

- Double check the timing mark alignment after belt tension has been adjusted. Turn the engine over (clockwise) one full rotation and check the timing marks.

NOTE

- Alignment marks on factory timing belts will not align with the sprocket and engine marks once the crankshaft has been rotated.

- On B230 engines, install the outer timing belt guide plate to the crankshaft sprocket, then install the lower timing belt cover. The tapered side of the guide plate should face the belt.
- On B230 engines, install the crankshaft pulley using a new bolt. Hold the crankshaft pulley stationary and tighten the pulley bolt. See Fig. 11.

CAUTION

- The hole in the crankshaft pulley must engage the guide pin on the crankshaft. If the pulley is installed misaligned, severe engine and accessory damage may occur.

Tightening torque

- crankshaft pulley bolt (B230)

stage 1	60 Nm (44 ft-lb)
stage 2	additional 1/6-turn (60°)

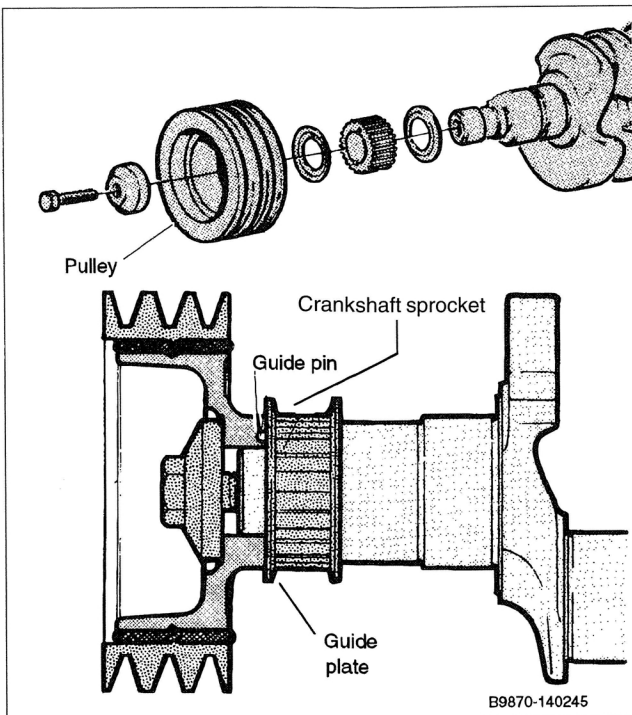


Fig. 11. Proper installation of timing belt sprocket guide plates and crankshaft pulley.

- The remainder of the timing belt installation is the reverse of removal with some special considerations.

CAUTION

- On early B21 and B23 engines, the air conditioning V-belt tension may need to be adjusted when installing the crankshaft pulley, especially if a new belt is being installed. See **170 Maintenance Program**.

- When the timing belt installation is complete, warm the engine to normal operating temperature, then stop the engine and readjust the belt tension as described in **Timing Belt Adjustment** above.
- Check the ignition timing as described in **280 Ignition System**. Check the idle speed and idle mixture adjustment (% CO) as described in **240 Fuel Injection—CI** or **241 Fuel Injection—LH**.

NOTE

- When the timing belt has been replaced, belt tension should be adjusted after the first 600 miles (1000 km) of operation.

TIMING BELT INSPECTION

The timing belt should be replaced whenever a valve timing problem is suspected, or other repairs make the belt accessible. In order to inspect the timing belt, its cover must be removed as described in **Timing Belt Removal and Installation** earlier in this repair group. When inspecting an installed belt, use a socket wrench on the crankshaft bolt and turn the engine by hand, clockwise through at least two full revolutions, to check the entire length of the belt.

Inspect the timing belt for tears, cracks, cuts or exposed threads. Pay special attention to the belt teeth. They should not be worn on either edge, and there should not be any facing material or segments missing. Replace the belt if it shows any signs of wear or damage.

If the belt was damaged by mechanical contact with another engine part, identify and repair the cause of the contact before installing the new belt. Also check to make sure that there is not some foreign material inside the timing belt cover that has caused the damage.

The timing belt should also be replaced if it has been contaminated by engine oil. Common sources of oil leaks include the camshaft, intermediate shaft and crankshaft oil seals. Identify and repair the leak, and clean away all traces of old oil, before installing the new timing belt. Replacement of the camshaft oil seal is covered in **214 Cylinder Head and Valvetrain**. Replacement of crankshaft and intermediate shaft oil seals is covered in **216 Crankshaft and Intermediate Shaft**.

While the belt is off, also inspect the tensioner assembly. Spin the bearing and make sure that it turns smoothly. Check