

# INSTALL INSTRUCTIONS FOR 83-1001

## PART#: 83-1001



PRINT

### Vehicle Application

YEAR: 2017-2021

MAKE: Ford

MODEL: F-250/F-350

ENGINE: 6.7L Powerstroke

#### Note:

This Charge Air Cooler Pipe Kit may not fit with the following aftermarket parts installed:

- Aftermarket Intercooler
- Aftermarket Radiator and/or Coolant Hoses
- Aftermarket Fan or Fan Shroud
- Aftermarket Power Steering Fluid Reservoir
- Aftermarket Hood

### Tools Required

- 7mm, 10mm, Socket and Wrench
- 11mm Deep Socket
- 10" Socket Extension or 4" + 6" Socket Extensions
- Panel Popper
- Pick
- Small Flat Blade Screwdriver

- Wire Cutters
- Torque Wrench, 75 in-lb setting

**Note:** Approximate Install Time: 1 Hr 00 Mins for Kit Installation.

### **Notice:**

When removing any turbocharger air intake system components, make sure to cover any open ports to prevent any debris from entering the system. All components need to be inspected and cleaned (if necessary) prior to assembly and installation.

### **Maintenance: Periodically Check the Following**

- Charge air cooler T-Bolt Hose Clamps making sure they are tight and secure.
- All electrical connections and wire harnesses moved during the installation of the charge air cooler pipe/hose and making sure they are secure and away from any hot or moving components.
- Check for any signs of abrasion or wear and tear on the charge air cooler hose, coolant hoses, power steering reservoir, power steering hoses, and electrical harnesses near the charge air cooler pipe/hose and repair/replace as necessary.

### **Before You Start**

- Please read the entire product installation guide before proceeding.
- Ensure all parts are present.
- If you are missing any of the components, call Customer Support at (909) 947-0015.
- Do not work on your vehicle while the engine is hot.  
Make sure the engine is turned off and the vehicle is safely in Park and the Parking Brake is set

- After your installation is complete, engage the parking brake and start your engine. Listen for abnormal noises. If an air leak is detected, re-inspect hoses and connections as they may need to be repositioned and tightened.
- S&B FILTERS recommends that you keep your OE charge air cooler hoses and clamps in the event it is required in the future.
- In order to maintain your warranty, all connections and components must be checked periodically for alignment and for proper tension on all connections. Failure to do so may void your warranty.

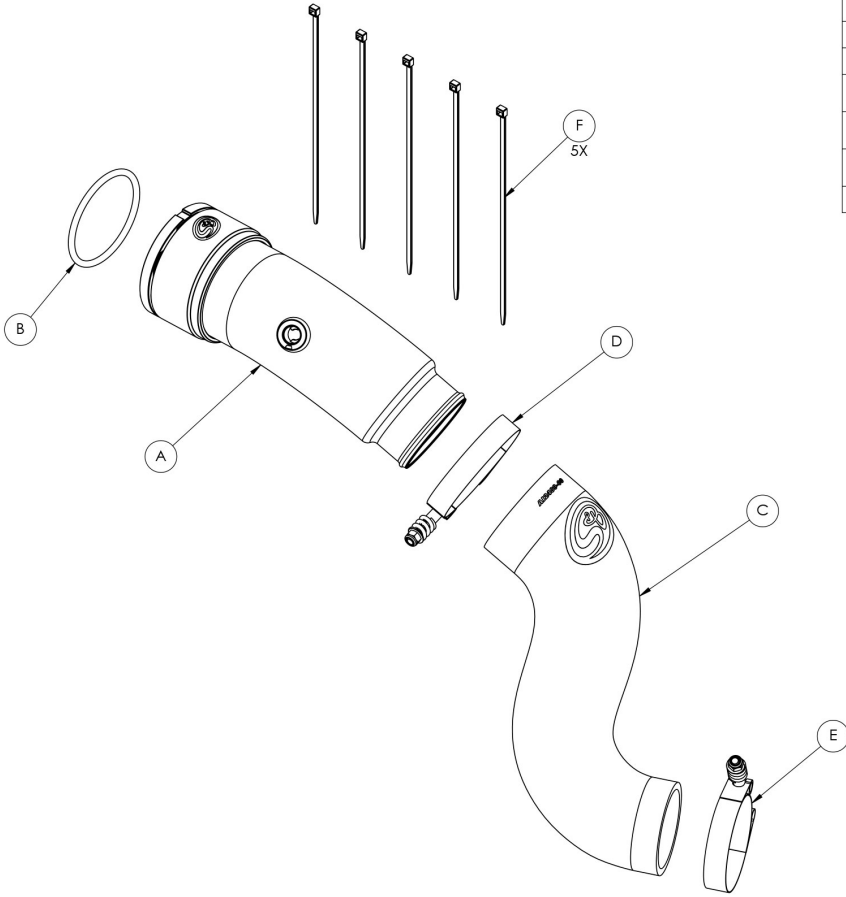
## **CARB Status-Pending**

### **Emission Standard**

The California Air Resource Board (CARB) requires that an E.O. Identification label be applied to the vehicle in order to pass a smog check inspection when a Charge Air Cooler Pipe/Hose Kit has been installed. You must place the E.O. Label provided on or near the kit after installation so that a smog check technician can easily verify the E.O. Number. Check the status of the exemption process by looking up a specific part number at [www.sbfilters.com](http://www.sbfilters.com). The CARB Exemption number and/or status is listed under the Product Details section for each part number. If the status shows as "Pending," CARB has yet to issue an exemption but the product has been submitted. Products that have not been issued an E.O. number are street legal in most states, but may not be used on emission controlled vehicles in the state of California and are for off-road use only. If you purchased your kit from S&B Filters directly, we will automatically mail you your Exemption Sticker when it is issued to us. If you purchased your kit from an authorized S&B Filters Dealer, log onto our website and register to receive your Exemption Sticker.

## **EXPLODED VIEW**

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
A	AL3001-00	CAC Outlet Hard Pipe	1
B	AI2492-00	O-Ring, FKM	1
C	AI2489-00	CAC Outlet, 5-Ply Aramid Reinforced Silicone Hose	1
D	AG1042-00	T-Bolt Hose Clamp, Spring Loaded, 85.7-93.7mm	1
E	AG1043-00	T-Bolt Hose Clamp, Spring Loaded, 76.2-84.1mm	1
F	AI1750-00	Cable Tie, 9" Long	5



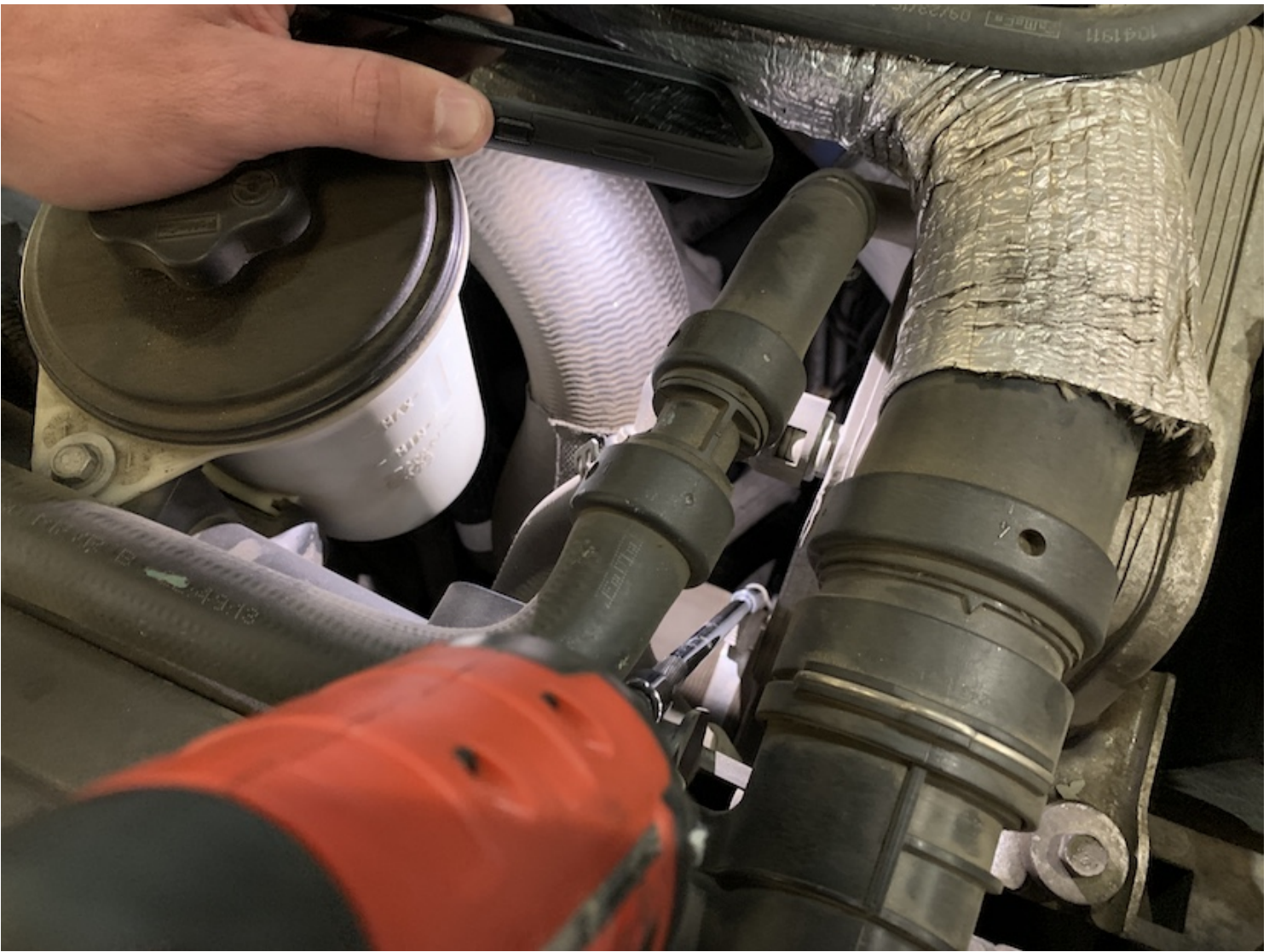
## INSTALLATION STEPS



## STEP 1

Loosen the upper hose clamp of the Charge Air Cooler (CAC) outlet hose.

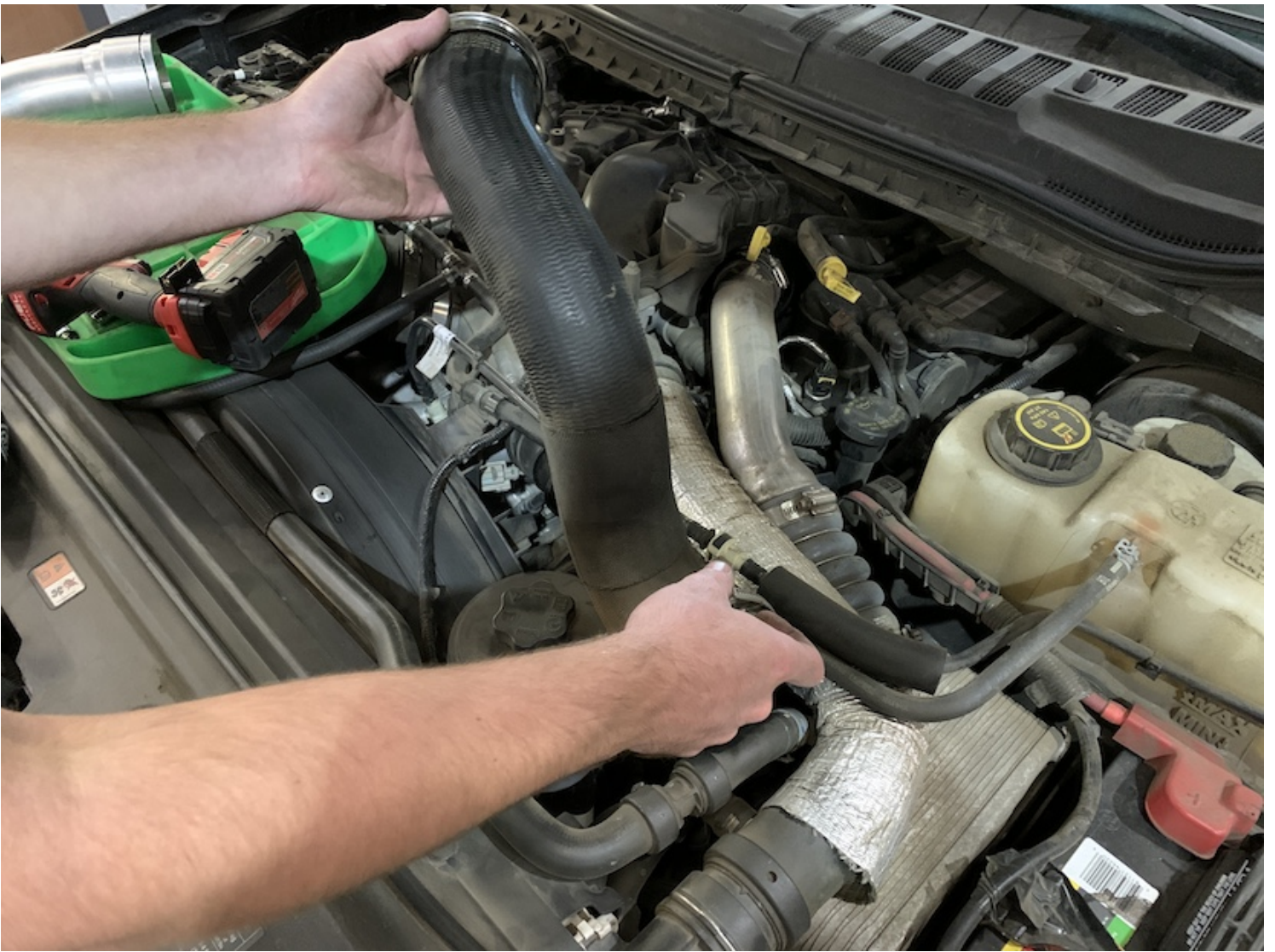
**Tools Required:** 7mm Socket/Wrench



## **STEP 2**

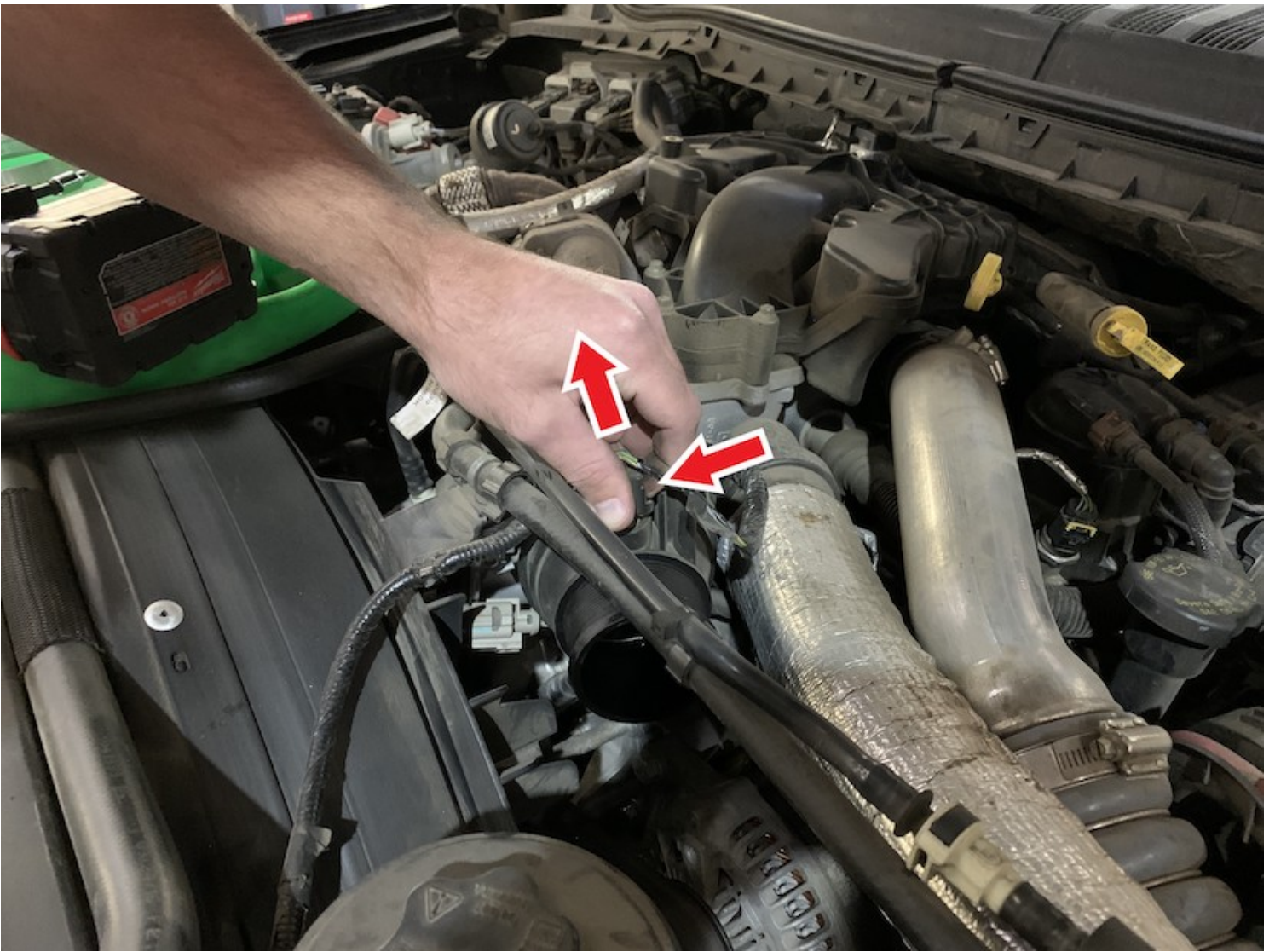
Loosen the lower hose clamp of the CAC outlet hose.

**Tools Required:** 7mm Socket/Wrench, 10" Socket Extension or 4" + 6" Socket Extension



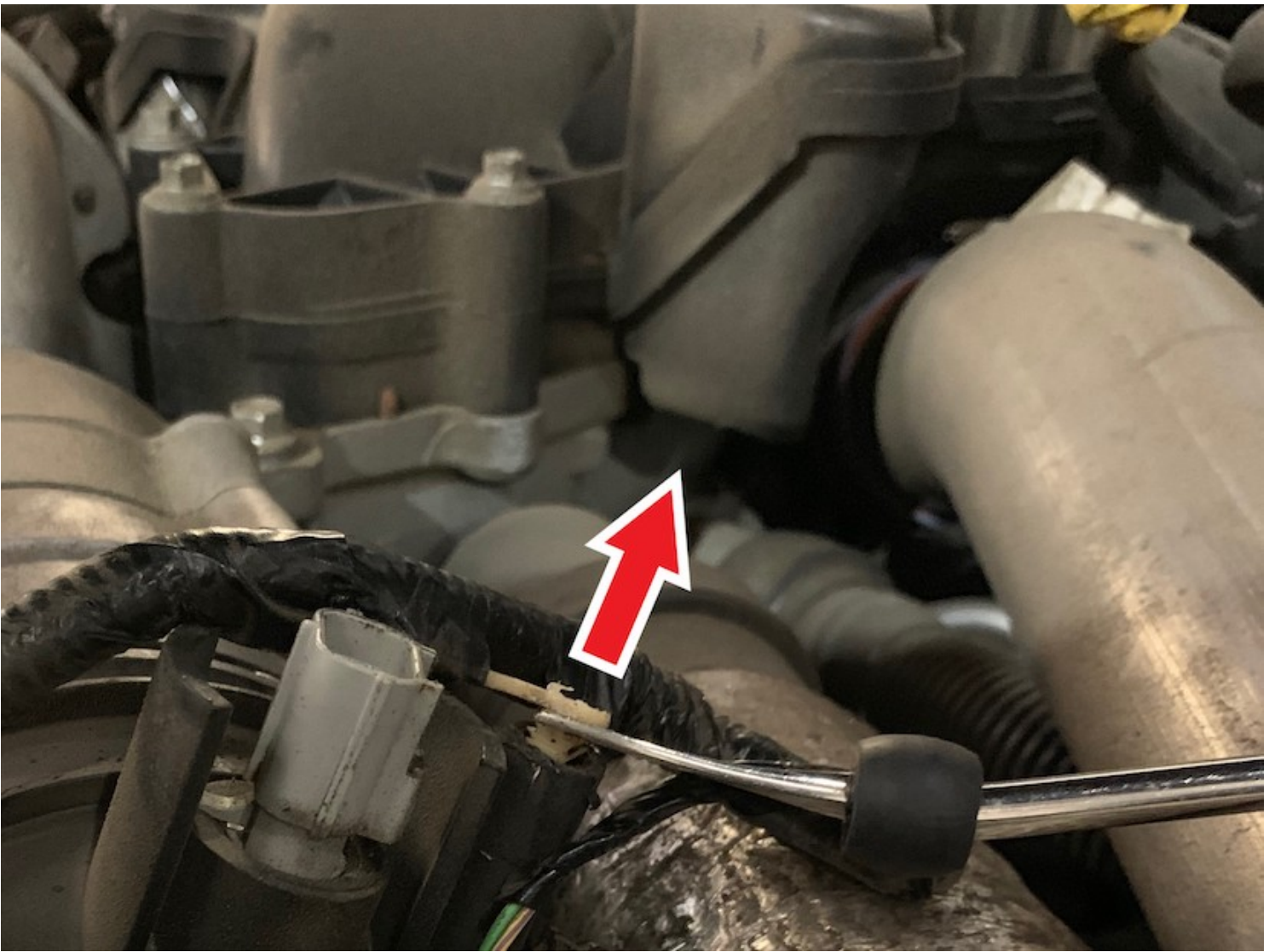
### **STEP 3**

Slide the hose off the upper hose barb and the intercooler outlet and remove from the vehicle.



## **STEP 4**

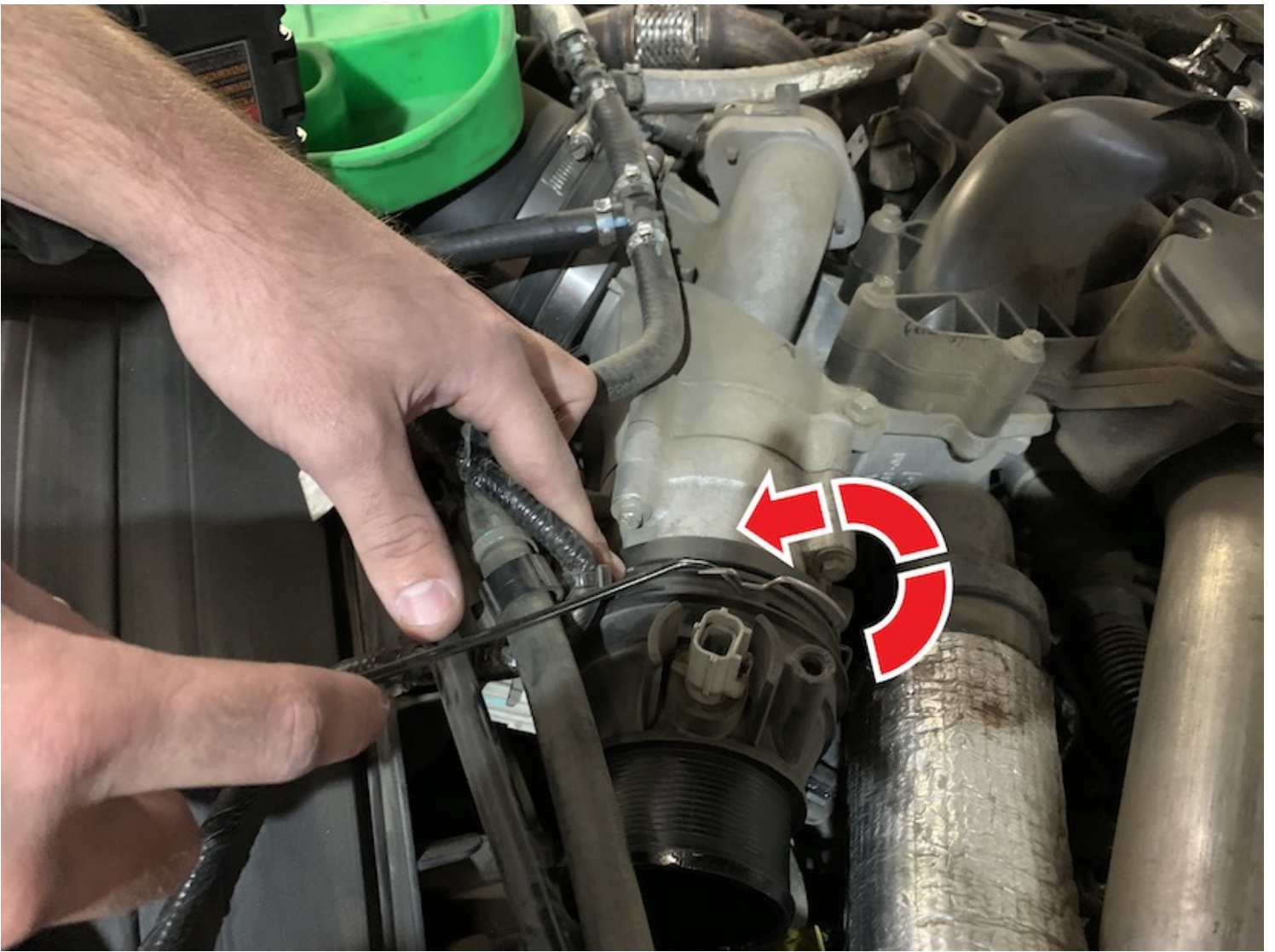
Depress the locking clip and remove the electrical connector from the air temperature sensor.



## **STEP 5**

Remove the temp sensor harness retainer from the upper hose barb.

**Tools Required:** Panel Popper



## **STEP 6**

Using a Pick, carefully remove the Spring Clip from the plastic upper hose barb and set it behind the hose barb on the throttle assembly.

**Tools Required:** Pick



## **STEP 7**

Remove the Spring Clip from the throttle assembly being careful not to over stretch or bend it. Save the Spring Clip for use in Step 12.



## **STEP 8**

Remove the upper hose barb from the throttle assembly



## **STEP 9**

Using a Small Flat Blade Screwdriver, gently lift the Temp Sensor tab above the locking ramp, then twist (counter clockwise) and pull out the Temp Sensor.



## **STEP 10**

Insert the Temp Sensor into the CAC Hard Pipe (A) with the Temp Sensor tab resting on top of the boss and in front of the locking ramp as shown below



## **STEP 11**

Twist the Temp Sensor clockwise until the tab goes over and is locked by the locking ramp.



## **STEP 12**

Install the Spring Clip from Step 7 into the clip groove on the CAC Hard Pipe (A).



**STEP 12**  
**I(MAGE 2)**



## STEP 13

Remove the screw holding the power steering reservoir and set the screw aside.

**Tools Required:** 10mm Socket/Wrench



## **STEP 14**

Lift the power steering reservoir from the support slot and carefully leave it off to the side while keeping it upright. This will give you more room when you install the CAC Silicone Hose (C).



## STEP 15

Install the smaller T-Bolt Hose Clamp (E) onto the smaller end of the CAC Silicone Hose (C) with the spring and nut pointed up towards you as shown below. Install the larger T-bolt Hose Clamp (D) on the other end (where the S&B Logo is located) of the CAC Silicone Hose with the spring and nut underneath and pointed towards you as shown below. Leave both T-Bolt Hose Clamps loose for now.



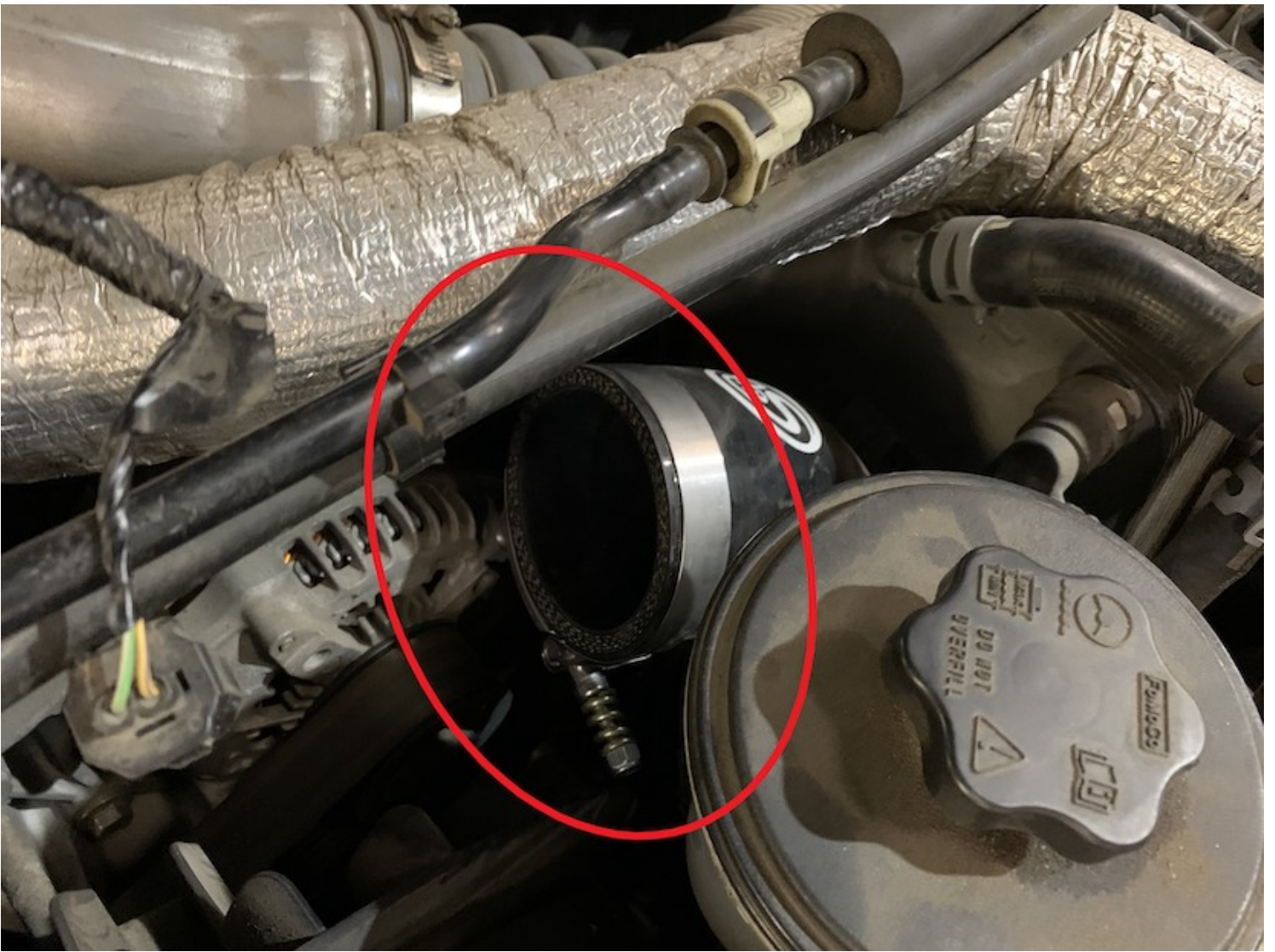
## STEP 16

Clean and remove any residual oil on the Intercooler outlet and install the CAC Silicone Hose (C) with the T-Bolt Hose Clamps into the vehicle with the small end attaching to the Intercooler outlet. Leave the T-Bolt Hose Clamps loose at this time.



## STEP 17

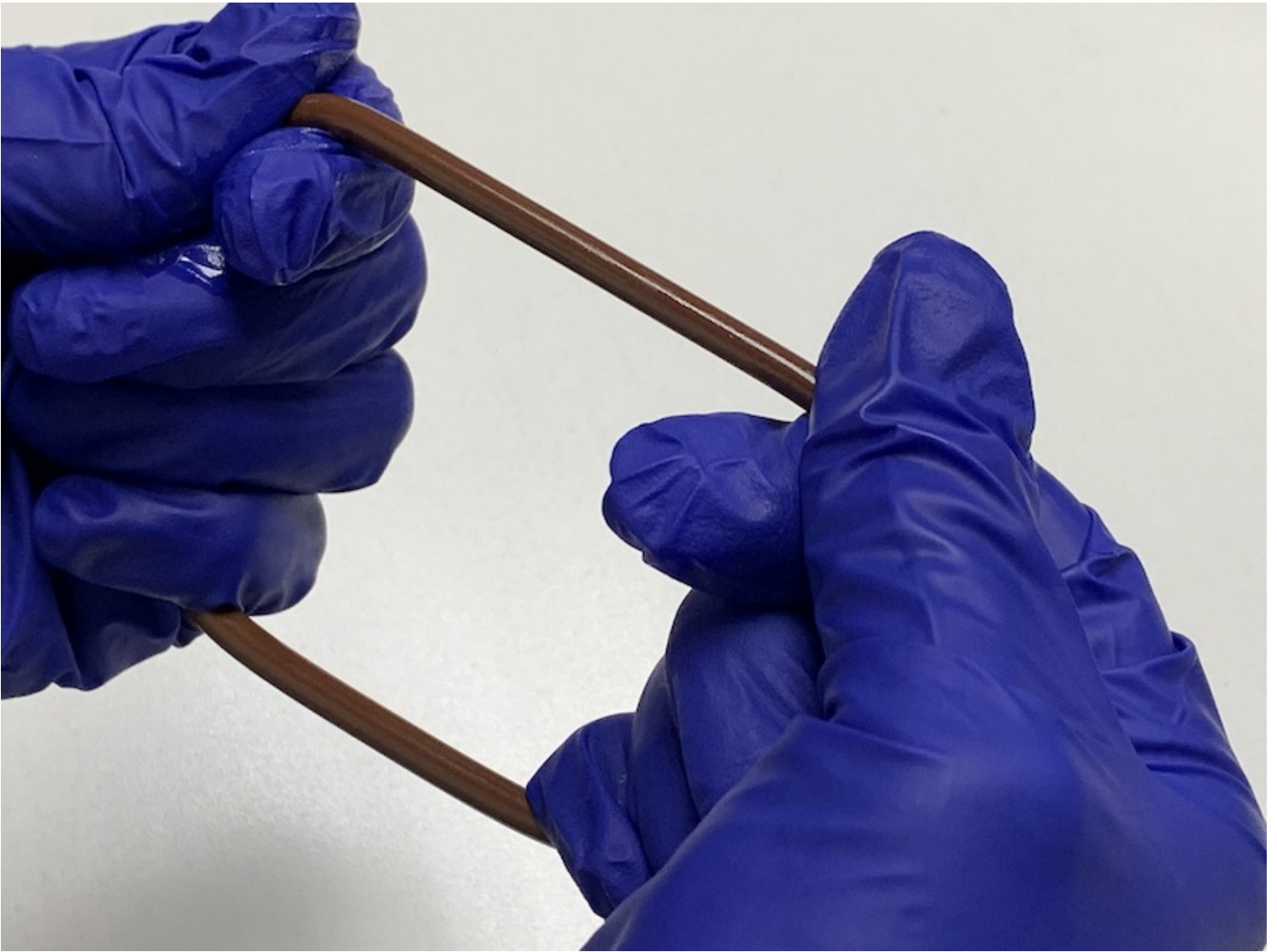
The lower T-Bolt Hose Clamp (E) should be positioned so that the spring and nut are pointed towards you and accessible from above as shown below.



## STEP 18

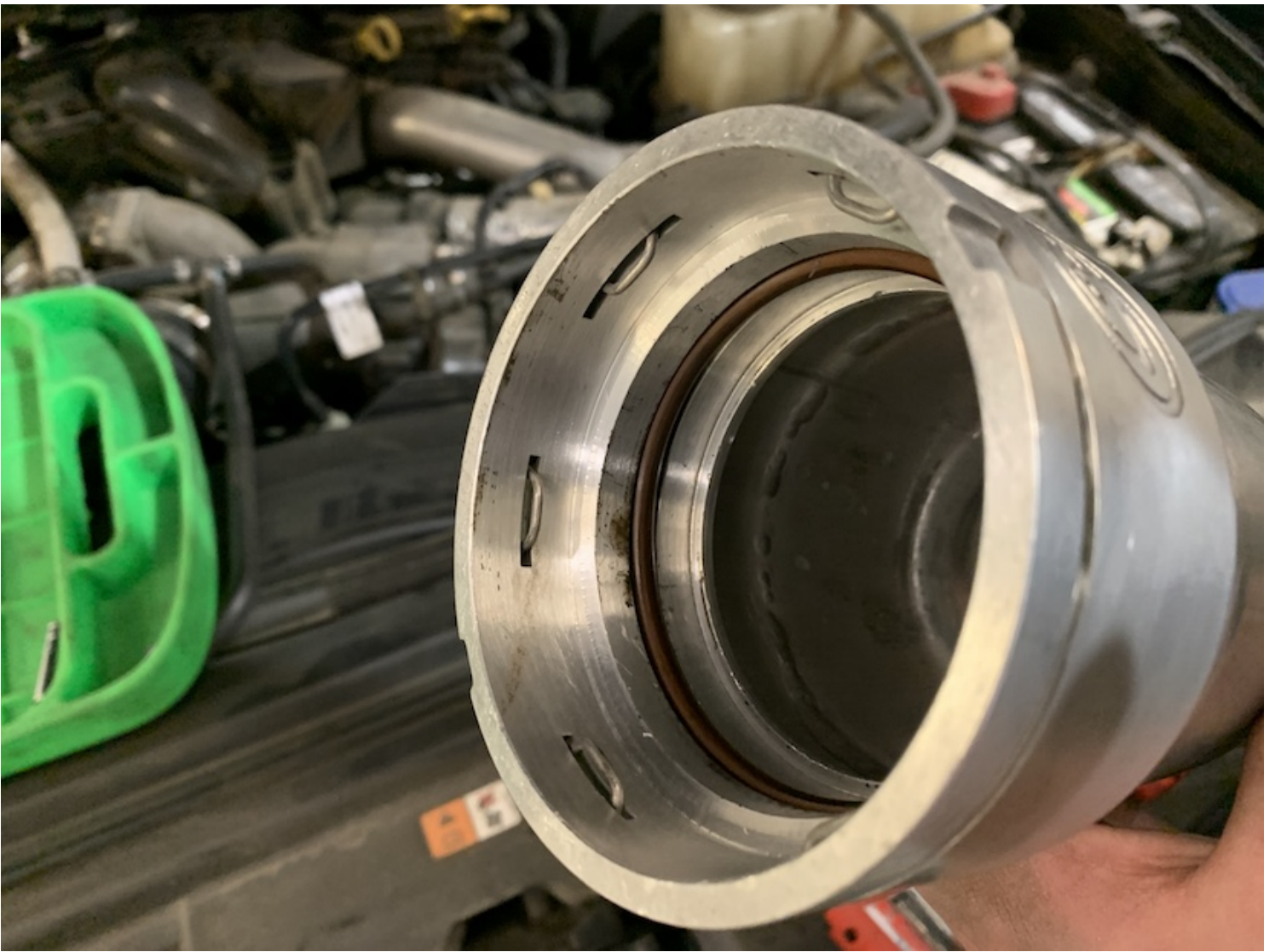
The upper T-Bolt Hose Clamp (D), should be positioned so that the spring and nut are underneath the CAC

Silicone Hose, and pointed towards the front of the vehicle as shown below.



## **STEP 19**

Stretch the O-Ring (B) by hand while adding a thin coat of clean diesel engine oil to the O-Ring. Work your way around the entire O-Ring, gently stretching and oiling it as you go. After stretching, verify that the outside diameter of the O-Ring touches all around the inside of the o-ring groove of the CAC Hard Pipe (A) as shown below. If the outside diameter of the O-Ring feels loose in the o-ring groove, gently stretch the O-Ring by hand again.



**STEP 19**  
**IMAGE 2**



## **STEP 20**

Add a thin coat of clean diesel engine oil all around the outside diameter of the throttle assembly



## STEP 21

Install the CAC Hard Pipe (A) onto the throttle assembly until the Spring Clip snaps into place on the throttle assembly. Rotate the CAC Outlet Hard Pipe so that the hose end is pointed upwards as shown



## STEP 22

Rotate the CAC Hard Pipe (A) and pull the CAC Silicone Hose (C) onto the end of the Hard Pipe. As you continue to rotate the Hard Pipe, the Silicone Hose will slip over the Hard Pipe into position as shown.

nap into the grommet.



**STEP 22**  
**(IMAGE 2)**

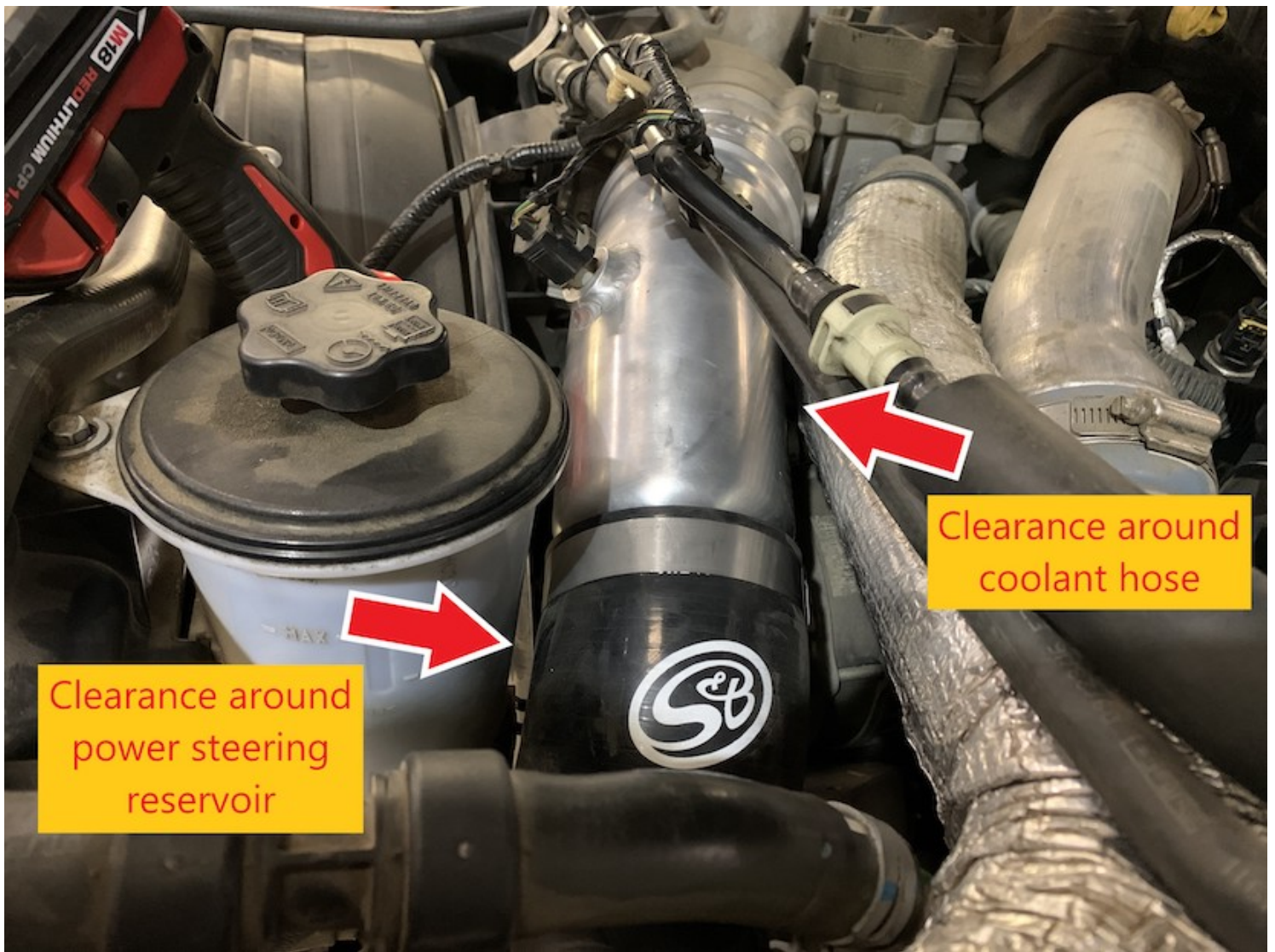


**STEP 22**  
**(IMAGE 3)**



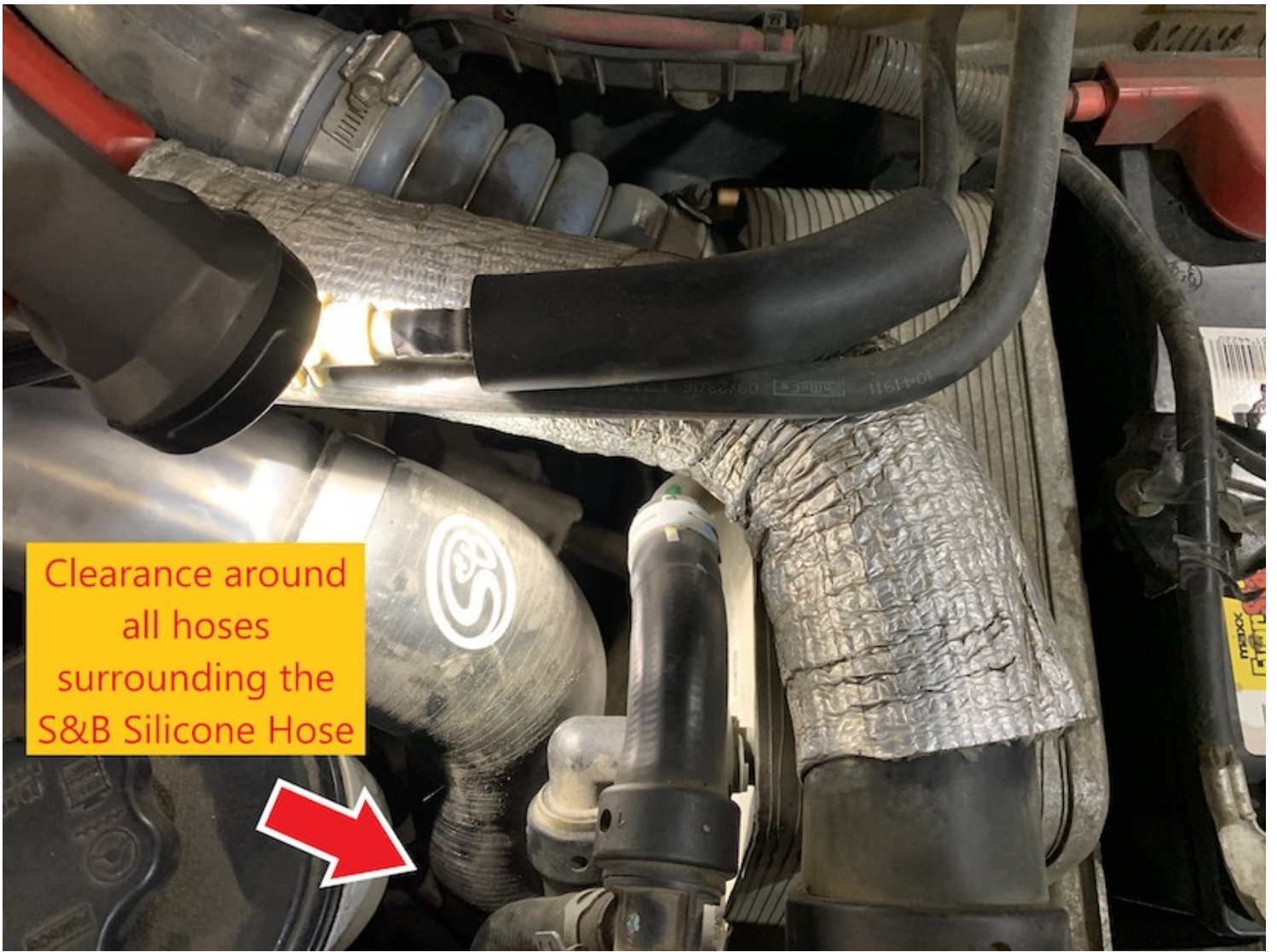
## STEP 23

Reconnect the electrical harness to the Temp Sensor.



## STEP 24

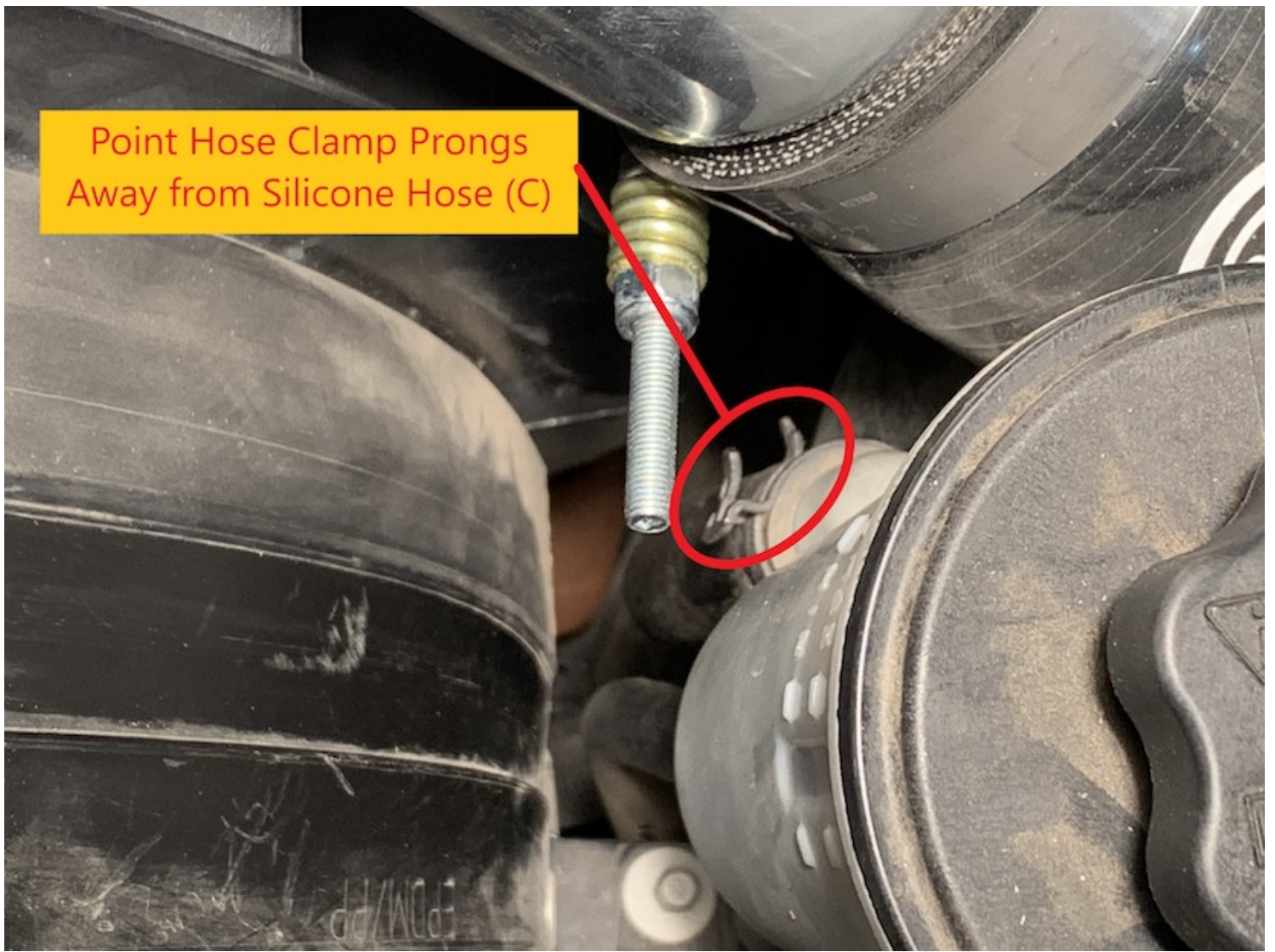
Temporarily put the power steering reservoir back in its support slot and check for clearances all around the CAC Hard Pipe (A) and CAC Silicone Hose (C). Rotate the CAC Hard Pipe to adjust the clearances making sure the CAC Hard Pipe and Silicone Hose are far enough away from the power steering reservoir and other surrounding lines and hoses



Clearance around  
all hoses  
surrounding the  
S&B Silicone Hose

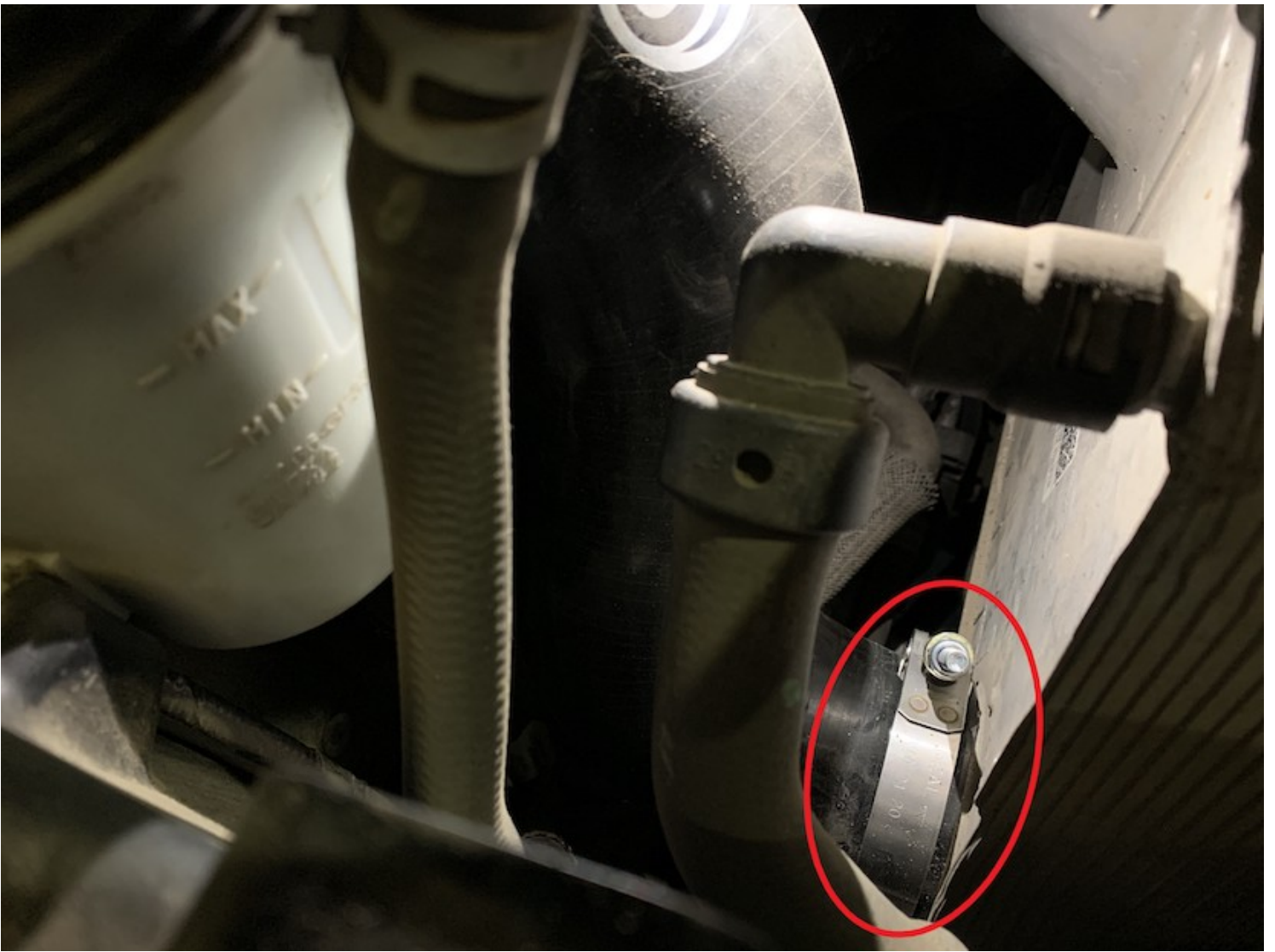


**STEP 24  
(IMAGE 2)**



## STEP 25

Rotate the power steering reservoir spring band hose clamp so that the prongs are pointing away from the Silicone Hose (C).



## STEP 26

Verify that the CAC Silicone Hose (C) is up against the intercooler, with the intercooler outlet fully inserted, and the T-Bolt Hose Clamp (E) about 1/ 8" from the end of the Silicone Hose as shown below.



## **STEP 27**

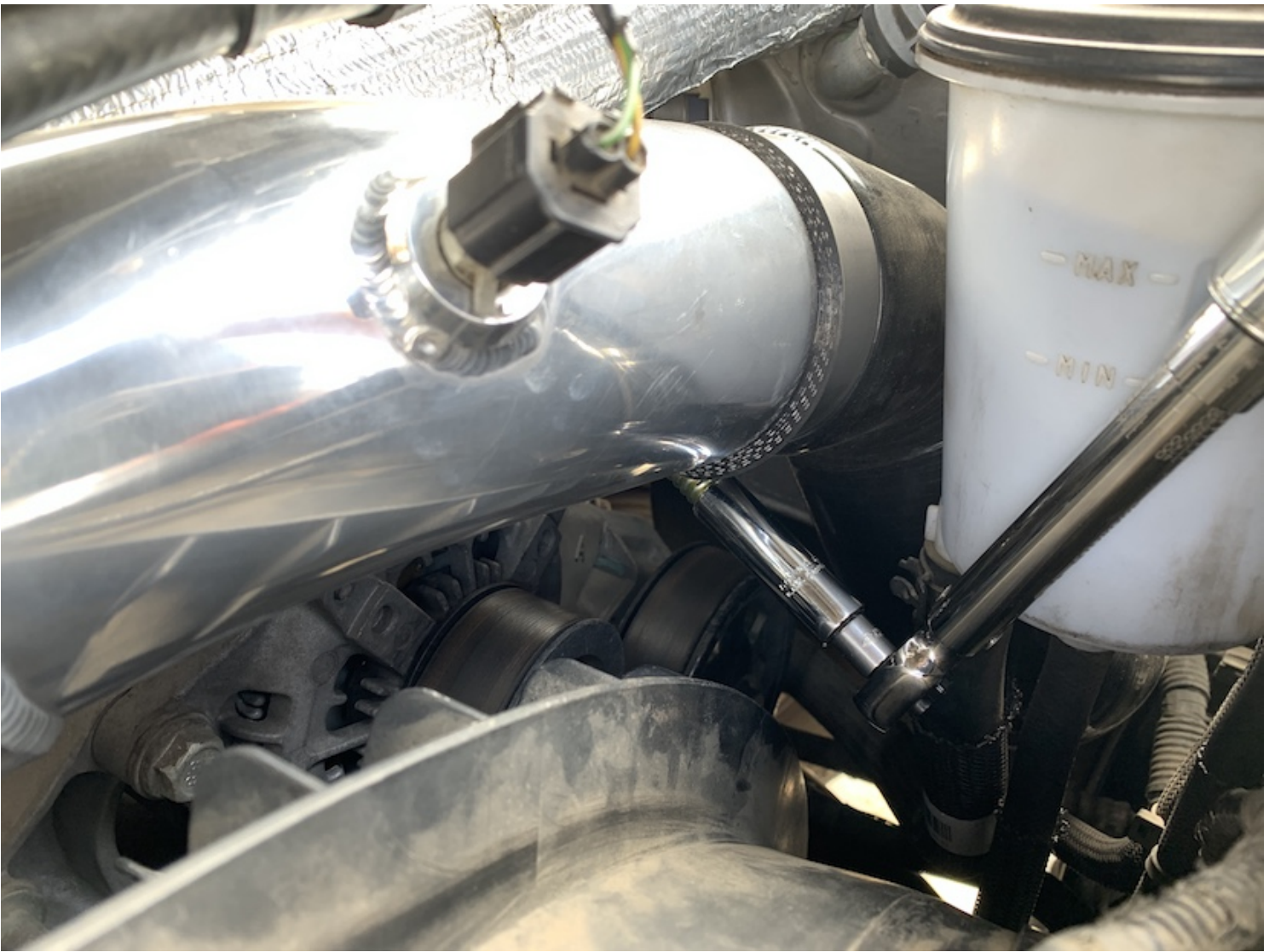
Once you have everything positioned properly, tighten and torque the T-Bolt Hose Clamp to 75 in-lb.

**Tools Required:** 10" Socket Extension or 4" + 6" Socket Extension, 11mm Deep Socket/Wrench, Torque Wrench



## STEP 28

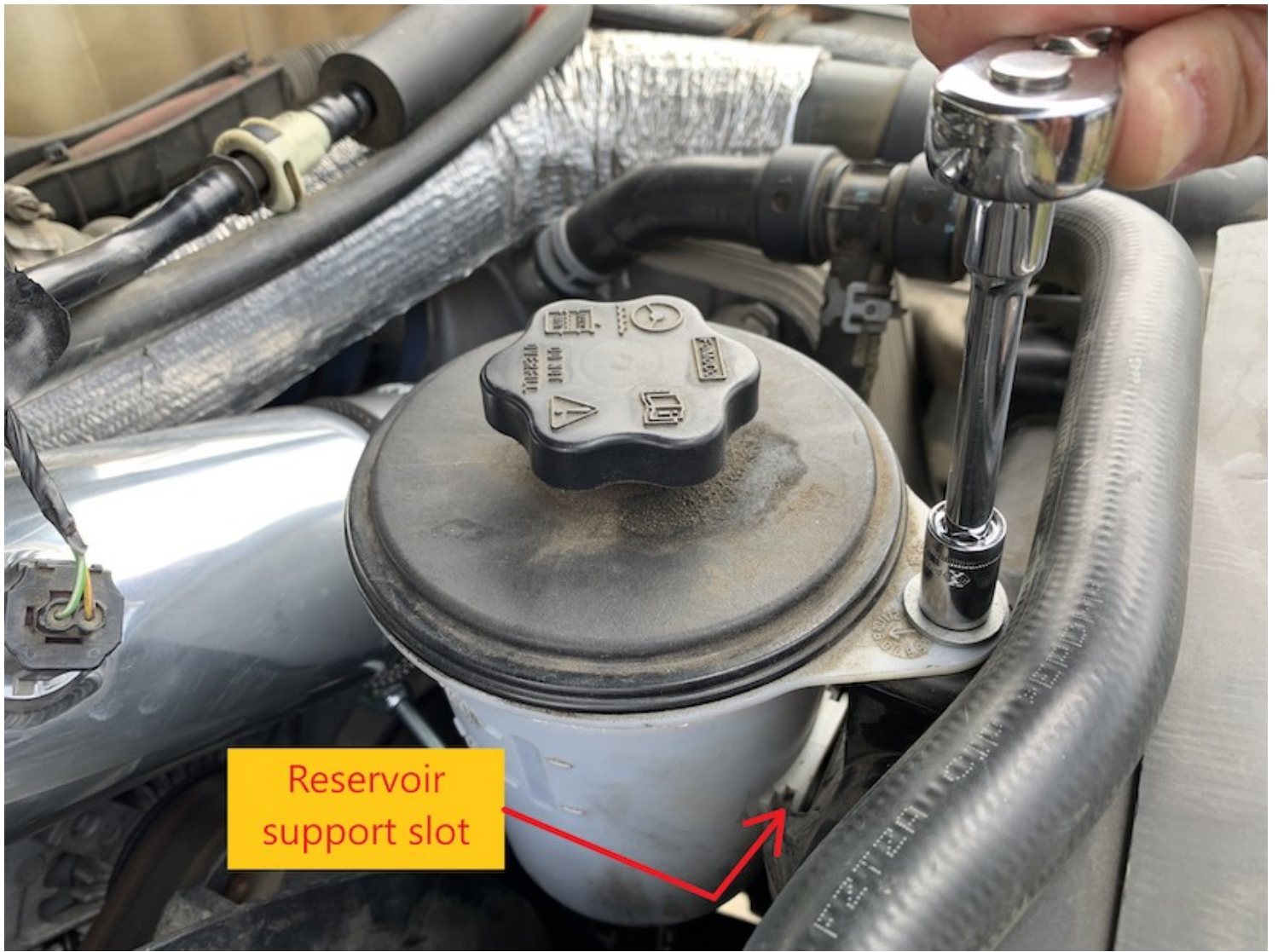
Verify that the CAC Hard Pipe (A) is fully inserted into CAC Silicone Hose (C) and the T-Bolt Hose Clamp (D) about 1/ 8" from the end of the Silicone Hose as shown below



## STEP 29

Make sure that the T-Bolt Hose Clamp (D) is positioned so that the T-Bolt, spring, and nut are away from touching anything. Tighten and torque the T-Bolt Hose Clamp to 75 in-lb.

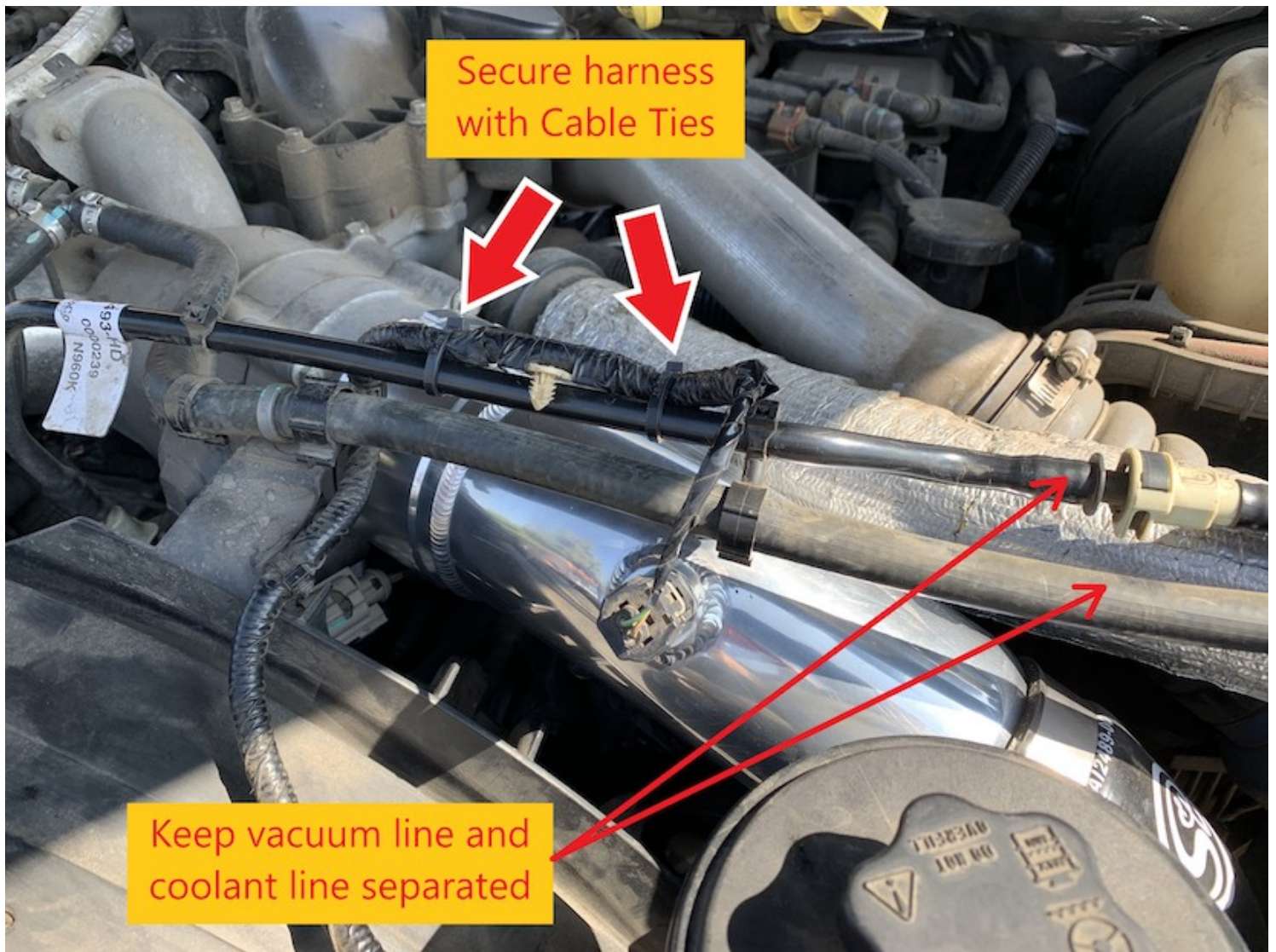
**Tools Required:** 11mm Deep Socket/Wrench, Torque Wrench.



## STEP 30

Place the power steering reservoir back in the support slot and tighten the screw.

Tools Required: 10mm Socket/Wrench



## STEP 31

Secure the loose Temp Sensor harness with Cable Ties (F) to the plastic vacuum line as shown below. Cut off the excess cable tie with a Wire Cutter. Make sure to keep the plastic vacuum line and rubber coolant lines separated as it was from the factory to prevent them from rubbing on each other.

**Tools Required:** Wire Cutter



## STEP 32

Inspect your installation, make sure the kit is properly positioned with clearances around all the parts to prevent wear or damage to any parts during vehicle operation, movement, and vibration. Verify both T-Bolt Hose Clamps are tight and secured. Keep all stock parts in case you ever need to reinstall the stock intake assembly. Affix the ID label somewhere visible and near the CAC Outlet Kit. If you are an installer, give the owner the QR code for the Installation Instructions so that he/she is aware of the Maintenance and Operation procedures given in the beginning of the Instructions. Clean a flat visible surface under the hood and affix the enclosed CARB EO sticker for SMOG purposes. **The installation is now complete**



