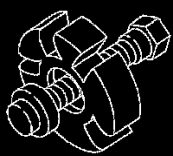
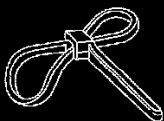


Harmonic Balancer - Crankshaft Pulley: Service and Repair

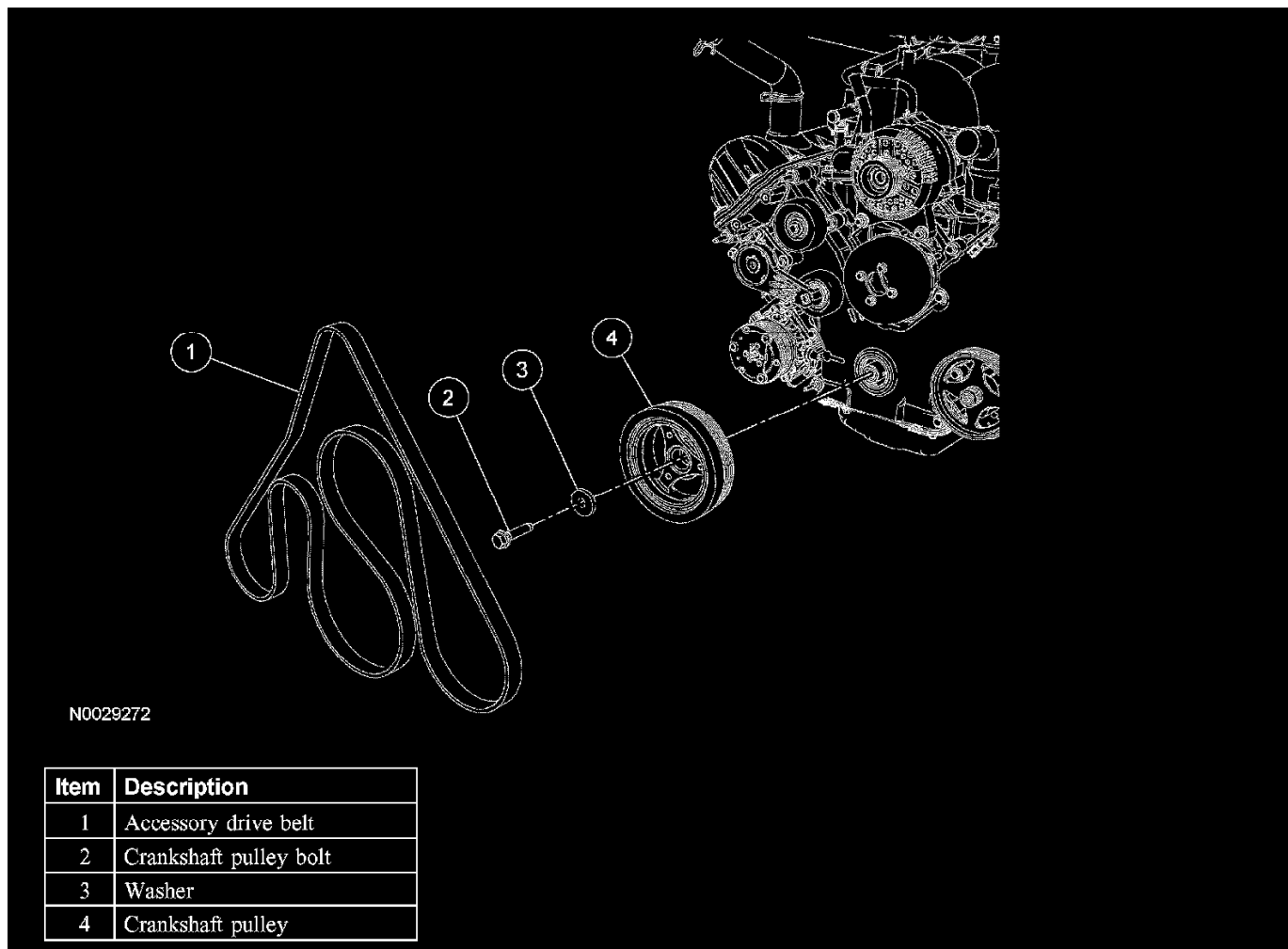
Crankshaft Pulley

Special Tool(s)	
 ST1286-A	Remover, Crankshaft Vibration Damper 303-009 (T58P-6316-D)
 ST2428-A	Installer, Crankshaft Vibration Damper 303-102 (T74P-6316-B)
 ST1438-A	Strap Wrench 303-D055 (D85L-6000-A) or equivalent

Special Tool(s)

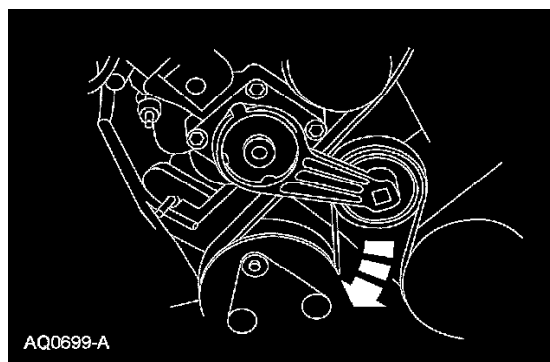
Material	
Item	Specification
Motorcraft SAE 5W-20 Premium Synthetic Blend Motor Oil XO-5W20-QSP (in Canada Motorcraft SAE 5W-20 Super Premium Motor Oil CXO-5W20-LSP12) or equivalent	WSS-M2C930-A
Silicone Gasket Remover ZC-30	—
Motorcraft Metal Surface Prep ZC-31	—
Silicone Gasket and Sealant TA-30	WSE-M4G323-A4

Material

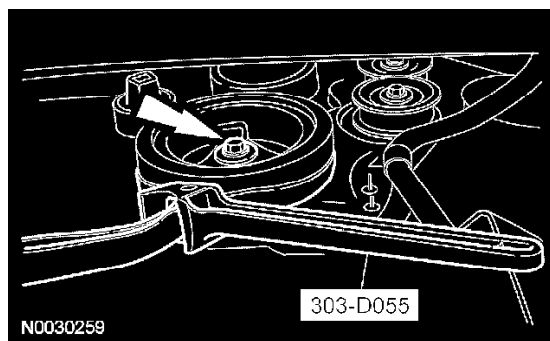


Removal

1. With the vehicle in **NEUTRAL**, position it on a hoist. For additional information, refer to Maintenance/Service and Repair.
2. Remove the engine cooling fan and fan shroud. For additional information, refer to Cooling System.



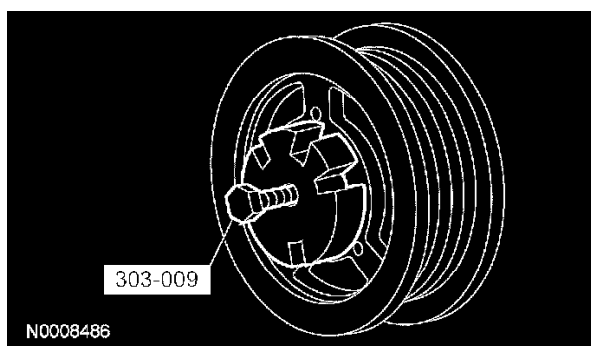
3. Rotate the tensioner **clockwise** and remove the accessory drive belt from the crankshaft pulley.



4. **CAUTION:** This bolt is torque-to-yield and cannot be reused.

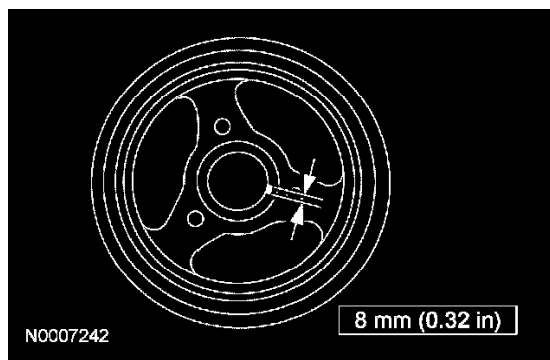
Using the special tool, remove the crankshaft pulley bolt and washer.

^ Discard the crankshaft pulley bolt.



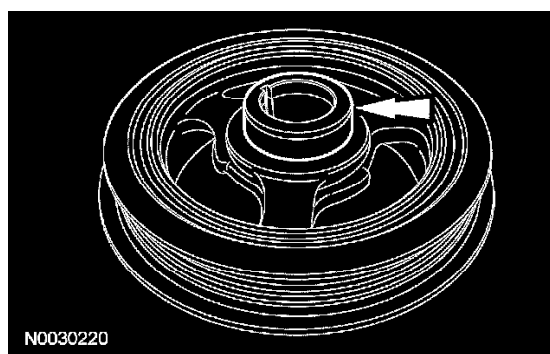
5. Using the special tool, remove the crankshaft pulley.

Installation

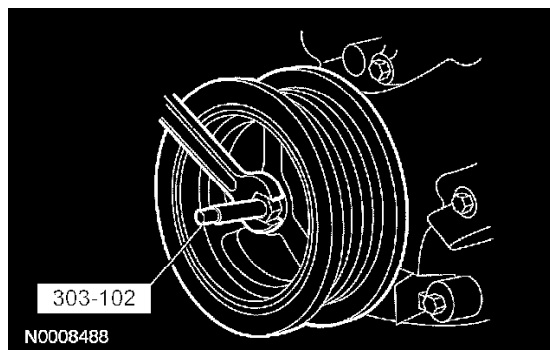


1. **NOTE:** If not secured **within 4 minutes**, the sealant must be removed and the sealing area cleaned with silicone gasket remover and metal surface prep. Follow the directions on the packaging. Allow to dry until there is no sign of wetness, or **4 minutes**, whichever is longer. Failure to follow this procedure can cause future oil leakage.

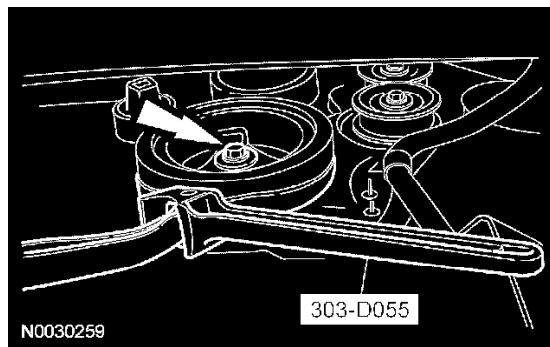
Apply silicone gasket and sealant to the Woodruff key slot on the crankshaft pulley.



2. Lubricate the crankshaft pulley sealing area with clean engine oil prior to installation.

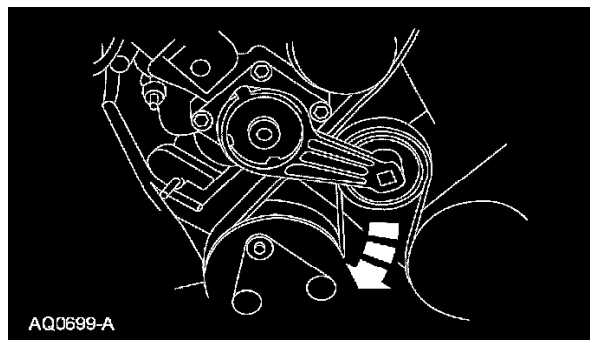


- Using the special tool, install the crankshaft pulley.



- Using a new crankshaft pulley bolt, install the crankshaft pulley bolt and washer. Using the special tool to hold the crankshaft pulley, tighten the bolt in 4 stages:

- ^ Stage 1: Tighten to **90 Nm (66 ft. lbs.)**.
- ^ Stage 2: Loosen **one full turn**.
- ^ Stage 3: Tighten to **50 Nm (37 ft. lbs.)**.
- ^ Stage 4: Tighten an **additional 90 degrees** without exceeding **200 Nm (148 ft. lbs.)**.



- Rotate the tensioner **clockwise** and install the accessory drive belt onto the crankshaft pulley.
- Install the engine cooling fan and the fan shroud. For additional information, refer to Cooling System.