



2012+ BMW 335i (N55) Charge Pipe Kit Installation Guide

Tools Needed:

Full set of metric sockets and wrenches.

Flat head screwdriver or panel tool

T20 Torx socket

T25 Torx socket

Parts Needed:

Optional – Lubricant like WD-40

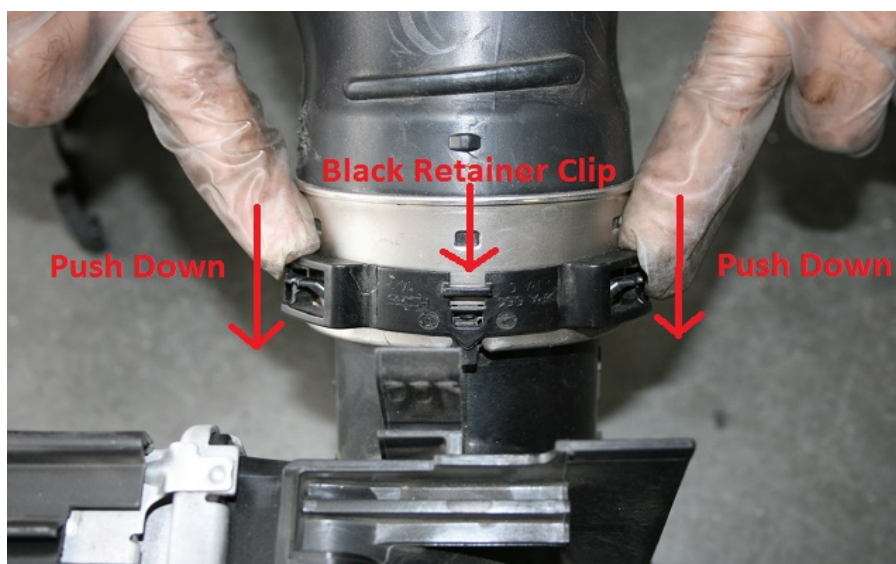
Install Time: 1 to 1.5 hours

Difficulty (1 Easy, 5 Hard): 3

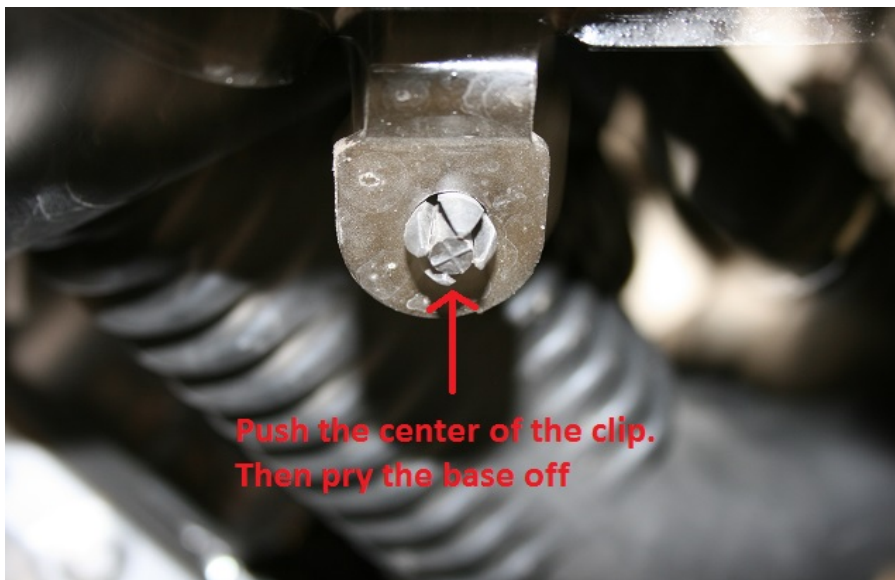
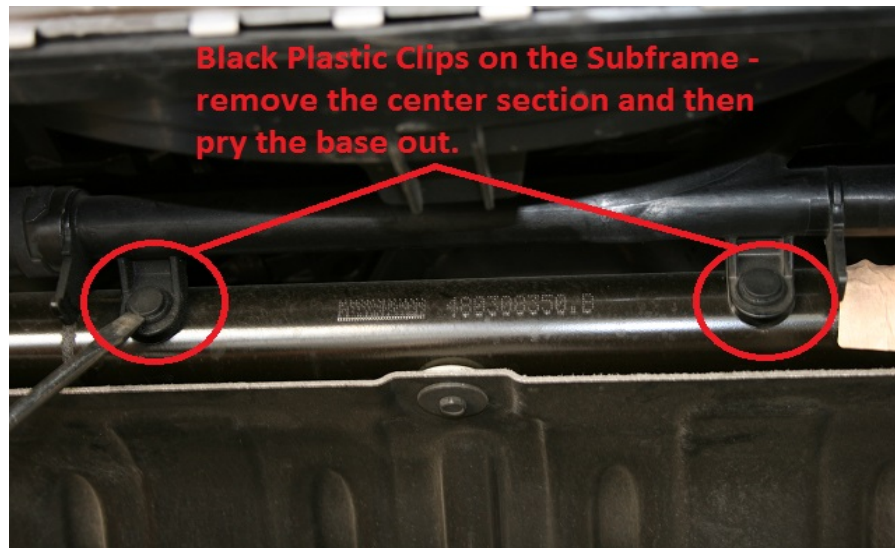
Removal:

- 1. Raise the car up on either jack stands or a lift.**
- 2. Disconnect the wiring connector to the MAP sensor** – The MAP sensor is the sensor on top of the charge pipe next to the throttle body. There is a clip on the MAP sensor connector holding it in place. Push the connector into the MAP sensor and pull back the tab on the connector. That will disconnect the connector. **DO NOT PULL ON THE CLIP TAB. IT IS FRAGILE AND WILL BREAK IF YOU PULL ON IT.** Pull the wiring harness away from the MAP sensor.
- 3. AUTOMATIC CARS ONLY: Disconnect the vacuum line attached to the charge pipe** – There is a black vacuum line going into the middle of the charge pipe. To disconnect it, you need to squeeze tabs on the side of the connector and then carefully pull it out. **THE TABS ON THE CONNECTOR ARE A BIT FRAGILE SO CAREFULLY SQUEEZE IT WHEN PULLING IT OUT.** Manual transmission cars do not have this connector.
- 4. Disconnect the charge pipe from the throttle body and remove from the mounting bracket** – Disconnect the charge pipe from the throttle body. There is a metal clip sitting on top of the flange connector on the diverter valve holding it to the throttle body. Pull the metal clip upwards and remove it from the charge pipe. The charge pipe is now free from the throttle body. Pull the charge pipe out of the throttle body. Next, locate the mounting bracket of the charge pipe. It is next to the alternator. The charge pipe is held in place by a rubber grommet. Pull the charge pipe away from the mounting bracket to release it from the rubber grommet on the mounting bracket.
- 5. Get underneath the car.**
- 6. Remove the belly pan** – It is held on by 8mm screws (22 in total).

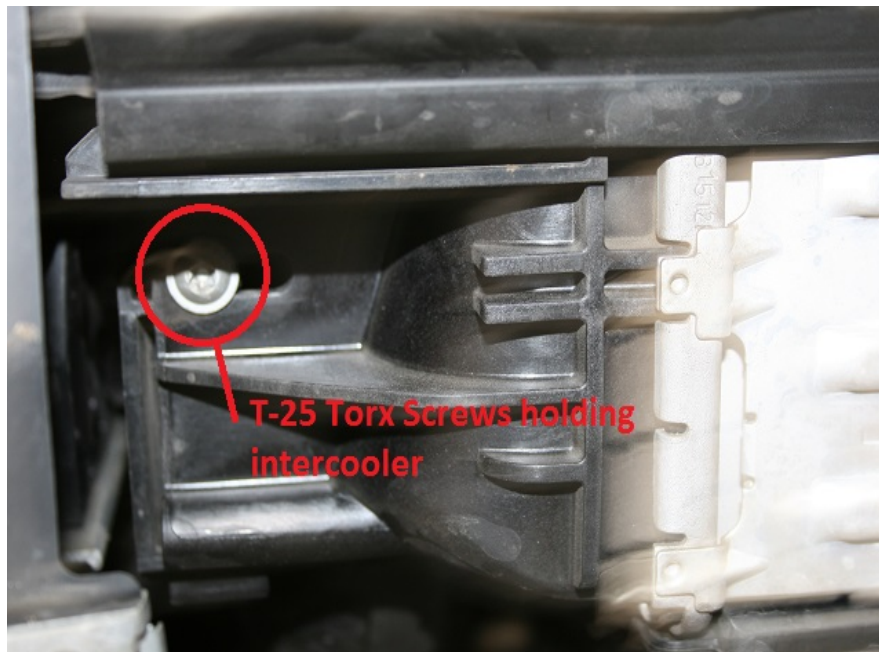
7. **Disconnect the charge pipes (both sides) from the intercooler assembly –** The charge pipe connectors to the intercooler are a bit tricky to remove. There is a black retaining clip on the top side of the connector that you need to remove first. This is tricky because the black retaining clip is not in direct your direct view. You need to grab the black retaining clip on both ends and pull the retaining clip downwards towards the intercooler. This may take quite a bit of effort but it should slide downwards. Once it slides down, you can then pry the black retaining clip from the connector. Once the black retaining clip is removed, you can now remove the metal clip (similar to the throttle body connector). Locate the middle of the metal clip. You will see that it is slipped into a recess in the connector. Push the clip towards slit on the recess and then pull out the metal clip. Remember to remove both charge pipes on each end of the intercooler.



8. **Disconnect a coolant line from it's brackets** – There is a coolant line running by the factory charge pipe and is secured to the subframe and a bracket. You want to disconnect the coolant line from the brackets holding it in place. **YOU ARE NOT REMOVING THE COOLANT LINE. DO NOT REMOVE THE LINE.** You need to do this to allow room for you to remove the charge pipe. The coolant line is held onto the subframe by two plastic clips. You need to remove the center section to remove the clip. Use a screwdriver and pry the center section out. Then pry the clip base out. Next, follow the coolant line towards the charge pipe. You will see that it is secured to a bracket by another plastic clip. This clip is the same clip as the other two except it is upside down. This time, push the middle of the clip to remove the center section then pry the base out. The coolant line is now free to move around a bit.



9. **Remove the factory intercooler** – Once the charge pipes have been removed from the intercooler, the intercooler can easily be removed. It is now only held on by two T25 Torx screws on each end of the intercooler. Remove these screws. The intercooler sits on a sliding bracket so pull the intercooler downwards and carefully pull it away from the car. The bumper cover may be slightly in the way. Just pull the bumper cover down a little to give you a little bit more clearance to remove the intercooler.



10. **Remove the factory charge pipe** – Once the intercooler is removed and the coolant line is loose from its brackets, you can now take out the factory charge pipe. **BE VERY CAREFULLY WHEN PULLING THE FACTORY CHARGE PIPE NOT DO DAMAGE THE MAP SENSOR. BE MINDFUL OF ITS LOCATION WHEN REMOVING BECAUSE IT IS A TIGHT SQUEEZE.** Carefully pull it down from the bottom of the car. You will need to twist, turn and bend the charge pipe while you pull it out. It will be very tricky but keep trying to twist and turn the charge pipe until it comes out.
11. **Remove the MAP sensor** – Remove the MAP sensor from the charge pipe. It is held in place by (2) T20 screws. **BE CAREFUL WHILE REMOVING THE MAP SENSOR. THERE IS A RUBBER O-RING THAT SEALS THE MAP SENSOR TO THE SENSOR FLANGE. IT CAN BE DAMAGED IF YOU ARE NOT CAREFUL. INSPECT THE O-RING ONCE REMOVED TO ENSURE THERE IS NO DAMAGE.**

12. **Remove the o-ring inside the throttle body connector flange** – Look inside the factory charge pipe on the throttle body connector flange. You will see a black o-ring inside the throttle body connector flange (in one of the grooves). **BE CAREFUL WHILE REMOVING. DO NOT DAMAGE THE O-RING. CAREFULLY PULL THE O-RING OUT. IF USING A PICK OR FLAT HEADED SCREWDRIVER, MAKE SURE YOU DO NOT DAMAGE THE O-RING WHILE ATTEMPTING TO REMOVE IT.**
13. **Remove the o-ring inside the intercooler connector flange** – Look inside the factory charge pipe on the intercooler connector flange. You will see a black o-ring inside the throttle body connector flange (in one of the grooves). **BE CAREFUL WHILE REMOVING. DO NOT DAMAGE THE O-RING. CAREFULLY PULL THE O-RING OUT. IF USING A PICK OR FLAT HEADED SCREWDRIVER, MAKE SURE YOU DO NOT DAMAGE THE O-RING WHILE ATTEMPTING TO REMOVE IT.**

Installation

1. **Install the MAP sensor on the new charge pipe** – **USE THE SUPPLIED SCREWS. DO NOT USE THE FACTORY TORX SCREWS. YOU WILL DAMAGE THE THREADS ON THE NEW MAP SENSOR FLANGE IF YOU ATTEMPT TO USE THE FACTORY SCREWS.**
2. **Install the large o-ring in the groove inside the throttle body connector flange** – **MAKE SURE IT SITS NEATLY IN THE GROOVE AND THAT THE O-RING ITSELF IS NOT TWISTED.**
3. **Attach the supplied 2.5” silicone hose and t-bolt clamp to the new upper charge pipe.** You can tighten the t-bolt clamp here if you choose to. Make sure the orientation of the t-bolt clamp will clear obstacles in the car. **MAKE SURE THE T-BOLT CLAMP IS TIGHT. THE NUT ON THE T-BOLT HAS A NYLON INSERT THAT GIVES IT TENSION. THIS TENSION MAY GIVE THE IMPRESSION THAT THE T-BOLT CLAMP IS TIGHT. HOWEVER, DO NOT OVERTIGHTEN THE CLAMP AS YOU MAY BREAK THE T-BOLT CLAMP OR CAUSE DAMAGE TO THE CHARGE PIPE.** Basically turn the t-bolt clamp until it is fairly hand tight.
4. **Install the new upper charge pipe** – You can install the upper charge pipe from the top of the engine bay now. Slide the new charge pipe onto the throttle body. **WHILE SLIDING THE NEW CHARGE PIPE ON THE THROTTLE BODY, MAKE SURE THE O-RING IS INSTALLED AND IN ITS GROOVE. NOT HAVING THE O-RING INSTALLED OR SITTING IN GROOVE WILL CAUSE THE CONNECTOR NOT TO SEAL.** Push the charge pipe into the throttle body until it stops. There will be a small gap between the edge of the throttle body to the edge of the new charge pipe. This is normal. It is to allow for heat expansion since the charge pipe is now fully metal instead of plastic. Slide the metal clip from the factory charge pipe into the new charge pipe. **MAKE SURE THE CLIP SLIDES IN COMPLETELY AND SITS FLUSH TO THE CHARGE PIPE THROTTLE BODY FLANGE. THE METAL CLIP NEEDS TO SLIDE INTO THE GROOVE ON THE**

THROTTLE BODY. IF NOT, IT WILL NOT SECURE THE CHARGE PIPE TO THE THROTTLE BODY.

5. **Install the o-ring in the groove inside the intercooler connector flange on the lower intercooler pipe – MAKE SURE IT SITS NEATLY IN THE GROOVE AND THAT THE O-RING ITSELF IS NOT TWISTED.**
6. **Connect the lower charge pipe –** slide the lower charge pipe into the silicone hose end of the upper charge pipe. Put a t-bolt clamp over the silicone hose but **DO NOT TIGHTEN YET!**
7. **Install the intercooler –** Reverse order of REMOVAL STEP 9.
8. **Reconnect the coolant line to its brackets –** Reverse order of REMOVAL STEP 8.
9. **Connect the charge pipes to the intercooler –** Reverse order of REMOVAL STEP 7.
10. **Tighten the t-bolt clamps on the silicone hose between the upper and lower charge pipes.**
11. **Connect the MAP sensor wiring harness to the MAP sensor.**
12. **Finish reinstalling all parts removed from the car –** Reverse order of REMOVAL STEP 6 to STEP 1.
13. **Finish – Enjoy!**

If there are any problems or questions about installation, please contact us at contact@evolutionracewerks.com or (626) 814-3403.