

# 97707 – INTERCOOLER UPGRADE KIT FOR 2011 CHEVY/GMC 2500/3500 6.6L DIESEL

## INSTALL INSTRUCTIONS Part #s 26011

Banks Intercooler System  
2011 Chevy/GMC 2500/3500  
6.6L Diesel

Please read through the following instructions thoroughly before starting your installation. If you have any questions please visit our [Support Page](#).



### Tools required:

Drive ratchet

Ratchet extension

Inch and metric deep sockets

Pliers

Philips and flat blade screwdrivers

Torx bits

### Highly Recommended Tools:

Foot-pound torque wrench

Inch-pound torque wrench

# General Installation Practices

1. Before starting work, familiarize yourself with the installation procedure by reading all of the instructions.
2. Throughout this manual, the left side of the vehicle refers to the driver's side and the right side to the passenger's side.
3. Disconnect the negative (ground) cable from the battery (or batteries, if there are more than two) before beginning work.
4. Route and tie wires and hoses a minimum of 6" away from exhaust heat, moving parts, and sharp edges. Clearance of 8" or more is recommended where possible.
5. When raising the vehicle, support it on properly weight-rated safety stands, ramps, or a commercial hoist. Follow the manufacturer's safety precautions. Take care to balance the vehicle to prevent it from slipping or falling. When using ramps, be sure the front wheels are centered squarely on the topsides. When raising the front of the vehicle, put the transmission in park (automatic) or reverse (manual), set the parking brake, and block the rear wheels. When raising the back of the vehicle, be sure the vehicle is on level ground and the front wheels are blocked securely.

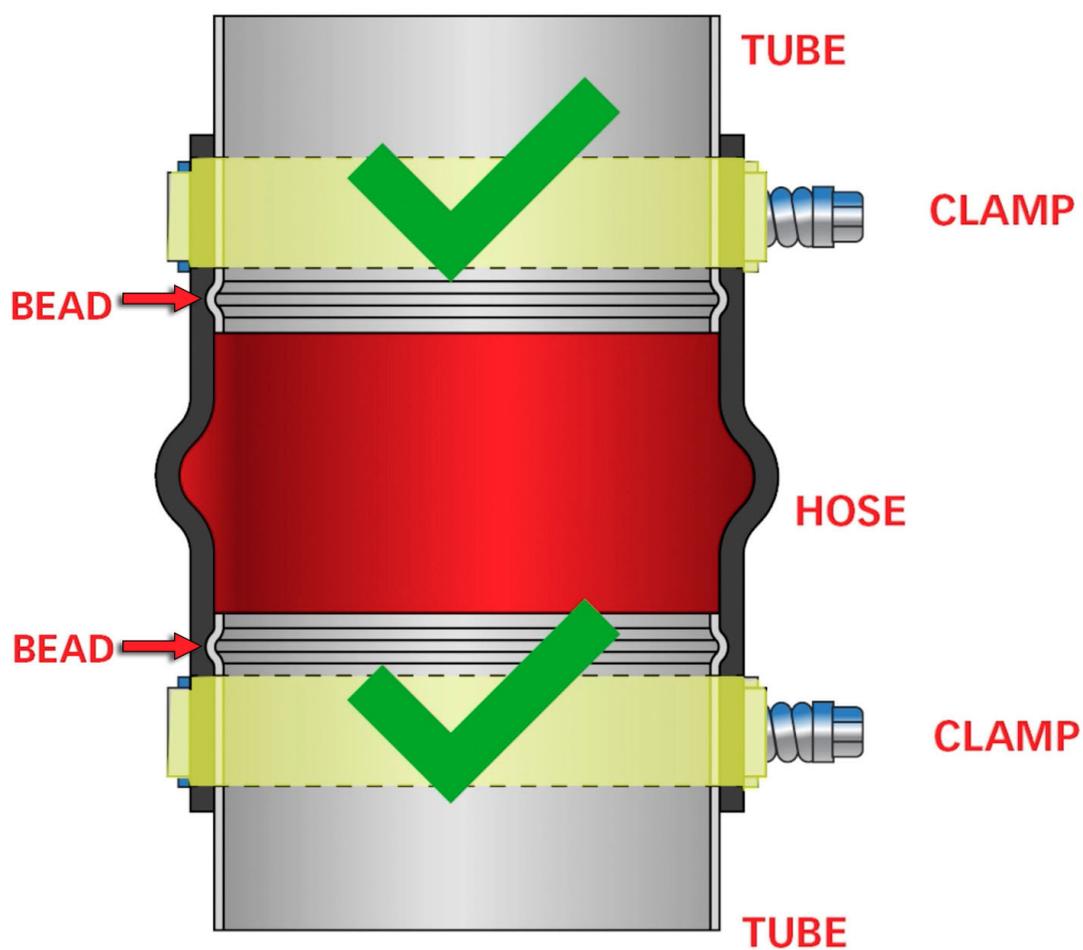
**Caution! Do not use floor jacks to support the vehicle while working under it. Do not raise the vehicle onto concrete blocks, masonry, or any other item not intended specifically for this use.**

6. During installation, keep the work area clean. Do not allow anything to be dropped into the intake, exhaust, or lubrication system components while performing the installation, as foreign objects will cause immediate engine damage upon start-up.

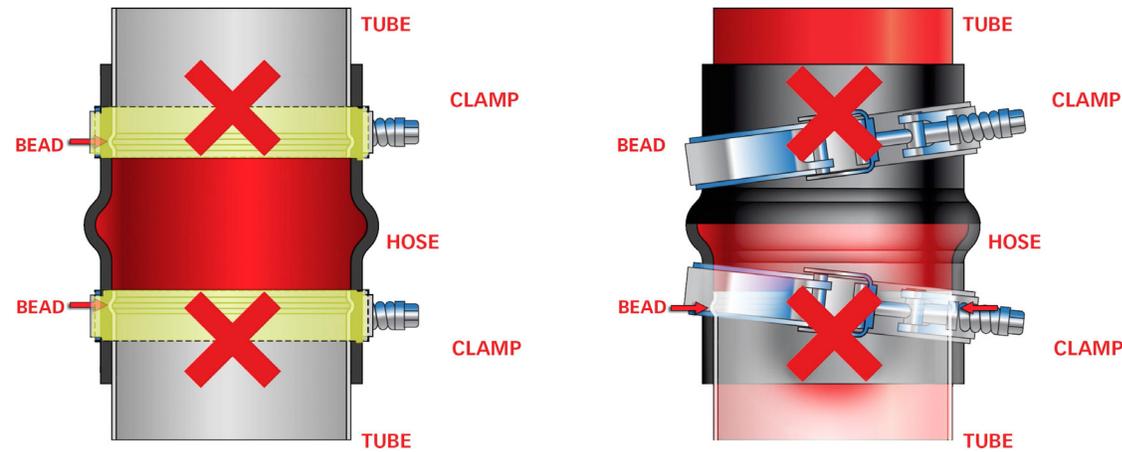
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## ATTENTION: Boost-Tube Clamps

When installing the clamps, be sure the hose and clamps go on far enough to clear the bead on each end.

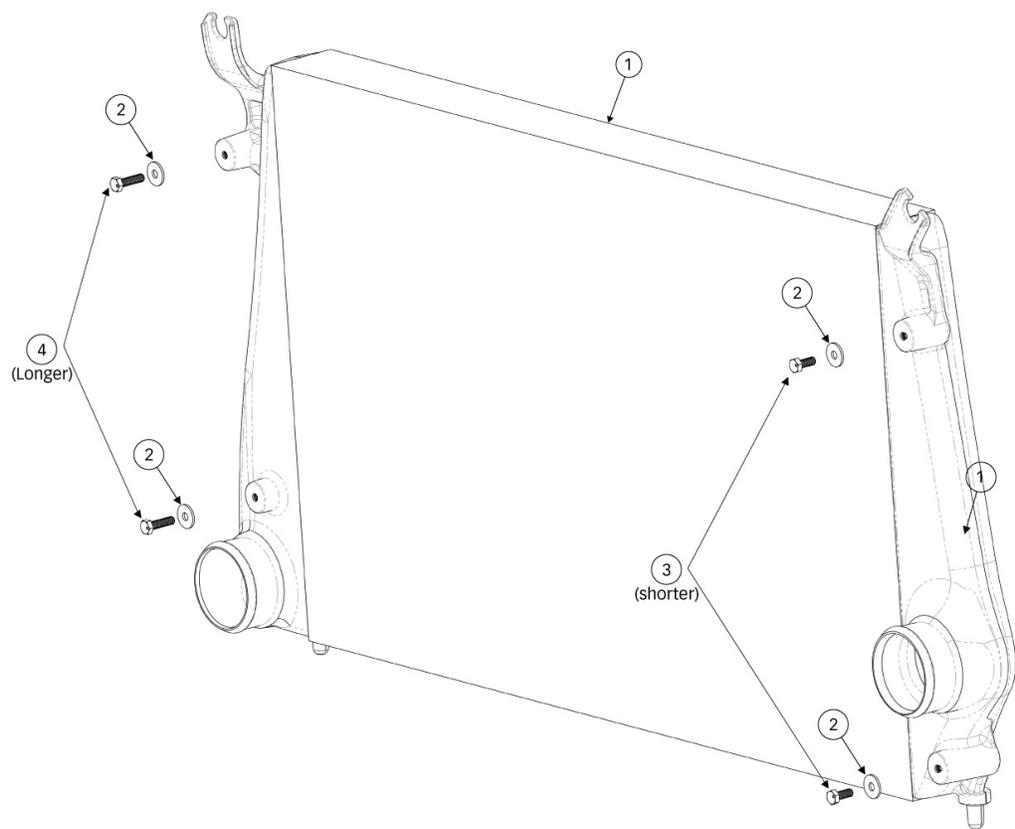
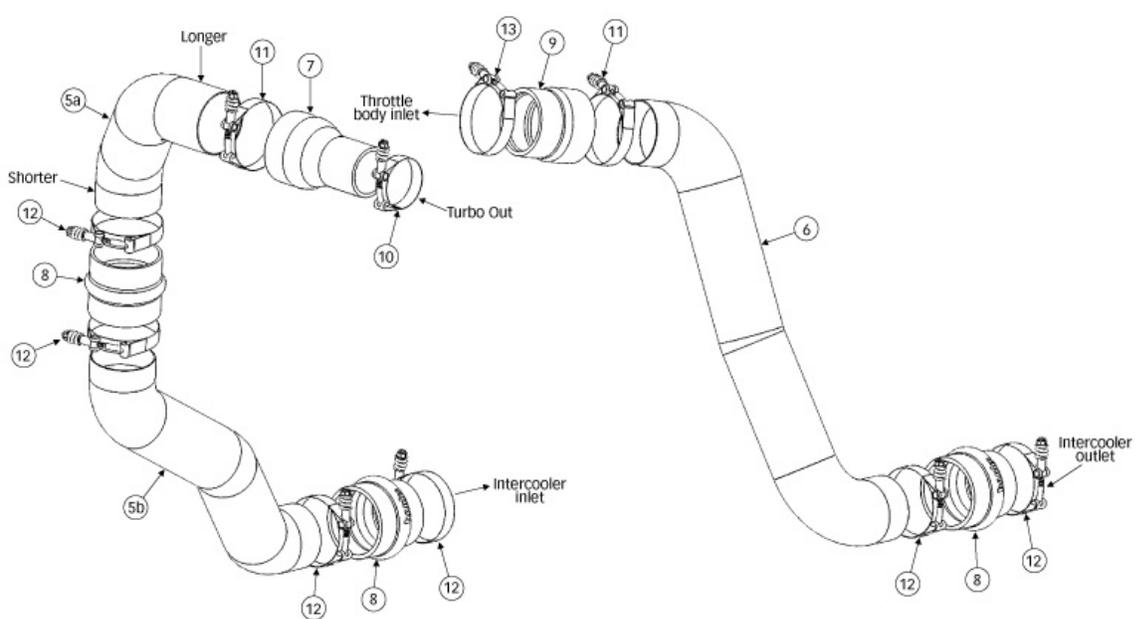


An improper installation, such as a clamp sitting directly on a bead or crossed diagonally, will result in a boost leak.



## Section 1: General Assembly

Item	Description	Part#	Qty
1	Intercooler - 2013-16 Chevy 6.6L Duramax	25561	1
2	Washer - M8 X 24MM	91702	4
3	Hex Bolt - 8MM-1.25 X 20MM	91786	2
4	Hex Bolt - 8MM-1.25 X 30MM	91790	2
5a	Banks Boost Tube 1, Left (Driver)	41316-R	1
5b	Banks Boost Tube 2, Left (Driver)	41317-R	1
6	Banks Boost Tube, Right (Passenger)	42331	1
7	Hose, Turbo Outlet, 2.36" to 3.5", 6.0" long	94299	1
8	Hump Hose, 3.5" to 3.5", 3.5" long w/o internal bead	94293	3
9	Hose, 3.5" to 3.15", 2.9" long w/ internal bead	94312	1
10	T-Bolt Clamp, 2.8" No Spring	92852	1
11	T-Bolt Clamp, 4.0" Spring Loaded	92901	2
12	T-Bolt Clamp, 3.75" Spring Loaded	92897	6
13	T-Bolt Clamp, 3.5" Spring Loaded	92895	1
14	Urocal, Banks Power, Small	96009	2



## Section 2: Removing Stock Intercooler

### Step 1

Disconnect the ground cables from both the driver and passenger side batteries. Position the loose cables so that they do not come into contact with their

respective battery posts during the installation.

## Step 2

**Remove the air box filter assembly.** Loosen the hose clamp from the stock intake tube and separate the stock intake tube. Remove the Air Flow (MAF) sensor connector from the stock airbox filter cover. Remove the stock airbox by lifting the airbox up and out. The bottom of the stock airbox is held in place by rubber grommets. There may be some slight resistance when removing the stock airbox.

*NOTE: Be careful not to damage the connector or the MAF sensor.*

*NOTE: The number of sensors may vary with the model year.*

## Step 3

Remove the upper grill baffle. Remove the upper grill baffle that mounts between the grille and radiator cross brace. The baffle is held in place by push-in retainers. The retainers are removed by pulling up on the center pin, then prying the retainer out of its hole as shown in **Figure 1**.

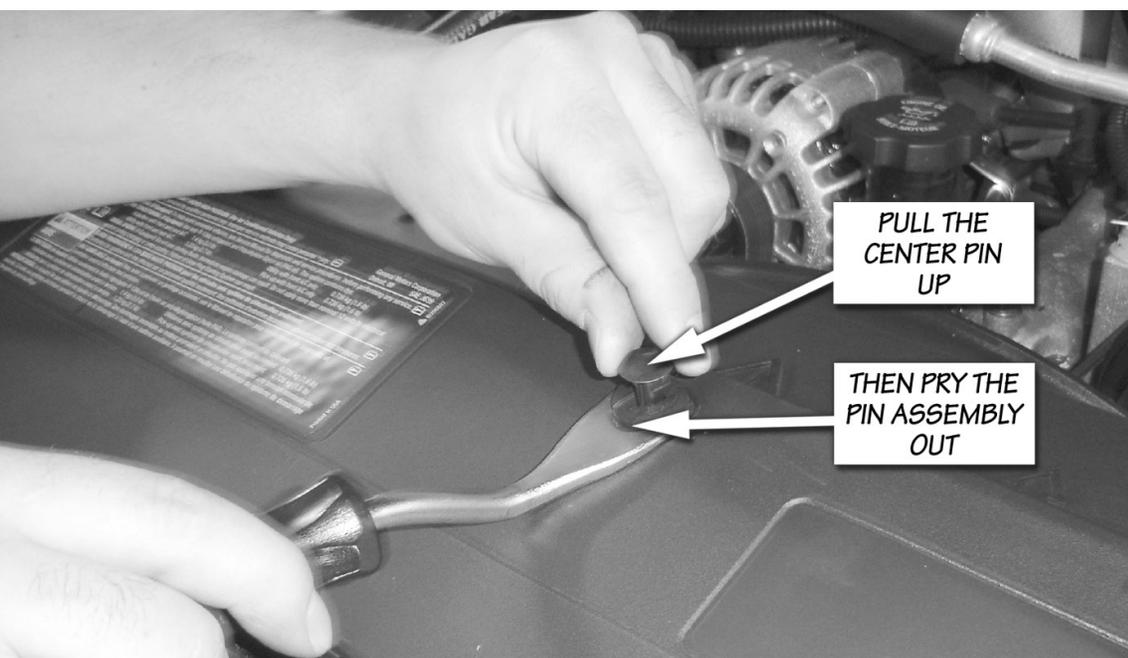


Figure 1

## Step 4

Remove the front grille. Pull the grill gently outward until all clips are disengaged.

*NOTE: Some model years may vary. Be sure to remove any bolts holding grill first.*

## Step 5

Remove the inner fender well. Remove the pushpin fasteners and bolts from both driver's and passenger's side fender well.

*NOTE: The fasteners are accessed through the wheel arch opening. Pull the fender well down approximately six inches once the fasteners are removed. Disconnect the wire harness retaining clips on top of the fender well, and then remove the fender well from the vehicle.*

## Step 6

Remove both diagonal fender support braces. See **Figure 2**.



Figure 2

## Step 7

Remove the trim panel below the headlight. See **Figure 3**.



Figure 3

#### Step 8

Remove three 10mm bolts from headlamps. Pull the top of the lamp down and carefully forward. Disconnect headlamp harness from the backside of the headlamp assembly, and remove both driver and passenger headlamp assemblies from the vehicle.

*NOTE: The headlamp os easily disengaged and does not require force.*

*Attention: The number and location of bolts on the headlamp assembly may vary by model and year.*

#### Step 9

Remove the headlamp mounting structure on the driver and passenger side of the vehicle shown in **Figure 4**. There are six 10mm bolts, three per side. The retaining clip that attaches the hood latch cable to the support structure must also be removed on the driver's side.

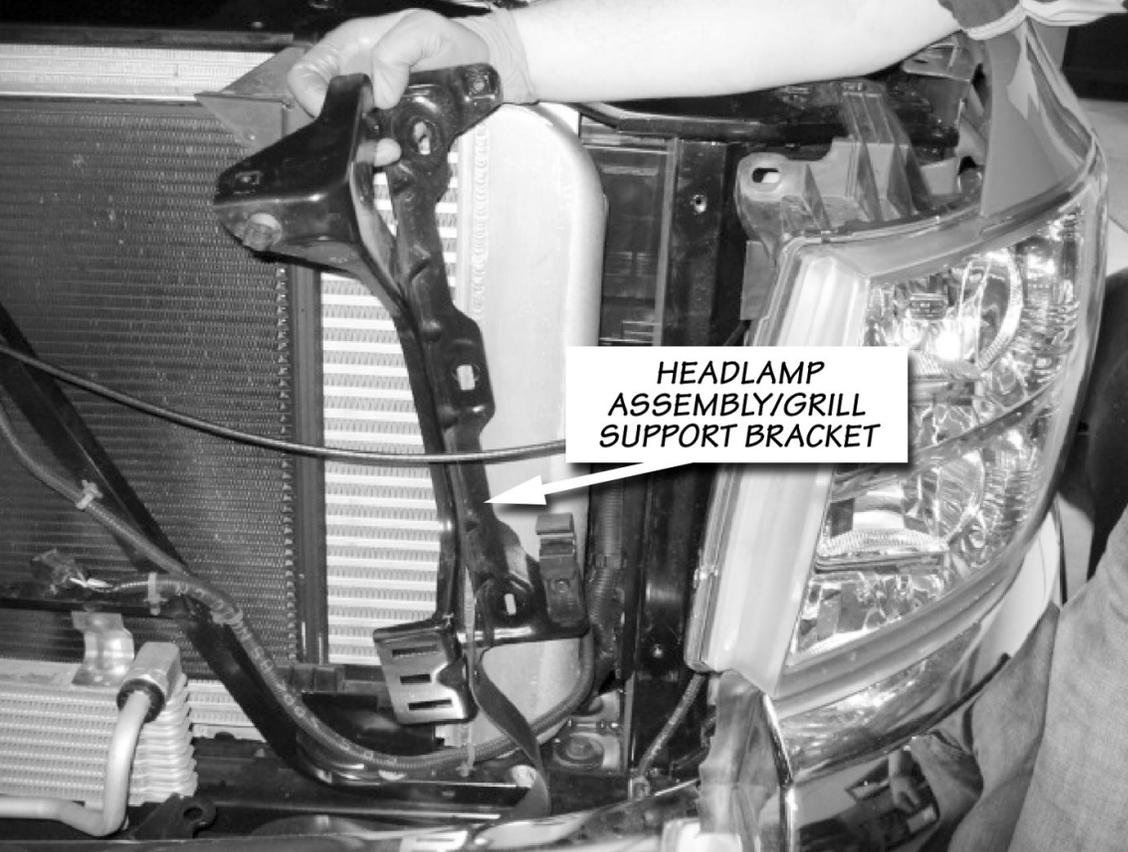


Figure 4

**Step 10**

Remove the two bolts that secure the intercooler to the upper radiator cross brace. Remove four 13mm bolts, two per side, that connect the intercooler to the radiator.

**Step 11**

Remove the low-pressure A/C condenser line from the line retainer attached to the upper fan shroud.

**Step 12**

Remove the two upper condenser mounting bolts that attach to the radiator cross brace.

**Step 13**

Remove the ambient temp sensor. See **Figure 5**.

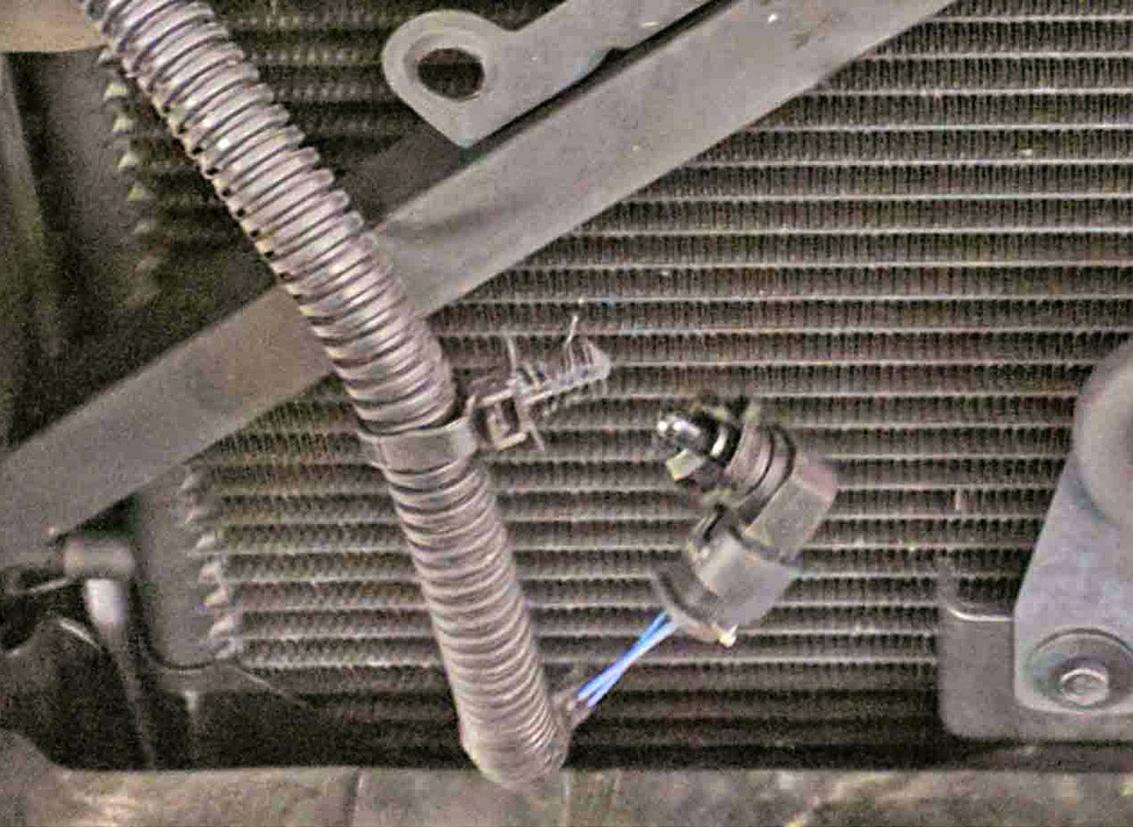


Figure 5

#### Step 14

Mark the location of the hood latch, disconnect the hood latch electrical connector, then remove the hood latch from the latch support. The latch is held in place by three bolts. It is not necessary to remove the cable from the latch, just place the latch and cable assembly out of the way.

#### Step 15

Remove the two bolts that attach the latch support to the radiator cross brace and the four lower attachment bolts (two per side). The two bolts that attach the upper support to the radiator cross brace are accessed from the engine compartment side of the vehicle.

#### Step 16

Remove oil cooler mounting bolts.

#### Step 17

Remove the power steering cooler mounting bolts.

#### Step 18

Pull the air conditioning condenser out of its lower mounts.

#### Step 19

Remove the six bolts (three per side) that secure the radiator cross brace. The bolts are on the bottom side at each end of the support. Remove the cross brace from the vehicle.

## Step 20

Remove mounting tray under airbox and corner brace. See Figures 6 & 7.



Figure 6



Figure 7

## Section 3: Installation of Banks Intercooler

Step 21

Loosen the driver side boost tube hose clamps. Remove the boost tube from the charge air cooler (CAC).

### Step 22

Remove the passenger side boost tube and intake air temperature sensor. Use a small screwdriver to rotate the retaining ring to release the boost tube. See Figure 8.

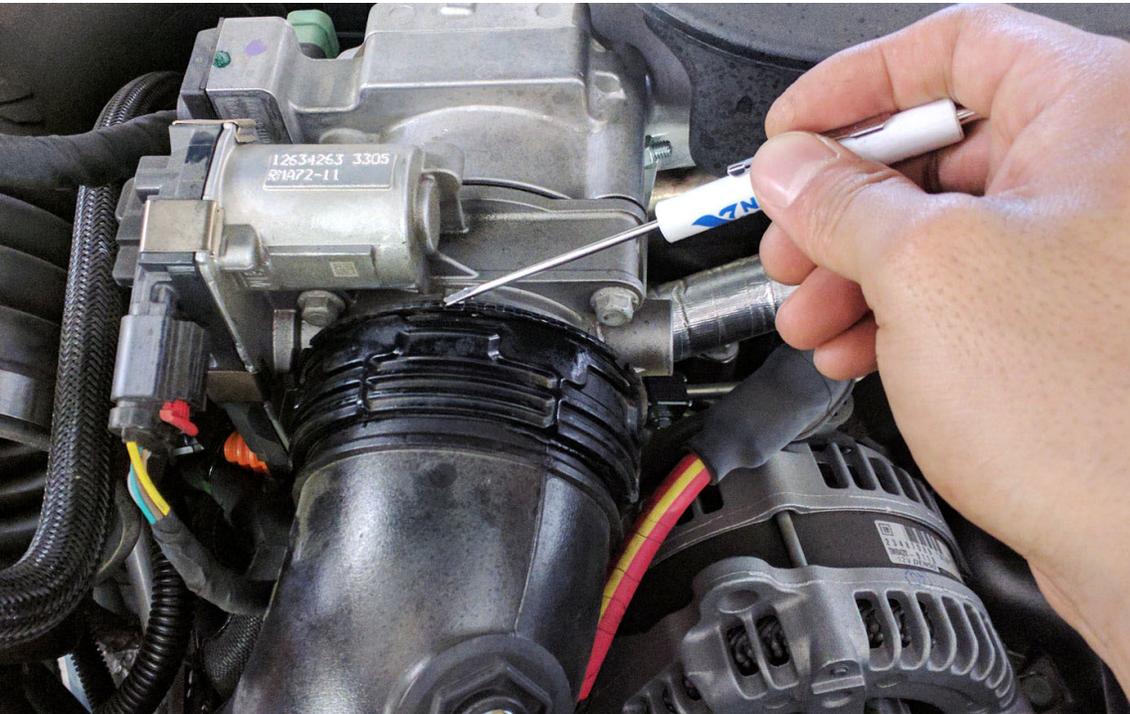


Figure 8

### Step 23

At this point, the charge air cooler is ready for removal. Shown in Figure 9.



Figure 9

#### Step 24

Remove the charge air cooler from the vehicle. Check that the lower mounting peg grommets are removed from the stock intercooler and place to the side. The lower rubber grommet will be transferred to the Banks intercooler.

#### Step 25

Loosen the driver side boost tube hose clamps from the turbo outlet. Remove the stock driver's side boost tube from the vehicle.

#### Step 26

Locate the supplied Banks charge air cooler and transfer both top and bottom rubber grommets and corresponding metal sleeve into position on the Banks charge air cooler.

#### Step 27

Install the Banks CAC into the vehicle. Align the lower CAC mounting pegs with the rubber mounts in the vehicle's frame. There is a significant amount of play in the rubber mounts that can allow them to be aligned with the CAC as required.

#### Step 28

Reinstall the radiator cross brace. Leave the attachment bolts loose to aid in aligning the CAC with the support.

### Step 29

Reinstall the radiator onto CAC. Secure the radiator to the Banks CAC with supplied bolts washers supplied in the Banks system. Tighten to 15-18 ft-lbs.

*Note: Use the 20 mm long bolts on the passenger side, and the 30 mm bolts on the driver's side.*

*Note: Install the passenger side bolts first and then install driver side bolts. It may be helpful to use a pry bar or similar to assist in aligning the screw holes between the radiator and the Banks charge air cooler.*

### Step 30

Install the upper CAC attachment bolts that were previously removed. There is enough play in the lower mounting pads, that the CAC can be positioned to align with the upper cross brace. Tighten the bolts.

### Step 31

Check that the engine-cooling fan can freely spin without contacting the lower fan shroud. If the fan contacts the shroud, the shroud must be realigned with the radiator.

### Step 32

Tighten the six radiator-cross brace bolts to 80 in-lbs. Install the diagonal fender support brace and tighten the bolts.

*NOTE: Before slipping any boost tubes and the corresponding hoses, into position, ensure that all connection ends are clean and free of any oil residue and contaminate. Clean compressor outlet and all connection points with a non-oil based solvent such as Acetone, Mineral Spirits, Denatured Alcohol, or Lacquer Thinner. Read and follow the manufactures operation instruction for non-oil based solvent cleaner*

*NOTE: The a/c line that runs near the intake manifold will need to be bent downward to provide clearance for the boost tube. The a/c line can be bent by placing a wooden block on the a/c line, then lightly tapping the block with a hammer.*

### Step 33

Install hump hose (Item #8) onto the Banks intercooler inlet with clamps (Item #12) oriented as shown in **Figure 10**.



Figure 10

**Step 34**

Insert the lower driver's side boost tube (item #5b) through the fender well and into the intercooler hump hose (item #8).

**Step 35**

Install hump hose (item #8) onto the lower boost tube with clamps (item #12).

**Step 36**

Install transition hose (item #7) onto the turbo outlet with clamp (items #10 & 11).

**Step 37**

Insert the upper driver's side boost tube (item #5) into the turbo outlet transition hose (item #7) and into the hump hose (item #8) connecting to the lower boost tube.

**Step 38**

Check for clearances around the boost tube and tighten all T-bolt clamps to 5ft lbs.

**Step 39**

Relocate ECU harness. The passenger side boost tube may pinch the orange ECU harness once installed (as seen in **Figure 11**).

## Step 40

Unhook the two clips on the top, and one on the side, that hold the protective baffle above the ECU connections as shown in **Figure 11**.

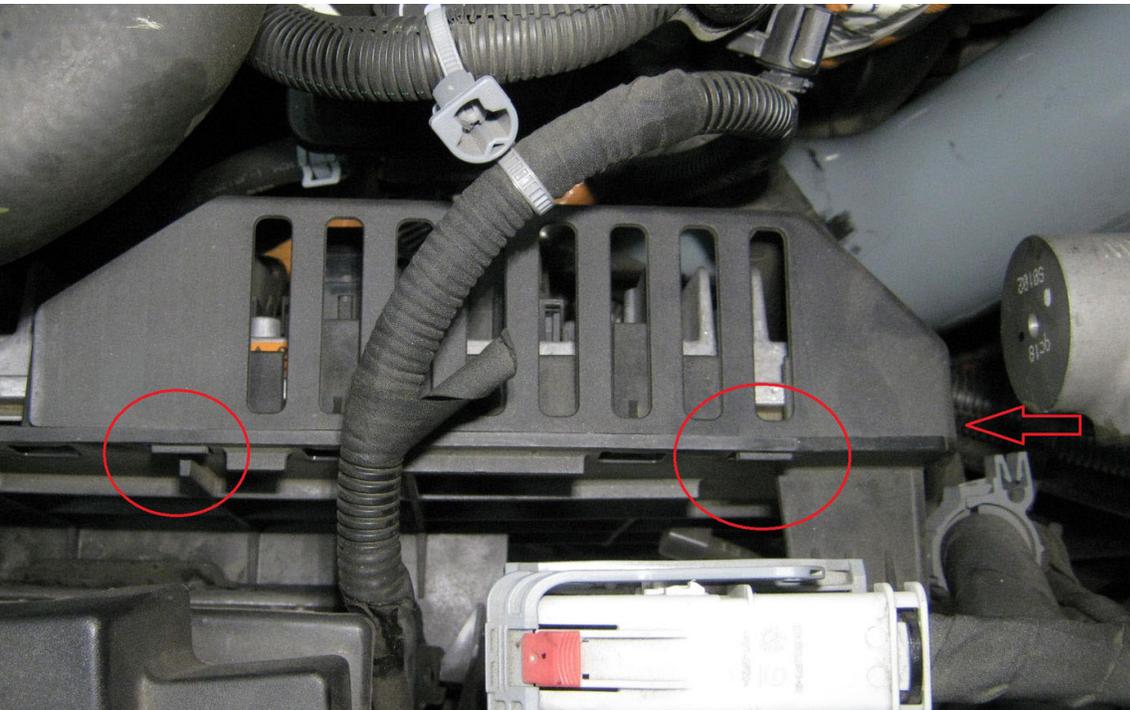


Figure 11

## Step 41

On the innermost connector, slide the red locking tab up and swing the connection hinge up and out to release the connector. Reroute orange harness line above the high-pressure line and black wire loom. Reconnect the ECU and protective baffle. See **Figure 12**.

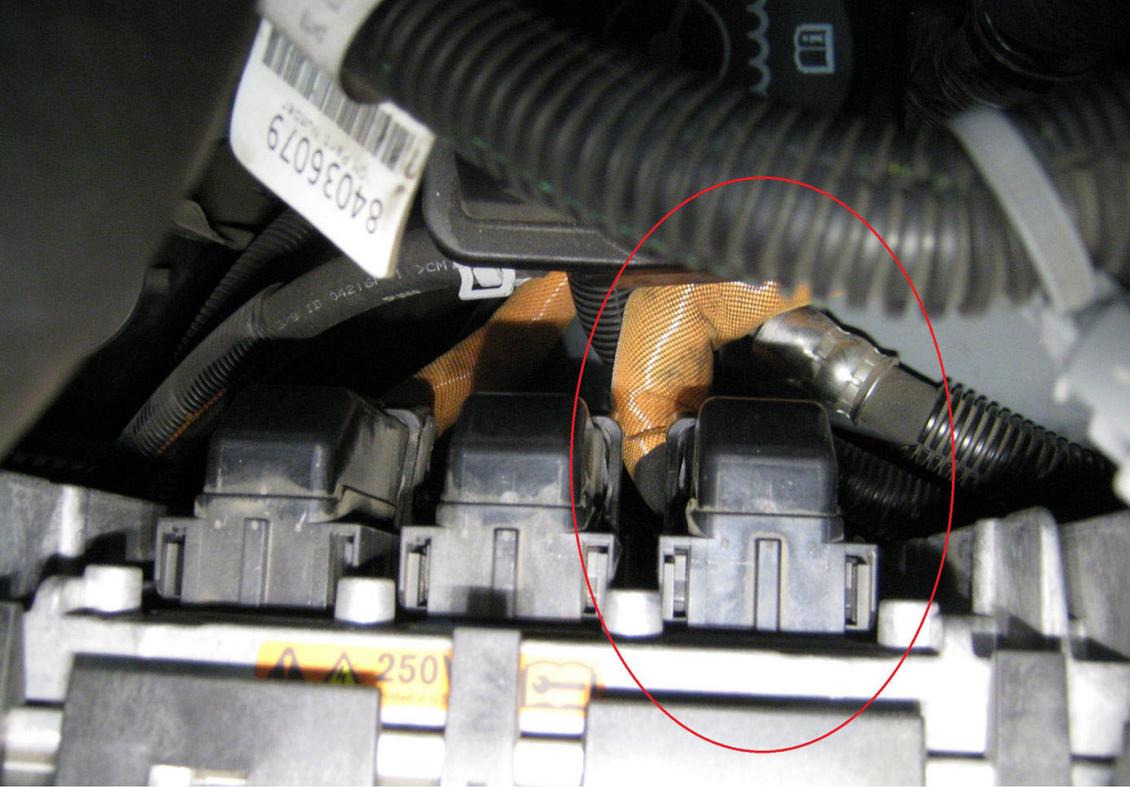


Figure 12

#### Step 42

Install hump hose (Item #8) onto the Banks intercooler outlet with clamps (Item #12) oriented as shown in Figure 13.



#### Step 43

Install transition hose (Item #9) onto the throttle body inlet with clamps (Items

#11 and 13) as shown in Figure 14.



Figure 14

#### Step 44

Insert the passenger side boost tube and tighten all clamps to 5ft. lbs.

#### Step 45

Re-install the intake air temperature sensor as shown in Figure 15.

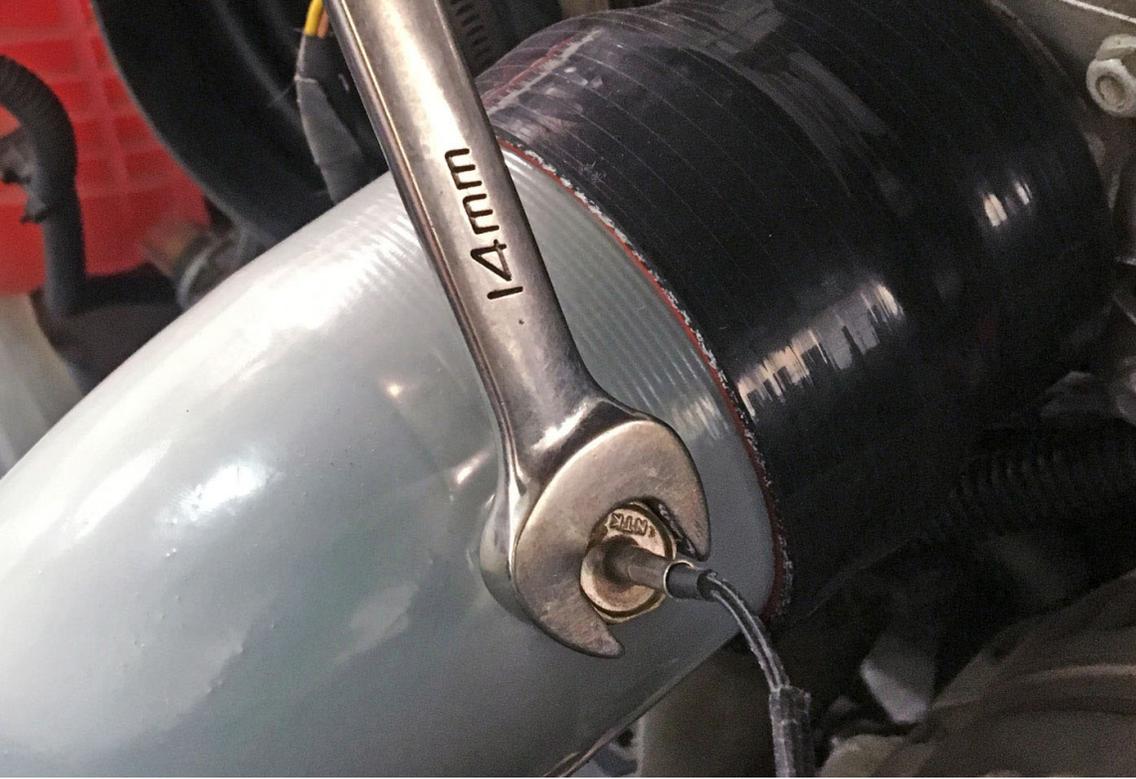


Figure 15

**Step 46**

Secure IAT sensor harness as shown in Figure 16.

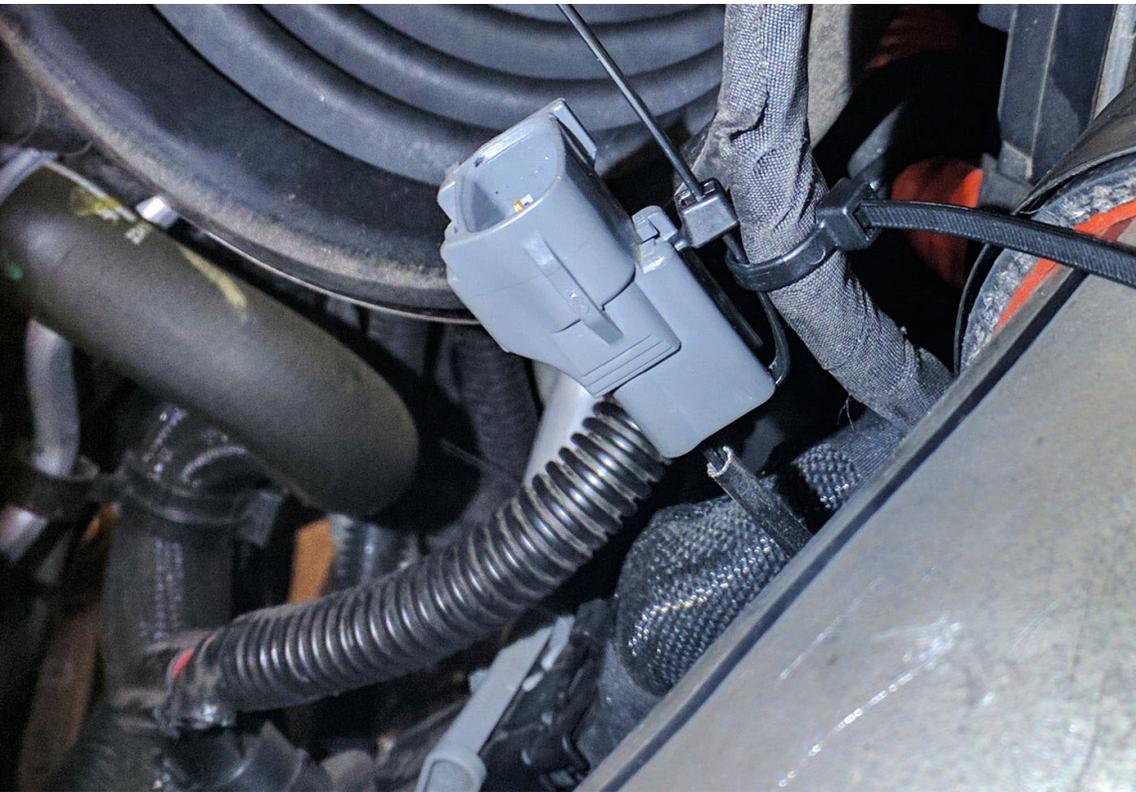


Figure 16

**Step 47**

Install the a/c condenser, ambient temp sensor, oil cooler, power steering cooler, their tighten it's upper mounting bolts to 80 in-lbs.

#### **Step 48**

Install the latch support. Tighten it's attachment bolts to 80 in-lbs.

#### **Step 49**

Install the hood latch. Position it so that it aligns with the marks that were previously made on the latch support prior to its removal. Tighten bolt to 80 in-lbs.

#### **Step 50**

Install the driver and passenger side headlamp support structures. Tighten the screws to 80 in-lbs.

#### **Step 51**

Install the electrical connectors to the headlamp assembly. Install the headlamp assemblies and trim panels.

#### **Step 52**

Install the grill by snapping in the tabs into the retainer clips.

#### **Step 53**

Install the upper grill baffle and secure with the push-in retainers that were previously removed. The push-in retainers that secure the grill baffle are secured by inserting the retainer with the center pin pulled out. Once the retainer is inserted, press the center pin down to secure the retainer.

#### **Step 54**

Install the mounting tray, corner brace, and air box assembly. Install the air duct on the turbocharger inlet and tighten its hose clamp.

#### **Step 55**

Install the driver side and passenger side fender well. The charge air temperature before the CAC approaches 400°F at full load. So, take care to route wiring away from the driver side boost tube and re-install the factory wire retainers on the fender well cover.

#### **Step 56**

Re-install the connector on the MAF sensor at the airbox assembly.

#### **Step 57**

Re-connect the ground cables on both batteries.

## **Step 58**

Road test the truck ensuring there are no leaks. Be sure to re-check all the connections and re-tighten everything at least twice in the first three days or 100 miles.