

# 2013+ FOCUS ST RADIATOR

## PARTS LIST AND INSTALLATION GUIDE



### PARTS LIST

**1 PC** | MISHIMOTO RADIATOR

MOUNTING HARDWARE

INSTALLED RUBBER TRIM SEAL

### TOOLS NEEDED

FLATHEAD SCREWDRIVER

T30 TORX BIT/SOCKET

PANEL TOOL

3/8" DRIVE RATCHET

3MM ALLEN KEY/SOCKET

ZIP TIES

8MM SOCKET

MISHIMOTO LIQUID CHILL®

10MM SOCKET

COOLANT

**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

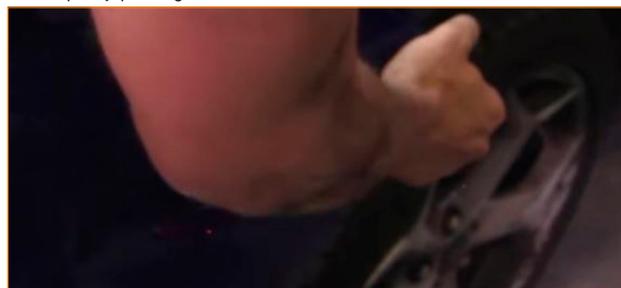
- 01.** Remove the four pop-clips that secure the top of the bumper cover over the radiator support. (4x pop-clips)
- 02.** Remove the hood-release cable by prying the cable stay out of the clip on the bumper cover and slipping the cable end out of the hood-release lever.



- 03.** Set your Focus 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.
- 04.** Remove the hardware that secures the fender liner to the bumper cover on both sides of the vehicle. (4x T30 Torx screws, 2x pop-clips)



- 05.** Remove the six pop-clips that secure the splash panel to the bottom of the front bumper cover. (6x pop-clips)
- 06.** Remove the air diverter. There are three screws holding it in place. (3x T30 Torx screws)
- 07.** Remove the undertray. There are eight screws that secure it in place. (8x T30 Torx screws)
- 08.** Remove the splash panel. There are four screws holding it in place. (4x T30 Torx screws)
- 09.** Release the corners of the bumper cover from the retaining clips by pulling outward from inside the wheel well.



- 10.** Unbolt both headlights. Each headlight has two bolts holding it in place. (4x T30 Torx bolts)

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- 11.** Remove the two bolts that secure the top of the bumper cover, just inboard of the headlight assemblies. (2x T30 Torx bolts)



- 12.** Slide each headlight forward to release them from the vehicle, and disconnect the electrical harnesses.
- 13.** Release the tabs that secure the bumper cover under the headlight by lifting them upward. Then slide the bumper cover forward, off the nose of the vehicle. Reach behind the bumper cover and disconnect the fog light electrical harnesses before fully removing the front bumper cover.



- 14.** Remove the upper air shroud by releasing the two clips.



- 15.** Remove the lower air shroud. There are two screws that secure the top of this shroud. (2x T30 Torx screws)



- 16.** Disconnect the electrical harness for the active grille shutters, and release the two tree-clips that secure the harness. The harness connector is located on the driver side, near the end tank of the intercooler.

- 17.** Remove the bumper guard by squeezing the tabs that hold it in place and pulling it forward.



- 18.** Loosen the clamp on the hot-side intercooler coupler, and disconnect the coupler from the intercooler.



- 19.** Loosen the clamp on the cold-side intercooler coupler, and disconnect the coupler from the intercooler.



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- 20.** Disconnect the electrical harness for the MAP sensor, located on the top of the passenger-side intercooler end tank.



- 21.** Remove the two bolts that secure the intercooler. Then remove the intercooler. (2x 8mm bolts)



- 22.** Remove the active grille shutter assembly by releasing the four tabs that secure it and lowering it out of the vehicle.



- 23.** Remove the bolt that secures the radiator to the AC condenser. (1x 10mm bolt)



- 24.** Place a drain pan under the driver-side corner of the radiator, and install a short piece of hose over the drain tube. Then loosen the radiator drain plug to drain the cooling system.



- 25.** Remove the pressure cap on the expansion tank to accelerate the draining process.

- 26.** Release the quick-disconnect clip that secures the lower radiator hose to the radiator. Then work the radiator hose off the radiator. These connections are often very tight, so take your time to avoid damaging the hose connection.

- 27.** Disconnect the small coolant line from the upper passenger side of the radiator. Squeeze the tabs together and slide the line out of the radiator.



- 28.** Release the quick-disconnect clip that secures the upper radiator hose to the radiator. Then work the radiator hose off the radiator. This connection can be very tight, so take your time to avoid damaging the hose connection.



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- 29.** Release the tree-clip that secures the fan wiring harness to the fan shroud. Then disconnect the fan harness from the fan control module. Squeeze the clip on the connector to release it.



- 30.** Release the harness connector from the radiator cradle by sliding it off the clip.



- 31.** While supporting the radiator cradle, remove the the four bolts that secure it to the vehicle. (4x 10mm bolts)



- 32.** At this point, the condenser is still attached to the radiator. Take care not to bend the AC lines when handling this assembly. To remove the condenser from the radiator, cut away the foam strip from the top of the condenser. Then slide the radiator down, leaving the condenser in the vehicle.



- 33.** Support the condenser with a zip tie to avoid damaging the AC lines.

- 34.** Remove the radiator from the cradle by lifting it upward.

- 35.** Remove the isolator bushings from the stock radiator, and transfer them to the radiator cradle.

- 36.** Remove the fan shroud assembly from the stock radiator. Lift the tabs on the radiator, then slide the shroud off.



- 37.** Transfer the fan shroud assembly to the Mishimoto radiator. Slide the tabs on the fan shroud into the slots on the radiator.

- 38.** Note the orientation of the upper mounting pegs, then remove them from the stock radiator. Depress the locking tabs to release the mounting peg, then slide the peg out of the radiator.



- 39.** Transfer the mounting pegs to the Mishimoto radiator. Push them in until they lock.

- 40.** Install the provided set screws to secure the fan shroud. (2x 3mm Allen bolts)

- 41.** Install the Mishimoto radiator into the radiator cradle. Align the pegs with the isolator bushings, and slide them in until the radiator bottoms out.

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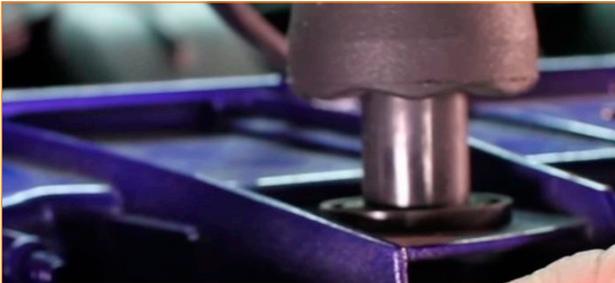
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- 42.** Install the Mishimoto radiator. Slide the radiator up behind the condenser, taking care not to damage the fins. Align the tabs on the condenser with the mounting brackets on the radiator, and slide them together to secure the condenser.



- 43.** Align the upper mounting pegs with the isolators and slide them in. Then secure the radiator cradle with the four original bolts. (4x 10mm bolts)



- 44.** Install the set screws that secure the condenser to the radiator. (2x 3mm Allen bolts)
- 45.** Install the upper radiator hose. Lock the clip on the quick-disconnect fitting, then push the radiator hose over the radiator outlet until you hear a click.
- 46.** Install the small coolant line to the port on the upper passenger side of the radiator. Push the line in until the tabs engage.
- 47.** Install the lower radiator hose. Lock the clip on the quick-disconnect fitting, then push the radiator hose over the radiator inlet until you hear a click.
- 48.** Connect the wiring harness to the fan controller. Secure the harness with the integrated tree-clip.
- 49.** Attach the wiring harness connector to the radiator cradle by slipping it over the tree-clip.
- 50.** Install the active grille shutter assembly. The tabs on this assembly slide into the slots on the radiator.
- 51.** Connect the electrical harness for the active grille shutters, and secure the harness with the integrated tree-clips.
- 52.** Install the intercooler. The upper tabs of the intercooler must engage the mounting brackets on the radiator. Secure the intercooler with the two original bolts. (2x 8mm bolts)
- 53.** Connect the electrical harness for the MAP sensor.

- 54.** Install the cold-side intercooler coupler and tighten the clamp.
- 55.** Install the hot-side intercooler coupler and tighten the clamp.
- 56.** Fill the system with premixed, Ford-approved coolant through the reservoir cap, start the engine, and allow it to idle with the cap off. Turn the heater control valve on the vehicle's HVAC unit to full hot and put the fan on low. Monitor the engine temperature and coolant level in the reservoir. Add coolant as needed to maintain the 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 top off the coolant level.
- 57.** Install the bumper guard. Press it into place until the tabs engage the crash beam.
- 58.** Install the upper air shroud. Press it into place until the tabs engage the radiator support.
- 59.** Install the lower shroud, and secure it with the two Torx fasteners. (2x T30 Torx screws)
- 60.** Connect the fog light wiring harnesses. Then slide the bumper cover into place over the nose of the vehicle. Ensure that the tabs on the bumper cover engage the slots under the headlight mounting location.
- 61.** Install the headlights. Connect the wiring harnesses and secure the headlights with the four original Torx bolts. (4x T30 Torx bolts)
- 62.** Now align the bumper cover, and press the corners into the retaining clips where the bumper meets the fenders.
- 63.** Install the two bolts that secure the bumper cover just inboard of the headlights. (2x T30 Torx bolts)
- 64.** Install the four pop-clips that secure the upper edge of the bumper cover. (4x pop-clips)
- 65.** Attach the hood-release cable to the lever, and clip the cable stay into the bumper cover.
- 66.** Secure the fender liner with the original hardware: four screws and two pop-clips. (4x T30 Torx screws, 2x pop-clips)
- 67.** Install the splash panel, and secure it with the original hardware. (4x T30 Torx screws, 6x pop-clips)
- 68.** Install the rear undertray, and secure it with the original hardware. (8x T30 Torx screws)
- 69.** Install the air diverter, and secure it with the three fasteners you removed earlier. (3x T30 Torx screws)

**Congrats! You just finished installing the 2013+ Focus ST Radiator.**

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