

GROUP 27

REAR AXLE

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SERVICE SPECIFICATIONS

M1271000301475

Item	Limit
Wheel bearing end play mm (in)	0.05 (0.002)
Wheel bearing rotary-sliding resistance N (lb)	19.6 (4.41)

SEALANT

M1271000500744

Item	Specified sealant	Remark
Hub cap	3M ATD Part No.8663 or equivalent	Semi-drying sealant

REAR AXLE DIAGNOSIS

INTRODUCTION TO REAR AXLE DIAGNOSIS

M1271004100317

Noise from the rear axle may be caused by defects in the components.

REAR AXLE DIAGNOSTIC TROUBLESHOOTING STRATEGY

M1271004200369

Use these steps to plan your diagnostic strategy. If you follow them carefully, you will be sure that you have exhausted most of the possible ways to find a rear axle fault.

1. Gather information from the customer.

2. Verify that the condition described by the customer exists.

3. Find the malfunction by following the Symptom Chart.

4. Verify malfunction is eliminated.

SYMPTOM CHART

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Symptom	Inspection procedure	Reference page
Abnormal noise	1	P.27-2

SYMPTOM PROCEDURES

INSPECTION PROCEDURE 1: Abnormal Noise

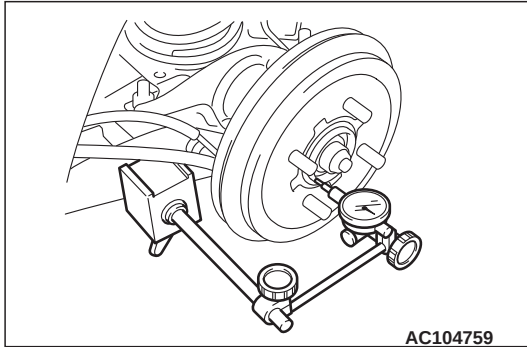
DIAGNOSIS

STEP 1. Check the rear hub assembly installation self-locking nut for looseness.

Q: Are the rear hub assembly installation self-locking nut loosened?

YES : Tighten the rear hub assembly installation new self-locking nut to the specified torque 175 ± 25 N·m (129 ± 18 ft·lb). Then go to Step 3.

NO : Go to Step 2.



STEP 2. Check the wheel bearing end play.

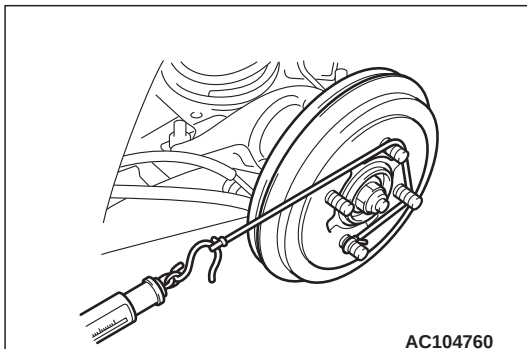
- (1) Remove the brake drum.
- (2) Check the bearing's end play. Place a dial gauge against the hub surface, then move the hub in the axial direction and check whether or not there is end play.

Limit: 0.05 mm (0.002 inch)

Q: Is the wheel bearing end play within the limit?

YES : Go to Step 3.

NO : Replace the rear hub assembly, then go to Step 4.



STEP 3. Check the rear hub rotary-sliding resistance.

- (1) Remove the brake drum.
- (2) Turn the hub a few times to seat the bearing.
- (3) Wind a rope around the hub bolt and turn the hub by pulling at a 90 degree angle with a spring balance. Measure to determine whether or not the rotary-sliding resistance of the rear hub is at the limit value.

Limit: 19.6 N (4.41 lb)

Q: Is the rear hub rotary-sliding resistance within the limit?

YES : Go to Step 4.

NO : Replace the rear hub assembly if an adjustment cannot be made to within the limit. Then go to Step 4.

STEP 4. Retest the systems.

Q: Are abnormal noises generated?

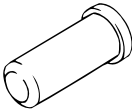
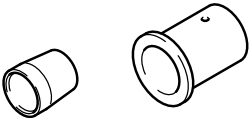
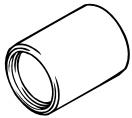
YES : Return to Step 1.

NO : The procedure is complete.

SPECIAL TOOLS

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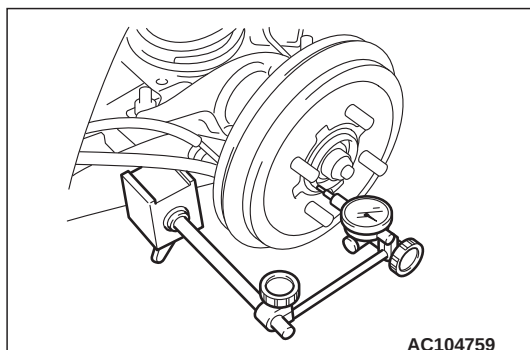
Tool	Tool number and name	Supersession	Use
B990241	MB991292 Axle shaft puller	MB991292-01 or General service tool	Removal of rear wheel hub assembly

Tool	Tool number and name	Supersession	Use
 MB991152	MB991152 Dust cover installer	—	Removal of wheel bearing
 MB991389	MB991389 Bush remover base	—	
 MD998717	MD998717 Oil seal installer	—	
 MB991576	MB991576 Base	—	

ON-VEHICLE SERVICE

WHEEL BEARING END PLAY CHECK

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1. Remove the hub cap.
2. Set a dial gauge as shown in the figure. Move the hub in the axial direction and measure the play.

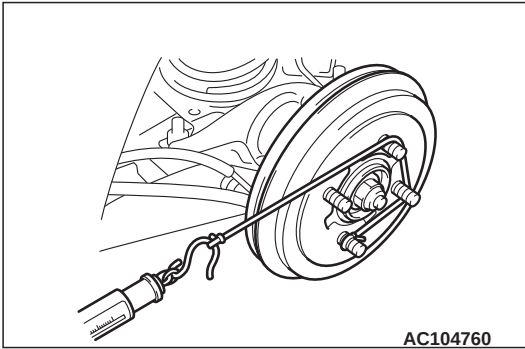
Limit value: 0.05 mm (0.002 inch)

3. If the play exceeds the limit, replace the rear hub assembly [P.27-5](#).

WHEEL BEARING ROTARY-SLIDING RESISTANCE CHECK

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1. Turn the hub a few times to seat the bearing.



2. Wind a rope around the hub bolt and turn the hub by pulling at a 90° angle with a spring balance. Measure to determine whether or not the rotary-sliding resistance of the wheel bearing is within the limit value.

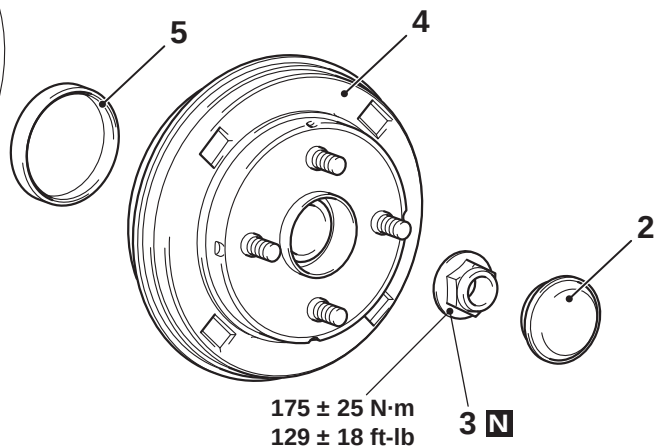
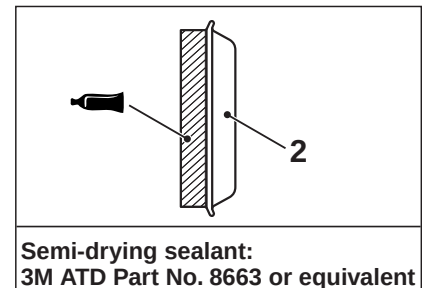
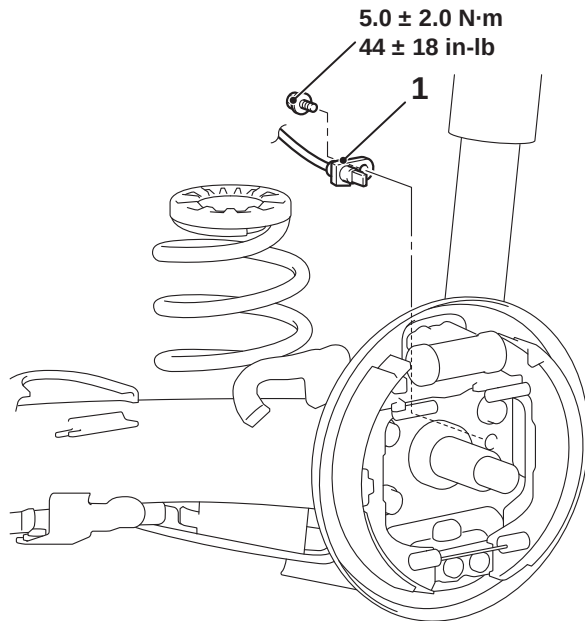
Limit: 19.6 N (4.41 lb)

3. If the measured value is exceeded the limit value, replace the rear hub assembly. [P.27-5](#)

REAR AXLE HUB ASSEMBLY

REMOVAL AND INSTALLATION

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Removal steps

1. Rear wheel speed sensor (Refer to GROUP 35C – Wheel Speed Sensor [P.35C-139](#))
2. Hub cap
3. Self-locking nut

Removal steps (Continued)

4. Rear wheel hub assembly
5. Pulse rotor

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Required Special Tools:

- MB991292: Axle shaft puller

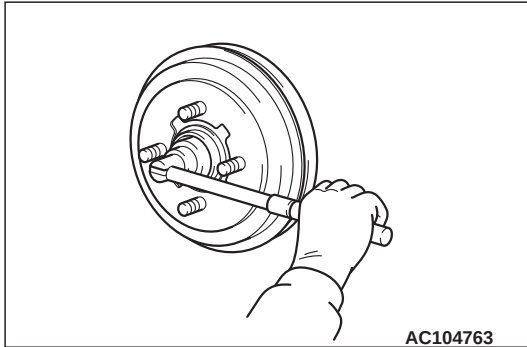
<<A>> >>A<<

REMOVAL SERVICE POINTS

<<A>> SELF-LOCKING NUT REMOVAL

CAUTION

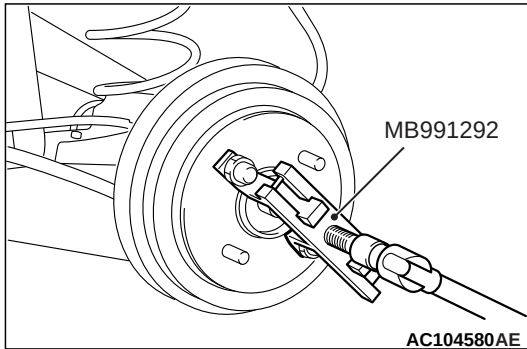
- Do not apply the vehicle weight to the wheel bearing while loosening the self-locking nut, or the wheel bearing will be damaged.
- Use an manual tool only to remove the self-locking nut. (Do not use an electric or air tool).
- Do not loosen the self-locking nut more than eight turns per one minute.



<> REAR WHEEL HUB ASSEMBLY REMOVAL

Use the following special tools to remove the rear wheel hub assembly.

- Axle shaft puller (MB991292)



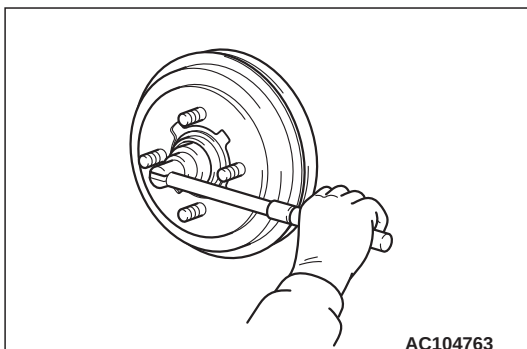
INSTALLATION SERVICE POINT

>>A<< SELF-LOCKING NUT INSTALLATION

CAUTION

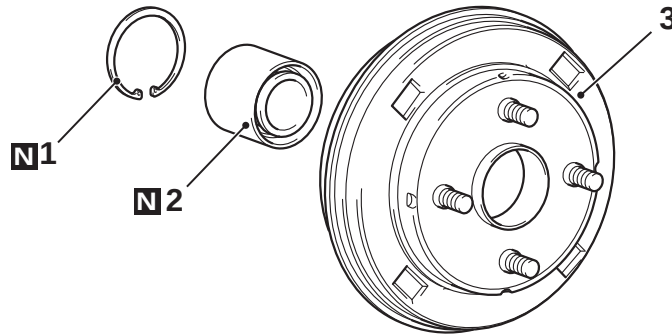
- Before securely tightening the self-locking nuts, make sure there is no load on the wheel bearings. Otherwise the wheel bearing will be damaged.
- Use an manual tool only to tighten the self-locking nut. (Do not use an electric or air tool).
- Do not tighten the self-locking nut more than eight turns per one minute.

Tighten the self-locking nut to the specified torque.



DISASSEMBLY AND REASSEMBLY

M1271002200114



ACB03361 AD

Disassembly steps

<<A>>

1. Snap ring
2. Wheel bearing
3. Hub

Assembly steps

- >>A<<
3. Hub
 2. Wheel bearing
- >>B<<
1. Snap ring
- >>C<<
- Wheel bearing rotary-sliding resistance check
 - Wheel bearing end play check

Required Special Tools:

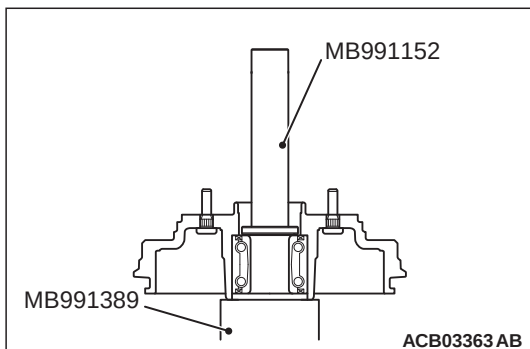
- MB991152: Dust cover installer
- MB991389: Bush removal base
- MD998717: Oil seal installer
- MB991576: Base

DISASSEMBLY SERVICE POINT

<<A>> WHEEL BEARING REMOVAL

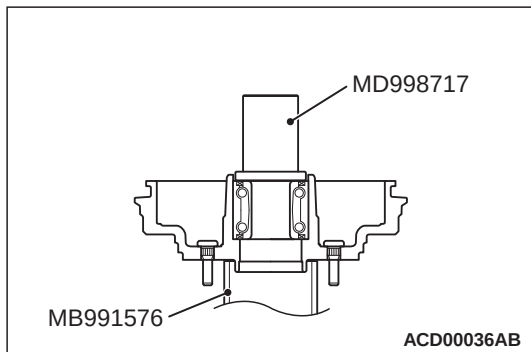
Use the following special tools to remove the wheel bearing.

- Dust cover installer (MB991152)
- Bush removal base (MB991389)



ASSEMBLY SERVICE POINT**>>A<< WHEEL BEARING INSTALLATION**

1. Install the wheel bearing so that the sealed section with the silver metal sheet faces inside of the vehicle and the black rubber side faces outside of the vehicle.
2. Use the following special tools to press-fit the wheel bearing:
 - Oil seal installer (MD998717)
 - Base (MB991576)

**>>B<< WHEEL BEARING ROTARY-SLIDING RESISTANCE CHECK**

Refer to [P.27-4](#).

>>C<< WHEEL BEARING END PLAY CHECK

Refer to [P.27-4](#).