

# Technical Service Bulletin

Mazda North American Operations  
Irvine, CA 92618-2922



|                                                                |                                |
|----------------------------------------------------------------|--------------------------------|
| <b>Subject:</b><br><br>CHECK ENGINE LIGHT ON WITH DTC P0172:00 | <b>Bulletin No.:</b> 01-019/18 |
|                                                                | <b>Last Issued:</b> 10/10/2018 |

## APPLICABLE MODEL(S)/VINS

2013 CX-5 2.0L (M/T) with VINs lower than JM3KE\*\*\*\*\*168326 (produced before November 15, 2012)  
2013 CX-5 2.0L (A/T) without kickdown switch with VINs lower than JM3KE\*\*\*\*\*148075 (produced before September 6, 2012)

## DESCRIPTION

Some vehicles may experience a check engine light on with DTC P0172:00 stored in the PCM memory. This normally occurs during the fast idle immediately after starting the engine or after the fast idle lowers to a normal idle.

- DTC P0172:00 - Fuel trim system too rich

Due to improper PCM control logic, the fuel injection amount may be improperly compensated when the engine start is not smooth and due to low quality fuel.

## REPAIR PROCEDURE

1. Verify the customer concern.
2. Inspect the FFD and verify it meets the following conditions

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```

FreezeFrameData
ModuleName PCM
DTC P0172:00-A0
FUELSYS1 Closed Loop
FUELSYS2 Engine OFF
LOADING 25%
ECT 25-C
SFT1 -9.38%
LFT1 -20.31%
MAP 78kPa
RPM 895 25RPM
VS 0KPH
SPRNG/ACV -15.5-
IAT 23-C
MAP1 0g/s
TP 13.61%
RUNTM 00:35
RSP 11.15APa
EVAPVOT 0%
PLJ 67.06%
WARMUP 5.34
CLACET 7.82km
BARGH 00kPa
CATTEDMPT 252-C
VINR 13.86V
ALV 62.75%
SD, IAT 14.56:1
TP, REL 10.2%
TP, B19 22%
APR, D15.69%
APR, E17.64%
TAC, POT 12.16%
FUEL_TYP Gasoline
STS 00FT1 0%
L2G 00FT1 0%
IAT11, SUP 14%
IAT12 22-C
IAT12, SUP 14%
IAT13 -40-C
IAT13, SUP 14%
IAT11 23-C

```

DTC = P0172:00  
 FUELSYS1 = Closed Loop  
 ECT = 45°C [113°F] or below  
 RPM = (Idle speed)  
 VS = 0 KPH [0 MPH]  
 RUNTM = During or right after faster idle rpm  
 (For example; RUNTM = 00:35)

- Yes: Proceed to the next step.

- No: This Service Information does not apply. Diagnose according to the instructions on MGSS online.

3. With Mazda Modular Diagnostic System (M-MDS) datalogger function, monitor the MAF voltage with ignition on and engine off condition.

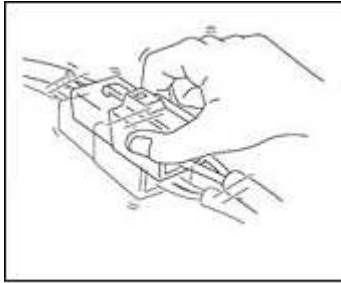
After the vehicle is identified, select the following items from the initialization screen of the M-MDS.

- (1) Select "Tool Box".
- (2) Select "Datalogger".
- (2) Select "Modules".
- (3) Select "PCM".

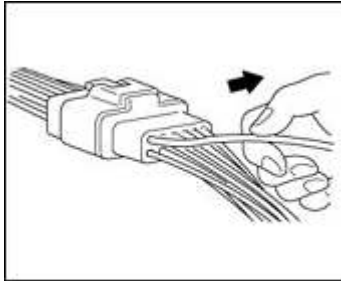
4. Select MAF from the PID table.

5. Verify the MAF voltage is approx. 0.72V and stable.

**NOTE:** While monitoring the MAF voltage, shake and twist the harness and connector for the mass air flow (MAF) sensor / intake air temperature (IAT) sensor No.1.

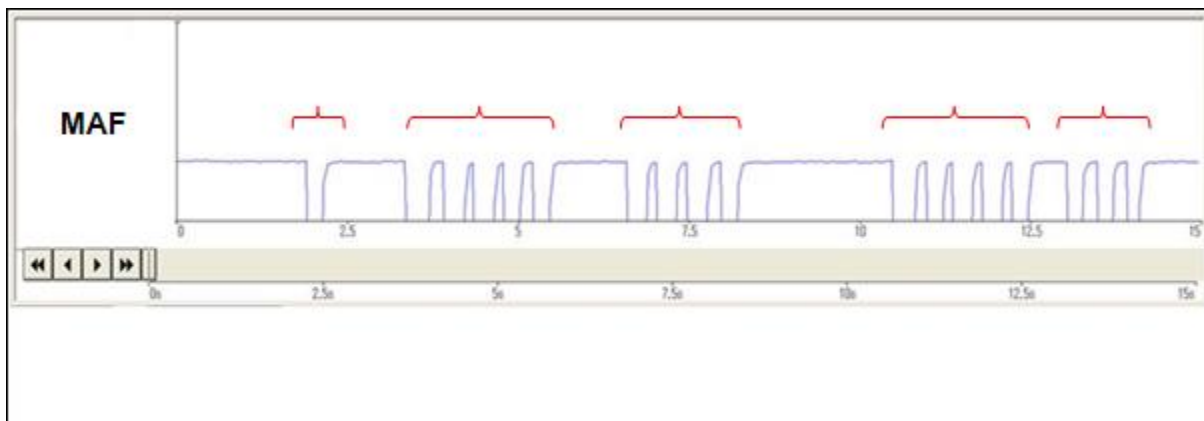


SI118152b



SI118152c

- If the MAF voltage changes as shown when shaking or twisting, the wiring is suspect and should be inspected/repaired before continuing with TSB.



SI118152d

- Is the MAF value normal even when shaking and twisting the harness and connector?
- Yes: Proceed to the next step.
- No: This Service Information does not apply. Diagnose according to the instructions on MGSS online.

6. With M-MDS datalogger function, monitor SHRTFT1 and LONGFT1 during normal idling after warm up. Does the sum of SHRTFT1 and LONGFT1 exceed 20%?

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- Yes: This Service Information does not apply. Diagnose according to the instructions on MGSS online.
- No: Proceed to the next step.

7. Is one or more DTC (P0300:00, P0301:00, P0302:00, P0303:00 and P0304:00) stored?

- Yes: This Service Information does not apply. Diagnose according to the instructions on MGSS online.
- No: Proceed to "PCM REPROGRAMMING".

#### **PCM REPROGRAMMING:**

1. Reboot the IDS to clear memory before reprogramming.
2. Using IDS**110.07** or later software, reprogram the PCM to the latest calibration (refer to "Calibration Information" table) by following the "Module Reprogramming" procedure.

#### **NOTE:**

- Always update the IDS tool first, then follow on-screen instructions to download the needed calibration file for PCM reprogramming.
  - It is not necessary to remove any fuses or relays during PCM reprogramming when the IDS screen prompts you to do so. You may accidentally stop power to one of the PCM terminals and cause the PCM to be blanked, or you may receive error messages during the IDS reprogramming procedure.
  - IDS shows the calibration part numbers after programming the PCM.
  - Please be aware that PCM calibration part numbers and file names listed in any Service Bulletin may change due to future releases of IDS software, and additional revisions made to those calibrations for service related concerns.
  - When reprogramming a PCM, IDS will always display the "latest" calibration P/N available for that vehicle. If any calibration has been revised/updated to contain new information for a new service concern/issue, it will also contain all previously released calibrations.
  - Start/Stop button vehicles only: DO NOT press the start/stop button during the reprogramming process.
  - When performing this procedure, we recommend using the "Power Supply" mode in the Battery Management System to keep the vehicle battery up to capacity. If a different charger is used, make sure it does not exceed 20 AMPS. If it exceeds 20 AMPS, it could damage the VCM.
3. After performing the PCM reprogramming procedure, clear DTCs.
  4. After clearing DTCs, start the engine and confirm that no warning lights stay on.
  5. Record customer presets in the infotainment system.
  6. Disconnect the negative battery cable and wait for 30 seconds or more to reset the fuel control learning data.
  7. Re-connect the negative battery cable.
  8. Re-enter customer presets in infotainment system.

#### **NOTE:**

If any DTCs should remain after performing DTC erase, diagnose the DTCs using MGSS online instructions and submit a warranty claim according to the normal warranty procedure.

**CALIBRATION INFORMATION**

| Emission | Drive | Transmission | File Name    | Older File Name | Note       |
|----------|-------|--------------|--------------|-----------------|------------|
| Calif    | 2WD   | M/T          | PUZ2-188K2-F | PE01            | Mitsubishi |
|          |       |              | PUZ4-188K2-F | PE1G            | Denso      |
|          |       |              | PE02-188K2-U | -               | Mitsubishi |
|          |       | A/T          | PE1H-188K2-T | -               | Denso      |
|          |       |              | PE1B-188K2-U | -               | Mitsubishi |
|          | 4WD   | A/T          | PE1K-188K2-T | -               | Denso      |
|          |       |              |              |                 |            |
| Fed      | 2WD   | M/T          | PUZ3-188K2-F | PE1C            | Mitsubishi |
|          |       |              | PUZ5-188K2-F | PE1L            | Denso      |
|          |       |              | PE1D-188K2-U | -               | Mitsubishi |
|          |       | A/T          | PE1M-188K2-T | -               | Denso      |
|          |       |              |              |                 |            |
|          | 4WD   | A/T          | PE1F-188K2-U | -               | Mitsubishi |
|          |       |              | PE1P-188K2-T | -               | Denso      |

**NOTE:**

- If the calibration file has the same suffix shown in the table above or later, the PCM already has the modified calibration.
- The Older File Name column shows the first four letters of the older file name. Some of the older file names are different from the new file name.
- It is not necessary to order a PCM part for this repair procedure.

**WARRANTY INFORMATION****NOTE:**

- This warranty information applies only to verified customer complaints on vehicles eligible for warranty repair.
- This repair will be covered under Fed. Emission Warranty (long term).
- Additional diagnostic time cannot be claimed for this repair.

|                        |             |
|------------------------|-------------|
| Warranty Type          | A           |
| Symptom Code           | 6X          |
| Damage Code            | 9W          |
| Part Number Main Cause | 5555-RP-PCM |

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|---------------------------------|---------------------|
| Quantity                        | 0                   |
| Operation Number / Labor Hours: | XXP8CXFX / 0.4 Hrs. |

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