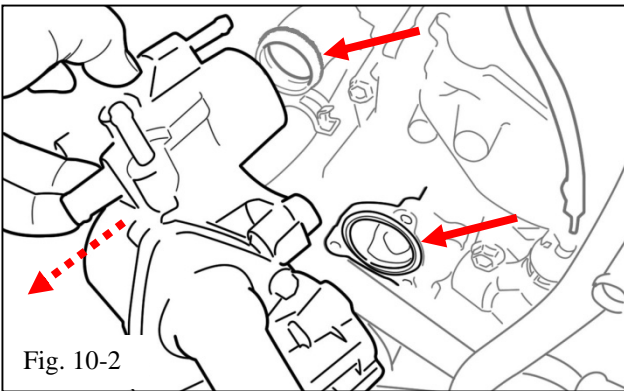
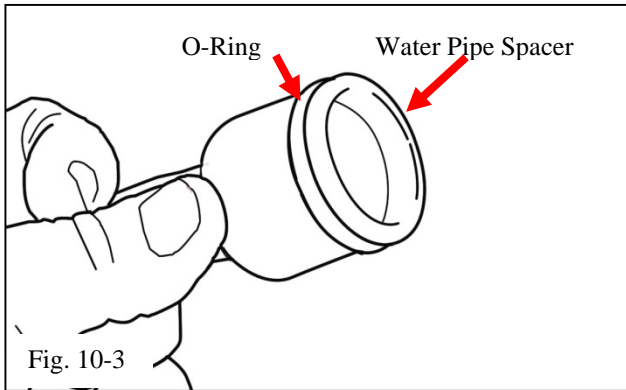
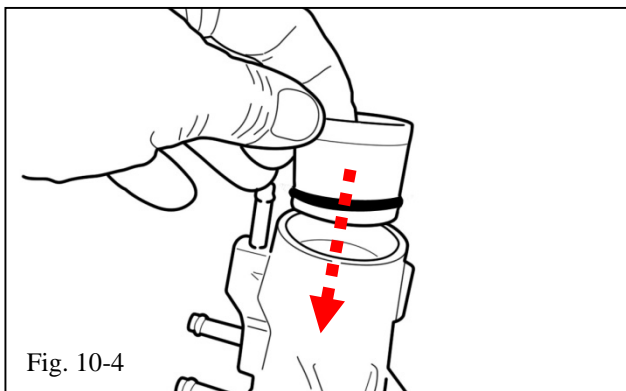


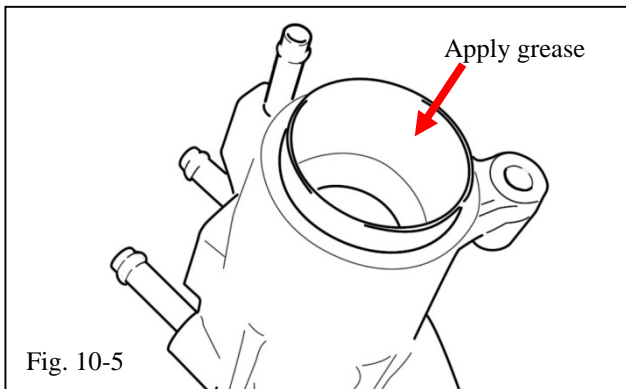
Fig. 10-2



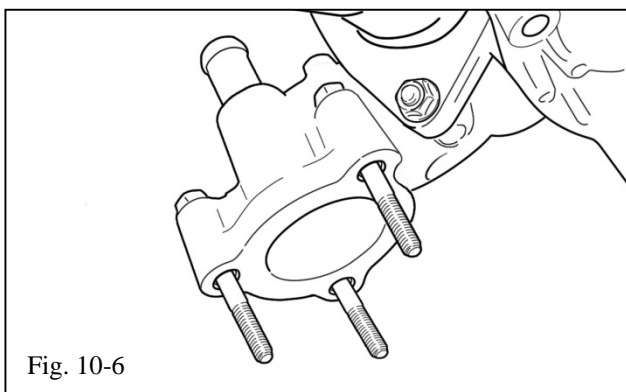
- (c) Install the small O-ring (G4) onto the new water pipe spacer (G2). Apply a small amount of grease to the O-ring and inside the bore of the thermostat water manifold (Fig. 10-3).



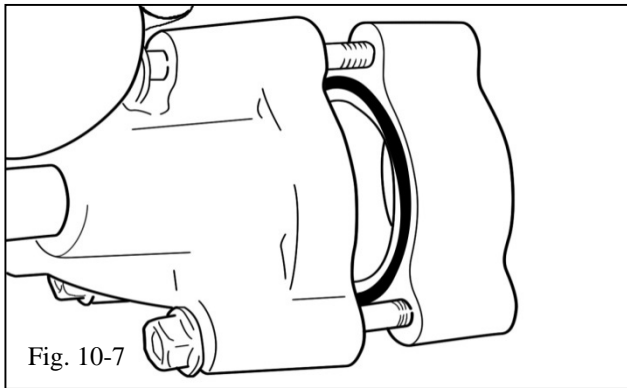
- (d) Install the water pipe spacer into the thermostat water manifold (Fig. 10-4).



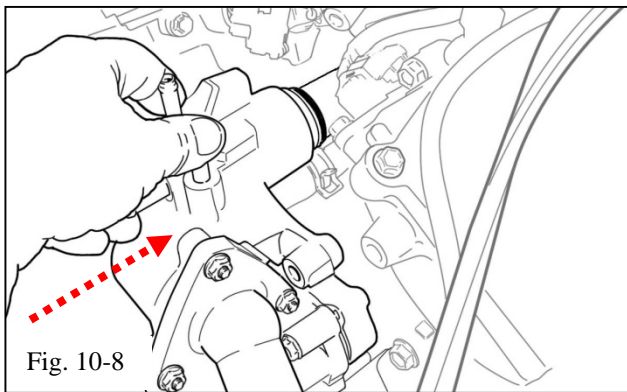
- (e) Apply a small amount of grease to the inside bore of the water pipe spacer (Fig. 10-5).



- (f) Install 3 of the new M6 x 55 bolts (G6) in the thermostat water manifold (Fig. 10-6).



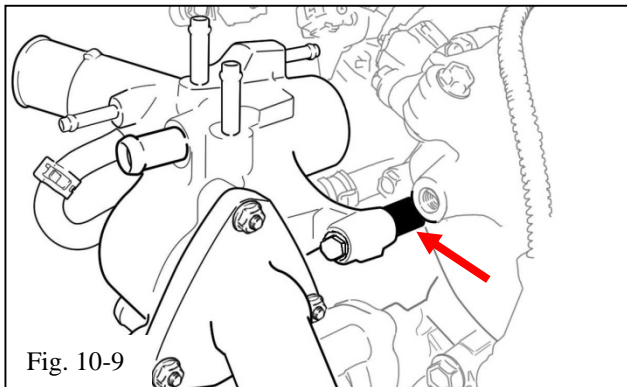
- (g) Install the large O-ring (G3) in the groove of the thermostat spacer (G1) (a small amount of grease will help hold it in place) and then place the spacer (G1) on the 3 bolts with the O-ring facing the thermostat water manifold (Fig. 10-7).



- (h) Install the thermostat water manifold back onto the engine making sure the 2 O-rings are still in place on the engine (Fig. 10-8). Start the 3 bolts, but do not fully tighten them at this time.

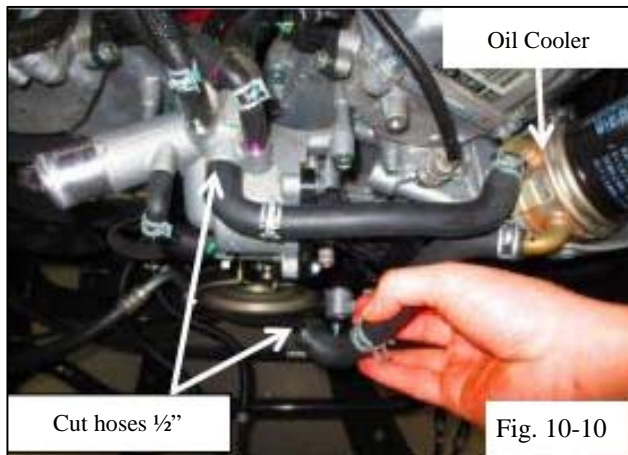
**STOP CAUTION:** Make sure all of the O-rings stay in place.

**NOTE:** If the water pipe spacer feels too tight to slip over the O-ring on the engine, it is not properly aligned.



- (i) Place the 2 spacers (G5) between the thermostat water manifold and the engine at the 2 remaining mounting bosses and insert the 2 remaining M6 x 55 bolts (G6) (Fig. 10-9). Tighten all 5 bolts.

**Torque: 9 Nm (80 in lbf)**

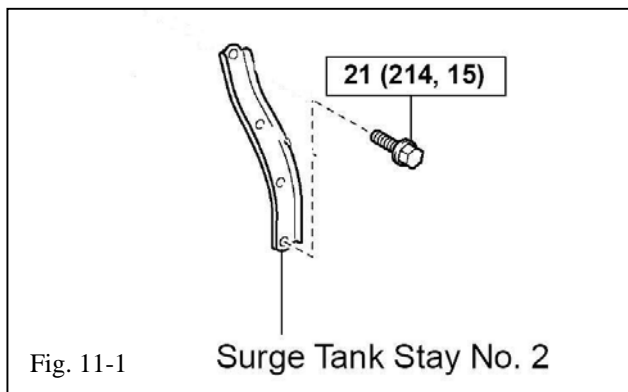


- (j) If the vehicle has an oil cooler, 1/2" will need to be cut from the ends of the coolant lines where they attach to the thermostat water manifold (Fig. 10-10).

**STOP** **CAUTION: IF THIS STEP IS OMITTED, THE HOSES WILL HIT THE FAN.**

- (k) Reconnect all hoses, except for the radiator hoses, to the thermostat water manifold.

### 11. Install the Support Bracket.



- (a) On the driver's side (left) of the engine, remove the rear intake manifold support bracket (surge tank stay No. 2) and replace it with the new support bracket (F1) (Fig. 11-1).

**NOTE:** The original bracket is stamped with a "C" and the new bracket is stamped with a "B".

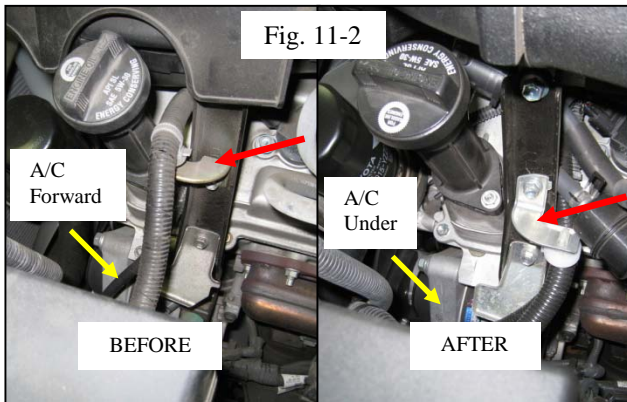
- (1) Leave the attaching bolt finger tight.
- (2) Make sure to use the same threaded bolt hole on the engine.
- (b) If the vehicle has a manual transmission, remount the clutch hydraulic line bracket to the new support bracket.
- (c) Unclip the A/C wire from the stud on the cam cover and the alternator bracket.
- (d) Unclip the power harness from the bracket on the front surge tank stay.
- (e) Unbolt the wire harness bracket from the front surge tank stay and invert the harness bracket 180 degrees, then replace the bolt.

**Torque: 9 Nm (80 in lbf)**



(f) Reroute the A/C line.

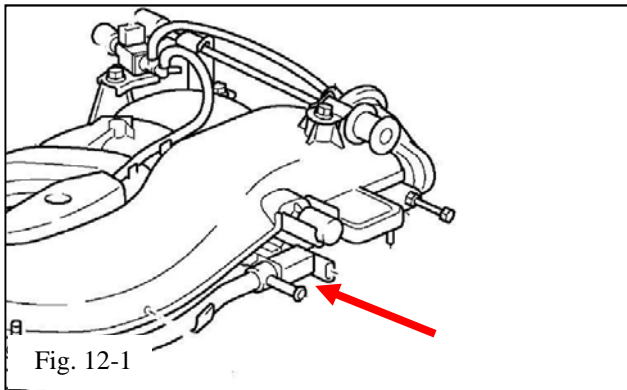
- (1) Remove the air surge tank stay from the cylinder head and reinstall the power harness routed behind the bracket to the rear of the engine.
- (2) Leave the bracket loose for now.
- (3) Re-clip the wire harness back onto the harness bracket on the surge tank stay.
- (4) Re-clip the A/C harness back onto the alternator bracket making sure the wires are not pulled tight.



**STOP** NOTE: The A/C conductors remain forward of the surge tank stay or under, not rearward (Fig. 11-2).  
**!**

## 12. Install the Vacuum Switching Valve (VSV) Assembly.

- (a) Remove the VSV from the left rear side of the original intake manifold (surge tank) (Fig. 12-1). Keep the VSV and bolt for the next step.



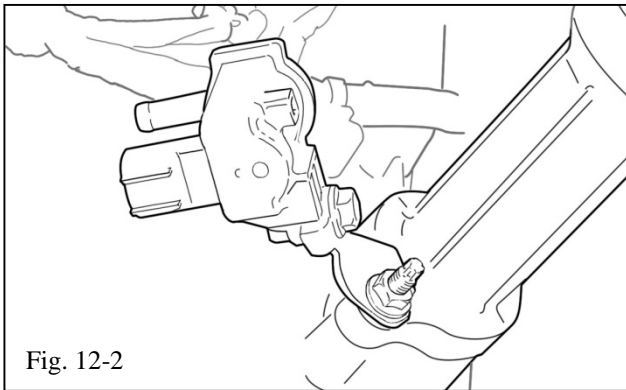


Fig. 12-2

- (b) Attach the VSV to the supplied VSV Bracket (F3) using the stock bolt and a supplied M6 nut (F4) (Fig. 12-2).
- (c) Mount the VSV/VSV bracket subassembly to the front stud of the oil filler cap housing. Remove the stock nut, install the M6 washer (F5), the bracket-valve assembly, and reinstall the nut (Fig. 12-2).

**Torque: 9 Nm (80 in lbf)**

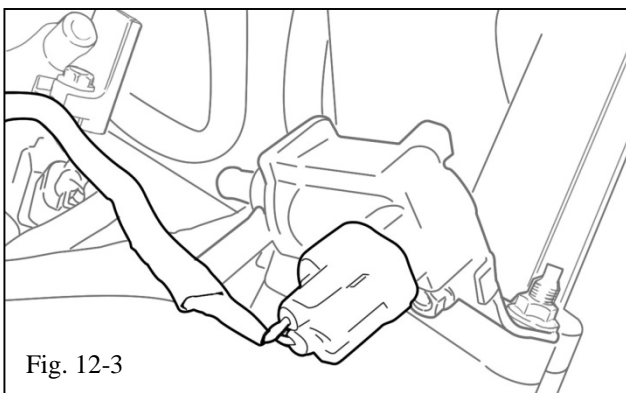


Fig. 12-3

- (d) Plug in the electrical connector to the VSV (Fig. 12-3).

### 13. Prepare for the Supercharger Housing Installation.

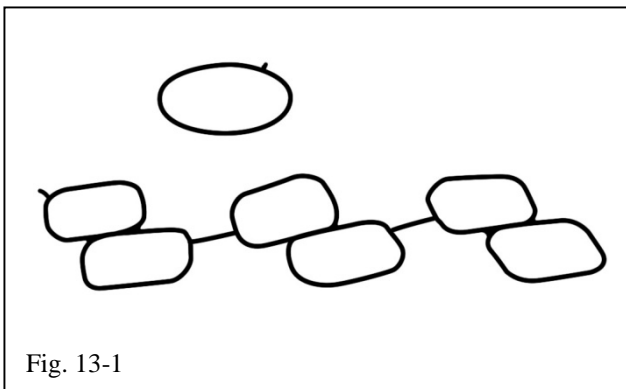


Fig. 13-1

- (a) Remove the intake port gasket and throttle body O-ring from the intake air surge tank (Fig. 13-1). Retain these parts for the next step.

**STOP** **CAUTION: Do not damage the port gasket. If the gasket appears to be damaged or excessively worn, replace the gasket with Toyota part number 17176-0P010 or 17176-31010 or equivalent superseded part.**

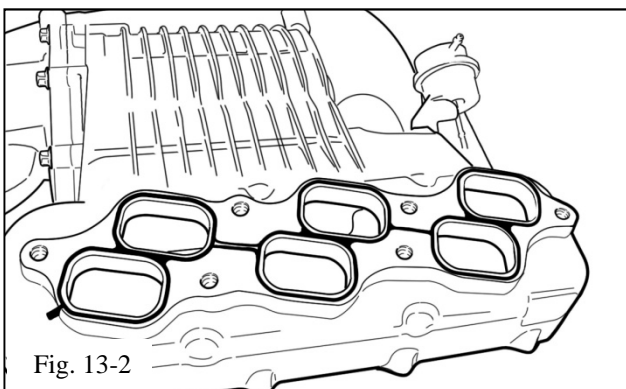
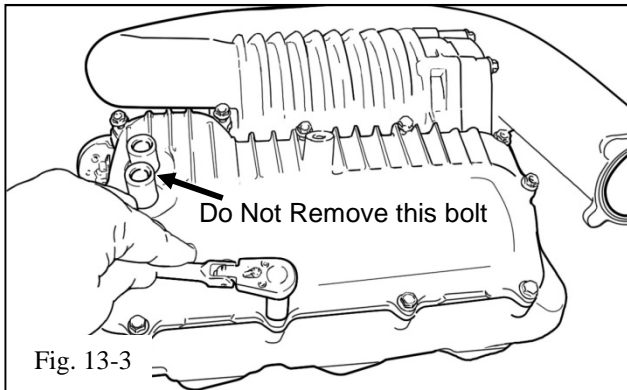


Fig. 13-2

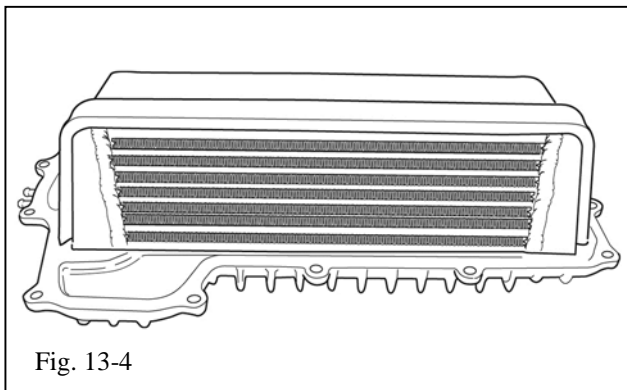
- (b) Install the intake manifold gasket and throttle body O-ring in the supercharger housing (Fig. 13-2). The molded gasket and O-ring should fit snugly in the grooved recesses in the housing.



- (c) Turn the supercharger housing upright and remove the 12 M6 bolts that attach the top cover (Fig. 13-3). Retain these bolts.
- (d) Attached to the coolant nipples in the top cover is a plastic bag with 6 special reduced shank M8 bolts (B1). Remove and open the bag and set these bolts aside.

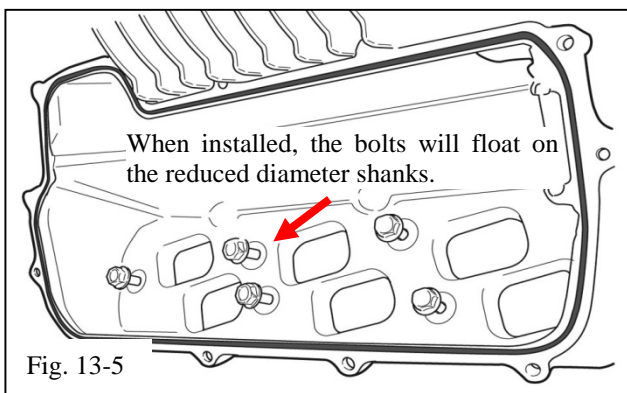
**CAUTION: Do not remove the larger bolt between the two coolant nipples!**

- (e) Carefully lift the cover up removing it from the main housing.



**! NOTE:** The charge air cooler will come out attached to the cover (Fig. 13-4). It is bonded to the cover. **DO NOT SEPARATE it from the lid.**

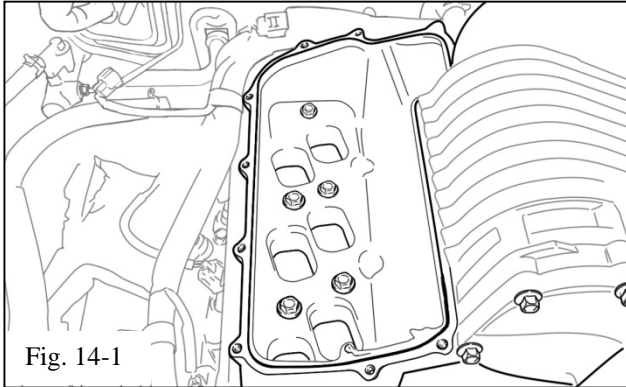
- (f) Set the assembly upside down so the foam seal is not damaged. The sealing O-ring should remain in the groove in the main housing.



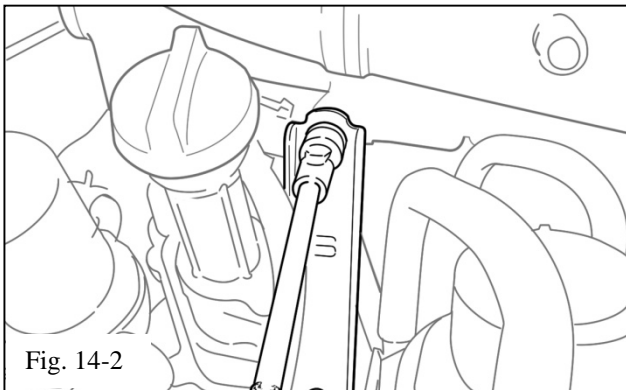
- (g) Preinstall the 6 special reduced diameter shank M8 intake manifold bolts (B1) by threading them into the main housing (Fig. 13-5). Preinstalling these bolts into the housing reduces the possibility of dropping them into the engine ports. When the bolts are fully threaded in, they will float up and down on the reduced diameter shanks.

#### 14. Install the Supercharger Housing.

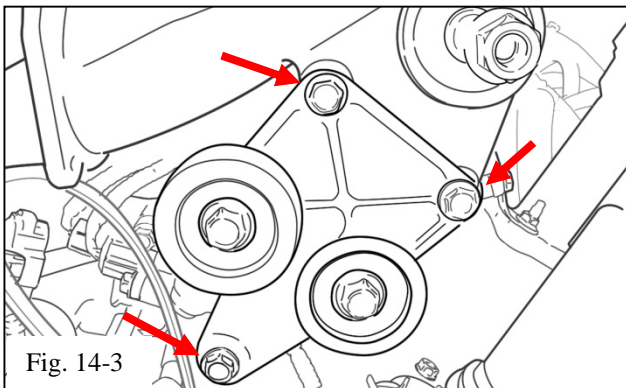
- (a) Remove the tape covering the intake ports in the engine manifold. Make sure the surface is clean.



- (b) Carefully position the supercharger main housing on the intake manifold and hand start the 6 bolts (Fig. 14-1). Do not tighten them at this time.



- (c) Install the original 2 bolts that attach the support brackets (2 surge tank stays) to the supercharger housing (Fig. 14-2). Do not tighten them at this time.



- (d) Use the 3 M8 bolts (D2) to install the upper idler bracket assembly (D1) to the supercharger housing (2 places) and the engine cylinder head boss (1 place) (Fig. 14-3). Do not tighten them at this time.
- (e) Tighten all of the fasteners starting with the intake manifold, then the side support brackets, and finally the idler pulley assembly (Figs. 14-1 to 14-3).

**Torque: 28 Nm (21 ft lbf)**

- (f) After checking to make certain the large O-ring is properly seated in the groove in the main housing, carefully re-install the supercharger housing top cover by lowering it straight down. Fasten it with the original 12 M6 bolts.

**Torque: 12 Nm (9 ft lbf)**



**CAUTION:** If the O-ring ends have separated, place a small spot of black RTV over the area where they join before placing the lid in position.



- (g) Finish installing the supercharger belt drive, making sure the routing is correct (Fig. 14-4).

**15. Install the Fan and Shroud Assembly, Hoses and Throttle Body.**

- (a) Re-install the fan and radiator shroud and tighten all fasteners.

**Torque fan nuts: 21 Nm (15 ft lbf)**

**Torque shroud bolts: 5 Nm (44 in lbf)**

- (b) Reinstall the top radiator hose.
- (c) Install the throttle body to the supercharger housing and reconnect the coolant hoses to the thermostat water manifold (Fig. 15-1).

**Torque: 11 Nm (8 ft lbf)**

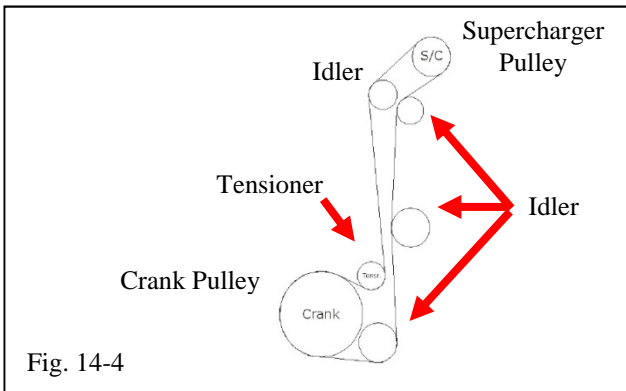


Fig. 14-4

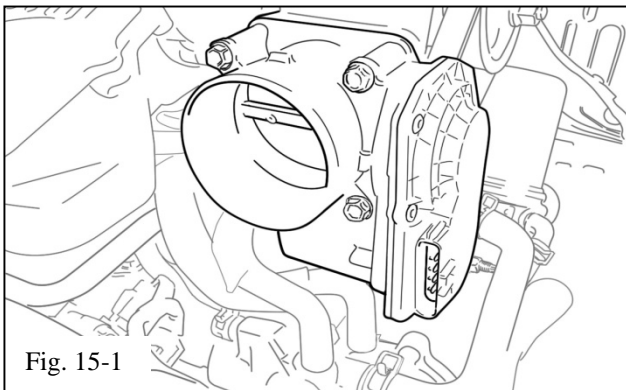
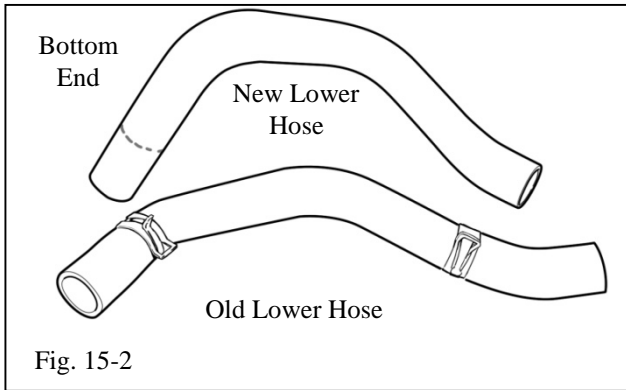
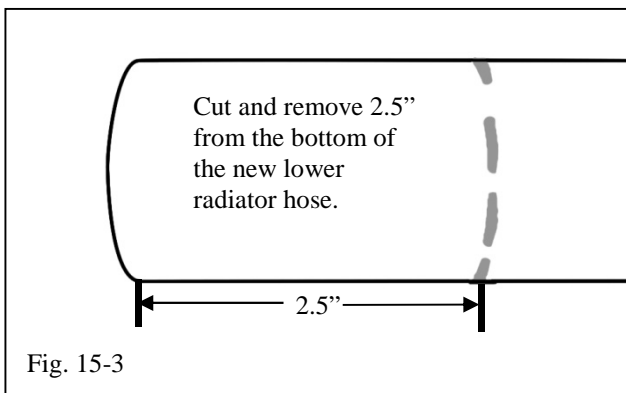


Fig. 15-1

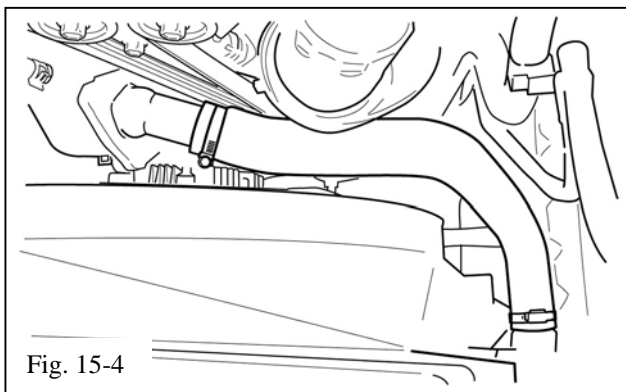






- (d) The new lower radiator hose (K1) is shown at the top (Fig. 15-2) with the bottom end of the hose on the left side of the figure.



- (e) Cut 2.5" off of the bottom end of the new lower radiator hose (Fig. 15-3).



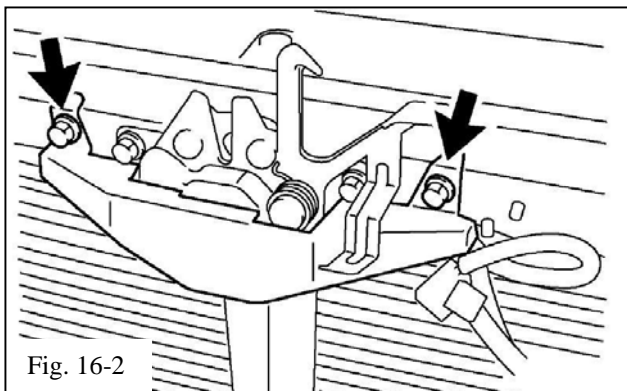
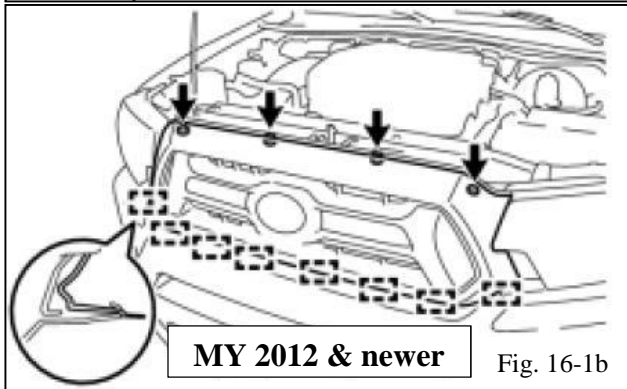
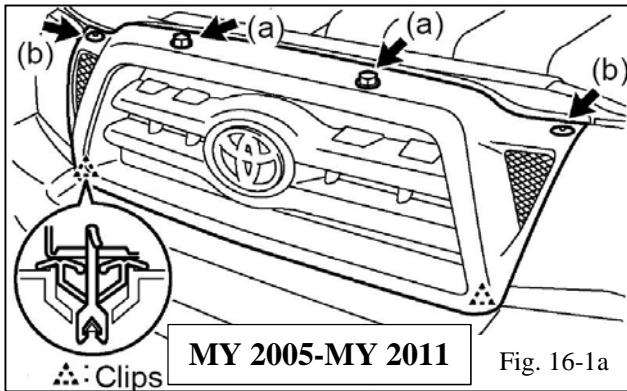
- (f) Use the provided screw clamps (H11) to install the new lower radiator hose (Fig. 15-4).

 **CAUTION: Turn the clamps so they do not hit the fan or the belt.**  




**16. Prepare for the Low Temperature Radiator (LTR).**

- (a) Remove the radiator grill (MY 2005– MY 2011: Fig. 16-1a, MY 2012 & newer: Fig. 16-1b).
  - (1) Remove the 2 screws (a).
  - (2) Remove the 2 clips (b).
  - (3) MY 2005 – MY 2011: Disengage the 2 lower clips and remove the radiator grill by lifting straight up.
  - (4) MY 2012 & newer: Disengage the 8 guides and remove the radiator grill.
  
- (b) Remove the 2 bolts and hood lock release lever protector (Fig. 16-2). Retain these parts.



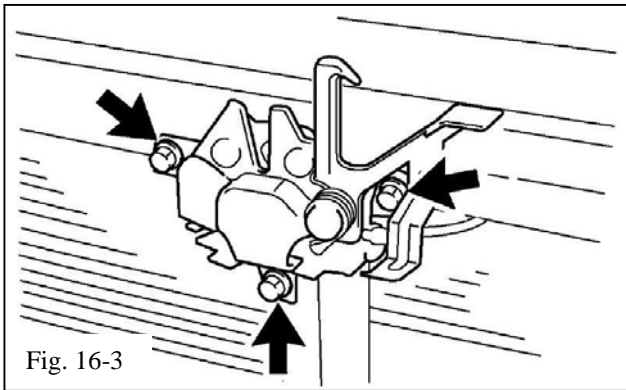


Fig. 16-3



Fig. 16-4

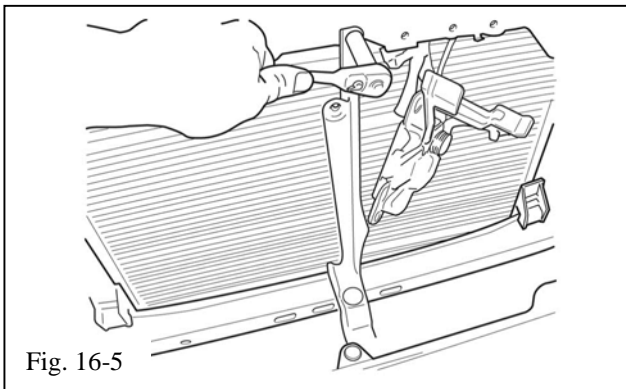


Fig. 16-5

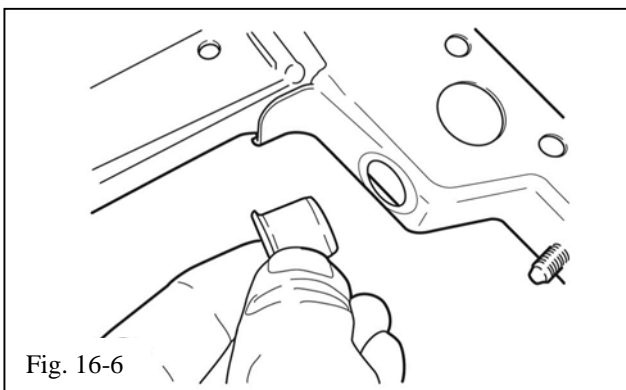


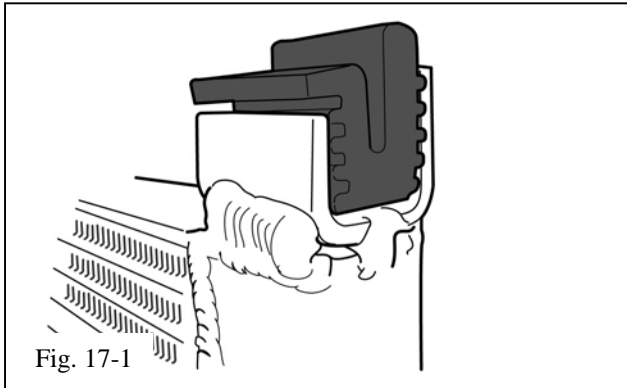
Fig. 16-6

- (c) Remove the 3 bolts and the hood lock assembly (Fig. 16-3).
  - (1) Let the hood lock assembly hang loose on the cable.
  - (2) Retain these parts.
- (d) Disconnect the electrical connector and remove the horns (Fig. 16-4).
  - (1) Retain these parts.
  - (2) Unclip the temperature sensor from the hood support bracket.
- (e) If the vehicle has a transmission oil cooler, disconnect it and swing it out of the way. Do not disconnect the fluid lines.
- (f) Remove the 2 plastic retainers and the 2 nuts and bolts that attach the hood support bracket to the bumper cover and radiator support (Fig. 16-5).
- (g) MY 2005 – MY 2011: Remove the oval grommet from the hood support bracket and install the grommet into the new hood support bracket (Fig. 16-6). Discard the original hood support bracket.

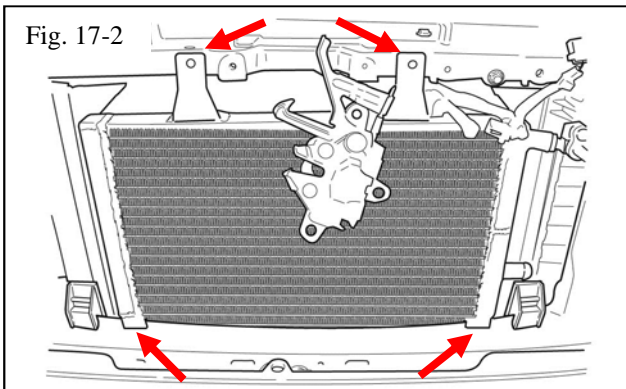
**HINT: Some of these fasteners are hidden under the bumper cover, which needs to be lifted to access the fasteners.**

**NOTE: For MY 2012 & newer, discard the oval grommet as it is not required.**

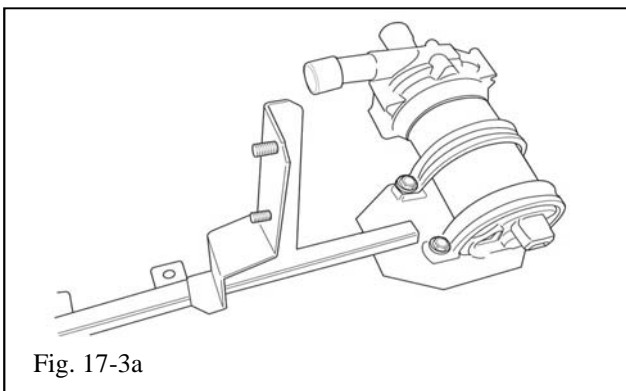
**17. Install the Low Temperature Radiator (LTR), Intercooler Pump, Latch, and Horn Assemblies.**



- (a) Place the 2 rubber grommets (A3) supplied in the kit into the brackets on the bottom of the LTR (Fig. 17-1). Note the orientation of the grommets in the U-shaped brackets which have one leg shorter than the others.

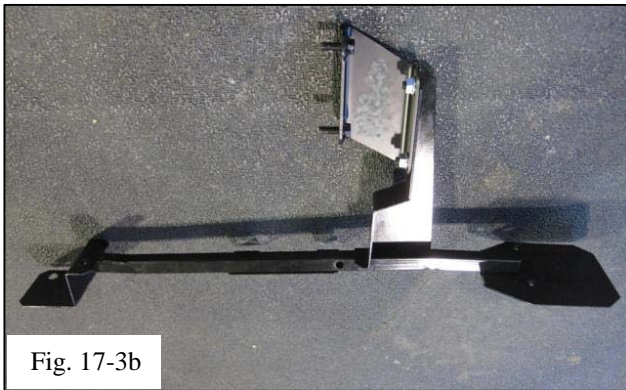


- (b) Place the LTR in position by placing the rubber grommets on the bottom over the upright flange on the lower radiator support. The upper mounting tabs on the LTR align with the mounting locations for the hood lock lever release protector (Fig. 17-2). Do not install the bolts at the top at this time.

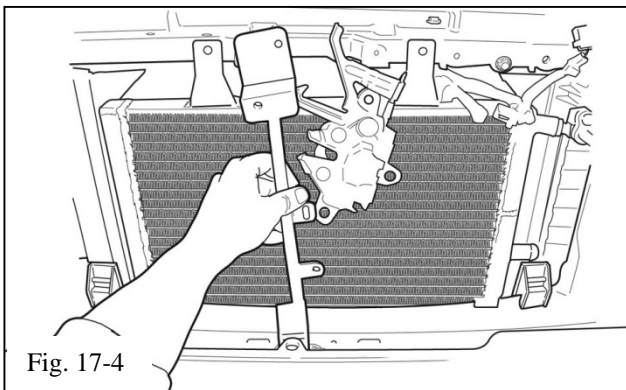


- (c) Mount the intercooler pump (I1) to the new hood support bracket using the two large #35 Adel Clamps (H1) and M6 x 16 Hex Flange Head Bolts (H9) (Fig. 17-3). Do not tighten the fasteners at this time.

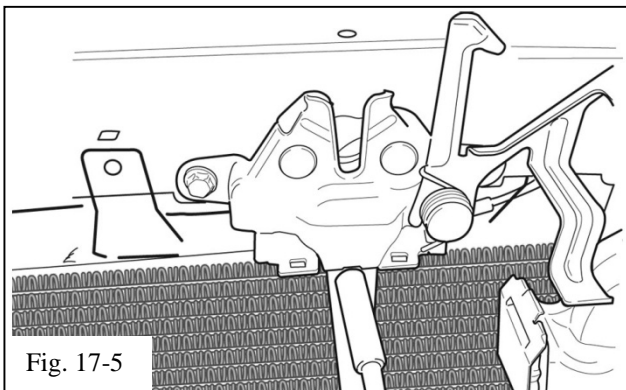
**HINT:** It helps to hand shape the Adel clamps to the shape of the pump prior to fitment.



- (d) For MY 2012 and newer vehicles, mount the Bracket (A19) to the new hood support bracket using M6 Hex Nuts (A16) (Fig. 17-3a).



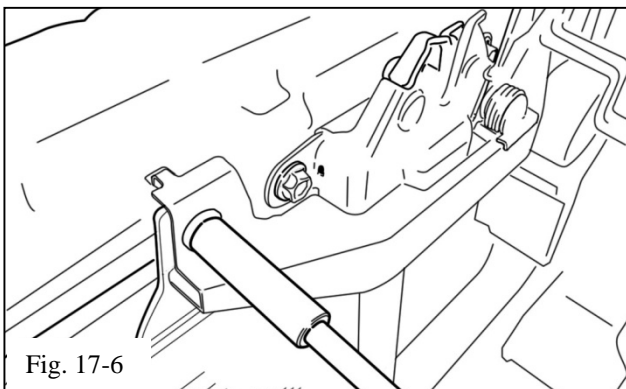
- (e) Install the new hood support bracket with the original fasteners (Fig. 17-4).



- (f) Reinstall the hood lock assembly (Fig. 17-5).

**Torque: 12 Nm (9 ft lbf)**

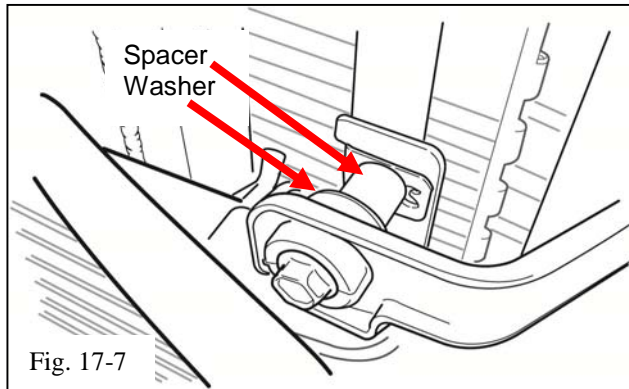
- (g) Temporarily place the hood lock lever protector in place and mark where it needs to be trimmed to clear the new hood support bracket and LTR mounting tabs. Remove and trim the protector as required in 3 places.



- (h) Reinstall the hood lock release lever protector with the original fasteners (Fig. 17-6).

**Torque: 12 Nm (9 ft lbf)**

- (i) Route the wires for the horns to the left (driver's side) of the LTR bracket. Route the temperature sensor wire between the 2 brackets.



- (j) If the vehicle has a transmission oil cooler, mount the inboard end to the new hood support bracket with the original fasteners.

**Torque: 5 Nm (44 in lbf)**

- (k) Remount the outboard end of the transmission oil cooler with the spacer (A5), M6 x 50 mm bolt (A6), and washer (A7) (Fig. 17-7).

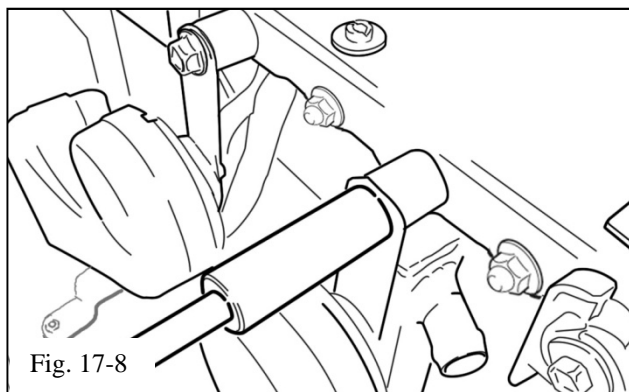
**NOTE: This is to space the oil cooler out away from the LTR.**

**Torque: 5 Nm (44 in lbf)**

**NOTE: The spacer (A5) is not required for MY 2013 & newer Tacoma. The bracket may need to be adjusted to eliminate a gap.**

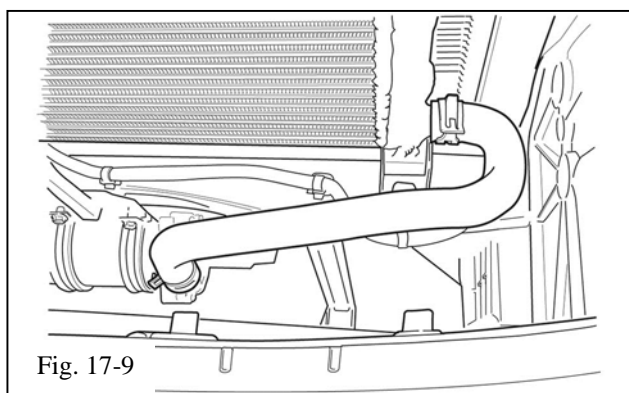
- (l) After making sure the outlet on the pump points straight up, tighten the mounting bolts.

**Torque: 12 Nm (9 ft lbf)**



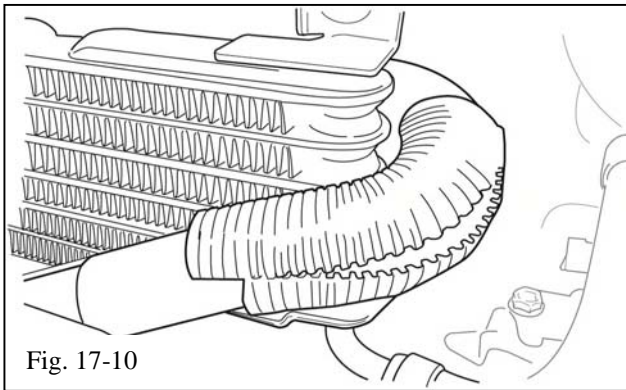
- (m) Reinstall the horns using the spacers (A8) and new M8 x 30mm bolts (A9) (Fig. 17-8).

**Torque: 12 Nm (9 ft lbf)**



- (n) Slide a wide band spring clamp (H2) approximately 2" onto each end of the LTR to pump formed coolant hose (J5). Install this hose to the lower outlet on the LTR and the pump inlet and position each clamp to hold it in place (Fig. 17-9).



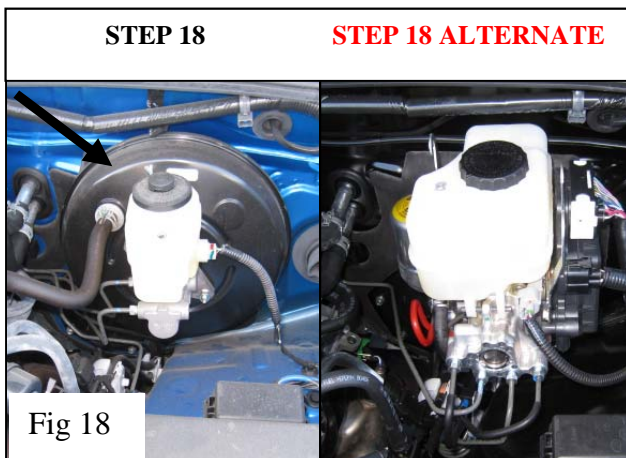


- (o) If the vehicle has a transmission oil cooler, cut and install a 4” long piece of 1” split wire loom (J1) on the coolant hose where it wraps around the cooler (Fig. 17-10).

**18. Install the Intercooler Tank and Hoses.**

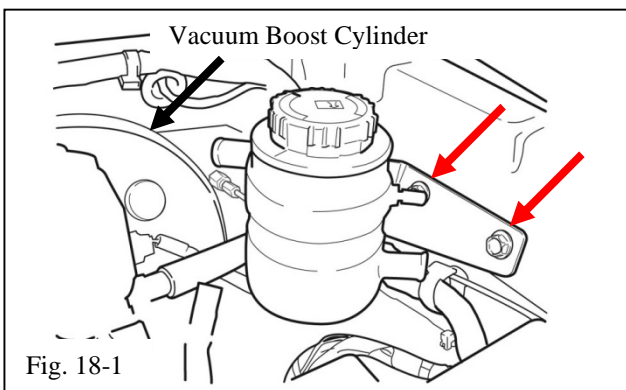
**NOTE:** Removing the battery and unbolting the fuse box is highly recommended to avoid damaging the wire harness.

**NOTE:** If the vehicle is **not** equipped with the Brake Vacuum Boost Cylinder shown in Fig. 18, proceed to Step **18 ALTERNATE on P39**.



- (a) Use 3 M6 x 12 bolts (I2) to mount the intercooler reservoir tank (I2) to the reservoir bracket.

**Torque: 4 Nm (35 in lbf)**

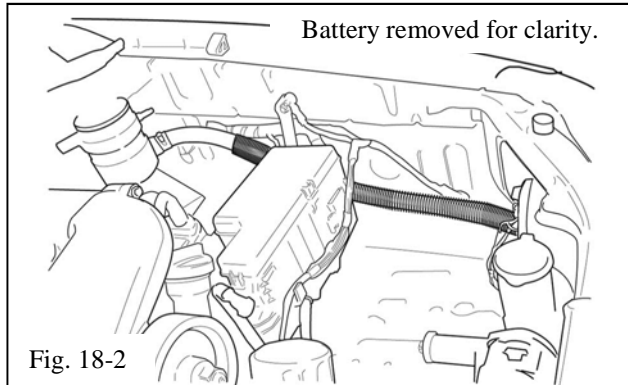


- (b) Use 2 M8 x 20 bolts (A4) to mount the intercooler reservoir bracket (A2) to the existing holes in the driver's side fender well (Fig. 18-1).

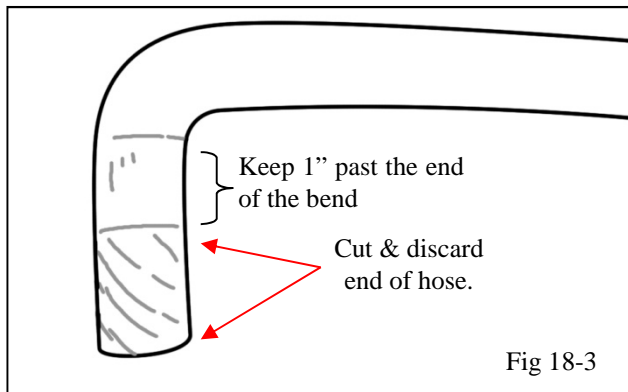
**Torque: 12 Nm (9 ft lbf)**

- (c) Take the 96” length of 3/4” coolant hose (J4) and cut it into 54” and 42” lengths.
- (d) Take the remaining 1” wire loom (J1) and cut it into two 29” plus two 17” lengths.





- (e) Slide one 29" length of wire loom onto the 54" length of 3/4" coolant hose and center it.
- (f) Slide a wide band spring clamp (H2) approximately 2" onto one end of the 3/4" hose and a screw clamp (H5) onto the other end.
- (g) Route this hose (screw clamp side) from the coolant reservoir outlet (bottom nipple on the reservoir bottle) under the wiring harness between the fuse panel and fender, and through the opening behind the headlight assembly (Fig.18-2).
- (h) Connect the other end of the hose to the intercooler pump inlet. Position the wide band spring clamp to secure the hose to the intercooler pump and tighten the screw clamp at the reservoir outlet.
- (i) Position the 1" wire loom so it protects the hose where it runs through the bulkhead behind the headlights.
- (j) Take the remaining 29" piece of 1" wire loom and slide it onto the remaining 42" piece of 3/4" hose and center it for now.
- (k) Slide a wide band spring clamp (H2) on each end.
- (l) Insert the 3/4" hose mender fitting (H4) in one end and secure it with the wide band spring clamp.

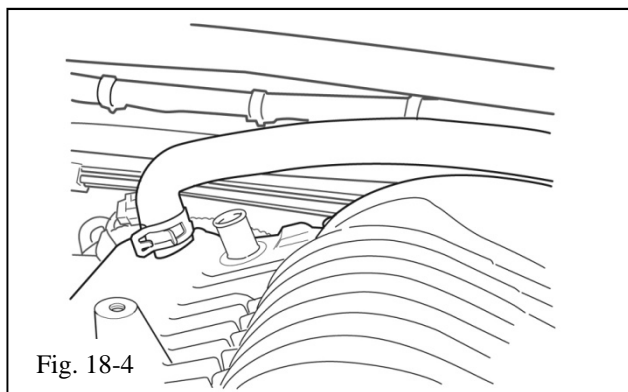


(m) Take the 4" x 60" molded coolant hose (J3) and cut the long length to 42" (**FOR MY 2013 & newer, CUT THE LONG LENGTH TO 30", NOT 42"**).

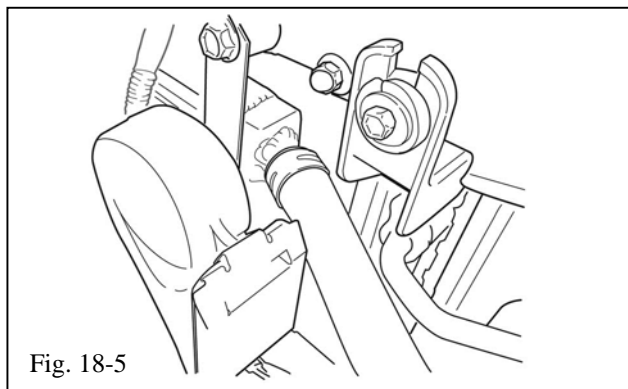
(n) Cut the short 4" leg as shown in Fig. 18-3.

(o) Slide a wide band spring clamp (H2) approximately 2" on each end of this hose.

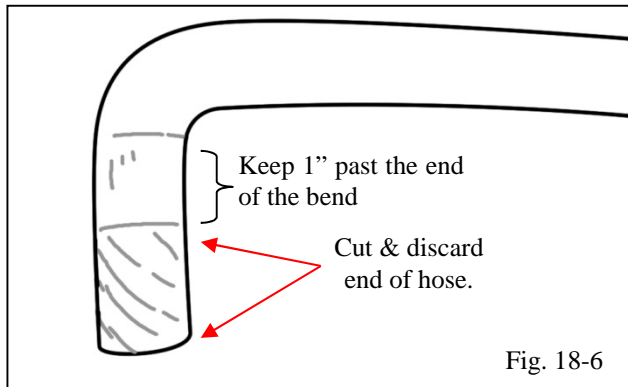
(p) Connect this hose to the other end of the hose mender (H4) from Step 18(l) and secure it with the clamp.



(q) Install the short leg of the molded hose end to the passenger side intercooler fitting on the supercharger housing top cover (Fig. 18-4). Secure it with the wide band spring clamp.

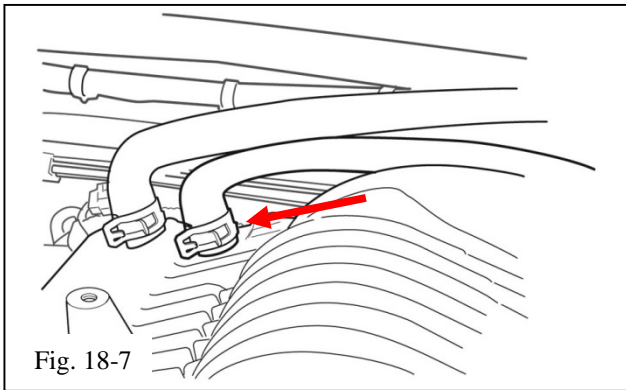


(r) Route the hose across the firewall, in front of the brake vacuum booster, down under the reservoir tank, alongside the earlier hose, on through the bulkhead opening behind the headlight assembly, and connect it to the upper nipple on the LTR. Secure it with the wide band spring clamp (Fig. 18-5).

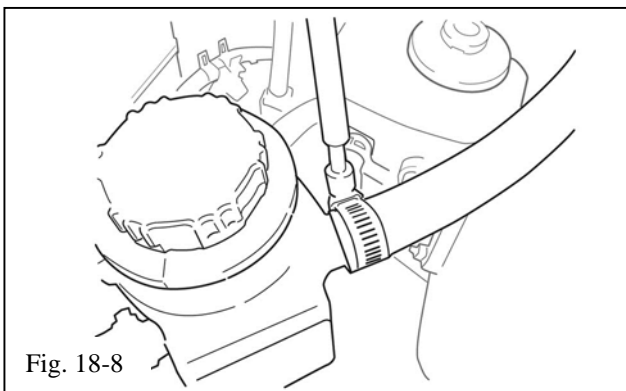


(s) Trim the short end of the 4" x 36" molded hose (J2) as shown in Fig. 18-6.

(t) Slide a wide band spring clamp (H2) approximately 2" onto the short leg of the 3/4" hose and a screw clamp (H5) onto the other end.



- (u) Attach the short leg of the molded hose end to the driver side intercooler fitting on the supercharger housing top cover (Fig. 18-7). Secure it with the wide band spring clamp (H2).

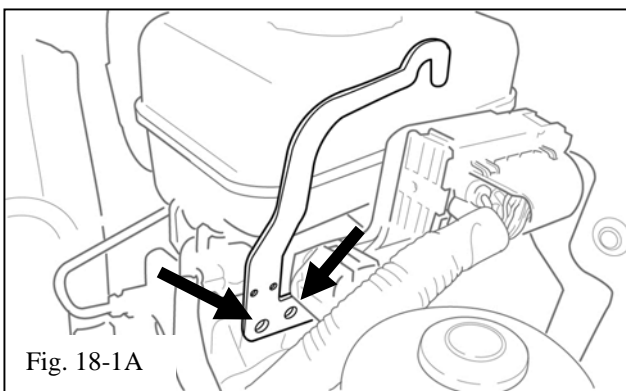


- (v) Run the hose along the earlier hose in front of the brake booster (trim the remaining end as necessary) and install it on the inlet nipple of the intercooler reservoir (Fig. 18-8) with the screw clamp (H5)



- (w) Use a small Adel clamp (H6) and a M6 x 12 bolt (H12) to secure the two coolant hoses to the boss on the rear of the supercharger housing (Fig. 18-9).

### 18. **ALTERNATE** Install the Intercooler Tank and Hoses.



- (a) The lifting bracket for the brake master cylinder has 2 holes (Fig. 18-1A). They will be used to mount the intercooler coolant reservoir. The forward most of the two holes has an M6 weld nut attached to the lifting bracket.

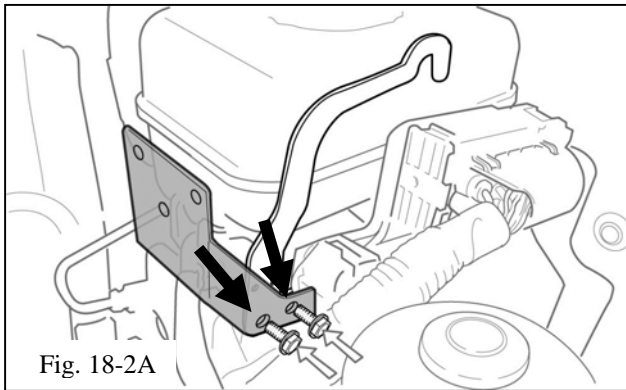


Fig. 18-2A

- (b) Use 2 M6 x 20 bolts (A15) and 1 M6 nut (A16) to mount the intercooler reservoir bracket (A14) to the 2 holes in the lifting bracket (Fig. 18-2A).

**Torque: 5.5 Nm (49 in lbf)**

- (c) Use 3 M6 x12 bolts (I2) to mount the intercooler reservoir tank (I2) to the reservoir bracket.

**Torque: 4 Nm (35 in lbf)**

- (d) Take the 96" length of 3/4" coolant hose (J4) and cut it into 47.25", 6.75" and 42" lengths.
- (e) Slide one 29" length of wire loom onto the 47.25" length of 3/4" coolant hose and center it.
- (f) Slide a wide band spring clamp (H2) approximately 2" onto one end of the 3/4" hose and a screw clamp (H5) onto the other end.
- (g) Attach the 90-degree elbow (A13) at the screw clamp end.
- (h) Attach the 6.75" hose to the other end of the 90 degree elbow with a wide band clamp (A12).
- (i) Route this hose (elbow end) at the coolant reservoir outlet (bottom nipple on the reservoir bottle) under the wiring harness between the fuse panel and fender, and through the opening behind the headlight assembly (Fig.18-3A).
- (j) Connect the other end of the hose to the intercooler pump inlet.

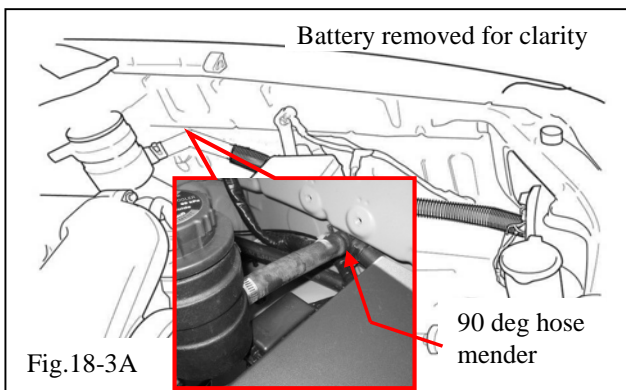
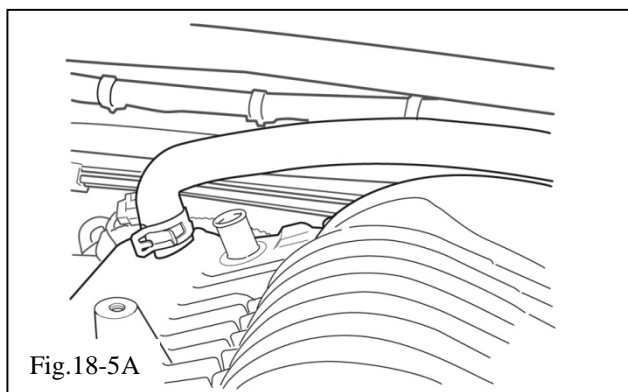
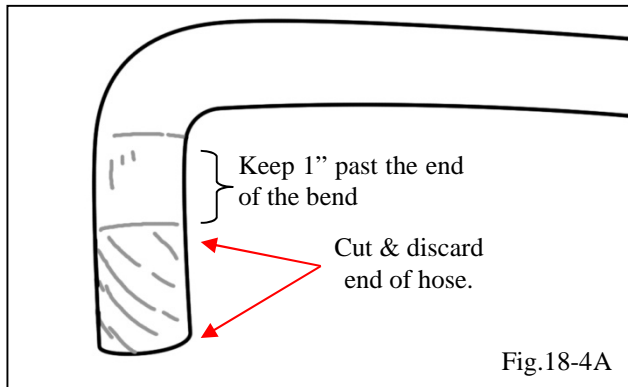
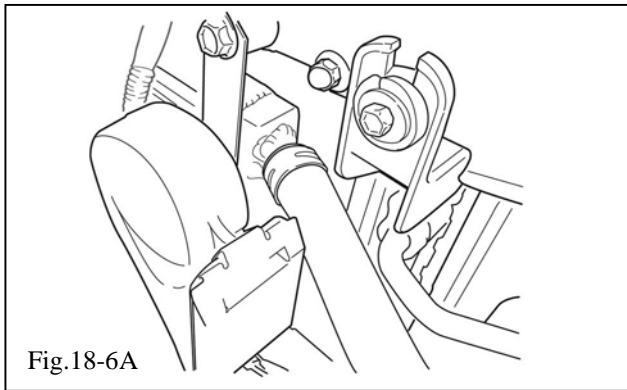


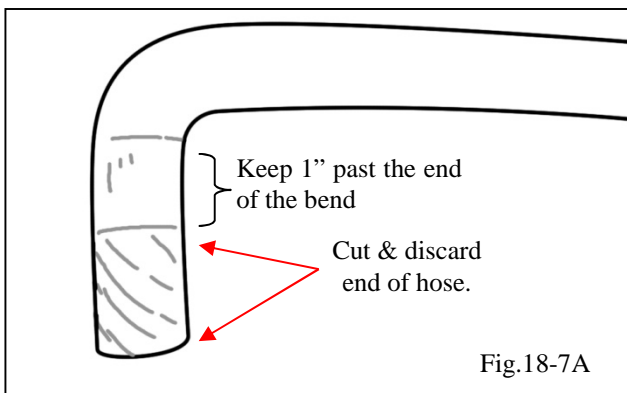
Fig. 18-3A

- (k) Position the wide band spring clamp to secure the hose to the intercooler pump and tighten the screw clamp at the reservoir outlet.
- (l) Position the 1" wire loom so it protects the hose where it runs through the bulkhead behind the headlights.
- (m) Take the remaining 29" piece of 1" wire loom and slide it onto the remaining 42" piece of 3/4" hose and center it for now.
- (n) Slide a wide band spring clamp (H2) on each end.
- (o) Insert the 3/4" hose mender fitting (H4) in one end and secure it with the wide band spring clamp.
- (p) Take the 4" x 60" molded coolant hose (J3) and cut the short 4" leg as shown in (Fig. 18-4A).
- (q) Slide a wide band spring clamp (H2) approximately 2" on each end of this hose.
- (r) Connect this hose to the other end of the hose mender (H4) from Step 18(i) and secure it with the clamp.
- (s) Install the short leg of the molded hose end to the passenger side intercooler fitting on the supercharger housing top cover (Fig. 18-5A). Secure it with the wide band spring clamp.

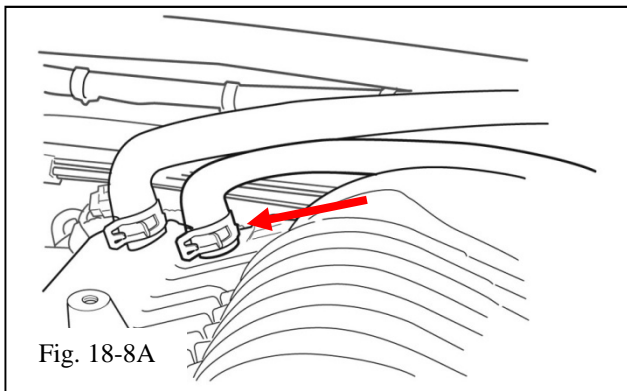




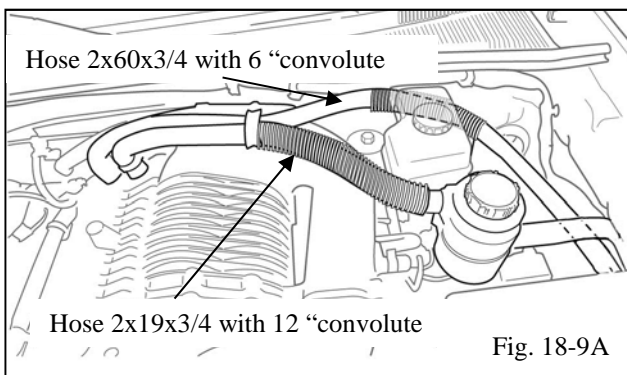
- (t) Route the hose across the firewall, behind the brake fluid reservoir, down along the engine compartment, then alongside the earlier hose, on through the bulkhead opening behind the headlight assembly and connect it to the upper nipple on the LTR. Secure it with the wide band spring clamp (Fig. 18-6A).



- (u) Trim the short end of the 4" x 36" molded hose (J2) as shown in Fig. 18-7A.
- (v) Slide a wide band spring clamp (H2) approximately 2" onto the short leg of the 3/4" hose and a screw clamp (H5) onto the other end.



- (w) Attach the short leg of the molded hose end to the driver side intercooler fitting on the supercharger housing top cover (Fig. 18-8A). Secure it with the wide band spring clamp (H2).



- (x) Run the hose along the earlier hose in front of the brake booster (trim the remaining end as necessary) and install it on the inlet nipple of the intercooler reservoir (Fig. 18-9A) with the screw clamp (H5).





Fig.18-10A

- (y) Cut the 18" piece of 1" wire Loom (A18) into two pieces of 6" and 12" lengths. Place them on the inlet and outlet cooler hoses as shown in Fig. 18-9A, one between the tank and the clamp and the other rearward of the brake fluid reservoir.
- (z) Use the small Adel clamp (H6) and a M6 x 12 bolt (H12) to secure the two coolant hoses to the boss on the rear of the supercharger housing (Fig. 18-10A).

### 19. Install the Intercooler Pump Relay Harness.

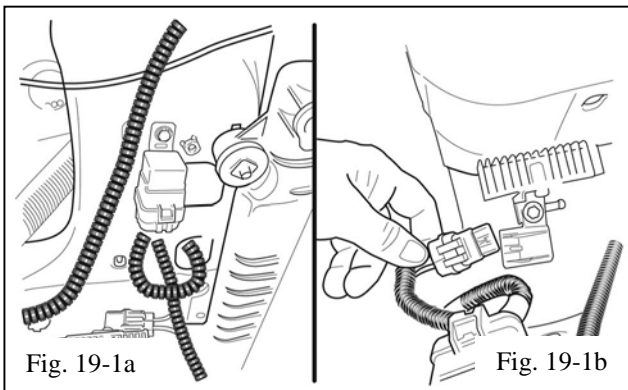


Fig. 19-1a

Fig. 19-1b

- (a) Use the supplied M6 x 20 bolt (H7) and hex nut (H8) to mount the intercooler relay harness (A11) on the **rear** of the radiator support bulkhead using an existing open hole (Fig. 19-1a).
- (b) Install the 15 amp ATO fuse (H10) into fuse holder (Fig. 19-1b).

**NOTE: If the bolt diameter is slightly larger than the hole in the relay, you can either drill out the hole in the relay with a 6 mm drill or just screw the bolt into the relay mounting hole.**

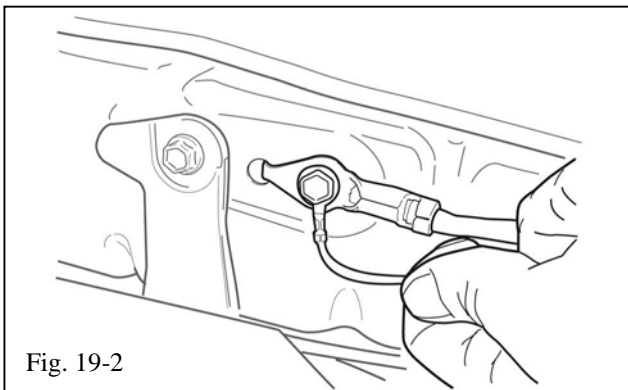
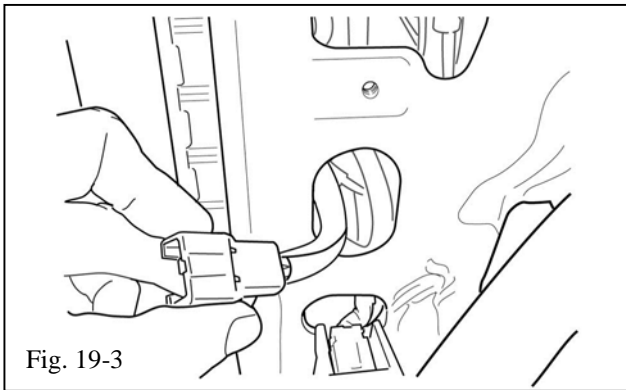
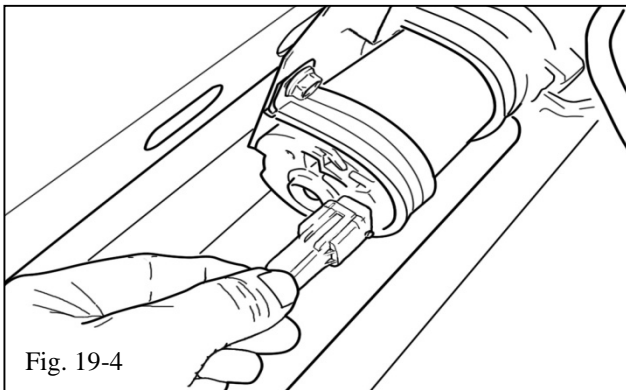


Fig. 19-2

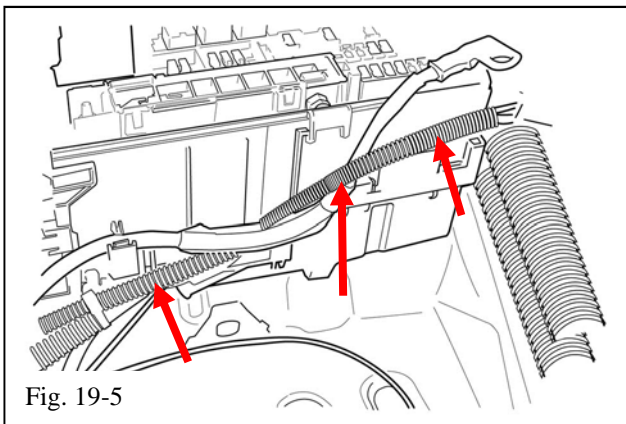
- (c) Remove the bolt retaining the vehicle ground wire to the fender. Take the ground wire from the intercooler pump relay and install it over the vehicle ground wire, then reinstall the bolt (Fig. 19-2).



- (d) Route the two wire connectors through the opening in the radiator support bulkhead (Fig. 19-3).

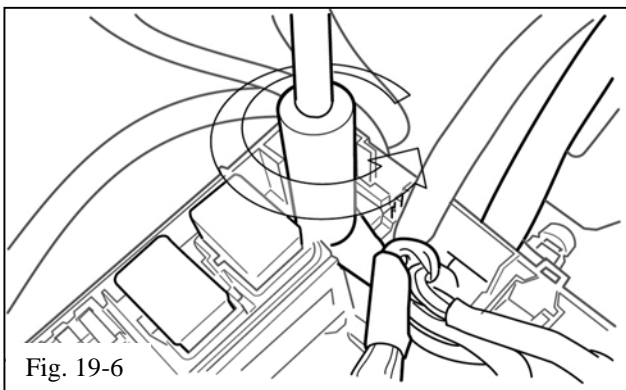


- (e) Plug the two wire connectors into the intercooler pump (Fig. 19-4). Secure the extra wire with tie-wraps (H3).



- (f) Route the wire harness containing the 10-gauge red wire and the yellow wire along the front of the fuse panel from the fender to the inside of the fuse panel (Fig. 19-5).

**NOTE: The battery is removed for clarity in the figure.**



- (g) Feed both wires up into the fuse panel through the same opening used by the vehicle wiring harness.
- (h) Remove the nut that is on the B (+) connection in the fuse panel (Fig. 19-6).

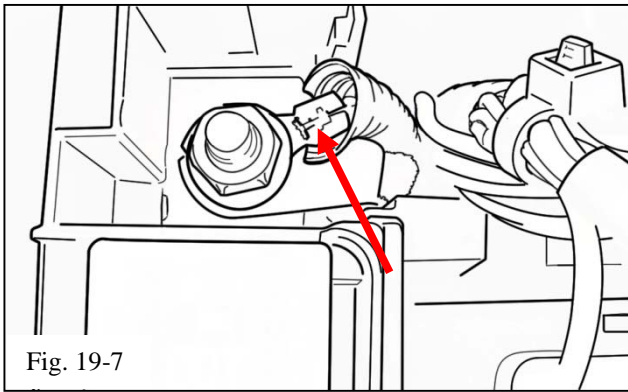


Fig. 19-7

- (i) Connect the 8mm ring terminal from the intercooler relay to the B (+) terminal in the fuse panel (Fig. 19-7) after trimming it to length.

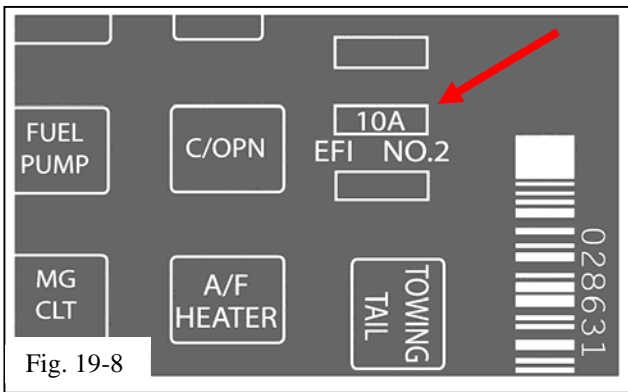


Fig. 19-8

- (j) Remove the 10-amp mini fuse labeled EFI No. 2 (Figs. 19-8 & 19-9).

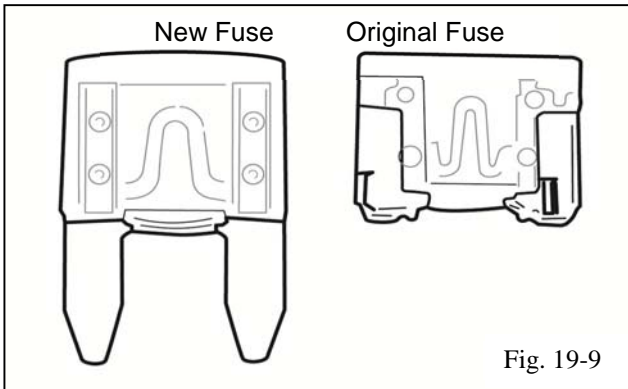


Fig. 19-9

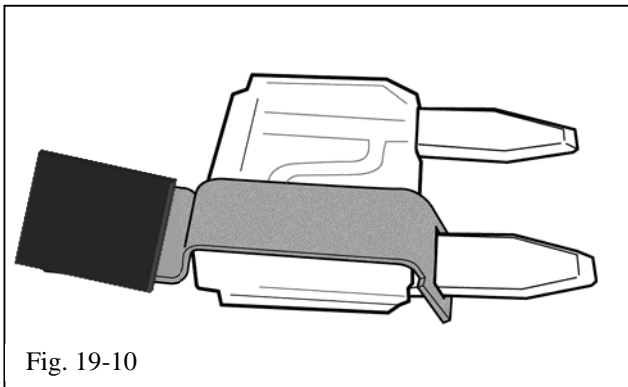
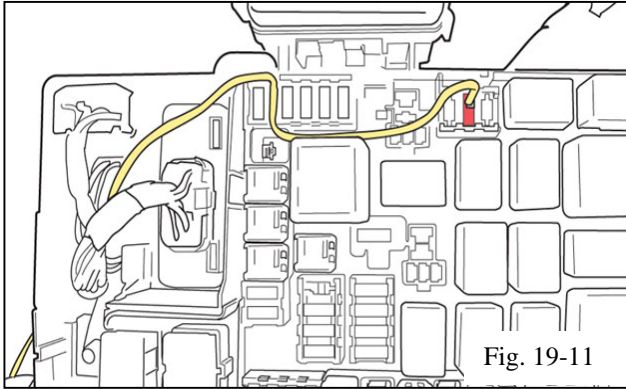


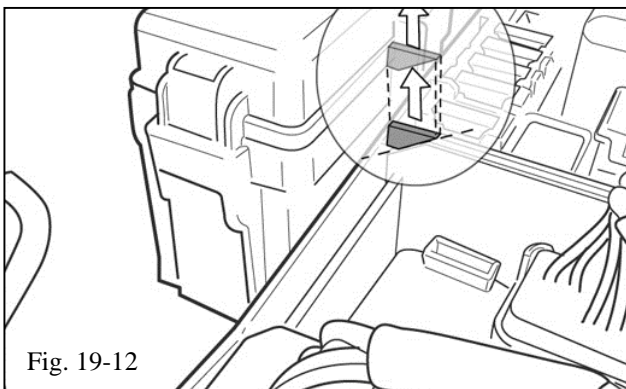
Fig. 19-10

- (k) Install the T-tap on the new 10 amp mini fuse (A10) supplied with the kit (Fig. 19-10).



- (l) Install the new 10amp mini fuse with the T-tap yellow wire back in the same EFI location (Fig. 19-11).

**⚠ CAUTION:** When installing the fuse, make sure the tap is toward the rear of the vehicle (Fig. 19-11).



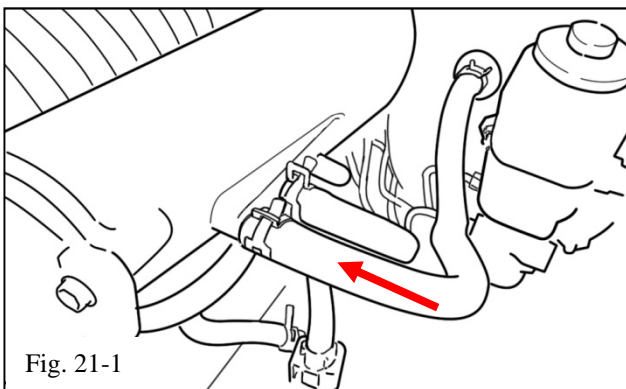
- (m) With a pair of side cuts, nip the plastic baffle as shown in Fig. 19-12 to allow the yellow wire to be routed as shown in Fig. 19-11. Replace the fuse box cover.

## 20. Reinstall the Radiator Grill.

- (a) Reinstall the radiator grill by reversing the removal in Step 16(a) on Page 31 (Fig. 16-1a and Fig. 16-1b).

## 21. Install the Vacuum Hoses.

- (a) **w/o VSC:** Connect the power brake booster hose onto the supercharger housing using the forward 3/8" nipple (Fig. 21-1).



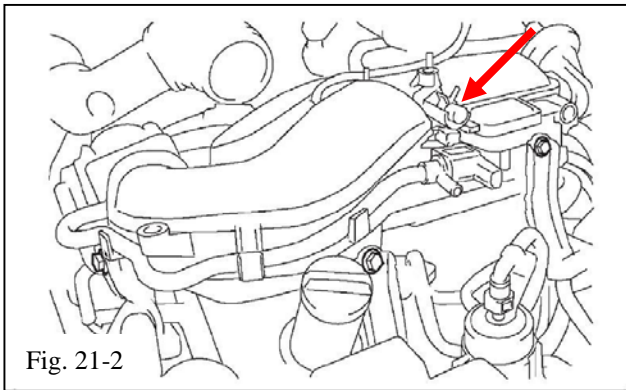


Fig. 21-2

(b) **w/ VSC:** Remove the cap shown in (Fig. 21-2) from the previously removed air surge tank and install it on the forward 3/8" nipple on the supercharger housing.

(c) Remove the stock EVAP hose from the vehicle surge tank.

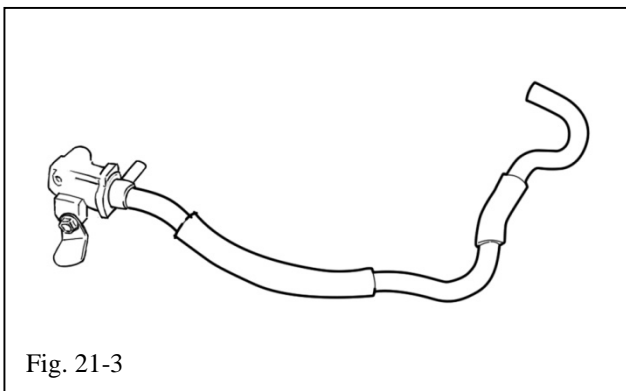


Fig. 21-3

(d) Install the EVAP hose onto the vacuum switching valve (VSV) that was installed on the oil filler neck housing in Step 12(c) on Page 26 (Fig. 21-3).

**NOTE:** The VSV is shown removed from the vehicle for clarity.

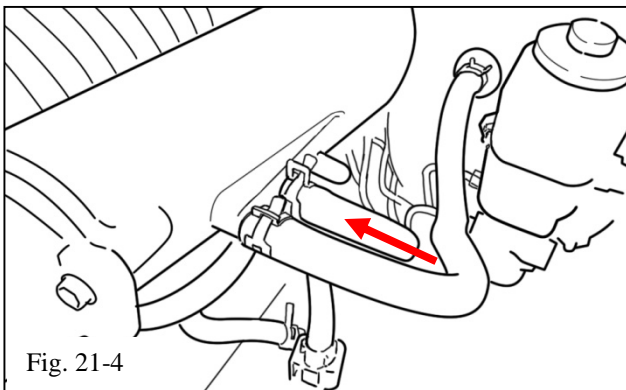


Fig. 21-4

(e) Route this EVAP hose to the remaining 3/8" nipple on the supercharger housing (Fig. 21-4).

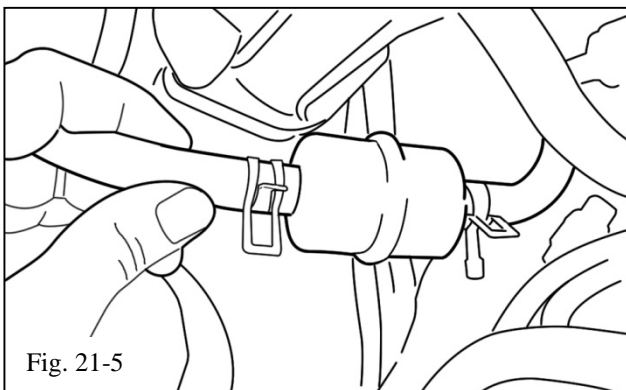
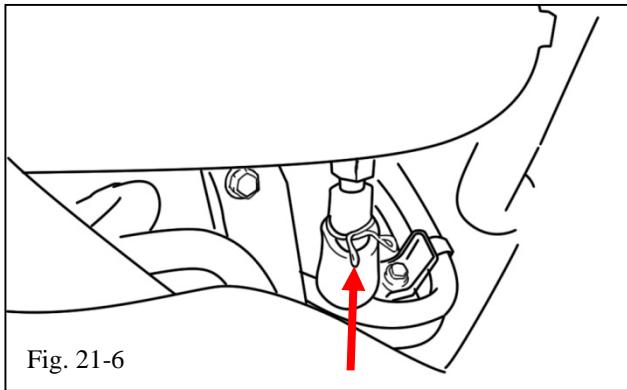


Fig. 21-5

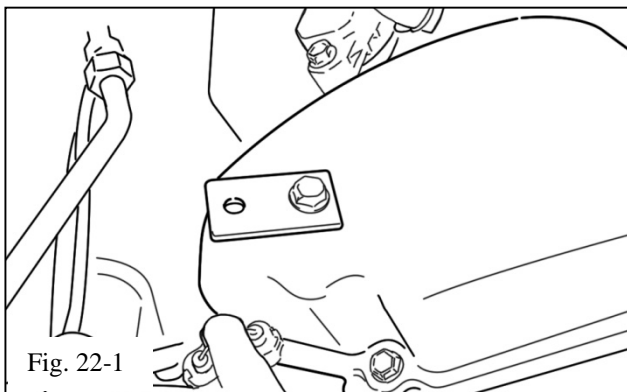
(f) Use the supplied 5/16" hose (A1) to connect the remaining open port on the VSV to the EVAP canister using the stock clamps (Fig. 21-5).



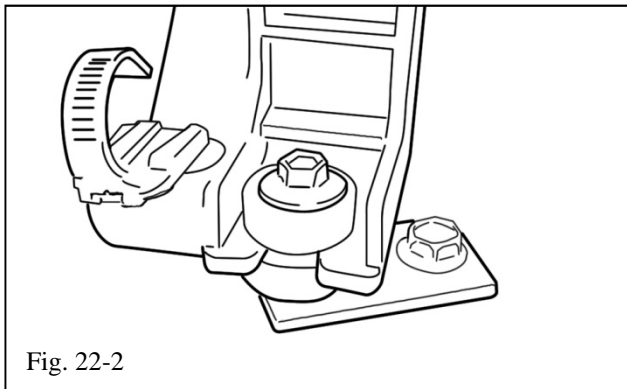


- (g) Connect the ventilation hose that was disconnected in Step 4(b) on Page 9 (Fig. 4-3) to the 3/8" nipple that is on the bottom of the supercharger housing (Fig. 21-6).

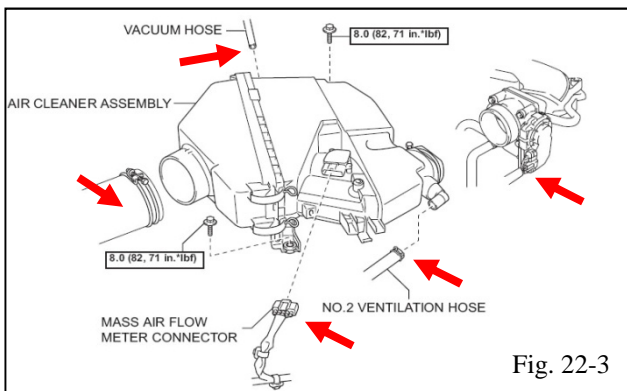
**22. Install the Air Cleaner Assembly.**



- (a) Use an M6 x 16 bolt (F6) to install the air box bracket (F2) to the passenger side cylinder head cover finger tight (Fig. 22-1).



- (b) Use the original bolt and a M6 nut (F4) from the kit to install the air cleaner assembly (Fig. 22-2).



- (c) Reconnect the No. 2 ventilation hose, the vacuum hose, mass air flow meter connector, the throttle motor connector, and the air inlet duct (Fig. 22-3).



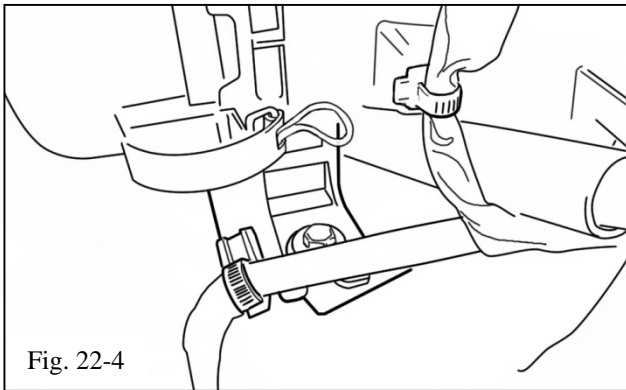


Fig. 22-4

- (d) Reconnect the 2 wire harness clamps removed in Step 2(e) on Page 7 (Fig. 22-4).

### 23. Protect the Clutch Hydraulic Line.



Fig. 23-1


- (a) If the vehicle is equipped with a manual transmission, install a 4" length of ½" convoluted tubing (A17) on the clutch hydraulic line (Fig. 23-1).

#### 24. Prepare for Vehicle Start-up.

- (a) Pour the saved coolant from Step 7(b) on Page 15 into the radiator until it is full.

**Hint:**

- Use of **improper** coolant may damage the engine cooling system.
- Use Toyota Super Long Life Coolant or similar high quality ethylene glycol based non-silicate, non-amine, non-nitrate, and non-borate coolant with long-life hybrid organic acid technology.
- New Toyota vehicles are filled with Toyota Super Long Life Coolant (color is pink, premixed ethylene glycol concentration is approximately 50% and freezing temperature is -35°C (-31°F). When replacing and or adding coolant, Toyota Super Long Life Coolant is recommended.


 **CAUTION: Do not substitute plain water for engine coolant.**

- (b) Check the coolant level inside the radiator by squeezing the inlet and outlet radiator hoses several times by hand. If the coolant level goes down, add coolant.
- (c) Install the radiator cap.
- (d) Slowly pour coolant into the radiator reservoir until it reaches the FULL line.

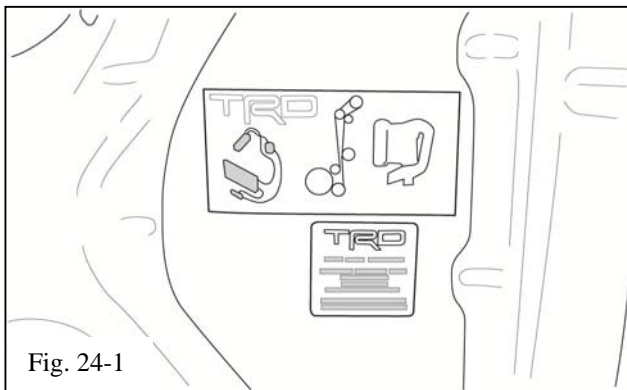


- (e) **Fill the intercooler reservoir with the same coolant as the vehicle radiator.**

- (f) Reinstall and connect the battery.

 **Torque: 5.4 Nm (48 in lbf)**

- (g) Once the reservoir is full and will not take any more coolant, turn the ignition key to on, **but do not start the engine**. This will cause the intercooler pump to run and purge air from the intercooler system. Continue to add coolant to the reservoir until it is full.
- (h) Clean an open area under the hood of any dirt and contaminants before adhering the belt routing and CRAB EO labels.



- (i) Place the new vacuum and belt routing label (L8) (Fig. 24-1). **DO NOT cover the**



**original vacuum hose label.**

- (j) Place the CARB EO Emissions label if needed (see Page 1) near the vacuum and belt routing label (Fig. 24-1).
- (k) Install the **Premium Fuel Only** decals (L3). Place one on the dash near the fuel gauge AND one near the fuel filler cap.
- (l) **Prime the fuel system:** Prime the fuel lines and fuel rails before attempting to start the engine for the first time. Failure to do so will cause hard-starting for the first few tries, and may trigger false MIL lights.

- (1) Use the TIS Techstream tool to connect to the vehicle and select the “ENG and ECT” ECU from the list of ECU’s.
- (2) Select “Active Test” from the menu selection on the left of the screen.
- (3) Select the test “Control the Fuel Pump/Speed” from the list of tests and click “OK”.

- (4) The data list will be displayed and a small window that tells the status of the fuel pump. Initially, the fuel pump will be “OFF”. Turn the fuel pump on and let it run for about 2 minutes.
- (5) Use this time to check for any fuel system leaks.
- (6) When the priming is complete, exit the test and prepare to re-flash the ECU.

**NOTE: The fuel system priming function was written for use with TIS Techstream v9.30.029. If you do not have TIS Techstream, consult with the manufacturer of the scan tool you are using to perform the fuel priming function.**

#### **25. Re-flash the ECU.**

- (a) The proper procedure to re-flash the ECU (Engine Control Unit) is explained in [T-SB-0012-13](#) titled “Techstream ECU Flash Reprogramming Procedure” located on T.I.S. (Toyota Information System).

- (b) Download the correct vehicle ECU Calibration Update (see table below) from TIS into the Toyota Techstream Tool using the TIS Calibration Update Wizard.



**Note:** For 2005, 2006 and 2007 Tacoma vehicles, the ECU must have [TSBEG011-07](#) (Intermittent No-Start Condition) applied before attempting to install the supercharger calibration. Failure to update or verify the proper *“Target Calibration ID”* will result in a no re-flash condition. Your Techstream system must be updated to at least operating version 9.30.029 or higher. Failure to do so may also result in a no re-flash condition.

- (c) Follow the re-flashing procedure outlined in [T-SB-0012-13](#).



**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.



**NOTE:** The vehicle **WILL NOT** operate properly without this ECU update.

**Calibration Chart is for Reference Only**

The most Up-to-Date Downloadable Supercharger ECU Calibration files can be found at your Toyota Dealer and through the TIS system. If your vehicle is not listed in the chart below – Contact your Toyota Dealer

Model	Model Year	Target Calibration ID	Supercharger Calibration ID
X-Runner M/T	2005	30429200	<a href="#">3YWG2700</a>
		30429300	
		30429400	
	2006	30434100	
		30434200	
		30434300	
	2007	30440100	
		30440200	
		30440300	
	2008	30443000	
		30443100	
		30443200	
	2005-2008	3YWG0100	
		3YWG1800	
	2009	30450000	<a href="#">3YWG3000</a>
		30450100	
		30450200	
		30450300	
		3YWG0400	
	2010	3YWG1500	
		30458000	<a href="#">3YWG3300</a>
		3YWG0700	
	30453000		
2011	30453100		
	3YWG1200	<a href="#">3YWG3600</a>	
	3047400		
	3WYG2100		
2012	3046700	<a href="#">3YWG2400</a>	
2013	30481000	<a href="#">3YWG3900</a>	




Model	Model Year	Target Calibration ID	Supercharger Calibration ID
Tacoma Pre-Runner 2WD, 4WD, M/T	2005	30430200	<a href="#"><u>3YWG2800</u></a>
		30430300	
		30430400	
	2006	30435100	
		30435200	
		30435300	
	2007	30441100	
		30441200	
		30441300	
	2008	30444000	
		30444100	
		30444200	
	2005-2008	3YWG0200	
		3YWG1900	
	2009	30451000	<a href="#"><u>3YWG3100</u></a>
		30451100	
		30451200	
		30451300	
		3YWG0500	
	2010	3WYG1600	
		30459000	<a href="#"><u>3YWG3400</u></a>
	3YWG0800		
	2011	30454000	
30454100			
3YWG1300		<a href="#"><u>3YWG3700</u></a>	
30475000			
2012	30475100		
	3YWG2200		
2013/2014	30468000	<a href="#"><u>3YWG2500</u></a>	
2015	30482000	<a href="#"><u>3YWG4000</u></a>	
	304A4000	<a href="#"><u>3YWG4200</u></a>	
	304A5000	<a href="#"><u>3YWG4300</u></a>	

Model	Model Year	Target Calibration ID	Supercharger Calibration ID	
Tacoma Pre-Runner 2WD, 4WD, A/T	2005	30426200	<a href="#">3YWG2900</a>	
		30426300		
		30426400		
	2006	30433100		
		30433200		
		30433300		
	2007	30439100		
		30439200		
		30439300		
		30439400		
	2008	30442000		
		30442100		
		30442200		
		30442300		
	2005-2008	3WYG0300		
		3YWG200		
	2009	30449000		<a href="#">3YWG3200</a>
		30449100		
		30449200		
		30449300		
		30449400		
		3YWG0600		
		3YWG1100		
		3YWG1700		
	2010	30457000		<a href="#">3YWG3500</a>
		30457100		
		30445000		
		3YWG0900		
		3YWG1000		
	2011	30445000		<a href="#">3YWG3800</a>
30445100				
3YWG1400				
30473000				
30473100				
	3YWG2300			
2012	30455000	<a href="#">3YWG2600</a>		
2013/2014	30480000	<a href="#">3YWG4100</a>		
2015	304A3000	<a href="#">3YWG4400</a>		


||

## 26. Test and Evaluate the Install.

- (a) Start the engine and let it idle.
- (b) Check the fuel system for any leaks.
-  (c) **IMPORTANT:** Check the serpentine belt drive systems for correct alignment on ALL pulleys.
- (d) Check the coolant system for any leaks.
  - (1) Set the A/C system as follows:


Fan Speed	Any setting except OFF
Temperature	Toward Warm
A/C Switch	OFF
  - (2) Maintain the engine speed at 2,000 to 2,500 rpm and warm up the engine until the cooling fan operates.
  - (3) Squeeze the inlet and outlet radiator hoses several times by hand while warming up the engine.
- (e) Check the air intake system to ensure there are no leaks and for tightness.
- (f) Stop the engine and wait for the coolant to cool down.
- (g) Carefully remove the radiator cap and check the coolant level inside the radiator and add coolant if necessary. Reinstall the radiator cap.
- (h) Check the coolant level inside the radiator reservoir. If it is below the full level, add coolant.
- (i) Check the coolant in the intercooler reservoir and add coolant if necessary.

- (j) Test drive the vehicle. If all is okay, park and proceed with the next step. If not, troubleshoot as necessary.
- (k) Use the Techstream diagnostic tool to check for ECU error codes.
- (l) Place the supercharger noise mirror hanger card (L7) on the inside rearview mirror.

 (m) Complete and mail the warranty registration card (L6).

**NOTE: The installation of the Supercharger is not complete until this card has been returned to TRD.**

- (n) Place all removed factory hardware, components, and this instruction sheet into the original TRD box and give it to the customer or place it in the vehicle cargo compartment.
- (o) **IMPORTANT:** Review with the customer/end-user that the supercharger will make a slight noise at idle that increases as the throttle is opened and that this is normal.

 (p) **IMPORTANT:** Review with the customer/end-user that it is imperative that only **91 octane or higher fuel** be used after the supercharger is installed. Performance will suffer and engine damage is possible otherwise.

- (q) Place a clean copy of the Supercharger Installation Instructions into the glove box for future use or reference.

- (r) **If your state requires an Emissions Compliance Label, one may be ordered through your Toyota dealer or the Toyota Materials Distribution Center (MDC) 310-468-9800 or MDC@toyota.com.**

This TRD Supercharger Kit has received a 50-State Emissions Compliance via the California Air Resources Board (CARB). Not all states require the Emissions Compliance Label but TRD does recommend ordering one. To receive the proper Supercharger Emissions Compliance Label for this TRD Supercharger kit, please order **MDC label part number 00602-34158** which will apply to 2005-2015 Toyota Tacoma with 4.0L V-6 Gasoline Only engines. Proof of product purchase or ownership may be required.



**TOYOTA TACOMA 2005 - SUPERCHARGER FIT KIT**  
 Checklist - these points **MUST** be checked to ensure a quality installation.

<u>Check:</u>	<u>Look For:</u>
<p><u>Accessory Function Checks</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Use of 91 Octane Fuel (R+M / 2)</li> <li><input type="checkbox"/> All Fluid Levels &amp; Leaks</li> <li><input type="checkbox"/> Serpentine belt alignment</li> <li><input type="checkbox"/> Fuel Line connections</li> <li><input type="checkbox"/> Engine Fan clutch Clearance</li> <li><input type="checkbox"/> Engine ECU Reflash</li> </ul>	<p>Use 91 Octane Unleaded Fuel (R+M /2)</p> <p>Inspect Engine Cooling System and Supercharger Cooling System for Proper Fluid Type and Level.</p> <p>Inspect Serpentine Belt Drive Belts for Proper Alignment, Tension, and Clearance from Engine Compartment Items.</p> <p>Inspect all Fuel Rails, Injectors, Injector Seals, Pressure Regulator, and Fuel Line Connectors for Leaks.</p> <p>Inspect Engine Fan Clutch for Free Movement and Clearance from Radiator.</p> <p>Ensure the Proper Calibration File was used for the Vehicle.</p>
<p><u>Vehicle Function Checks</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Fuel leak</li> <li><input type="checkbox"/> Coolant leak</li> <li><input type="checkbox"/> Drive test</li> </ul>	<p>No Fuel leaks are present</p> <p>No coolant leaks are present</p> <p>Vehicle starts Up Easily, no DTC trouble codes are present, and drivability is smooth and predictable. Place a copy of the Installation Instructions into the glove box for customer use and reference.</p>
<p><u>Vehicle Appearance Check</u></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> After accessory installation and removal of protective cover(s), perform a visual inspection</li> </ul>	<p>Ensure no damage (including scuffs and scratches) was caused during the installation process. (For PPO installations, refer to TMS Accessory Quality Shipping Standard.)</p>