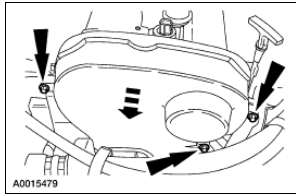
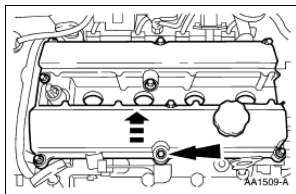


7. Remove the bolts and the upper timing belt cover.



8. Remove the valve cover.

- Remove the ten bolts.
- Remove the valve cover and valve cover gasket (6584).



9. Inspect the valve cover for damage. Install a new valve cover if necessary.

Installation

1. **⚠ CAUTION:** Do not use abrasive grinding discs to remove gasket material; only use manual scrapers. Do not scratch or gouge aluminum sealing surfaces or oil leaks may occur.

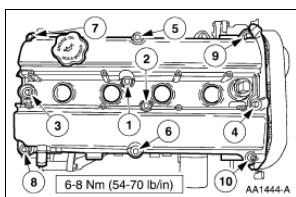
Clean and inspect the sealing surfaces of the valve cover and the cylinder head (6049). Both surfaces must be clean and flat.

2. **NOTE:** The valve cover gasket and the valve cover must be installed and the bolts tightened to specification within four minutes of sealant application.

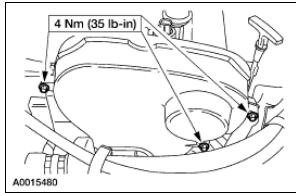
Apply a 3 mm (0.1 inch) bead of silicone sealant in two places where the front camshaft bearing cap meets the cylinder head.

3. Install the valve cover.

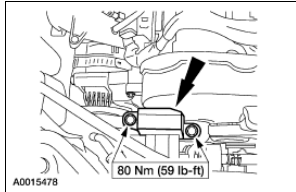
- Position the valve cover gasket.
- Position the valve cover.
- Install the bolts and tighten in the sequence shown.



4. Install the upper timing belt cover.



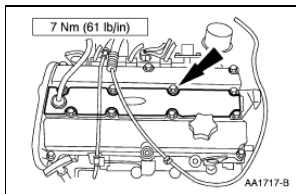
5. Install the front support damper.
- Install the damper, the bolt and the nut.



6. Install the ignition wire and bracket. For additional information, refer to [Section 303-07](#) .
7. On early production vehicles, install the oil control sensor connector boot in the engine appearance cover.
8. Connect the oil control sensor connector.
9. **NOTE:** The engine appearance cover is only required for early production vehicles.

Install the engine appearance cover.


- Position the engine appearance cover.
- Position the accelerator cable bracket on the engine appearance cover.
- Install the bolts.



10. Connect the crankcase ventilation hose.
-

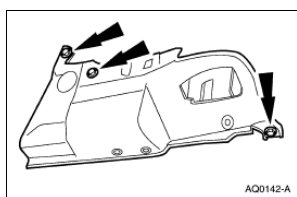
Crankshaft Pulley

Special Tool(s)

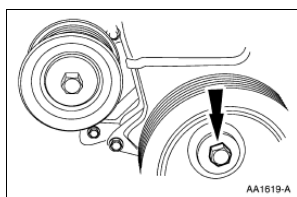
 <p>ST1438-A</p>	<p>Strap Wrench 303-D055 (D85L-6000-A) or equivalent</p>
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Removal

1. Remove the splash shield - front fender. Refer to [Section 501-02](#) .
2. Loosen the bolt retaining the crankshaft pulley.
3. Remove the drive belt (8620). Refer to [Section 303-05](#) .
4. Raise the vehicle. Refer to [Section 100-02](#) .
5. Remove the bolts and the splash shield.

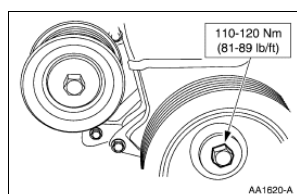


6. Remove the bolts and the crankshaft pulley (6312) and washer.





Installation

1. To install, reverse the removal procedure.



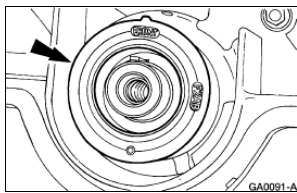
Crankshaft Front Oil Seal

Special Tool(s)

 <small>ST1385-A</small>	Seal Remover 303-409 (T92C-6700-CH)
 <small>ST1504-A</small>	Installer, Crankshaft Front Oil Seal 303-164 (T81P-6700-A)

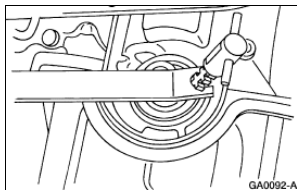
Removal

1. Remove the timing belt. For additional information, refer to [Timing Drive Components](#). [Timing Belt](#) in this section.
2. Remove the crankshaft sprocket (6306) and the timing belt guide washer.

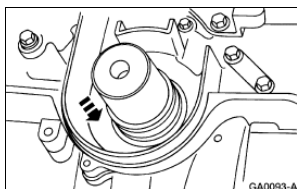


3. **⚠ CAUTION: Use care to avoid damaging the crankshaft surface.**

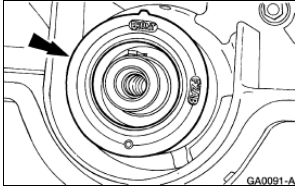
Use the Seal Remover to remove the crankshaft front seal (6700) from the oil pump (6600).

**Installation**

1. Use the Oil Pump Replacer to install a new crankshaft front seal.



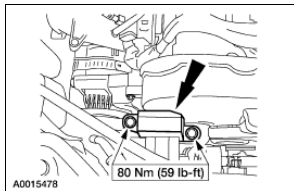
2. Install the timing belt guide washer and the crankshaft sprocket.



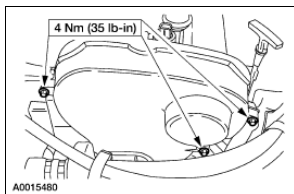
3. Install the timing belt. For additional information, refer to Timing Drive Components Timing Belt in this section.
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Timing Drive Components Timing Belt Covers**Removal and Installation**

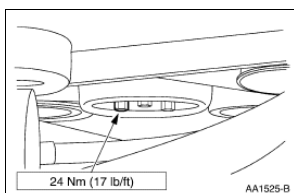
1. Disconnect the battery ground cable. For additional information, refer to [Section 414-01](#) .
2. Remove the bolt, the nut and the front support isolator damper.



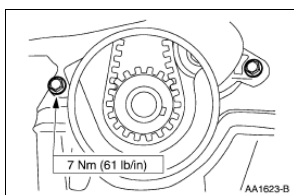
3. Remove the bolts and the upper timing belt cover.



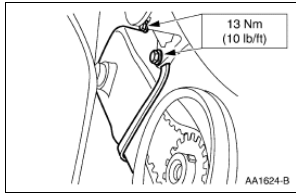
4. Loosen the water pump pulley bolts.
5. Remove the drive belt. For additional information, refer to [Section 303-05](#) .
6. Remove the bolts and the water pump pulley (8509).



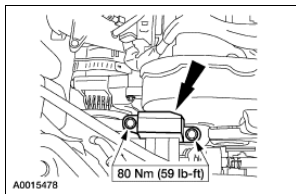
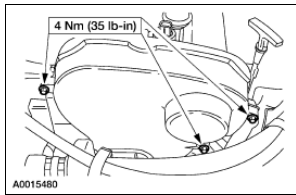
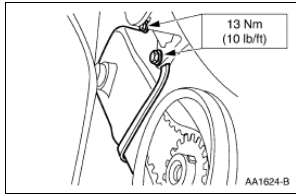
7. Raise and support the vehicle. For additional information, refer to [Section 100-02](#) .
8. Remove the crankshaft pulley. For additional information, refer to [Crankshaft Pulley](#) in this section.
9. Remove the bolts and the lower timing belt cover.



10. Remove the four bolts and the middle timing belt cover.




11. To install, reverse the removal procedure.



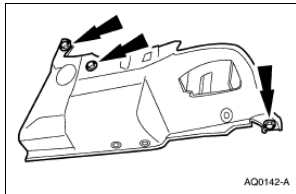
Timing Drive Components Timing Belt

Special Tool(s)

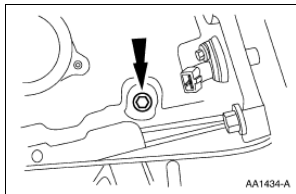
 <p>ST1697-A</p>	<p>Crankshaft TDC Timing Peg 303-574 (T97P-6000-A)</p>
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Removal

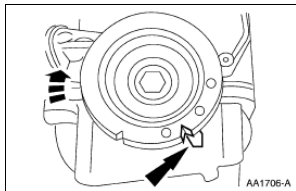
1. Remove the spark plugs (12405). For additional information, refer to [Section 303-07](#).
2. Remove the catalytic converter. For additional information, refer to [Section 309-00](#).
3. Remove the bolts and the splash shield.



4. Rotate the crankshaft (6303) to top dead center (No. 1 cylinder).
5. Install the Crankshaft TDC Timing Peg.

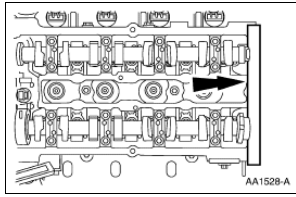


6. Rotate the crankshaft clockwise against the peg.



7. Lower the vehicle.
8. Remove the water pump pulley. For additional information, refer to [Section 303-03](#).
9. Remove the valve cover (6582). For additional information, refer to [Valve Cover](#) in this section.
10. Remove the timing belt covers. For additional information, refer to [Timing Drive Components Timing Belt Covers](#) in this section.

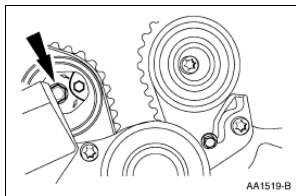
11. Install the Alignment Tool and align the camshafts (6250).



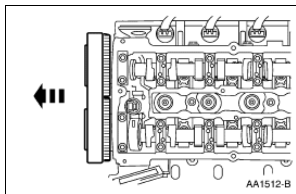
12. **⚠ CAUTION:** If the camshaft timing belt is to be reused, mark the direction of the camshaft timing belt to rotation of camshaft prior to removal or premature wear or failure may occur.

Relieve the tension on the timing belt tensioner pulley.

- Loosen the tensioner pulley bolt.
- Release tension on the timing belt by disconnecting the tensioner tab from the timing cover back plate.



13. Slide the timing belt off camshaft sprockets (6256) and crankshaft sprockets (6306).



14. Inspect the timing belt for wear. Install a new timing belt as required.

Installation

1. Verify the camshaft alignment using the Camshaft Alignment Timing Tool.
2. **NOTE:** To tighten the tensioner pulley bolt, use a Torque Adapter (3/8-inch drive, 10 mm, 2-inch offset). For additional information, refer to Timing Drive Components Timing Adjust in this section.

Follow the removal procedure in reverse order.