2017 Ford GT

OVERVIEW

SERVICE PROCEDURE

- 1. Remove the rear diffuser. Refer to Workshop Manual (WSM), Section 501-19.
- 2. Remove the pin-type retainers and the left rear inner quarter panel splash shield. Refer to WSM, Section 501-08.
- 3. Remove the three far left retainers from the lower to upper rear bumper cover. (Figure 1)





NOTE: For any and all technical assistance call the Ford GT Concierge - Ford Dealer access – 1-844-236-3176.

4. Disconnect the four line fittings at the transmission coolers and drain the oil. (Figure 2)



NOTE: Be prepared to capture escaping fluid.

FIGURE 2

5. Disconnect the fan connector and the harness retainer. (Figure 3)



FIGURE 3



6. Remove the upper and lower cooler ducting braces. Cut the zip-tie securing the left rear oxygen sensor harness to the upper brace and position aside harness. (Figure 4)



FIGURE 4

7. Support the duct and cooler assembly. Remove the four bolts and then the cooler ducting from the vehicle. (Figure 5)



FIGURE 5



8. Remove the fan, brackets, and coolers from the ducting. Discard brackets, coolers and all retainers. (Figure 6)



NOTE: The cooler ducting and the cooling fan will be reused to complete the update.

FIGURE 6

9. Remove and discard all foam attached to the ducting. (Figure 7)





10. Remove and discard the gear oil and the clutch fluid labels on the outboard side of the ducting as shown. (Figure 8)



FIGURE 8

11. Enlarge the six clutch cooler mount holes shown in Figure 9a to 6 mm (15/64 in) and then add four more 6 mm (15/64 in) holes using the *new* fan mount shroud bracket shown. (Figure 9b)



FIGURE 9a

FIGURE 9b



- 12. Prepare the cooler ducting mounting tabs to accept the diameter of the new washer nuts. (Figure 10)
 - a. Lay ducting face side down, using a die grinder or suitable tool with a medium grit disc, sand down the back side of the ducting mounting tabs.

NOTE: Only remove enough material to allow the nut to set flush.



- 13. Attach fan to fan shroud and ducting. (Figure 11)
 - a. Mount fan to shroud using four M6x16 (HG7Z-0440-AF) fasteners. Apply Motorcraft® TA-25-B Threadlock and Sealer to the four fasteners.
 - b. Slit the rubber grommet (HG7Z-8124-A). Run fan wiring through rubber grommet and install in the lower outboard corner.
 - c. Mount shroud to ducting using four M6x14 (W500012) fasteners and four M6 (W701152) nuts.
 - Torque to 88 lb. in (10 Nm).



- 14. Attach foam strips to ducting and clutch cooler. (Figure 12)
 - Attach two 320 mm long foam strips to the ducting.
 - Attach two 350 mm long foam strips to the clutch cooler.



FIGURE 12

- 15. Install the clutch cooler to ducting using two short outer M6x14 (W500012) fasteners and washer nuts. (Figure 13)
 - Torque to 88 lb. in (10 Nm).



- 16. Replace all four (4) transmission cooling lines (2 clutch oil and 2 gear set oil) with the new lines supplied in the kit. This procedure may be easier with a second person. Refer to WSM, Section 307-02.
- NOTE: Do not install the transmission clutch fluid cooler tubes to the cooler at this time.
- NOTE: You may need to reposition the wire harness to gain clearance for removal.
- **NOTE**: Install the 3 Dual 10 mm Tube Clips (HG7Z-00817-AJ) and 1 Dual 17 mm Tube Clip (HG7Z-00817-BA) on to the new transmission cooler lines. (Figure 14)
- **NOTE:** Install the 9 mm washer (HG7Z-00810-F) onto the Fir Tree Wrap (HG7Z-00817-T), then install the Fir Tree Wrap onto the line onto the new transmission cooler lines before installing the lines into the vehicle. (Figure 14)



FIGURE 14





18. Position the fan on the gear set cooler. Apply blue Loctite® and install the four M5 fasteners. (Figure 16)







- 19. Install the gear set cooler and fan assembly. (Figure 17a)
 - 1. Install the gear set cooler onto the ducting using a short M6x14 (W500012) bolt and washer nut in the upper right mounting hole and a short M6x14 (W500012) bolt and washer nut into the lower center mounting tab.
 - 2. Install the upper gear set cooler brace by using one medium M6x20 (W500014) bolt in the cooler and one long M6x25 (W500015) bolt with a spacer on either side in the upper center mounting hole.
 - 3. Install the lower gear set cooler brace by using one medium M6x20 (W500014) bolt in the lower gear set cooler and one long M6x25 (W500015) bolt with a spacer on either side in the right lower mounting hole. Refer to Figure 17b for cooler brace spacer orientation.



• Torque to 88 lb. in (10 Nm).



FIGURE 18



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21. Disconnect the battery. Refer to WSM, Section 414-01.



22. Remove the right engine bay shroud. (Figure 19)

FIGURE 19

- 23. Remove the auxiliary junction box (AJB) positive battery cable. (Figure 20)
 - a. Remove the AJB positive battery cable cover.
 - b. Remove the AJB positive battery cable nut and then remove the cable.





24. Release the four AJB mounting tabs (two on each end) from the mounting bracket and position the AJB aside. (Figure 21)



FIGURE 21

25. Locate and remove the inline fuse near the AJB positive cable. Open the abrasion tape with a seam ripper, scissors or a razor blade to find both ends of the fuse holder. Once identified, cut the fuse holder out at both ends and remove and discard the fuse holder. (Figure 22)



FIGURE 22



26. Locate the wire harness near the AJB battery positive cable that contains the alternator sensor branch as shown. (Figure 23a) Open the abrasion tape and locate the three wire splice S77 as shown. (Figure 23b)



FIGURE 23a

FIGURE 23b

- 27. Confirm the splice S77 and identify the individual wires. (Figure 24)
 - 1. Remove the AJB cover and remove the transmission control module (TCM) fan relay.
 - 2. Identify the TCM fan relay middle pin terminal.
 - 3. Measure continuity from the TCM fan relay middle pin terminal to:
 - a. the S77, if continuity is confirmed cut off splice and separate the three wires.
 - b. each of the three S77 wires.
 - c. cut back the wire that still has continuity to the AJB to avoid confusion later. Position the other 2 wires aside at this time.







28. Remove the remaining fuses and relays from the middle section of the AJB. (Figure 25)

FIGURE 25

29. Using a pick tool remove the AJB middle section pin terminal locking bar as shown. (Figure 26)



FIGURE 26





30. Release the four tabs and remove the lower AJB cover. (Figure 27)

31. Position the AJB over to view the back side. Identify pins 2-8 and 2-13 and remove the jumper wire from the AJB. (Figure 28)





- 32. Remove the wire from pin 2-14 and cut it back. (Figure 29)
 - This is now a dead circuit from here to the S77 cut back in step 27.



33. Remove the wire from pin 2-17 and position out for access later. (Figure 30)



FIGURE 30



34. Install the rear junction box (RJB) mounting bracket. (Figure 31)

- a. Remove both inner bands from the two hose clamps provided and discard.
- b. Fasten but DO NOT tighten the two hose clamps on the right rear support beam as follows -One goes under the triangle structure on the right rear support beam and the other forward of the triangle structure as shown.
- c. Slide the bracket inside the two hose clamps as shown and tighten both clamps.



FIGURE 31

35. Slide the RJB onto the bracket. (Figure 32)





36. Install the spaded end of the new red 14 gauge jumper wire into pin 2-8 of the AJB. (Figure 33) Refer to Figure 28 for pin chart and correct terminal placement.



FIGURE 33

- 37. Route jumper wire along existing harness towards the red wire, where the outboard side of the in-line fuse was removed in step 25, and cut to length. Access the TCMPR wire as needed and cut back both wires insulation and position a shrink tube over the jumper wire. Splice/solder the jumper wire to the TCMPR WIRE. Position heat shrink tubing over the splice and heat up to seal. (Figure 34)
 - Tape length of wire to existing wiring harness.





- 38. Route the two purple wires from the new RJB (Marked "GRF1" and "ENGF1") along the existing wiring harness to be spliced taping them down to set the correct length. Splice these two wires to the two wires left from the S77 splice separated in step 27. Cut back all four purple wire ends insulation and position a shrink tube over the GFR1 and the ENG1 wires. Splice/solder the corresponding wires as indicated below. Position heat shrink tubing over the splices and heat up to seal. (Figure 35)
 - The wire labeled "GRF1" goes to the purple fan wire leading towards the driver side.
 - The wire labeled "ENGF1" goes to the fan wire leading towards the passenger side.



39. Route the TCMC1 wire from the new RJB to the AJB. Cut off the gray/orange wire terminal end that was removed from the AJB in step 33. Cut back both wires insulation and position a shrink tube over the new RJB TCMC1 wire. Splice/solder the two wires together. Position heat shrink tubing over the splice and heat up to seal. Tape the TCMC1 wire to the existing wiring harness. (Figure 36)



FIGURE 36



- 40. Position back the AJB and attach to the four mounting bracket tabs. (Figure 21)
- 41. Wrap up harnesses and any remaining exposed wires with abrasion tape. (Figure 37)



42. Align Install the AJB middle section pin terminal locking bar. (Figure 38)



FIGURE 38



43. Install all the fuses and relays, except for the TCM fan relay, into the middle section of the AJB. (Figure 39)



- 44. Install the battery positive eyelet and the 10 gauge red wire with eyelet from new RJB onto the AJB battery positive post and install retainer. (Figure 40)
 - Torque to 106 lb. in (12 Nm).



FIGURE 40



45. Route new wiring, labeled D684, to the new transmission clutch oil cooler fan. Follow routing of the existing wiring harness back toward the new transmission clutch oil cooler. Secure the new harness to the existing harness including wherever the existing harness is secured to the vehicle. (Figure 41)



FIGURE 41

- 46. Route and install the new transmission wiring harness ground eyelet to the existing engine cylinder block ground wire eyelet. (Figure 42)
 - a. Route new ground wire down between engine and transmission.
 - b. Remove the existing engine block ground bolt.
 - c. Position ground bolt through both ground wire eyelets and install and tighten ground bolt.
 - Torque to 93 lb. in (10.5 Nm).





- 47. Connect both transmission gear set and clutch oil cooler fan electrical connectors and secure to existing harness. (Figure 43)
 - Connect the transmission gear set cooler fan to the original existing wiring harness connector.
 - Connect the transmission clutch oil cooler fan to the new harness labled D684.



- 48. Install the RH engine bay shroud. (Figure 19)
- 49. Connect the battery. Refer to WSM, Section 414-01.
- 50. Check the clutch transmission fluid level and the gearset transmission fluid level and fill as necessary. Run the vehicle and check for fan operation and any signs of leaks.
 - **NOTE:** The gearset and clutch use different fluids. Be sure to use the correct fluid when filling the gearset or clutch.
 - Refer to: Transmission Fluid Level Check Clutch (307-01 Automatic Transmission 7 Speed Dual Clutch Transaxle, General Procedures).
 - Refer to: Transmission Fluid Level Check Gearset (307-01 Automatic Transmission 7 Speed Dual Clutch Transaxle, General Procedures).
- 51. Install the three far left retainers into the lower to upper rear bumper cover. (Figure 1)
- 52. Install the left rear inner quarter panel splash shield and pin-type retainers. Refer to WSM, Section 501-08.
- 53. Install the rear diffuser. Refer to WSM, Section 501-19.

