

# SUBARU WRX FRONT-MOUNT INTERCOOLER KIT, 2015+

## PARTS LIST AND INSTALLATION GUIDE

### PARTS LIST

- 1PC| BAR-AND-PLATE INTERCOOLER
- 1PC| STEEL CRASH BAR W/ MOUNTING HARDWARE
- 2PC| HOT-SIDE INTERCOOLER PIPES
- 2PC| COLD-SIDE INTERCOOLER PIPES
- 1PC| AIR INTAKE BRACKET
- 1PC| 2.25" 45° COUPLER
- 1PC| 2.25" TO 2.75" 45° TRANSITION COUPLER
- 1PC| 2.5" TO 2.75" 55° TRANSITION COUPLER
- 1PC| 2.5" TO 2.75" 65° TRANSITION COUPLER
- 1PC| 2.75" STRAIGHT COUPLER
- 2PC| BPV HOSES
- 1PC| BPV VACUUM HOSE
- 1PC| CCV HOSE\*
- 1PC| 30-45MM WORM-GEAR CLAMP
- 2PC| 1.75" T-BOLT CLAMPS
- 3PC| 2.5" T-BOLT CLAMPS
- 2PC| 2.75" T-BOLT CLAMPS
- 5PC| 3" T-BOLT CLAMPS
- 1PC| CARB EO STICKER

\*CCV HOSE IS NECESSARY FOR INSTALLATION ONLY IF YOU ARE USING THE STOCK HOSE.

### TOOLS NEEDED

- |                          |                            |
|--------------------------|----------------------------|
| 2.5MM ALLEN KEY          | 3/8" DRIVE SHORT EXTENSION |
| 8MM SOCKET               | 3/8" DRIVE 6" EXTENSION    |
| 6MM DEEP SOCKET          | 3/8" DRIVE RATCHET         |
| 7MM DEEP SOCKET 10MM     | 10MM RATCHET WRENCH        |
| DEEP SOCKET 12MM DEEP    | 12MM RATCHET WRENCH        |
| SOCKET                   | 13MM RATCHET WRENCH        |
| 1/4" DRIVE 12" EXTENSION | DYKES                      |
| 1/4" DRIVE 6" EXTENSION  | NEEDLENOSE PLIERS ANGLED   |
| 1/4" DRIVE RATCHET 12MM  | NEEDLENOSE PLIERS          |
| DEEP SOCKET 14MM DEEP    | FLATHEAD SCREWDRIVER       |
| SOCKET                   | PHILLIPS HEAD SCREWDRIVER  |

**INSTALLATION TIME: 5 HOURS**

**INSTALL DIFFICULTY : 4/5**

### DISCLAIMER

- Raise vehicle only on jack stands or on a vehicle lift.
- Allow vehicle to cool completely prior to attempting installation.
- Do not run the engine or drive the vehicle while overheating, as serious damage can occur.
- Please dispose of any liquids properly.
- Mishimoto is not responsible for any vehicle damage or personal injury due to installation errors, misuse, or removal of Mishimoto products.
- Mishimoto suggests that a trained professional install all Mishimoto products.

## INSTALLATION INSTRUCTIONS

### REMOVING THE STOCK INTERCOOLER

1. Remove the stock air intake duct. (2x pop clips)
2. Remove the engine cover. (2x pop clips)
3. Remove the two 10mm fan shroud bolts from the passenger-side fan. Before removing the entire fan shroud, make sure to disconnect the plug connections for the shroud. (10mm socket)
4. Loosen the worm-gear clamp that connects the charge pipe to the intercooler. (Flathead screwdriver)
5. If the vehicle is equipped with the Mishimoto Baffled Oil Catch Can (MMBCC-WRX-15), remove the worm-gear clamp and set the vent hose out of the way. If the vehicle is equipped with the stock hose, remove the hose completely. (Flathead screwdriver, needlenose pliers)



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6. Remove the vacuum hose next to the vent hose from the previous step and set aside.

7. Remove the two 12mm bolts that hold the charge pipe to the turbo.



8. Loosen the charge-pipe clamp on the bypass valve (BPV). (8mm socket)

9. Below the charge-pipe clamp on the BPV, remove the second clamp. (Needlenose pliers)

10. Disconnect the small hose from the BPV.



11. Pull the entire charge pipe up and out of the engine bay.

12. Remove the vacuum hose that routes near the intercooler.



13. Loosen the clamp that connects the throttle body coupler to the intercooler. (Flathead screwdriver)

14. Loosen the three 12mm bolts that hold the bracket to the intercooler.

15. Loosen the 12mm bolt on the passenger side of the intercooler, and lift the stock intercooler up and out of the engine bay.

16. Fully remove the bracket on the passenger side.

17. Fully remove the throttle body coupler.

## REMOVING THE FRONT BUMPER

**Mishimoto recommends raising the vehicle with a lift or jack stands.**

1. Remove the eight pop clips from the bottom of the front bumper.

2. Remove the two pop clips that hold the front bumper to the fender lining on both sides of the vehicle.



3. Remove the six 10mm bolts and then the remaining three pop clips on the top of the front bumper.

4. Unclip the front bumper cover and pull outward about 10 inches. Make sure to pull the cover carefully to prevent damaging the fog light connections.



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# 02

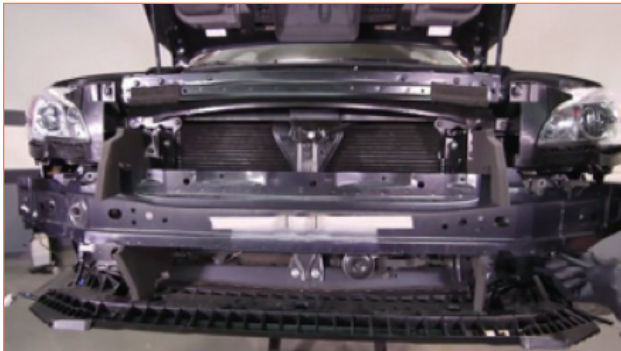
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5. Disconnect the fog lights and fully remove the front bumper cover.
6. Remove the plastic undertray. (9x large pop clips, 4x small pop clips, 2x 12mm bolts)
7. Remove the aluminum undertray. (4x 12mm bolts)

### INSTALLING THE MISHIMOTO INTERCOOLER

1. Remove the foam bumper guard from the crash beam.
2. Remove the eight 12mm bolts from the crash beam.
3. Without removing the foam air diverters, move them away from the crash beam, and then remove the crash beam from the vehicle.



4. Install the Mishimoto crash beam. Adjust the placement of the crash beam as needed until it is centered before fully tightening the bolts. (6x 12mm bolts)



5. Attach the Mishimoto intercooler to the crash beam. Thread the bolts in by hand first so that the fitment can be adjusted if desired. (2x 12mm bolts)



6. Reposition the foam air diverters around the intercooler.
7. Install the first Mishimoto BPV hose.
8. Attach a spring clamp to the BPV hose. (Needlenose pliers)



9. Remove the O-ring from the stock charge pipe and insert it into the Mishimoto charge pipe.
10. Install the charge pipe onto the turbo outlet and tighten the bolts. (2x 12mm bolts)



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11. Remove the BPV from the stock charge pipe. (Flathead screwdriver)

12. Attach a worm-gear clamp to the first BPV hose, and then attach the BPV hose to the first port on the BPV. This hose is not under boost.



13. Attach two T-bolt clamps to the second BPV hose, and route it from the BPV to the charge pipe. The shorter end attaches to the second port on the BPV, and the longer end attaches to the charge pipe. This hose will be subject to boost. Position the T-bolt clamps with the bolts facing toward the outside of the vehicle. (2x T-bolt clamps, 10mm socket)



14. Route one end of the Mishimoto BPV vacuum hose around the cylinder head, and connect it to the closest port on the block. Route the other end toward the BPV.

15. Reattach the vacuum hose that was located next to the vent hose. (Needlenose pliers)



16. Attach a worm-gear clamp to the vent hose for the catch can, and then reattach the hose. (Needlenose pliers, flathead screwdriver) **If the Mishimoto catch can is not installed on your vehicle, please reference the install instructions for the Mishimoto-provided CCV hose at the end of this guide.**



16. Attach the BPV vacuum hose to the BPV.



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**17.** Remove the 12mm bolt that holds the horn assembly to the front support.



**18.** Remove the 12mm bolt from the intake bracket near the Mishimoto intercooler.



**19.** Remove the 10mm nut on the other end of the intake bracket, and fully remove the bracket.

**20.** Remove the pop clip that holds the wire harness for the horn assembly.



**21.** Thread the 12mm bolt from the horn assembly to the backside of the Mishimoto bracket. Install the Mishimoto bracket in the same location as the horn assembly.



**22.** Attach the other side of the Mishimoto bracket to the intake pipe using the 10mm nut that was removed from the stock bracket.



**23.** Slide the horn up behind the mount of the vehicle and tighten. (13mm hex locking nut, 12mm hex bolt)



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24. Install the larger end of the 2.75"–2.25" transition coupler onto the hot side of the intercooler.



25. Using the 2.25" angled coupler and the elbow aluminum pipe, install the short end of the coupler onto the charge pipe. Install the short end of the aluminum pipe onto the longer end of the coupler. Then connect the other end of the pipe to the transition coupler already installed on the hot side of the intercooler. (4x T-bolt clamps)



26. Install the larger end of the 2.5"–2.75" 55° transition coupler onto the cold side of the intercooler.



27. Route the lower cold-side pipe up and through the front of the vehicle. Then attach the bottom end of the pipe to the other end of the transition coupler already installed on the cold side of the intercooler.



**Now, if you have the Mishimoto Catch Can already installed on the vehicle, loosen the 10mm nut on the battery tie-down that is holding the catch can. Remove it and set the can aside. Make sure the 10mm nut is reattached after removing the can. The entire can will be relocated.**

28. Attach supplied T-bolt clamps to the 2.5"–2.75" 65° transition coupler, and then connect the small end of the coupler to the lower cold-side pipe near the battery.



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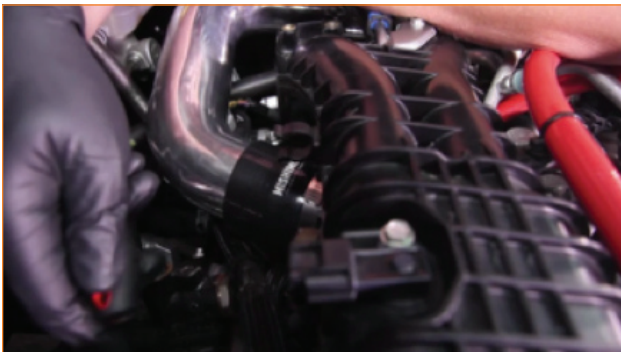
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**29.** Move the fuel return line out of the way. Attach the 2.75" straight coupler to the side of the upper cold-side pipe that will connect to the throttle body, and then install the pipe above the fuel lines.



**30.** Once everything is seated properly, tighten the worm-gear clamp on the coupler that connects the upper cold-side pipe to the throttle body. Then tighten all five T-bolt clamps for the cold-side system. It is easiest to work your way down starting at the throttle body.



**31.** Reconnect the fog lights to the front bumper and reinstall the front bumper cover. The bumper cover snaps into place by the headlights.

**32.** Reinstall the hardware on top of the front bumper. (6x 10mm bolts, 3x pop clips)

**33.** Reinstall the two pop clips that hold the front bumper to the fender lining on both sides of the vehicle.

### RELOCATING THE MISHIMOTO CATCH CAN

If you do not have the Mishimoto Catch Can, continue to step 69.

**34.** Remove the two Phillips pop clips on the back panel near the windshield. There is one on either side of the vehicle.



**35.** Wedge a 6mm socket into the bottom of the tab while prying upward on the top with a flathead screwdriver.



**36.** Pull up on the engine cover on both sides of the engine bay, and lift up the entire unit.



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**37.** Replace the 10mm bolt behind the panel near the windshield with a longer 10mm bolt.



**38.** Push the tabs and side panels back into place and push the two Phillips pop clips on the back panel back into place.

**39.** Remove both hoses from the passenger-side catch can. (Flathead screwdriver)

**40.** Remove the two 2.5mm Allen screws on top of the catch can, flip the bracket upside-down, and reattach the bracket. (Allen key)

**41.** Using a 10mm nut, attach the catch can to the long 10mm bolt by the windshield and then tighten the bolt. (10mm wrench)



**42.** Take the hose coming from the plastic inlet housing and route it under the intake manifold. Then, with a worm-gear clamp, attach the hose to the catch can's outlet. (Flathead screwdriver)



**43.** Take the hose coming from the crankcase port and route it under the intake manifold. Then, with a worm-gear clamp, attach the hose to the catch can's inlet. (Flathead screwdriver)



**44.** Reattach the aluminum undertray. (4x 12mm bolts)

**45.** Reattach the plastic undertray. Bend or cut the two ears on the tray to allow fitment with the hot-side and cold-side intercooler pipes. (9x large pop clips, 4x small pop clips, 2x 12mm bolts)



**46.** Reinstall the eight pop clips from the bottom of the front bumper.

**47.** Reinstall the engine cover. (2x pop clips)

**48.** Reinstall the air intake duct. (2x pop clips)

You have now successfully installed your new Mishimoto 2015 WRX Front-Mount Intercooler. Enjoy!

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### INSTALLING THE MISHIMOTO-PROVIDED CCV HOSE

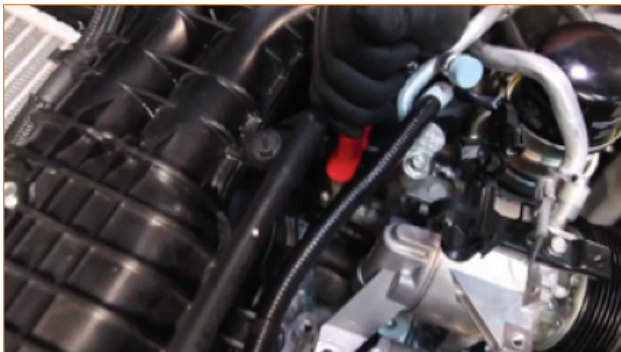
1. Remove the DIT cover mounting bracket. (2x 10mm bolts)
2. Disconnect the connector for the A/C compressor clutch, and unfasten the wire loom tie-down clip.



3. Remove the four 14mm A/C compressor bolts and engine hook.



4. Disconnect the CCV hose under the A/C compressor. (Needlenose pliers)



5. Remove the vent hose pop clips on the intake manifold. (Flathead screwdriver)

6. Remove the vent hose from the plastic turbo inlet housing. (Needlenose pliers)



7. Attach a worm-gear clamp to the Mishimoto CCV hose.

8. Install the 90° end of the hose onto the valve cover port directly below the A/C compressor, and tighten the worm-gear clamp. (Flathead screwdriver)



9. Route the hose next to the intake manifold and down to the induction housing on the passenger side.



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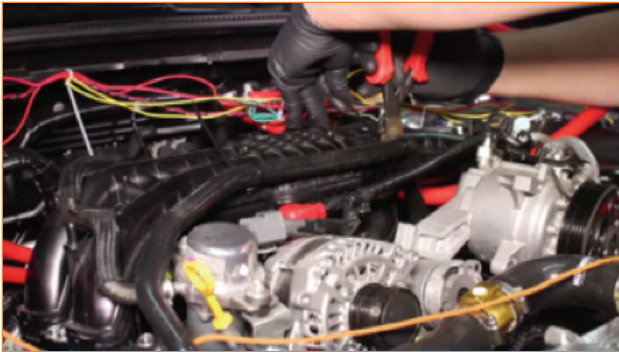
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**10.** With a worm-gear clamp, install the hose onto the induction housing port. If needed, use needlenose pliers to help pull the hose through and onto the port. (Flathead screwdriver)



**11.** Zip-tie the hose to the intake manifold. (2x zip-tie tree clips)



**12.** Reinstall the four 14mm A/C compressor bolts, and torque down to 35 ft-lb.



**13.** Reinstall the wire loom that goes on top of the A/C compressor.

**14.** Reconnect the clutch connector for the A/C compressor.

**15.** Reroute the serpentine belt. The tensioner is a 14mm bolt.



**16.** Reattach the DIT mounting bracket. (2x 10mm bolts)

**17.** Please place the included CARB EO sticker in a clean, visible location.