



## Timing Information for 2006-2008 Mazda 2.3L GDI Engines

The AERA Technical Committee offers the following information for timing the 2006-2008 Mazda 2.3L GDI engines. This information should be used anytime the crankshaft pulley bolt has been **loosened**, as the engine will require re-timing.

These engines do not use a keyed/doweled crankshaft or camshaft for timing alignment; instead, the timing alignment procedures presume technicians have the proper special service tools and will follow proper instruction. Before assembly, obtain a new pulley bolt Part #LF01-11-406 and torque it to 71-76 FT/LBS + 87-93°.

1. After obtaining the camshaft alignment plate 303-1061 install it onto the camshaft as shown in Figure 1.
2. Rotate the crankshaft clockwise until the crankshaft balance weight is contacting to the crankshaft using alignment pin 303-507 as shown in Figure 4 below. No.1 cylinder TDC.
3. Install the timing chain.
4. Verify TDC of cylinder # 1 again; install the M6 x 1.0 bolt by hand as shown in Figure 2. To position the crankshaft pulley, temporarily tighten it and, using the suitable bolt, fix the crankshaft pulley to the engine front cover.
5. Hold the crankshaft pulley using the service tools shown in Figure 3.
6. Tighten the NEW crankshaft pulley lock bolt in the order shown following two steps.
  - Tighten to 71 - 76 FT/LBS (96 - 104 Nm)
  - Tighten 87° - 93°
7. Remove the M6 x 1.0 bolt.
8. Remove the service tool from the camshafts.
9. Remove the service tool from the cylinder block lower blind plug.
10. Rotate the crankshaft two times clockwise until the crankshaft is in the TDC position, reinstall the service tools to the camshaft and cylinder block, and inspect the valve timing.
11. If not aligned, loosen the crankshaft pulley lock bolt and repeat from Step 1.

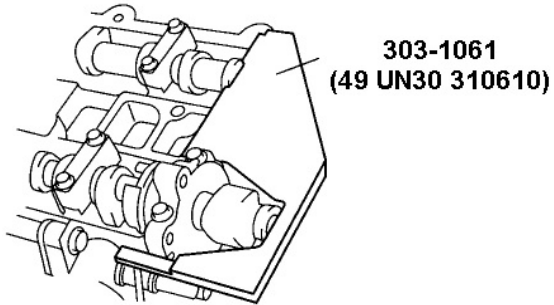


Figure 1. Cam Alignment Plate

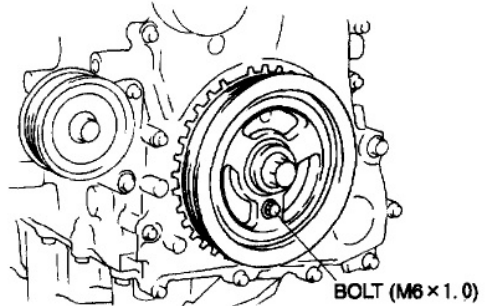


Figure 2. Temporarily Holding Bolt

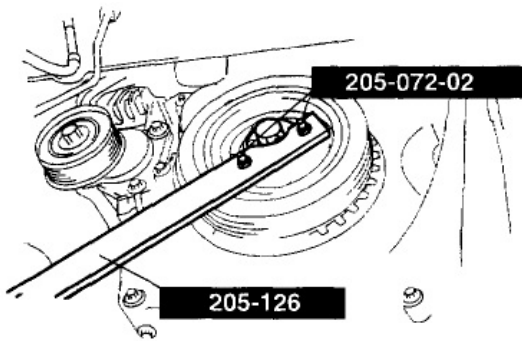


Figure 3. Crankshaft Holding Tools

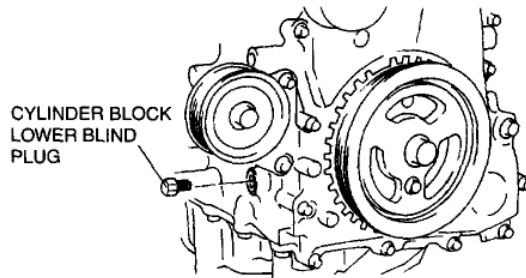


Figure 4. Cam Alignment Plate