

# 2004–2006 PONTIAC GTO THERMOSTATIC OIL COOLER KIT PARTS LIST AND INSTALLATION GUIDE



## PARTS INCLUDED

- 3PC** | APPLICATION-SPECIFIC MOUNTING BRACKETS
  - 1PC** | 25-ROW OIL COOLER (SILVER OR BLACK)
  - 1PC** | MISHIMOTO INLINE OIL THERMOSTAT
  - 1PC** | MOUNTING BRACKET FOR INLINE OIL THERMOSTAT
  - 1PC** | MISHIMOTO LS1/LS2 OIL COOLER ADAPTER
  - 1PC** | 2'1" BRAIDED STAINLESS STEEL HOSE W/ 45° AND STRAIGHT -10AN FITTINGS
  - 1PC** | 2'2" BRAIDED STAINLESS STEEL HOSE W/ TWO 90° -10AN FITTINGS
  - 1PC** | 2'2.5" BRAIDED STAINLESS STEEL HOSE W/ 45° AND 120° -10AN FITTINGS
  - 1PC** | 3' BRAIDED STAINLESS STEEL HOSE W/ TWO 90° -10AN FITTINGS
  - 1PC** | M20 X -10AN BANJO FITTING W/ BOLT, BLACK
  - 1PC** | M20 X -10AN STRAIGHT FITTING, BLACK
- MOUNTING HARDWARE

## TOOLS NEEDED

PAINTERS TAPE	8MM SOCKET
PHILLIPS SCREWDRIVER	3/8" RATCHET
10MM WRENCH	POP-CLIP PLIERS
1" WRENCH	OIL DRAIN PAN
5MM ALLEN KEY/SOCKET	ENGINE OIL (RECOMMENDED)
13MM SOCKET	OIL FILTER (RECOMMENDED)
10MM SOCKET	

**INSTALL TIME** 2 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.

## CAUTION

Never work on the cooling system when it is hot. The coolant temperature in the radiator can be considerably higher than boiling, and the system may be under pressure. Opening a cooling system that is hot or under pressure can result in serious injury. Always wait until the system has cooled completely before servicing it in any way.

## NOTE

This installation requires removal of the engine oil filter. We recommend changing the engine oil and oil filter as part of this procedure, but it is not required.

## INSTALL PROCEDURE

- 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.** To protect the paint, apply painters tape to the fender where it meets the front bumper cover. Do this on both sides.



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03. From underneath the vehicle, reach up behind the bumper cover on the driver side and unplug the connector for the fog and signal lights. To release the connector, pull outward on the tab, then pull the connector apart.
04. Remove the four screws that secure the fender liners to the front bumper cover. There are two on each side. (4x Phillips screws)
05. Remove the three screws that secure the top of the bumper cover to the radiator support. (3x Phillips screws)
06. Release the outer edges of the bumper cover from the retaining clips by pulling outward from inside the wheel well. Do this on both sides.
07. Remove the front bumper cover by sliding it forward, off the nose of the vehicle.
08. Remove the foam bumper by gently lifting up the tabs at the inside corner of the headlights and sliding the foam bumper forward, off the crash beam.

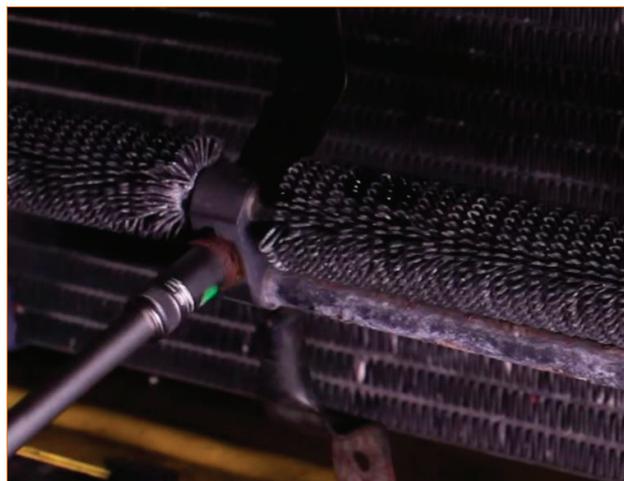


09. Disconnect the electrical harness from the horns. There is one horn on each side of the vehicle.

10. Remove the six nuts that secure the crash beam to the vehicle. Remove the horn assemblies. (6x 13mm nuts)



11. Remove the two pop-clips that secure the air diverter to the crash beam. (2x pop-clips)
12. Remove the crash beam from the vehicle by pulling it forward.
13. Remove the two bolts that secure the power steering cooler to the cooler support bracket. (2x 8mm bolts)



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14. Remove the two screws that secure the cooler support bracket on the passenger side to the radiator support. (2x Phillips screws)



15. Gently pull the power steering cooler forward, and remove the passenger-side cooler support bracket.
16. Remove the five pop-clips that secure the plastic radiator cover. (5x pop-clips)
17. Reach behind the middle of the radiator cover, and locate the clip that secures the cover. Pull up at this clip, which should remain attached to the cover. Remove the cover from the vehicle.



18. Remove the bolt that secures the inner corner of the passenger-side headlight. (1x 10mm bolt)

19. Remove the bolt that secures the inner corner of the driver-side headlight. Remove the bolt that secures the upper edge of the headlight to the radiator support. Remove the bolt that secures the bottom of the headlight, located behind the radiator support. (3x 10mm bolts)
20. Pull the headlight assembly forward; some force is required to separate the headlight from the body. Reach behind the headlight and separate the two wiring harness. Do this on both sides.
21. Place a drain pan under the oil filter and remove the filter.
22. Remove the two nuts that secure the cover to the side of the oil filter housing. Then remove the cover. (2x 10mm nuts)
23. Use a fresh rag to clean the mating surfaces of the oil filter housing.
24. Install the Mishimoto adapter plate where the housing cover was located. The flat side of the adapter mates to the oil filter housing. Secure the adapter plate with the two provided nuts; you cannot reuse the original hardware. **Note:** The adapter plate is constructed of aluminum, so do not overtighten the nuts. (2x 10mm nuts)



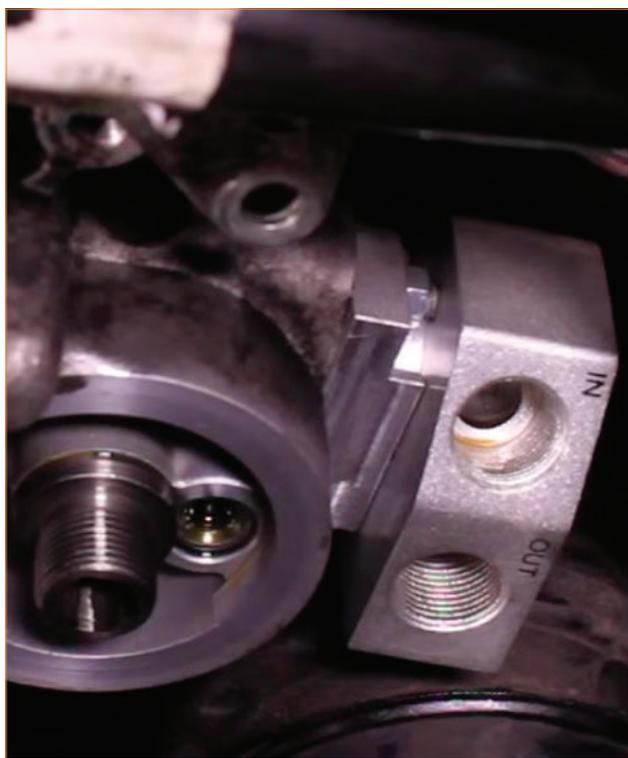
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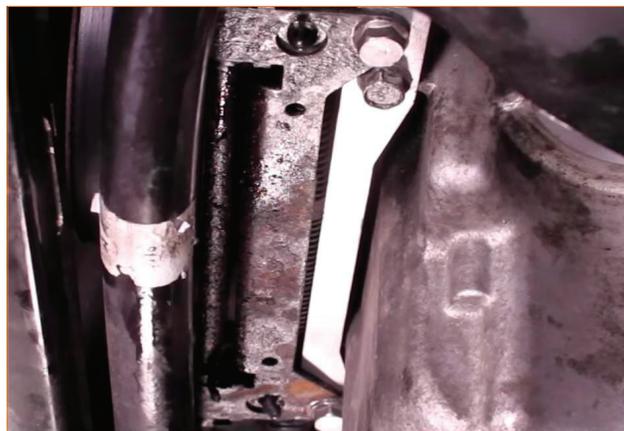
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25. Install the Mishimoto oil line manifold. Lubricate the O-rings with fresh motor oil, and insert the manifold into the adapter plate so that the O-rings mate with the oil filter housing. When properly installed, the threaded ports of the oil line manifold will face downward. Secure the oil line manifold using the two provided bolts. If you are having trouble getting the oil line manifold into the adapter plate, check the clearance between the oil line manifold and the nuts that secure the adapter plate. Adjust the nuts as needed. (2x 8mm bolts)



26. Remove the two bolts that secure the power steering line to the oil pan. (2x 13mm bolts)
27. Install the Mishimoto power steering line relocation bracket. Align the bracket with the original mounting holes, and secure it with the two original bolts. Then secure the power steering line to the bracket using the two provided bolts. (4x 13mm bolts)



28. Install the provided straight AN fitting to the port marked **OUT** on the oil line manifold, and tighten the fitting. (1x straight AN fitting)
29. Install the provided banjo fitting to the straight end of the braided oil line. Slip a tight-fitting socket into the banjo fitting to hold it while you tighten the oil line fitting with a 1" wrench. (1x banjo fitting)
30. Route the banjo end of the oil line between the lower radiator hose and the hose below it. Align the banjo fitting with the oil line manifold. Install a washer on the banjo bolt, slide it through the fitting, and install another washer on the bolt. Then thread the banjo bolt into the oil line manifold and tighten it. (1x banjo bolt, 2x banjo washers)



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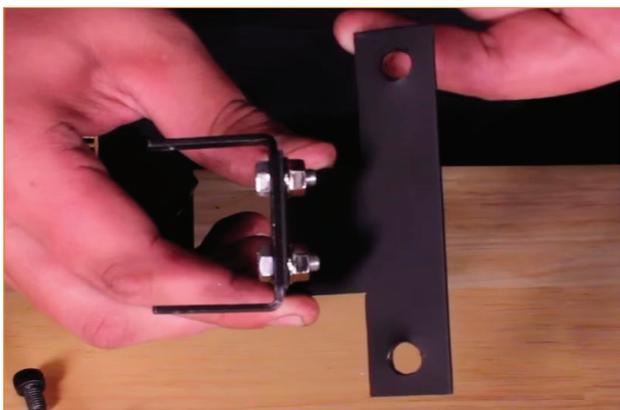
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31. Route the other oil line alongside the first line. Install the 120° end onto the straight fitting on the oil line manifold, and tighten the fitting. This line needs to be turned toward the center of the vehicle to provide clearance at the sway bar.



32. Mark the free end of the hose attached to the **OUT** port with painters tape to identify it later.
33. Prepare the inline oil thermostat. Remove the two bolts from the sides of the oil thermostat, and remove the U-shaped mounting bracket. Install the U-shaped bracket to the mounting bracket in your kit, and secure it with the two provided nuts and bolts. (2x 5mm Allen bolts, 2x 10mm nuts)
34. Install the oil thermostat housing to the mounting bracket. The ports marked **TO COOLER** and **FROM COOLER** must face the shorter leg of the mounting bracket. Secure the oil thermostat housing with the two Allen bolts. (2x 5mm Allen bolts)



35. Mark the port on the oil thermostat labeled **TO COOLER** with painters tape to identify it later. Install four straight AN fittings to the ports of the oil thermostat, and tighten them with a 1" wrench. (4x straight AN fittings)
36. Prepare the oil cooler. Orient the cooler so that the inlet and outlet ports are at the top. Mount the smallest cooler bracket on the upper left corner of the oil cooler so that the side with the bolt hole faces you. Secure the bracket to the cooler with the two provided nuts and bolts. (2x 10mm nuts, 2x 10mm bolts)
37. Mount the tallest bracket to the lower right corner of the oil cooler so that the bolt hole faces you. Secure the bracket to the cooler with the two provided nuts and bolts. (2x 10mm nuts, 2x 10mm bolts)
38. Mount the last bracket on the lower left corner of the cooler so that the bolt hole faces you. Secure the bracket to the cooler with the two provided nuts and bolts. (2x 10mm nuts, 2x 10mm bolts)



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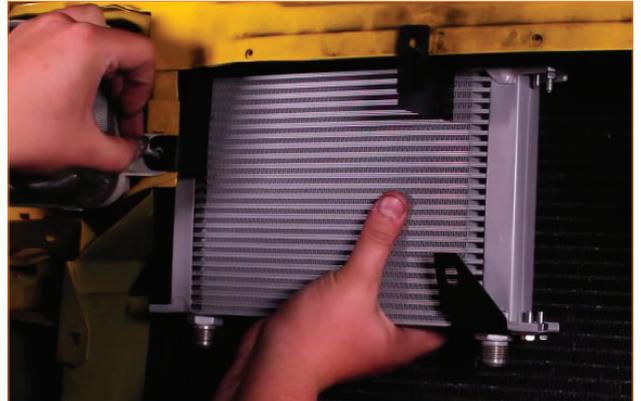
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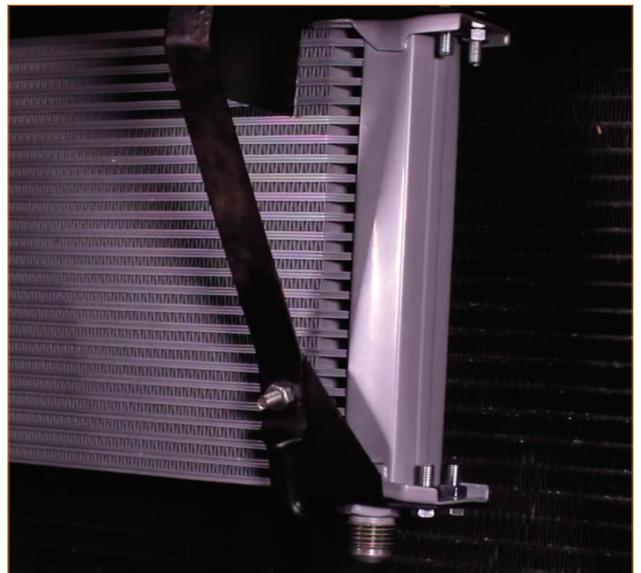
39. Install the anti-chaffing strips. Apply one strip to the sheet metal just above the inner mounting hole for the crash beam on the driver side. Apply the other strip to the sheet metal just in front of the driver-side wheel well. (2x anti-chaffing strips)



40. Install the oil cooler. Position the oil cooler so that the ports face downward. Align the hole in the left-side mounting bracket with the hole for the inner bolt on the passenger-side headlight. Thread in the original headlight bolt, but do not fully tighten. (1x 10mm bolt)



41. Gently pull back on the power steering cooler and move the cooler support bracket into position. Secure the top of the cooler support bracket and the upper right-side mounting bracket of the oil cooler with the original Phillips screw. (1x Phillips screw)
42. Secure the last oil cooler bracket to the cooler support bracket using the provided nut and bolt. (1x 10mm nut, 1x 10mm bolt)



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- 43. Fully tighten the bolt that secures the passenger-side headlight.
- 44. Secure the bottom of the cooler support bracket with the original Phillips screw. (1x Phillips screw)
- 45. Install the 90° end of the shorter oil cooler line to the oil cooler fitting closest to the center of the vehicle.
- 46. Install the 90° end of the longer oil cooler line to the oil cooler fitting farthest from the center of the vehicle.



- 47. Route both oil cooler lines along the front of the vehicle, behind the cooler support bracket and power steering cooler.
- 48. Secure the power steering cooler with the two original bolts. (2x 8mm bolts)
- 49. Lift the oil cooler lines upward and install the crash beam. The free ends of the oil cooler lines should run above the driver side of the crash beam.



- 50. Secure the inner edge of the crash beam with two of the original nuts. (2x 13mm nuts)
- 51. Install the passenger-side horn assembly, and secure the passenger side of the crash beam with the two original nuts. Then connect the electrical harness for the horn. (2x 13mm nuts)
- 52. Install the oil thermostat and bracket. The port that you marked with tape earlier should be facing downward. The horn will be relocated. Secure the crash beam and oil thermostat with the two original nuts. (2x 13mm nuts)



- 53. Remove the bolt for the outer bracket from the driver-side horn. Remove this bracket, as it will not be used. (1x 13mm bolt)
- 54. Relocate the driver-side horn to the outermost hole on the nose of the car, directly under the retaining clip where the bumper meets the fender. Secure the horn assembly with the bolt you just removed and the provided nut. Then connect the electrical harness for the horn. (1x 13mm bolt, 1x 13mm nut)



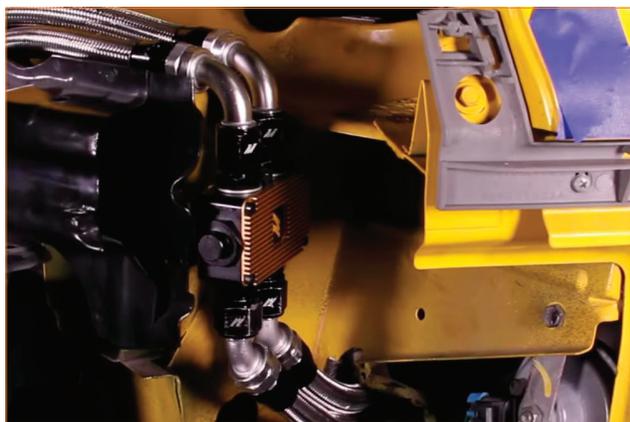
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- 55. Install the longer line from the oil cooler to the rear port on the top of the oil thermostat.
- 56. Install the shorter line from the oil cooler to the front port on the top of the thermostat.
- 57. Install the line from the oil line manifold port marked **IN** to the rear port on the bottom of the oil thermostat.
- 58. Install the line from the oil line manifold port marked **OUT** to the front port on the bottom of the oil thermostat. This should be the line and port you marked with painters tape earlier.



- 59. Make sure that the lines are routed over the anti-chaffing strips you installed earlier.
- 60. Connect the electrical harness for the driver-side headlight, and push the headlight into position. Secure the headlight with the three original bolts. (3x 10mm bolts)
- 61. Install the radiator cover. Align the clip at the rear of the cover with the mounting slot, and push it into place. Then secure the cover with the five original pop-clips. (5x pop-clips)
- 62. Lubricate the oil filter gasket with fresh oil, and install the oil filter.
- 63. Secure the air diverter to the crash beam using the two original pop-clips. (2x pop-clips)
- 64. Install the foam bumper by pushing it into place.

- 65. Install the front bumper cover. Slide the bumper cover into place. Tuck the fender liner inside the lip of the bumper cover. Working from the inner corner of the headlight toward the outside, snap the bumper cover into the retaining clips.
- 66. Secure the fender liner to the front bumper cover with the four original screws. There are two screws on each side. (4x Phillips screws)
- 67. Secure the top of the bumper cover to the radiator support with the three original screws. (3x Phillips screws)
- 68. Connect the wiring harness connector for the fog and marker lights.
- 69. Top off the engine oil and start the vehicle. Allow the vehicle to idle for a few seconds, then shut off the engine and check the oil level again. Top off the oil as required. Start the engine and allow the vehicle to warm up to operating temperature. While the vehicle is running, inspect all of your connections for leaks. Shut off the engine and check the oil level one more time.

**Congrats! You just finished installing the 2004–2006 Pontiac GTO Thermostatic Oil Cooler Kit.**

