



TECHNICAL SERVICE BULLETIN

Upper Engine Ticking/Tapping Noise At Idle

25-2572

25 November
2025

This bulletin supersedes 25-2322. Reason for update: update the Service Procedure, Labor Operations and Parts List.

Model:

| | |
|---|--|
| Ford 2021-2025 E-Series | Engine: 7.3L |
| 2021-2025 F-650/F-750 | Engine: 7.3L |
| 2020-2025 F-53 Motorhome/F-59 Commercial Stripped Chassis | Engine: 7.3L |
| 2020-2025 F-Super Duty | Engine: 6.8L (2023-2025) Engine: 7.3L |

Issue: Some of the vehicles listed in the Model statement above may exhibit an upper engine ticking or tapping noise at idle. Customers may also report experiencing rough engine performance, engine misfire, or a MIL with DTCs P0301-P0308 in the PCM. This may be due to camshaft and/or valve tappet having excess wear within the engine assembly.

Action: For vehicles that meet all of the criteria in the Issue and Model statements, follow the Service Procedure to diagnose the vehicle.

Parts

| Service Part Number | Claim Quantity | Package Order Quantity | Description |
|---------------------|----------------|------------------------|---|
| VC-13-G | As Needed | As Needed | Motorcraft® Yellow Concentrated Antifreeze/Coolant (All Markets Except Canada) |
| CVC-13-G | As Needed | As Needed | Motorcraft® Yellow Concentrated Antifreeze/Coolant (Canada Only) |
| XO-5W30-Q1FS | As Needed | As Needed | Motorcraft® Synthetic Blend Motor Oil |
| PM-4-A | As Needed | As Needed | Motorcraft® Brake Parts Cleaner - Volatile Organic Compound (VOC) Compliant (All Markets Except Canada) |
| PM-4-B | As Needed | As Needed | Motorcraft® Metal Brake Parts Cleaner (Not Compliant With Low Volatile Organic Compound Requirements) (All Markets Except Canada) |
| CPM-4-A | As Needed | As Needed | Motorcraft® Brake Parts Cleaner - Volatile Organic Compound (VOC) Compliant (Canada Only) |
| XL-5-A | As Needed | As Needed | Motorcraft® Multi-Purpose Grease Spray |
| TA-357 | As Needed | As Needed | Motorcraft® High Performance Engine RTV Silicone |
| ZC-30-A | As Needed | As Needed | Motorcraft® Silicone Gasket Remover |
| ZC-20 | As Needed | As Needed | Motorcraft® Engine Shampoo and Degreaser |
| ZC-31-B | As Needed | As Needed | Motorcraft® Metal Surface Prep Wipes |
| XL-22 | As Needed | As Needed | Motorcraft® High Temperature Power Steering Fluid |
| XT-12-QULV | As Needed | As Needed | Motorcraft® MERCON® ULV Automatic Transmission Fluid |
| XT-10-QLVC | As Needed | As Needed | Motorcraft® MERCON® LV Automatic Transmission Fluid |
| YN-12-D | As Needed | As Needed | Motorcraft® PAG Refrigerant Compressor Oil |

Parts - F-Super Duty Pickup And Chassis Cab - Camshaft And Tappet Repair

| Service Part Number | Claim Quantity | Package Order Quantity | Number in Package | Description |
|---------------------|----------------|------------------------|-------------------|--|
| LC3Z-6250-D | 1 | 1 | 1 | Camshaft/Tappet Service Kit |
| W715106-S439 | 2 | 1 | 4 | Engine Mount Through Bolt |
| W709771-S440 | 2 | 2 | 1 | Transmission Mount Nut |
| DS7Z-19B596-A | 1 | 1 | 1 | Air Conditioning (A/C) Condenser Line O-Ring |
| W715131-S442 | 1 | 1 | 1 | Transmission Cooler Bolt (10R Transmission Application Only) |
| W714717-S439 | 2 | 1 | 4 | Y Pipe To Muffler Bolt (Pickup Only) |
| W719575-S900 | 2 | 1 | 2 | Y Pipe To Muffler Bolt (Chassis Cab Only) |
| W706447-S437 | 3 | 1 | 4 | Power Steering Pump Bolt (2020-2022 Only) |
| W715068-S437 | 3 | 1 | 4 | Power Steering Pump Bolt (2023-2025 Only) |
| W714286-S442 | 1 | 1 | 4 | Exhaust Hanger Bolt (2023-2025 Only) |
| F1AZ-6731-BD | 1 | 1 | 1 | Engine Oil Filter |
| LC3Z-8C387-A | 1 | 1 | 1 | Front Timing Cover Gasket |
| W716090-S437 | 4 | 1 | 4 | Exhaust Manifold Heat Shield |
| F1VY-8255-A | 1 | 1 | 1 | Thermostat Housing O-Ring Gasket |

Parts - F-Super Duty Pickup And Chassis Cab - Engine Replacement

| Service Part Number | Claim Quantity | Package Order Quantity | Number in Package | Description |
|---------------------|----------------|------------------------|-------------------|---|
| 6006 | 1 | 1 | 1 | Engine Long Block - Refer To The Parts Catalog For The VIN Specific Application |
| LC3Z-6006-L | 1 | 1 | 1 | Engine Installation Service Kit |
| AL3Z-6379-BA | 8 | 1 | 8 | Transmission Flex Plate Bolt |
| W715106-S439 | 2 | 1 | 4 | Engine Mount Through Bolt |
| W709771-S440 | 2 | 2 | 1 | Transmission Mount Nut |
| DS7Z-19B596-A | 1 | 1 | 1 | Air Conditioning (A/C) Condenser Line O-Ring |
| W712861-S439 | 8 | 2 | 4 | Engine Support Insulator Bracket Bolt |
| W711336-S441 | 6 | 2 | 4 | Engine Mount To Chassis Nut |
| W714717-S439 | 2 | 1 | 4 | Y Pipe To Muffler Bolt (Pickup Only) |
| W719575-S900 | 2 | 1 | 2 | Y Pipe To Muffler Bolt (Chassis Cab Only) |
| W706447-S437 | 3 | 1 | 4 | Power Steering Pump Bolt (2020-2022 Only) |
| W715068-S437 | 3 | 1 | 4 | Power Steering Pump Bolt (2023-2025 Only) |
| W714286-S442 | 1 | 1 | 4 | Exhaust Hanger Bolt (2023-2025 Only) |
| LC3Z-12A227-A | 1 | 1 | 1 | Crankshaft Sensor Ring |
| W716090-S437 | 4 | 1 | 4 | Exhaust Manifold Heat Shield Bolts |

Parts - E-Series - Camshaft And Tappet Repair

| Service Part Number | Claim Quantity | Package Order Quantity | Number in Package | Description |
|---------------------|----------------|------------------------|-------------------|-----------------------------|
| LC3Z-6250-D | 1 | 1 | 1 | Camshaft/Tappet Service Kit |

| | | | | |
|---------------|---|---|---|---|
| 9W7Z-19B596-A | 2 | 2 | 1 | Air Conditioning (A/C) Condenser O-Ring |
| 391308-S102 | 1 | 1 | 4 | Transmission Dipstick Tube O-Ring |
| W715068-S437 | 3 | 1 | 4 | Power Steering Pump Bolt |
| F1AZ-6731-BD | 1 | 1 | 1 | Engine Oil Filter |
| LC3Z-8C387-A | 1 | 1 | 1 | Front Timing Cover Gasket |
| W716090-S437 | 4 | 1 | 4 | Exhaust Manifold Heat Shield |
| F1VY-8255-A | 1 | 1 | 1 | Thermostat Housing O-Ring Gasket |

Parts - E-Series - Engine Replacement

| Service Part Number | Claim Quantity | Package Order Quantity | Number in Package | Description |
|---------------------|----------------|------------------------|-------------------|---|
| 6006 | 1 | 1 | 1 | Engine Long Block - Refer To The Parts Catalog For The VIN Specific Application |
| LC3Z-6006-L | 1 | 1 | 1 | Engine Installation Service Kit |
| AL3Z-6379-BA | 8 | 1 | 8 | Transmission Flex Plate Bolt |
| W715068-S437 | 3 | 1 | 4 | Power Steering Pump Bolt (2023-2025 Only) |
| 9W7Z-19B596-A | 2 | 2 | 1 | Air Conditioning (A/C) Condenser O-Ring |
| 391308-S102 | 1 | 1 | 4 | Transmission Dipstick O-Ring |
| W520114-S440 | 4 | 4 | 1 | Engine Mount Nut |
| N807479-S102 | 2 | 2 | 1 | Transmission Support Mount Nut |
| BC2Z-3F887-A | 1 | 1 | 1 | Power Steering O-Ring |
| N807218-S441 | 8 | 8 | 1 | Engine Mount Bolt |
| W714735-S439 | 8 | 2 | 4 | Engine Mount Bolt |
| LC3Z-12A227-A | 1 | 1 | 1 | Crankshaft Sensor Ring |
| W716090-S437 | 4 | 1 | 4 | Exhaust Manifold Heat Shield Bolts |

Parts - F-650/F-750 - Camshaft And Tappet Repair

| Service Part Number | Claim Quantity | Package Order Quantity | Number in Package | Description |
|---------------------|----------------|------------------------|-------------------|--|
| LC3Z-6250-D | 1 | 1 | 1 | Camshaft/Tappet Service Kit |
| W715106-S439 | 2 | 1 | 4 | Engine Mount Through Bolt |
| W709771-S440 | 2 | 2 | 1 | Transmission Mount Nut |
| 9W7Z-19B596-A | 2 | 2 | 1 | Air Conditioning Condenser Line O-Ring |
| 391308-S102 | 1 | 1 | 4 | Transmission Dipstick O-Ring |
| W716090-S437 | 4 | 1 | 4 | Exhaust Manifold Heat Shield |
| F1VY-8255-A | 1 | 1 | 1 | Thermostat Housing O-Ring Gasket |
| F1AZ-6731-BD | 1 | 1 | 1 | Engine Oil Filter |
| LC3Z-8C387-A | 1 | 1 | 1 | Front Cover Gasket |

Parts - F-650/F-750 - Engine Replacement

| Service Part Number | Claim Quantity | Package Order Quantity | Number in Package | Description |
|---------------------|----------------|------------------------|-------------------|-------------|
|---------------------|----------------|------------------------|-------------------|-------------|

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|---------------|---|---|---|---|
| 6006 | 1 | 1 | 1 | Engine Long Block - Refer To The Parts Catalog For The VIN Specific Application |
| LC3Z-6006-L | 1 | 1 | 1 | Engine Installation Service Kit |
| AL3Z-6379-BA | 8 | 1 | 8 | Transmission Flex Plate Bolt |
| 9W7Z-19B596-A | 2 | 2 | 1 | Air Conditioning (A/C) Condenser O-Ring |
| 391308-S102 | 1 | 1 | 4 | Transmission Dipstick O-Ring |
| LC3Z-12A227-A | 1 | 1 | 1 | Crankshaft Sensor Ring |
| W716090-S437 | 4 | 1 | 4 | Exhaust Manifold Heat Shield Bolts |
| W715106-S439 | 2 | 1 | 4 | Engine Mount Through Bolt |
| W712861-S439 | 8 | 2 | 4 | Engine Support Insulator Bracket Bolt |
| W709771-S440 | 2 | 2 | 1 | Transmission Mount Nut |

Parts - F-53 Motorhome/F-59 Stripped Chassis Cab - Camshaft And Tappet Repair

| Service Part Number | Claim Quantity | Package Order Quantity | Number in Package | Description |
|---------------------|----------------|------------------------|-------------------|--|
| LC3Z-6250-D | 1 | 1 | 1 | Camshaft/Tappet Service Kit |
| W715106-S439 | 2 | 1 | 4 | Engine Mount Through Bolt |
| W709771-S440 | 2 | 2 | 1 | Transmission Mount Nut |
| 1W1Z-19E889-BB | 1 | 1 | 1 | Air Conditioning Condenser Line O-Ring |
| F1AZ-6731-BD | 1 | 1 | 1 | Engine Oil Filter |
| LC3Z-8C387-A | 1 | 1 | 1 | Front Timing Cover Gasket |
| W716090-S437 | 4 | 1 | 4 | Exhaust Manifold Heat Shield Bolts |
| F1VY-8255-A | 1 | 1 | 1 | Thermostat Housing O-Ring Gasket |

Parts - F-53 Motorhome/F-59 Stripped Chassis Cab - Engine Replacement

| Service Part Number | Claim Quantity | Package Order Quantity | Number in Package | Description |
|---------------------|----------------|------------------------|-------------------|---|
| 6006 | 1 | 1 | 1 | Engine Long Block - Refer To The Parts Catalog For The VIN Specific Application |
| LC3Z-6006-L | 1 | 1 | 1 | Engine Installation Service Kit |
| AL3Z-6379-BA | 8 | 1 | 8 | Transmission Flex Plate Bolt |
| W715106-S439 | 2 | 1 | 4 | Engine Mount Through Bolt |
| W709771-S440 | 2 | 2 | 1 | Transmission Mount Nut |
| W712861-S439 | 8 | 2 | 4 | Engine Support Insulator Bracket Bolt |
| W711336-S441 | 6 | 2 | 4 | Engine Mount To Chassis Nut |
| 1W1Z-19E889-BB | 1 | 1 | 1 | Air Conditioning Condenser Line O-Ring |
| LC3Z-12A227-A | 1 | 1 | 1 | Crankshaft Sensor Ring |
| W716090-S437 | 4 | 1 | 4 | Exhaust Manifold Heat Shield Bolts |

Parts - Parts To Inspect And Replace Only If Necessary

| Service Part Number | Claim Quantity | Package Order Quantity | Number in Package | Description |
|---------------------|----------------|------------------------|-------------------|-------------|
| | | | | |

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|--------------|-----------------------------|-----------------------------|---|--------------------------------|
| LC3Z-8507-A | Only If Necessary (Up To 1) | Only If Necessary (Up To 1) | 1 | Water Pump Gasket |
| PC3Z-8507-A | Only If Necessary (Up To 1) | Only If Necessary (Up To 1) | 1 | Water Pump Gasket |
| F2AZ-6397-A | Only If Necessary | Only If Necessary | 2 | Engine Dowel Pin |
| 5L7Z-7D285-A | Only If Necessary | Only If Necessary | 2 | Transmission Cooler Seals |
| 5L7Z-7J324-A | Only If Necessary | Only If Necessary | 2 | Transmission Cooler Line Seals |
| LC3Z-12286-D | Only If Necessary | Only If Necessary | 1 | Ignition Spark Plug Wire |
| W717468-S439 | Only If Necessary | Only If Necessary | 4 | Bumper/Grill Stud Fastener |

Service part numbers and "number in package" quantity may change after publication, thus also affecting the "package order quantity". Refer to the parts catalog for the latest information.

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

Package Order Quantity refers to the amount of the service part number package(s) required to repair the vehicle.

Number In Package refers to the number of individual pieces included in a service part number package.

As Needed indicates the part is necessary but amount of the part may vary and/or is not a whole number. Parts can be billed out as non-whole numbers, including less than 1.

Only If Necessary indicates the part is not mandatory. Refer to the Service Procedure to determine the inspection/inclusion criteria.

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 |
|---|---------------|-----------|
| 2021-2025 E-Series 7.3L: Retrieve DTCs, Perform Cylinder Balance, Swap Plug, Wire and Coil (Fail) Complete Repair Outside Of This Article | 252572A | 0.7 Hrs. |
| 2021-2025 E-Series 7.3L: Retrieve DTCs, Perform Cylinder Balance, Swap Plug, Wire and Coil (Pass) Using Scan Tool Cancel Cylinders, Remove And Inspect Oil Filter (Pass) Remove Cylinder Heads And Inspect Camshaft And Tappets And Engine Block Cylinder Walls (Pass) Re-assemble Vehicle (Do Not Use With Any Other Labor Operations) | 252572B | 10.4 Hrs. |
| 2021-2025 E-Series 7.3L: Retrieve DTCs, Perform Cylinder Balance, Swap Plug, Wire and Coil (Pass) Using Scan Tool Cancel Cylinders, Remove And Inspect Oil Filter (Fail) Replace Engine Long Block (Do Not Use With Any Other Labor Operations) | 252572C | 18.0 Hrs. |
| 2021-2025 E-Series 7.3L: Retrieve DTCs, Perform Cylinder Balance, Swap Plug, Wire and Coil (Pass) Using Scan Tool Cancel Cylinders, Remove And Inspect Oil Filter (Pass) Remove Cylinder Heads And Inspect Camshaft And Tappets And Engine Block Cylinder Walls Replace Camshaft And all Valve Tappets (Do Not Use With Any Other Labor Operations) | 252572D | 18.5 Hrs. |
| 2021-2025 E-Series 7.3L: Retrieve DTCs, Perform Cylinder Balance, Swap Plug, Wire and Coil (Pass) Using Scan Tool Cancel Cylinders, Remove And Inspect Oil Filter (Pass) Remove Cylinder Heads And Inspect Camshaft And Tappets And Engine Block Cylinder Walls Replace Engine Long Block (Do Not Use With Any Other Labor Operations) | 252572E | 20.9 Hrs. |
| 2020-2025 F-Super Duty: Retrieve DTCs, Perform Cylinder Balance, Swap Plug, Wire and Coil (Fail) Complete Repair Outside Of This Article | 252572F | 0.6 Hrs. |
| 2020-2025 F-Super Duty: Retrieve DTCs, Perform Cylinder Balance, Swap Plug, Wire and Coil (Pass) Using Scan Tool Cancel Cylinders, Remove And Inspect Oil Filter (Pass) Remove Cylinder Heads And Inspect Camshaft And Tappets And Engine Block Cylinder Walls (Pass) Re-assemble Vehicle (Do Not Use With Any Other Labor Operations) | 252572G | 9.6 Hrs. |

| | | |
|---|-----------|-----------------------------|
| 2020-2025 F-Super Duty: Retrieve DTCs, Perform Cylinder Balance, Swap Plug, Wire and Coil (Pass) Using Scan Tool Cancel Cylinders, Remove And Inspect Oil Filter (Fail) Replace Engine Long Block (Do Not Use With Any Other Labor Operations Outside Of This Article) | 252572H | 16.6 Hrs. |
| 2020-2025 F-Super Duty: Retrieve DTCs, Perform Cylinder Balance, Swap Plug, Wire and Coil (Pass) Using Scan Tool Cancel Cylinders, Remove And Inspect Oil Filter (Pass) Remove Cylinder Heads And Inspect Camshaft And Tappets And Engine Block Cylinder Walls Replace Camshaft And all Valve Tappets (Do Not Use With Any Other Labor Operations Outside Of This Article) | 252572J | 20.9 Hrs. |
| 2020-2025 F-Super Duty: Retrieve DTCs, Perform Cylinder Balance, Swap Plug, Wire and Coil (Pass) Using Scan Tool Cancel Cylinders, Remove And Inspect Oil Filter (Pass) Remove Cylinder Heads And Inspect Camshaft And Tappets And Engine Block Cylinder Walls Replace Engine Long Block (Do Not Use With Any Other Labor Operations Outside Of This Article) | 252572K | 19.4 Hrs. |
| 2020-2025 F-Super Duty: Additional Time To Perform 360 Degree Camera Alignment If Equipped (Can Be Claimed With Operations F, G And H) | 252572L | 0.5 Hrs. |
| 2020-2025 F-53 Motorhome Chassis / F-59 Commercial Stripped Chassis: Retrieve DTCs, Perform Cylinder Balance, Swap Plug, Wire and Coil (Fail) Complete Repair Outside Of This Article | MT252572M | Actual Time Up To 0.7 Hrs. |
| 2020-2025 F-53 Motorhome Chassis / F-59 Commercial Stripped Chassis: Retrieve DTCs, Perform Cylinder Balance, Swap Plug, Wire and Coil (Pass) Using Scan Tool Cancel Cylinders, Remove And Inspect Oil Filter (Pass) Remove Cylinder Heads And Inspect Camshaft And Tappets And Engine Block Cylinder Walls (Pass) Re-assemble Vehicle (Do Not Use With Any Other Labor Operations) | MT252572N | Actual Time Up To 10.7 Hrs. |
| 2020-2025 F-53 Motorhome Chassis / F-59 Commercial Stripped Chassis: Retrieve DTCs, Perform Cylinder Balance, Swap Plug, Wire and Coil (Pass) Using Scan Tool Cancel Cylinders, Remove And Inspect Oil Filter (Fail) Replace Engine Long Block | MT252572P | Actual Time Up To 17.6 Hrs. |
| 2020-2025 F-53 Motorhome Chassis / F-59 Commercial Stripped Chassis: Retrieve DTCs, Perform Cylinder Balance, Swap Plug, Wire and Coil (Pass) Using Scan Tool Cancel Cylinders, Remove And Inspect Oil Filter (Pass) Remove Cylinder Heads And Inspect Camshaft And Tappets And Engine Block Cylinder Walls Replace Camshaft And all Valve Tappets | MT252572Q | Actual Time Up To 22.2 Hrs. |
| 2020-2025 F-53 Motorhome Chassis / F-59 Commercial Stripped Chassis: Retrieve DTCs, Perform Cylinder Balance, Swap Plug, Wire and Coil (Pass) Using Scan Tool Cancel Cylinders, Remove And Inspect Oil Filter (Pass) Remove Cylinder Heads And Inspect Camshaft And Tappets And Engine Block Cylinder Walls Replace Engine Long Block | MT252572R | Actual Time Up To 20.4 Hrs. |
| 2021-2025 F650/F-750 - Retrieve DTCs, Inspect Ignition Coil Wires And Spark Plugs For Damage (Fail) Complete Repair Outside Of This Article | MT252572S | Actual Time Up To 0.7 Hrs. |
| 2021-2025 F650/F-750 - Retrieve DTCs, Perform Cylinder Balance, Swap Plug, Wire and Coil (Pass) Using Scan Tool Cancel Cylinders, Remove And Inspect Oil Filter (Pass) Remove Cylinder Heads And Inspect Camshaft And Tappets And Engine Block Cylinder Walls (Pass) Re-assemble Vehicle (Do Not Use With Any Other Labor Operations) | MT252572T | Actual Time Up To 10.2 Hrs. |
| 2021-2025 F650/F-750 - Retrieve DTCs, Perform Cylinder Balance, Swap Plug, Wire and Coil (Pass) Using Scan Tool Cancel Cylinders, Remove And Inspect Oil Filter (Fail) Replace Engine Long Block | MT252572U | Actual Time Up To 15.0 Hrs. |
| 2021-2025 F650/F-750 - Retrieve DTCs, Perform Cylinder Balance, Swap Plug, Wire and Coil (Pass) Using Scan Tool Cancel Cylinders, Remove And Inspect Oil Filter (Pass) Remove Cylinder Heads And Inspect Camshaft And Tappets And Engine Block Cylinder Walls Replace Camshaft And all Valve Tappets | MT252572V | Actual Time Up To 23.2 Hrs. |
| 2021-2025 F650/F-750 - Retrieve DTCs, Perform Cylinder Balance, Swap Plug, Wire and Coil (Pass) Using Scan Tool Cancel Cylinders, Remove And Inspect Oil Filter (Pass) | MT252572W | Actual Time Up |

| | | |
|--|---------|--------------|
| Remove Cylinder Heads And Inspect Camshaft And Tappets And Engine Block Cylinder Walls Replace Engine Long Block | | To 21.4 Hrs. |
| All vehicles: For Long Block Replacement Only – Prior Approval | 252572X | 0.3 Hrs. |

Repair/Claim Coding

| | |
|-----------------|------|
| Causal Part: | 6500 |
| Condition Code: | 42 |

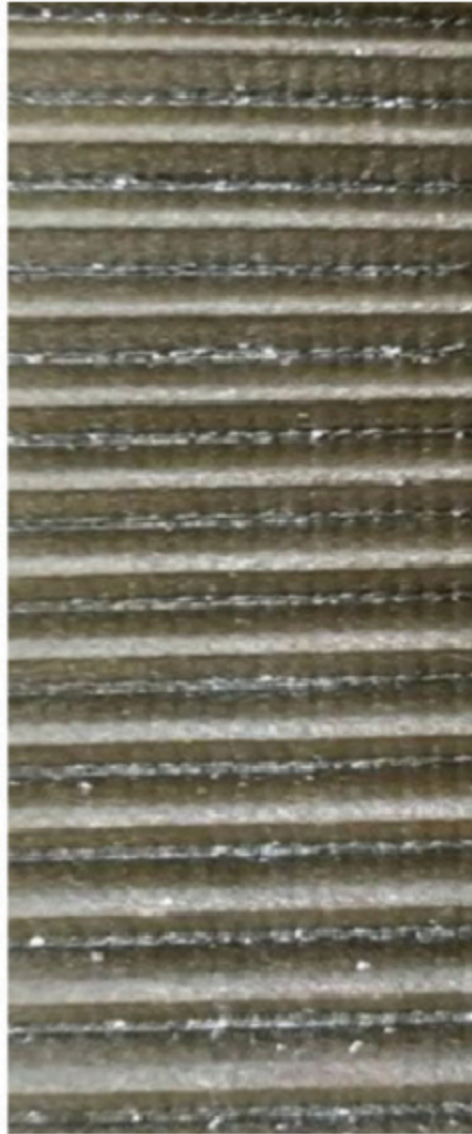
Service Procedure

1. Is there an upper end engine tapping/ticking noise present at idle?
 - (1). Yes - proceed to Step 2.
 - (2). No - this article does not apply. Refer to the WSM for normal diagnostics.
2. For misfire DTC P0301-P0308, use the FDRS scan tool to perform a cylinder power balance test to identify the suspect cylinder that is exhibiting a misfire. Refer to WSM, Section 303-07. Is there an active cylinder misfire present?
 - (1). Yes - proceed to Step 3.
 - (2). No - proceed to Step 4.
3. Swap the spark plug, the spark plug wire and the ignition coil on the identified cylinder with a known good cylinder. Does the misfire follow the ignition components to the new cylinder?
 - (1). Yes - this article does not apply. Refer to WSM, Section 303-07.
 - (2). No - proceed to Step 4.
4. Can the noise be isolated to a specific cylinder using the FDRS scan tool to cancel out cylinders and/or an engine stethoscope?
 - (1). Yes - proceed to Step 5.
 - (2). No - this article does not apply. Refer to the WSM for normal diagnostics.
5. Remove the engine oil filter.

NOTE: For U.S. and Canadian vehicles which are LTIS program eligible the dealer has the option to continue with this TSB repair or replace the long block assembly under the LTIS program. Those repairs outside of LTIS eligibility and still under New Vehicle Limited Warranty (NVLW), the completion of the procedure outlined in this TSB requires obtaining Prior Approval for long block assembly. This TSB does not require completion of a Cost Cap.

6. Open the oil filter assembly and separate the oil filter element to expand out on a flat surface. Refer to WSM, Section 303-00, General Procedures for Oil Filter Inspection. Is an excessive amount of metal debris present in the oil filter? (Figure 1)

Figure 1



E336125

- (1). Yes - replace engine long block assembly. Refer to WSM, Section 303-01 for engine removal and installation. Repair is complete.
 - (2). No - proceed to Step 7.
- 7.** Remove both engine cylinder heads. Refer to WSM, Section 303-01 for cylinder head removal and installation.
- 8.** Inspect the camshaft lobes and tappets for damage. Is damage present?
- (1). Yes - proceed to Step 9.
 - (2). No - re-assemble the vehicle, repair is complete. Refer to the WSM for normal diagnostics.
- 9.** Inspect the engine for any related collateral damage. Refer to GSB Various Vehicles - Engine Failure Analysis. Is the extent of the damage limited to the valve tappets and/or camshaft?
- (1). Yes - install new camshaft and all valve tappets. Refer to WSM, Section 303-01 for camshaft and valve tappet removal and installation.
 - (2). No - replace engine long block assembly. Refer to WSM, Section 303-01 for engine 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.