

# 2017+ F-150 3.5L ECOBOOST INTERCOOLER PIPE KIT PARTS LIST & INSTALLATION GUIDE



## PARTS INCLUDED

- 1PC** Aluminum Cold-Side Intercooler Pipe w/ CNC Quick-Disconnect Flange
- 1PC** Aluminum Cold-Side Intercooler Pipe w/ CNC IAT Sensor Housing
- 4PC** Aluminum Hot-Side Intercooler Pipes
- 8PC** Silicone Boots w/ DuraCore™ Technology
- 16PC** Constant Tension Worm Gear Clamps

## TOOLS NEEDED

- 8mm Socket
- 10mm Socket
- 13mm Socket
- 14mm Socket
- 15mm Socket
- 3/8" Drive Ratchet & Extensions
- Pick Tool

**INSTALL TIME** 4 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.

## INSTALL PROCEDURE

1. Refer to the product drawing included in your kit for a complete illustration of the final orientation of all piping and worm gear clamps with their sizes.

2. Loosen the clamps on the intake pipe that connects the air intake to the airbox. (3x worm gear clamps)



3. Disconnect the air temperature sensor on the intake.



4. Remove the loosened portion of the air intake.
5. Remove the engine cover. (2x 10mm bolts)
6. Release the quick-disconnects on the intake and cold-side pipe.



7. Loosen the clamp that secures the hot-side pipe to the turbo. You will need to access this clamp through the wheel well. (1x worm gear clamp)

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8. Remove the skid plate. This step only applies to F-150 Raptor vehicles.  
(2x 15mm bolts, 4x 13mm bolts)



9. Loosen the clamps on each end of the hot-side pipe couplers. There are two couplers that connect to the intercooler. (4x worm gear clamps)



10. Separate the cold-side pipe connector from the intercooler. Pull the clip out of the connector to release it from the intercooler. (1x spring clip)
11. Loosen the clamps where the cold-side pipe meets the throttle body. (2x worm gear clamp)



12. Disconnect the air temperature sensor on the cold-side pipe. Depress the tab at the center to separate the connection.



13. Release the clips that secure the sensor's wiring. (2x tree clips)
14. Pull the cold-side pipe coupler off the pipe and throttle body.
15. Disconnect the recirculating valve next to the cold-side pipe.



16. Loosen the clamp that secures the cold-side pipe connector to the rest of the piping. Slide the connector out of the piping to remove it. (1x worm gear clamp)



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# 02

17. Pull the loose cold-side pipe out of the engine bay. You will need to adjust the pipe as you lift it out to maneuver about in the engine bay.



18. Lift the two upper portions of the hot-side piping out of the engine bay. This pipe will also need to be adjusted as you pull it from the engine bay.



19. Install the Mishimoto couplers to the hot-side end tank on the intercooler. Leave the clamps loose for now. You will tighten them later.  
(4x 57-79mm worm gear clamps)
20. Reconnect the recirculating valve. You will hear an audible click when the connection is secure.
21. Attach the reducer coupler to the shorter hot-side pipe. (1x 57-79mm worm gear clamp)
22. Feed the shorter hot-side pipe into the engine bay with attached reducer coupler. Slide the end without the coupler down into the engine bay. This end will connect to the upper hot-side coupler on the intercooler.
23. Attach the slightly longer transition coupler to the pipe with a 90° bend. At this point, slide all three of your clamps onto the pipe so they are already in place once it's connected to the turbo.  
(2x 57-79mm worm gear clamps, 1x 44-67mm worm gear clamp)



24. Mate the open end of the pipe to the coupler end of the previously installed hot-side pipe. This pipe should then line up with the turbo.
25. Attach a transition coupler to the longer hot-side pipe. (1x 57-79mm worm gear clamp)



26. Feed the pipe past the front of the engine down to the intercooler. The end without the coupler goes down first and connects to the lower coupler on the intercooler.  
(1x 57-79mm worm gear clamp)



27. Attach the smallest transition coupler to the turbo port. (1x 44-67mm worm gear clamp)
28. Install the final hot-side pipe section in between the two couplers.  
(2x 57-79mm worm gear clamps)
29. Tighten all the clamps on your hot-side piping.

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**03**

30. Lift the cold-side pipe with attached coupler up through the engine bay. Twist the pipe as you feed it upward to allow freedom to reach proper alignment. Then connect the cold-side pipe to the intercooler.

(1x 95-117mm worm gear clamp, 1x spring clip)



31. Add the 90° section of the cold-side piping to the end of the section already installed to the intercooler. (1x 70-92 worm gear clamp)



32. Connect the cold-side pipe to the throttle body using the small coupler.

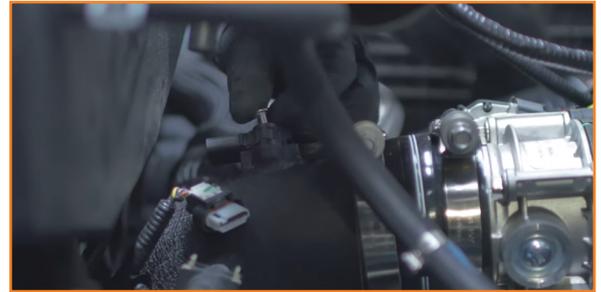
(2x 70-92 worm gear clamps)



33. Tighten the clamps on your cold-side pipe.  
34. Reconnect the quick-disconnects to the intake

and cold-side pipe.

35. Transfer the air temperature sensor from the stock cold-side pipe to the Mishimoto pipe. Use the screws provided in your kit to secure the sensor.



36. Reconnect the air temperature sensor on the cold-side pipe.  
37. Check that all clamp connections are tight and secure.  
38. Reinstall the air intake. (3x worm gear clamps)  
39. Reinstall the engine cover. (2x 10mm bolts)  
40. Reinstall the splash shield under the vehicle. (2x 15mm bolts, 4x 13mm bolts)

**Congratulations! You have finished installing the Mishimoto 2017+ F-150 3.5L EcoBoost Intercooler Pipe Kit.**