

Service Bulletin

Mazda North American Operations
Irvine, CA 92618-2922

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Subject: ROUGH IDLE WITH MIL ON AND DTC P0015 / P0524	Bulletin No: 01-009/14
	Last Issued: 09/03/2014

BULLETIN NOTE

- This bulletin supersedes the previous bulletins 01-009/14 issued on 04/07/14, 01-003/13 issued on 01/16/13 and 01-028/12 issued on 12/18/12. The REPAIR PROCEDURE and PARTS INFORMATION have been revised.
- Changes are noted below in Red beside the change bar.

APPLICABLE MODEL(S)/VINS

2012-2014 Mazda3 SKYACTIV

2013-2014 CX-5 SKYACTIV

2014 Mazda6 SKYACTIV

DESCRIPTION

Some vehicles may experience a rough idle with the MIL on and DTC P0015 / P0524 stored in memory.

- P0015:00 - Exhaust CMP timing over-retarded
- P0524:00 - Engine oil pressure too low

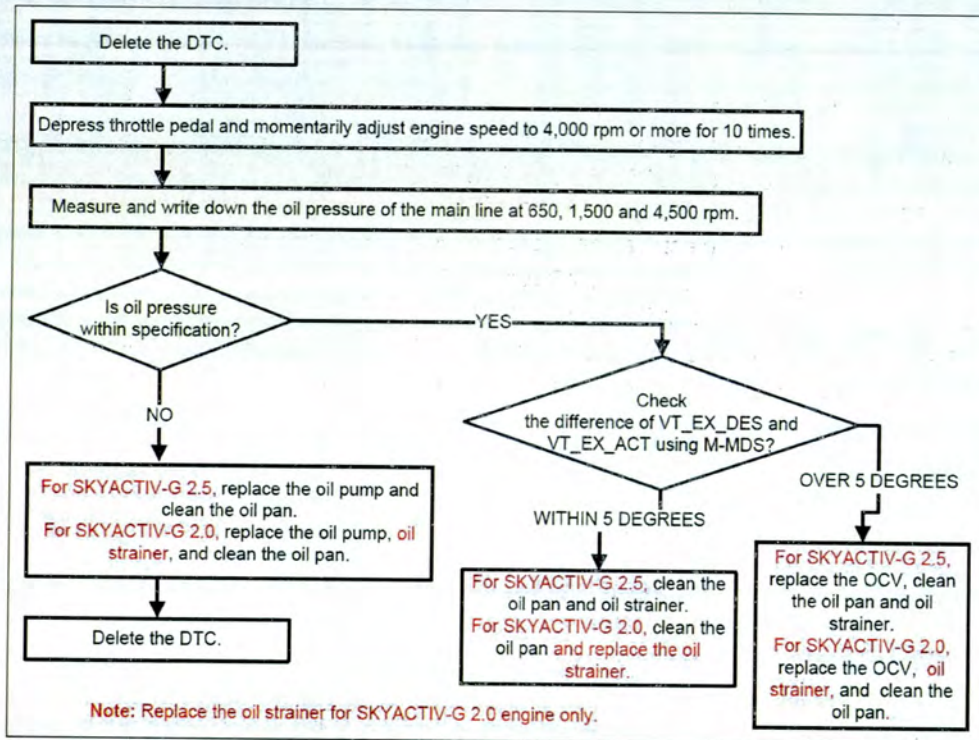
This is caused by a drop in engine oil pressure due to a piece of foreign object stuck on the oil pump pressure relief valve or OCV. The temporary entry of the foreign object triggers a MIL illumination, but rough idle will not be produced until a later time.

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

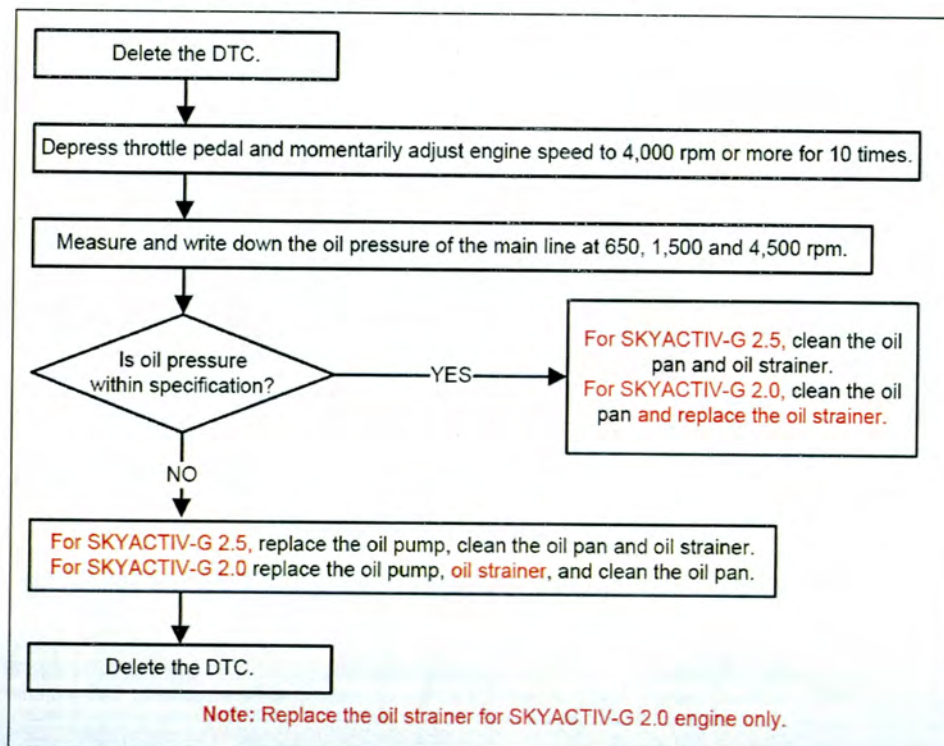
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FLOWCHARTS

Only P0015 is stored:



P0015 and P0524 or only P0524 is stored:



REPAIR PROCEDURE

1. Verify customer concern.

Only P0015 is stored:

1. Delete the DTC.
2. Depress the throttle pedal and momentarily adjust the engine speed to 4,000 rpm or more for 10 times.
3. Measure the main line oil pressure at 650 rpm, 1,500 rpm and 4,500 rpm. Refer to MS3 online instructions or Workshop Manual section 01-11 OIL PRESSURE INSPECTION.
 - a. Connect M-MDS to monitor ECT, OIL_TEMP and RPM.
 - b. Start the engine and turn off all electrical loads such as A/C, headlights, etc.
 - c. Warm up the engine until ECT and OIL_TEMP reach 90 °C (194 °F) or more.
 - d. Turn off all electrical loads such as A/C and headlights.
 - e. Wait until RPM on IDS becomes stable at 650 rpm. DO NOT read RPM on the tachometer in the vehicle.
 - f. Measure and write down the main oil line pressure at 650 rpm, 1,500 rpm and 4,500 rpm.

RPM	Normal oil pressure
650	50 kpa (7 psi) or more.
1,500	110-175 kpa (16.0 - 25.3 psi)
4,500	300-430 kpa (43.6 - 62.3 psi)

- **If Abnormal oil pressure is observed:**

1a) For **SKYACTIV-G 2.5 engine**, replace the oil pump and clean the bottom of the oil pan with a clean cloth. Refer to MS3 online instructions or Workshop Manual section 01-11 OIL PAN REMOVAL/INSTALLATION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].

1b) For **SKYACTIV-G 2.0 engine**, replace the oil pump, **oil strainer**, and clean the bottom of the oil pan with a clean cloth. Refer to MS3 online instructions or Workshop Manual section 01-11 OIL PAN REMOVAL/INSTALLATION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].

2) Erase any DTC's.

3) Replace the engine oil.

NOTE: There is no need to replace the oil filter, **SKYACTIV-G 2.5 oil strainer** (including gasket), or oil pan.

- **If Normal oil pressure is observed:**

- 1) Verify that the difference of VT_EX_DES (Exhaust valve opening angle - target) and VT_EX-ACT (Exhaust valve opening angle - actual) is within 5 degrees (between 1,500 rpm and 2,000 rpm) using M-MDS.

- **Within 5 degrees:**

- 1a) **For SKYACTIV-G 2.5 engine**, clean the bottom of the oil pan (with a clean cloth) and the oil strainer.

- 1b) **For SKYACTIV-G 2.0 engine**, **replace the oil strainer**, and clean the bottom of the oil pan (with a clean cloth).

- 2) Replace the engine oil.

NOTE: There is no need to replace the oil filter, **SKYACTIV-G 2.5 oil strainer** (including gasket), or oil pan.

- **Over 5 degrees:**

- 1) Replace the oil control valve (OCV).

- 2a) **For SKYACTIV-G 2.0 engine**, clean the bottom of the oil pan (with a clean cloth) and the oil strainer.

- 2b) **For SKYACTIV-G 2.0 engine**, **replace the oil strainer**, and clean the bottom of the oil pan (with a clean cloth).

- 3) Replace the engine oil.

NOTE: There is no need to replace the oil filter, **SKYACTIV-G 2.5 oil strainer** (including gasket), or oil pan.

4. Verify repair.

P0015 and P0524 or only P0524 is stored:

1. Delete the DTC.
2. Depress the throttle pedal and momentarily adjust the engine speed to 4,000 rpm or more for 10 times.
3. Measure the main line oil pressure at 650 rpm, 1,500 rpm and 4,500 rpm. Refer to MS3 online instructions or Workshop Manual section 01-11 OIL PRESSURE INSPECTION.
 - a. Connect M-MDS to monitor ECT, OIL_TEMP and RPM.
 - b. Start the engine and turn off all electrical loads such as A/C, headlights, etc.
 - c. Warm up the engine until ECT and OIL_TEMP reach 90 °C (194 °F) or more.
 - d. Turn off all electrical loads such as A/C and headlights.
 - e. Wait until RPM on IDS becomes stable at 650 rpm. **DO NOT** read RPM on the tachometer in the vehicle.
 - f. Measure and write down the main oil line pressure at 650 rpm, 1,500 rpm and 4,500 rpm.

RPM	Normal oil pressure
650	50 kpa (7 psi) or more
1,500	110-175 kpa (16.0 - 25.3 psi)
4,500	300-430 kpa (43.6 - 62.3 psi)

- **If Abnormal oil pressure is observed:**

1a) **For SKYACTIV-G 2.5 engine**, replace the oil pump, clean the bottom of the oil pan (with a clean cloth), and the oil strainer. Refer to MS3 online instructions or Workshop Manual section 01-11 OIL PUMP REMOVAL/INSTALLATION.

1b) **For SKYACTIV-G 2.0 engine**, replace the oil pump, **oil strainer**, and clean the bottom of the oil pan (with a clean cloth).

NOTE: The removal procedure for the oil pump in the Workshop Manual has been changed. For 2.0L (except 2014 Mazda3), it is no longer necessary to remove the front cover when following the new procedure.

2) Replace the engine oil.

NOTE: There is no need to replace the oil filter, **SKYACTIV-G 2.5 oil strainer** (including gasket), or oil pan.

- **If Normal oil pressure is observed:**

1a) **For SKYACTIV-G 2.5 engine**, clean the bottom of the oil pan (with a clean cloth) and the oil strainer.

1b) **For SKYACTIV-G 2.0 engine**, **replace the oil strainer**, and clean the bottom of the oil pan (with a clean cloth).

2) Replace the engine oil.

NOTE: There is no need to replace the oil filter, **SKYACTIV-G 2.5 oil strainer** (including gasket), or oil pan.

4. Verify repair.

PART(S) INFORMATION

Part Number	Description	Qty.	Notes
PE01-14-100	Oil Pump (2.0L)	1	When replacing oil pump
PY01-14-100	Oil Pump (2.5L)	1	When replacing oil pump
PE01-14-420	Oil Control Valve (OCV)	1	When replacing OCV
PE01-10-235	Head Cover Gasket (2.0L)	1	When replacing oil pump or OCV
PY01-10-235	Head Cover Gasket (2.5L)	1	When replacing oil pump or OCV
PE01-12-257	O-Ring	1	When replacing oil pump
9956-41-400	Gasket	1	When cleaning oil pan
PEDD-14-240	Oil Stainer	1	For SKYACTIV-G 2.0 engine only

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 Powertrain Limited Warranty term.
- Additional diagnostic time cannot be claimed for this repair.

When replacing the OCV and cleaning the oil pan:

Warranty Type	A
Symptom Code	6X
Damage Code	9W
DTC	P0015
Part Number Main Cause	PE01-14-420
Quantity	1
Operation Number / Labor Hours	XXK68ARX / 1.8 Hrs.

When replacing the oil pump and cleaning the oil pan:

	SKYACTIV 2.0L	SKYACTIV 2.5L
Warranty Type	A	
Symptom Code	6X	
Damage Code	9W	
DTC	P0015 or P0524	
Part Number Main Cause	PE01-14-100 or PY01-14-100	
Quantity	1	
Operation Number	XXK68BRX	
Labor Hours	1.7 Hrs. (except 2014 Mazda3) 3.9 Hrs. (2014 Mazda3)	4.0 Hrs.

When cleaning the oil pan only:

	Except 2014 Mazda6	2014 Mazda6
Warranty Type	A	
Symptom Code	6X	
Damage Code	9W	
DTC	P0015 or P0524	
Part Number Main Cause	PE01-14-100 or PY01-14-100	
Quantity	0	
Operation Number	XXK68CRX	
Labor Hours	1.4 Hrs	1.5 Hrs

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Subject: CRACKING NOISE FROM WINDSHIELD AND/OR REAR WINDOW	Bulletin No: 09-025/14
	Last Issued: 09/03/2014

BULLETIN NOTE

- This bulletin supersedes the previous bulletin 09-025/14, issued on 05/29/2014. The **APPLICABLE MODEL(S)/VINS, REPAIR PROCEDURE, and WARRANTY INFORMATION** have been revised.
- Changes are noted below in Red beside the change bar.

APPLICABLE MODEL(S)/VINS

2010-2013 Mazda3 (including Mazdaspeed3)

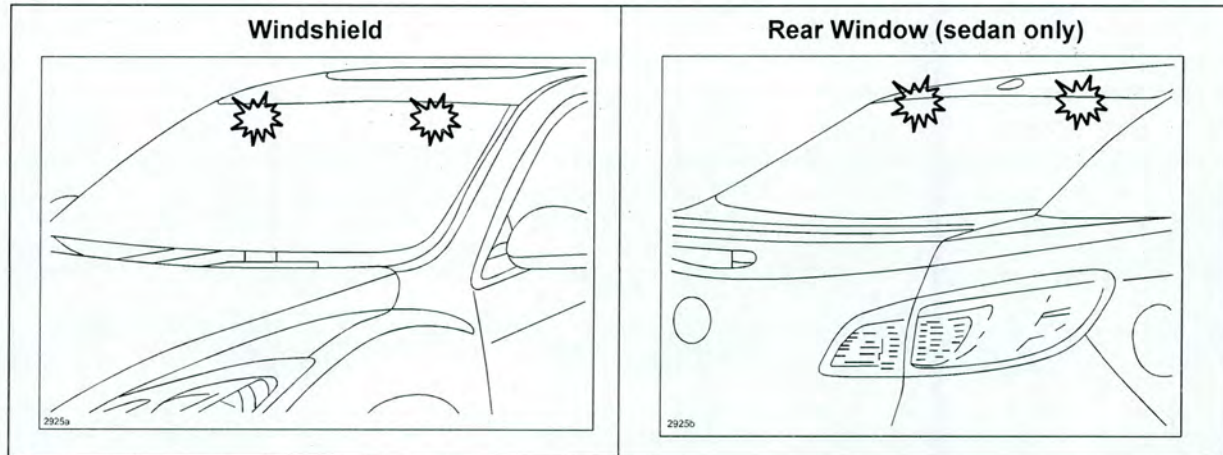
2014 Mazda6 vehicles with VINs lower than:

- Windshield - JM1 GJ ***** 125986 (produced before June 03, 2013)
- Rear Window - JM1 GJ ***** 137237 (produced before August 01, 2013)

2013-2014 CX-5 vehicles with VINs lower than JM3 KE ***** 398378 (produced before October 01, 2013)

DESCRIPTION

Some vehicles may exhibit a cracking noise originated at the positioning pins near the top corners of the windshield and/or rear window when driving on uneven road surface. This happens when the ambient temperature is approximately 14 °F (-10 °C) or lower and the vehicle cabin has not yet warmed up. The noise is caused by the windshield and/or rear window locating stopper contacting the panel.

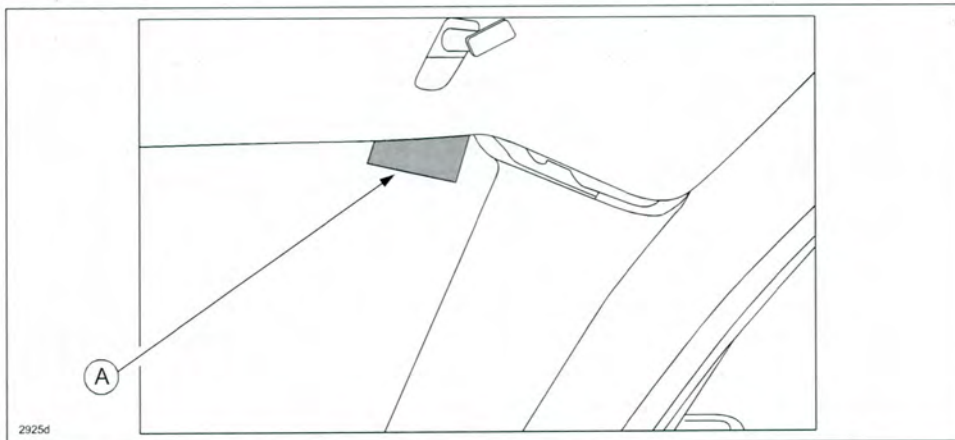


Customers having this concern should have their vehicle repaired using the following repair procedure.

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REPAIR PROCEDURE

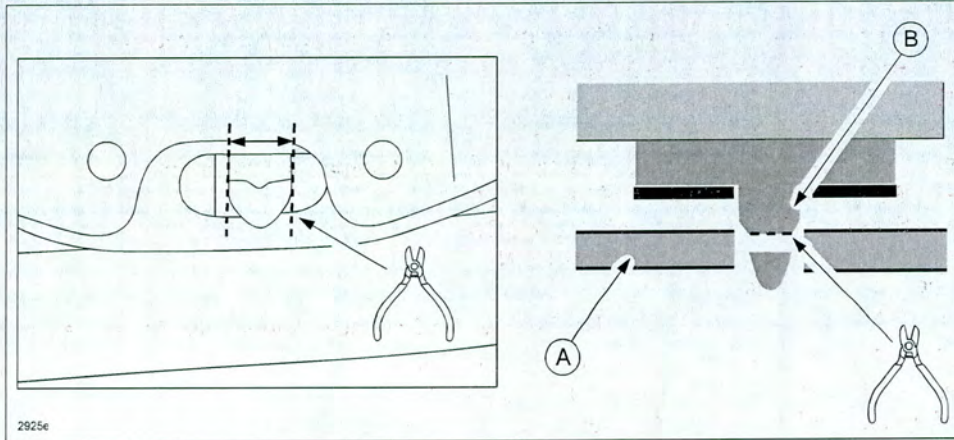
1. Verify customer concern.
2. Cut the end of the stopper and bend the panel at the affected windshield and/or rear window.
Windshield:
 - a. Remove the assist handle. Refer to MS3 online or the Workshop Manual section 09-17:
 - Mazda3 - ASSIST HANDLE REMOVAL/INSTALLATION
 - Mazda6 - ASSIST HANDLE REMOVAL/INSTALLATION
 - CX-5 - ASSIST HANDLE REMOVAL/INSTALLATION
 - b. Remove the sunvisor. Refer to MS3 online or the Workshop Manual section 09-17:
 - Mazda3 - SUNVISOR REMOVAL/INSTALLATION
 - Mazda6 - SUNVISOR REMOVAL/INSTALLATION
 - CX-5 - SUNVISOR REMOVAL/INSTALLATION
 - c. Partially peel back the seaming welt.
 - d. Separate the A-pillar trim from the A-pillar. Refer to MS3 online or Workshop Manual section 09-17:
 - Mazda3 - A-PILLAR TRIM REMOVAL/INSTALLATION
 - Mazda6 - A-PILLAR TRIM REMOVAL/INSTALLATION
 - CX-5 - A-PILLAR TRIM REMOVAL/INSTALLATION
 - e. Attach masking tape (A) to the black portion of the windshield around the area you are working in to prevent scratches.



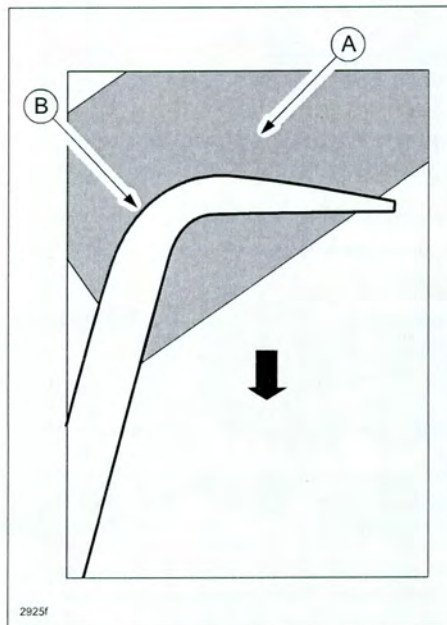
- f. Gently pull down on the headliner to provide enough space to insert the side cutters.

- g. Insert the side cutters between the headliner and the reinforcement panel (A), and cut the end of the pin (B).

CAUTION: DO NOT apply excessive force to the pin, or the windshield may crack.



- h. Pull down the reinforcement panel by the masking tape (A) using a suitable tool (B), such as a retaining clip remover, to provide clearance between the reinforcement panel and the remainder of the cut pin. Make sure there is no remaining contact between the pin and the reinforcement panel.



- i. Repeat on the other side and reassemble the removed components in the reverse order of removal.

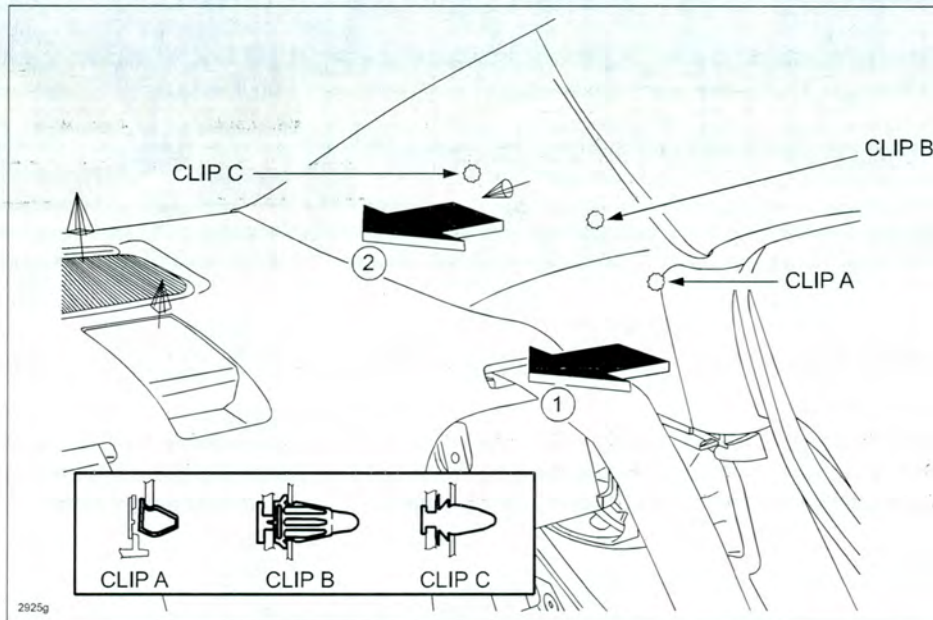
Rear Window (Mazda6 and Mazda3 sedan only):

- a. Remove the C-pillar trim. Refer to MS3 online or the Workshop Manual (section 09-17):

- Mazda3 - C-PILLAR TRIM REMOVAL/INSTALLATION

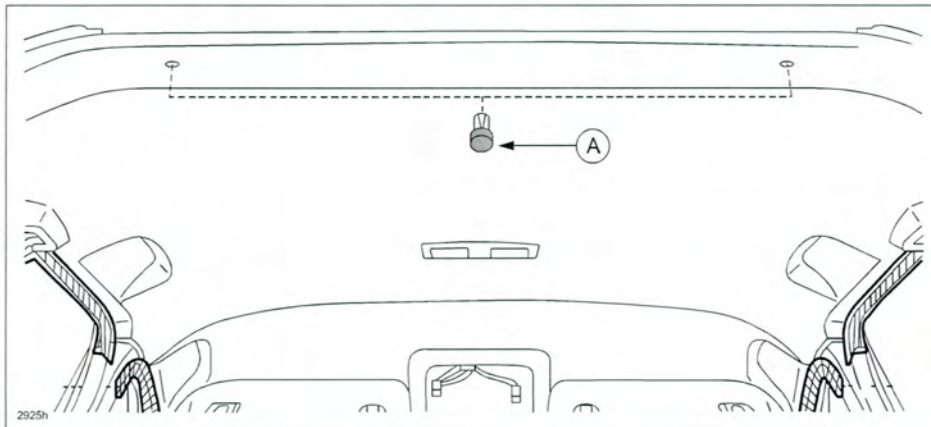
- Mazda6 - C-PILLAR TRIM REMOVAL/INSTALLATION

NOTE: Follow the instructions and be careful not to damage the clips. Clip B is a replacement part.



- b. Remove the clips (A) securing the headliner to the roof panel.

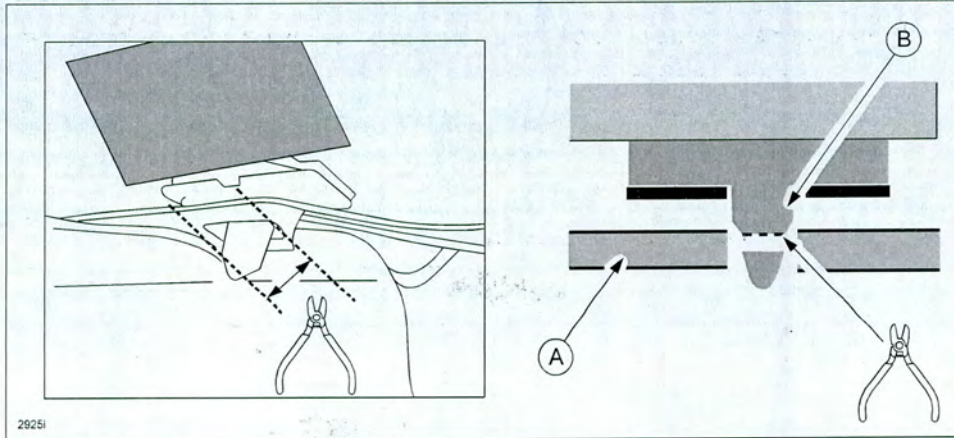
NOTE: Take care when handling the headliner to prevent getting dirt or grease on it.



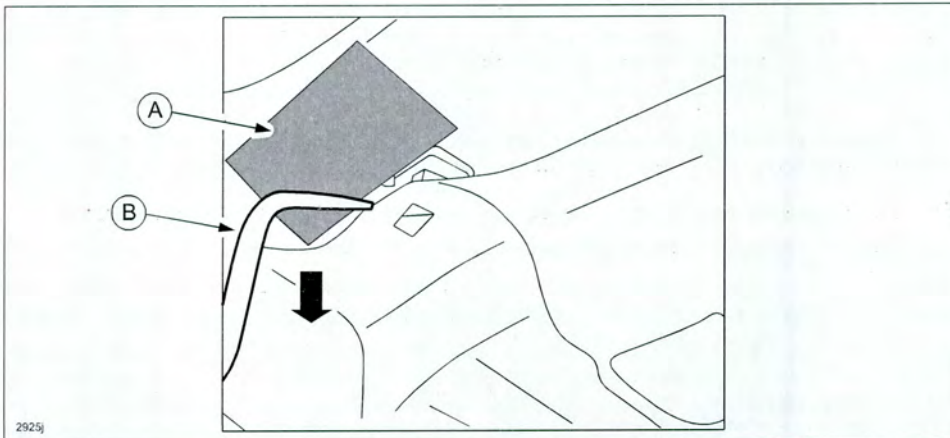
- c. Attach masking tape to the black portion of the rear window around the area you are working to prevent scratches.
- d. Gently pull down the headliner to provide enough space to insert side cutters.

- e. Insert the side cutters between the headliner and the reinforcement panel (A), and cut the end of the pin (B).

CAUTION: DO NOT apply excessive force to the pin, or the windshield may crack.



- f. Pull down the reinforcement panel by the masking tape (A) using a suitable tool (B), such as a retaining clip remover, to provide clearance between the reinforcement panel and the remainder of the cut pin. Make sure there is no remaining contact between the pin and the reinforcement panel.



- g. Repeat on the other side and reassemble the removed components in the reverse order of removal.
3. Verify repair.

PART(S) INFORMATION

Part Number	Description	Qty.	Notes
D651-68-162A	Clip	4	2 for A-Pillar 2 for C-Pillar

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 New Vehicle Limited Warranty.
- Additional diagnostic time cannot be claimed for this repair.

Windshield:	Mazda3, Mazda6, CX-5
Warranty Type	A
Symptom Code	82
Damage Code	97
Part Number Main Cause	7777-SP-J60
Quantity	0
Operation Number / Labor Hours:	XXK7DARX / 0.3 Hrs.

Rear Window (sedan only):	Mazda3	Mazda6
Warranty Type	A	A
Symptom Code	82	82
Damage Code	97	97
Part Number Main Cause	7777-SP-J60	7777-SP-J60
Quantity	0	0
Operation Number / Labor Hours:	XXK7DBRX / 0.6 Hrs.	XXK7DBRX / 0.4 Hrs.

Windshield and Rear Window (sedan only):	Mazda3	Mazda6
Warranty Type	A	A
Symptom Code	82	82
Damage Code	97	97
Part Number Main Cause	7777-SP-J60	7777-SP-J60
Quantity	0	0
Operation Number / Labor Hours:	XXK7DCRX / 0.8 Hrs.	XXK7DCRX / 0.6 Hrs.