

Technical Service Bulletin

Mazda North American Operations
Irvine, CA 92618-2922

**Subject:**

**UNUSUAL NOISE WHEN STARTING TO MOVE VEHICLE WHILE
STEERING WHEEL IS FULLY TURNED TO DRIVER-SIDE**

Bulletin No.: 06-002/20

Last Issued: 04/01/2020

BULLETIN NOTES

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

Previous TSBs:	Date(s) Issued:
06-001/19	02/04/19
06-001/18	05/15/18
06-002/17	08/22/17
06-001/15	10/07/15
06-002/14	07/29/14
06-002/13	10/09/13

APPLICABLE MODEL(S)/VINS

2014-2016 Mazda3 (Japan Built) vehicles with VINs lower than JM1BM*****355940 (produced before June 23, 2016)

2017 Mazda3 (Japan Built) vehicles with VINs lower than JM1BN*****135688 (produced before Dec. 23, 2016)

2014-2016 Mazda3 (Mexico Built) vehicles with VINs lower than 3MZBM*****330142 (produced before Sept. 3, 2016)

2017 Mazda3 (Mexico Built) vehicles with VINs beginning with 3MZBN

2014-2016 Mazda6 vehicles with VINs lower than JM1GJ*****488592 (produced before June 30, 2016)

2017 Mazda6 vehicles with VINs lower than JM1GL*****126959 (produced before Dec. 23, 2016)

2013-2016 CX-5 vehicles with VINs beginning with JM3KE

2017 CX-5 vehicles with VINs lower than JM3KF*****921726 (produced before Dec. 21, 2016)

DESCRIPTION

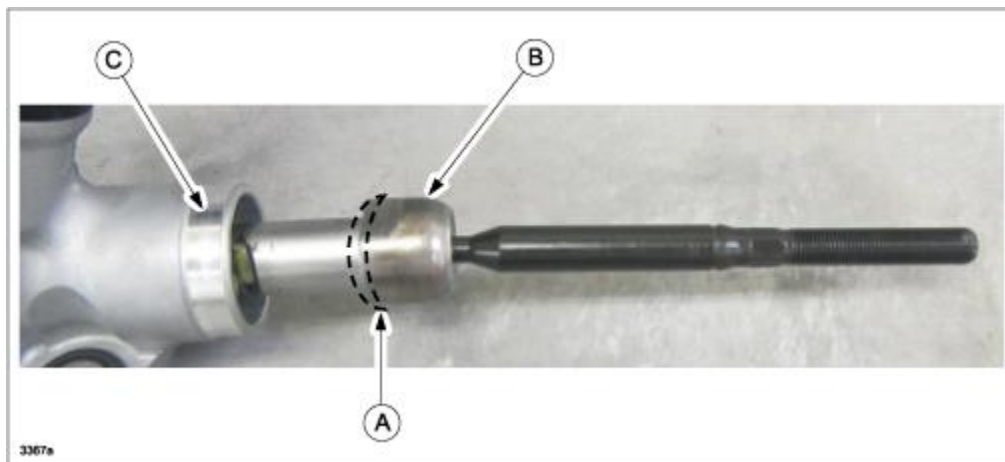
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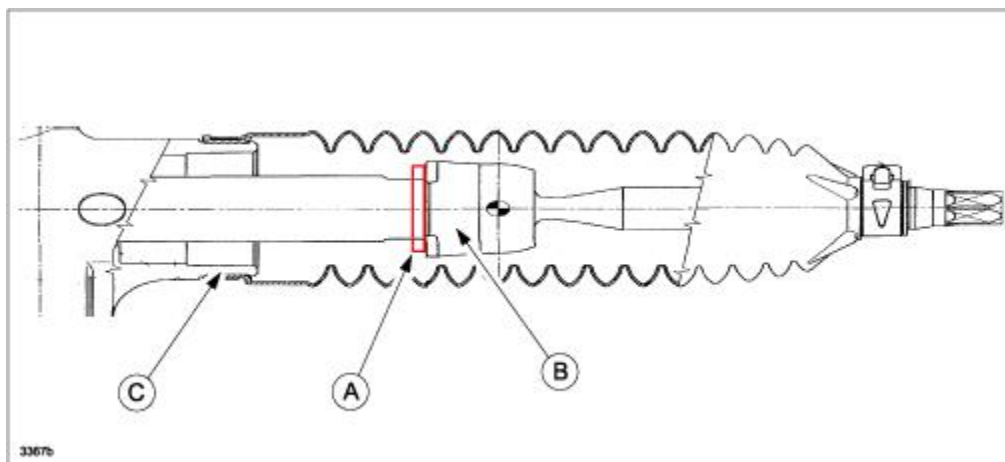
Some vehicles may exhibit an unusual noise (clacking) from under the front of the vehicle. This noise only occurs when starting to move the vehicle while the steering wheel is fully turned to the driver-side (left side for LHD vehicle and right side for RHD vehicle).

NOTE: The noise will not occur if the steering wheel is in the center or to the full passenger-side position.

The noise is caused when the edge (A) of the inner ball joint (B) gets stuck with the steering gear housing (C).



To eliminate the noise, a spacer (A) has been installed between the inner ball joint (B) and the steering gear housing (C) (both sides) to prevent direct contact.



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

REPAIR PROCEDURE

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1. Verify the customer concern by turning the steering wheel fully to the driver-side, then start moving the vehicle.

Refer to the noise sample in the attached video file: (CLICK HERE).

NOTE: The vehicle in the noise sample video is a right hand drive (RHD) vehicle.

- If the noise is not present, this service information does not apply.
- If the noise is present, proceed to next step.

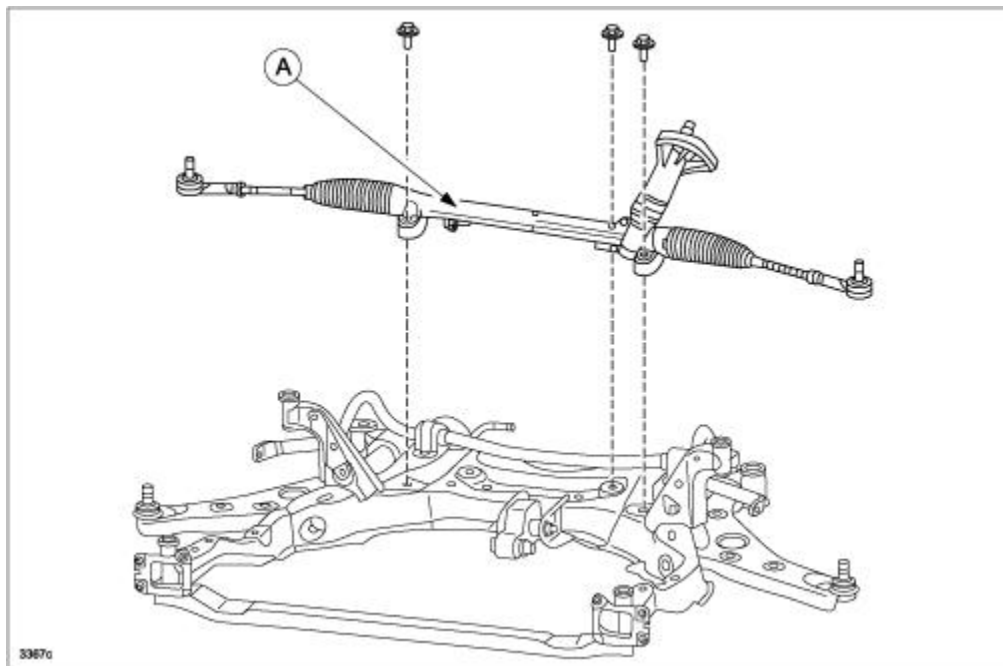
2. Install the spacer between the inner ball joint and the steering gear housing (both driver and passenger sides) using the following steps.

NOTE: Joint set including the following parts has been established as a new service part.

- Spacer (Driver side) x 1
- Spacer (Passenger side) x 1
- Boot band x 2
- Snap Pin x 2

3. Remove the steering gear and linkage (A) according to the instructions on MGSS online:

- CX-5 - (STEERING GEAR AND LINKAGE REMOVAL/INSTALLATION).
- Mazda3 - (STEERING GEAR AND LINKAGE REMOVAL/INSTALLATION).
- Mazda6 - (STEERING GEAR AND LINKAGE REMOVAL/INSTALLATION).

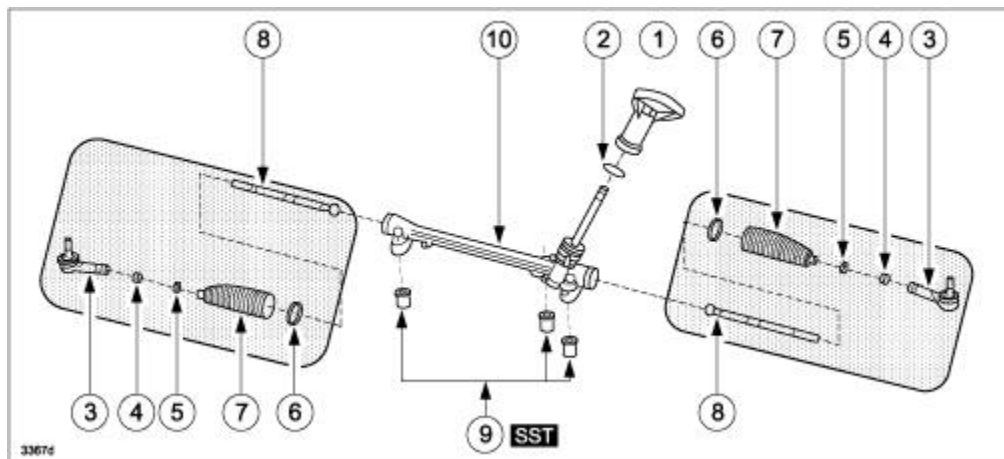


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4. Remove the parts 3, 4, 5, 6, 7 and 8 (shown below) according to the instructions on MGSS online:

- CX-5 - (STEERING GEAR AND LINKAGE DISASSEMBLY).
- Mazda3 - (STEERING GEAR AND LINKAGE DISASSEMBLY).
- Mazda6 - (STEERING GEAR AND LINKAGE DISASSEMBLY).

CAUTION: Using shop air, blow the surrounding area clean before disassembly to prevent dust from adhering to the inner parts of steering gear.

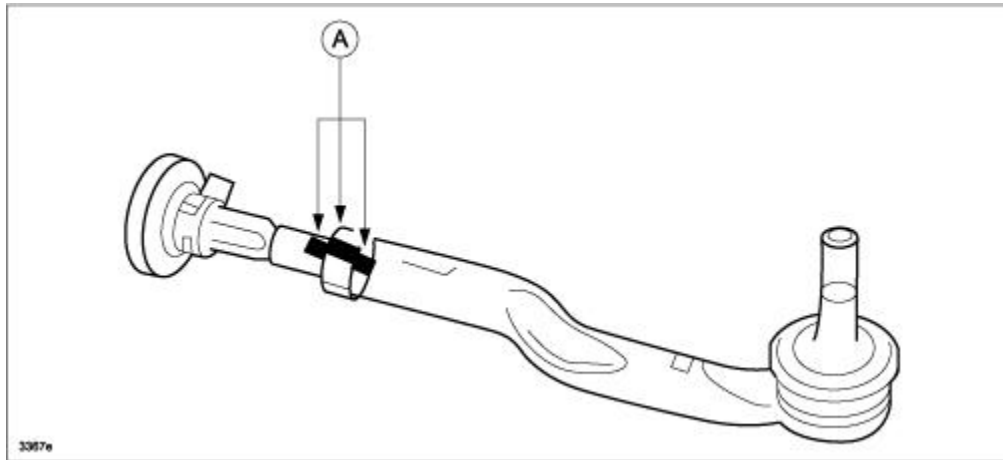


No.	Part Description	Note
1	Dust Cover	---
2	O-Ring	---
3	Tie-Rod End	(remove part)
4	Lock Nut	(remove part)
5	Boot Clamp	(remove part)
6	Boot Band	(remove part)
7	Boot	(remove part)
8	Tie-Rod	(remove part)
9	Mounting Rubber	---
10	Steering Gear	---

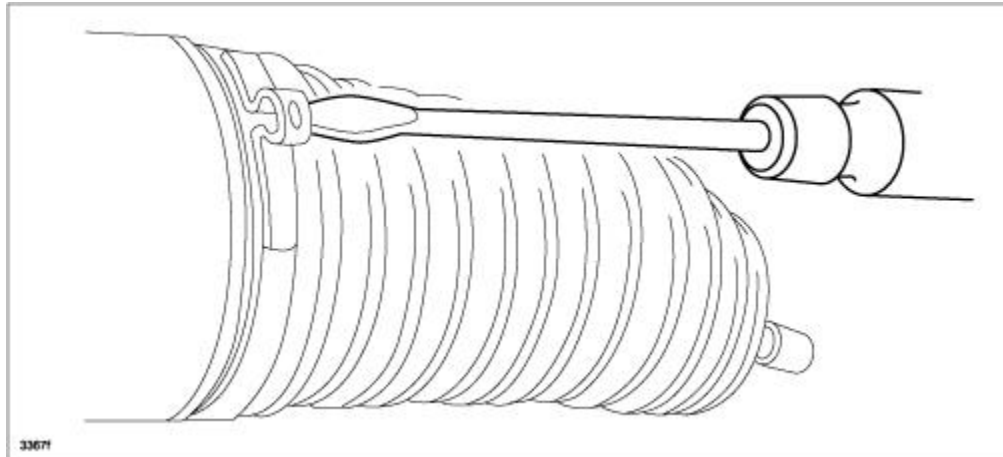
a) Remove the tie-rod end (both sides).

NOTE: Place alignment marks (A) as shown below, for proper reassembly.

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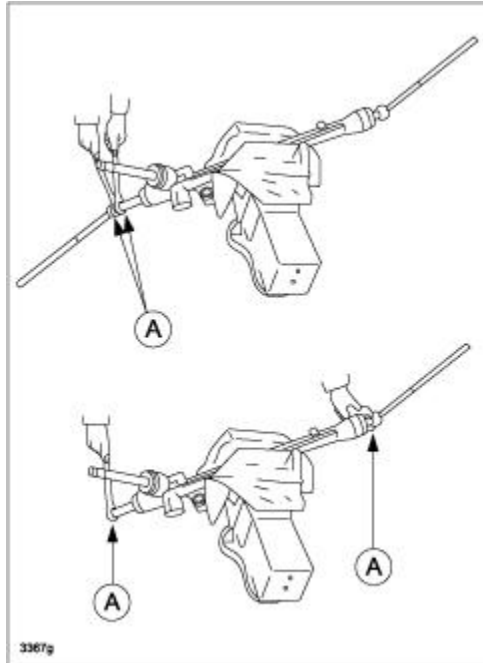
b) Insert a flathead screwdriver into the boot band (as shown below), then press the caulked area outward to remove the boot band (both sides).



c) Remove the boot from the steering gear.

d) Lock the steering gear end (pinion gear side) with a suitable wrench (A) to prevent rotation. Remove the other side tie rod as well.

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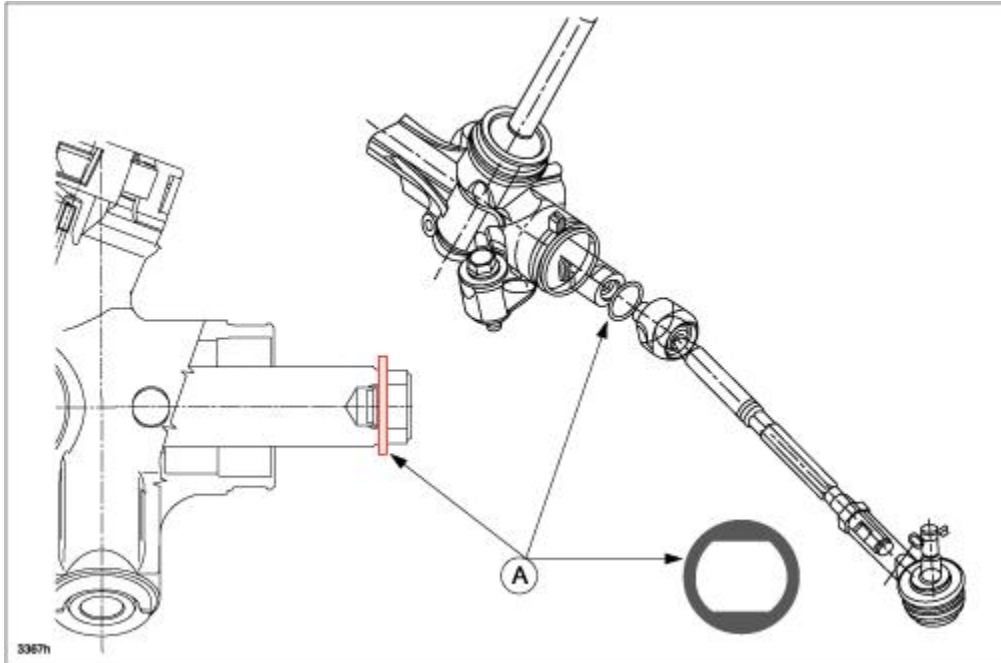
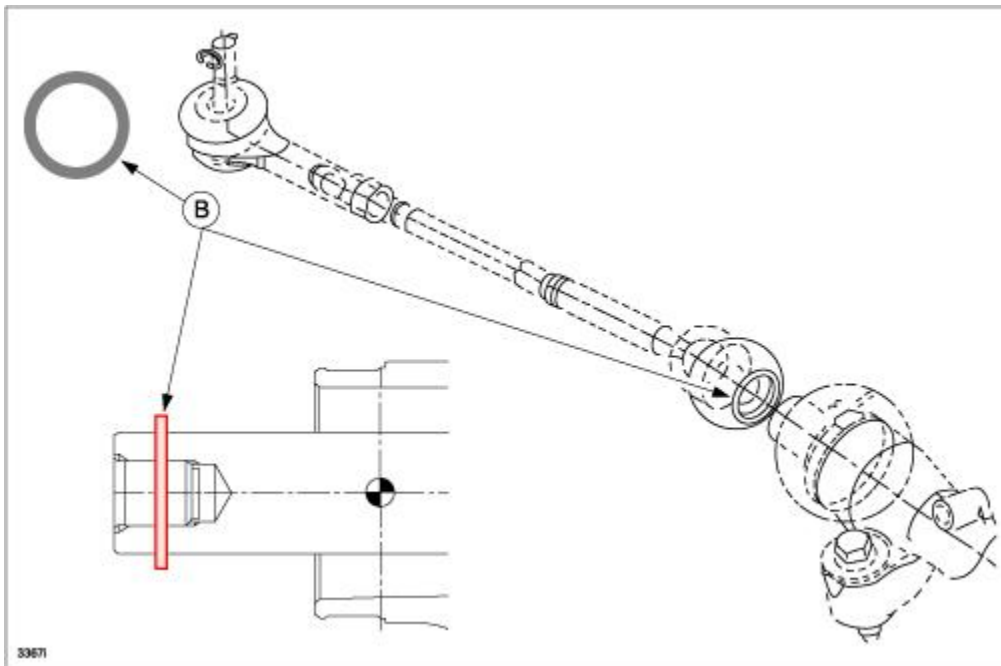
5. Install the driver side spacer (A) and passenger side spacer (B) onto the steering rack bar as shown below.

NOTE: Be aware that the shape of the driver and passenger side spacers are different.

NOTE: Both sides of each spacer are the same. There is no back or front side.

DRIVER SIDE

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**PASSENGER SIDE**

6. Install the tie rod assembly (both sides) according to the instructions on MGSS online:

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- CX-5 - (STEERING GEAR AND LINKAGE ASSEMBLY - Tie Rod Assembly Note).
- Mazda3 - (STEERING GEAR AND LINKAGE ASSEMBLY - Tie Rod Assembly Note).
- Mazda6 - (STEERING GEAR AND LINKAGE ASSEMBLY - Tie Rod Assembly Note).

NOTE: Before the installation, remove any grease from the ball joint threads.

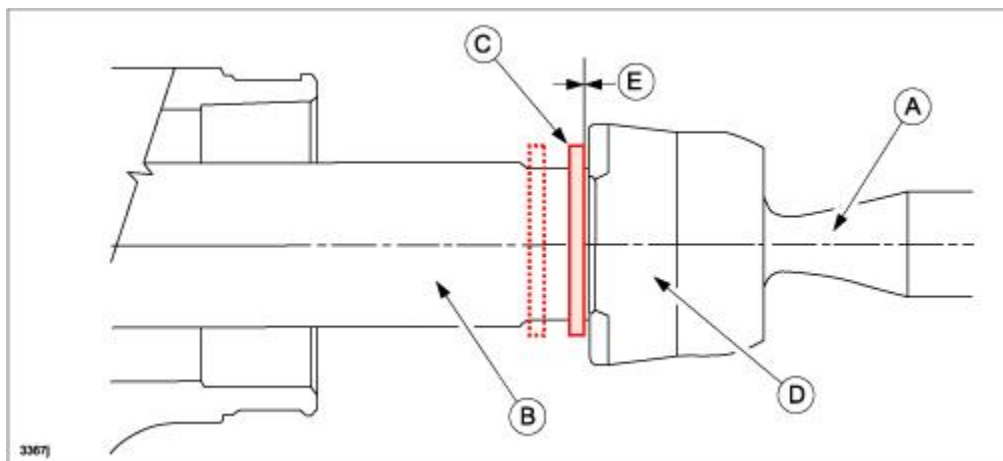
NOTE: Tighten the tie-rod according to the instructions on MGSS online:

- CX-5 - (STEERING GEAR AND LINKAGE ASSEMBLY - Tie Rod Assembly Note).
- Mazda3 - (STEERING GEAR AND LINKAGE ASSEMBLY - Tie Rod Assembly Note).
- Mazda6 - (STEERING GEAR AND LINKAGE ASSEMBLY - Tie Rod Assembly Note).

Tightening Torque: 70 - 95 Nm {52 - 70 ft. lbf., 9.6 - 13 kgfm}

CAUTION: When tightening the tie-rod assembly (A) to the steering rack bar (B), be careful not to pinch the spacer (C) between the inner ball joint (D) and the steering rack bar (B).

NOTE: After installing the tie rod assembly (A), slide the spacer (C) so that it contacts the inner ball joint (D) with zero clearance (E) as shown below (both sides).

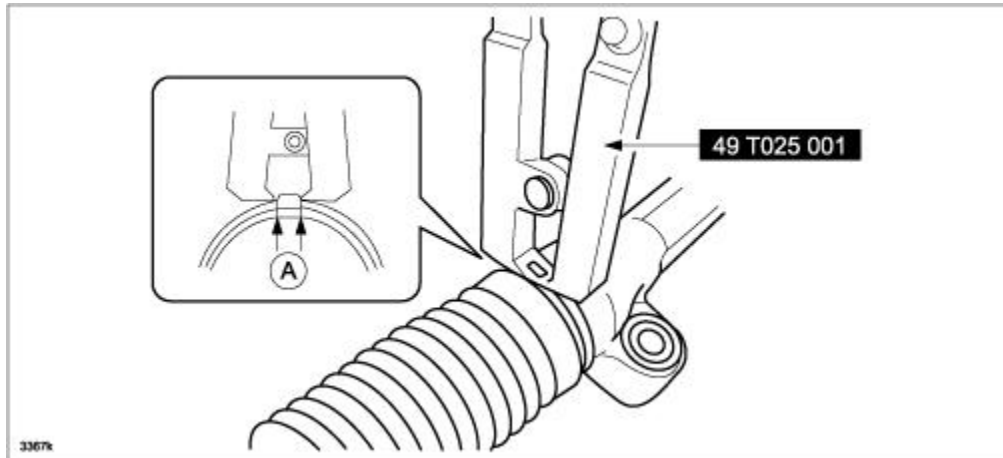


7. Reinstall the boot using a new boot band from the joint set (both sides) according to the instructions on MGSS online:

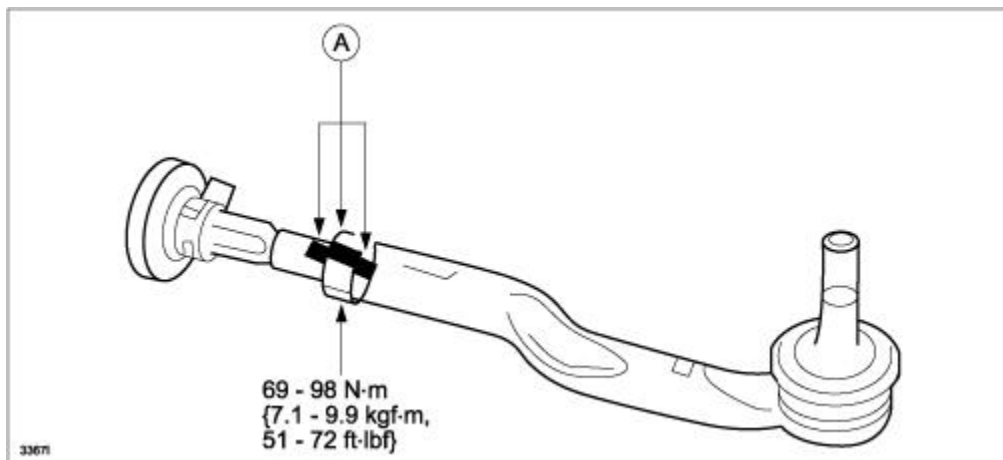
- CX-5 - (STEERING GEAR AND LINKAGE ASSEMBLY - Boot Band Assembly Note).
- Mazda3 - (STEERING GEAR AND LINKAGE ASSEMBLY - Boot Band Assembly Note).
- Mazda6 - (STEERING GEAR AND LINKAGE ASSEMBLY - Boot Band Assembly Note).

NOTE: Boot band clearance (A): 2.5 - 3.0 mm {0.10 - 0.11 in}

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8. Align the alignment marks (A) made before removal and assemble the tie-rod end to the tie rod (both sides).



9. Install the steering gear and linkage (both sides) according to the instructions on MGSS online:

- CX-5 - (STEERING GEAR AND LINKAGE REMOVAL/INSTALLATION).
- Mazda3 - (STEERING GEAR AND LINKAGE REMOVAL/INSTALLATION).
- Mazda6 - (STEERING GEAR AND LINKAGE REMOVAL/INSTALLATION).

10. Inspect the wheel alignment and adjust it if necessary according to the instructions on MGSS online:

- CX-5 - (FRONT WHEEL ALIGNMENT)
- Mazda3 - (FRONT WHEEL ALIGNMENT).
- Mazda6 - (FRONT WHEEL ALIGNMENT).

11. Verify the repair.

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PARTS INFORMATION

Part Number	Description	Qty.	Notes
K0Y6-32-24XA	Joint Set (steering rack diameter: 24 mm)	1	CX-5 built BEFORE 08/07/14 production
K0Y0-32-24XA	Joint Set (steering rack diameter: 26 mm)	1	Mazda3, Mazda6 and CX-5 built AFTER 08/07/14 production
B455-32-099B	Bolt	1	Replace

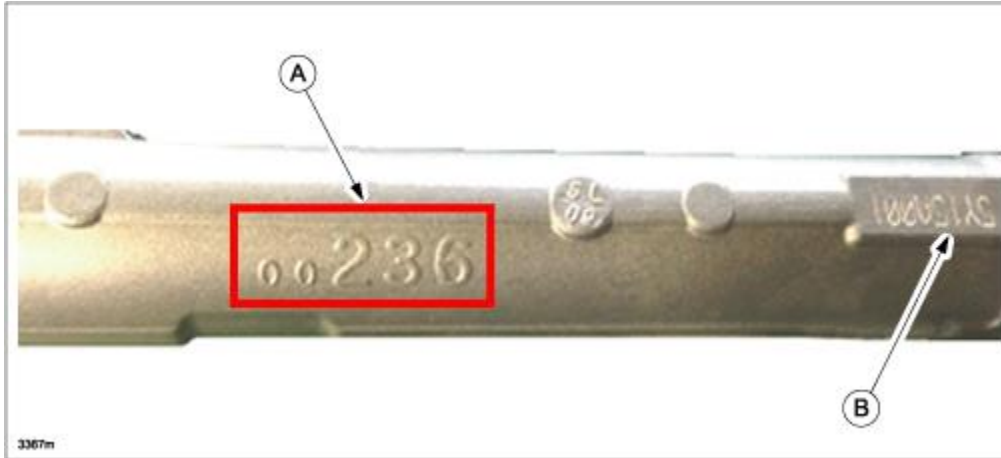
NOTE: The Joint Set includes:

- Spacer (Driver side) x 1
- Spacer (Passenger side) x 1
- Boot Band x 2
- Snap Pin x 2

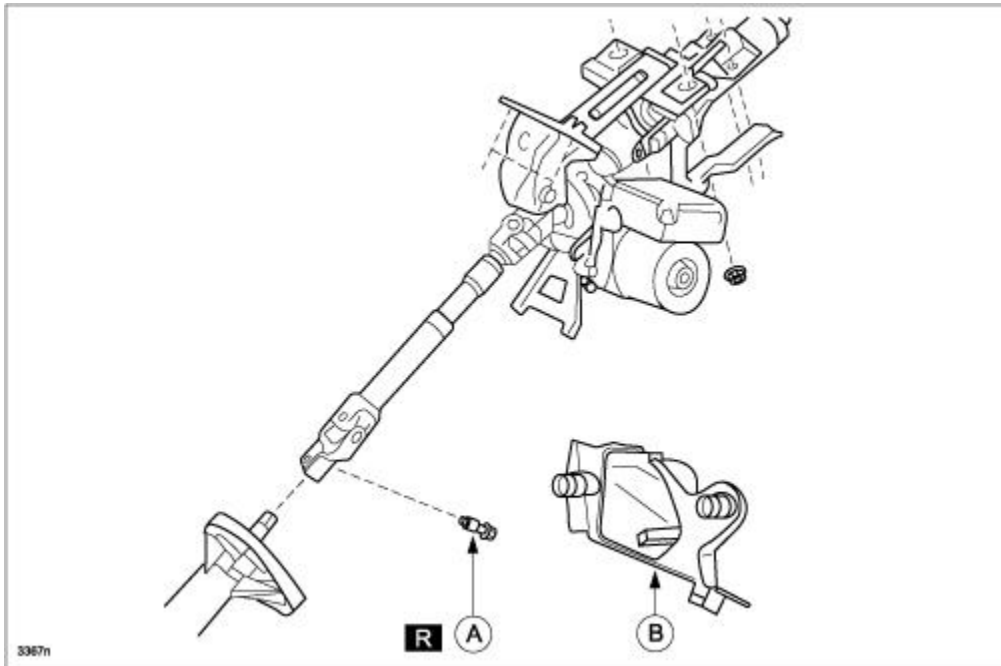
NOTE: CX-5 uses two (2) types of joint set (24 mm vs 26 mm) depending on the size of steering gear housing. Check the number cast on the steering gear housing (A) and find the size of the steering gear housing and the applicable joint set from the table below. Number cast (B) can be ignored.

Steering Gear Housing Diameter	Number on Housing	Applicable Joint Set Part Number	Vehicle Production Date
24 mm	00125	K0Y6-32-24XA	BEFORE 08/07/14
26 mm	00236	K0Y0-32-24XA	AFTER 08/07/14

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REPLACEMENT PART LOCATION:
A - Bolt, B - Joint Cover



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 New Vehicle Limited Warranty term.

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- Additional diagnostic time cannot be claimed for this repair.

Warranty Type	A
Symptom Code	82
Damage Code	9M
Part Number Main Cause	K0Y6-32-24XA or K0Y0-32-24XA
Quantity	1
Operation Number / Labor Hours	Tie Rod Assembly, RR, and install Spacer (Both sides) XXN5EARX / 2.1 Hrs. - (CX-5 with 2WD) XXN5EBRX / 2.0 Hrs. - (CX-5 with 4WD) XXN5ECRX / 2.0 Hrs. - (Mazda6 with iELOOP) XXN5EDRX / 1.9 Hrs. - (Mazda6 without iELOOP) XXN5EERX / 2.0 Hrs. - (Mazda3)

NOTE: Add the wheel alignment with the following information.

Operation Number	Labor Hours	Work	Applicable Models
A0109XAX	1.1	Wheel Alignment, Check and Adjust using Wire type 4- wheel alignment machine.	CX-5 and Mazda6
A0109AAX	1.1	Wheel Alignment, Check and Adjust using Wire type 4- wheel alignment machine.	Mazda3
XXL27ARX	0.7	Wheel Alignment, Check and Adjust using Wireless type 4- wheel alignment machine.	CX-5, Mazda3 and Mazda6

NOTE: If the wheel alignment is performed by an external repair shop, submit the invoice as a sublet.

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