

SECTION 303-01B: Engine — 5.4L (4V)
IN-VEHICLE REPAIR

2004 Expedition/Navigator Workshop Manual
Procedure revision date: 06/23/2003

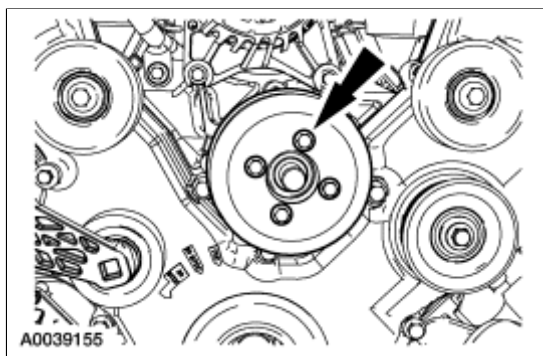
Engine Front Cover

Material

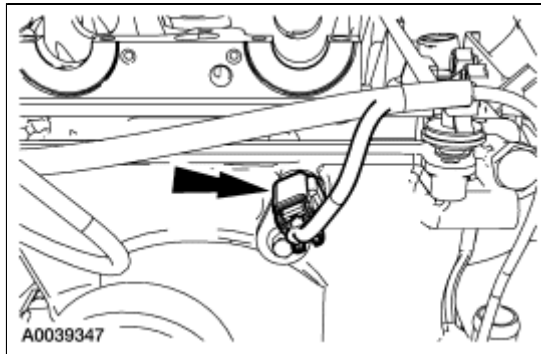
| Item | Specification |
|-----------------------------------------------------------------------------|-------------------|
| Metal Surface Prep ZC-31 | — |
| Silicone Gasket and Sealant F7AZ-19554-EA or equivalent | WSE-M4G323- A4 |
| SAE 5W-20 Premium Synthetic Blend Motor Oil XO-5W20-QSP or equivalent | WSS-M2C153- H |
| Silicone Gasket Remover ZC-30 | — |

Removal

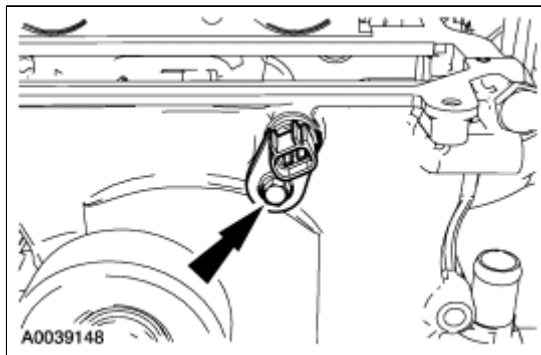
1. Remove the LH and RH valve covers. For additional information, refer to [Valve Cover LH](#) and [Valve Cover RH](#) in this section.
2. Remove the cooling fan and fan shroud. For additional information, refer to [Section 303-03](#).
3. Remove the bolts and the water pump pulley.



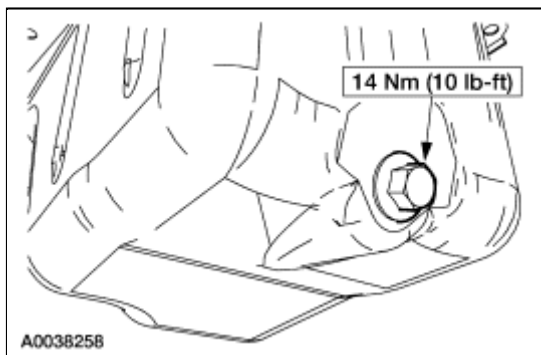
4. Remove the power steering pump. For additional information, refer to [Section 211-02](#).
5. Remove the crankshaft front oil seal. For additional information, refer to [Crankshaft Front Seal](#) in this section.
6. Disconnect the camshaft position (CMP) sensor electrical connector.



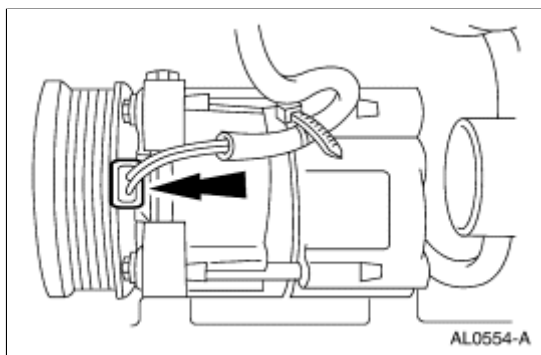
7. Remove the bolt and the CMP sensor.



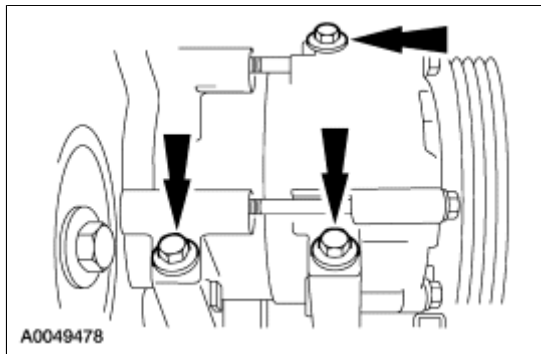
8. Remove the drain plug and drain the engine oil.
 - Install the drain plug after the oil has finished draining.



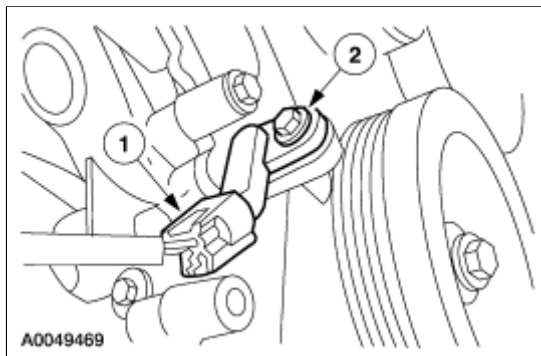
9. Disconnect the A/C compressor electrical connector.



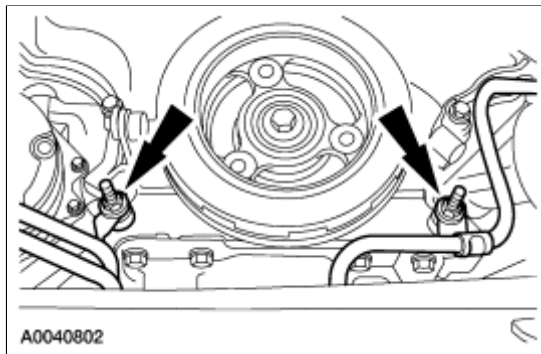
10. Remove the bolts and position the A/C compressor aside.



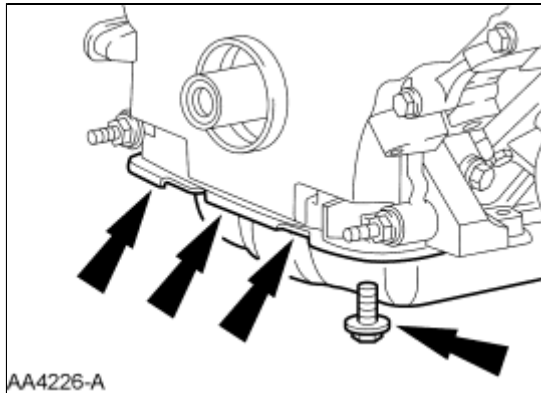
11. Remove the crankshaft position (CKP) sensor.
1. Disconnect the electrical connector.
 2. Remove the bolt and the sensor.



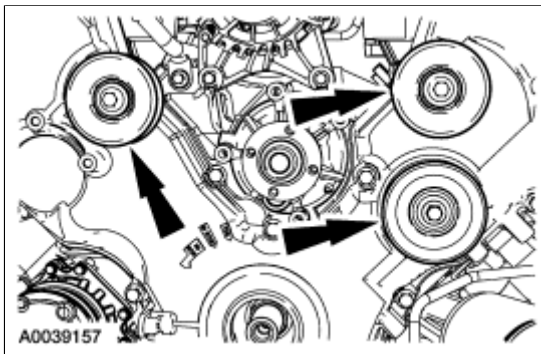
12. Remove the nuts and detach the power steering and transmission cooler tube brackets.



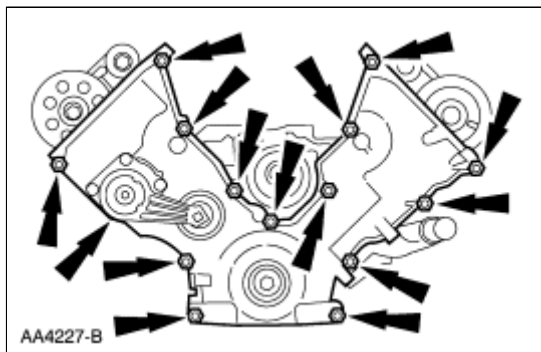
13. Remove the bolts.




14. Lower the vehicle.
15. Remove the drive belt idler pulleys.



16. Remove the bolts, the studbolts, the engine front cover and the gaskets.



17.  **CAUTION:** Do not use metal scrapers, wire brushes, power abrasive discs, or other abrasive means to clean the sealing surfaces. These tools cause scratches and gouges which make leak paths. Use a plastic scraping tool to remove all traces of old sealant.

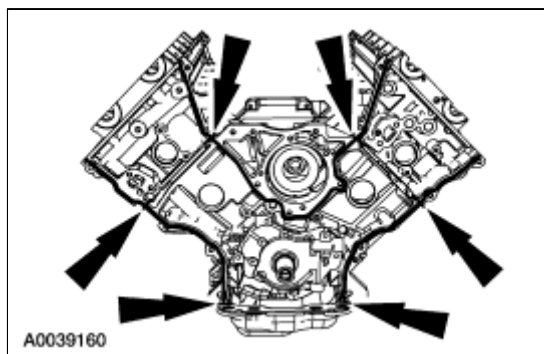
 **CAUTION:** Put shop towels into the oil pan opening to prevent debris from falling into the oil pan.

Clean the gasket mating surfaces with metal surface prep and silicone gasket remover.

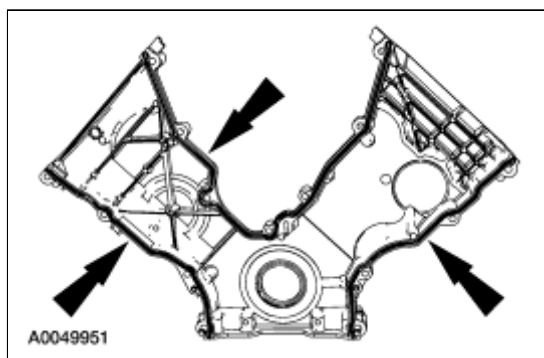
Installation

NOTE: If the front cover and gasket are not secured within four minutes, the sealant must be removed and the sealing surface cleaned with metal surface cleaner.

1. Apply an 8 mm (0.32 in) bead of sealant in the locations shown.



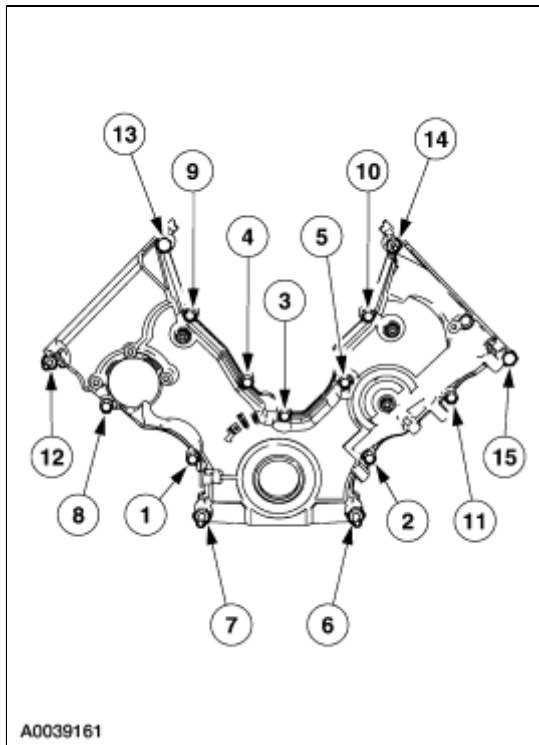
2. Position the gaskets.



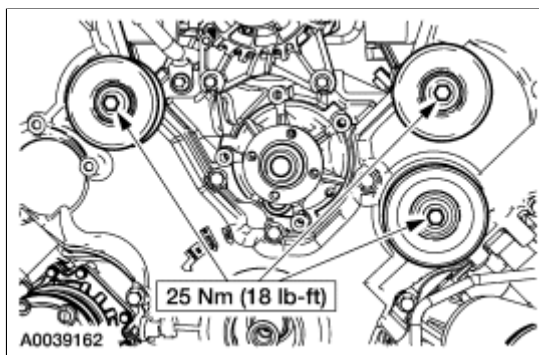
3. Position the engine front cover and install the bolts and the studs in three stages:
 Stage 1: Tighten numbers one through five to 25 Nm (18 lb-ft).
 Stage 2: Tighten numbers six and seven to 50 Nm (37 lb-ft).
 Stage 3: Tighten numbers 11 through 15 to 25 Nm (18 lb-ft).

| Item | Part Number | Description |
|------|-------------|----------------------------------------------------------|
| 1 | N806177 | Bolt, Hex Flange Head Pilot, M8 x 1.25 x 50 |
| 2 | N806177 | Bolt, Hex Flange Head Pilot, M8 x 1.25 x 50 |
| 3 | N806177 | Bolt, Hex Flange Head Pilot, M8 x 1.25 x 50 |
| 4 | N806177 | Bolt, Hex Flange Head Pilot, M8 x 1.25 x 50 |
| 5 | N806177 | Bolt, Hex Flange Head Pilot, M8 x 1.25 x 50 |
| 6 | N808529 | Stud, Hex-Head Pilot, M10 x 1.5 x 30 |
| 7 | N808529 | Stud, Hex-Head Pilot, M10 x 1.5 x 30 |
| 8 | N806177 | Bolt, Hex-Head Flange, M8 x 1.25 x 50 |
| 9 | N806177 | Bolt, Hex-Head Flange, M8 x 1.25 x 50 |
| 10 | N806177 | Bolt, Hex-Head Flange, M8 x 1.25 x 50 |
| 11 | N806300 | Stud Hex Shoulder Pilot, M8 x 1.25 x 65 - M8 x 1.25 x 27 |
| 12 | N806300 | Stud Hex Shoulder Pilot, M8 x 1.25 x 65 - M8 x 1.25 x 27 |

| | | |
|----|---------|----------------------------------------------------------|
| 13 | W705386 | Bolt Hex Shoulder Pilot, M8 x 1.25 x 65 |
| 14 | N806300 | Stud Hex Shoulder Pilot, M8 x 1.25 x 65 - M8 x 1.25 x 27 |
| 15 | W705386 | Bolt Hex Shoulder Pilot, M8 x 1.25 x 65 |

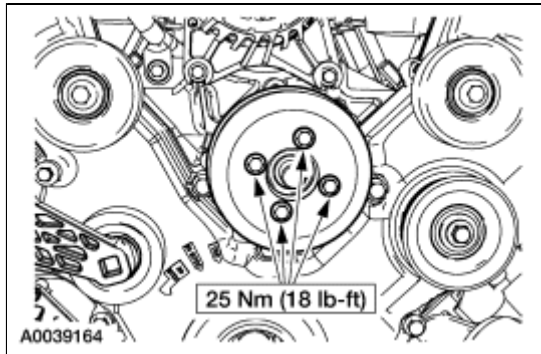


4. Install the drive belt idler pulleys and the bolts.

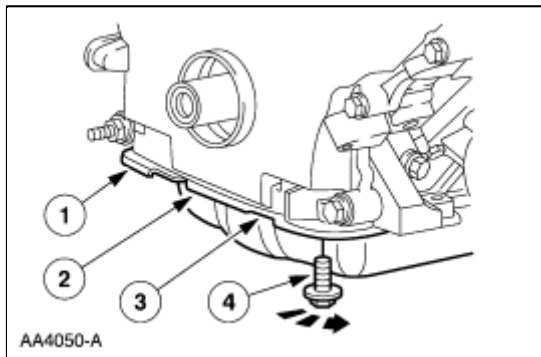


5. **NOTE:** Hold the water pump pulley with a suitable tool to prevent rotation.

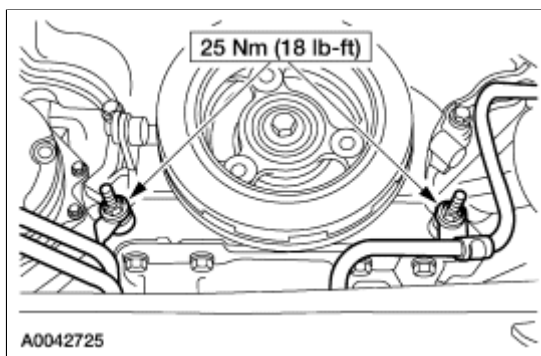
Install the water pump pulley and install the bolts.



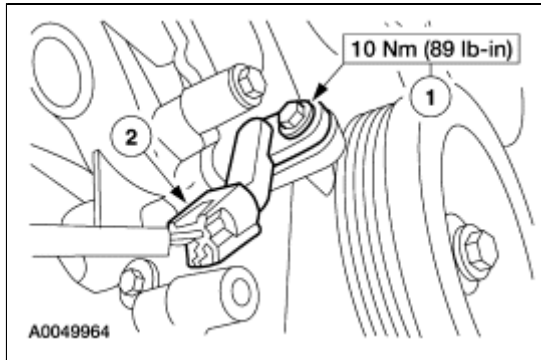
6. Raise the vehicle on a hoist.
7. Tighten the bolts in three stages in the sequence shown:
 - Stage 1: Tighten to 2 Nm (18 lb-in).
 - Stage 2: Tighten to 20 Nm (15 lb-ft).
 - Stage 3: Tighten an additional 90 degrees.



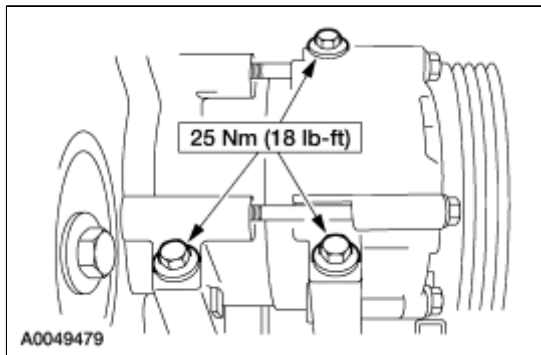
8. Position the transmission cooler tube and the power steering hose brackets, and install the nuts.



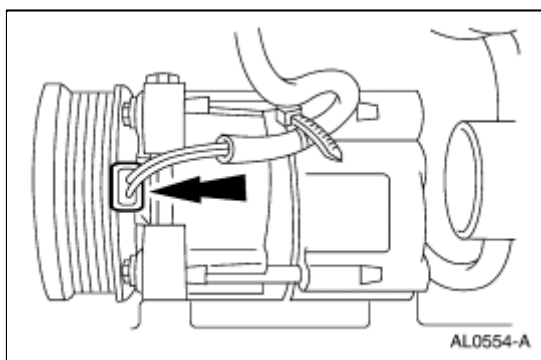
9. Install the CKP sensor.
 1. Install the sensor and the bolt.
 2. Connect the electrical connector.



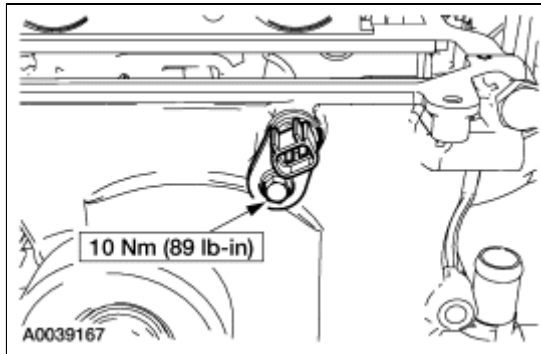
10. Install the crankshaft front seal. For additional information, refer to [Crankshaft Front Seal](#) in this section.
11. Install the power steering pump. For additional information, refer to [Section 211-02](#)
12. Position the A/C compressor and the bolts.



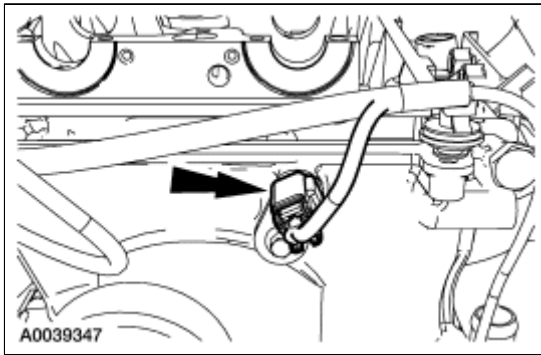
13. Connect the A/C compressor electrical connector.



14. Install a new oil filter.
15. Install the CMP sensor and the bolt.



16. Connect the CMP sensor electrical connector.



17. Install the cooling fan and fan shroud. For additional information, refer to [Section 303-03](#).
 18. Install the left and right valve cover. For additional information, refer to [Valve Cover LH](#) or [Valve Cover RH](#) in this section.
 19. Fill the engine with clean engine oil.
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