TECHNICAL SERVICE BULLETIN
3.5L EcoBoost High-Output - Excessive Oil Consumption With Or Without DTC P0365 And/Or P0369

20-2162
08 May 2020

Model:

Ford 2018-2020 F-150	Engine: 3.5L EcoBoost High-Output

Issue: Some 2018-2020 F-150 Raptor and 2019-2020 F-150 Limited vehicles equipped with a 3.5L EcoBoost High-Output engine may exhibit excessive oil consumption with no visible oil leaks with or without diagnostic trouble code (DTC) P0365 and/or P0369. To correct the condition, follow the Service Procedure steps to reprogram the powertrain control module (PCM), and for vehicles built on or before 1-Apr-2019 that have not previously had both valve covers replaced perform an oil consumption test.

Action: Follow the Service Procedure steps to correct the condition on vehicles that meet all of the following criteria:

- One of the following vehicles:
  - 2018-2020 F-150 Raptor
  - 2019-2020 F-150 Limited series
- 3.5L EcoBoost high-output engine
- Customer concern of excessive oil consumption

NOTE: Part quantity refers to the number of that service part number required, which may be different than the number of individual pieces. Service part numbers contain 1 piece unless otherwise stated. "As Needed" indicates the part is required but the number may vary or is not a whole number; parts can be billed out as non-whole numbers, including less than 1.

Parts

Part Number		Description	Quantity
HL3Z-9H486-A	Package Contains 6 Pieces, 6 Pieces Required	Intake Gaskets	1
HL3Z-6582-E	-	Left Valve Cover	1
HL3Z-6582-C	-	Right Valve Cover	1
HL3Z-9J323-C	-	High Pressure Fuel Pump To Fuel Rail Tube	1
W503280-S437	Package Contains 4 Pieces, 1 Piece Required	Fuel Tube Retaining Bolt	1
W503275-S437	Package Contains 4 Pieces, 1 Piece Required	Fuel Tube Retaining Bolt	1
W714498-S900	Package Contains 4 Pieces, 2 Pieces Required	High Pressure Pump Retaining Bolts	1
AA5Z-9E583-A	-	High Pressure Pump O-ring	1
HL3Z-9417-A	-	High Pressure Pump Plate Gasket	1

BL3Z-9374-A	Package Contains 1 Piece, 2 Pieces Required	High Pressure Pump Plate O-ring Gasket	2
AA5Z-6714-A	-	Oil Filter	1
XO-5W30-Q1SP	-	Motorcraft® SAE 5W-30 Premium Synthetic Blend Motor Oil (All Markets Except Canada)	As Needed
CXO-5W30-LSP6	-	Motorcraft® SAE 5W-30 Super Premium Motor Oil (Canada Only)	As Needed
ZC-31-B	-	Motorcraft® Metal Surface Prep Wipes	As Needed
ZC-30-A	-	Motorcraft® Silicone Gasket Remover	As Needed
TA-357	-	Motorcraft® High Performance Engine RTV Silicone	As Needed

Warranty Status: Eligible under provisions of New Vehicle Limited Warranty (NVLW)/Service Part Warranty (SPW)/Special Service Part (SSP)/Extended Service Plan (ESP) coverage. Limits/policies/prior approvals are not altered by a TSB. NVLW/SPW/SSP/ESP coverage limits are determined by the identified causal part and verified using the OASIS part coverage tool.

Labor Times

Description	Operation No.	Time
2019-2020 F-150 3.5L EcoBoost High-Output Engine: Visual Inspection For Oil Leaks, Reprogram The PCM And Change The Engine Oil And Filter (Do Not Use With Any Other Labor Operations)	202162A	0.8 Hrs.
2019-2020 F-150 3.5L EcoBoost High-Output Engine: Visual Inspection For Oil Leaks, Reprogram The PCM, Change The Engine Oil And Filter, And Mark The Oil Level Stick Following The Service Procedure Includes Time To Check And Record Engine Oil Level On Return Visits (Do Not Use With Any Labor Operations Outside Of This Article)	202162B	1.0 Hrs.
2019-2020 F-150 3.5L EcoBoost High-Output Engine: Replace Both Valve Covers (Can Be Claimed With Operation B)	202162C	4.2 Hrs.
2019-2020 F-150 SVT Raptor 3.5L EcoBoost High-Output Engine: Visual Inspection For Oil Leaks, Reprogram The PCM And Change The Engine Oil And Filter (Do Not Use With Any Other Labor Operations)	202162D	1.0 Hrs.
2019-2020 F-150 SVT Raptor 3.5L EcoBoost High-Output Engine: Visual Inspection For Oil Leaks, Reprogram The PCM, Change The Engine Oil And Filter, And Mark The Oil Level Stick Following The Service Procedure Includes Time To Check And Record Engine Oil Level On Return Visits (Do Not Use With Any Labor Operations Outside Of This Article)	202162E	1.1 Hrs.
2019-2020 F-150 SVT Raptor 3.5L EcoBoost High-Output Engine: Replace Both Valve Covers (Can Be Claimed With Operation E)	202162F	4.4 Hrs.

Repair/Claim Coding

Causal Part:	6006
Condition Code:	42

Service Procedure

1. Visually inspect for engine oil leaks. Are any visible leaks present?

(1). Yes - this article does not apply. Refer to the Workshop Manual (WSM), Section 303-01.

(2). No - proceed to Step 2.

2. Reprogram the PCM using the latest software level of the appropriate Ford scan tool.

3. Was the vehicle built on or after 2-Apr-2019 or have both valve covers previously been replaced?

(1). Yes - replace the engine oil and filter. Repair is complete.

(2). No - proceed to Step 4.

4. Drain the engine oil. Remove and replace the oil filter.

5. Fill the engine with 4.7L (5 quarts) which is 1L (1 quart) less than the specified fill level.

NOTE: Make sure the vehicle is positioned on a level surface.

6. Run the engine for 3 minutes if hot or 10 minutes if cold. Turn off the engine. Allow for a minimum 15 minute drain back period and record the oil level shown on the oil level indicator by placing a mark on the backside of the oil level indicator.

7. Add the final 1L (1 quart) to complete the normal oil fill. Restart the engine and allow it to idle for 2 minutes. Turn off the engine.

8. After a 15 minute drain back period, record the location of the oil level by placing a mark on the oil level indicator at the new oil level location.

NOTE: Do not use the factory oil level indicator markings for the oil consumption test. Use only the markings applied to the oil level indicator in Steps 6 and 8.

9. Explain to the customer the factory-calibrated marks on the oil level indicator are where the oil should fall after an oil change with the specified fill amount. Explain this may vary between MIN-MAX or the upper and lower holes on the oil level indicator.

10. Record the vehicle mileage.

11. Advise the customer that oil level indicator readings must be taken every 320 km (200 mi) or weekly, using the revised marks as drawn on the oil level indicator. Remind the customer the engine needs a minimum 15 minute drain back, the vehicle must be placed on a level surface for an accurate reading and the oil level indicator must be firmly seated in the tube prior to taking the reading.

12. When the subsequent indicator readings demonstrate 1 full liter (1 quart) has been used, record the vehicle mileage. Consider the drive cycle the vehicle has been operated under when making this calculation. It may be necessary to have the customer bring the vehicle in for a periodic oil level indicator reading to closely monitor oil usage.

(1). If the vehicle has traveled at least 4,800 km (3,000 mi) and oil consumption has not met or exceeded 1L (1 quart), the vehicle is operating normally and no repairs should be performed.

NOTE: Use only the marks applied to the oil level indicator during Steps 6 and 8 for oil consumption measurements. This is a more precise measurement that eliminates any variability in the markings on the factory oil level indicator.

13. Measure the distance between the mark made in Step 8 and the current oil level on the oil level indicator. Record this measurement in millimeters, the current vehicle mileage obtained in Step 12, and the beginning mileage recorded in Step 10 on the repair order.

14. Does the oil consumption measured exceed 1L (1 quart) in 4,800 km (3,000 mi) or less?

(1). Yes - replace both valve covers. Refer to WSM, Section 303-01.

(2). No - vehicle is operating normally, no further repairs are necessary. Repair is complete.

not assume that a condition described affects your car or truck. Contact a Ford or Lincoln dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article. The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supersede this information with updates. The most recent information is available through Ford Motor Company's on-line technical resources.