

## GROUP 26

## FRONT AXLE

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# GENERAL DESCRIPTION

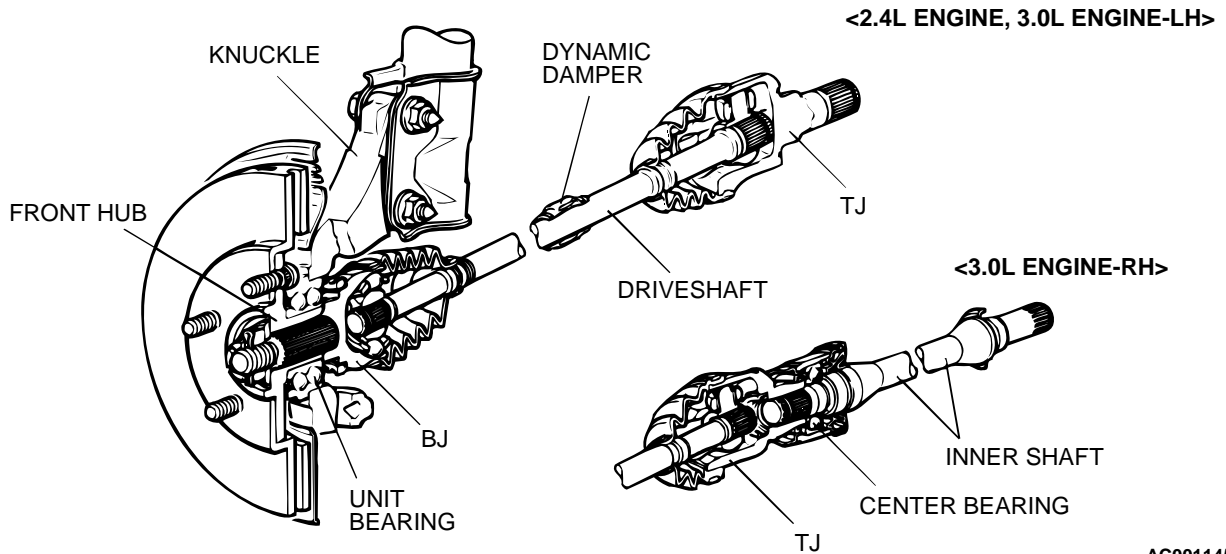
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## FRONT AXLE

The front axle consists of a knuckle, front hub, unit bearing and drive shaft. The unit bearing is press-fitted to the front hub and bolted to the knuckle. Also, the unit bearing utilizes a double row angular contact

ball bearing. The drive shaft has a tripod joint (TJ) on the transaxle side and a Birfield joint (BJ) on the wheel side. A center bearing and an inner shaft have been adopted in 3.0L engine.

## CONSTRUCTION DIAGRAM



# FRONT AXLE DIAGNOSIS

## SYMPTOM CHART

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SYMPTOMS		INSPECTION PROCEDURE	REFERENCE PAGE
Driveshaft, inner shaft	Noise during wheel rotation	1	<a href="#">P.26-3</a>
	Noise due to excessive play of wheel in turning direction	2	<a href="#">P.26-3</a>

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## SYMPTOM PROCEDURES

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### INSPECTION PROCEDURE 1: Noise during Wheel Rotation

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#### DIAGNOSIS

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**STEP 1. Check the driveshaft and inner shaft for bending.**

**Q: Is the driveshaft and inner shaft bent?**

**YES :** Replace the part. Then go to Step 4.

**NO :** Go to Step 2.

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**STEP 2. Check the inner shaft bearing for wear.**

**Q: Is the inner shaft bearing worn?**

**YES :** Replace the bearings. Then go to Step 4.

**NO :** Go to Step 3.

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**STEP 3. Check the driveshaft assembly for wear, damage or bending.**

**Q: Is the driveshaft assembly worn, damaged or bent?**

**YES :** Replace the driveshaft assembly. Then go to Step 4.

**NO :** There is no action to be taken.

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**STEP 4. Check symptoms.**

**Q: Is the abnormal noise eliminated?**

**YES :** Repeat to Step 1.

**NO :** This diagnosis is complete.

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### INSPECTION PROCEDURE 2: Noise Due to Excessive Play of Wheel in Turning Direction

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#### DIAGNOSIS

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**STEP 1. Check for play in the inner shaft and side gear serration, the driveshaft and side gear, or the driveshaft and drive flange.**

**Q: Is the play found?**

**YES :** Adjust or replace the part. Then go to Step 2.

**NO :** This diagnosis is complete.

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**STEP 2. Check symptoms.**

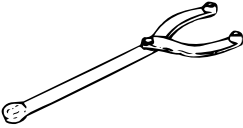
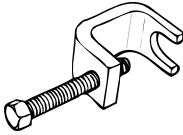
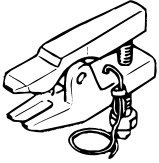
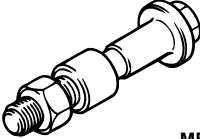
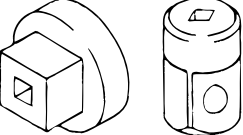
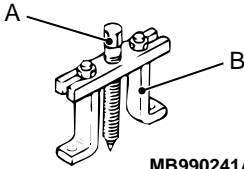

**Q: Is the abnormal noise eliminated?**

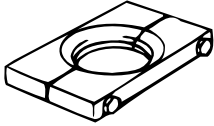
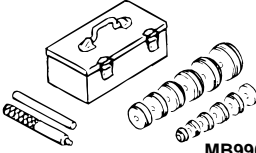
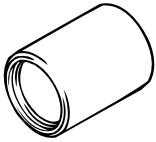
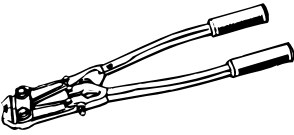
**YES :** Repeat to Step 1.

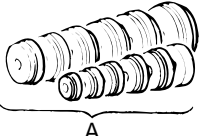
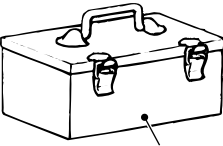
**NO :** This diagnosis is complete.

## SPECIAL TOOLS

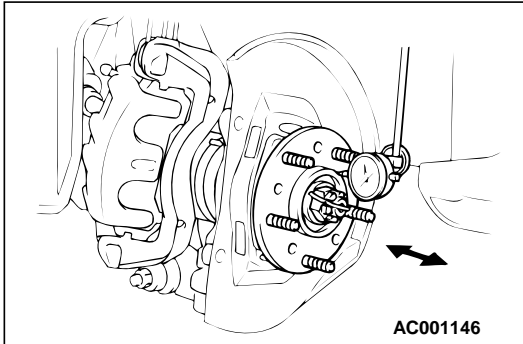
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TOOL	TOOL NUMBER AND NAME	SUPERSESION	APPLICATION
 MB990767	MB990767 End yoke holder	MB990767-01	Hub fixing
 MB991618	MB991618 Hub bolt remover	General service tool	Driving out of hub bolt
 MB990635	MB990635 or MB991113 Steering linkage puller	MB991113-01, MB990635-01 or General service tool	Knuckle and tie rod end ball joint disconnection
 MB990998	MB990998 Front hub remover and installer	MB990998-01 or General service tool	<ul style="list-style-type: none"> <li>• Removal of or pressing-in the hub</li> <li>• Provisional holding of the wheel bearing</li> </ul>
 MB990326	MB990326 Preload wrench	General service tool	Wheel bearing breakaway torque measurement
 MB990241AB	MB990241 Axle shaft puller A: MB990244 Puller shaft B: MB990242 Puller bar	MB990241-01 or General service tool	Drive shaft removal
 MB991354	MB991354	MB990241-01 or General service tool	Drive shaft removal

TOOL	TOOL NUMBER AND NAME	SUPERSESSION	APPLICATION
 MB991248	MB991248 or MB998801 Inner shaft remover	MD998348-01	Inner shaft removal
 MB990925	MB990925 Bearing and oil seal installer set	MB990925-01 or General service tool	Bearing removal and dust seal installation MB990930 MB990932 MB990934 MB990938
 MB990890	MB990890 Rear suspension bush base	MB990890-1	Oil seal installation
 MB991561	MB991561 Boot band crimping tool	MB991561	Resin boot band installation

TOOL	TYPE	TOOL NUMBER	O D mm (in)
<p>MB990925</p>  <p>A INSTALL ADAPTER</p> <p>C BRASS BAR</p> <p>B BAR (SNAP-IN TYPE)</p>  <p>TOOL BOX ACX02372AB</p>	A	MB990926	39.0 (1.54)
		MB990927	45.0 (1.77)
		MB990928	49.5 (1.95)
		MB990929	51.0 (2.00)
		MB990930	54.0 (2.13)
		MB990931	57.0 (2.24)
		MB990932	61.0 (2.40)
		MB990933	63.5 (2.50)
		MB990934	67.5 (2.66)
		MB990935	71.5 (2.81)
		MB990936	75.5 (2.97)
		MB990937	79.0 (3.11)
			B
	C	MB990939	—

## ON-VEHICLE SERVICE



## HUB END PLAY CHECK

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1. Remove the disc brake caliper and suspend it with a wire.
2. Remove the brake disc from the front hub.
3. Attach a dial gauge as shown in the illustration, and then measure the end play while moving the hub in the axial direction.

**Limit: 0.05 mm (0.002 inch)**

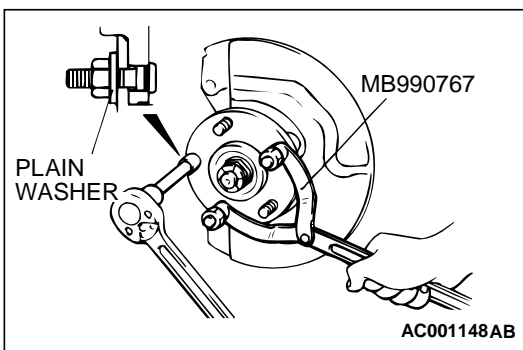
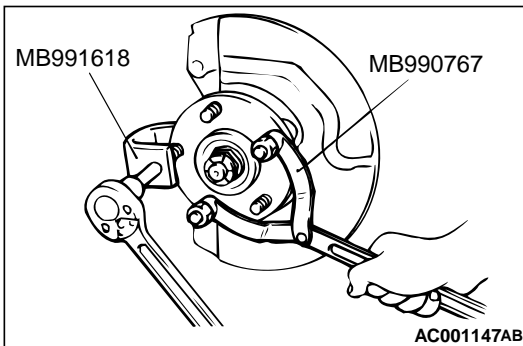
4. If end play exceeds the limit, replace the front hub assembly.

## HUB BOLT REPLACEMENT

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## Required Special Tools:

- MB990767: End Yoke Holder
- MB991618: Hub Bolt Remover



1. Remove the caliper assembly and suspend it with wire so that it does not fall.
2. Remove the brake disc.
3. Use special tools MB990767 and MB991618 to remove the hub bolts.
4. Install the plain washer to the new hub bolt, and install the bolt with a nut.

# FRONT AXLE HUB ASSEMBLY

## REMOVAL AND INSTALLATION

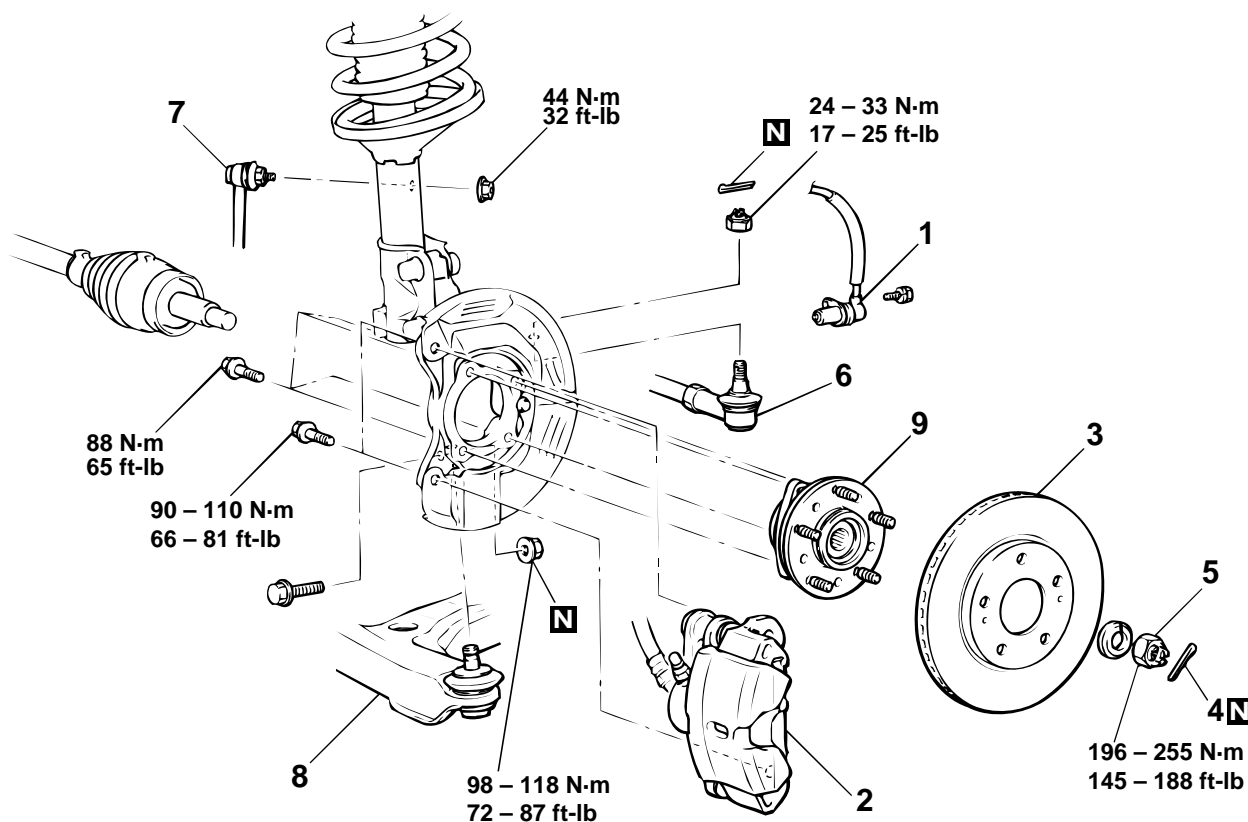
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### CAUTION

- For vehicles with ABS, be careful when handling the projection at the tip of the speed sensor so as not to damage it by striking against other parts.
- The front hub assembly should not be disassembled. When removing the front hub assembly, the wheel bearing inner race may be left at the spindle side. In this case, always replace the front hub assembly, otherwise the hub will damage the oil seal, causing oil leaks or excessive play.

#### Post-installation Operation

Press Dust Cover with a Finger to check for Crack or Damage in Ball Joint Dust Cover.



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#### REMOVAL STEPS

1. FRONT SPEED SENSOR  
<VEHICLES WITH ABS>
  2. CALIPER ASSEMBLY
  3. BRAKE DISC
  4. COTTER PIN
  5. DRIVE SHAFT NUT
  6. TIE ROD END CONNECTION
  7. STABILIZER LINK CONNECTION
  8. LOWER ARM ASSEMBLY CONNECTION
  9. FRONT HUB ASSEMBLY
- <<A>>  
<<B>> >>A<<  
<<C>>

#### Required Special Tools:

- MB990326: Preload Wrench
- MB990767: End Yoke Holder
- MB990998: Front Hub Remover and Installer
- MB991113 or MB990635: Steering Linkage Puller

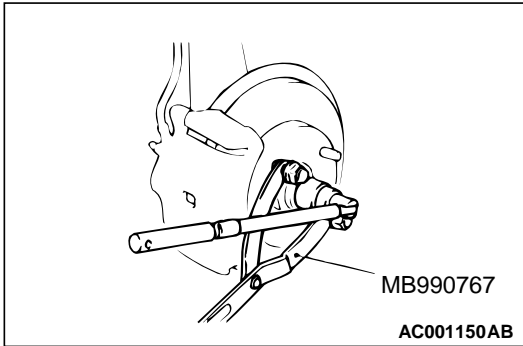
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## REMOVAL SERVICE POINTS

## &lt;&lt;A&gt;&gt; CALIPER ASSEMBLY REMOVAL

Secure the removed caliper assembly with wire, etc.

## &lt;&lt;B&gt;&gt; DRIVE SHAFT NUT REMOVAL



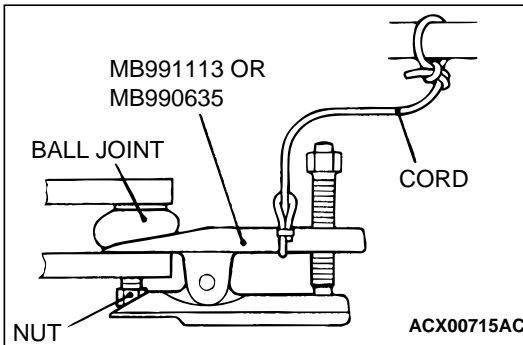
## &lt;&lt;C&gt;&gt; TIE ROD END DISCONNECTION

**⚠ WARNING**

**Support special tool MB991113 or MB990635 with a cord, etc. to prevent it coming off.**

Use special tool MB991113 or MB990635 to disconnect the tie rod from the knuckle.

*NOTE: Only loosen mounting nut, do not remove it from the ball joint.*



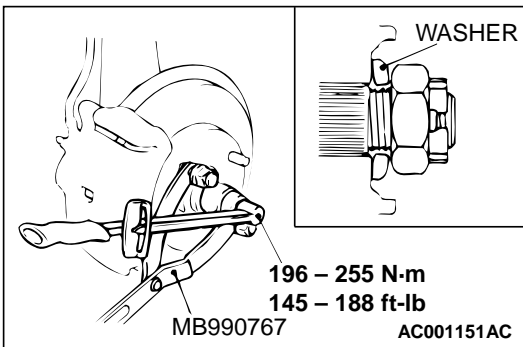
## INSTALLATION SERVICE POINT

## &gt;&gt;A&lt;&lt; DRIVE SHAFT NUT INSTALLATION

**⚠ CAUTION**

**Before securely tightening the driveshaft nuts, make sure that there is no load on the wheel bearings.**

1. Be sure to install the driveshaft washer in the specified direction.
2. Using special tool MB990767, tighten the driveshaft nut.





## INSPECTION

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### WHEEL BEARING BREAKAWAY TORQUE CHECK

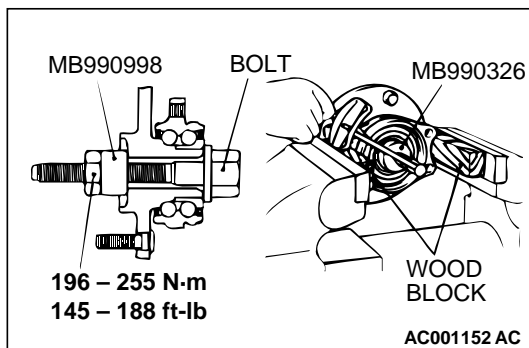
1. Install special tools MB990998 and MB990326 to the front hub assembly and tighten the nut to the specified torque.

**Tightening torque: 196 – 255 N·m (145 – 188 ft-lb)**

2. Measure the wheel bearing breakaway torque with special tools.

**Limit: 1.0 N·m (9 in-lb) or less**

3. Wheel bearing breakaway torque must be under the limit value and there should be no roughness when rotating the hub.



### WHEEL BEARING PLAY CHECK

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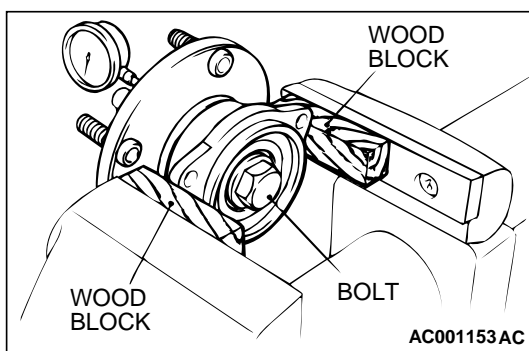
1. Install the special tool MB991017 to the front hub assembly and tighten the nut to the specified torque.

**Tightening torque: 196 – 255 N·m (145 – 188 ft-lb)**

2. Measure the play in the hub axial direction.

**Limit: 0.05 mm (0.002 inch)**

3. If the play exceeds the limit, replace the front hub assembly.



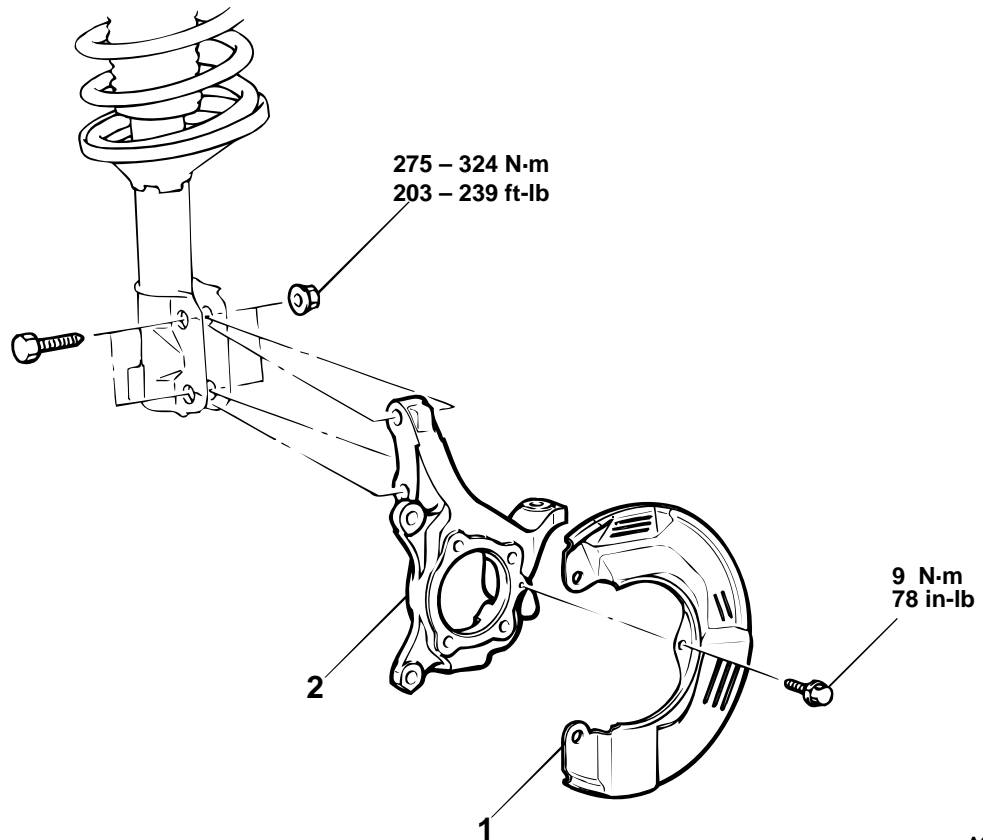
# KNUCKLE

## REMOVAL AND INSTALLATION

M1261002400054

**Pre-removal Operation**Front Hub Assembly Removal (Refer to [P.26-7.](#))**Post-installation Operation**

- Front Hub Assembly Installation (Refer to [P.26-7.](#))
- Wheel Alignment Check and Adjustment (Refer to GROUP 33A, On-vehicle Service - Front Wheel Alignment Check and Adjustment [P.33A-5.](#))



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**REMOVAL STEPS**

1. Dust shield
2. Knuckle

**INSPECTION**

Check the knuckle surface for galling and cracks.

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# DRIVE SHAFT ASSEMBLY

## REMOVAL AND INSTALLATION

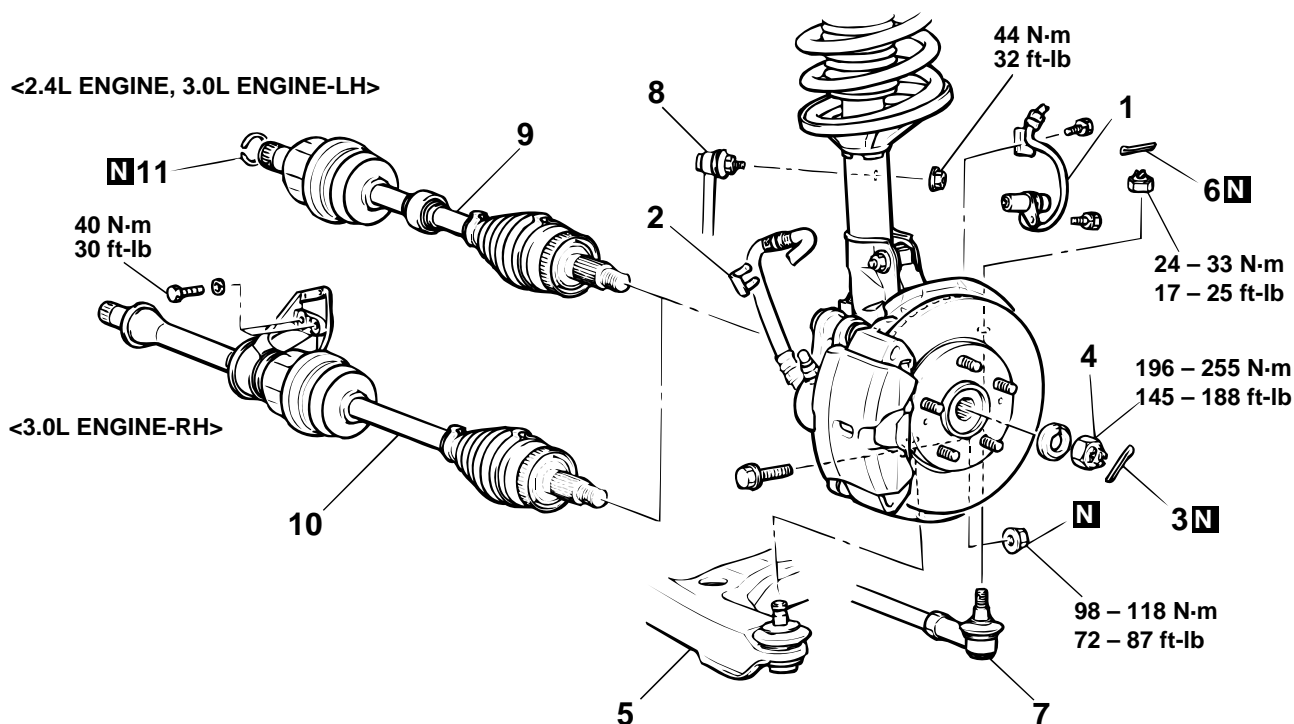
M1261003500054

### CAUTION

For vehicles with ABS, be careful when handling the projection at the tip of the speed sensor so as not to damage it by striking against other parts.

#### Post-installation Operation

Press Dust Cover with a Finger to Check for Crack or Damage in Ball Joint Dust Cover.



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#### REMOVAL STEPS

1. SPEED SENSOR CABLE CONNECTION <VEHICLES WITH ABS>
2. BRAKE HOSE CLIP
3. COTTER PIN
4. DRIVESHAFT NUT
5. LOWER ARM BALL JOINT CONNECTION
6. COTTER PIN
7. TIE ROD END CONNECTION
8. STABILIZER LINK CONNECTION

#### REMOVAL STEPS (Continued)

9. DRIVESHAFT
10. DRIVESHAFT AND INNER SHAFT
11. CIRCLIP

#### Required Special Tools:

- MB990242: Puller Bar
- MB990767: End Yoke Holder
- MB990998: Front Hub Remover and Installer
- MB991345: Puller Body

<<A>> >>B<<

<<B>>

<<B>>

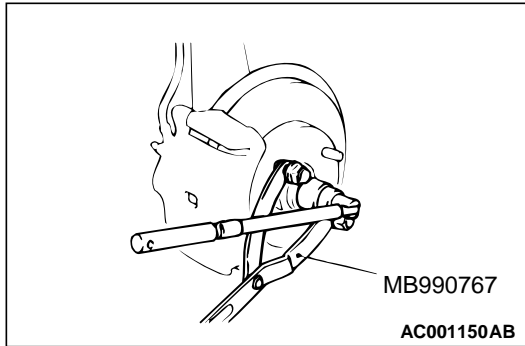
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## REMOVAL SERVICE POINTS

## &lt;&lt;A&gt;&gt; DRIVE SHAFT NUT REMOVAL

**⚠ CAUTION**

Do not apply the vehicle weight to the wheel bearing while loosening the driveshaft nut.



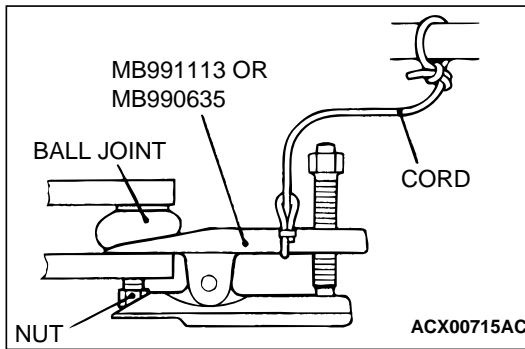
## &lt;&lt;B&gt;&gt; LOWER ARM BALL JOINT/TIE ROD END DISCONNECTION

**⚠ WARNING**

**Support special tool MB991113 or MB990635 with a cord, etc. to prevent it from coming off.**

Use special tool MB991113 or MB990635 to disconnect the tie rod from the knuckle.

*NOTE: Only loosen the mounting nut, do not remove it from the ball joint.*

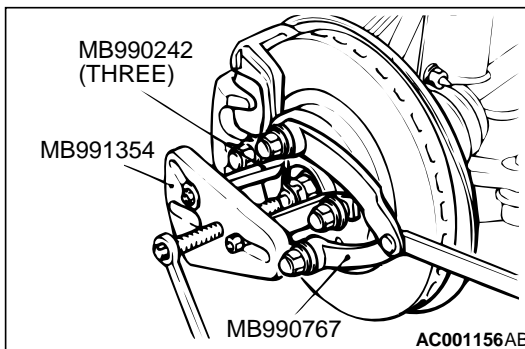


## &lt;&lt;C&gt;&gt; DRIVESHAFT/DRIVESHAFT AND INNER SHAFT REMOVAL

**⚠ CAUTION**

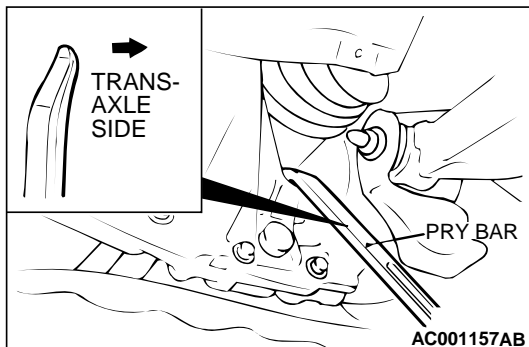
Do not damage the ABS rotor attached to the BJ outer race <Vehicles with ABS>.

1. Use special tools MB991354, MB990242 and MB990767 to push the driveshaft out from the hub.



**⚠ CAUTION**

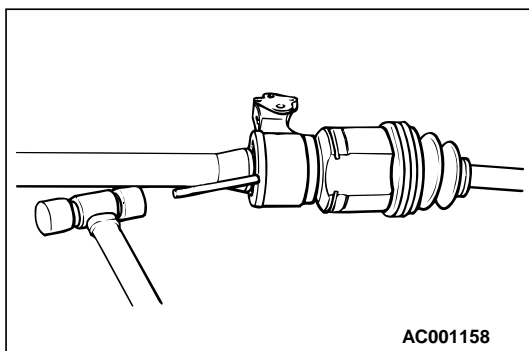
- Do not pull on the driveshaft; doing so will damage the TJ; be sure to use the pry bar.
  - Do not insert the pry bar so deep as to damage the oil seal.
  - Do not damage the transaxle oil seal with the spline of the driveshaft.
2. Insert a pry bar between the transaxle case and the driveshaft as shown to remove the driveshaft. <2.4L ENGINE, 3.0L ENGINE-LH>



**⚠ CAUTION**

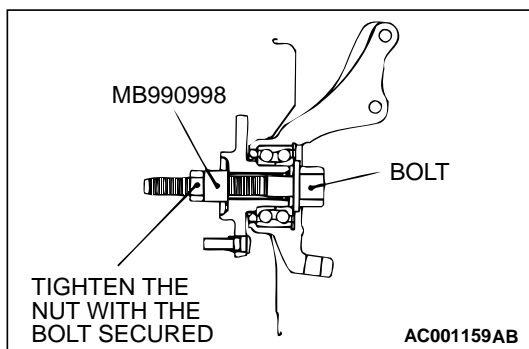
Do not damage the transaxle oil seal with the spline of the inner shaft.

3. If the inner shaft and transaxle are tightly joined, tap the center bearing bracket lightly with a plastic hammer, etc. to remove the drive shaft and inner shaft from the transaxle. <3.0L ENGINE-RH>
4. Cover the transaxle case with a shop towel to prevent foreign material from entering it.



**⚠ CAUTION**

Do not apply the vehicle weight to the wheel bearing while loosening the driveshaft nut. If, however, the vehicle weight must be applied to the bearing (in order to move the vehicle), temporarily secure the wheel bearing by using special tool MB990998.



**INSTALLATION SERVICE POINTS****>>A<< DRIVE SHAFT AND INNER SHAFT/DRIVESHAFT  
INSTALLATION****⚠ CAUTION**

- Do not damage the transaxle oil seal with the spline of the shaft.
- Do not damage the ABS rotor attached to the BJ outer race <Vehicles with ABS>.

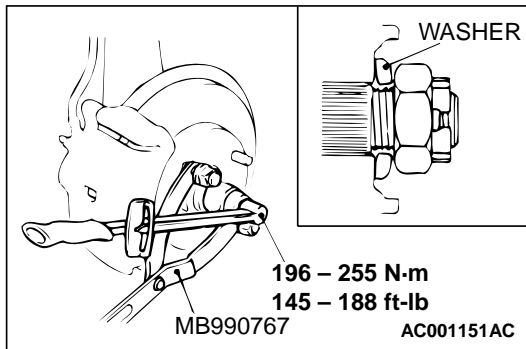
**>>B<< DRIVE SHAFT NUT INSTALLATION**

1. Be sure to install the driveshaft washer as shown.

**⚠ CAUTION**

**Before securely tightening the driveshaft nuts, make sure there is no load on the wheel bearings.**

2. Using special tool MB990767, tighten the driveshaft nut.
3. If the position of the cotter pin holes does not match, tighten the nut up to 255 N·m (188 ft-lb) maximum.
4. Install the cotter pin in the first matching holes and bend it securely.

**INSPECTION**

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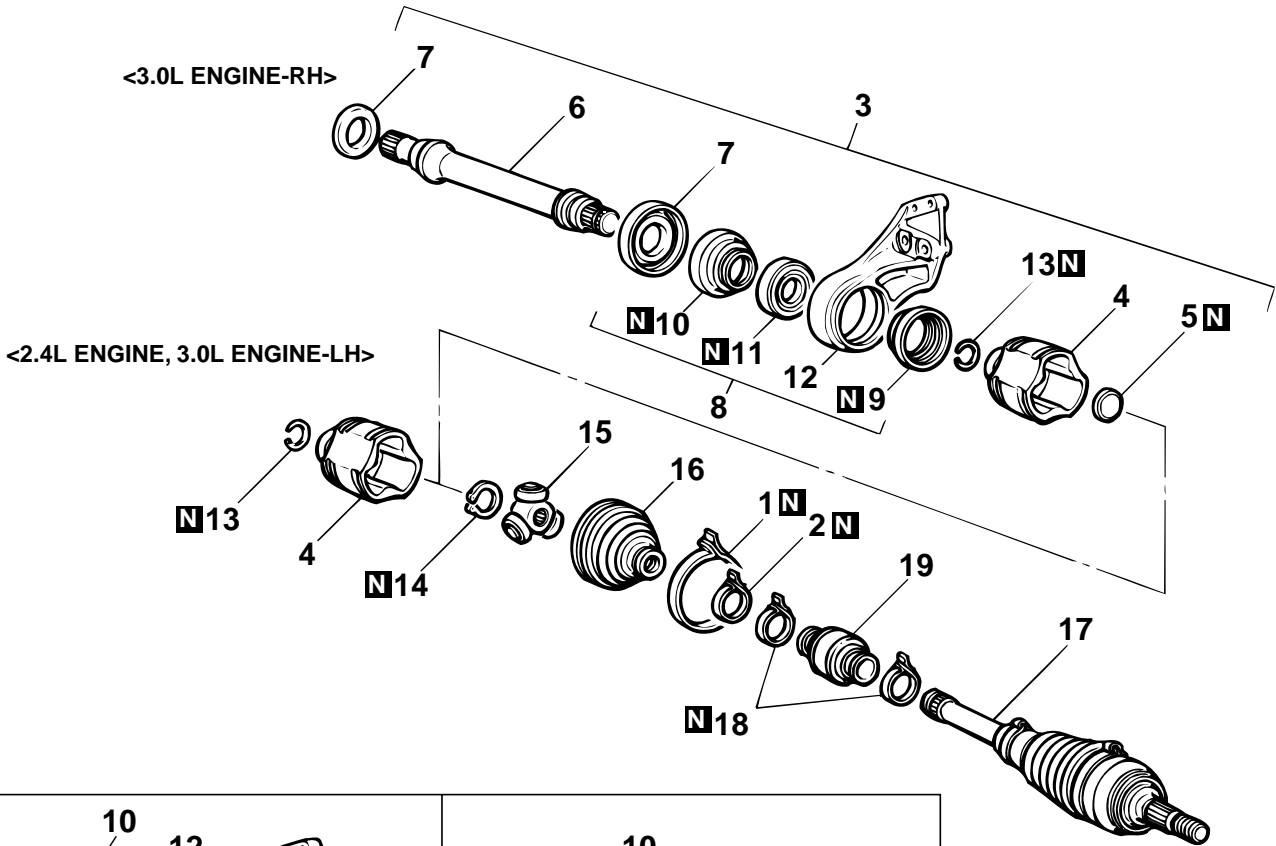
- Check the drive shaft boot for damage or deterioration.
- Check the ball joints for excessive play or poor operating condition.
- Check the spline part for wear or damage.

DISASSEMBLY AND ASSEMBLY

M1261003700058

**CAUTION**

The BJ assembly cannot be serviced except replacement of BJ boot.



<p>BRACKET ASSEMBLY REPAIR KIT</p>	<p>BEARING DUST SEAL REPAIR KIT</p>		
<p>TJ BOOT REPAIR KIT</p>	<p>BJ BOOT REPAIR KIT</p>	<p>TJ REPAIR KIT</p>	

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## DISASSEMBLY STEPS

- >>G<< 1. TJ BOOT BAND (LARGE)  
 >>G<< 2. TJ BOOT BAND (SMALL)  
 >>F<< 3. TJ CASE INNER SHAFT ASSEMBLY  
 4. TJ CASE  
 5. SEAL PLATE  
 <<A>> >>E<< 6. INNER SHAFT  
 7. DUST COVER  
 8. BRACKET ASSEMBLY  
 >>D<< 9. DUST SEAL OUTER  
 >>D<< 10. DUST SEAL INNER  
 <<B>> >>C<< 11. CENTER BEARING  
 12. CENTER BEARING BRACKET  
 13. CIRCLIP  
 >>B<< 14. SNAP RING  
 15. SPIDER ASSEMBLY  
 <<C>> >>A<< 16. TJ BOOT  
 17. BJ ASSEMBLY  
 >>A<< 18. DAMPER BAND <2.4L ENGINE,  
 3.0L ENGINE-LH>

DISASSEMBLY STEPS  
(Continued)

- >>A<< 19. DYNAMIC DAMPER <2.4L  
 ENGINE, 3.0L ENGINE-LH>  
 20. BJ BOOT BAND (LARGE)  
 21. BJ BOOT BAND (SMALL)  
 22. BJ BOOT

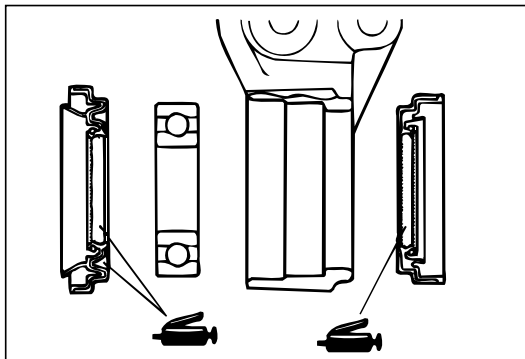
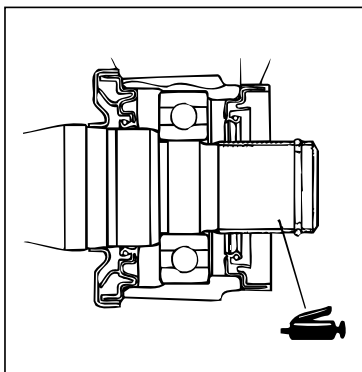
*NOTE: BJ: Birfield Joint  
 TJ: Tripod Joint*

**Required Special Tools:**

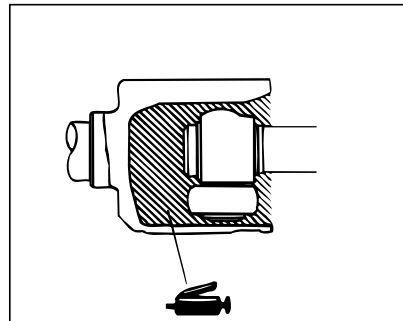
- MB990890: Rear Suspension Bush Base
- MB990930: Installation Adapter
- MB990932: Installation Adapter
- MB990934: Installation Adapter
- MB990938: Installation Adapter
- MB991172: Adapter
- MB991248 or MD998801: Inner Shaft Remover
- MB991561: Boot Band Crimping Tool



LUBRICATION POINTS

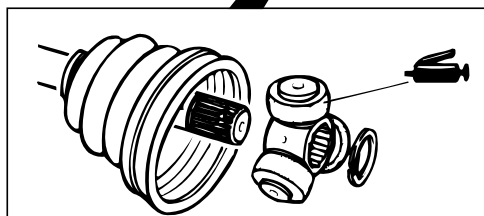
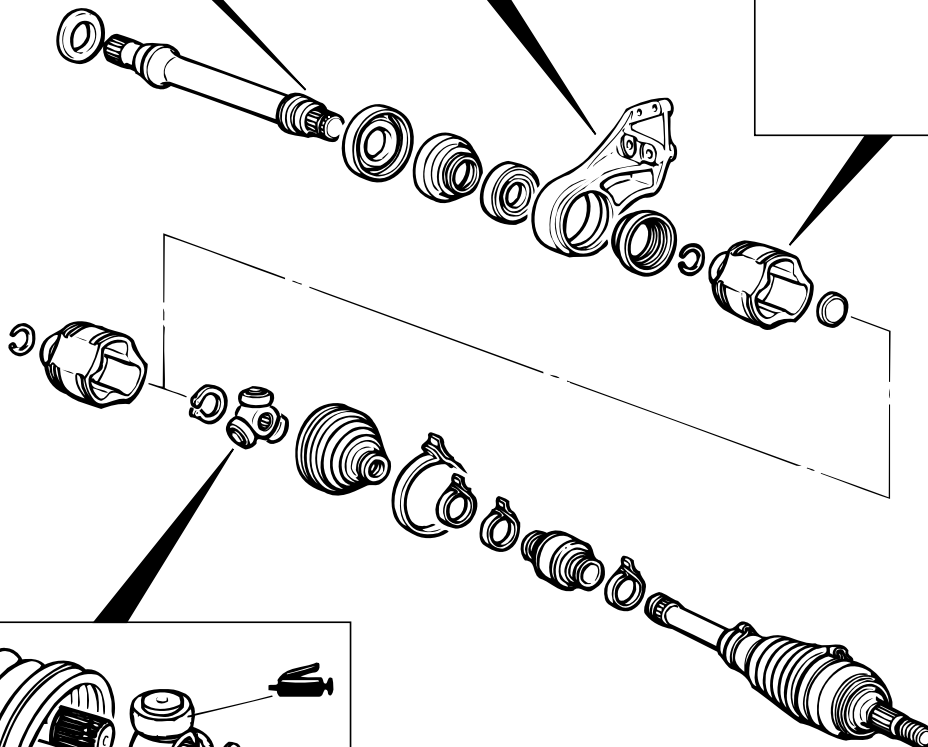


GREASE:  
MULTIPURPOSE GREASE  
DUST SEAL INNER  
14 - 20 g (0.5 - 0.7 oz)  
DUST SEAL OUTER  
8 - 12 g (0.3 - 0.4 oz)



GREASE:  
REPAIR KIT GREASE  
<2.4L ENGINE>  
100 ± 10 g (3.5 ± 0.4 oz)  
<3.0L ENGINE>  
105 ± 10 g (3.7 ± 0.4 oz)

THE DRIVESHAFT JOINT USES  
SPECIAL GREASE. DO NOT MIX  
OLD AND NEW OR DIFFERENT  
TYPES OF GREASE.



GREASE: REPAIR KIT GREASE

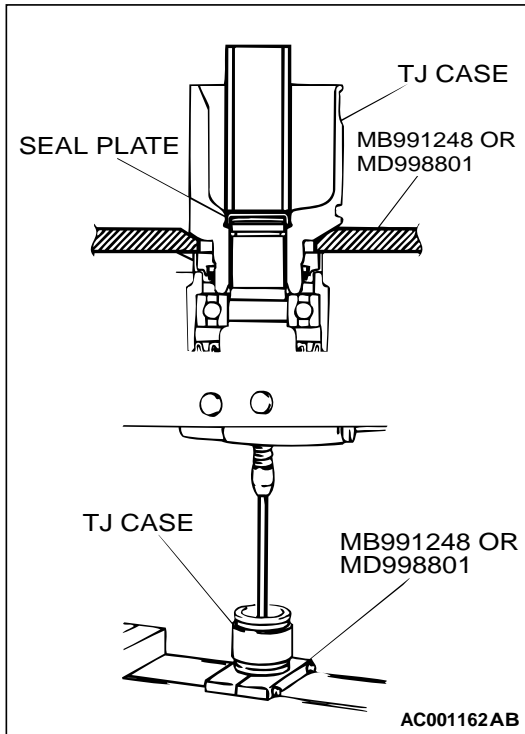
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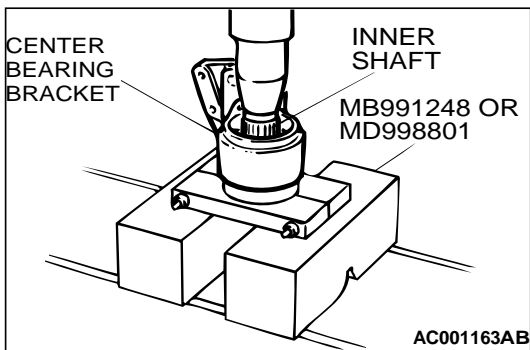
**DISASSEMBLY SERVICE POINT**

**<<A>> INNER SHAFT REMOVAL**

1. Use special tool MB991248 or MD998801 to remove the inner shaft assembly and the seal plate from the TJ case.  
*NOTE: Press the seal plate to deform it, and then press out the inner shaft.*

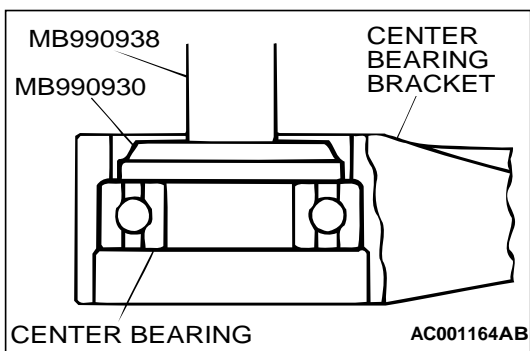


2. Use special tool MB991248 or MD998801 to remove the inner shaft from the center bearing bracket.



**<<B>> CENTER BEARING REMOVAL**

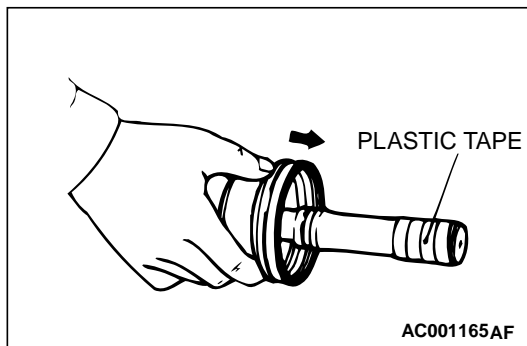
Use special tools MB990930 and MB990938 to press the center bearing out from the center bearing bracket.



<<C>>TJ BOOT REMOVAL

1. Wipe the grease off the spline.
2. Remove the TJ boot.

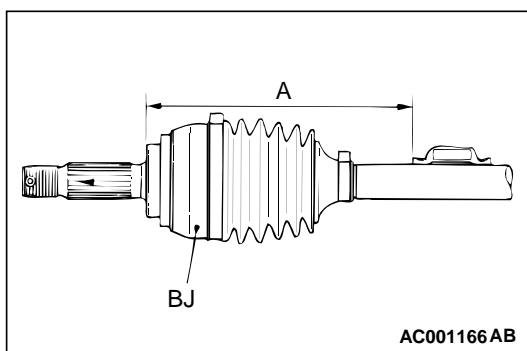
*NOTE: If the boot is to be reused, wrap plastic tape around the driveshaft spline to prevent the boot from being damaged when removing.*



ASSEMBLY SERVICE POINTS

>>A<< DYNAMIC DAMPER/DAMPER BAND/TJ BOOT INSTALLATION

1. Install the dynamic damper in the position shown in the illustration.



ITEMS	LH	RH
A mm (in)	242 ± 3 (9.5 ± 0.12)	254 ± 3 (10.0 ± 0.12)

**CAUTION**

- There should be no grease adhered to the rubber part of the dynamic damper.
  - The damper band and the TJ boot band (small) are different in shape. Be careful not to assemble a wrong band by identifying a color of the band.
2. Secure the damper bands.

ITEMS	BAND COLOR
Damper band	Blue
TJ boot band	Silver

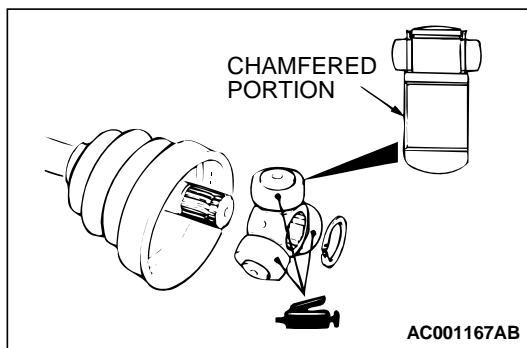
3. Wrap plastic tape around the shaft spline, and then install the TJ boot band (small) and TJ boot.

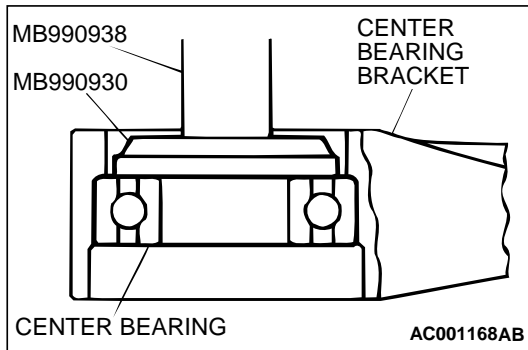
>>B<< SPIDER ASSEMBLY INSTALLATION

**CAUTION**

The driveshaft joint uses special grease. Do not mix old and new or different types of grease.

1. Apply the repair kit grease to the spider axles and rollers of the spider assembly.
2. Face the chamfered portion of the spider assembly's spline toward the driveshaft, and then install the spider assembly to the driveshaft.



**>>C<< CENTER BEARING INSTALLATION**

Use special tools MB990930 and MB990938 to press the center bearing into the center bearing bracket.

**>>D<< DUST SEAL INNER/DUST SEAL OUTER INSTALLATION**

1. Pack the multipurpose grease in the places shown in the figure.

**Quantity:**

14 – 20 g (0.5 – 0.7 oz) <Dust seal inner>

8 – 12 g (0.3 – 0.4 oz) <Dust seal outer>

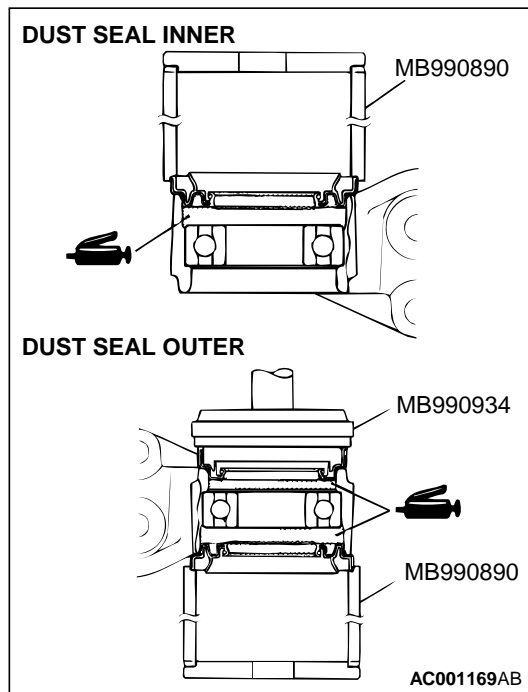
**⚠ CAUTION**

Do not damage the rubber portion of the dust seal outer surface when packing the specified grease, otherwise grease will leak.

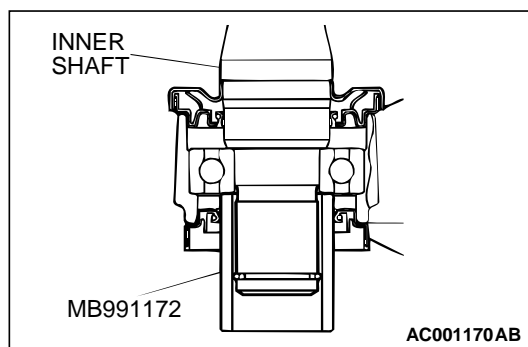
2. Use special tools MB990890 and MB990934 to press the oil seal into the center bearing bracket.

3. Apply the specified grease to the lip of the dust seal.

*NOTE: Do not apply the multipurpose grease to the outside of the lip.*

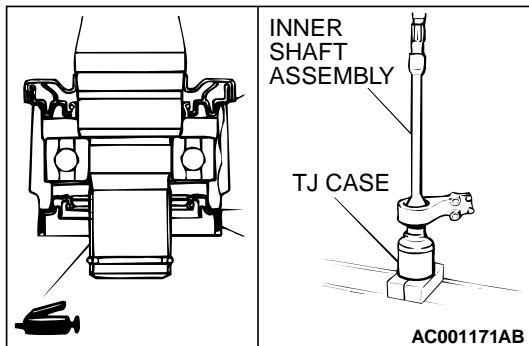
**>>E<< INNER SHAFT INSTALLATION**

Use special tool MB991172 to hold the center bearing inner race, and then press-in the inner shaft.



>>F<< TJ CASE/INNER SHAFT ASSEMBLY INSTALLATION

1. Apply the specified grease to the inner shaft serration, and then press the inner shaft assembly into the TJ case.



**CAUTION**

The driveshaft joint uses special grease. Do not mix old and new or different types of grease.

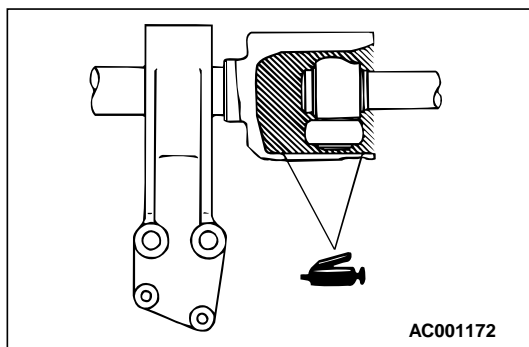
2. Fill the TJ case with repair kit grease and insert the driveshaft, and then refill the TJ case with repair kit grease.

**Grease quantity:**

<2.4L ENGINE> 100 ± 10 g (3.5 ± 0.4 oz)

<3.0L ENGINE> 105 ± 10 g (3.7 ± 0.4 oz)

*NOTE: The grease in the repair kit should be divided in half for use, respectively, at the joint and inside the boot.*

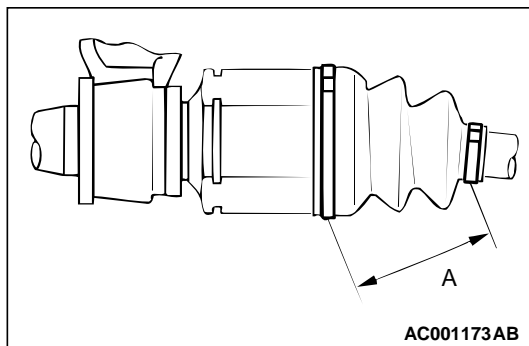


>>G<< TJ BOOT BAND(SMALL)/TJ BOOT BAND(LARGE) INSTALLATION

1. Position the TJ outer race so that the distance between the boot bands is at the standard value.

**Standard value (A): 85 ± 3 mm(3.3 ± 0.12 inch)**

2. Remove part of the TJ outer race to release the air pressure inside the boot.



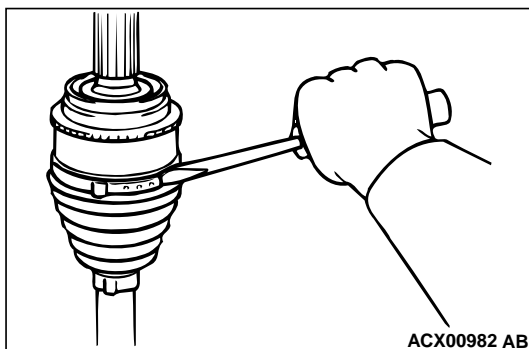
**BJ BOOT (RESIN BOOT) REPLACEMENT**

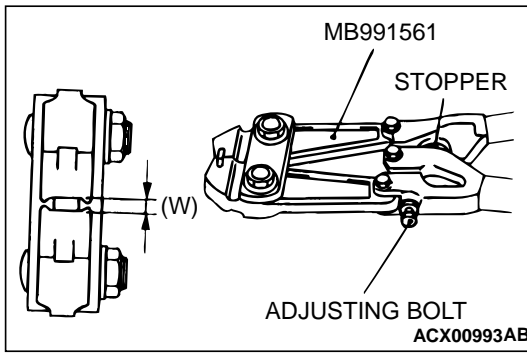
M1261005200059

1. Remove the boot bands (large and small).

*NOTE: The BJ boot bands cannot be re-used.*

2. Remove the BJ boot.





3. Turn the adjusting bolt on special tool MB991561 so that the size of the opening (W) is at the standard value.

*NOTE: The value of W will change by approximately 0.7 mm (0.03 inch) for each turn of the adjusting bolt.*

*NOTE: The adjusting bolt should not be turned more than once.*

**Standard value (W):**

- 2.9 mm (0.12 inch)

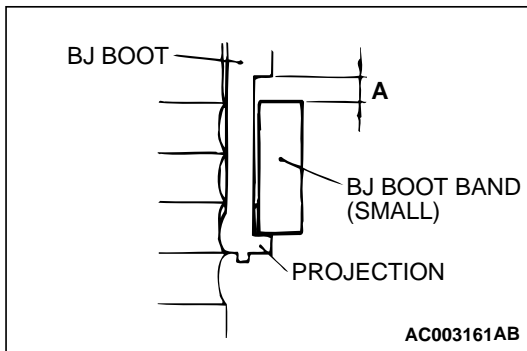
<If it is larger than 2.9 mm (0.12 inch)>

- Tighten the adjusting bolt.

<If it is smaller than 2.9 mm (0.12 inch)>

- Loosen the adjusting bolt.

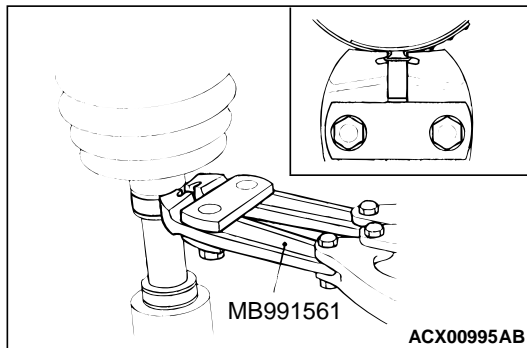
4. Place the BJ boot band (small) against the projection at the edge of the boot, and then secure it so that there is a clearance left as shown by (A) in the illustration.

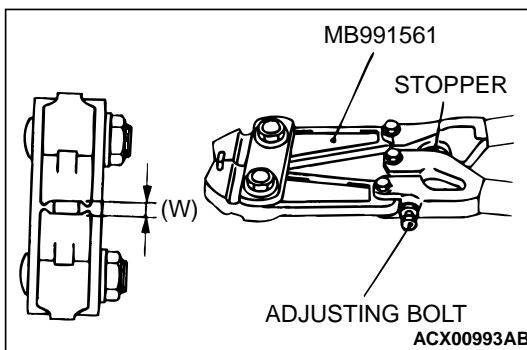
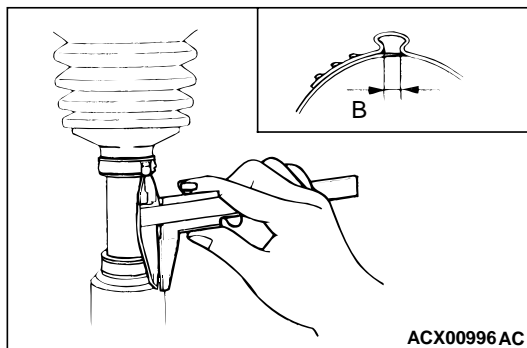


**CAUTION**

- Secure the driveshaft in an upright position and clamp the part of the BJ boot band to be crimped securely in the jaws of the special tool.
- Crimp the BJ boot band until the special tool touches the stopper.

5. Use special tool MB991561 to crimp the BJ boot band (small).





6. Check that crimping amount (B) of the BJ boot band is at the standard value.

**Standard value (B):**

- 2.4 – 2.8 mm (0.10 – 0.11 inch)

<If the crimping amount is larger than 2.8 mm (0.11 inch)>

- Readjust the value of (W) in step 3 according to the following formula, and then repeat the operation in step 5.
- $W = 5.5 \text{ mm (0.22 inch)} - B$
- Example: If B = 2.9 mm (0.11 inch), then W = 2.6 mm (0.10 inch).

<If the crimping amount is smaller than 2.4 mm (0.09 inch)>

- Remove the BJ boot band, readjust the value of (W) in step 3 according to the following formula, and then repeat the operations in steps 4 and 5 using a new BJ boot band.
- $W = 5.5 \text{ mm (0.22 inch)} - B$
- Example: If B = 2.3 mm (0.10 inch) then W = 3.2 mm (0.13 inch).

7. Check that the BJ boot band is not protruding past the place where it has been installed.

If so, remove it and then repeat the operations in steps 4 to 6 using a new BJ boot band.

**⚠ CAUTION**

The driveshaft joint uses special grease. Do not mix old and new grease or different types of grease.

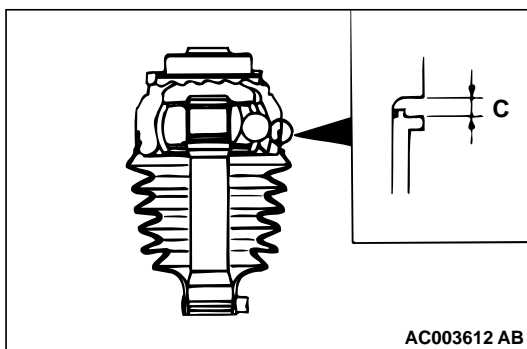
8. Fill the inside of the BJ boot with repair kit grease.

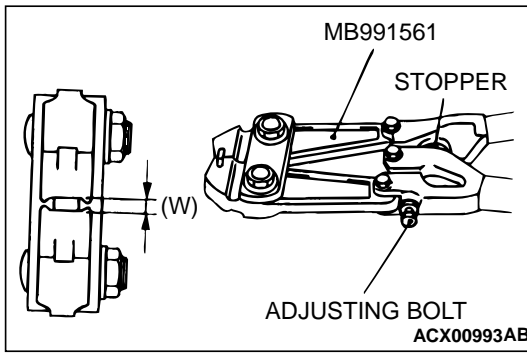
**Grease quantity:**

- <2.4L ENGINE> 110 ± 10 g (3.9 ± 0.4 oz)
- <3.0L ENGINE> 120 ± 10 g (4.2 ± 0.4 oz)

9. Install the BJ boot band (large) so that clearance (C) between it and the BJ housing is at the standard value.

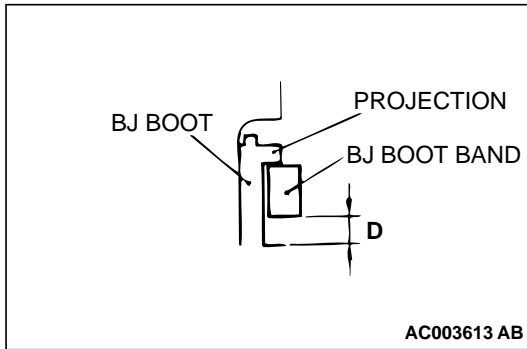
**Standard value (C): 0.1 – 1.55 mm (0.004 – 0.061 inch)**





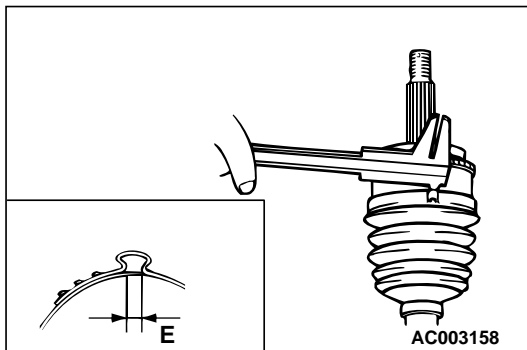
10. Follow the same procedure as in step 3 to adjust the size of the opening (W) on special tool MB991561 so that it is at the standard value.

**Standard value (W): 3.2 mm (0.13 inch)**



11. Place the BJ boot band (large) against the projection at the edge of the boot, and then secure it so that there is a clearance left as shown by (D) in the illustration.

12. Use special tool MB991561 to crimp the BJ boot band (large) in the same way as in step 5.



13. Check that the crimping amount (E) of the BJ boot band is at the standard value.

**Standard value (E):**

- 2.4 – 2.8 mm (0.10 – 0.11 inch)

<If the crimping amount is larger than 2.8 mm (0.11 inch)>

- Readjust the value of (W) in step 10 according to the following formula, and then repeat the operation in step 12.
- $W = 5.8 (0.23 \text{ inch}) \text{ mm} - E$
- Example: If  $E = 2.9 \text{ mm} (0.11 \text{ inch})$ , then  $W = 2.9 \text{ mm} (0.11 \text{ inch})$ .

<If the crimping amount is smaller than 2.4 mm (0.09 inch)>

- Remove the BJ boot band, readjust the value of (W) in step 10 according to the following formula, and then repeat the operating in steps 11 and 12 using a new BJ boot band.
- $W = 5.8 (0.23 \text{ inch}) \text{ mm} - E$
- Example: If  $E = 2.3 \text{ mm} (0.10 \text{ inch})$ , then  $W = 3.5 \text{ mm} (0.14 \text{ inch})$ .

14. Check that the BJ boot band is not protruding past the place where it has been installed.

If so, remove it and repeat the operations in steps 11 to 13 using a new BJ boot band.



## SPECIFICATIONS

### FASTENER TIGHTENING SPECIFICATIONS

M1261005400053

ITEMS		SPECIFICATIONS
<b>Driveshaft</b>		
Center bearing bolt		40 N·m (30 ft-lb)
Driveshaft nut		196 – 255 N·m (145 – 188 ft-lb)
Lower arm ball joint nut		98 – 118 N·m (72 – 81 ft-lb)
Stabilizer link nut		44 N·m (32 ft-lb)
Tie rod end nut		24 – 33 N·m (17 – 25 ft-lb)
<b>Front hub assembly</b>		
Caliper assembly bolt		90 – 110 N·m (66 – 81 ft-lb)
Driveshaft nut		196 – 255 N·m (145 – 188 ft-lb)
Knuckle and wheel bearing bolt		88 N·m (65 ft-lb)
Lower arm ball joint nut		98 – 118 N·m (72 – 81 ft-lb)
Stabilizer link nut		44 N·m (32 ft-lb)
Tie rod end nut		24 – 33 N·m (17 – 25 ft-lb)
<b>Knuckle</b>		
Dust shield bolt		9 N·m (78 in-lb)
Front strut nut		275 – 324 N·m (203 – 239 ft-lb)

### GENERAL SPECIFICATIONS

M1261000200054

ITEMS		SPECIFICATIONS	
Front axle hub bearing	Type	Double row angular contact bearing	
Driveshaft	Joint type	Outer	Birfield joint
		Inner	Tripod joint

### SERVICE SPECIFICATIONS

M1261000300051

ITEMS	STANDARD VALUE	LIMIT
Front axle total backlash mm (in)	-	0.05 (0.002)
Setting of boot length mm (in)	85 ± 3 (3.3 ± 0.12)	-
Wheel bearing breakaway torque N·m (in-lb)	-	1.0 (9)

### LUBRICANTS

M1261000400058

ITEMS		SPECIFIED LUBRICANTS	QUANTITY
Dust seal inner		Repair kit grease	14 – 20 g (0.5 – 0.7 oz)
Dust seal outer		Repair kit grease	8 – 12 g (0.3 – 0.4 oz)
TJ boot grease	2.4L ENGINE	Repair kit grease	100 ± 10 g (3.5 ± 0.4 oz)
	3.0L ENGINE	Repair kit grease	105 ± 10 g (3.7 ± 0.4 oz)
BJ boot grease	2.4L ENGINE	Repair kit grease	110 ± 10 g (3.9 ± 0.4 oz)
	3.0L ENGINE	Repair kit grease	120g (4.2 oz)

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## NOTES