

«Fiesta 2002.25 Table of Contents»

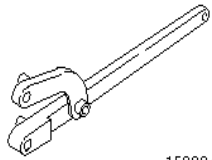
«Group 3: Powertrain»

«Section 303-01A: ENGINE - 1.25L DURATEC-16V (SIGMA)/1.4L DURATEC-16V (SIGMA)/1.6L DURATEC-16V (SIGMA)»

«IN-VEHICLE REPAIR»

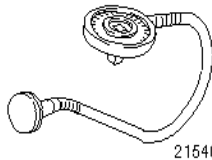
Timing Belt (213040)

Special Service Tool(s)



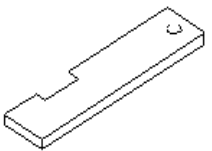
15030A

Universal Flange Holding Wrench 205-072



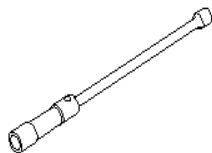
21540

Gauge, Bolt Angle 303-174



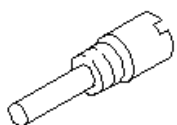
21162B

Alignment Plate, Camshaft 303-376



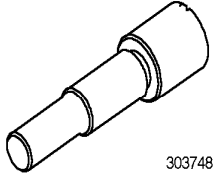
ES21202

Socket, Spark Plug 303-499



PZ21210

Timing Peg, Crankshaft TDC 303-507



303748

Locking Tool, Crankshaft 303-748

General Equipment

Trolley jack

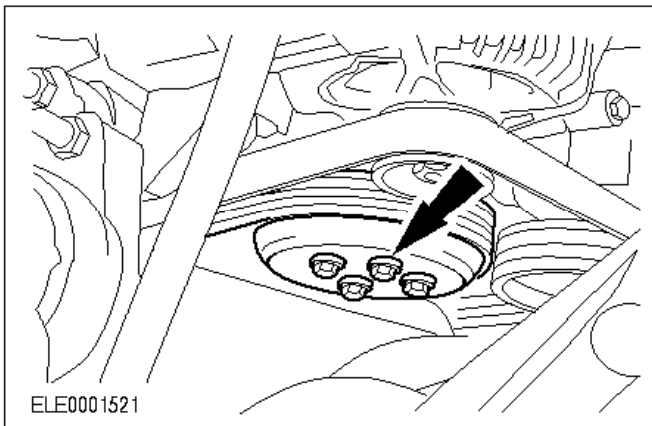
Materials

Silicone grease	ESE-M1C171-AA	
-----------------	---------------	--

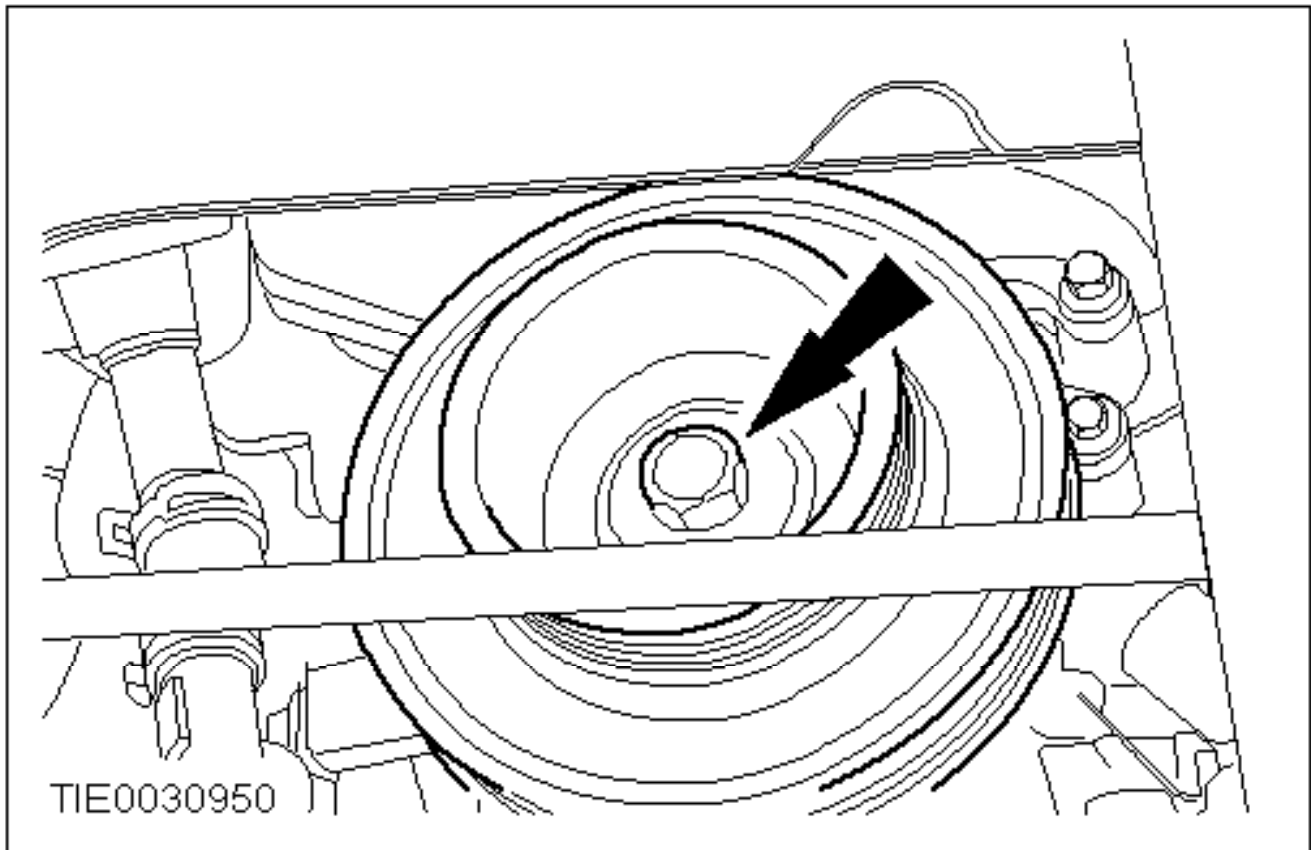
Removal

All vehicles

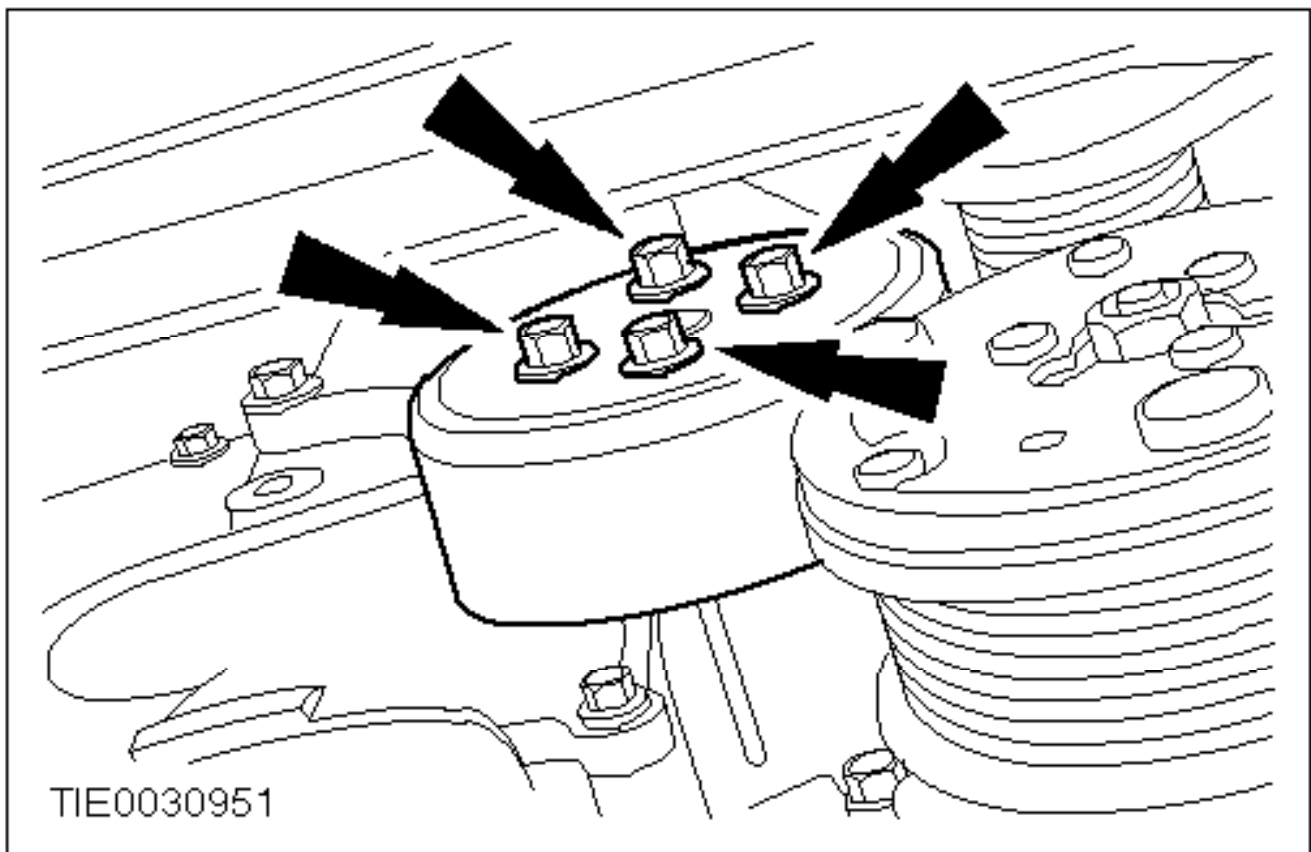
1. Remove the valve cover. For additional information, refer to «[Valve Cover\(303-01 Engine - 1.25L Duratec-16V \(Sigma\)/1.4L Duratec-16V \(Sigma\)/1.6L Duratec-16V \(Sigma\),invehic\)](#)» in this Section.



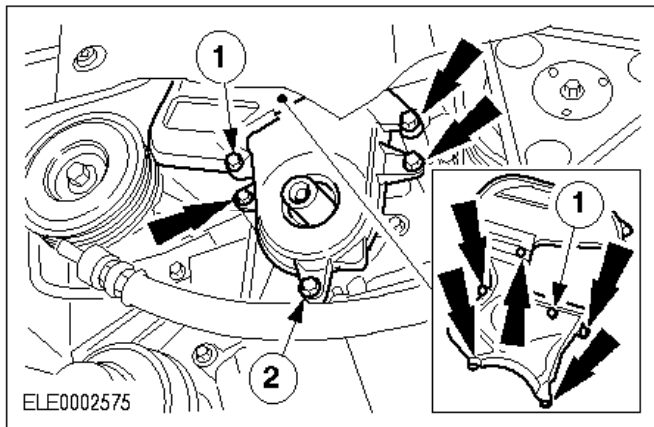
2. Loosen the coolant pump pulley retaining bolts.
3. Remove the accessory drive belt. For additional information, refer to «[Section 303-05](#)» .[Accessory Drive Belt - 1.4L Duratec-16V (Sigma)/1.6L Duratec-16V (Sigma), Vehicles With: Air Conditioning(303-05 Accessory Drive,reminst-ri)]



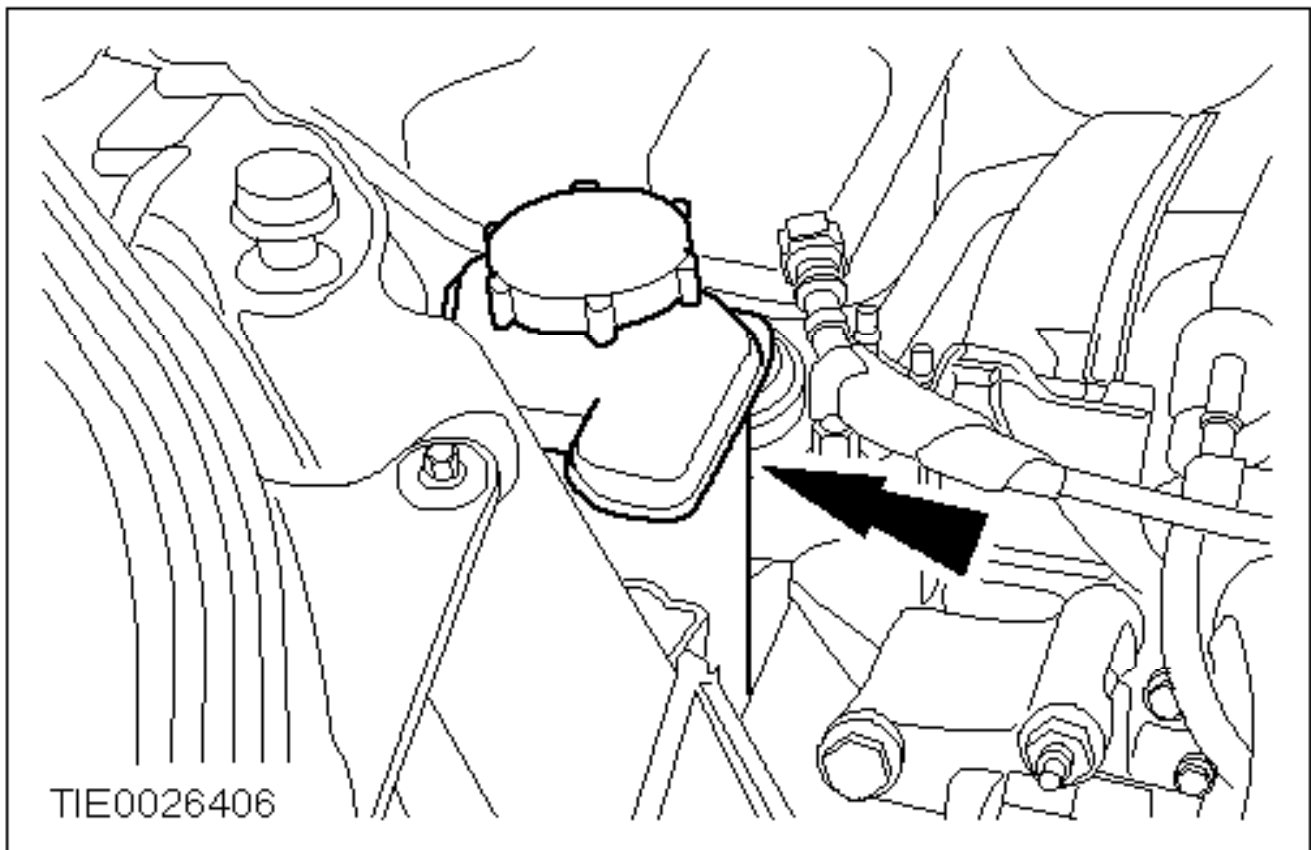
- 4. Remove the crankshaft pulley.



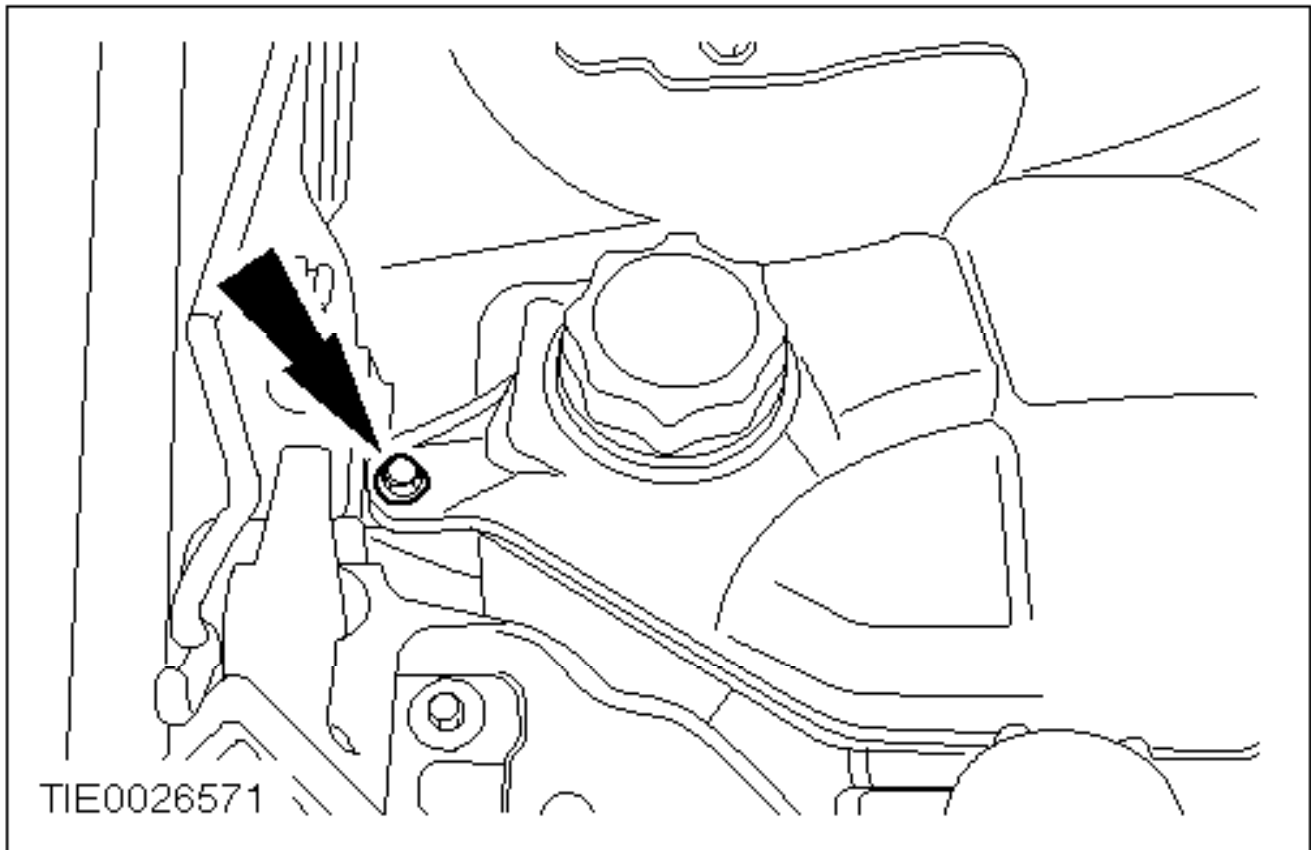
- 5. Remove the coolant pump pulley.



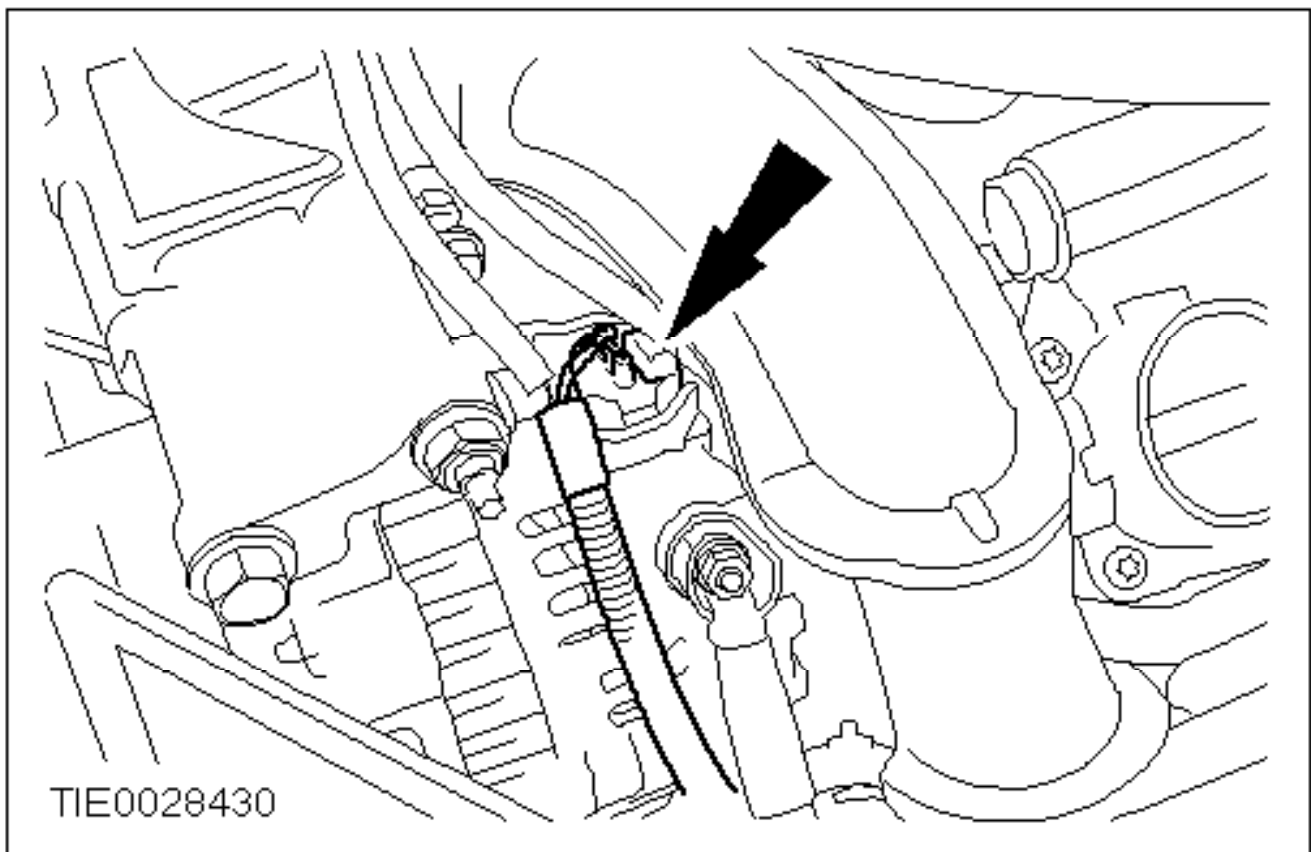
- 6. Remove the timing belt cover retaining bolts.
 - 1 Remove the timing belt upper cover retaining bolts.
 - 2 Remove the timing belt lower cover retaining bolts.
 - Remove the lower cover.
- 7. Lower the vehicle.



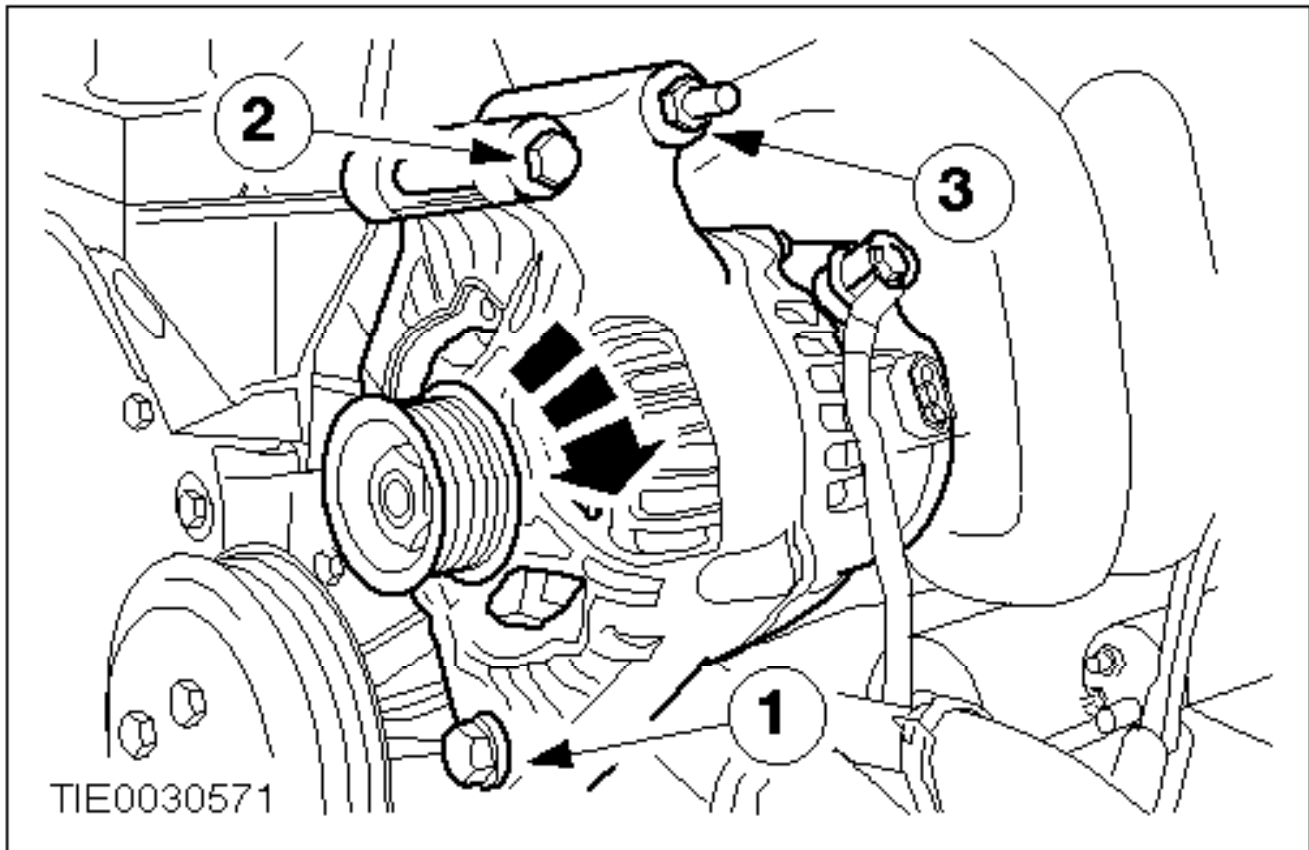
- 8. Detach the power steering fluid reservoir from the bracket and position it to one side.



9. Detach the coolant expansion tank from the bracket and position it to one side.




10. Disconnect the generator electrical connector.

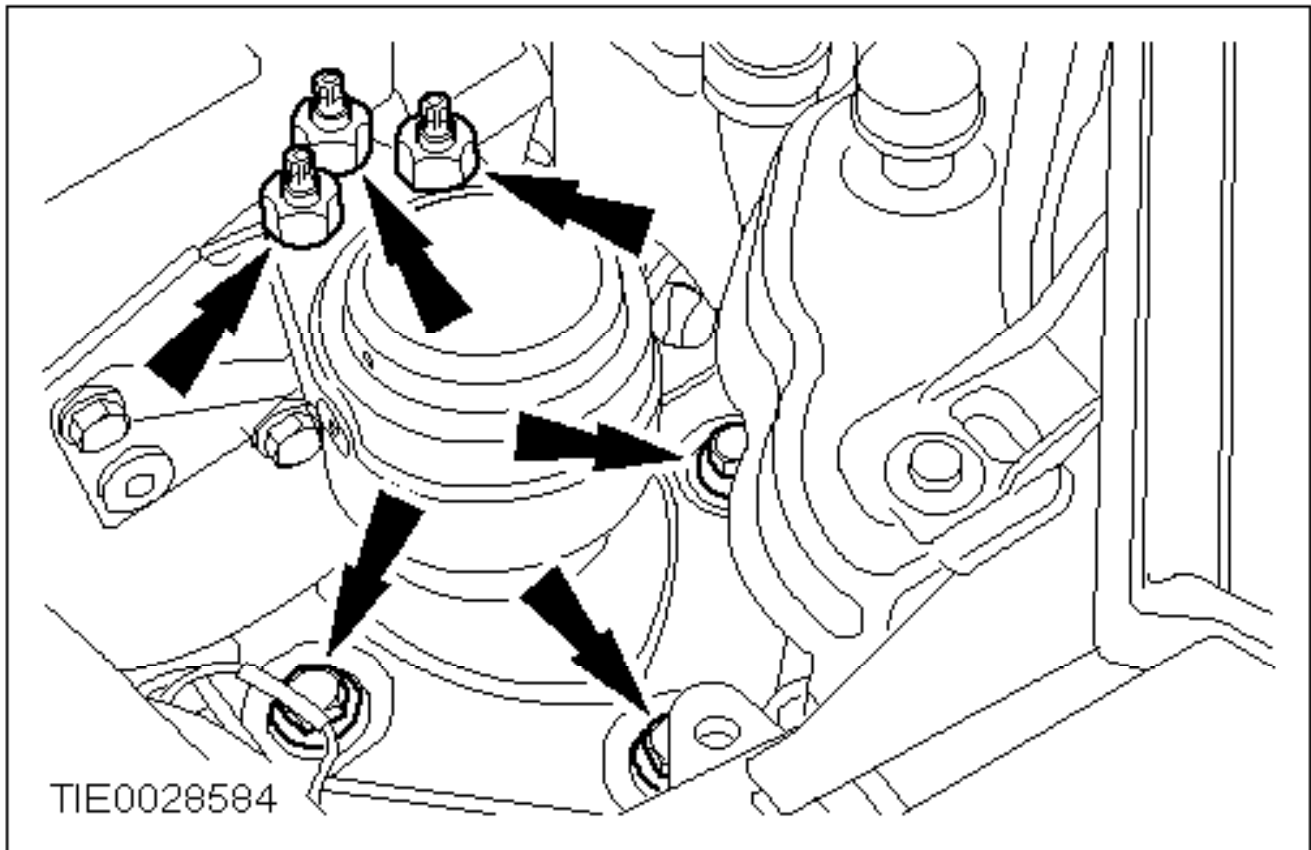


11. Detach the generator from the engine.

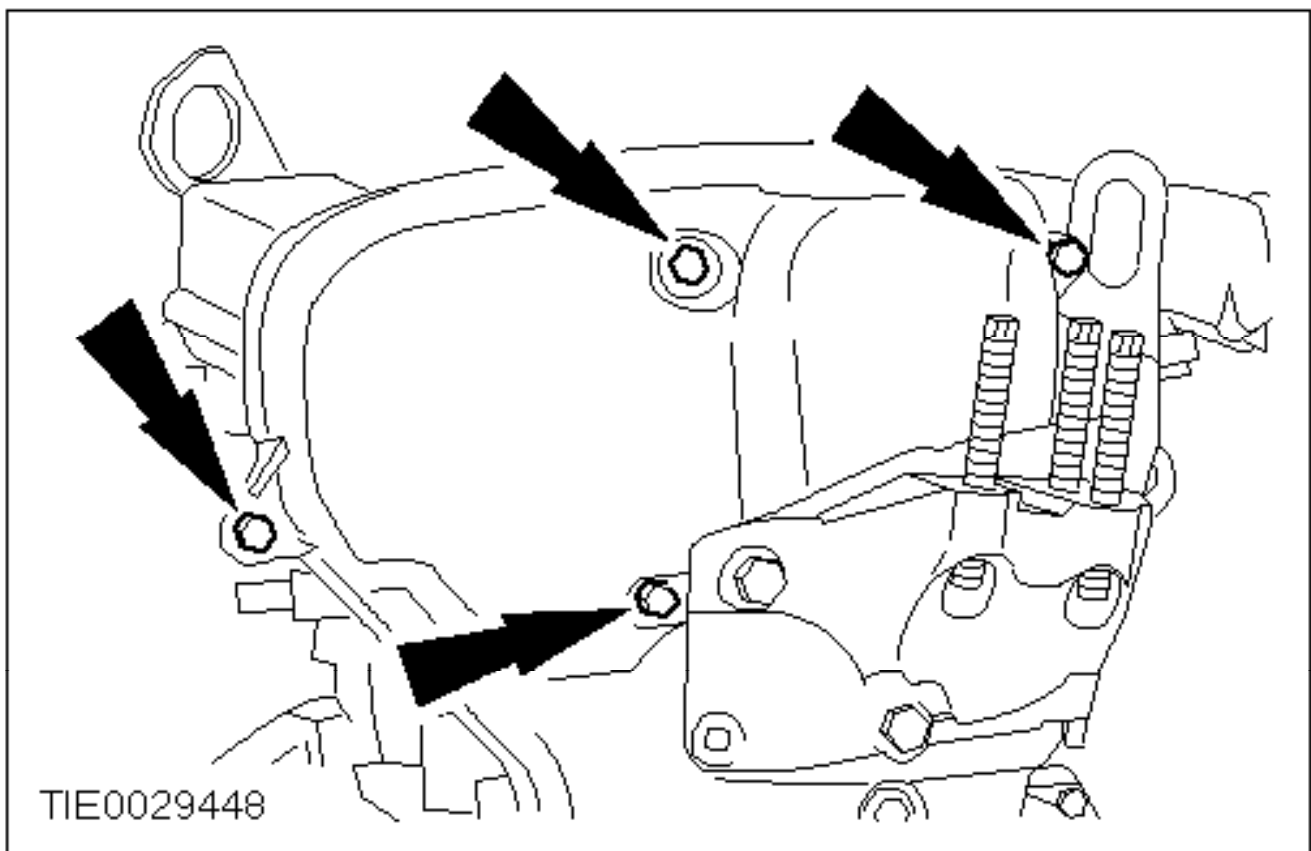
- 1 Loosen the bolt.
- 2 Remove the bolt.
- 3 Remove the nut and the stud.

12.  **CAUTION:**
Do not support the engine directly on the oil pan.

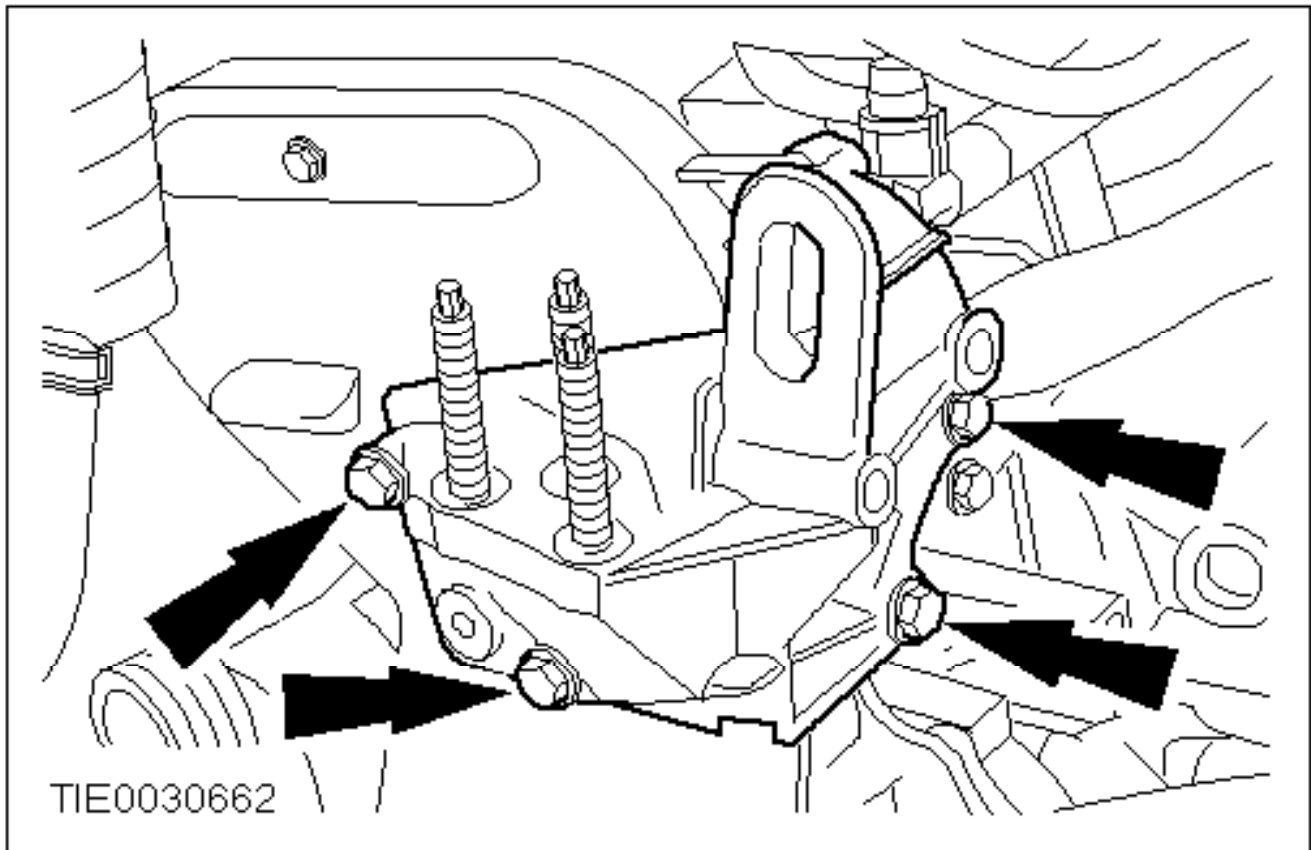
Place the trolley jack with a wooden block under the engine and raise it slightly until the engine front mount is free from strain.



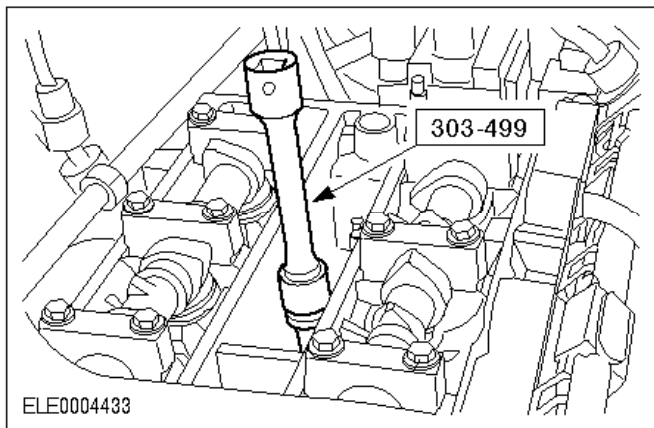
- 13. Remove the engine front mount.
 - Discard the nuts.



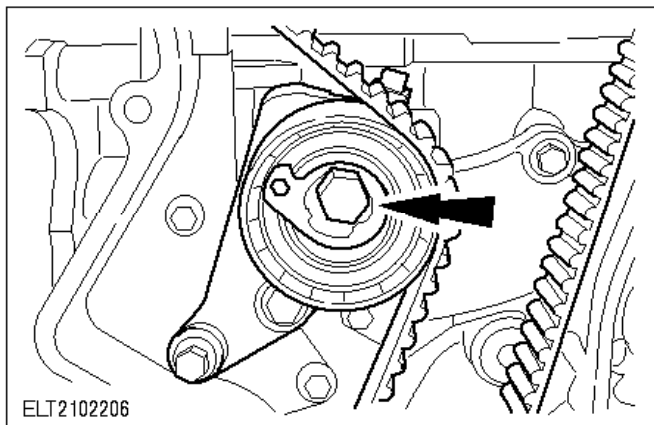
- 14. Remove the timing belt upper cover.



15. Remove the engine front mount bracket.

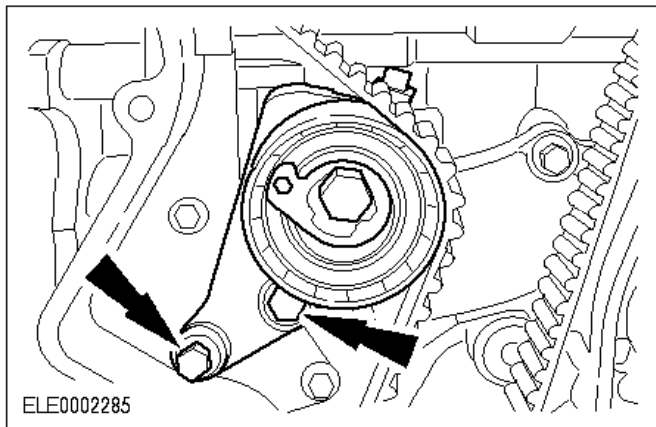


16. Using the special tool, remove the spark plugs.

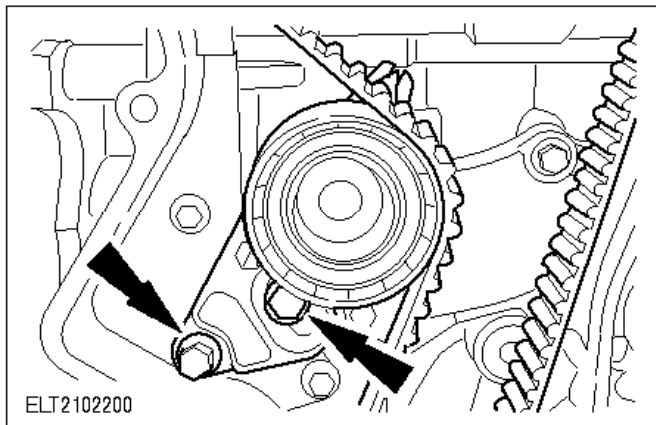


Engines with eccentric cam timing belt tensioner

17. Slacken the timing belt tensioner and remove the timing belt.
- Discard the timing belt.



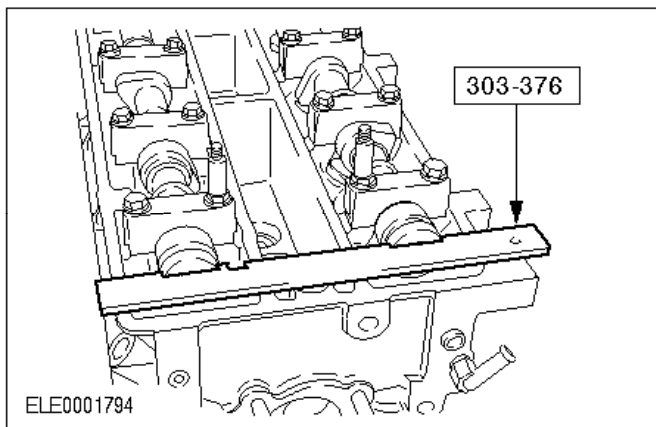
- ⤷ 18. Remove the timing belt tensioner.



Engines with slotted bracket timing belt tensioner

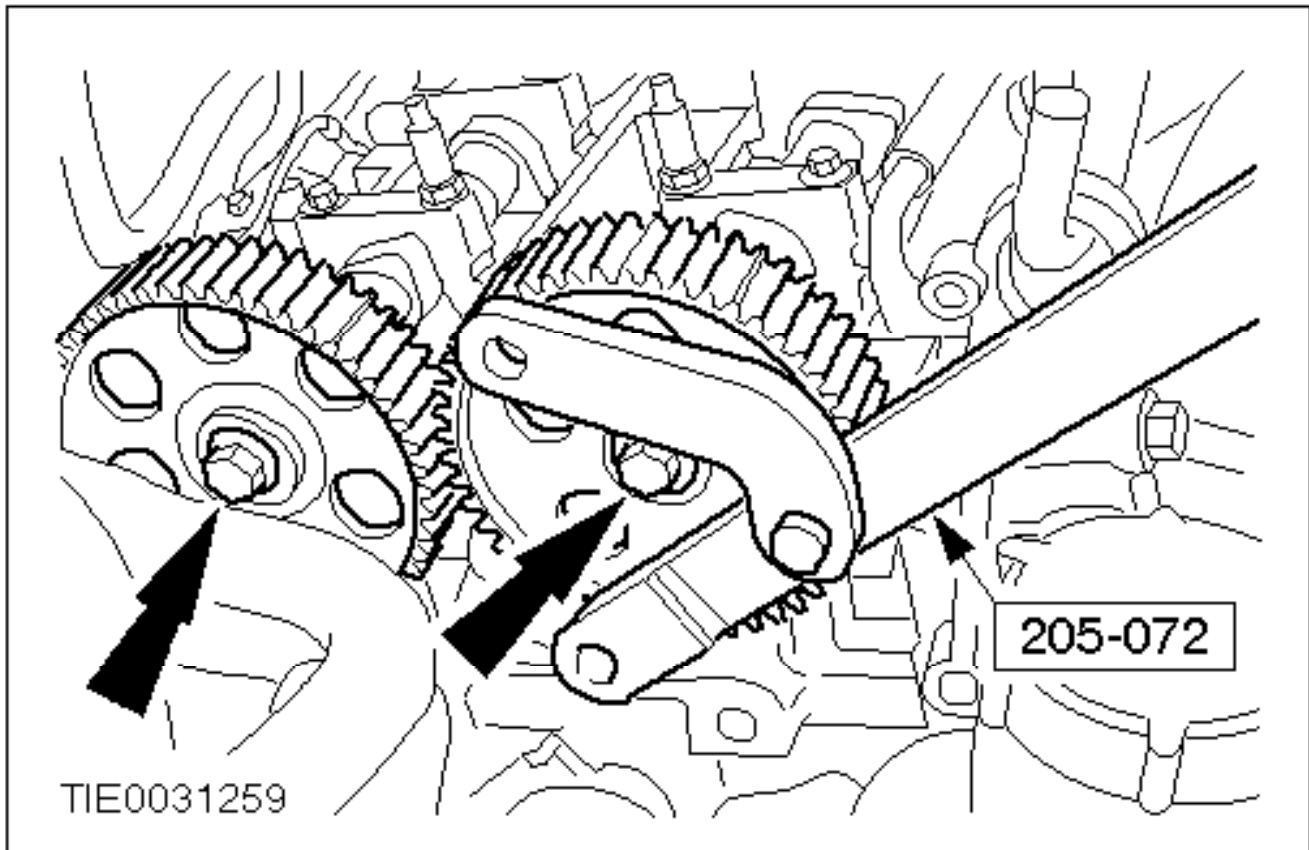
- ⤷ 19. Remove the timing belt tensioner and the timing belt.
- Discard the timing belt.

Installation



All vehicles

- ⤷ 1. Turn the camshafts to TDC on cylinder number 1 and install the special tool.



2. **⚠ CAUTION:**
 Install a hose (order no. E890438S) to the special tool studs, to prevent damage to the camshaft pulleys.

Note:

Make sure the camshaft pulleys turn on the camshafts.

Loosen the camshaft pulley retaining bolts.

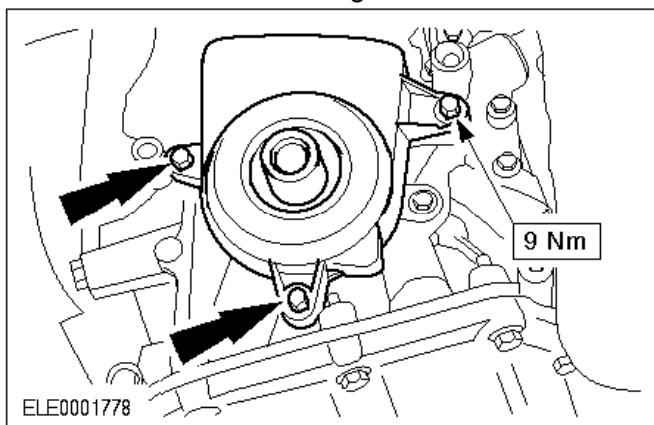
- Discard the retaining bolts.

3. **Note:**
 Install a new timing belt.

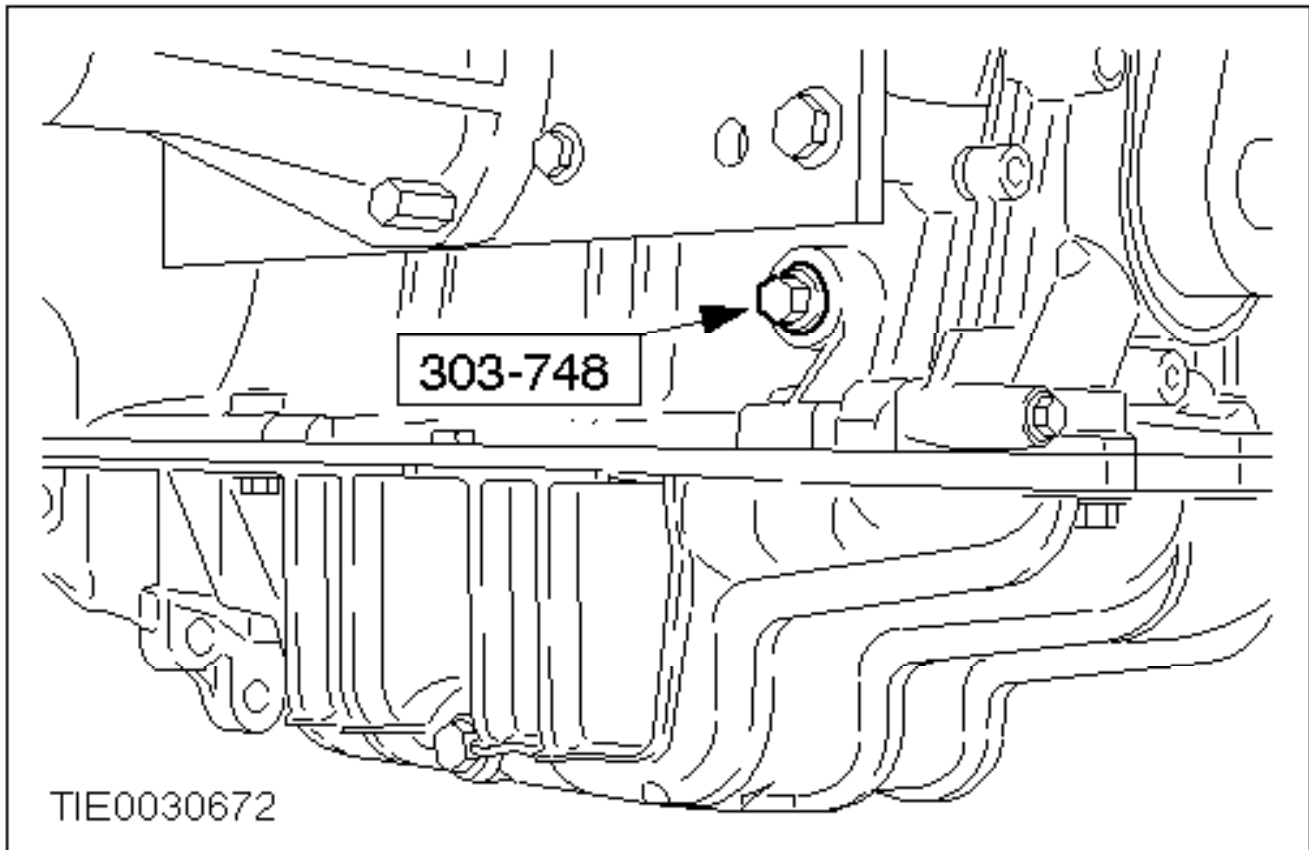
Note:

Install the timing belt, beginning with the crankshaft timing pulley and work counterclockwise.

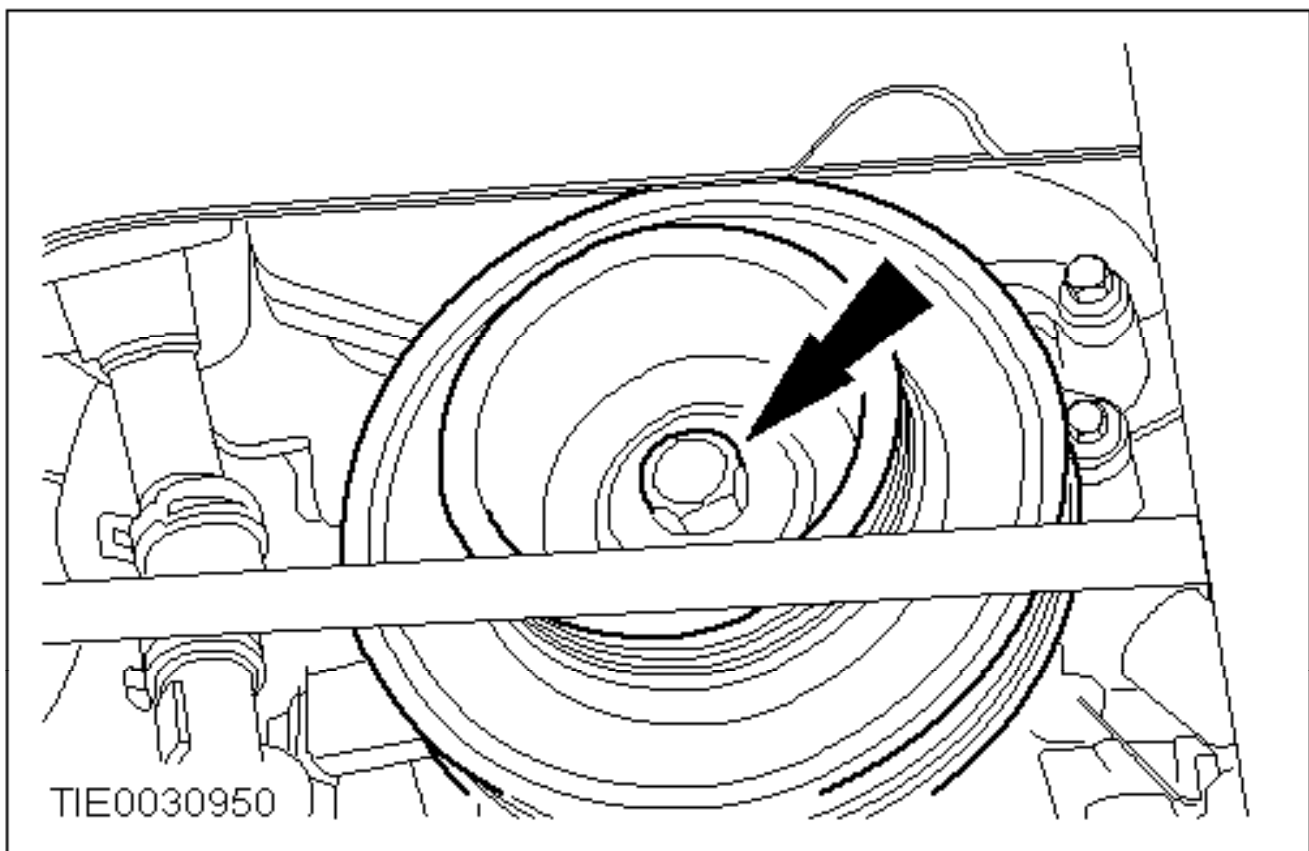
Install the timing belt.



4. Attach the timing belt lower cover.

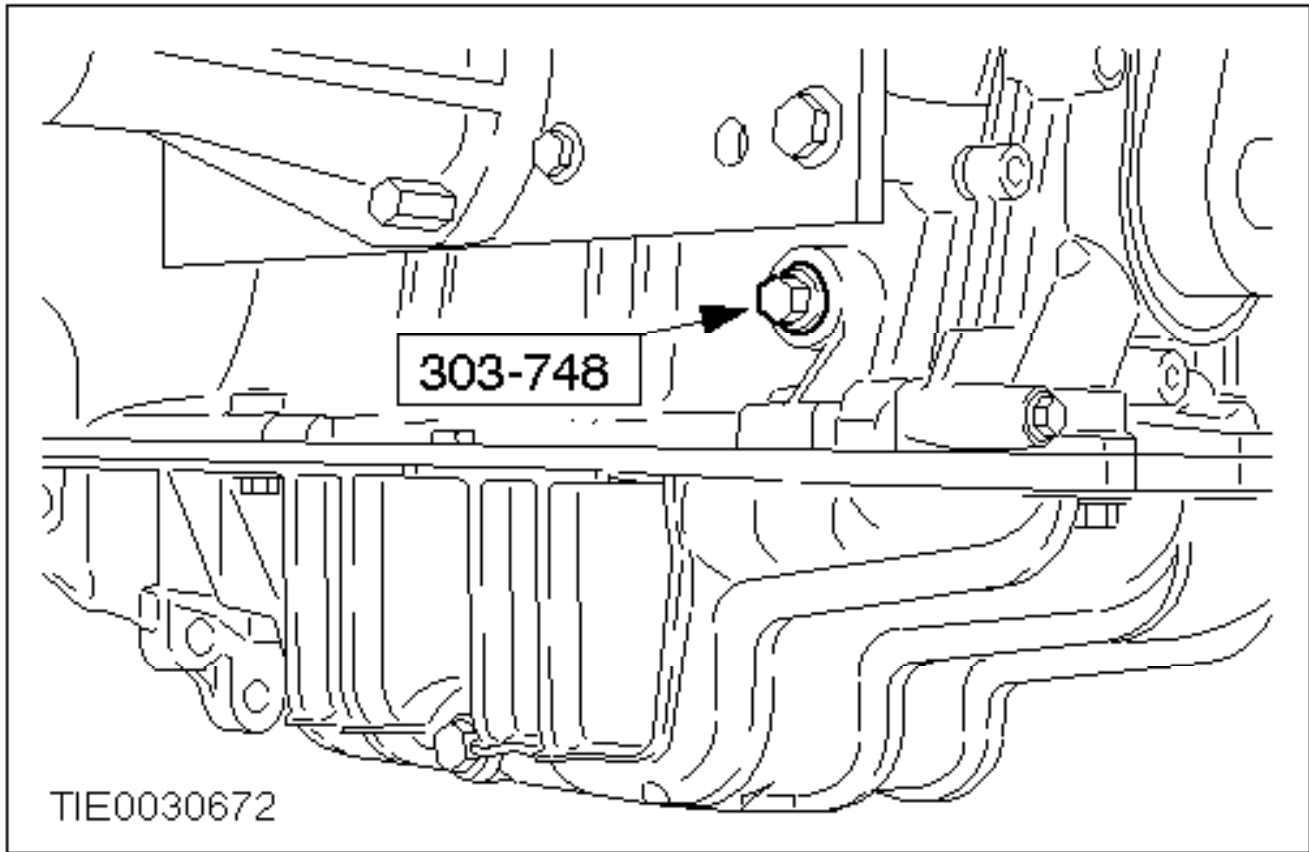


5. Remove the blanking plug and install the special tool.
 - Carefully turn the crankshaft against the special tool.

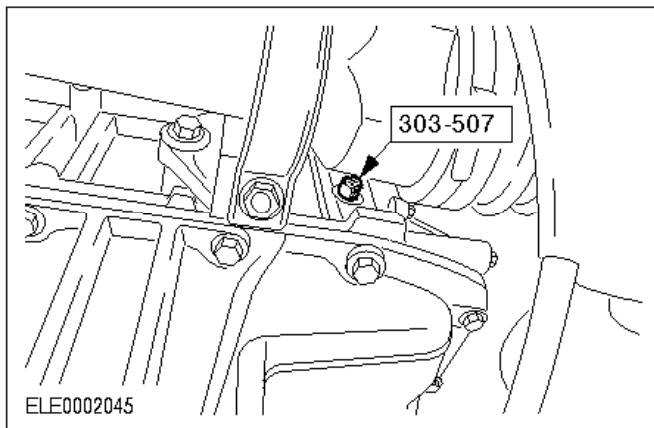


6. **Note:**
Install a new crankshaft pulley retaining bolt.
Install the crankshaft pulley.
 - Tighten the crankshaft pulley retaining bolt in two stages.

- Stage 1: 40 Nm.
- Stage 2: 90 degrees.

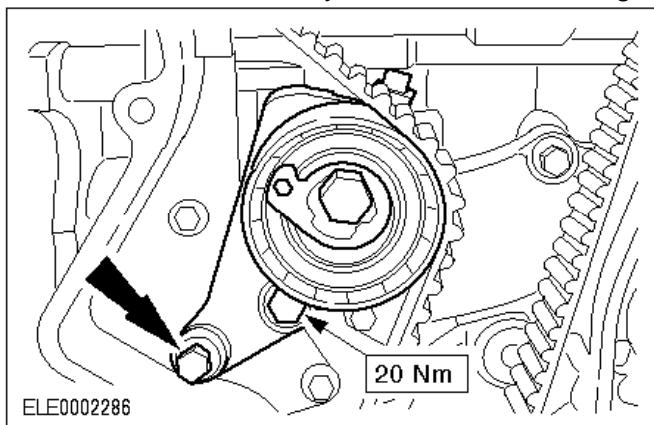


- ↻ 7. Remove the special tool.



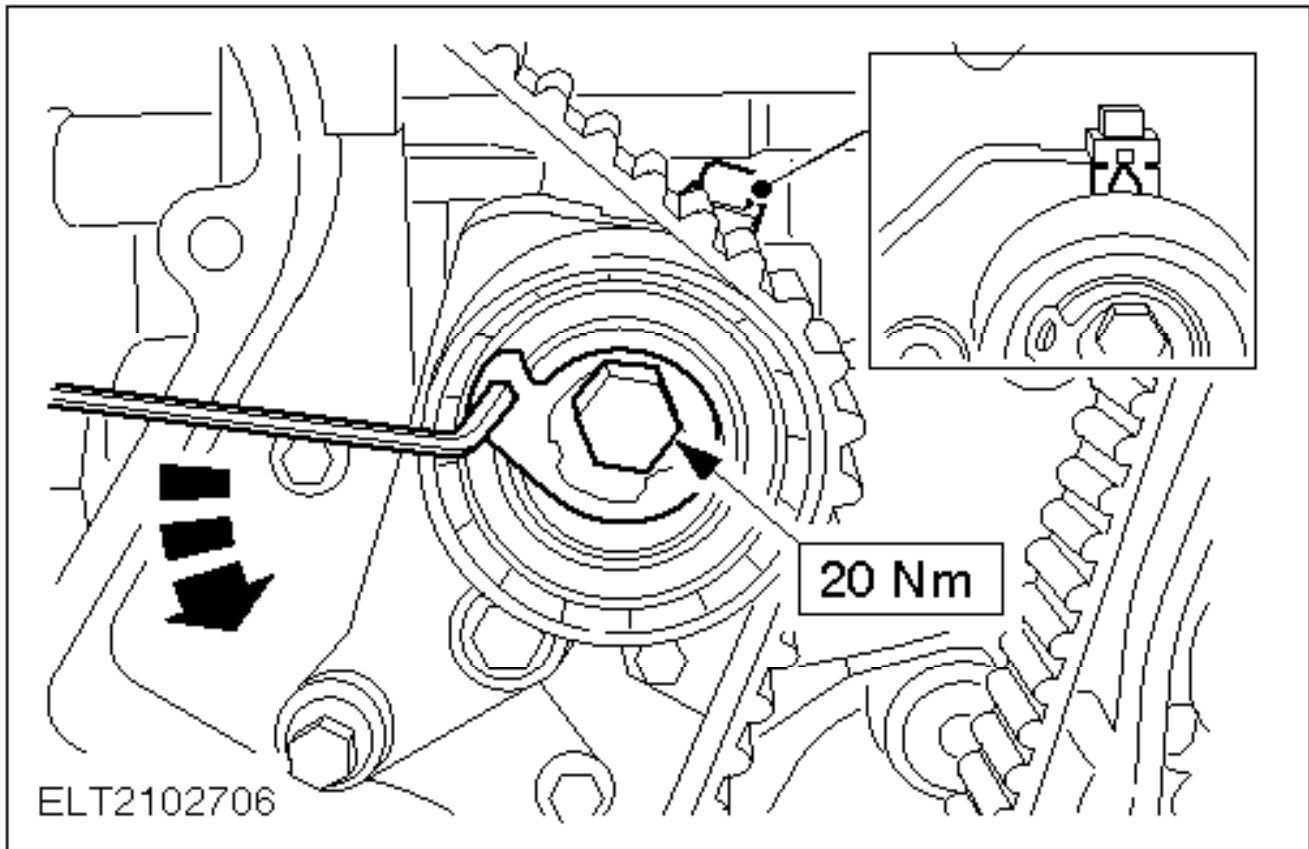
- ↻ 8. Install the special tool.

- Carefully turn the crankshaft against the special tool.



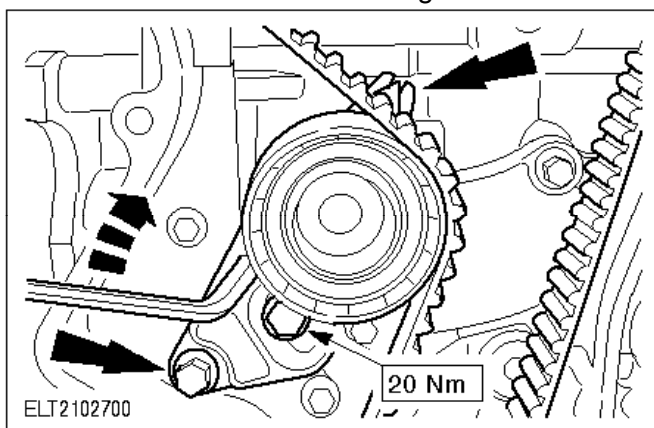
Engines with eccentric cam timing belt tensioner

9. Install the timing belt tensioner.



10. Tension the timing belt.

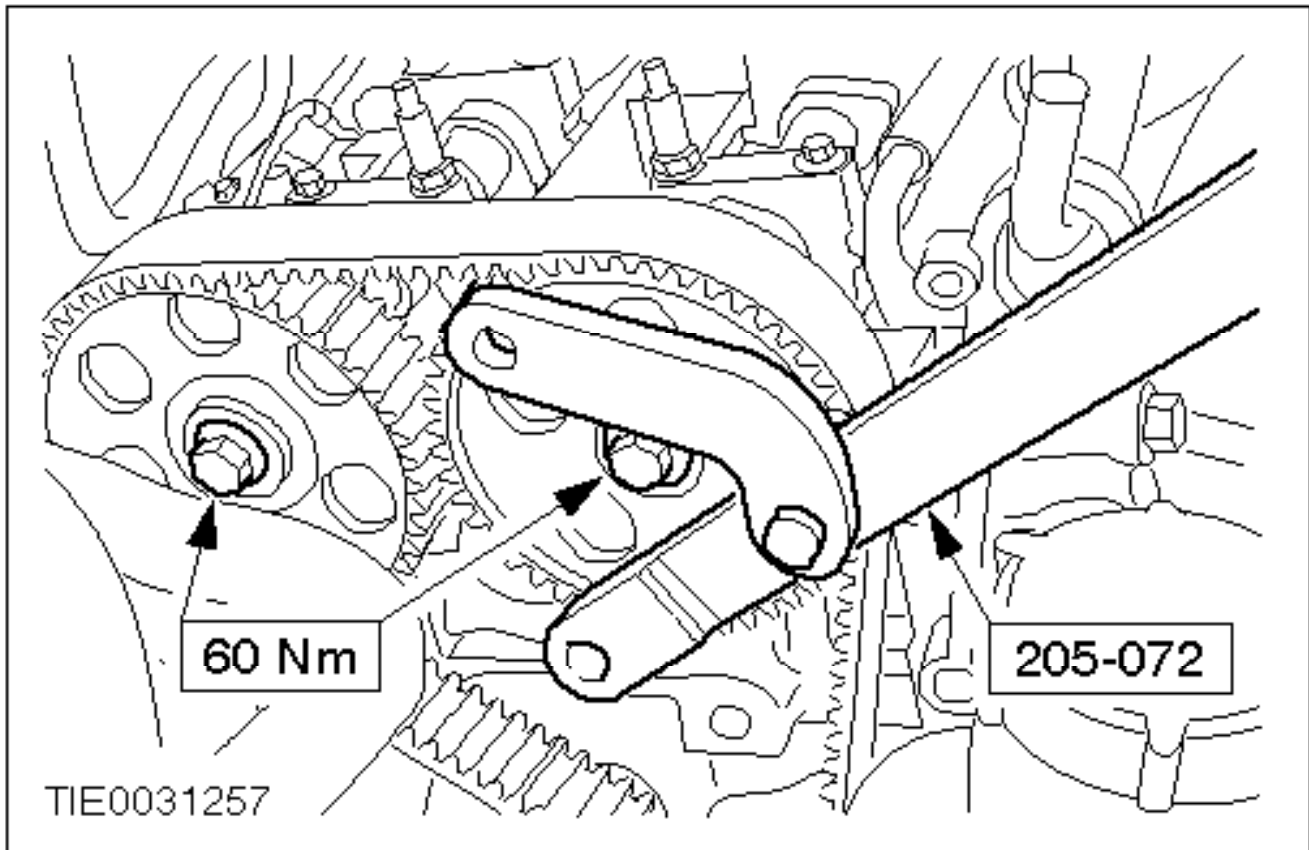
- Tension the timing belt by turning the tensioner counterclockwise until the arrow points at the mark and tighten the bolt.



Engines with slotted bracket timing belt tensioner

11. Install the timing belt tensioner and tension the timing belt.

- Screw in the bolts finger tight.
- Tension the timing belt by turning the tensioner clockwise until the arrow points in line with the center of the rectangular hole and tighten the bolt.



All vehicles

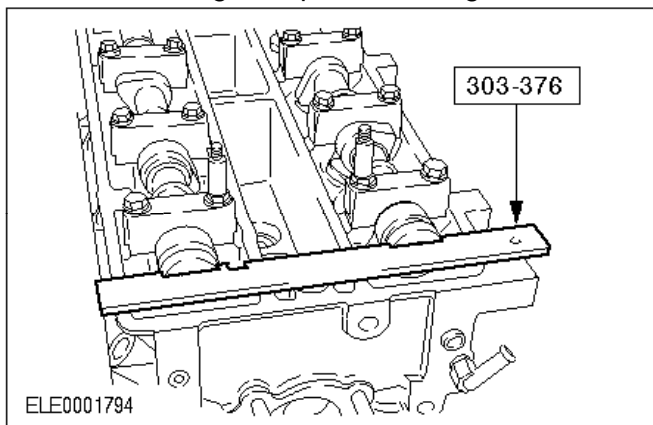
12. **CAUTION:**
Install a hose (order no. E890438S) to the special tool studs, to prevent damage to the camshaft pulleys.

CAUTION:
Do not tighten the camshaft pulley bolts against the timing plate.

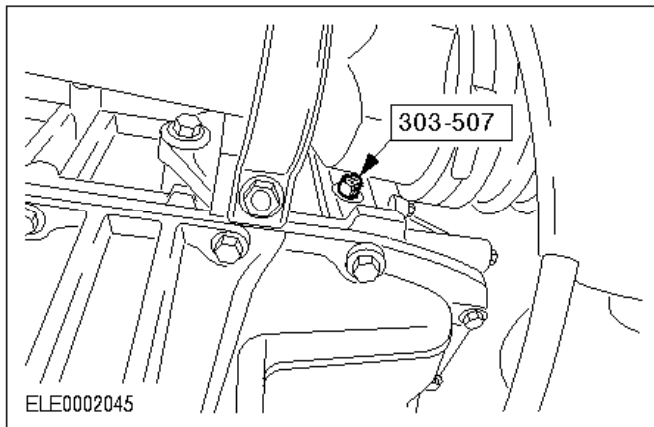
Note:
The camshafts must remain at TDC.

Note:
Install new camshaft pulley retaining bolts.

Using the special tool, tighten the camshaft pulleys.



13. Remove special tool.

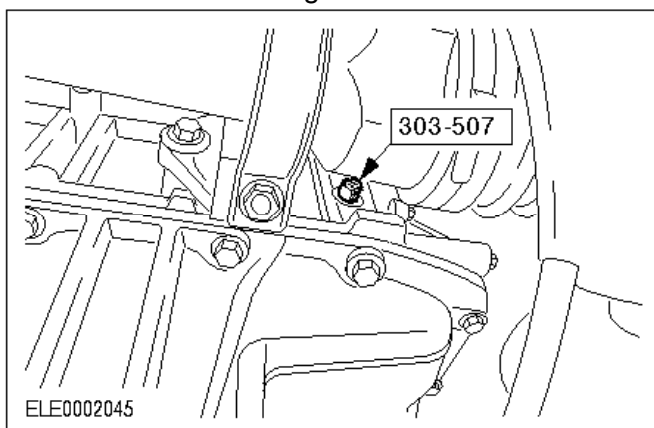


14. Remove the special tool.

15. **Note:**

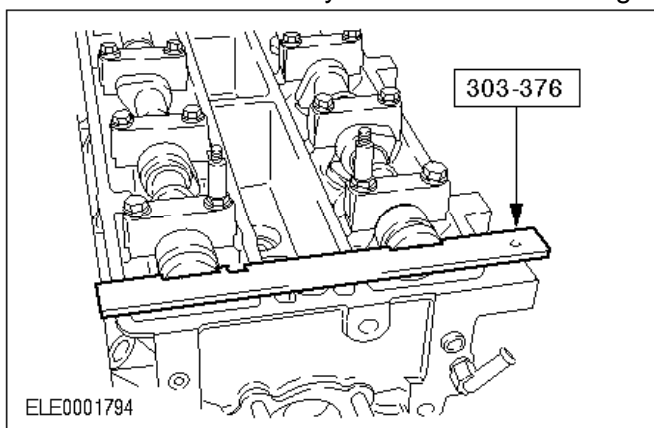
Only turn the engine in its normal direction of rotation.

Turn the engine two revolutions.



16. Install the special tool.

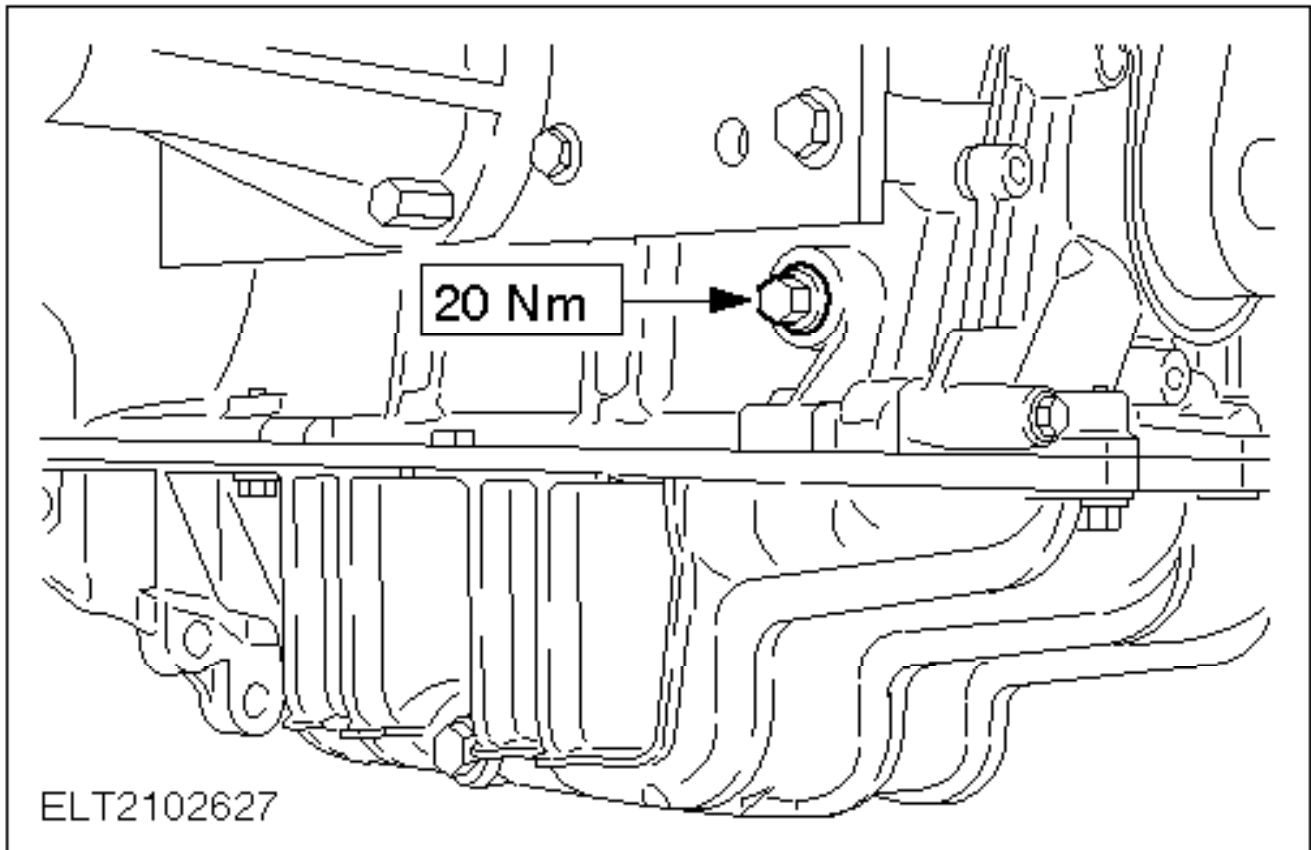
- Carefully turn the crankshaft against the special tool.



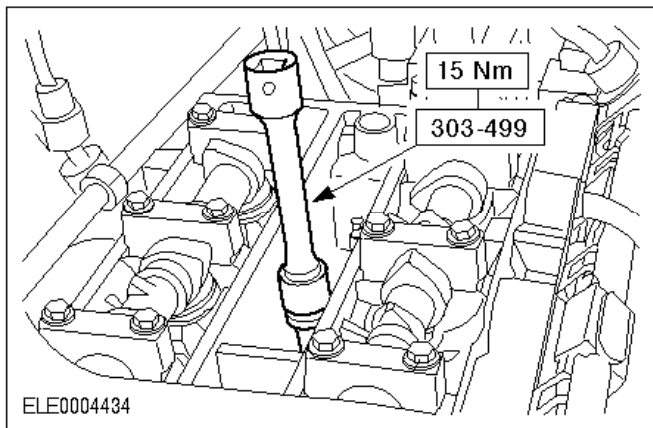
17. Check the valve timing.

- If necessary loosen the camshaft pulleys and correct the camshaft alignment.
- Remove the special tool.

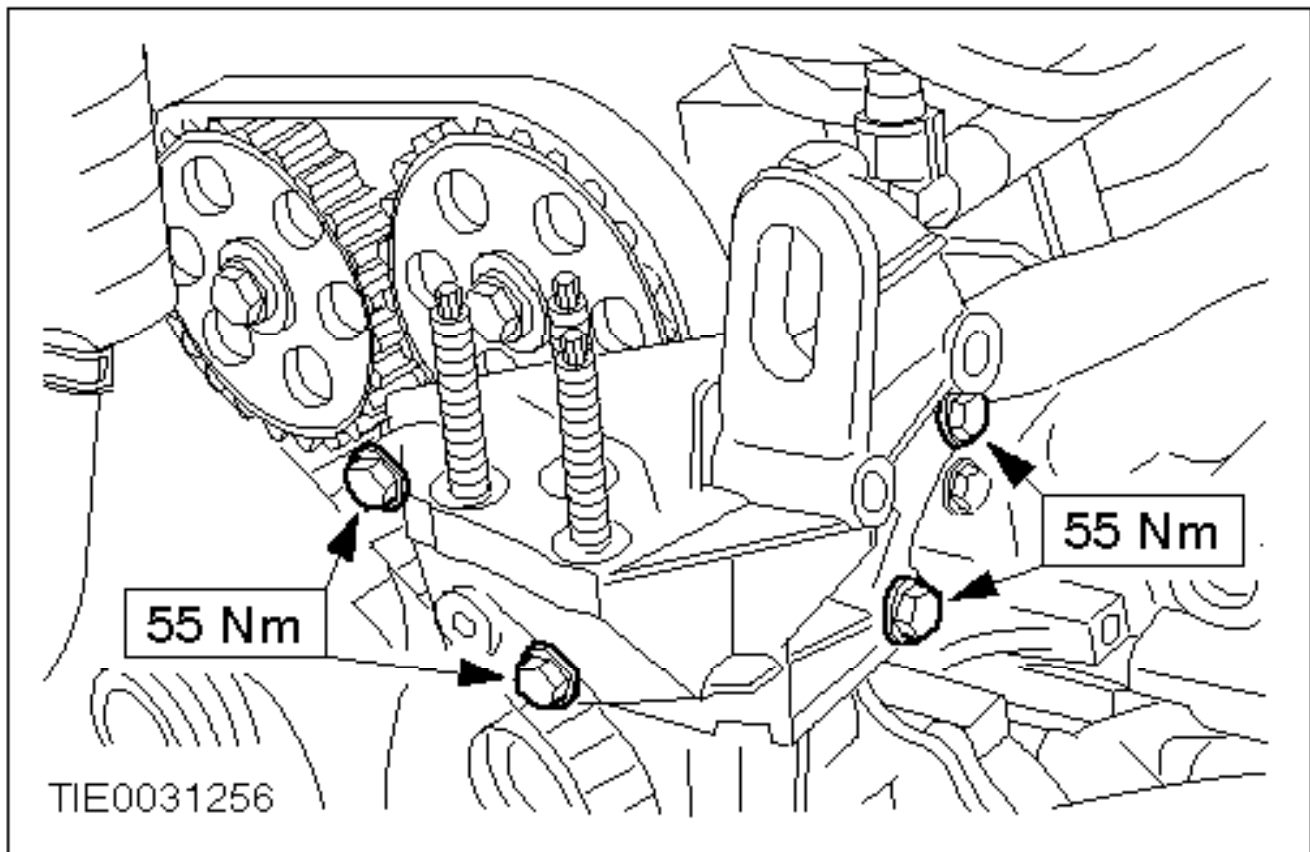
18. Remove the special tool from the cylinder block.



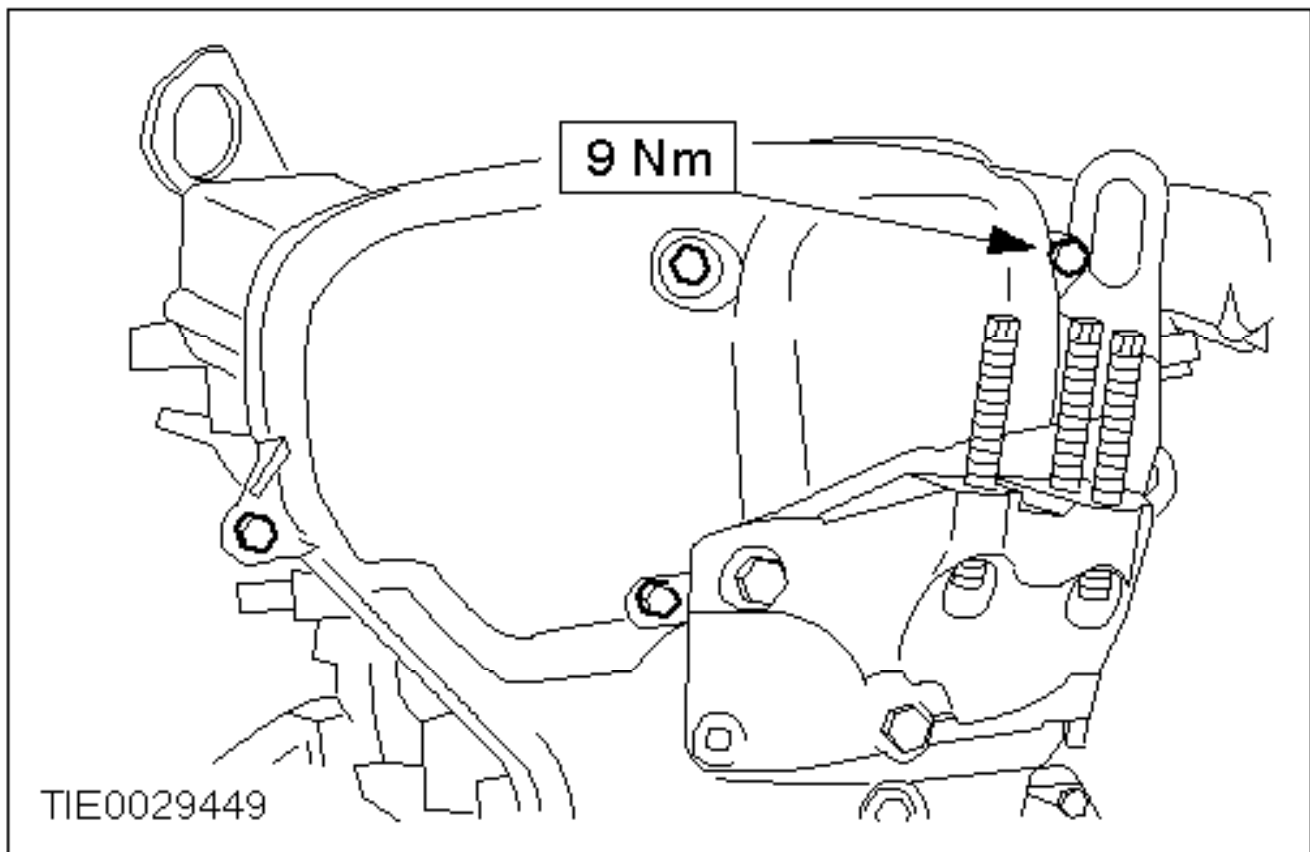
19. Install the blanking plug.



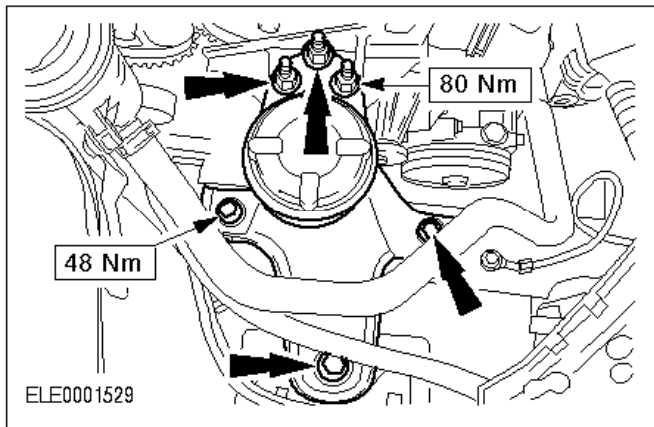
20. Using the special tool, install the spark plugs.



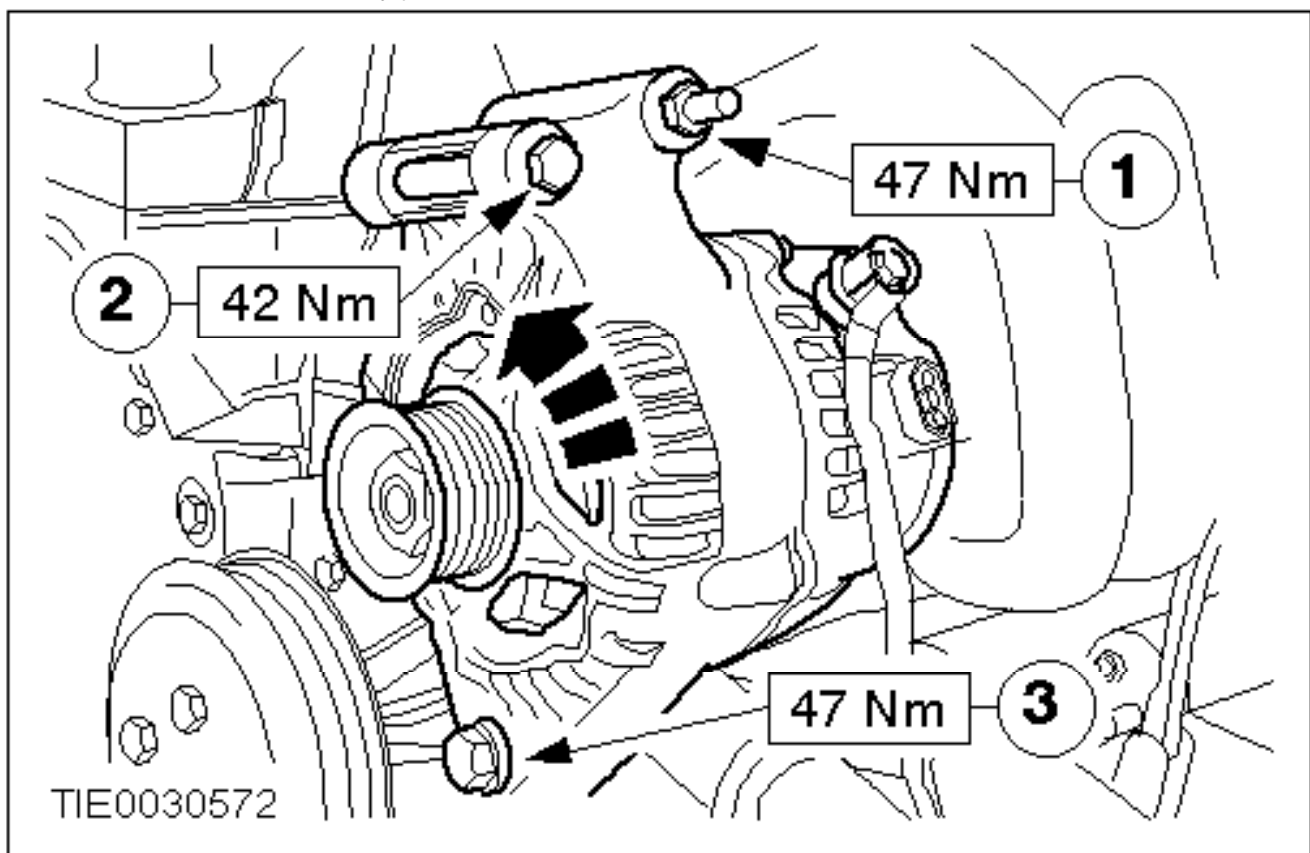
21. Install the engine front mount bracket.



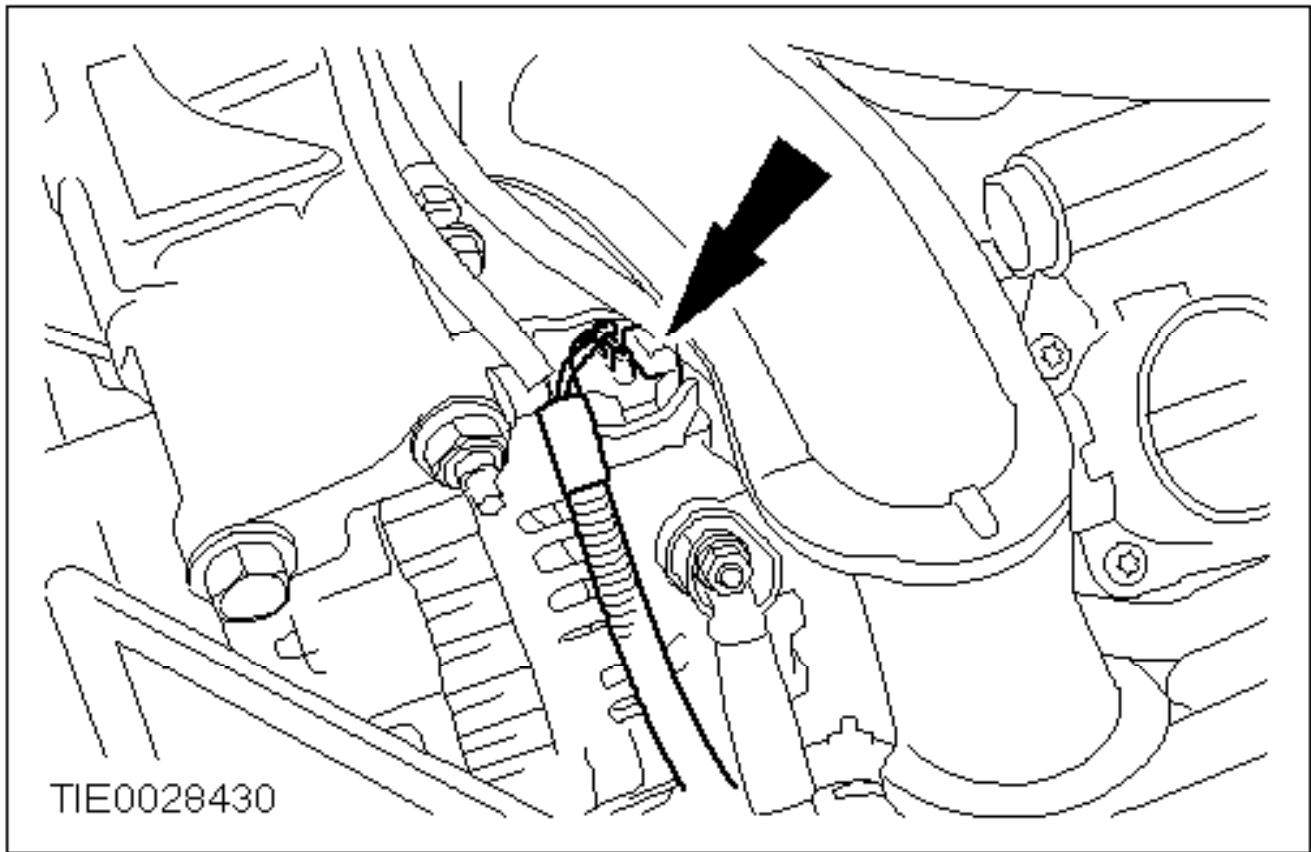
22. Install the timing belt upper cover.



- ↶ 23. **Note:**
 Install new engine front mount retaining nuts.
 Install the engine front mount.
- 24. Remove the trolley jack.

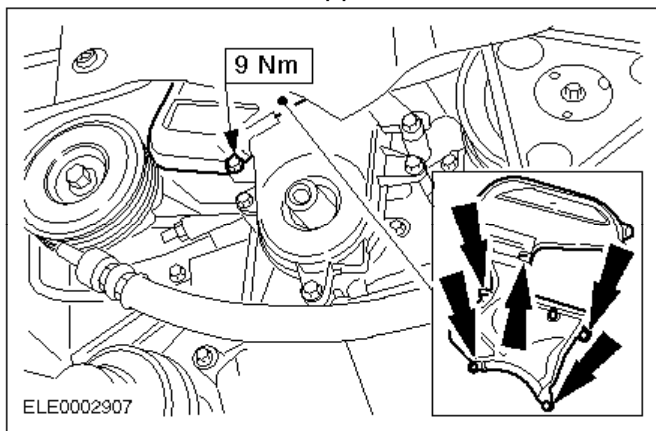


- ↶ 25. Attach the generator.
 - 1 Install the stud and nut.
 - 2 Install the bolt.
 - 3 Tighten the bolt.

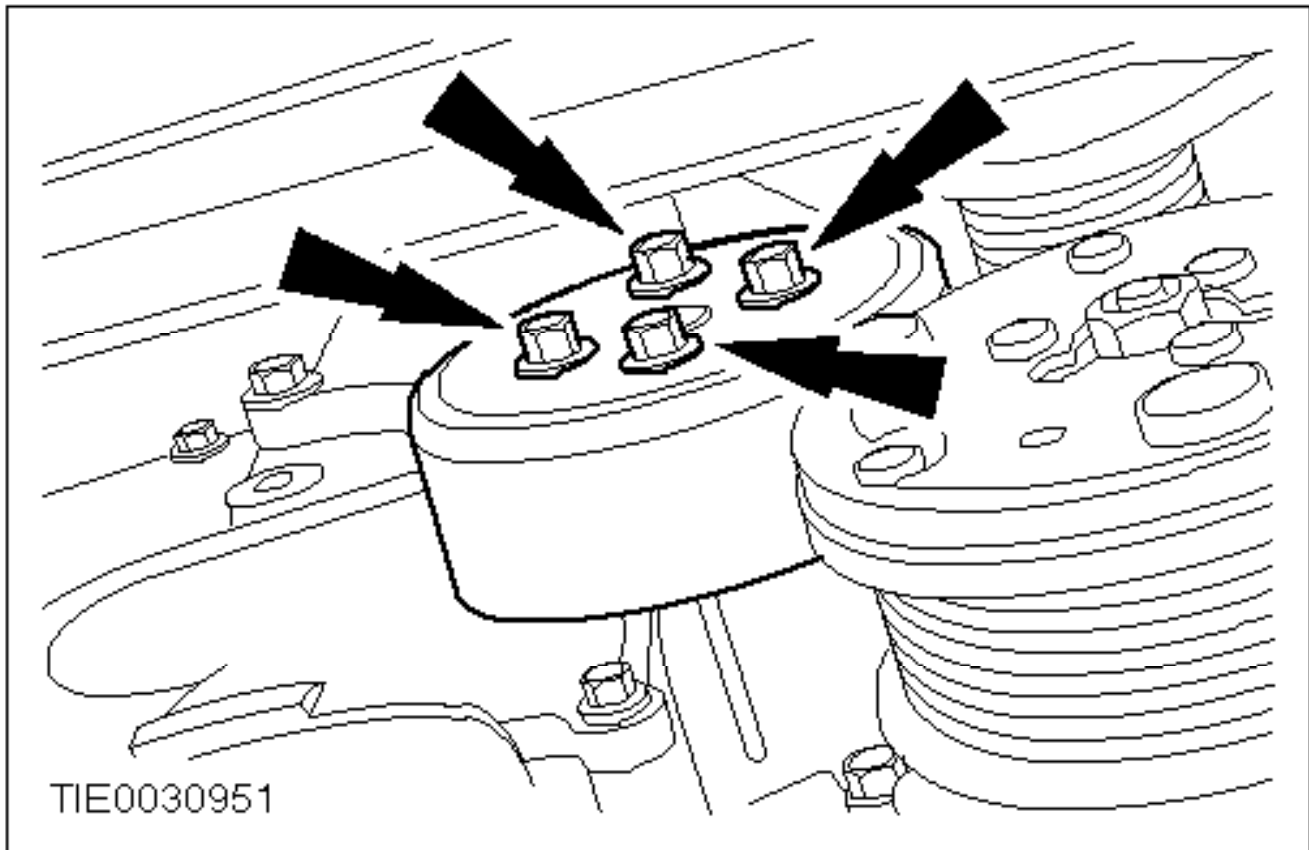


26. Connect the generator electrical connector.

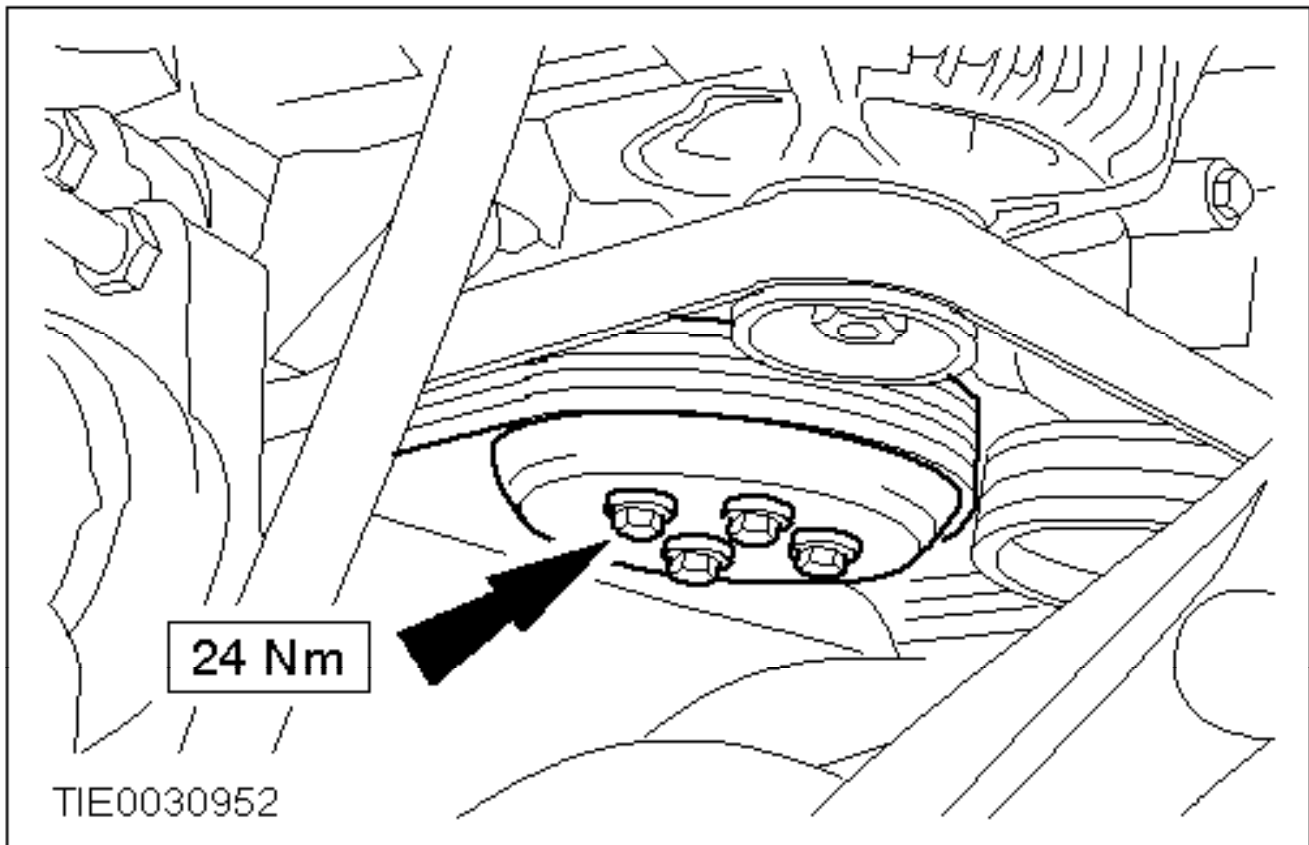
27. Raise and support the vehicle.



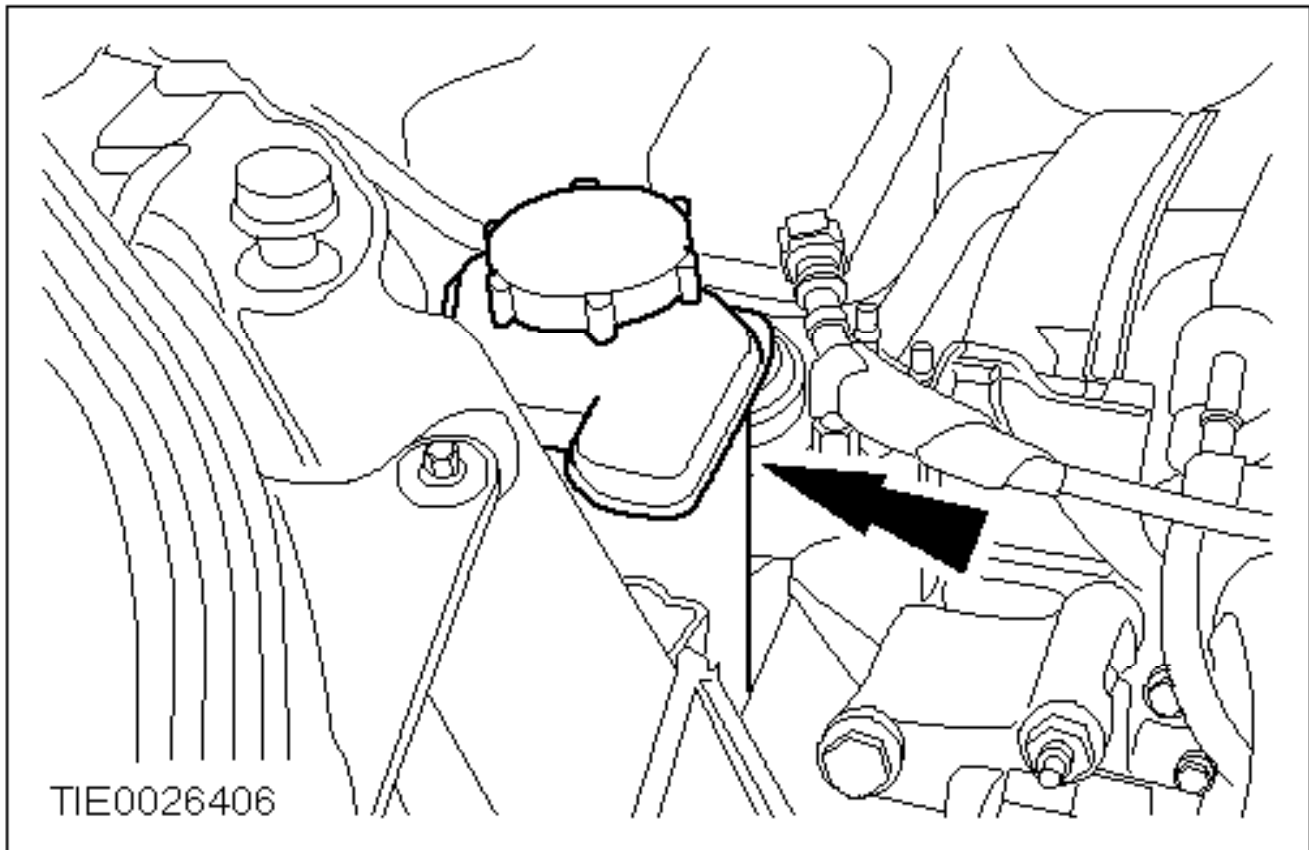
28. Install the timing belt upper cover retaining bolts.



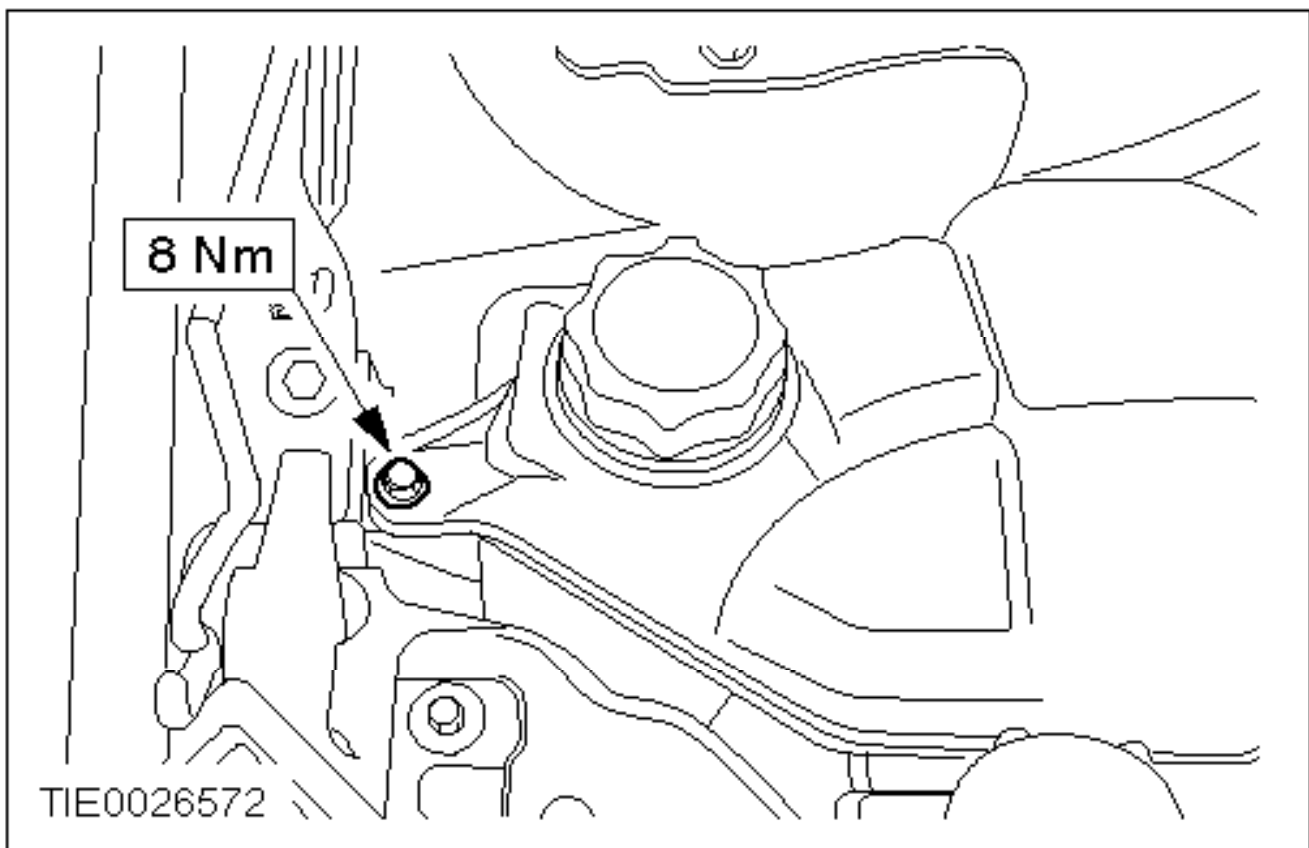
29. **Note:**
Do not tighten the coolant pump pulley retaining bolts at this stage.
Install the coolant pump pulley.
30. Install the accessory drive belt. For additional information, refer to [«Section 303-05»](#).
.[Accessory Drive Belt - 1.4L Duratec-16V (Sigma)/1.6L Duratec-16V (Sigma), Vehicles With:
Air Conditioning(303-05 Accessory Drive,reminst-ri)]



- 31. Tighten the coolant pump pulley retaining bolts.
- 32. Install the valve cover. For additional information, refer to «[Valve Cover\(303-01 Engine - 1.25L Duratec-16V \(Sigma\)/1.4L Duratec-16V \(Sigma\)/1.6L Duratec-16V \(Sigma\),invehic\)](#)» in this Section.



- 33. Attach the power steering fluid reservoir to the bracket.



- 34. Attach the coolant expansion tank to the bracket.

