

2011+ FORD F250 SECONDARY RADIATOR

PARTS LIST AND INSTALLATION GUIDE



PARTS LIST

- 1 PC** | MISHIMOTO RADIATOR
- 2 PC** | CAST THERMOSTAT HOUSINGS
- 1 PC** | MAGNETIC DRAIN PLUG W/ DOWTY OIL SEAL
- 4 PC** | RUBBER BUSHINGS AND METAL COLLARS
- 3 PC** | HARDWARE PACKETS

TOOLS NEEDED

- | | |
|--------------------|----------------------|
| 8MM SOCKET | PANEL TOOL |
| 10MM SOCKET | FLATHEAD SCREWDRIVER |
| 1/4" RATCHET | PRYBAR |
| 8MM RATCHET WRENCH | CHANNELLOCK PLIERS |
| 10MM WRENCH | DRAIN BUCKET |

INSTALLATION TIME 3-4 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.

INSTALLATION INSTRUCTIONS

- 01.** Remove the four bolts that secure the grille to the radiator support. (4x 10mm bolts)



- 02.** Pull the top of the grille forward, and reach behind it with a prybar or panel tool to release the clips that secure the grille, and then remove the grille.
- 03.** Remove the four bolts that secure the headlight. There is one bolt on top, two on the inside edge, and one along the bottom edge. Unseat the headlight assembly by pulling it away from the truck. Disconnect the electrical harness from the headlight, or remove the bulb sockets from the headlight by twisting them. Do this on both sides. (8x 10mm bolts)
- 04.** Disconnect the hood-release cable. To do this, release the two tabs that hold together the clamshell, and slide the cable upward to separate it. Release the integrated tree-clip that secures the cable to the radiator support. (1x tree-clip)



- 05.** Remove the six bolts that secure the radiator support and plastic brace to the vehicle. (6x 13mm bolts)



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- 06.** Remove the two screws that secure the bottom of the plastic brace, just behind the front bumper. There is one screw on each side of the brace. (2x 10mm screws)



- 07.** Release the tree-clip that secures the bottom of the rubber shroud. Do this on both sides. (2x tree-clips)



- 08.** Remove the bolt that secures the hood switch to the radiator support, and move the switch out of the way. (1x 10mm bolt)

- 09.** Remove the two bolts that secure the radiator mount saddles to the back of the radiator support, and then remove the bracket. Do this on both sides. (4x 10mm bolts)



- 10.** Disconnect the electrical harness from the horn assembly.

- 11.** Pull on the tabs at the upper corners of the plastic brace to release it from the vehicle. Release the lower hose from the plastic brace where it runs along the front bumper, and remove the plastic brace.



- 12.** Remove the two bolts that secure the transmission cooler to the radiator support. Allow the cooler to droop over the crossover pipe. (2x 10mm bolts)



- 13.** Release the radiator support by pushing upward at the corners; this may require quite a bit of force. Remove the radiator support from the vehicle.

- 14.** Release the six tree-clips that secure the rubber shrouds to the secondary radiator. Remove the rubber shroud on the driver side. (6x tree-clips)

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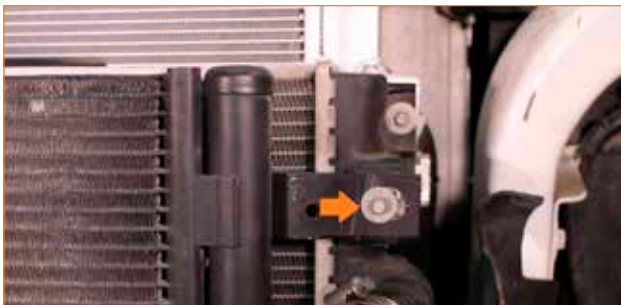
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- 15.** Place a bucket under the passenger side of the secondary radiator. Loosen the petcock on the radiator to drain the coolant. Install a piece of hose over the drain to reduce spillage.



- 16.** Remove the two bolts that secure the AC condenser to the secondary radiator. There is one bolt on each side. (2x 8mm bolts)



- 17.** Once the coolant has finished draining, loosen the worm-gear clamp on the crossover pipe where it connects to the secondary radiator on the driver side, and pull the hose off the radiator. Lift the hose up to allow residual coolant to drain from the crossover pipe. (1x worm-gear clamp)



- 18.** Release the two clips from the quick-disconnect fittings on the crossover pipe. Disconnect the upper hose from the crossover pipe by pushing it back, then release the fitting from the thermostat housing by pulling upward. There may be residual coolant inside the system, so keep your bucket handy to capture any spills.

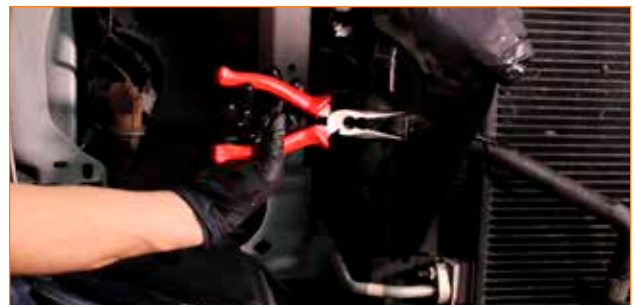


- 19.** Swing the crossover pipe and attached transmission cooler over the passenger side, and allow it to rest on the bumper. Use the rubber shroud or a piece of cardboard to protect the bumper.

- 20.** Release the tree-clip that secures the transmission fluid line to the condenser. (1x tree-clip)

- 21.** Lift the AC condenser directly upward to unseat it from the secondary radiator. Place a piece of cardboard over the front bumper, and rest the condenser on the cardboard.

- 22.** Compress the clamp that secures the coolant hose to the thermostat housing on the passenger side of the secondary radiator, and pull the hose off the thermostat housing. (1x spring clamp)



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- 23.** Compress the clamp that secures the coolant hose to the back of the passenger-side thermostat housing, and remove the hose from the housing. (1x spring clamp)



- 24.** Compress the clamp that secures the coolant hose to the driver-side thermostat housing, and remove the hose from the housing. (1x spring clamp)



- 25.** Compress the clamp that secures the overflow hose to the secondary radiator, and disconnect the hose. (1x spring clamp)

- 26.** Remove the four bolts that secure the secondary radiator to the primary radiator. (4x 8mm bolts)



- 27.** Remove the secondary radiator. Move the rubber shroud on the passenger side to ensure that it clears the thermostat housing. Close the petcock and lift the radiator upward to remove it from the vehicle. Take care to avoid damaging the thermostat housing and AC condenser line on the passenger side, as there is very little room. Tip: This radiator will still have quite a bit of coolant inside. Get a friend to help you with removal, and have a bucket ready to drain the remainder of the coolant.

- 28.** Remove the two clip nuts from the secondary radiator you just removed, and transfer them to the Mishimoto radiator.



(2x clip nuts)

- 29.** Snug the drain plug on the Mishimoto radiator.

- 30.** It is recommended that you install new thermostats and gaskets when replacing the secondary radiator. If you decide to reuse your old thermostats, remove the four bolts that secure the covers to the thermostat housings. Remove the covers by gently prying them off, and then remove the thermostats from the housings. The thermostats are different, so take care to note the location of each for reinstallation. (4x 8mm bolts)



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- 31.** Lubricate the O-rings on the thermostat caps with fresh coolant to aid with installation. Install the appropriate thermostats and lids. Pay special attention when installing the lids to ensure that the holes in the caps align with the holes in the thermostat housings. Secure the



caps with the four provided flange-head bolts. (4x 10mm flange-head bolts)



- 32.** Lubricate the O-rings on the thermostat housings, and bolt them into the secondary radiator using the six provided bolts. (6x 10mm bolts)
- 33.** Install the Mishimoto radiator. Lower the radiator into place, and secure it with the four provided long bolts. (4x long 10mm bolts)
- 34.** Reinstall the passenger-side rubber shroud, making sure that the water outlet on the thermostat and the AC condenser mount come through the hole in the shroud. Then secure the bottom of the shroud with two of the pop-clips. (2x pop-clips)
- 35.** Lift the AC condenser upward and set the tabs on the condenser into the mounts on the secondary radiator. Secure the AC condenser with the two provided short bolts. (2x short 10mm bolts)
- 36.** Install the overflow hose to the secondary radiator. Secure the overflow hose with the original spring clamp. (1x spring clamp)

- 37.** Install the coolant hose that runs to the back of the passenger-side thermostat, and secure it with the spring clamp. (1x spring clamp)
- 38.** Install the coolant hose that runs to the front of the passenger-side thermostat, and secure it with the spring clamp. (1x spring clamp)
- 39.** Install the crossover pipe and attached transmission cooler. Install the coupler on the passenger side by pushing it down over the thermostat until you hear the locking clip engage. Then slip the hose over the connection on the driver side, and secure the hose with the worm-gear clamp. (1x worm-gear clamp)
- 40.** Install the upper coolant hose to the crossover pipe by pushing it over the quick-disconnect fitting until you hear the locking clip engage. Then tuck the passenger-side rubber shroud back into place.
- 41.** Install the coolant hose over the driver-side thermostat inlet, and secure it with the spring clamp. (1x spring clamp)
- 42.** Install the radiator support. Line up the bushings on the primary radiator support with the saddles on the radiator support. Push the radiator support toward the radiator until the pin on the bottom of the radiator support drops into the sheet metal of the vehicle. Do this on both sides, and then check to make sure everything is seated properly. Secure the radiator support with the two original bolts. (2x 13mm bolts)
- 43.** Secure the driver-side rubber shroud to the primary radiator using the three tree-clips. (3x tree-clips)
- 44.** Install the plastic brace by aligning the dowels on each side with the holes in the body, and then push the brace in until it clicks. Secure the brace with the four original bolts. (4x 13mm bolts)
- 45.** Reattach the coolant hose to the brace by pushing it into the groove in the brace.
- 46.** Install the two screws that secure the plastic brace to the vehicle, just behind the front bumper. (2x 10mm screws)
- 47.** Move the transmission cooler back into position, and secure it with the two original bolts. (2x 10mm bolts)

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- 48. Reattach the hood-release cable, and close the clamshell to secure it. Attach the cable to the radiator support with the integrated tree-clip. (1x tree-clip)
- 49. Attach the bottom rubber shroud with the two original tree-clips. (2x tree-clips)
- 50. Install the radiator mount saddles to the back of the radiator support, and secure them with the four original bolts. (4x 10mm bolts)
- 51. Install the hood switch to the radiator support, and secure it with the original bolt. (1x 10mm bolt)
- 52. Fill the cooling system with premixed, Ford-approved coolant via the filler neck of the coolant reservoir, start the engine, and allow it to idle with the cap off. Turn the heat to high, and put the fan on low. Monitor the engine temperature and coolant level in the reservoir. Add coolant as needed to maintain a proper level in the reservoir, and check your connections for leaks. If the vehicle begins to overheat or coolant starts to overflow from the reservoir, shut off the engine and allow it to cool before continuing. Once the vehicle is fully warmed up and the coolant level has stabilized, allow the vehicle to cool off completely, and then top off the coolant level. Check the coolant level once more after putting in some miles.

- 53. Reconnect the wiring harness to the horn assembly.
- 54. Reconnect the wiring harness to the headlight bulbs. Install the headlight by slipping the alignment pins into the body of the vehicle, and secure it with the four original bolts. Do this on both sides. (8x 10mm bolts)
- 55. Reinstall the grille. Slip the tabs on the bottom of the grille into the clips on the plastic brace, and secure the top of the grille with the four original bolts. (4x 10mm bolts)

Congrats! You just finished installing the 2011+ Ford F250 Secondary Radiator.

