



SERVICE BULLETIN

AFTERSALES SERVICE OFFICE, MITSUBISHI MOTORS CORPORATION

PURPOSE : INFORMATION	ISSUE NO. : MSB-06E26-001A	DATE : 2007-02-20
SUBJECT : DISASSEMBLY AND REASSEMBLY PROCEDURES FOR FRONT AXLE HUB ASSEMBLY	<div> <div><MODEL></div> <div>(EUR)OUTLANDER</div> <div>(GS45X)(CW0W)</div> </div> <div> <div><M/Y></div> <div>07</div> </div>	
GROUP : FRONT AXLE		

1. Description:

The disassembly and reassembly procedures for the front axle hub assembly and the related items are modified in the applicable Workshop Manual. This Service Bulletin contains the modified descriptions.

2. Applicable Manual:

Manual	Pub. No.	Title (Info-ID)	Attachment
2007 OUTLANDER Workshop Manual CD-ROM	CGXE07E1-CD (English) CGXF07E1-CD (French) CGXG07E1-CD (German) CGXS07E1-CD (Spanish)	SPECIAL TOOLS (M261-00-061-03300-01), FRONT AXLE HUB ASSEMBLY DIS- ASSEMBLY AND REASSEMBLY (M261-00-190-49800-01)	Attachment 1 – 9

3. Details:

Attachment 1

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FRONT AXLE LUBRICANT

LUBRICANT

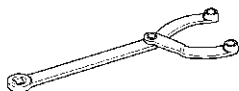
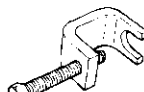
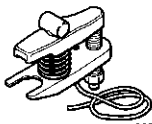
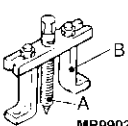
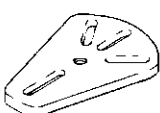
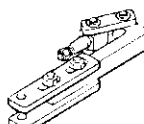
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Item	Specified lubricant	Quantity
Inside of knuckle bore	Dowcorning/Molykote BR2 Plus or equivalent	As required

<Added>

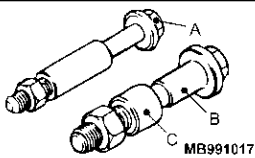

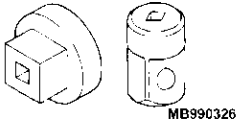
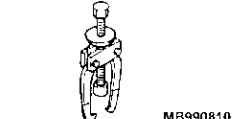
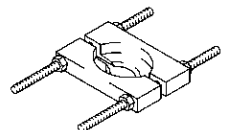
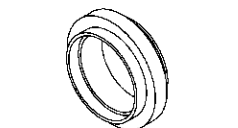
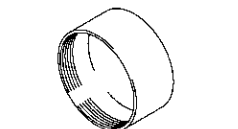
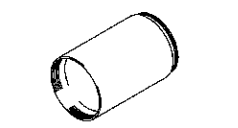
SPECIAL TOOL

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Tool	Number	Name	Use
 B990767	MB990767	Front hub and flange yoke holder	Fixing of hub
 MB991618	MB991618	Hub bolt remover	Removal of hub bolt
 MB991897	MB991897 or MB992011	Ball joint remover	Ball joint disconnection <i>NOTE: Conventional steering linkage puller MB991406, MB990635, or MB991113 can also be used.</i>
 MB990241AD	MB990241 A:MB990242 B:MB990244	Axle shaft puller A: Puller shaft B: Puller bar	<ul style="list-style-type: none"> • Driveshaft removal • Hub assembly removal
 MB991354	MB991354	Puller body	
	MB991056 or MB991355	Knuckle arm bridge	<ul style="list-style-type: none"> • Driveshaft removal • Hub removal

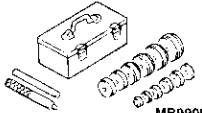
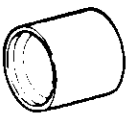
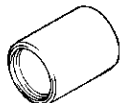
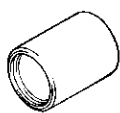

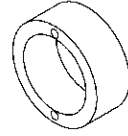
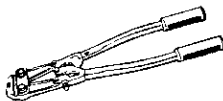
FRONT AXLE SPECIAL TOOL

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Tool	Number	Name	Use
	A:MB991017 B:MB990998 C:MB991000	A, B: Front hub remover and installer C: Spacer <Added>	<ul style="list-style-type: none"> • Wheel bearing temporarily fixing • Wheel bearing rotation starting torque measurement • Wheel bearing axial looseness measurement Use MB991000 (a part of MB990998) for spacer <div> <ul style="list-style-type: none"> • Removal of the wheel bearing inner race (outside) (Use MB991000 with MD998801.) </div>
	MB991099	Oil seal installer guide <Added>	Wheel bearing rotation starting torque measurement
	MB990326	Preload socket	
	MB990810 <Added>	Side bearing puller	<ul style="list-style-type: none"> • Inner shaft removal • Wheel bearing inner race (outside) removal <Deleted>
	MD998801	Remover	Removal of the wheel bearing inner race (outside)
	MB992150	Oil seal installer	Installation of the wheel bearing inner race (outside)
	MD998812	Installer cap	
	MD998813	Installer	

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FRONT AXLE
SPECIAL TOOL

Tool	Number	Name	Use
 MB990925	MB990925	Bearing and oil seal installer set	Bearing removal and press-fit
 MB991388	MB991388	Bush remover base	Dust shield installation
 MB991576	MB991576	Base	
 MB990890	MB990890	Rear suspension bushing base	
 MB990883	MB990883	Rear suspension bushing arbour	Wheel bearing installation
<Added>	 MD999528	Adapter	Wheel bearing installation
	 MB991561	Boot band clipping tool	Resin boot band installation

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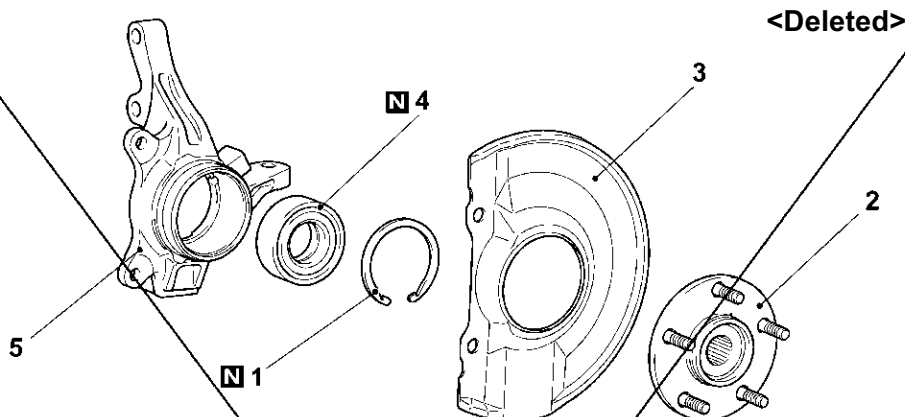
26-6

FRONT AXLE FRONT AXLE HUB ASSEMBLY

FRONT AXLE HUB ASSEMBLY

DISASSEMBLY AND REASSEMBLY

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- Front hub remover and installer (MB991017)
- Knuckle arm bridge (MB991056 or MB991355)

<<A>>

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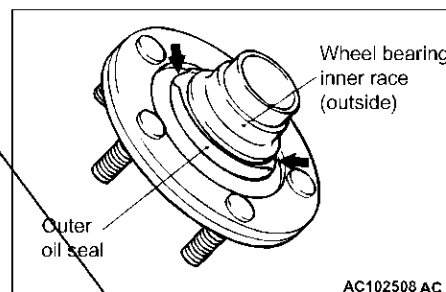
Disassembly steps

1. Snap ring
2. Hub
3. Dust shield
4. Wheel bearing
5. Knuckle

Reassembly steps

5. Knuckle
 4. Wheel bearing
 1. Snap ring
 3. Dust shield
 2. Hub
- >>C<< • Hub rotation starting torque check
- >>D<< • Wheel bearing axial play check

<> WHEEL BEARING REMOVAL



AC102508 AC

1. Deform the outer oil seal in the area shown in the figure with a screwdriver to engage the special tool tab with the wheel bearing inner race (outside).

CAUTION

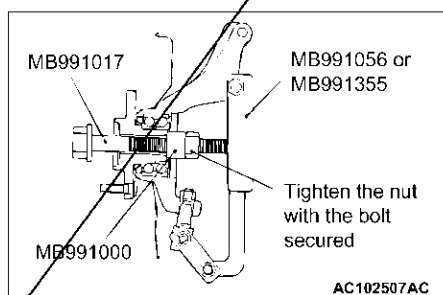
When the inner race (outside) has been pulled out, be careful not to drop the hub.

DISASSEMBLY SERVICE POINTS

<<A>> HUB REMOVAL

CAUTION

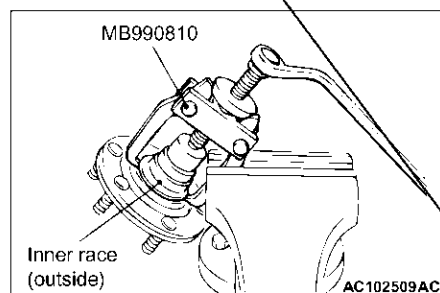
In the hub removal operation, make sure to replace the wheel bearing with new one.



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Use the following special tools to remove the hub:

- Spacer (MB991000)

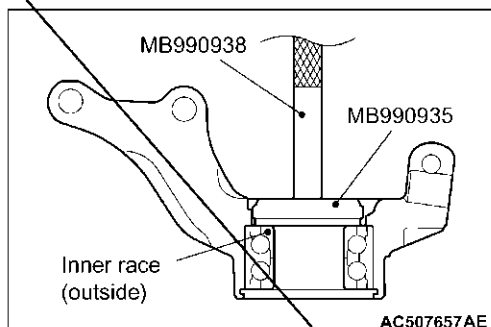


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FRONT AXLE FRONT AXLE HUB ASSEMBLY

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2. Use special tool side bearing puller (MB990810) to remove the wheel bearing inner race (outside) from the hub.



3. Assemble the inner race (outside) removed from the hub to the wheel bearing, and use the following special tools to remove the wheel bearing:

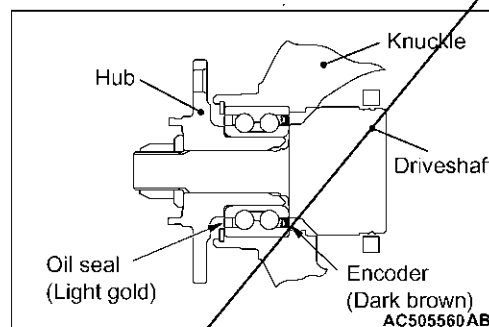
- Installer adapter (MB990935)
- Installer bar (MB990938)

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REASSEMBLY SERVICE POINTS

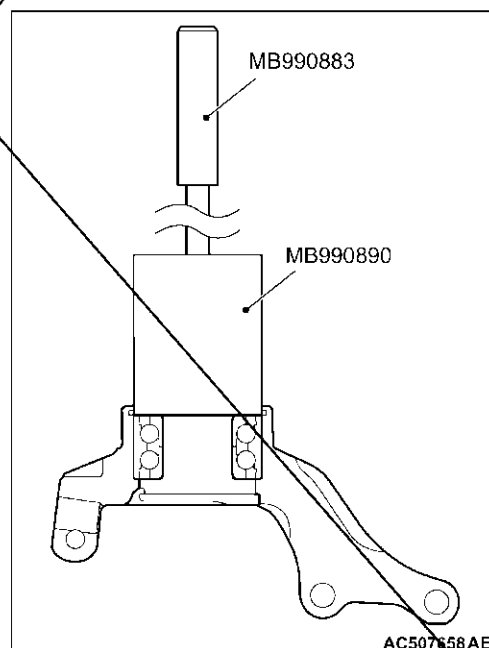
>>A<< WHEEL BEARING INSTALLATION

⚠ CAUTION



The wheel speed detection magnetic encoder for ABS is installed in the wheel bearing. Install the wheel bearing so that the encoder is positioned in the direction shown in the figure.

- When press-fit the wheel bearing, push the outer race.



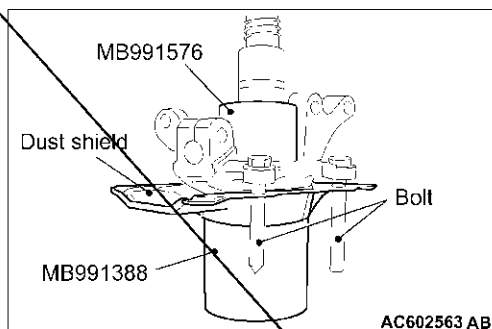
Use the following special tools to press-fit the wheel bearing:

- Rear suspension bushing arbour (MB990883)
- Rear suspension bushing base (MB990890)

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FRONT AXLE
FRONT AXLE HUB ASSEMBLY

>>B<< DUST SHIELD INSTALLATION

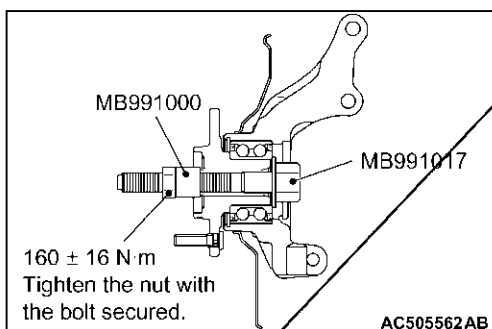


Use the following special tools to press-fit the knuckle into the dust shield.

- Bush remover base (MB991388)
- Base (MB991576)

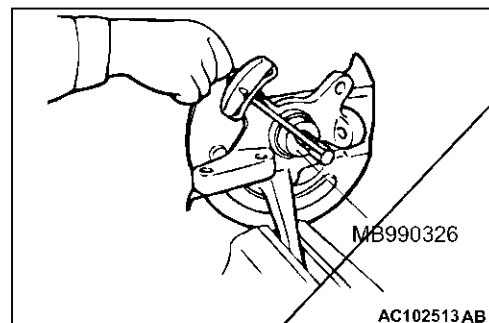
NOTE: Use the bolts (M12) to align the caliper mounting holes.

>>C<< HUB ROTATION STARTING TORQUE CHECK



1. Set the following special tools as shown in the figure, tighten the nut to the specified torque, and press-fit the hub into the knuckle:
 - Spacer (MB991000)
 - Front hub remover and installer (MB991017)
2. Rotate the hub to make the bearing well-greased.

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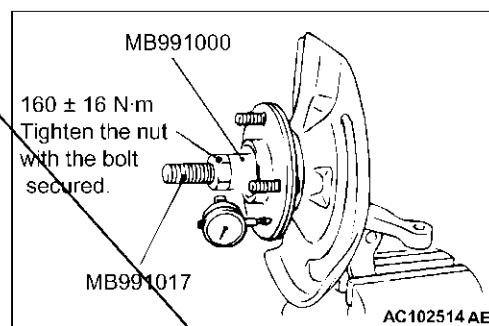


3. Use special tool preload socket (MB990326) to measure the hub rotation starting torque.

Limit value: 1.8 N·m

4. Hub rotation starting torque should be within the limit value, and there should be no roughness and gritty feeling in rotation.

>>D<< WHEEL BEARING AXIAL PLAY CHECK



1. Use the following special tools to measure the wheel bearing axial play:

- Spacer (MB991000)
- Front hub remover and installer (MB991017)

Limit value: 0.05 mm

2. If the axial play is out of limit value within the range of the specified tightening torque, replace and reassemble the bearing because the bearing, knuckle, and hub may be assembled incorrectly.

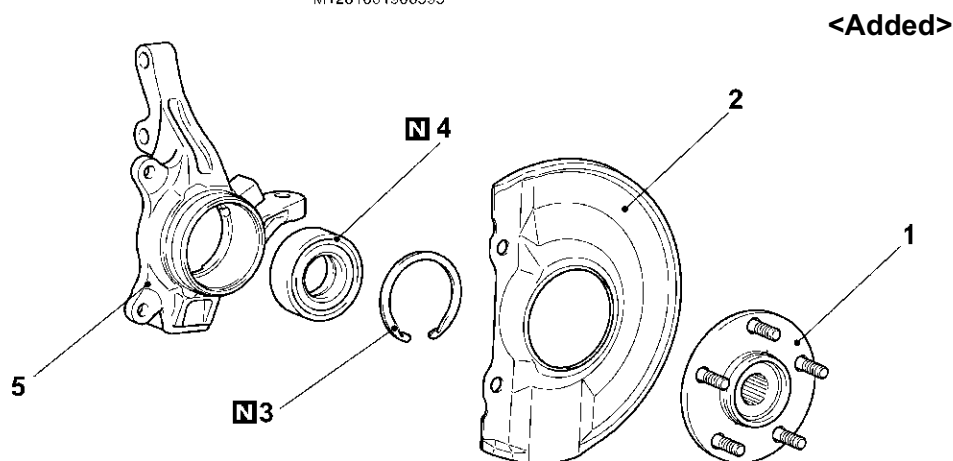
Tightening torque: 160 ± 16 N·m

FRONT AXLE FRONT AXLE HUB ASSEMBLY

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DISASSEMBLY AND REASSEMBLY

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<<A>>

Disassembly steps

1. Hub
2. Dust shield
3. Snap ring
4. Wheel bearing
5. Knuckle

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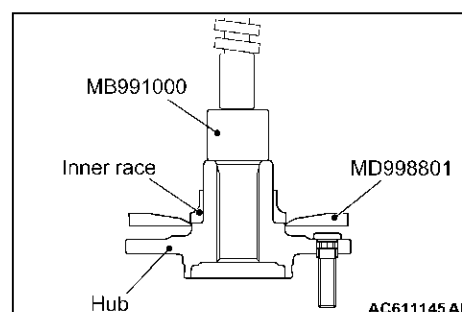
Reassembly steps

5. Knuckle
- >>A<< 4. Wheel bearing
3. Snap ring
- >>B<< 2. Dust shield
1. Hub
- >>C<< • Hub rotation starting torque check
- >>D<< • Wheel bearing axial play check

Use the following special tools to remove the hub:

- Spacer (MB991000)
- Front hub remover and installer (MB991017)
- Knuckle arm bridge (MB991056 or MB991355)

<> WHEEL BEARING REMOVAL

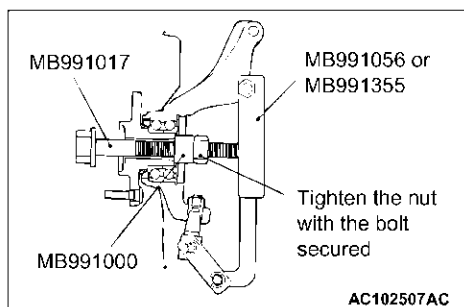


DISASSEMBLY SERVICE POINTS

<<A>> HUB REMOVAL

CAUTION

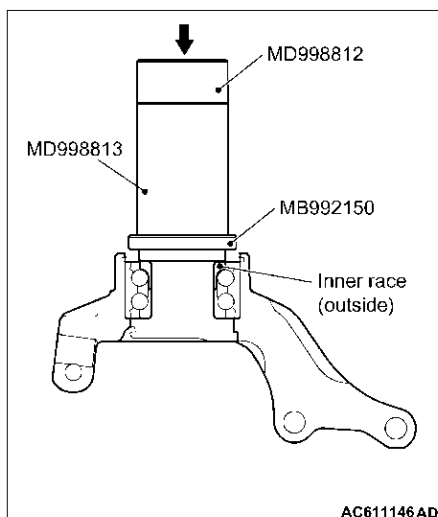
In the hub removal operation, make sure to replace the wheel bearing with new one.



1. Use the following special tools to remove the wheel bearing inner race (outside) from the hub.

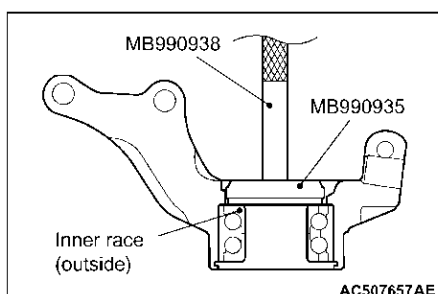
- Spacer (MB991000)
- Remover (MD998801)

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FRONT AXLE
FRONT AXLE HUB ASSEMBLY

2. Use the following special tools to assemble the inner race (outside) removed from the hub to the wheel bearing.

- Oil seal installer (MB992150)
- Installer cap (MD998812)
- Installer (MD998813)



3. Use the following special tools to remove the wheel bearing.

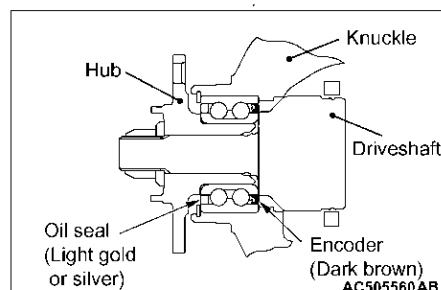
- Installer adapter (MB990935)
- Installer bar (MB990938)

REASSEMBLY SERVICE POINTS

>>A<< WHEEL BEARING INSTALLATION

⚠ CAUTION

<Added>



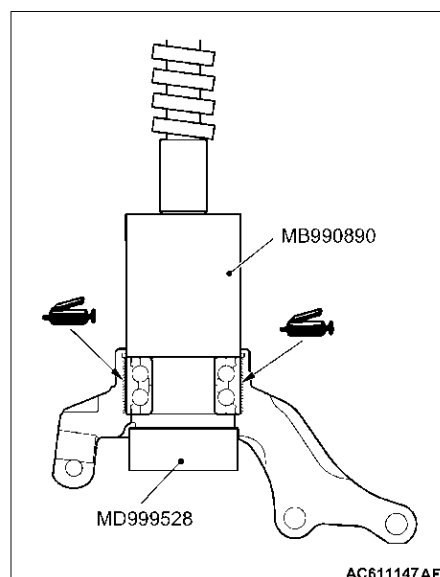
The wheel speed detection magnetic encoder for ABS is installed in the wheel bearing. Install the wheel bearing so that the encoder is positioned in the direction shown in the figure.

- When press-fit the wheel bearing, push the outer race.

<Added>

- After press-fit the wheel bearing, wipe off the extra grease in order not to remain on the magnetic encoder.

1. Remove grease and foreign material cleanly from the inside of knuckle bore.



2. Apply the specified grease thinly and evenly to the inside of knuckle as shown in the figure.

Specified grease: Dowcorning/Molykote BR2 Plus

3. Use the following special tools to press-fit the wheel bearing:

FRONT AXLE FRONT AXLE HUB ASSEMBLY

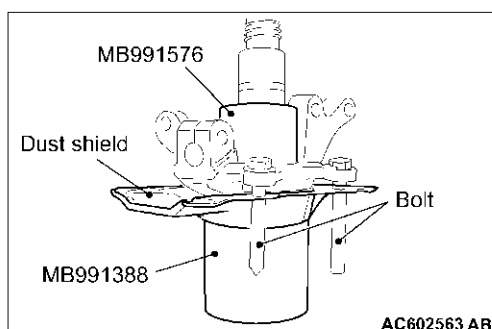
26-11

- Rear suspension bushing base (MB990890)
- Adapter (MD999528)

4. Remove excessive grease seeped out between knuckle and wheel bearing outer race after press-fitting the wheel bearing.

<Added>

>>B<< DUST SHIELD INSTALLATION

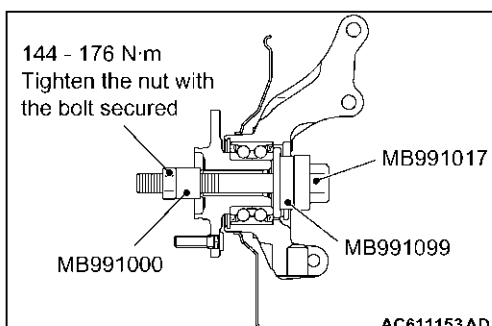


Use the following special tools to press-fit the knuckle into the dust shield.

- Bush remover base (MB991388)
- Base (MB991576)

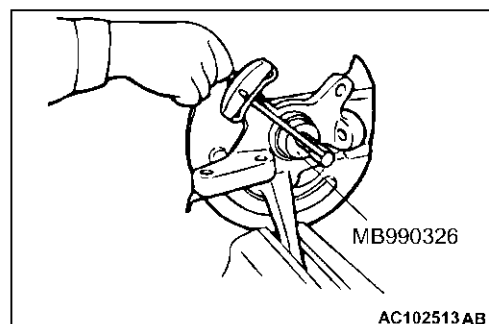
NOTE: Use the bolts (M12) to align the caliper mounting holes.

>>C<< HUB ROTATION STARTING TORQUE CHECK



1. Set the following special tools as shown in the figure, tighten the nut to the specified torque, and press-fit the hub into the knuckle:
 - Spacer (MB991000)
 - Front hub remover and installer (MB991017)
 - Oil seal installer guide (MB991099)

2. Rotate the hub to make the bearing well-greased.

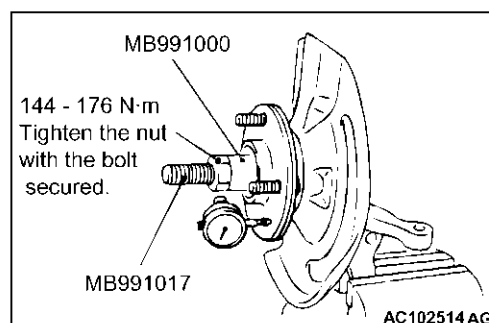


3. Use special tool preload socket (MB990326) to measure the hub rotation starting torque.

Limit value: 1.8 N·m

4. Hub rotation starting torque should be within the limit value, and there should be no roughness and gritty feeling in rotation.

>>D<< WHEEL BEARING AXIAL PLAY CHECK



1. Use the following special tools to measure the wheel bearing axial play:

- Spacer (MB991000)
- Front hub remover and installer (MB991017)

Limit: 0.05 mm

2. If the axial play is out of limit value within the range of the specified tightening torque, replace and reassemble the bearing because the bearing, knuckle, and hub may be assembled incorrectly.

Tightening torque: 144 - 176 N·m

<Added>