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2017 Ford Transit-350 HD Service and Repair Manual

Go to manual page

Sample

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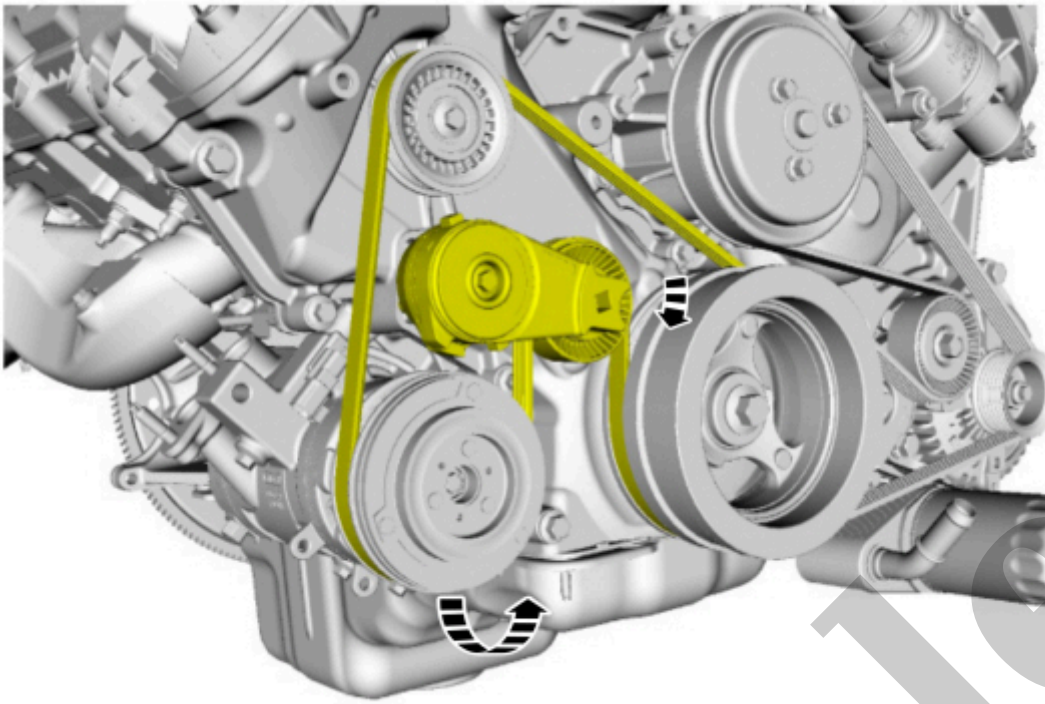
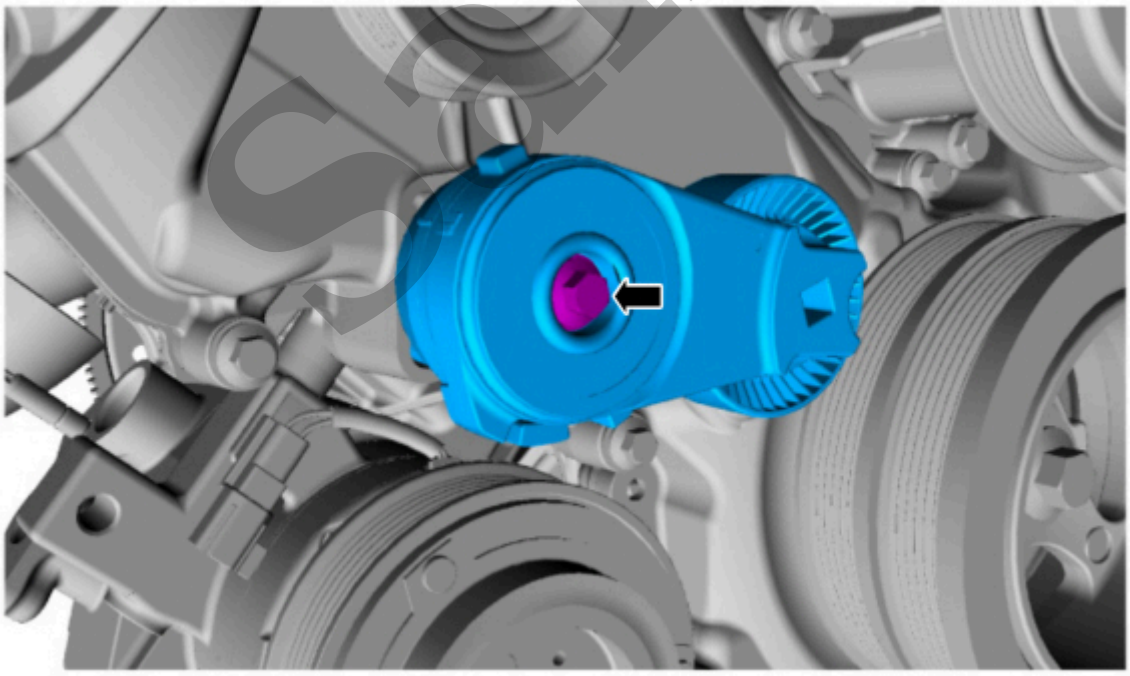


E220963

Click here to learn about symbols, color coding, and icons used in this manual.

3. Remove the bolt and the A/C (air conditioning) compressor belt tensioner.

   Torque : 18 lb.ft (25 Nm)



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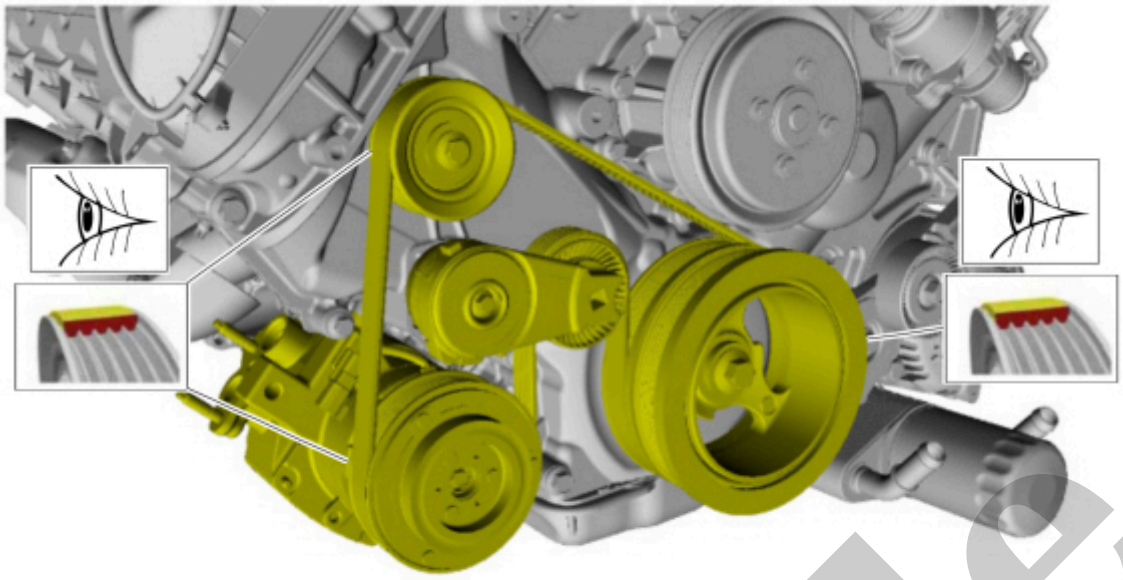
Sample



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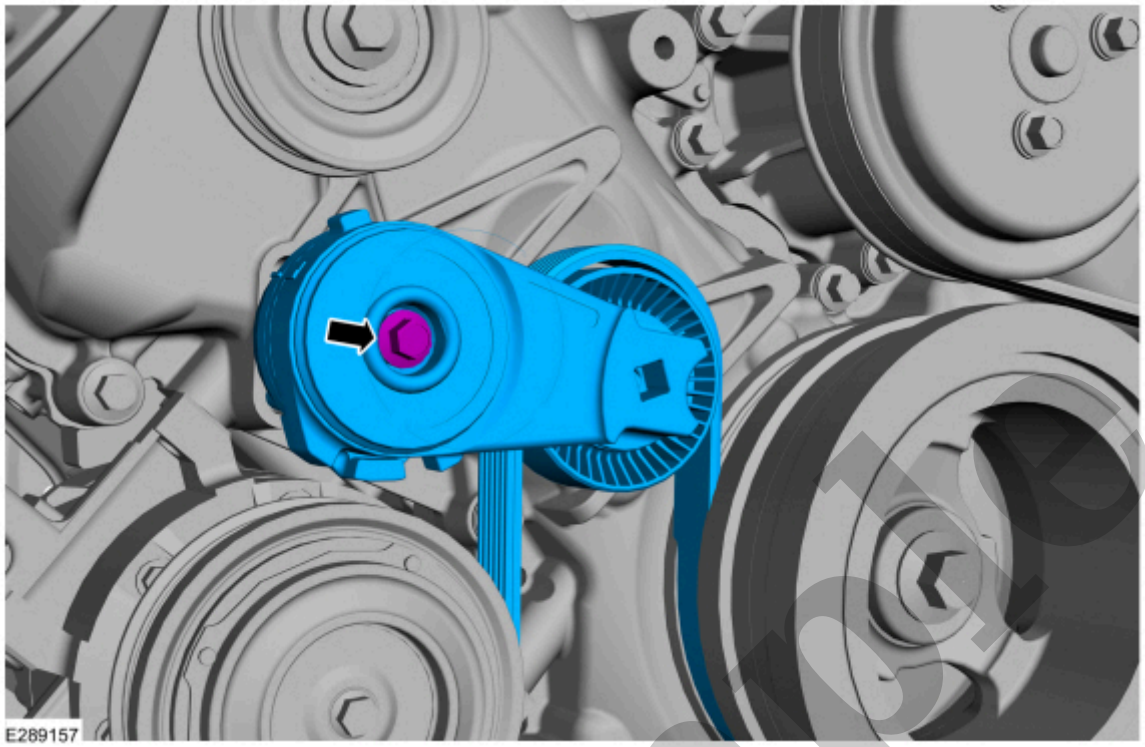
Sample

3. Remove the bolt, compressor A/C belt tensioner and A/C compressor belt.

   Torque : 18 lb.ft (25 Nm)



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Installation

1. To install, reverse the removal procedure.
2. After installation, make sure the accessory drive belt is correctly seated on all pulleys.

Sample

Sample

Low or high engine oil pressure	GO to Pinpoint Test E

Symptom Chart - NVH (noise, vibration and harshness)

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.

REFER to: Diagnostic Methods

(100-00 General Information, Description and Operation).

Condition	Actions
Upper engine noise	GO to Pinpoint Test F
Lower engine noise	GO to Pinpoint Test F
Front of engine noise	GO to Pinpoint Test F
Rear of engine noise	GO to Pinpoint Test F

Pinpoint Tests

PINPOINT TEST A : EXCESSIVE ENGINE OIL CONSUMPTION

Possible Sources

- Gasket
- Seal
- Blocked or restricted turbocharger oil drain pipe
- Damaged or collapsed air intake hoses and tubes
- Turbocharger oil seals
- Inoperative PCV (positive crankcase ventilation) system
- Incorrect engine oil
- Worn valve stem seal
- Worn valve stem or valve guide
- Sticking piston ring
- Worn piston ring groove
- Damaged oil control ring
- Worn piston or cylinder

A1 CHECK FOR ACCEPTABLE ENGINE OIL CONSUMPTION

- Carry out the engine oil consumption test.

Sample

Yes	GO to A5

No	CHANGE the engine oil and filter using the correct engine oil specification. Refer to the Specifications procedure in the 303-01 section for the engine being diagnosed. Refer to the appropriate section in Group 303for the procedure.

A5 CHECK THE AIR INTAKE SYSTEM

- Inspect the air intake system and make sure all of the hoses and tubes are securely connected and free of damage.

Is the air intake system free of damage and all of the connections correctly secure?

Yes	GO to A6

No	REPAIR as necessary.

A6 CHECK THE PCV (POSITIVE CRANKCASE VENTILATION) SYSTEM

- Inspect the PCV (positive crankcase ventilation) system and make sure all of the hoses and tubes are securely connected, free of damage and the PCV (positive crankcase ventilation) valve operates correctly.

Is the PCV (positive crankcase ventilation) system free of damage, all of the connections correctly secure and the PCV (positive crankcase ventilation) valve operating correctly?

Yes	GO to A7

No	REPAIR as necessary.

A7 CHECK FOR ENGINE OIL IN THE COOLING SYSTEM

- Check for engine oil in the cooling system.

Is engine oil detected in the cooling system?

Sample

Yes	GO to A11

No	The source of the concern is not the engine. Check for other possible sources for oil consumption. Re-check for acceptable oil consmumption. Check the PCV (positive crankcase ventilation) system and turbochargers.

A11 CHECK THE CYLINDER HEAD GASKET, CYLINDER HEAD AND ENGINE BLOCK DECK SURFACES

- Remove the cylinder head(s). Inspect the cylinder head gasket, cylinder head and cylinder block for damage.
  REFER to: Cylinder Block Distortion(303-00 Engine System - General Information, General Procedures). and REFER to: Cylinder Head Distortion(303-00 Engine System - General Information, General Procedures).

Is the cylinder block and cylinder head(s) free of damage?

Yes	GO to A12

No	REPAIR as necessary.

A12 CHECK THE VALVE STEM SEALS

- Remove the cylinder head(s). Remove the valves from the cylinder heads and inspect the valve stem seals for damage, excessive wear and proper sealing.

Are the valve stem seals damaged?

Yes	Install new valve stem seals. REFER to the Disassembly and Assembly of Subassemblies - Cylinder Head procedure for the engine being diagnosed. Refer to the appropriate section in Group 303for the procedure.

No	GO to A13

A13 CHECK THE VALVE TRAIN

Sample

- EGR (exhaust gas recirculation) cooler
- Head gasket
- Cylinder head
- Cylinder block

Visual Inspection and Pre-checks

- Check for engine coolant leaks around sealed areas, such as the coolant pump, intake manifold and cylinder heads.
- Check the coolant hoses and tubes for damage.
- Check the coolant hose and tube connections and make sure they are securely connected.

NOTE

A sweet odor accompanying white smoke is not considered normal and is indicative of coolant in the exhaust.

B1 CHECK FOR OBVIOUS SIGNS OF CONCERN

- Ignition OFF.
- Inspect the engine and cooling system for signs of coolant leaking externally. REFER to the Diagnosis and Testing procedure in the 303-03 section for the engine being diagnosed. Refer to the appropriate section in Group 303for the procedure.

Are any external coolant leaks detected?

Yes	REPAIR as necessary.

No	GO to B2

B2 CHECK FOR EXCESSIVE SMOKE FROM THE EXHAUST

- Start the engine.
- **NOTE**

  Coolant intrusion in to the cylinders will cause white smoke from the exhaust.

  Allow the engine to reach normal operating temperature. Inspect the exhaust for excessive white smoke.

Does the exhaust emit excessive white smoke?

Sample

Yes	Install new engine front cover seals or a new engine front cover. Refer to the 303-01 engine front cover procedure for the engine being diagnosed. Refer to the appropriate section in Group 303for the procedure.

No	GO to B6

B6 CHECK FOR COOLANT INTRUSION

- Remove the glow plugs. Refer the 303-07 section for the engine being diagnosed. Refer to the appropriate section in Group 303for the procedure. Inspect the glow plugs for signs of coolant intrusion. Using a bore scope, inspect the cylinders and pistons for signs of coolant intrusion.

Do the glow plugs or cylinders show signs of coolant intrusion?

Yes	GO to B7

No	GO to B8

B7 CHECK THE EXHAUST GAS RECIRCULATION (EGR) COOLING SYSTEM

Sample