



TECHNICAL SERVICE BULLETIN

3.5L PowerBoost - Reduced Engine Power, Illuminated MIL With DTCs P0299, P0301, P0302 And/Or P0303 - Built On Or Before 30-Sep-2021

22-2017

 27 January
2022

Model:

Ford 2021 F-150	Engine: 3.5L PowerBoost Built on or before 30-Sep-2021
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Issue: Some 2021 F-150 vehicles equipped with 3.5L PowerBoost engine and built on or before 30-Sep-2021 may experience a reduced engine power condition with or without blue smoke with an illuminated malfunction indicator lamp (MIL) and diagnostic trouble codes (DTC) P0299, P0301, P0302 and/or P0303 stored in the powertrain control module (PCM). The vehicle may also exhibit a right turbocharger turbine shaft broken or binding impeller and/or an oil leakage from the compressor wheel. This may be due to a restriction in the right air cleaner outlet pipe. To correct the condition, follow the Service Procedure steps to replace the right air cleaner outlet pipe.

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

- 2021 F-150
- Built on or before 30-Sep-2021
- 3.5L PowerBoost
- Illuminated MIL with DTCs P0299, P0301, P0302 and/or P0303 stored in the PCM
- Reduced engine power

Parts

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
ML3Z-9R530-E	1	Right Air Cleaner Outlet Pipe		
ML3Z-6K682-B	1	Right Turbocharger		
ML3Z-9T515-A	1	Right Oil Return Tube Kit		
ML3Z-9G440-A	1	Right Oil Supply Tube Kit		
ML3Z-6L625-A	1	Oil Filter Assembly		
W720722-S900	1	Turbocharger Bolt Retainer	4	3
ML3Z-9450-A	1	Turbocharger Gasket		
FT4Z-6N652-H	4	Turbocharger Coolant Supply Seal-O-Ring	1	4

Quantity refers to the amount of the service part number required to repair the vehicle.

Unit of Issue refers to the number of individual pieces included in a service part number package.

Piece Quantity refers to the total number of individual pieces required to repair the vehicle.

Unit of Issue and Piece Quantity are 1 unless otherwise stated.

Parts
Parts To Inspect And Replace Only If Necessary

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
HL3Z-6N652-A	If Needed	Turbocharger Coolant Supply Rubber Gasket	1	Up To 2

If Needed indicates the part is not mandatory.

Warranty Status: Eligible under provisions of New Vehicle Limited Warranty (NVLW)/Emissions Warranty/Service Part Warranty (SPW)/Special Service Part (SSP)/Extended Service Plan (ESP) coverage. Limits/policies/prior

approvals are not altered by a TSB. NVLW/Emissions Warranty/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
2021 F-150 3.5L PowerBoost: Retrieve DTCs, Inspect The Right Air Cleaner Outlet Pipe (Fail) And Right Turbo Charger (Pass) Replace The Right Air Cleaner Outlet Pipe (Do Not Use With Any Other Labor Operations)	222017A	0.8 Hrs.
2021 F-150 3.5L PowerBoost: Retrieve DTCs, Inspect The Right Air Cleaner Outlet Pipe (Fail) And Right Turbo Charger (Fail) Replace The Right Air Cleaner Outlet Pipe And Right Turbocharger (Do Not Use With Any Other Labor Operations)	222017B	5.0 Hrs.

Repair/Claim Coding

Causal Part:	9R530
Condition Code:	d4

Service Procedure

1. Inspect the right air cleaner outlet pipe (Figures 1-2) for a seam line in the section where the duct begins to route downwards towards the turbocharger (Figure 3). Does the right air cleaner outlet pipe exhibit a seam line?

Figure 1

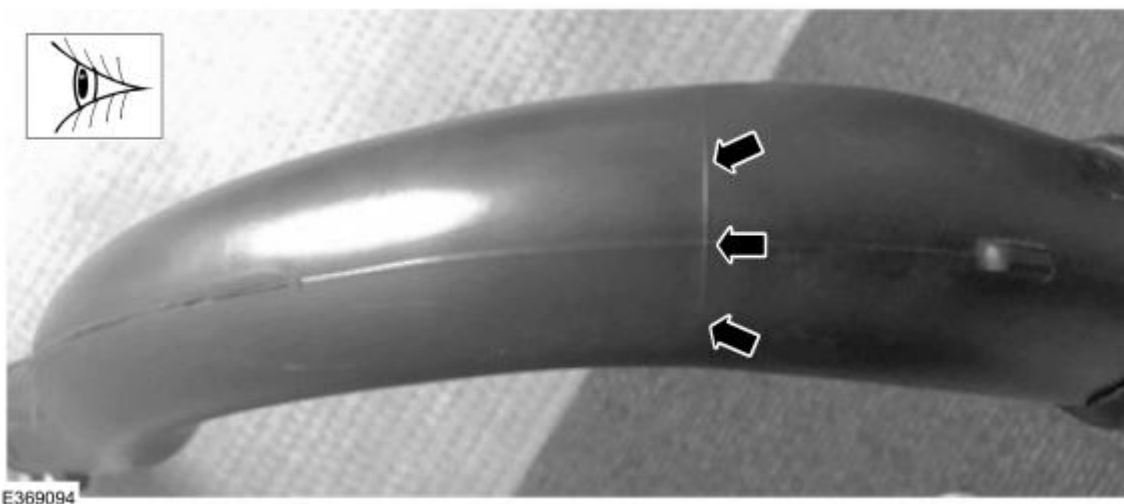


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Figure 2



Figure 3



- (1). Yes - remove the right air cleaner outlet pipe. Refer to Workshop Manual (WSM), Section 303-12D > Intake Air Distribution and Filtering > Removal and Installation. Proceed to Step 2.
 - (2). No - this article does not apply. Refer to WSM, Section 303-04I.
2. Inspect the right turbocharger for damage and/or oil leaking from the compressor wheel. Refer to the WSM, Section 303-04I > pinpoint test Step C6. Does the turbocharger exhibit damage in the turbine shaft or in the

compressor wheel and/or excessive oil leakage?

- (1). Yes - replace the right turbocharger and the right air cleaner outlet pipe. Refer to the WSM, Section 303-04I Fuel Charging and Controls > Turbocharger > Removal and Installation.
- (2). No - replace the right air cleaner outlet pipe. Refer to the WSM, Section 303-12D Intake Air Distribution and Filtering > Removal and Installation.

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NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do 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.