1. Using an appropriate scan tool check for codes in the powertrain control module related to camshaft and crankshaft timing. Check the data PIDs for cam/crank correlation information. Record the findings: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Evaluation (Enter number from 4, 3, 2, 1) :\_\_\_\_\_\_\_\_\_

Meets ASE Task: A1 – A-6 – P-1

Time on Task:\_\_\_\_\_\_\_\_\_\_\_\_\_

Make/Model/Year:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

VIN:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Verify Engine Mechanical Timing**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Disable the ignition system.

3. Rotate the engine to TDC (cylinder #1 on most engines) on the timing mark in normal direction of engine rotation (clockwise on most engines as viewed from the front of the engine).

4. Confirm the timing marks on the camshaft(s) are in the proper location. Is the engine in time?

\_\_\_\_\_\_\_ Yes \_\_\_\_\_\_\_ No

5. Describe the timing marks.

\_\_\_\_\_\_\_ dots

\_\_\_\_\_\_\_ arrows

\_\_\_\_\_\_\_ dark or light chain links

\_\_\_\_\_\_\_ other (describe) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Record the number of degrees of slack in the timing chain.

\_\_\_\_\_\_\_ number of degrees of slack **OK \_\_\_\_\_\_\_ NOT OK \_\_\_\_\_\_\_**

**Results**:

**1.** less than 5° = normal.

**2.** 5° ‑ 8° = some change in engine operation if the timing chain is replaced.

**3.** over 8° = new timing chain required.

6. What is the necessary action? (describe): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_