

Service Bulletin

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Category: 02	Subject: 2006-2010 MAZDA5 - NOISE FROM FRONT OR REAR SUSPENSION WHEN PASSING OVER A BUMP OR DRIVING ON UNEVEN ROAD	Bulletin No.: 11-02
		Issued: 17/05/2011
		Revised: 26/07/2011

BULLETIN NOTE

This bulletin supersedes the previous bulletin 02-07-06 issued on 10/07 and 02-08-05 issued on 07/08. The APPLICABLE MODEL(S)/VINS, DESCRIPTION, REPAIR PROCEDURE, PARTS and WARRANTY INFORMATION have been revised.

APPLICABLE MODEL(S)/VINS

2006-2010 Mazda5 vehicles for front and rear stabilizer bushings.

2006 Mazda5 vehicles with VINs lower than JM1 CR**** ** 120197 (produced before January 27, 2006) for lower arm.

2006-2007 Mazda5 vehicles with VINs lower than JM1 CR**** ** 160549 (produced before July 1, 2007) for rear suspension arc-welding bead and spring seat rubber.

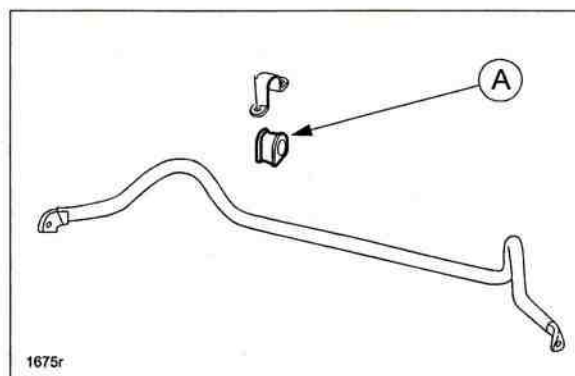
2007 Mazda5 vehicles with VINs higher than JM1 CR**** ** 160550 (produced after July 1, 2007) for rear spring seat rubber.

2008-2010 Mazda5 vehicles for rear spring seat rubber.

DESCRIPTION

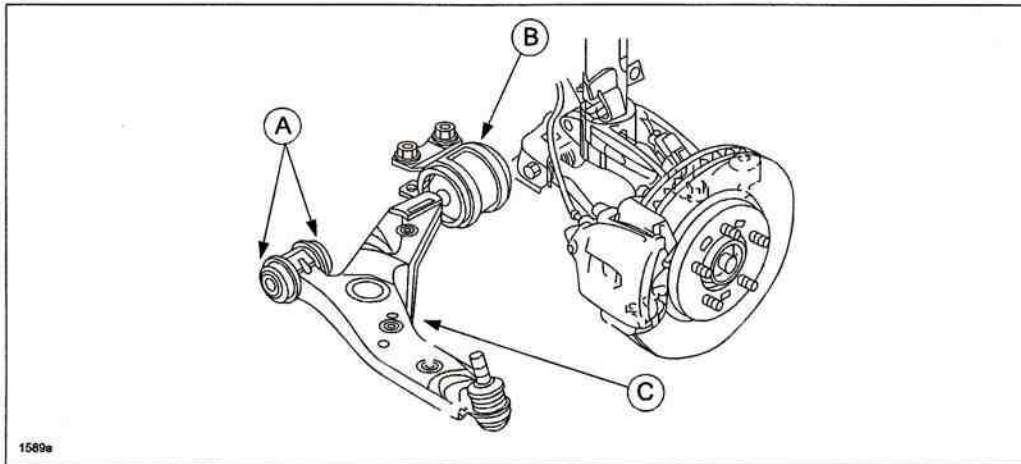
Some vehicles may exhibit a squeak, knock, rattle/chatter, or unusual noise from the front suspension or rear suspension when passing over a bump at a low speed or driving on an uneven road. This is may be caused by one of the following:

- The front/rear stabilizer bushing (A). This is caused by dust and/or mud water entering between the stabilizer bar and stabilizer bushing and damaging the coating applied to the bushing, resulting in excessive clearance.

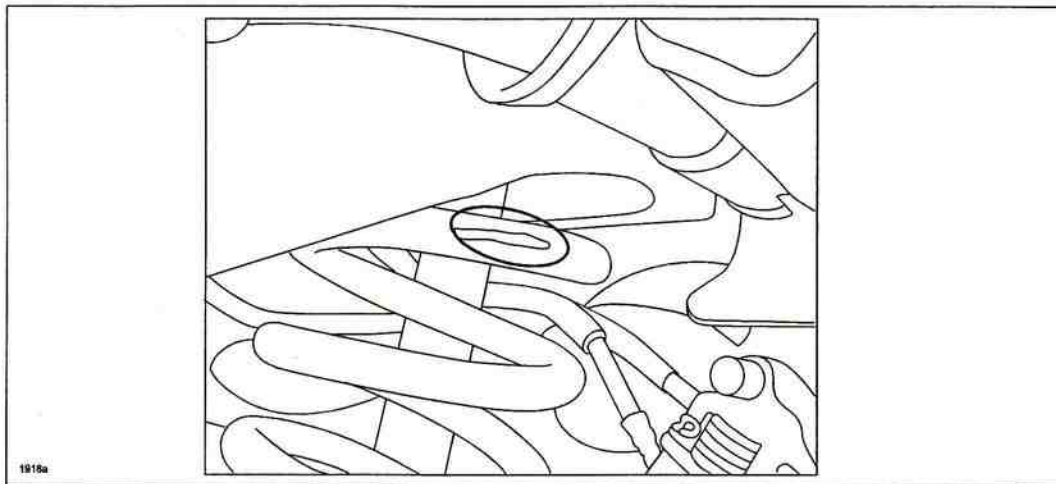


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- The front (A) or rear bushing (B) of the front lower arm (C).



- The rear coil springs may have shifted in the spring seat rubber and/or upper spring pocket in the rear cross-member, and causes the spring to rub against the crossmember. This noise will most likely occur with the rear seat occupied, and can sound like a squeak or knock when going over a bump or a rattle when driving at a steady speed over uneven road surfaces. The problem on early models is the arc-welding bead in the spring pocket on the crossmember where it makes contact with the spring seat rubber is protruding too much, causing the spring seat rubber to be pushed out of position. The arc-welding bead also prevents the rubber from going back to its initial position. On later models, the spring seat rubber is the problem.



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POSSIBLE ROOT CAUSE	LOCATION	Front			Rear		
	NOISE	Squeak	Knock	Unusual	Squeak	Knock	Rattle/ Chatter
	Front Stabilizer Bushings	X*	X				
	Front Lower Arm(s)	X		X			
	Rear Stabilizer Bushings				X*		
	Arc-Welding Bead				X	X**	X***

*	More likely heard in colder outside temperatures.
**	More likely heard with weight in the rear going over a bump.
***	More likely heard with weight in the rear driving at a steady speed on uneven road surfaces.

To stop the noise, the following mass production changes have occurred.

- The stabilizer bar bushing rubber has been made harder and the amount of wax that is included in the front/rear stabilizer bushing has been increased.
- The position of the split in the front stabilizer bar bushing rubber has been changed.
- The shape of the front lower arms along with the attached bushings has been changed.
- The amount of arc-welding bead has been changed.

NOTE: Additional modifications are required to the front and rear stabilizer bars to stop the noise. For the front stabilizer bushings, the left and right front stabilizer bushings are replaced with new ones and dust covers with bands are installed. For the rear stabilizer bushings, the rear stabilizer bar is replaced with a modified one (with a set of stabilizer bushings and brackets).

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

REPAIR PROCEDURE

1. Verify customer concern, specifically the location of the noise and root cause component, then move on to the procedures that apply. For front and rear stabilizer bushings, pinpoint the source of the noise using a noise detection tool such as "ChassisEar" or drive over a bump with the stabilizer control links (left and right) disconnected. If the noise is gone, the casual part is the stabilizer bushings. For the arc-welding bead on the rear crossmember, a visual inspection should confirm rub marks on the coil spring.
2. Verify each repair when finished.

FRONT LOWER CONTROL ARM (FOR SQUEAK)

1. Replace front lower arm. Refer to appropriate Workshop Manual section 02-13 - FRONT LOWER ARM REMOVAL / INSTALLATION.
2. Perform toe-in inspection and adjustment. Refer to appropriate Workshop Manual section 02-11 - FRONT WHEEL ALIGNMENT.

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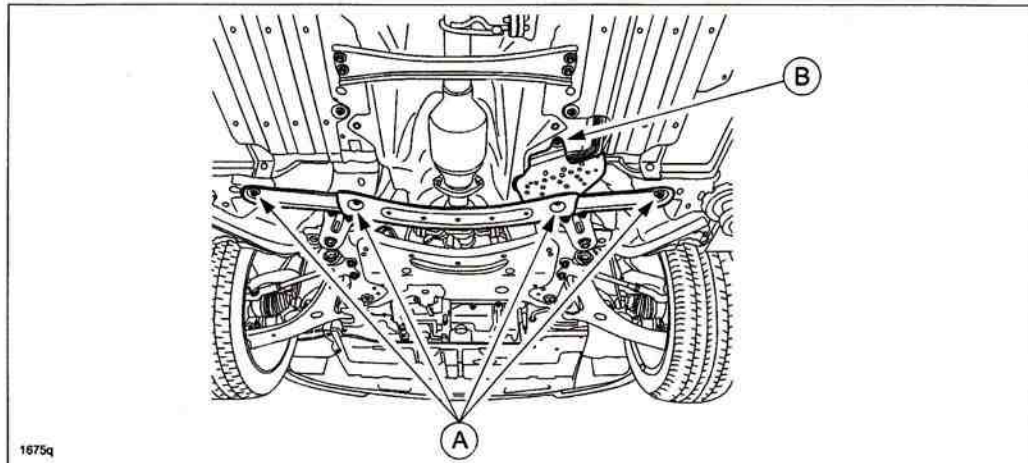
FRONT STABILIZER BUSHINGS (FOR SQUEAK OR KNOCK)

1. Raise the vehicle on the hoist.

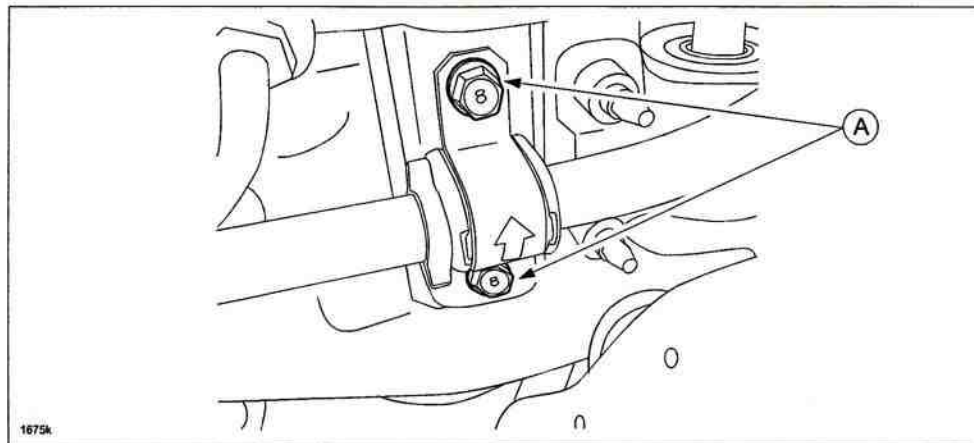
WARNING: Before working on the vehicle, make sure the vehicle's engine and exhaust are cooled down.

NOTE: Do one side at a time, otherwise the stabilizer bar could shift out of position and make the repair more difficult.

2. Remove the transverse member to make access easier to the left and right stabilizer bar brackets and bolts
- 4 large bolts (A) and 1 small bolt (B).

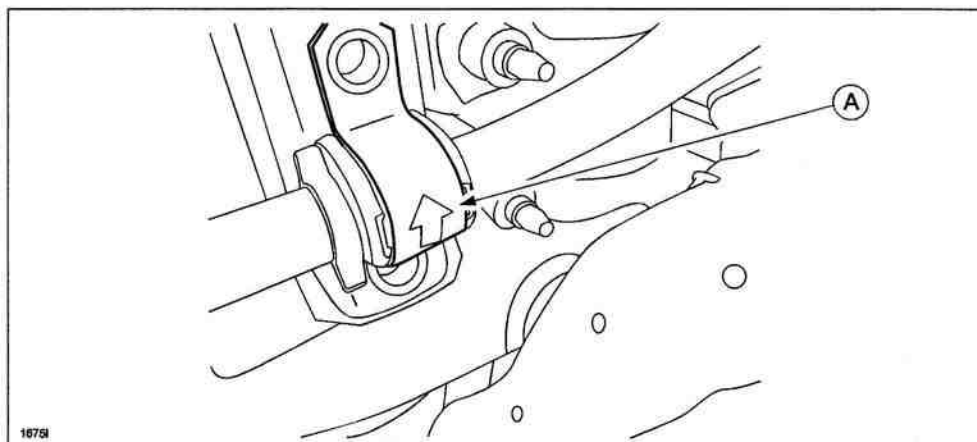


3. Remove the two bolts for the right front stabilizer bracket (A) and loosen the two bolts on the left front stabilizer bracket.

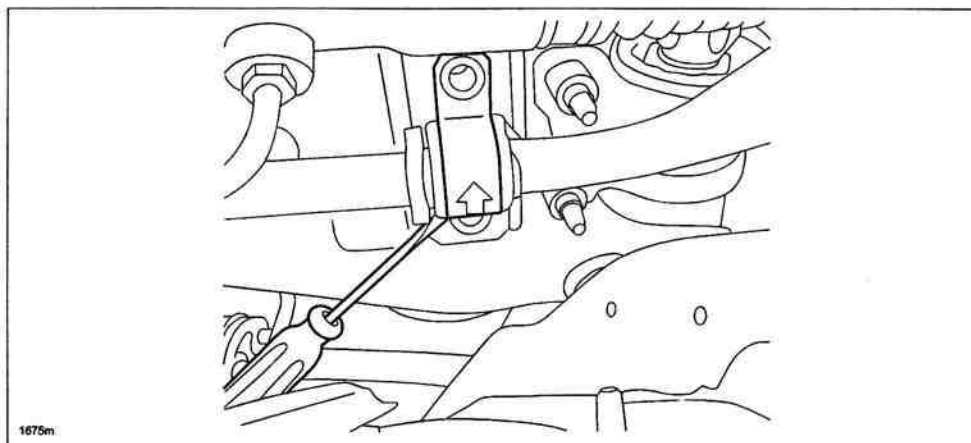


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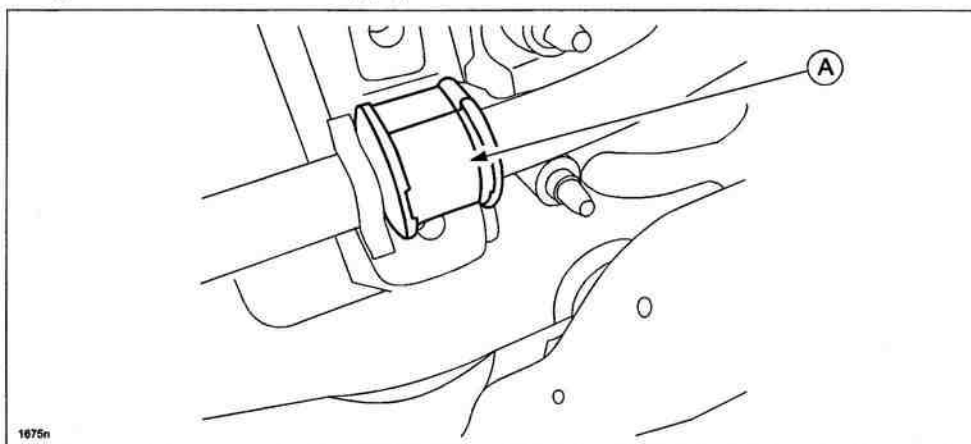
4. Remove the right front stabilizer bracket (A).



NOTE: It may be necessary to use a screwdriver to pry the bracket off.

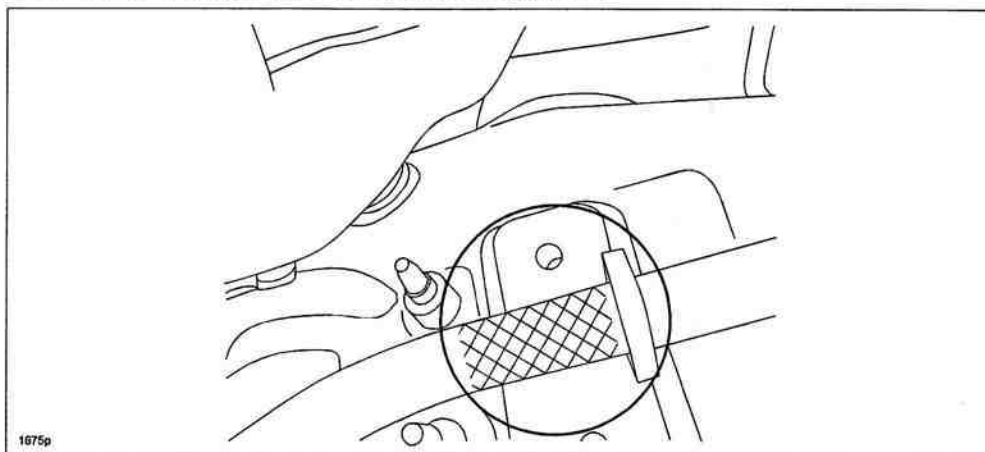


5. Remove the right front stabilizer bushing (A).

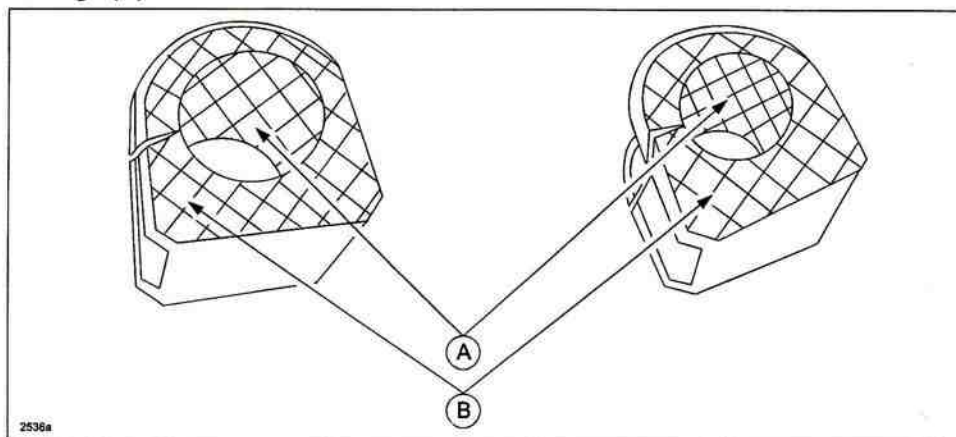


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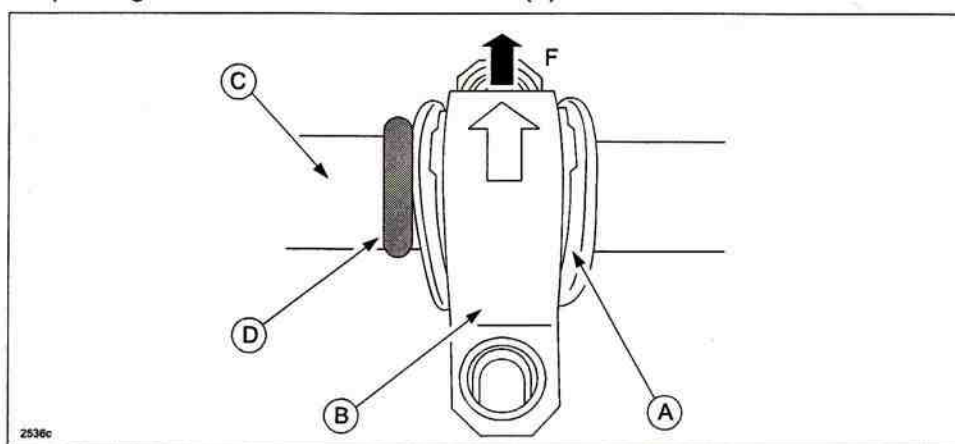
6. Clean the area on the stabilizer bar where the bushing goes.



7. Apply a light coating of locally source rubber grease to the inner cylindrical surface (A) and both sides of the new front bushings (B).

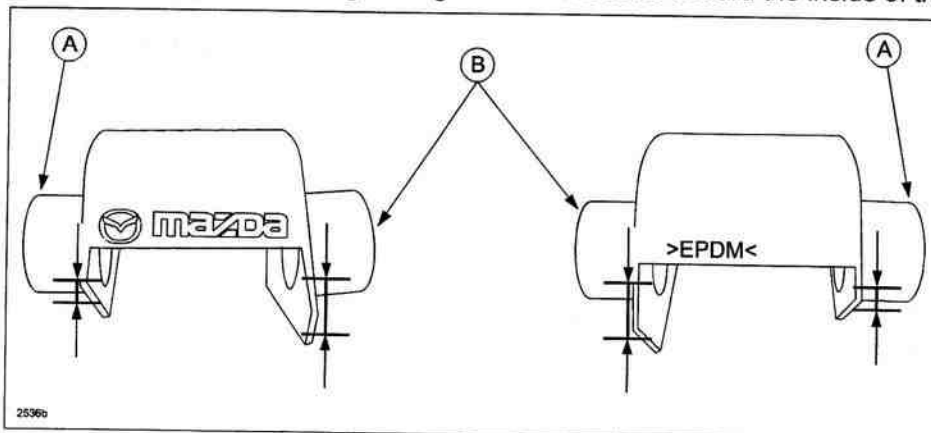


8. Attach a new front bushing (A) and original bracket (B) to the stabilizer bar (C), aligning with original position (D) and arrow pointing towards the front of the vehicle (F).

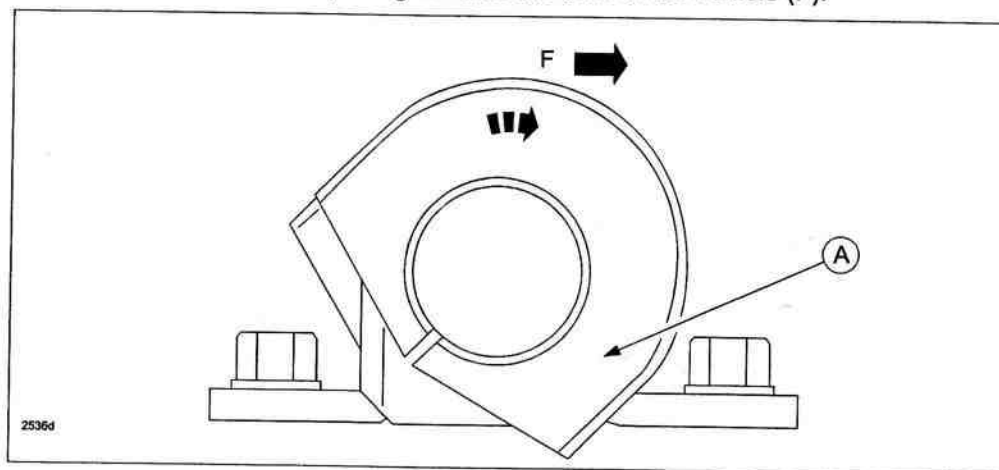


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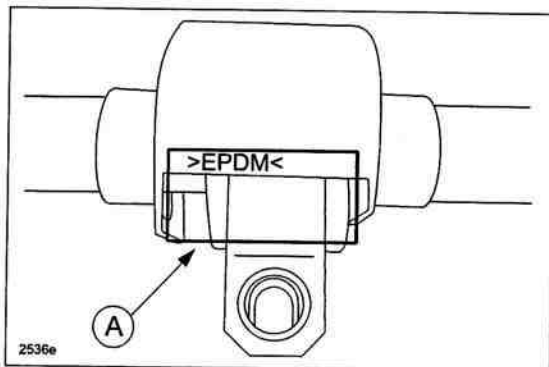
9. Install a dust cover over the stabilizer bushing and bracket. Face the shorter flange of the dust cover toward the outside of the vehicle (A) and the longer flange of the dust cover toward the inside of the vehicle (B).



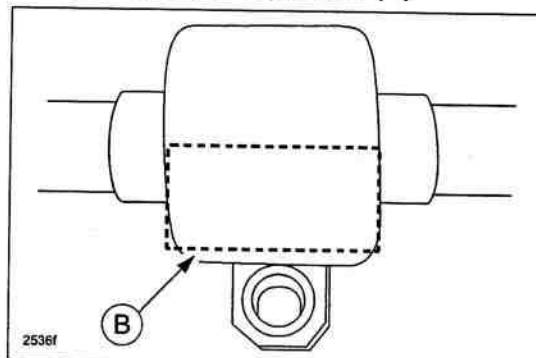
NOTE: Place a dust cover (A) over the stabilizer bracket, then rotate it fully forward to position the opening on the rear so there is no opening towards the front of the vehicle (F).



GOOD - Opening at rear (A)

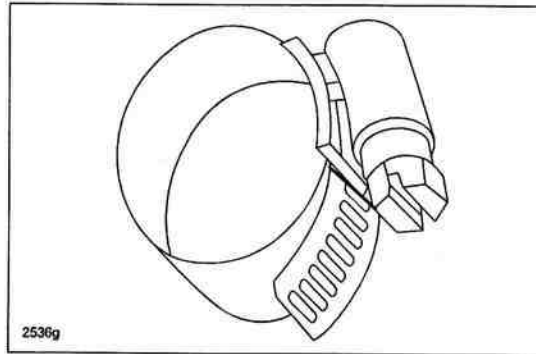


NO GOOD - No opening at rear (B)

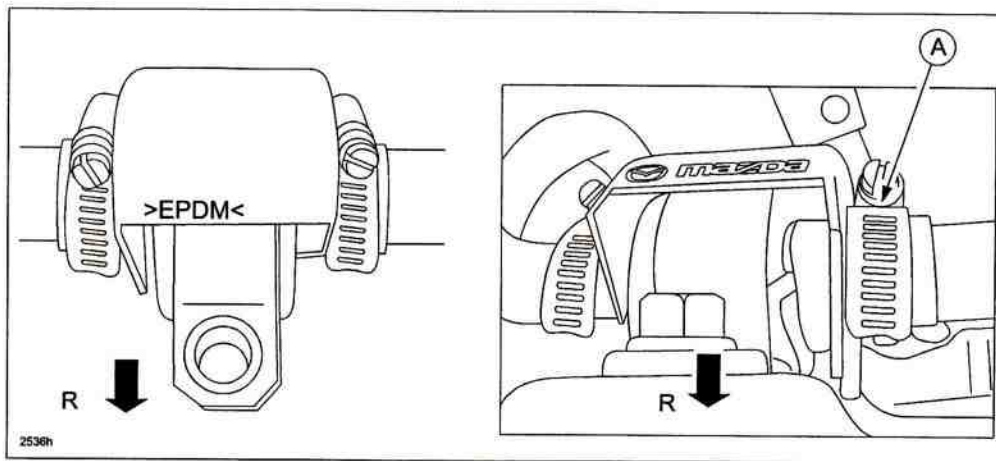


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10. Erase the white marking on the 8th to 9th slot of the band, then put a marking on the 11th slot.



11. Attach the band, facing the band bolt (A) toward the rear of the vehicle (R) to make the bolt visible. Tighten the bolt on the band until the marking reaches the tip of the bolt.



12. Align and install the bolts for the right front stabilizer bracket.
13. Repeat steps 3-12 for the left side.
14. Tighten the bolts on both stabilizer brackets.
Tightening torque: 40.3-53.9 Nm (29.8-39.7 ft-lbf)
15. Install the transverse member (if removed) and install the bolts.
Tightening torque: four larger bolts to 36.3 - 53.9 Nm (26.8 - 39.7 ft-lbf) and one smaller bolt to 7.8 - 10.8 Nm (70-95 in-lbf)

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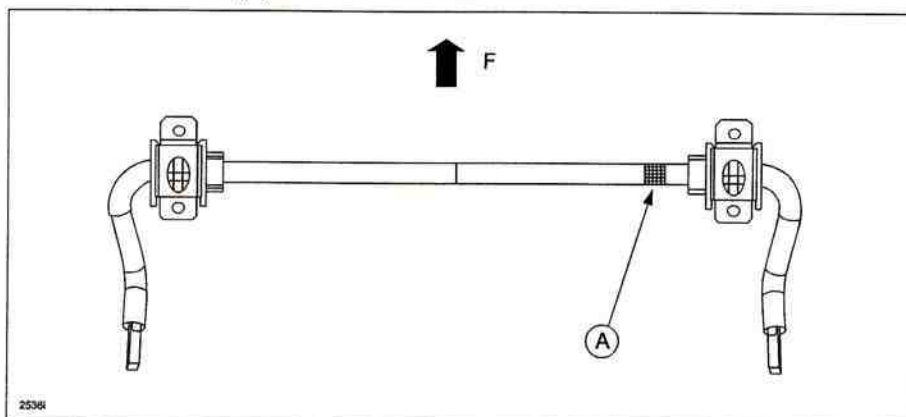
REAR STABILIZER BUSHINGS (FOR SQUEAK)

1. Raise the vehicle on the hoist.

WARNING: Before working on the vehicle, make sure the vehicle's engine and exhaust are cooled down.

2. Replace the rear stabilizer bar with a modified one (includes a set of stabilizer bushings and brackets). Refer to appropriate Workshop Manual section 02-14 - REAR STABILIZER REMOVAL/INSTALLATION.

NOTE: Install the rear stabilizer so that the identification mark (A) is on the right side of the vehicle facing the front of the vehicle (F).

**ARC-WELDING BEAD ON REAR CROSSMEMBER (FOR SQUEAK, KNOCK OR RATTLE/CHATTER)****NOTE:**

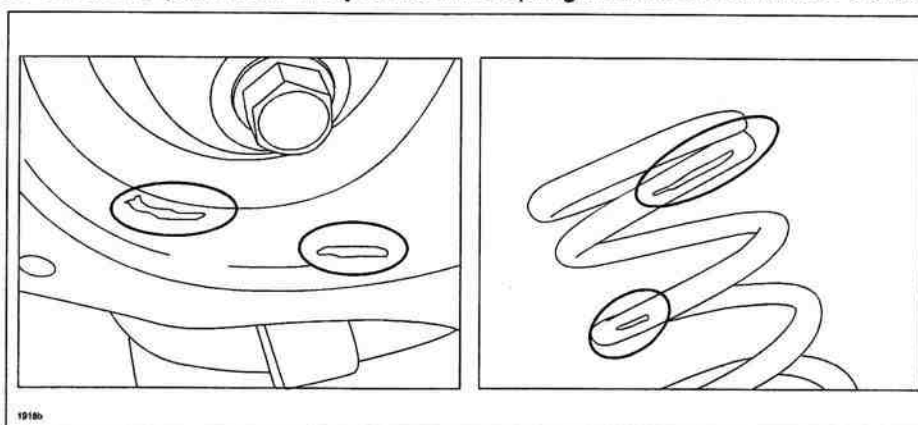
- If VIN is within JM1CR*****100001-160549 and has no past repair history with service bulletin 02-001/08, perform this procedure only.
- If VIN is within JM1CR*****100001-160549 and has past repair history with service bulletin 02-001/08, check the left side for arc-welding bead and the right side for spring seat rubber.

1. Raise the vehicle on the hoist.

WARNING: Before working on the vehicle, make sure the vehicle's engine and exhaust are cooled down.

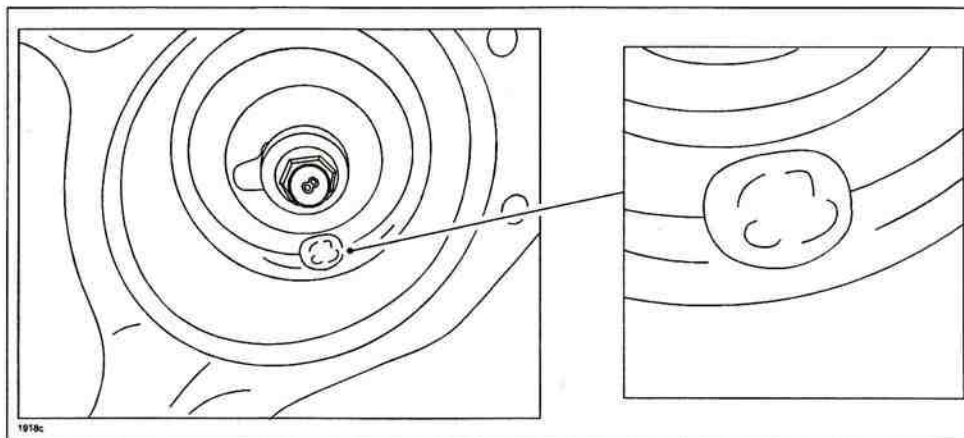
2. Remove the right rear coil spring according to the instructions online on MS3 or the Workshop Manual section 02-14 REAR COIL SPRING REMOVAL/INSTALLATION.

NOTE: There should be paint worn away on both the spring and the crossmember as shown.



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3. Examine the crossmember to see if the arc-welding bead on the crossmember is excessive.

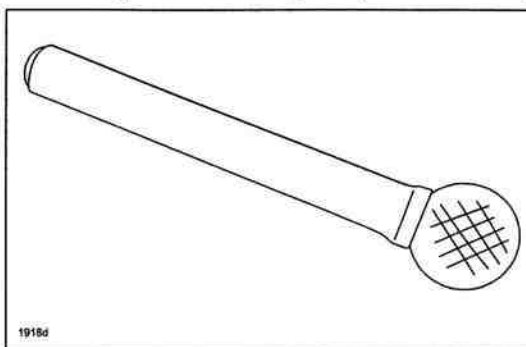


4. Using a grinder or similar tool, grind off the protruding arc-welding bead until the height of the bead is less than 2 mm.

CAUTION: Use protective eyewear when grinding as metal particles will be coming off.

NOTE:

- Do not grind off too much of the arc-welding bead.
- For best grinding results, use a 1/2 inch diameter carbide rotary file (or equivalent) at the proper tool RPM. This tool is locally sourced and greatly reduces the grinding time.



5. Apply touch up anti-rust paint to all exposed areas on the spring and crossmember.
6. Install the rear coil springs with a new spring seat rubbers according to the instructions online on MS3 or the Workshop Manual section 02-14 REAR COIL SPRING REMOVAL/INSTALLATION.

NOTE: If any damage is found on the rear coil spring, replace it with a new one.

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REAR SPRING SEAT RUBBER (FOR SQUEAK, KNOCK OR RATTLE/CHATTER)

1. Raise the vehicle on the hoist.

WARNING: Before working on the vehicle, make sure the vehicle's engine and exhaust are cooled down.

2. Remove the rear coil springs according to the instructions online on MS3 or the Workshop Manual section 02-14 REAR COIL SPRING REMOVAL/INSTALLATION.
3. Install the rear coil springs with a new spring seat rubbers according to the instructions online on MS3 or the Workshop Manual section 02-14 REAR COIL SPRING REMOVAL/INSTALLATION.

NOTE: If any damage is found on the rear coil spring, replace it with a new one.

PART(S) INFORMATION

Part Number	Description	Qty.	Notes
C513-34-300	Lower Arm Assembly (R)	1	-
C513-34-350	Lower Arm Assembly (L)	1	-
CC29-34-156C	Front Stabilizer Bushings	2	-
CAY1-34-158A	Dust Cover	2	-
BPYK-34-153	Band	4	-
C2Y6-28-10XA	Rear Stabilizer Assembly	1	Includes bushings and brackets.
C2Y6-28-012	Spring Seat Rubber	1 or 2	-
CC43-28-011	Rear Coil Spring	1 or 2	Replace only when damage is found.

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