



NUMBER: 08-001-08 REV. A

GROUP: Electrical

DATE: February 23, 2008

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THIS BULLETIN SUPERSEDES TECHNICAL SERVICE BULLETIN 08-001-08, DATED JANUARY 26, 2008. THIS IS A COMPLETE REVISION AND NO ASTERISKS HAVE BEEN USED TO HIGHLIGHT REVISIONS.

SUBJECT:

Long Engine Crank Time And/Or MIL Illumination Due To DTC P0340 / P0344

OVERVIEW:

This bulletin involves the reprogramming of the PCM and the possible replacement of the engine camshaft sensor.

MODELS:

2008 (JK) Wrangler

NOTE: This bulletin applies to vehicles equipped with a 3.8L engine (sales code EGT) and built prior to February 13, 2008 (MDH 0213XX).

SYMPTOM/CONDITION:

The customer may experience one of the following conditions:

1). A Malfunction Indicator Lamp (MIL) illumination when starting due to one of the following DTCs:

a). **P0340** - Camshaft Position Sensor Circuit - Bank 1 Sensor 1

b). **P0344** - Camshaft Position Sensor Intermittent - Bank 1 Sensor 1

2). Long engine crank time.

3). Two engine start attempts prior to engine starting.

4). Due to the "TIP Start Feature" on automatic transmission equipped vehicles, once the ignition key / switch has been released from the "START" position, the starter may stay engaged for up to 10 seconds while the engine attempts to start.



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DIAGNOSIS:

1. If the above condition is present, determine the Build Date (MDH) of the vehicle.
2. If the vehicle was **built prior to January 04, 2008 (MDH 0104XX)** then perform Repair Procedure Section A - Replace Camshaft Position Sensor and Section B - Reprogram The PCM.
3. If the vehicle was **built on or between January 04, 2008 (MDH 0104XX) and February 12, 2008 (MDH 0212XX)**, then only perform Repair Procedure Section B - Reprogram The PCM. The camshaft position sensor is already up to date.

PARTS REQUIRED:

Qty.	Part No.	Description
(AR) 1	05149078AC	Sensor, Camshaft
1	04275086AB	Label, Authorized Modification

SPECIAL TOOLS / EQUIPMENT REQUIRED:

NPN	Battery Charger
CH9401	StarSCAN® Tool
CH9404D	StarSCAN® Vehicle Cable
CH9409	StarSCAN® Documentation Kit
CH9410	StarSCAN® Ethernet Cable, 12 ft.
CH9412	StarSCAN® Software Update Device Kit
	TechCONNECT PC or equivalent
	Latest StarSCAN® Software Update CD

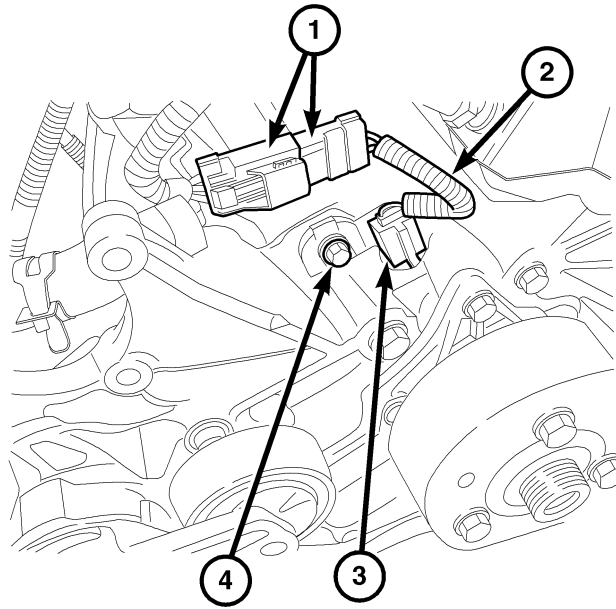
REPAIR PROCEDURE:**SECTION A - REPLACE CAMSHAFT POSITION SENSOR:**

1. Disconnect and isolate the negative battery cable from the battery.
2. Disconnect the camshaft sensor electrical connector ([Fig. 1](#)).
3. Clean the area around the camshaft sensor and bore.
4. Loosen the camshaft sensor mounting bolt.
5. Remove the camshaft sensor from engine with a pulling and rotating motion.
6. Verify that the old O-ring on the camshaft sensor was removed with the old camshaft sensor.
7. Apply a couple of drops of engine oil to the new camshaft sensor O-ring.

NOTE: Verify that the paper spacer (orange in color normally) is in position at the end / tip of the camshaft sensor p/n 05149078AC.

8. Install the new camshaft sensor to the engine and rotate into position.
9. Push the new camshaft sensor down until contact is made with the camshaft gear.
10. While holding the new camshaft sensor in position against the camshaft gear, tighten the camshaft mounting bolt. Tighten the bolt to 14 Nm (125 in. lbs.).
11. Connect the camshaft sensor lead to the engine harness connector.
12. Connect the negative battery cable to the battery.

13. Proceed to the next section and reprogram the PCM.



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Fig. 1 A CAMSHAFT SENSOR EXAMPLE

- 1 - Camshaft Sensor To Engine Harness Connector (Not Actual Configuration)
- 2 - Camshaft Sensor Electrical Lead (Not Actual Configuration)
- 3 - Camshaft Sensor (Not Actual Configuration)
- 4 - Camshaft Sensor Mounting Bolt (Not Actual Configuration)

SECTION B - REPROGRAM THE PCM USING StarSCAN AND THE INTERNET TO RETRIEVE THE FLASH FILE:

NOTE: Before performing this Repair Procedure, the operating software in the StarSCAN® must be programmed with software release level 8.04 or higher. The software release level is visible in the blue header at the top of the StarSCAN® screen.

NOTE: The StarSCAN® diagnostic scan tool fully supports Internet connectivity. However, in order to take advantage of this feature you must first configure the StarSCAN® for your dealership's network. For instruction on setting up your StarSCAN® for the dealer's network; refer to the StarSCAN® Quick Start Networking Guide available on the www.dcctools.com website under the "download center".

NOTE: StarMOBILE Standalone Mode or StarMOBILE Desktop Client may also be used to perform this procedure.

NOTE: If this flash process is interrupted/aborted, the flash should be restarted.

1. Open the hood and install a battery charger. Using a voltmeter, verify that the charging rate provides 13.2 - 13.5 volts. Set the battery charger to continuous charge. Do not allow the charger to time out during the flash process. Remove the charger from the battery when the flash process is complete.

NOTE: Do not allow the charging voltage to climb above 13.5 volts during the flash process.

2. Connect the CH9410 StarSCAN® ethernet cable to the StarSCAN® and the dealer's network drop.
3. Connect the CH9404D StarSCAN® vehicle cable to the StarSCAN® and the vehicle.
4. Turn the ignition switch to the "ON/RUN" position.
5. Power ON the StarSCAN®.
6. Retrieve the old ECU (PCM) part number. Using the StarSCAN® at the "Home" screen:
 - a. Select "ECU View"
 - b. Touch the screen to highlight the PCM in the list of modules.
 - c. Select "More Options"
 - d. Select "ECU Flash".
 - e. Record the part number at the top of the "Flash PCM" screen for later reference.
 - f. Select "Browse for New File". Follow the on screen instructions.
 - g. Select "Download to Scantool".
 - h. Select "Close" after the download is complete, then select "Back".
 - i. Highlight the listed calibration.
 - j. Select "Update Controller".
 - k. When the PCM update is complete, select "OK".

NOTE: Due to the ECU programming procedure, a DTC may be set in other electronic modules within the vehicle. Some DTC's may cause the MIL to illuminate. From the "Home" screen select "System View". Then select "All DTCs". Press "Clear All Stored DTCs" if there are any DTCs shown on the list.

NOTE: The following step is required by law when reprogramming a PCM or TCM.

7. Type the necessary information on the "Authorized Modification Label" p/n 04275086AB and attach near the VECI label ([Fig. 2](#)).

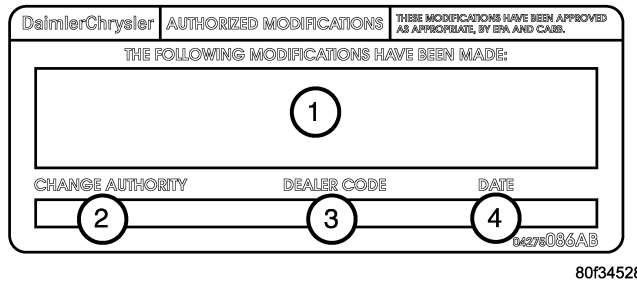


Fig. 2 AUTHORIZED MODIFICATION LABEL

- 1 - POWERTRAIN CONTROL MODULE P/N (INSERT P/N) USED
- 2 - CHANGE AUTHORITY: TSB XX-XXX-XX
- 3 - DEALER CODE: XXXXX
- 4 - DATE: XX-XX-XX

POLICY:

Reimbursable within the provisions of the warranty.

TIME ALLOWANCE:

Labor Operation No:	Description	Amount
08-15-79-91	Camshaft Position Sensor - Replace (B)	0.2 Hrs.
18-19-06-B8	Module, Powertrain Control (PCM) - Reprogram (B)	0.4 Hrs.

FAILURE CODE:

ZZ	Service Action
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