

<b>Subject:</b> <b>CHECK ENGINE LIGHT ON WITH DTC P0116 OR P011A WHEN STARTING IN COLD WEATHER</b>	<b>Bulletin No:</b> 01-015/15
	<b>Last Issued:</b> 07/21/2015

## APPLICABLE MODEL(S)/VINS

2012-13 Mazda3 (with SKYACTIV 2.0L)

2014-15 Mazda3 (Japan built) vehicles with VINs lower than JM1BM\*\*\*\*\*267077 (produced before March 30, 2015)

2014-15 Mazda3 (Mexico built) vehicles with VINs lower than 3MZBM\*\*\*\*\*206580 (produced before March 30, 2015)

2014-16 Mazda6 (with Fed or Mexico emissions) vehicles with VINs lower than JM1GJ\*\*\*\*\*426011 (produced before April 8, 2015)

2014-16 Mazda6 (with Calif emissions) vehicles with VINs lower than JM1GJ\*\*\*\*\*430008 (produced before May 1, 2015)

2014-15 CX-5 (A/T only)

2016 CX-5 vehicles with VINs lower than JM3KE\*\*\*\*\*656820 (produced before April 8, 2015)

## DESCRIPTION

Some vehicles using an auxiliary heater (block heater) may experience the check engine light on with DTC P0116:00 or P011A when starting in cold weather below 32 °F (0 °C).

- P0116:00: ECT sensor No.1 circuit range/performance problem
- P011A:00: ECT sensor No.1/No.2 performance problem

This is caused by error detection logic of the PCM. To correct the problem, the control logic of the PCM has been changed.

Customers having this concern should have their vehicle repaired using the following repair procedure.

## REPAIR PROCEDURE

1. Check the ECT sensors and wiring/connections according to the instructions on MS3 online or in the Workshop Manual.
  - If a problem is found, this Service Information is not applicable.
  - If no problem is found, proceed to the next step.
2. Using IDS 96.01 or later software, reprogram the PCM to the latest calibration (refer to “Calibration Information” table) by following the “Module Reprogramming” procedure.

### NOTE:

- Verify the current PCM file name in the vehicle by the log view screen. If it is the same as found in the chart below (or later), it is not necessary to reprogram the PCM.
- Always update the IDS tool first, then follow the on-screen instructions to download the calibration file for PCM reprogramming.
- Refer to “Service Caution for reprogramming” on MS3 IDS Page.
- After reprogramming, verify the file name matches with the chart below.

### 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.

### NOTE:

- If any DTCs should remain after performing DTC erase, diagnose the DTCs using MS3 online instructions or Workshop Manual section 01-02.
- After PCM reprogramming, it is no longer necessary to road test the vehicle to “relearn” KAM (Keep Alive Memory).

## CALIBRATION INFORMATION

2012-13 Mazda3

Emissions	Transmission	File Name
Calif (PZEV)	M/T	PUYG-188K2-B
	A/T	PUYH-188K2-A
Calif (ULEV)	M/T	PSZG-188K2-D
	A/T	PSZH-188K2-D
Fed	M/T	PSZJ-188K2-D
	A/T	PSZK-188K2-D

2014-15 Mazda3 (Japan built) for VINs starting with JM1

Engine	Emissions	Transmission	File Name	Note	
2.0L	Calif (PZEV)	M/T	PELC-188K2-C	Mitsubishi	
			PELD-188K2-C	Denso	
		A/T	PELA-188K2-C	Mitsubishi	
			PELB-188K2-C	Denso	
	Calif (ULEV)	M/T	PE18-188K2-E	Mitsubishi	
			PEAA-188K2-E	Denso	
		A/T	PE19-188K2-D	Mitsubishi	
			PEAB-188K2-D	Denso	
	Fed	M/T	PE5J-188K2-E	Mitsubishi	
			PEAC-188K2-E	Denso	
		A/T	PE5K-188K2-D	Mitsubishi	
			PEAD-188K2-D	Denso	
2.5L	Calif (PZEV)	A/T	PY08-188K2-D	Mitsubishi	
			PY2L-188K2-D	Denso	
			PY2P-188K2-F	w/ i-ELOOP, Mitsubishi	
			PYFG-188K2-A	w/ i-ELOOP, Denso	
			PY2S-188K2-F	w/ i-ELOOP, Mitsubishi	
			PYFJ-188K2-A	w/ i-ELOOP, Denso	
	Calif (ULEV)	M/T	PYBE-188K2-C	Mitsubishi	
			PYBF-188K2-C	Denso	
	Fed	M/T	PYBG-188K2-B	Mitsubishi	
			PYBH-188K2-B	Denso	
			A/T	PY2J-188K2-D	Mitsubishi
				PY2N-188K2-D	Denso
		PY2R-188K2-F		w/ i-ELOOP, Mitsubishi	
		PYFH-188K2-A		w/ i-ELOOP, Denso	
		A/T	PY2T-188K2-F	w/ i-ELOOP, Mitsubishi	
			PYFK-188K2-A	w/ i-ELOOP, Denso	

2014-15 Mazda3 (Mexico built) for VINs starting with 3MZ

Emissions	Transmission	File Name	Note
Calif (PZEV)	M/T	PELG-188K2-C	Mitsubishi
		PELH-188K2-C	Denso
	A/T	PELE-188K2-C	Mitsubishi
		PELF-188K2-C	Denso
Calif (ULEV)	M/T	PEDG-188K2-D	Mitsubishi
		PEDL-188K2-D	Denso
	A/T	PEDH-188K2-C	Mitsubishi
		PEDM-188K2-C	Denso
Fed	M/T	PEDJ-188K2-D	Mitsubishi
		PEDN-188K2-D	Denso
	A/T	PEDK-188K2-C	Mitsubishi
		PEDP-188K2-C	Denso

2014-15 Mazda6

Emissions	Transmission	File Name	Note
Calif (PZEV)	M/T	PYXS-188K2-	Mitsubishi
		PZY2-188K2-	Denso
	A/T	PYXT-188K2-	Mitsubishi
		PZY3-188K2-	Denso
		PYXW-188K2-	w/ i-ELOOP, Mitsubishi
		PZY4-188K2-	w/ i-ELOOP, Denso
Calif (ULEV)	M/T	PY8A-188K2-D	Mitsubishi
		PY8C-188K2-D	Denso
	A/T	PY8B-188K2-D	Mitsubishi
		PY8D-188K2-D	Denso
		PY1G-188K2-H	w/ i-ELOOP, Mitsubishi
		PY1T-188K2-H	w/ i-ELOOP, Denso
Fed	M/T	PYXX-188K2-	Mitsubishi
		PZY5-188K2-	Denso
	A/T	PYXZ-188K2-	Mitsubishi
		PZY6-188K2-	Denso
		PZY1-188K2-	w/ i-ELOOP, Mitsubishi
		PZY7-188K2-	w/ i-ELOOP, Denso

2016 Mazda6

Emissions	Transmission	File Name	Note
Calif (PZEV)	M/T	PY9S-188K2-C	Mitsubishi
		PY9T-188K2-C	Denso
	A/T	PY9V-188K2-C	Mitsubishi
		PY9W-188K2-C	Denso
		PY9X-188K2-C	w/ i-ELOOP, Mitsubishi
		PYAA-188K2-C	w/ i-ELOOP, Denso
Fed	M/T	PYAB-188K2-B	Mitsubishi
		PYAC-188K2-B	Denso
	A/T	PYAD-188K2-B	Mitsubishi
		PYAE-188K2-B	Denso
		PYAF-188K2-B	w/ i-ELOOP, Mitsubishi
		PYAG-188K2-B	w/ i-ELOOP, Denso
Mexico	M/T	PYBA-188K2-B	Mitsubishi
		PYBB-188K2-B	Denso
	A/T	PYBC-188K2-B	Mitsubishi
		PYBD-188K2-B	Denso

2014-15 CX-5

Engine	Emissions	Transmission	Drive	File Name	Note
2.0L	Calif	A/T	2WD	PUYR-188K2-B	Mitsubishi
				PUYX-188K2-B	Denso
			4WD	PUYS-188K2-B	Mitsubishi
				PUYZ-188K2-B	Denso
	Fed	A/T	2WD	PUYT-188K2-B	Mitsubishi
				PUZ0-188K2-B	Denso
			4WD	PUYW-188K2-B	Mitsubishi
				PUZ1-188K2-B	Denso
2.5L	Calif	A/T	2WD	PYXH-188K2-	Mitsubishi
				PYXM-188K2-	Denso
			4WD	PYXJ-188K2-	Mitsubishi
				PYXN-188K2-	Denso
	Fed	A/T	2WD	PYXK-188K2-	Mitsubishi
				PYXP-188K2-	Denso
			4WD	PYXL-188K2-	Mitsubishi
				PYXR-188K2-	Denso

2016 CX-5

Engine	Emissions	Transmission	Drive	File Name	Note
2.0L	Calif	M/T	2WD	PS32-188K2-C	Mitsubishi
				PS39-188K2-C	Denso
		A/T	2WD	PS33-188K2-C	Mitsubishi
				PS40-188K2-C	Denso
			4WD	PS34-188K2-C	Mitsubishi
				PS41-188K2-C	Denso
	Fed	M/T	2WD	PS35-188K2-C	Mitsubishi
				PS42-188K2-C	Denso
		A/T	2WD	PS36-188K2-C	Mitsubishi
				PS43-188K2-C	Denso
			4WD	PS37-188K2-C	Mitsubishi
				PS44-188K2-C	Denso
	Mexico	A/T	2WD	PS38-188K2-C	Mitsubishi
				PS45-188K2-C	Denso
2.5L	Calif	A/T	2WD	PYAJ-188K2-C	Mitsubishi
				PYAR-188K2-C	Denso
		4WD	PYAK-188K2-B	Mitsubishi	
			PYAS-188K2-B	Denso	
	Fed	A/T	2WD	PYAL-188K2-B	Mitsubishi
				PYAT-188K2-B	Denso
		4WD	PYAM-188K2-C	Mitsubishi	
			PYAV-188K2-C	Denso	
	Mexico	A/T	2WD	PYAN-188K2-B	Mitsubishi
				PYAW-188K2-B	Denso
		4WD	PYAP-188K2-B	Mitsubishi	
			PYAX-188K2-B	Denso	

**NOTE:** 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 Mazda's Federal Emission Warranty (long term) or Calif. PZEV Emission Warranty.
- Additional diagnostic time cannot be claimed for this repair.

Warranty Type	A
Symptom Code	6X
Damage Code	9W
DTC	P0116 or P011A
Part Number Main Cause	5555-RP-PCM
Quantity	0
Operation Number	XXL4SFX
Labor Hours (includes checking ECT sensors and reprogramming)	1.2 Hrs (2012-13 Mazda3) 1.0 Hrs (2014-15 Mazda3) 0.9 Hrs (Mazda6) 1.1 Hrs (CX-5)