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<b>Subject:</b>  UNUSUAL NOISE FROM EXHAUST PIPE SEAL RING	<b>Bulletin No:</b> 01-016/12
	<b>Last Issued:</b> 10/19/2012

## BULLETIN NOTE

- This bulletin supersedes the previous bulletins 01-016/12 issued 04/27/12 and 06/27/12, 01-022/11 issued 06/07/11, 01-044/10 issued 08/06/10, 08/13/10, and 10/15/10, and 01-052/08 issued 11/26/08. The REPAIR PROCEDURE and PARTS INFORMATION have been revised.
- Changes are noted below in Red beside the change bar.

## APPLICABLE MODEL(S)/VINS

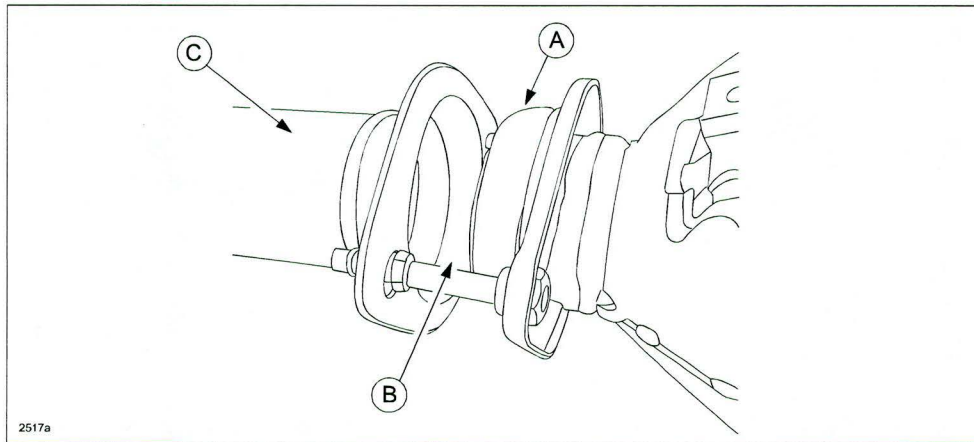
2009-2012 Mazda6 2.5L with automatic transmission

## DESCRIPTION

Some vehicles may exhibit an unusual squeak noise when the engine is idling, or just at the moment when the engine is shut off. The noise may be audible from inside the vehicle if one or more windows are open, or if any passenger is opening a door to exit the vehicle.

Due to engine vibration and a lack of seal ring lubrication, the mesh in the seal ring (A) rides in the flared portion (B) of the catalytic converter (C) resulting in a slight noise from the exhaust system while the engine is running. **The friction between the exhaust system parts and the resulting slight noise are normal.** This friction does not cause breakage, gas leakage, or other functional problems with the vehicle's exhaust system.

During normal vehicle aging, the noise level may change as the surface of the metal flange deteriorates. Usually this noise cannot be heard when the engine is running, however the noise may be heard in a quiet environment when the customer is outside the vehicle or when a door or window is open.



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

**CONSUMER NOTICE:** The information and instructions in this bulletin are intended for use by skilled technicians. Mazda technicians utilize the proper tools/equipment and take training to correctly and safely maintain Mazda vehicles. These instructions should not be performed by "do-it-yourselfers." Customers should not assume this bulletin applies to their vehicle or that their vehicle will develop the described concern. To determine if the information applies, customers should contact their nearest authorized Mazda dealership. Mazda North American Operations reserves the right to alter the specifications and contents of this bulletin without obligation or advance notice. All rights reserved. No part of this bulletin may be reproduced in any form or by any means, electronic or mechanical—including photocopying and recording and the use of any kind of information storage and retrieval system—without permission in writing.

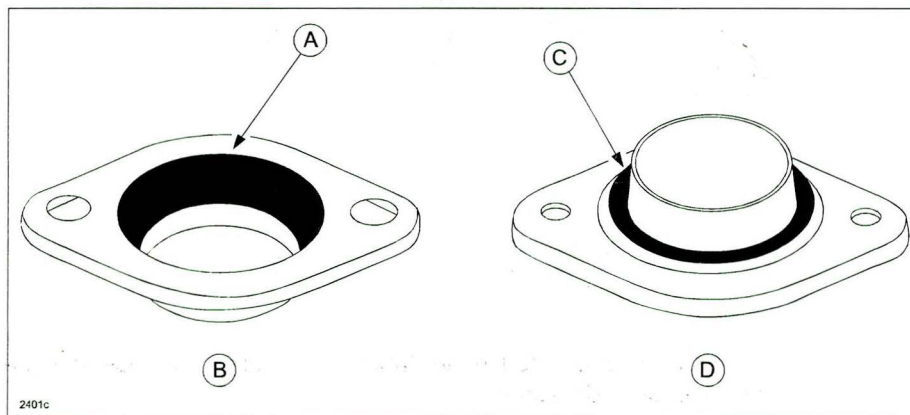
## REPAIR PROCEDURE

**WARNING:** A hot engine and exhaust system can cause severe burns. Wait until they are cool before beginning the repair.

**NOTE:** Be sure to follow the repair procedure precisely, including all notes and cautions, otherwise, the symptom will recur. Recommend to the customer that they drive gently for approximately 125 miles (200 km) in order to properly seat the seal ring to the round surface of the exhaust manifold flange.

1. Verify customer concern.
2. Safely lift vehicle on hoist.
3. Remove the catalytic converter and middle pipe together as an assembly. Refer to the MS3 online instructions or Workshop Manual (section 01-15A EXHAUST SYSTEM REMOVAL/INSTALLATION [MZR 2.5]).  
**NOTE:** Failure to follow the instructions on MS3 or the Workshop Manual may result in rattle noise due to misalignment of the exhaust system.
4. Remove the exhaust studs and washers (if any) and discard them.
5. Remove seal ring from exhaust manifold. Refer to the MS3 online instructions or Workshop Manual (section 01-15A EXHAUST SYSTEM REMOVAL/INSTALLATION [MZR 2.5]).
6. Stuff a cloth into exhaust manifold and catalytic converter to prevent dust or debris from entering.
7. Polish the flared portion (A) of catalytic converter-side (B) using a nylon brush or sandpaper (#60) for twenty (20) minutes, then use (#600) for three (3) minutes until bare metal is exposed.
8. Degrease (A) using ethanol for thirty (30) seconds.
9. Remove stains from the seal ring installed location (C) in exhaust manifold (D).
10. Degrease (C) using ethanol for thirty (30) seconds.

**NOTE:** Make sure the polished surface is free from seal ring residue, debris, or wear marks.

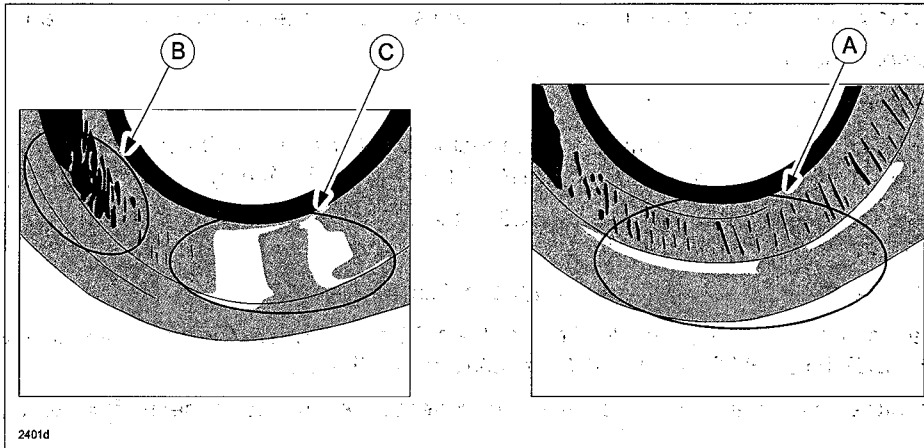


11. Run your finger over seal ring installed location (flange) of exhaust manifold. If surface feels rough, use #80 sandpaper until rough surface is gone, then use fine sandpaper until bare metal is exposed.

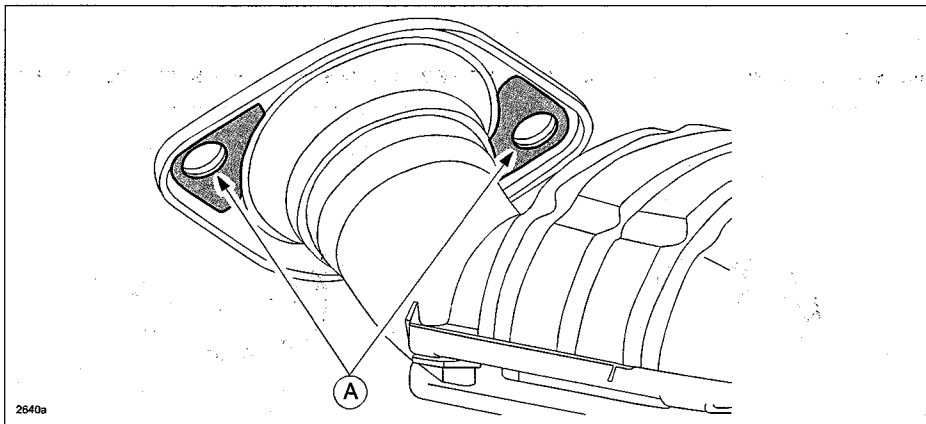
**NOTE:** Do not use air tools.

12. If severe damage appears on round surface of catalytic converter-side flared flange (A), replace catalytic converter.

NOTE: If the catalytic converter is replaced and a black coating (B) remains on the round surface of the flared flange, the white coating of the seal ring will stick to the black coating, which may cause noise. Be sure to sufficiently polish the flange (C).



- In case where catalytic converter is NOT replaced:
  - a. Install a new exhaust stud.
  - b. Confirm if patch (A) exists behind the catalytic converter flange.



If YES (patch exists) - Install washer listed in the Part(s) Information to reduce spring tension.

NEVER use an originally equipped washer.

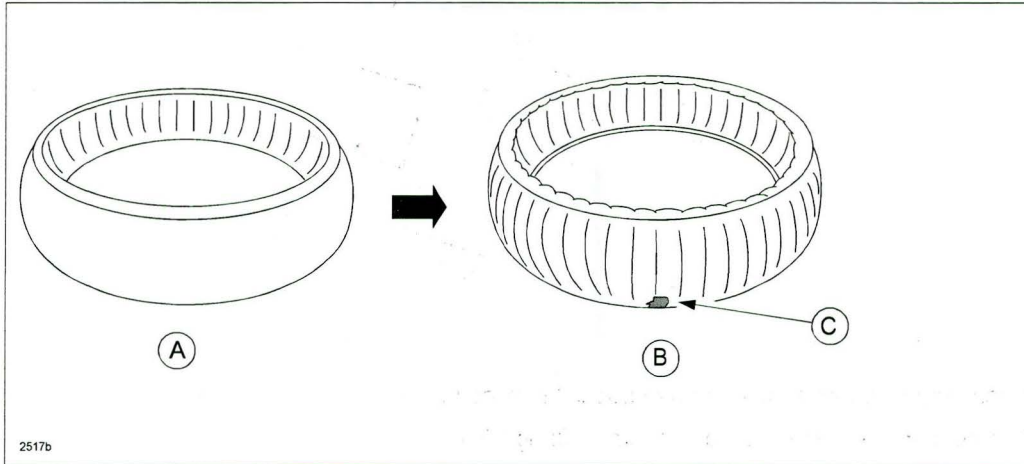
If NO (patch does not exist) - Washer installation is NOT necessary.

- In case where catalytic converter is replaced:
    - a. Install a new exhaust stud.
    - b. Washer installation is NOT necessary (as no patch exists on new catalytic converter listed in the Part(s) Information).
13. Using a piece of cloth including organic solvent (acetone, methanol) or a piece of cloth free of oil content, wipe off any debris or grease from polished area.

14. Remove cloth from exhaust manifold.

**NOTE:** During cloth removal, be careful not to allow any foreign substances into the pipe.

15. Replace old seal ring (A) with new seal ring (B). Push new seal ring (with green identification marking (C)) onto manifold flange by hand.

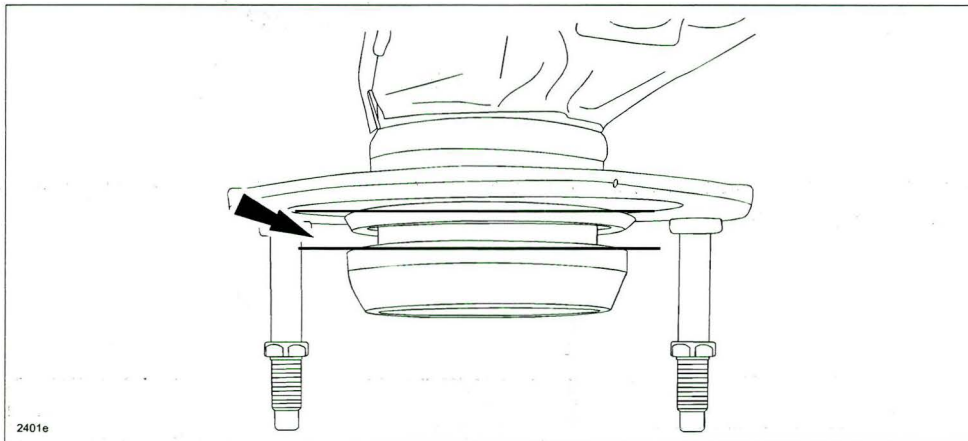


Pay attention so as not to drop the seal ring on the floor as it can be easily damaged.

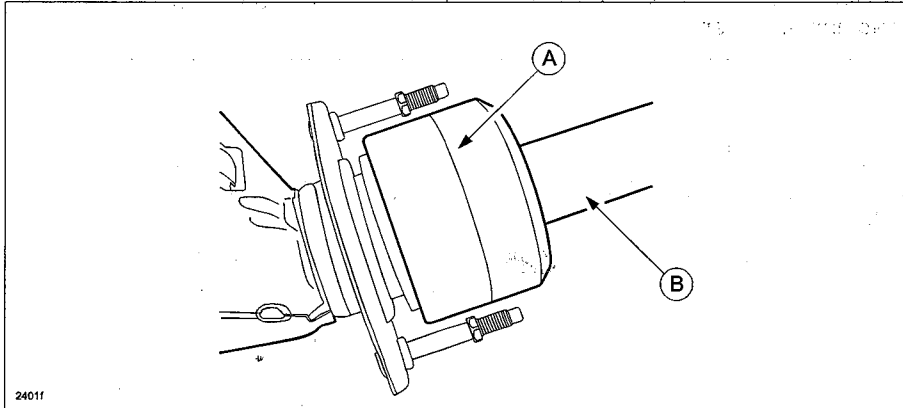
**NOTE:**

- Make sure seal ring fits straight and does not fall off when you remove your hand from the ring.
- Make sure seal ring fits straight, if not, there is a possibility the lubrication on the inner surface will be damaged when the seal ring is press-fitted with the special service tool.

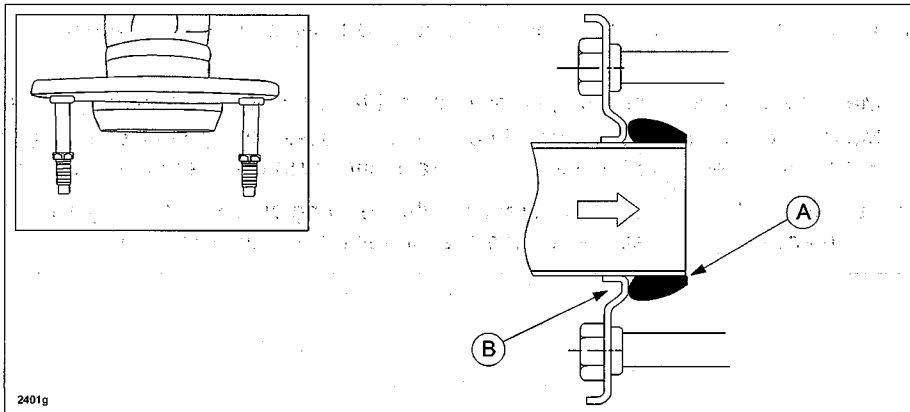
**CAUTION:** DO NOT APPLY any type of grease to the seal ring as it will harmfully effect the lubricant performance originally applied on the seal ring and the noise will recur.



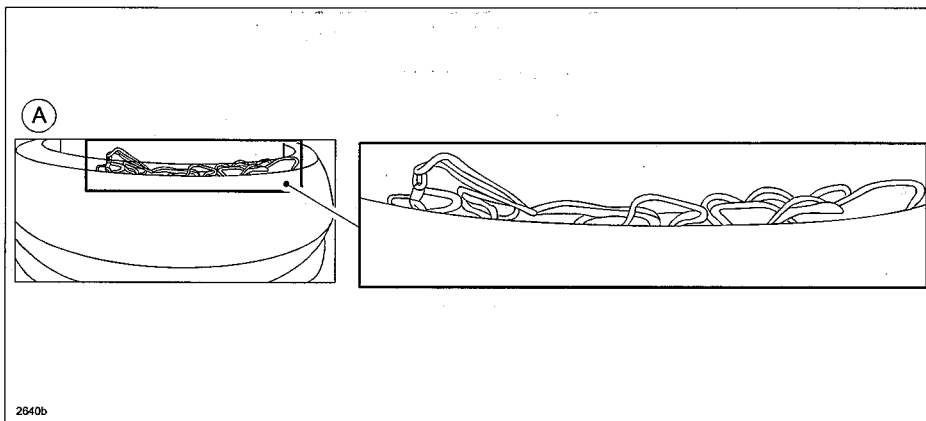
16. Install the special service tool (SST) to the seal ring so that the SST is even with the flange.  
A: Installer (49 G040 002)  
B: Handle (49 G040 001)



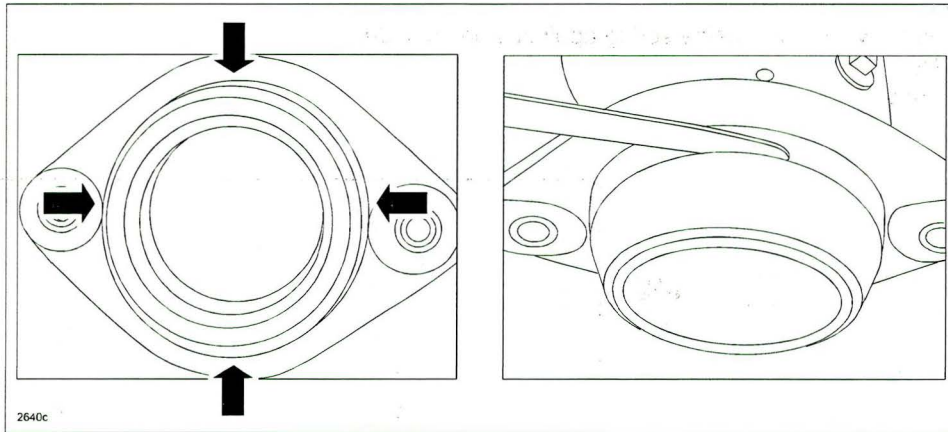
17. Seat seal ring by lightly tapping end of special service tool with a rubber hammer.  
18. Push in seal ring (A) until edge of it contacts flange (B).



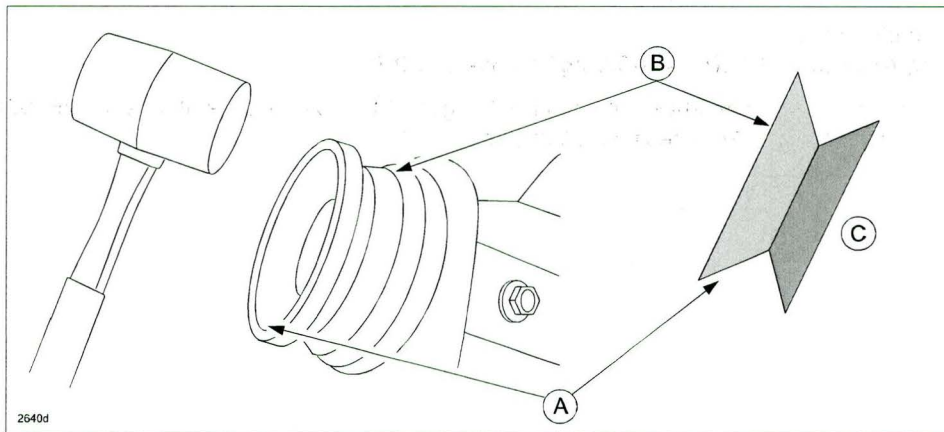
19. If the seal ring is NOT installed straight, mesh wire (A) will come out from the seal ring which will then contact the exhaust pipe flange.



- a. Insert a 0.3mm thickness gauge at four different locations and confirm that the gauge stops at 5mm or less.



- b. If the gauge can be inserted more than 5mm in one or more locations, perform the following:
1. Place the used original seal ring (A) upside down to the new seal ring (B).
  2. Tap it around carefully against the exhaust manifold (C) with a rubber hammer so as not to damage the seal ring.
  3. Do this until the 0.3mm thickness gauge stops at 5mm or less.

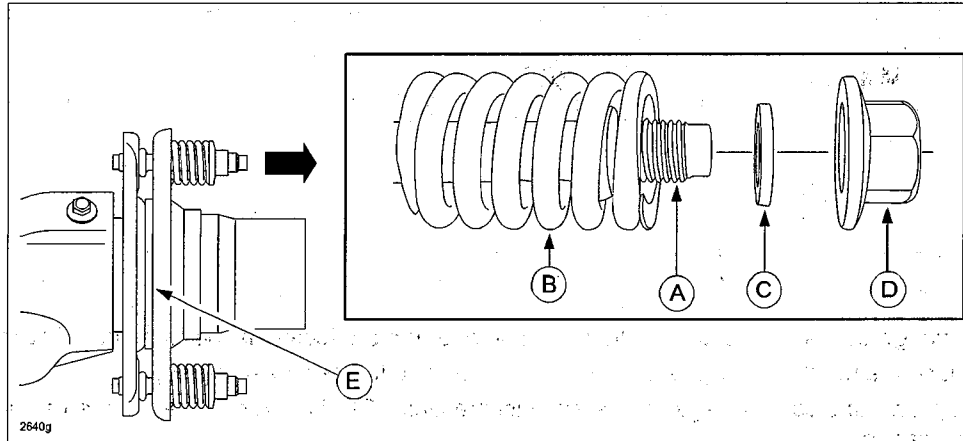


20. Assemble converter to seal ring according to the Workshop Manual or MS3 online instructions (section 01-15A EXHAUST SYSTEM REMOVAL/INSTALLATION [MZR 2.5L]).

**NOTE:** Failure to follow the instructions may result in rattle noise due to misalignment of exhaust system.

21. Install springs, washers (when necessary according to Step 11), and hex nuts in order.

- A - Exhaust Stud
- B - Spring
- C - Washer - (washer fits inside spring against stud shoulder)
- D - Hex Nut
- E - Seal Ring



**NOTE:** It is NOT necessary to install washers when the catalytic converter is replaced with a new one.

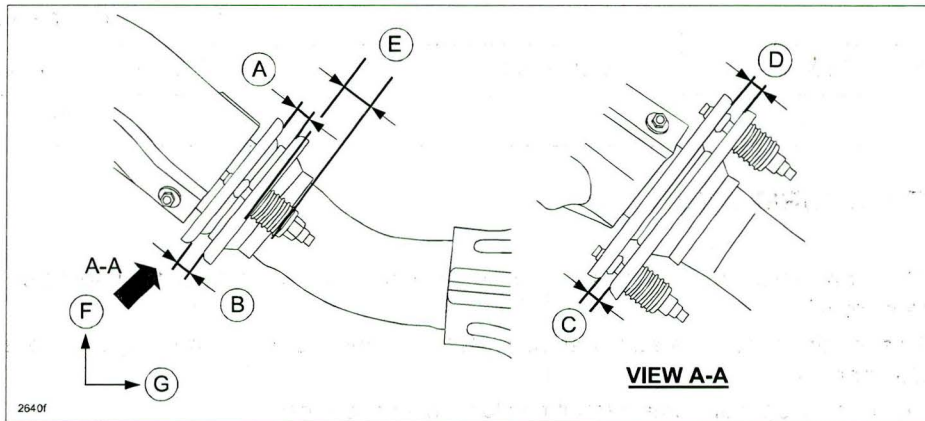
22. Tighten the stud nuts.

**Tightening torque: 41-51 Nm (4.2-5.2 kgf-m, 31-37 ft-lbf)**

23. Measure the length and clearance between the flanges of the exhaust manifold and U/F catalytic converter. Verify that they are within the specification shown.

A	Upper	9-12 mm
B	Lower	7-10 mm
C	Right	6-9 mm
D	Left	6-9 mm
E	Spring length (end-to-end)	29-31 mm
F	Vehicle upper	
G	Vehicle lower	

**NOTE:** If the clearance or spring length is out of range, verify the cause and repair.



24. Verify repair.

**WARNING:** Exhaust leaks can allow carbon monoxide into the vehicle and cause injury or death, please go over the system and be sure there are no gas leaks at any point before returning the vehicle to the customer.



**PARTS INFORMATION**

Part Number	Description	Qty.	Notes
L555-40-581	Seal Ring	1	Improved part
L3M7-40-584	Stud	2	2
9XB0-09-9201	Washer	2	<ul style="list-style-type: none"> <li>• New washers are used to reduce spring tension.</li> <li>• Necessary only if the original catalytic converter is reused and a patch is welded behind the flange.</li> </ul>
L5Y8-20-55XA	Converter	1	FED. / CANADA / MEXICO
L5Z1-20-55XA		1	CALIF.

**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 term for a Powertrain Component.
- Additional diagnostic time cannot be claimed for this repair.

Warranty Type	A
Symptom Code	82
Damage Code	9G
Part Number Main Cause	L555-40-581 (Seal Ring)
Quantity	1
Operation Number / Labor Hours:	XXG1ZXRX / 1.1 Hrs

