Technical
Service Bulletin

Mazda North American Operations
Irvine, CA 92618-2922

MAZDA

Subject:	
CHECK ENGINE LIGHT AND A/T WARNING LIGHT ON WITH ONE OR MORE OF THESE DTCS (P0842, P0847, P0872, P0877, P0780, P1738) STORED IN TCM MEMORY	**Bulletin No.:** 05-004/18
	Last Issued: 04/16/2018

BULLETIN NOTES

This bulletin supersedes the previously issued bulletin(s) listed below. The changes are noted below in Red.

Previously Issued TSBs:	Date(s) Issued
05-005/16	07/07/16
05-002/15	12/03/15, 10/07/15, 05/27/15, 04/24/15, 03/30/15, 03/26/15 and 03/10/15
05-005/14	04/29/14, 04/09/14, 03/28/14, and 3/25/14
05-003/14	04/04/14 and 02/21/14
05-005/13	109/23/13, 9/25/13,12/16/13, and 12/17/13

APPLICABLE MODEL(S)/VINS

- 2012-2013 Mazda3 with SKYACTIV 6AT
- 2014-2018 Mazda3 with SKYACTIV 6AT (Japan built - VINS starting with JM1)
- 2014-2018 Mazda3 with SKYACTIV 6AT (Mexico built - VINS starting with 3MZ)
- 2013-2018 CX-5 with SKYACTIV 6AT
- 2014-2018 Mazda6 with SKYACTIV 6AT
- 2016-2018 CX-3 with SKYACTIV 6AT
- 2016-2018 CX-9 with SKYACTIV 6AT

DESCRIPTION

Some vehicles may experience the check engine light and automatic transaxle warning light ON with one or more of these DTCs stored in the TCM memory (P0842, P0847, P0872, P0877, P0780, P1738).

- P0842:00 - Oil pressure switch No. 1 (oil pressure switch B) stuck on
- P0847:00 - Oil pressure switch No. 2 (oil pressure switch A) stuck on
- P0872:00 - Oil pressure switch No. 3 (oil pressure switch A) stuck on
- P0877:00 - Oil pressure switch No. 4 (oil pressure switch B) stuck on
- P0780:00 - Gear shifting malfunction
- P1738:00 Automatic transaxle internal malfunction

This is caused by the oil pressure switch A and/or B at the control valve body temporarily or permanently getting stuck due to contamination entering the passage. To correct the problem, some mass production changes have been implemented to reduce contamination and improve the DTC diagnostic logic.

© 2018 Mazda North American Operations, U.S.A.

NOTE: If the vehicle also has a delayed engagement concern, this TSB is not applicable. Refer to MGSS online for proper diagnosis and repair procedure.

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

REPAIR PROCEDURE

1. Verify customer concern.

2. Check for DTCs.

- If any of the DTCs (P0842, P0847, P0872, P0877, P0780, P1738) is stored in TCM memory, go to step 3.
- If any other DTCs are present or no DTCs are present, perform troubleshooting according to MGSS online.

3. If the vehicle is in the applicable VIN range listed below, proceed to TCM Reprogramming." Otherwise, proceed to "Parts Replacement."

2012-2013 Mazda3 JM1BL******500001 - 999999

2014-2015 Mazda3 JM1BM******100001 - 299999 (Japan built)

2014-2015 Mazda3 3MZBM******100001 - 199999 (Mexico built)

2014-2015 Mazda6 JM1GJ******100001 - 299999

2013-2015 CX-5 JM3KE******100001 - 599999

NOTE:

- If the concern has occurred with older TCM file, parts replacement is not necessary.
- If the concern has occurred with new TCM file, proceed to Parts Replacement.

TCM Reprogramming

1. Reboot the IDS to clear memory before reprogramming.

2. Using IDS 100.5 or later software, reprogram the TCM 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 TCM reprogramming.
- It is not necessary to remove any fuses or relays during TCM reprogramming when the IDS screen prompts you to do so. You may accidentally stop power to one of the TCM terminals and cause the TCM to be blanked, or you may receive error messages during the IDS reprogramming procedure.
- IDS shows the calibration part numbers after programming the TCM.

- Please be aware that TCM 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 TCM, 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 TCM reprogramming procedure, verify the repair by starting the engine and making sure there is no Check Engine Light or abnormal warning lights present.

NOTE:

- If any DTCs should remain after performing DTC erase, diagnose the DTCs using MGSS online.
- After TCM reprogramming, it is no longer necessary to road test the vehicle to "relearn" KAM (Keep Alive Memory).

4. Perform "Initial Learning" according to the instructions on MGSS online (INITIAL LEARNING [FW6AEL, FWAX-EL])

Parts Replacement

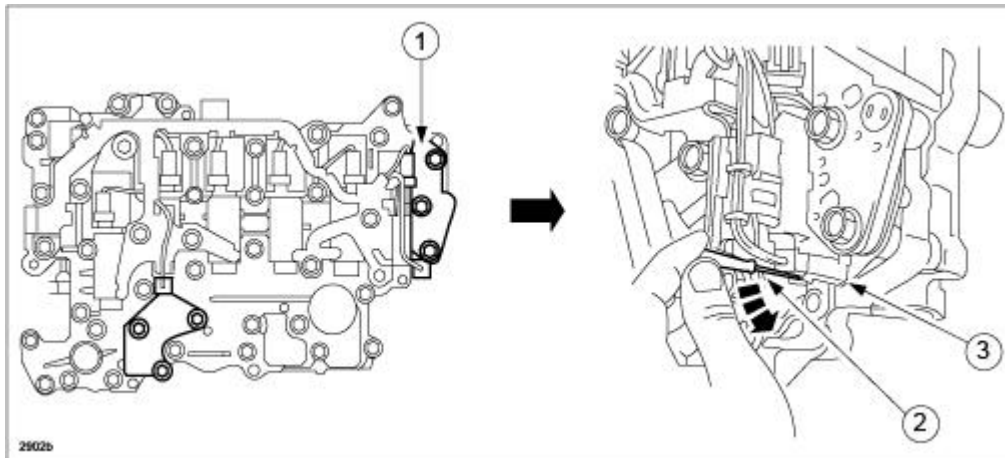**NOTE:** Proceed with Parts Replacement only if concern re-occurs after TCM reprogramming for applicable vehicles.

1. Remove the oil pan from the transaxle according to the instructions on MGSS online (CONTROL VALVE BODY REMOVAL/INSTALLATION [FW6AEL, FWAX-EL]).

© 2018 Mazda North American Operations, U.S.A.

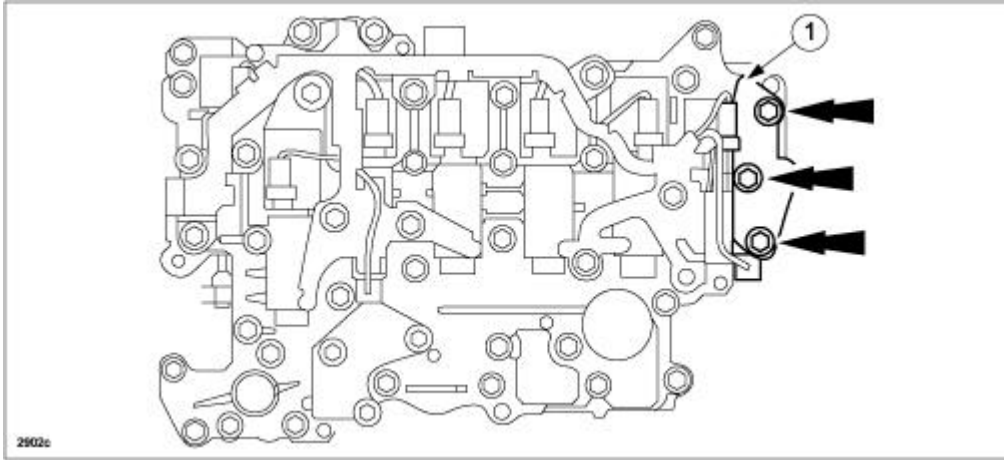2. Remove the oil strainer (1) and the oil strainer O-rings (2) from the transaxle.
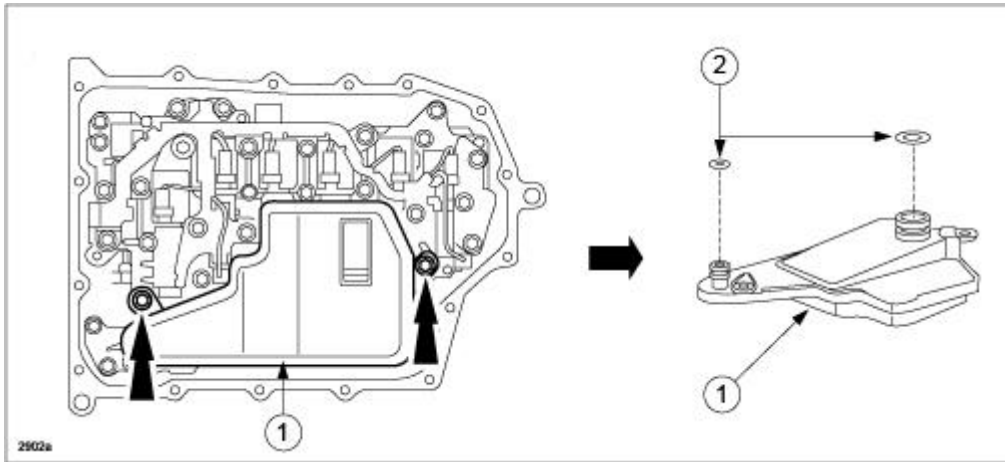
3. Remove oil pressure switch A (1).

   a. At oil pressure switch A, insert a precision flathead screwdriver (2) and move it in the direction of the arrow in the figure to disconnect the oil pressure switch A connector (3).
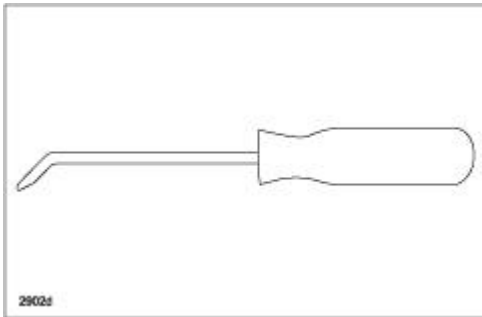
© 2018 Mazda North American Operations, U.S.A.

b. Remove the bolts for oil pressure switch A (1).

c. Detach the tab shown and remove oil pressure switch A from the control valve body using an appropriate tool (such as a fastener remover)

© 2018 Mazda North American Operations, U.S.A.

1. Push the tab (1) of oil pressure switch A.
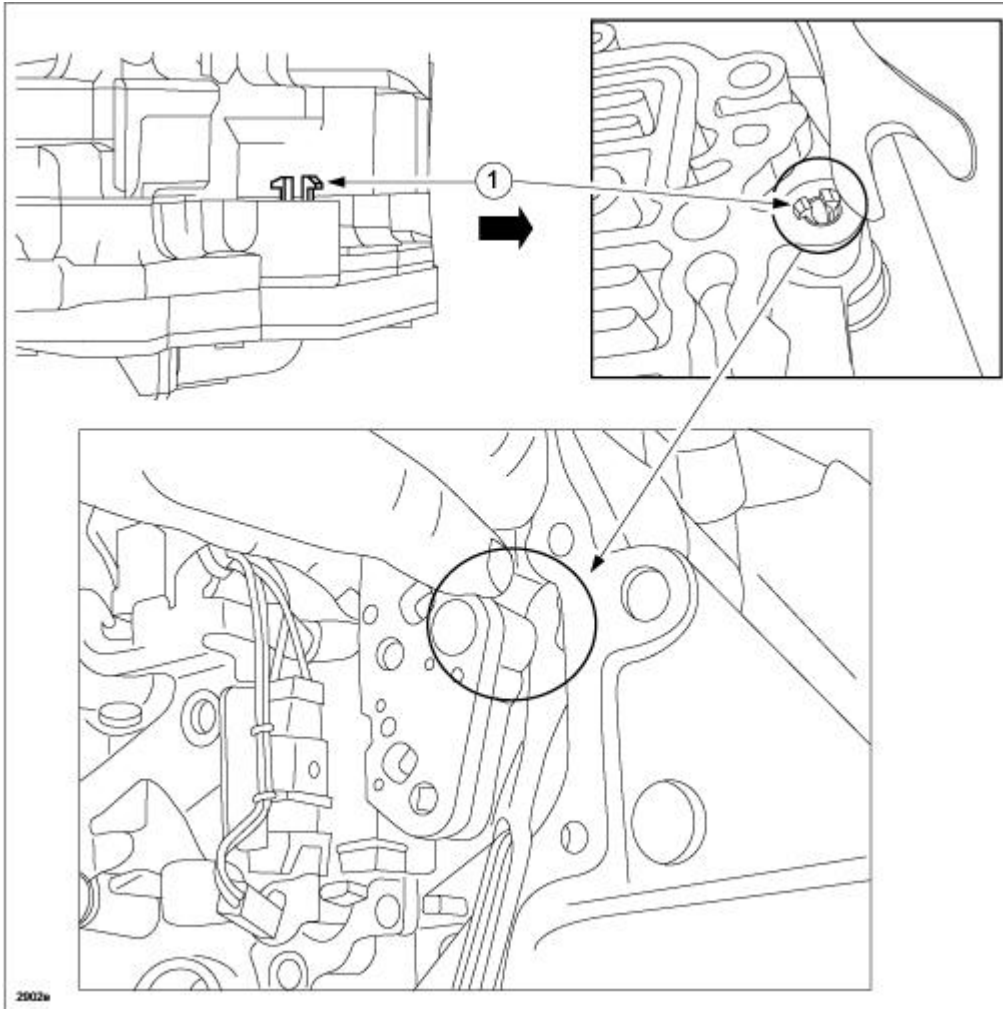
**CAUTION:** If the tab is broken during removal, make sure to remove the broken pieces.

2. Pull out oil pressure switch A by shaking it.

CAUTION: When removing oil pressure switch A, be careful not to damage the transaxle fluid temperature (TFT) sensor harness nearby.
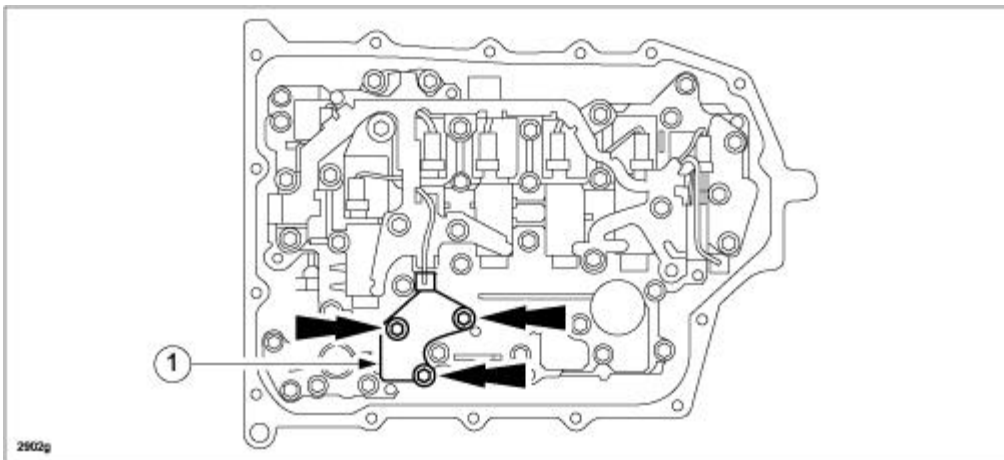
© 2018 Mazda North American Operations, U.S.A.

4. Remove oil pressure switch B.

   a. Insert a precision flathead screwdriver (1) and move it in the direction of the arrow as shown to disconnect the oil pressure switch B connector (2).
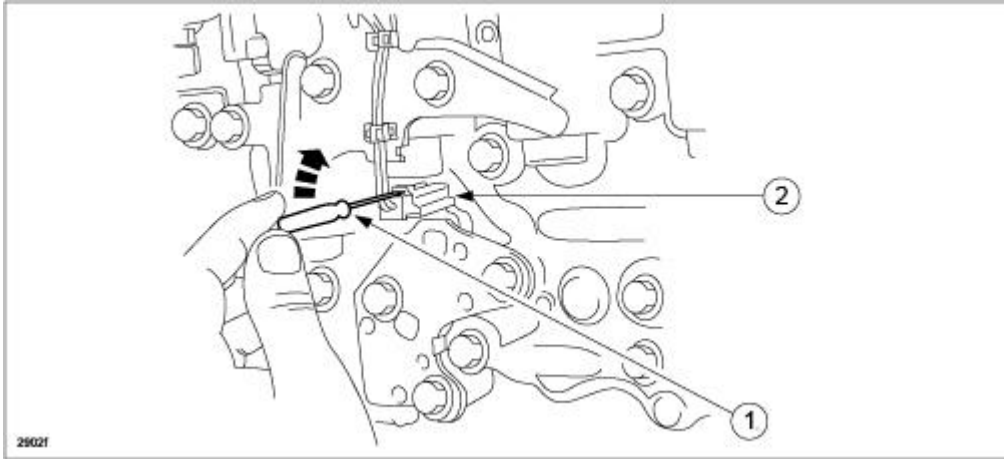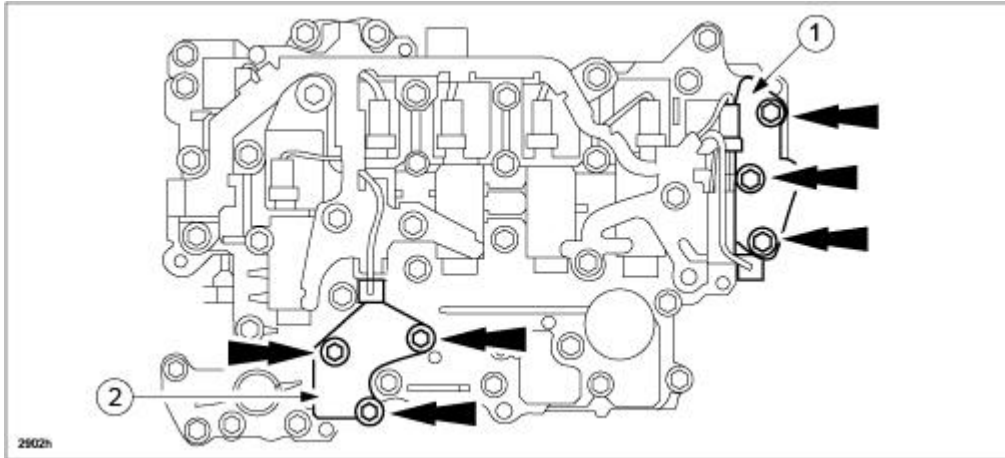

   b. Remove oil pressure switch B (1).
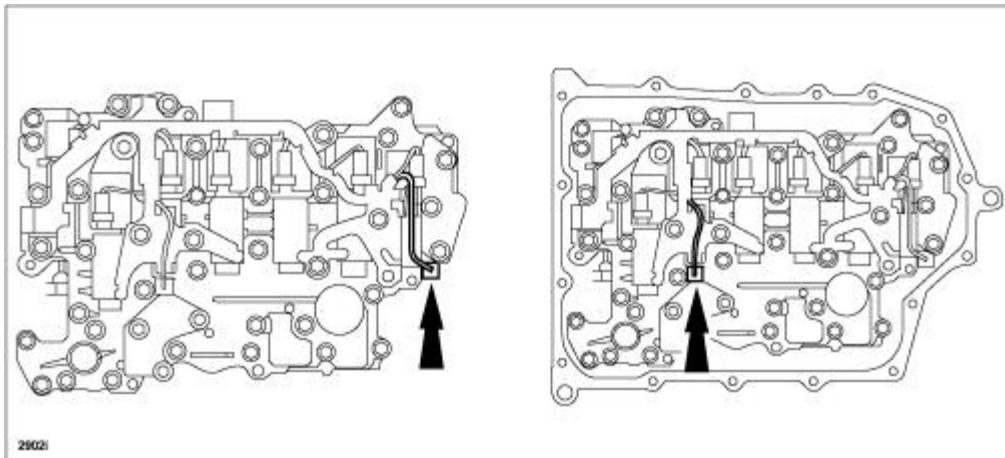

5. Install new oil pressure switches A and B.

6. Verify that the tab of each oil pressure switch (A and B) is attached correctly.

© 2018 Mazda North American Operations, U.S.A.

7. Install the bolts for oil pressure switches A (1) and B (2).

Tightening torque: 9-10 N•m {92-101 khf•cm, 80-88 in•lbf}

8. Connect the oil pressure switch A and oil pressure switch B connectors.

9. Install the oil strainer with new oil strainer O-rings according to the instructions on MGSS online (CONTROL VALVE BODY REMOVAL/INSTALLATION [FW6AEL, FWAX-EL]).

NOTE: If there is a large amount of foreign material at the bottom of the oil pan, replace the oil strainer with a new one.

© 2018 Mazda North American Operations, U.S.A.

10. Install the oil pan according to the instructions on MGSS online (CONTROL VALVE BODY REMOVAL/INSTALLATION [FW6AEL, FWAX-EL]).
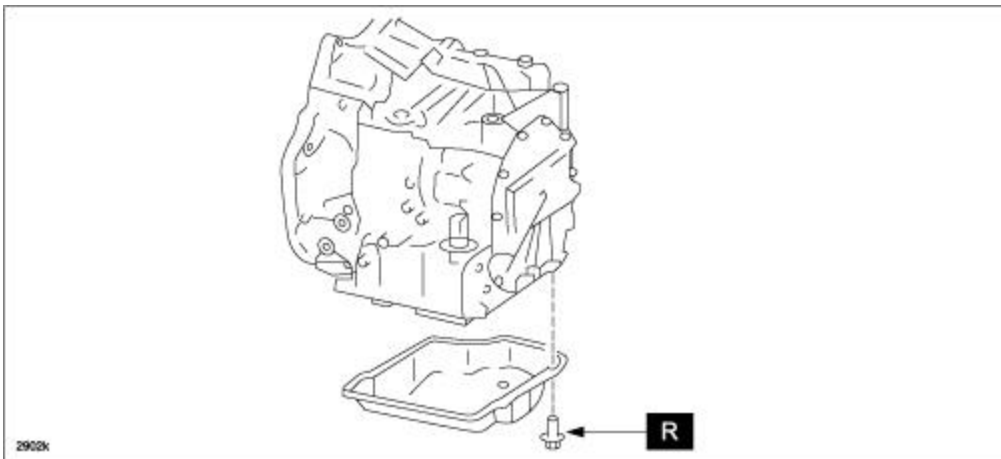
CAUTION: Clean any remaining silicone sealant off the contact surfaces of the transaxle case and oil pan.

a. Apply a light coat of silicon sealant to the contact surfaces of the oil pan and transaxle case.
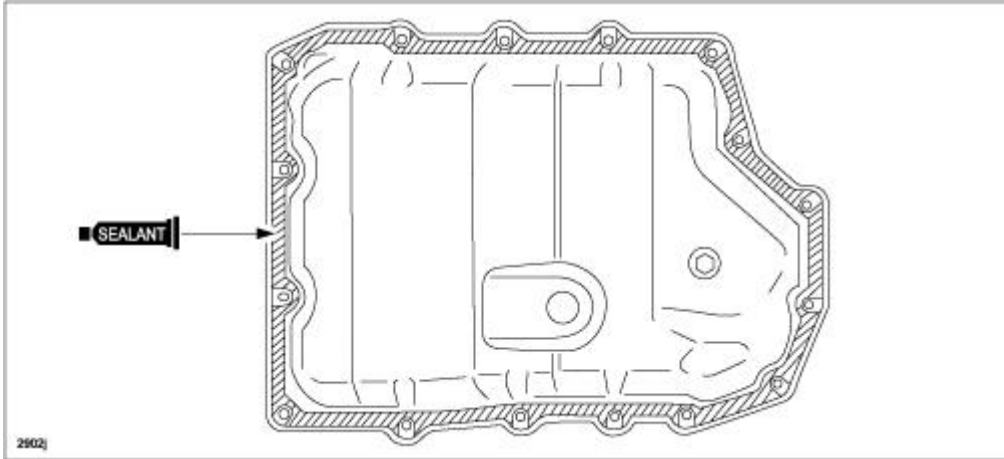
b. Install the oil pan with new bolts before the applied sealant starts to harden.

Tightening torque: 8-10 N•m {82-101 khf•cm, 71-88 in•lbf}

11. Install the removed parts.

12. Add ATF according to the instructions on MGSS online (AUTOMATIC TRANSAXLE FLUID (ATF) REPLACEMENT [FW6A-EL]).

13. Connect the negative battery cable.

14. Perform the "Initial Learning Procedure" according to the instructions on MGSS online (INITIAL LEARNING PROCEDURE).

© 2018 Mazda North American Operations, U.S.A.

15. Perform the "Mechanical System Test" according to the instructions on MGSS online (MECHANICAL SYSTEM TEST).

16. Verify repair.

CALIBRATION INFORMATION

2012-2013 Mazda3

TCM File Name	Production Date Range
PEY0-21PS1-A	Before March 31, 2013
PE08-21PS1-N	After March 31, 2013

2014-2015 Mazda3 (US spec)

TCM File Name	Engine	i-ELOOP	VIN
PE5B-21PS1-D	PE (2.0L)	without	JM1 (Japan built)
PEDB-21PS1-B		with	
PY2S-21PS1-D	PY (2.5L)	with	
PEAR-21PS1-A	PE (2.0L)	without	3MZ (Mexico built)

2013 CX-5 (US spec)

TCM File Name	Drive	Kickdown Switch	Production Date Range
PEX3-21PS1 (*1)	2WD	without	Before March 31, 2013
PE02-21PS1-J			After March 31, 2013
PEX1-21PS1-A			Service part after August 1, 2013
PEY1-21PS1-A		with	Before March 31, 2013
PEAS-21PS1-C			After March 31, 2013
PEX3-21PS1 (*2)	4WD	without	Before March 31, 2013
PE1B-21PS1-J			After March 31, 2013
PEX2-21PS1-A			Service part after August 1, 2013
PEY2-21PS1-A		with	Before March 31, 2013
PEAT-21PS1-C			After March 31, 2013

NOTE:

- (*1): Older version is PE02-21PS1-G.
- (*2): Older version is PE1B-21PS1-G.

© 2018 Mazda North American Operations, U.S.A.

2014-2015 CX-5 (US spec)

TCM File Name	Engine	Drive	Production Date Range
PEY5-21PS1-A	PE (2.0L)	2WD	Before March 31, 2013
PE1H-21PS1-D			After March 31, 2013
PEY6-21PS1-A		4WD	Before March 31, 2013
PE1K-21PS1-D			After March 31, 2013
PYY0-21PS1-B	PY (2.5L)	2WD	Before March 31, 2013
PY09-21PS1-H			After March 31, 2013
PYY1-21PS1-B		4WD	Before March 31, 2013
PY2W-21PS1-F			After March 31, 2013

Mazda6 (US spec)

TCM File Name	i-ELOOP	Production Date Range
PYY3-21PS1-B	without	Before March 31, 2013
PY1E-21PS1-H		After March 31, 2013
PY1T-21PS1-C	with	--

2014-2015 Mazda3 (Mexico spec)

TCM File Name	Engine	VIN
PY8F-21PS1-B	PY (2.5L)	JM1 (Japan built)
PEGS-21PS1-A	PE (2.0L)	3MZ (Mexico built)
PEDE-21PS1-A		

2013 CX-5 (Mexico spec)

TCM File Name	Engine	Drive
PE2T-21PS1-F	PE (2.0L)	2WD
PE2V-21PS1-F		4WD

2014-2015 CX-5 (Mexico spec)

TCM File Name	Engine	Drive	Production Date Range
PEZ7-21PS1-A	PE (2.0L)	2WD	Before March 31, 2013
PE2P-21PS1-E			After March 31, 2013
PEZ8-21PS1-A		4WD	Before March 31, 2013
PE2R-21PS1-E			After March 31, 2013
PYZ0-21PS1-B	PY (2.5L)	2WD	Before March 31, 2013
PY5L-21PS1-F			After March 31, 2013
PYZ1-21PS1-B		4WD	Before March 31, 2013
PY5M-21PS1-F			After March 31, 2013

Mazda6 (Mexico spec)

TCM File Name	Production Date Range
PYY7-21PS1-B	Before March 31, 2013
PY4K-21PS1-D	After March 31, 2013

PARTS INFORMATION

Part Number	Description	Qty.	Notes
FZ01-21-2C0	Switch A	1	---
FZ01-21-2J0	Swtich B	1	---
9YA0-10-615A	Bolt	16	Replace part
FZ01-21-031	O-ring	1	Replace part
FZ01-21-032	O-ring	1	Replace part
FU31-19-423	Plug	1	Replace part
9956-41-400	Drain Packing	1	Replace part
FZ01-21-500	Oil Strainer	1	Replace if needed. FZ01-21-031 and FZ01-21-032 (O-rings) are included with this part.

WARRANTY INFORMATION

NOTE:

- This warranty information applies only to verified customer complaints on vehicles eligible for warranty repair.
- This repair will be covered under the following Warranty terms:
    - Oil pressure switch replacement - Powertrain Limited Warranty / CA PZEV Emission Warranty where applicable
    - TCM reprogramming - Federal Emission Warranty (long term) / CA PZEV Emission Warranty where applicable
    - For vehicles sold and registered in Mexico - New Vehicle Warranty
- Additional diagnostic time cannot be claimed for this repair.

	Oil Pressure Switch A and B Replacement	TCM Reprogramming (includes initial learning)
Warranty Type	A	
Symptom Code	6X	
Damage Code	9W	
DTC	P0842, P0847, P0872, P0877, P0780, P1738	
Part Number Main Cause	FZ01-21-2C0	5555-RP-TCM
Quantity	1	0
Operation Number / Labor Hours:	XXK43ARX / 1.8 Hrs.	XXK43CFX / 0.3 Hrs.