

# 2016+ FOCUS RS OIL COOLER

## PARTS LIST AND INSTALLATION GUIDE



### PARTS LIST

- 1 PC |** APPLICATION-SPECIFIC MOUNTING BRACKET / AIR DIVERSION SHIELD
  - 1 PC |** BAR-AND-PLATE OIL COOLER (SILVER OR BLACK)
  - 1 PC |** 3/4" BRAIDED STAINLESS STEEL HOSE W/ -10AN FITTINGS
  - 1 PC |** 5/8" BRAIDED STAINLESS STEEL HOSE W/ -10AN FITTINGS
  - 1 PC |** OIL SANDWICH PLATE (THERMOSTATIC OR NON)
  - 1 PC |** SANDWICH PLATE SPACER
  - 1 PC |** APPLICATION-SPECIFIC, 3/4" 16 EXTENDED-LENGTH CENTER BOLT
  - 2 PC |** M20 X -10AN STRAIGHT FITTINGS
- MOUNTING HARDWARE

### TOOLS NEEDED

T30 TORX SOCKET	27MM SOCKET	13MM WRENCH
11MM SOCKET	1" SOCKET	1" WRENCH
13MM SOCKET	1/2" RATCHET	FLATHEAD SCREWDRIVER
1/4" RATCHET	1/2" TORQUE WRENCH	OIL FILTER SOCKET
1/4" DRIVER	-10 AN WRENCH	FORD-APPROVED ENGINE OIL
1/4" EXTENSION		

**INSTALLATION TIME** 2-3 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:** Installing an oil cooler adds additional maintenance to vehicle ownership. All oil line connections should be regularly checked for leaks and retorqued. The oil filter center-bolt adapter must be retorqued every time the oil filter is removed.

- 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.** Remove the two Torx screws that secure the passenger-side headlight to the vehicle. Pull the headlight housing forward while twisting it slightly toward the outside of the vehicle to remove it from the vehicle. Then disconnect the electrical harness from the headlight and set it aside. Repeat this process on the driver side. (4x T30 Torx screws)
- 03.** Note the tab on the headlight housings and the body for reinstallation.



- 04.** Remove the two pop-clips that secure the undertray to the stabilizer bar. (2x pop-clips)



- 05.** Remove the eight Torx screws and two pop-clips that secure the undertray to the bottom of the vehicle. Slide the undertray forward, and remove it from the vehicle. (8x T30 Torx screws, 2x pop-clips)

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# 01

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## INSTALLATION GUIDE



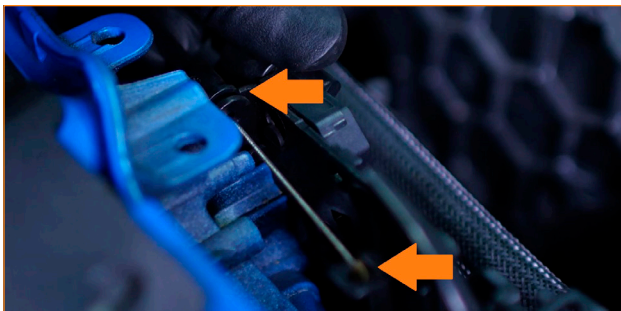
- 06.** Remove the seven Torx screws that secure the front edge of the bumper. (7x T30 Torx screws)



- 07.** Remove the pop-clip and two Torx screws that secure the passenger-side fender liner to the bumper. Then pull back the fender liner to access and remove the pop-clip that secures the bumper to the fender. Pull the upper corner of the bumper away from the fender to release it. Repeat this process on the driver side. (4x pop-clips, 4x T30 Torx screws)



- 08.** Remove the five Torx screws and two pop-clips that secure the top edge of the front bumper. (5x Torx screws, 2x pop-clips)
- 09.** Reach down through the hole where the driver-side headlight was installed to disconnect the lighting harness.
- 10.** Disconnect the hood release cable from the hood latch assembly by lifting the cable up. Then remove the cable stop from the lever.

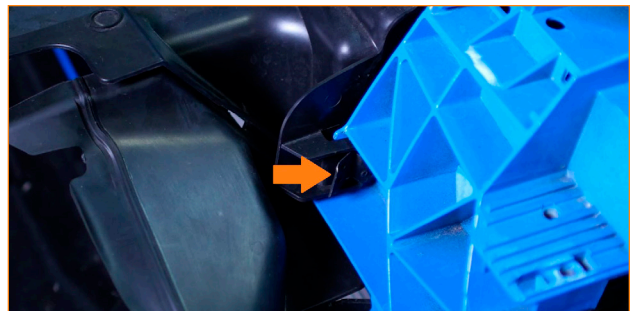
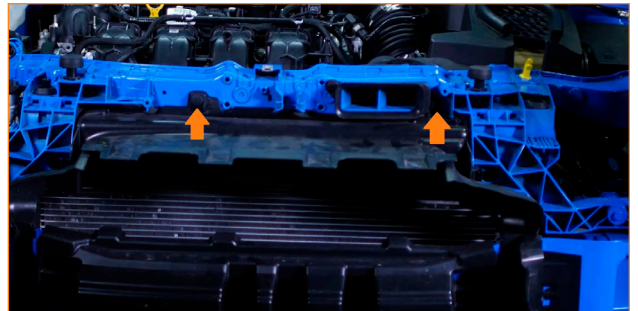


- 11.** Lift the tabs on the radiator support to release the bumper. There is one tab on each side, located underneath the headlight mounting location.



- 12.** Remove the front bumper from the vehicle by sliding it forward.

- 13.** Remove the two pop-clips that secure the air diverter to the radiator support. Release the clips that secure the corners of the air diverter and pull it forward. (2x pop-clips)



- 14.** Remove the two screws that secure the air ducts to the radiator support. Separate the air diverter from the ducting on each side, and remove the air diverter and ducts from the vehicle. Then reinstall the pop-clip that secures the corner of the air inlet duct. (1x pop-clip, 2x T30 Torx screws)
- 15.** Place a drain pan underneath the vehicle and remove the oil filter. Then wipe off the oil filter mating surface with a clean rag.

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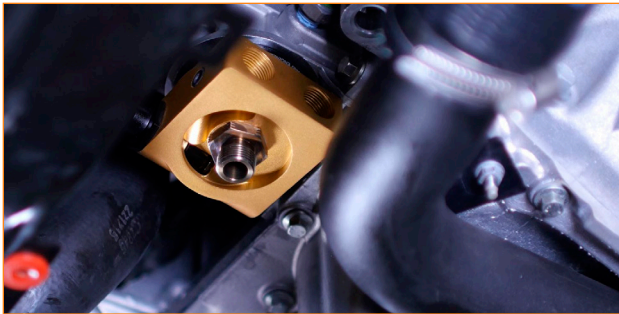
# 02

# 2016+ FOCUS RS OIL COOLER

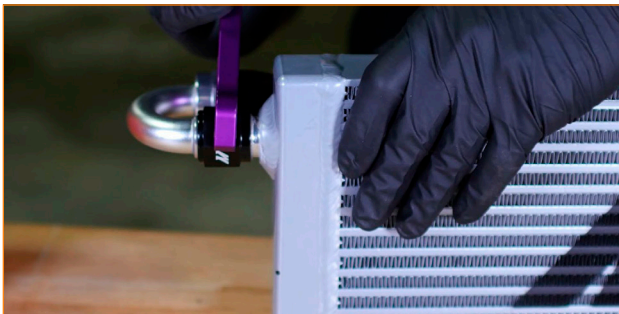
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- 16.** Assemble the Mishimoto sandwich plate. Lubricate the gaskets on the Mishimoto sandwich plate and spacer with fresh engine oil. Place the spacer on top of the sandwich plate, and then install the female end of the center-bolt adapter through the other side of the sandwich plate. The rubber gaskets on the spacer and sandwich plate should not be touching each other. Install the sandwich plate assembly to the oil filter pedestal as shown here, and secure it with the center-bolt adapter. Snug the center bolt, but do not fully tighten it yet. (1x 27mm center-bolt adapter)



- 17.** Install the included AN fittings to the sandwich plate, and tighten them completely. (2x AN fittings)
- 18.** Locate the oil line with the 180° fitting, and install it to the upper port on the oil cooler. Orient the fitting so that the oil line runs along the upper edge of the cooler, and tighten it completely.



- 19.** Install the other oil line to the lower port on the oil cooler, and tighten it completely.
- 20.** Locate the baffle plate in your kit. Note that the baffle plate is not symmetric. Insert the baffle into the diversion panel, as shown here.



- 21.** Attach the Mishimoto air diverter to the oil cooler with the included bolts. (2x 13mm bolts)
- 22.** Locate the four course-threaded screws included with your kit. There are two different sizes. The larger screws will secure the center of the air diverter, while the smaller screws will secure the outside edges. Install the screws by hand to cut threads in the radiator support. Make sure that the screws are driven in straight to avoid damaging the bores. Keep pressure on the top of the fin while you install the screws, as this piece is laminated to the support and can come loose if twisted too hard. Then remove the screws. (2x 11mm screws, 2x 13mm screws)



- 23.** Feed the oil lines behind the driver-side radiator support and around the radiator. Pass the lower oil line through first, followed by the upper line. Pull both lines through until the air diverter lines up with the center of the vehicle.



- 24.** Align the mounting brackets on the air diverter with the holes you just tapped, and secure it with the provided screws and washers. (2x 11mm screws, 2x 13mm screws, 4x flat washers)
- 25.** Slip the tabs on the ducts into the slots on the Mishimoto air diverter, and secure the ducts with the original screws. (2x T30 Torx screws)

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- 26.** Lead the oil cooler lines down through the engine bay, underneath the upper radiator hose connection. Identify the oil line that is attached to the upper, passenger-side fitting on the oil cooler, and install it to the rear fitting on the sandwich plate. Then tighten it completely. Install the other oil line to the fitting on the sandwich plate that is closest to the front of the vehicle, and tighten it completely.



- 27.** Adjust the orientation of the sandwich plate until the lines flow freely, and then torque the center-bolt adapter to 30 ft-lb.
- 28.** Lubricate the oil filter gasket with fresh engine oil, and install it to the vehicle.
- 29.** Top off the engine with one quart of Ford-approved engine oil. Start the vehicle and allow it to idle for a few seconds, then shut off the engine and check the oil level. Top it off as needed, and then start the engine. Allow the vehicle to warm up to operating temperature while you inspect all the connections for leaks. If oil begins to leak from any of the connections, shut off the engine. Loosen and retorque any leaking connections. Check the oil once more when you are done.
- 30.** Reinstall the front bumper. Slide the bumper over the nose of the vehicle, and slip the black tabs on the bumper into the clips on the radiator support. Tuck the fender liners back into place, and snap the upper corners of the bumper into the retaining clips on the fenders.
- 31.** Reinstall the hood release cable to the latch, and lead the cable through its retainers.
- 32.** Install the five Torx screws and two pop-clips that secure the top edge of the front bumper. (5x Torx screws, 2x pop-clips)
- 33.** Install the pop-clip that secures the driver side of the bumper to the fender, and secure the bottom of the fender liner with the two Torx screws and pop-clip. Repeat this process on the other side of the vehicle. (4x pop-clips, 4x T30 Torx screws)

- 34.** Install the seven screws that secure the lower edge of the front bumper. (7x T30 Torx screws)
- 35.** Reinstall the undertray. There are two tabs on the subframe that fit into slots on the undertray. Install the two pop-clips that secure the undertray to the stabilizer bar. (2x pop-clips)
- 36.** Install the eight Torx screws and two pop-clips that secure the undertray to the bottom of the vehicle. (8x T30 Torx screws, 2x pop-clips)
- 37.** Reconnect the wiring harness to the headlight assembly, and slip the headlight back into place. The tab on the headlight housing must engage the body for the headlight to seat properly. Then secure the headlight with the original screws. Repeat this process on the other side of the vehicle. (4x T30 Torx screws)

**Congrats! You just finished installing the 2016+ Focus RS Oil Cooler.**

