

# 2011-2014 ECOBOOST INTERCOOLER

## PARTS LIST AND INSTALLATION GUIDE



### PARTS LIST

**1 PC** | MISHIMOTO INTERCOOLER

**3 PC** | AIR DIVERSION PANELS WITH ASSEMBLED RUBBER TRIM

### TOOLS NEEDED

10MM SOCKET	3/8" DRIVE EXTENSION
1/4" DRIVE RATCHET	PICK TOOL
1/4" DRIVE EXTENSION	HOSE PICK
13MM SOCKET	FLATHEAD SCREWDRIVER
15MM SOCKET	PANEL TOOL
3/8" DRIVE RATCHET	10MM WRENCH

**INSTALLATION TIME 2.5 HOURS**

**INSTALL DIFFICULTY**

### 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; 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

**NOTE:** There is a drain plug located in the passenger-side mounting peg. Some F-150 owners are experiencing issues with condensation building in the intercooler. If your truck has this issue, the drain plug can be drilled or you can simply unscrew this plug. We recommend wrapping the plug with Teflon tape before reinstalling it to create a good seal.

- 01.** Set the vehicle on an automotive lift or raise it with a jack and place it securely on jack stands. Refer to your owner's manual for safe lifting points if you are unsure.

- 02.** From underneath the vehicle, release the four quarter-turn fasteners and five pop-clips that secure the shrouding to the radiator support. (4x quarter-turn fasteners, 5x pop-clips)



- 03.** Release the two quarter-turn fasteners that secure the rear splash panel to the undertray. Remove the four bolts that secure the undertray. Then remove the undertray from the vehicle. (2x quarter-turn fasteners, 4x 13mm bolts)



- 04.** Loosen the clamps that secure the hot-side intercooler pipes to the intercooler. Then separate the intercooler pipes from the intercooler. (2x worm-gear clamps)



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- 05.** Remove the two nuts that secure the air dam to the vehicle. Then remove the air dam. (2x 15mm nuts)



- 06.** Remove the circlip that secures the cold-side pipe to the intercooler. Work a pick behind the circlip to get it started, and then remove it by hand. Once the circlip is removed, separate the intercooler pipe from the intercooler. (1x circlip)

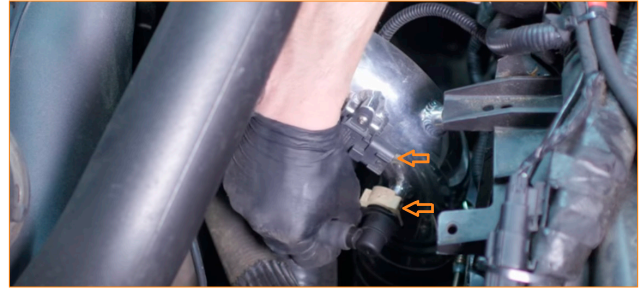


- 07.** Loosen the clamps that secure the Y-shaped induction hose to the airbox and intake pipes. Then separate the induction hose from each connection and remove it from the vehicle. (3x worm-gear clamps)

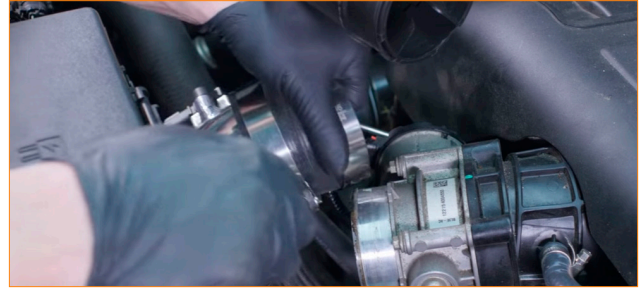


- 08.** Disconnect the wiring harness from the sensor on the cold-side intercooler pipe. To release this connector, depress the black tab and pull the connector off the sensor.

- 09.** Disconnect the hose from the cold-side intercooler pipe. To release this connection, squeeze the tabs on the underside of the connector and slide the locking clip away from the port.

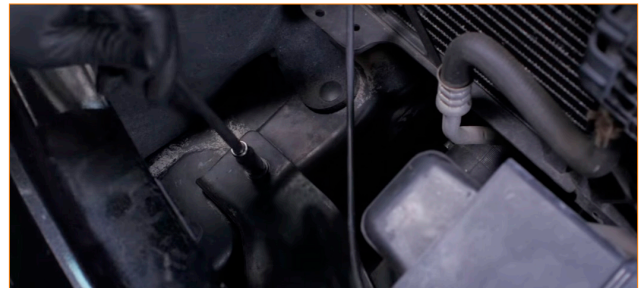


- 10.** Loosen the clamp that secures the cold-side intercooler pipe to the throttle body. Then separate the pipe from the throttle body. Lift the pipe upwards to give yourself more room around the intercooler. (1x worm-gear clamp)



- 11.** If you have a newer model F-150, there will be a recirculation valve attached to the intercooler. You will have to disconnect the electrical harness from the solenoid and separate the hose from the valve. To release the hose, rotate it by a quarter turn and pull it off the valve.

- 12.** Remove the two bolts that secure the upper intercooler mounting bracket to the frame rails, and then remove the mounting bracket. (2x 10mm bolts)



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- 13.** Support the intercooler and remove the two bolts that secure the lower intercooler mounting bracket to the frame rails, and then remove the mounting bracket and intercooler as one unit. (2x 13mm bolts)



- 14.** Remove the mounting bushings from the bottom of the factory intercooler. (2x bushings)

- 15.** If you have a newer model F-150, remove the recirculation valve from the intercooler by unbolting it and turning it counterclockwise.



- 16.** Locate the bushings included with your kit and install them to the Mishimoto intercooler.

- 17.** Locate the large washers included with your kit and install them over the bolts that secured the upper intercooler mounting bracket. (2x large washers)



- 18.** If you have a 2011-2012 F-150, install the CNC plug to the recirculation valve port on the Mishimoto intercooler. Make sure the plug is fully seated for a good seal. If you have a newer F-150, leave this port open for now. (1x CNC plug)



- 19.** Lower the intercooler into place and allow it to rest on the frame rails.

- 20.** If you have a newer F-150, slide the intercooler as far forward as possible and install the recirculation valve.

- 21.** Install the bushings you removed earlier to the mounting pegs on the Mishimoto intercooler and install the lower support bracket. Then secure the bracket to the vehicle with the original hardware. (2x bushings, 2x 13mm bolts)



- 22.** Secure the intercooler to the frame rails using the two original bolts and the washers you installed earlier. (2x 10mm bolts)

- 23.** Reattach the hot-side intercooler pipes and tighten the clamps to secure them. (2x worm-gear clamps)

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- 24.** Attach the cold-side intercooler pipe to the intercooler and secure it with the circlip. Make sure the circlip engages the slots on the hot-side pipe. (1x circlip)



- 25.** Reattach the cold-side intercooler pipe to the throttle body.
- 26.** Reconnect the hose to the cold-side intercooler pipe and lock the connection.
- 27.** Reconnect the wiring harness to the sensor on the intercooler pipe.
- 28.** Reinstall the Y-shaped induction hose and tighten the clamps to secure it. (3x worm-gear clamps)
- 29.** If you have a newer F-150, reconnect the electrical harness for the solenoid and reattach the hose to the valve.
- 30.** Locate the driver side air diversion panel included with your kit. When properly oriented, the tabs on the panel will point toward the outside of the vehicle, and the threaded insert will be at the top. Lower the panel into place so that the front edge of the panel fits between the bolt and tab on the bumper. Then turn it to align the bolt holes in the air diversion panel with the threaded bungs on the intercooler.



- 31.** Locate the passenger-side air diversion panel and lower it into place as shown here. Place the edge of the air diversion panel on the inside edge of the bolt in the bumper. Then turn it to align the bolt holes in the air diversion panel with the threaded bungs on the intercooler.



- 32.** Locate the upper air diversion panel in your kit. Flex the panel slightly to get the front edge under the bumper cover, and then lower it into place over the other panels.



- 33.** Adjust the panel to line up the hole with the threaded insert in the driver-side panel. Thread in one of the provided flange head bolts, but don't tighten it yet. Repeat this process on the passenger side. Thread in the remaining flange head bolts to secure the side panels to the intercooler. (6x 10mm flange head bolts)
- 34.** Tighten the bolts that secure the side panels to the intercooler. Then adjust the upper panel so it is flush with the top of the intercooler and tighten the last two bolts.



- 35.** Reinstall the air dam and secure it with the two original nuts. (2x 15mm nuts)
- 36.** Reinstall the undertray and secure it with the four original bolts. Then reattach the rear splash panel to the undertray with the two quarter-turn fasteners (4x 13mm bolts, 2x quarter-turn fasteners)
- 37.** Secure the shrouding to the radiator support with the five pop-clips and four quarter-turn fasteners. (4x quarter-turn fasteners, 5x pop-clips)

**Congrats! You just finished installing the 2012-2014 Ecoboost Intercooler.**