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2011 MAZDA 6/Atenza Sedan OEM Service and Repair Workshop Manual

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Note

• The boot shapes on the wheel side and the transaxle side are different. Do not assemble the wrong boot by mistake.

1.Insert the shaft through the boot (transaxle side) with the vinyl tape left wrapped around the spline area of the shaft.

2.Remove the vinyl tape wrapped around the spline of the shaft.

Tripod Joint, Snap Ring Assembly Note

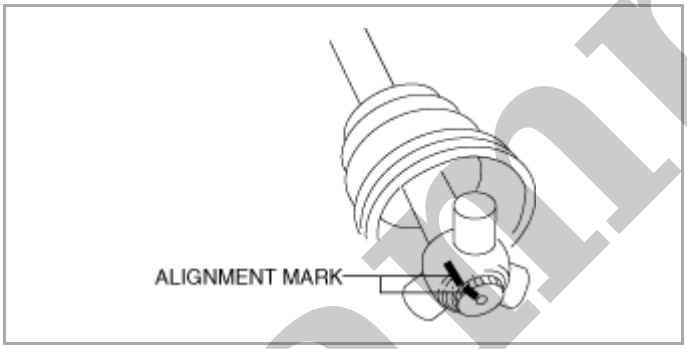
Caution

• When tapping the outer ring lightly using a hammer and urethane bar or equivalent, be careful not to scratch the roller area so as to prevent damage to the part.

Note

• If the tripod joint cannot be assembled to the shaft, lightly tap the tripod joint evenly using a hammer and urethane bar or equivalent, and assemble the tripod joint to the shaft.

1.Assemble the tripod joint with the shaft and tripod joint alignment marks aligned.



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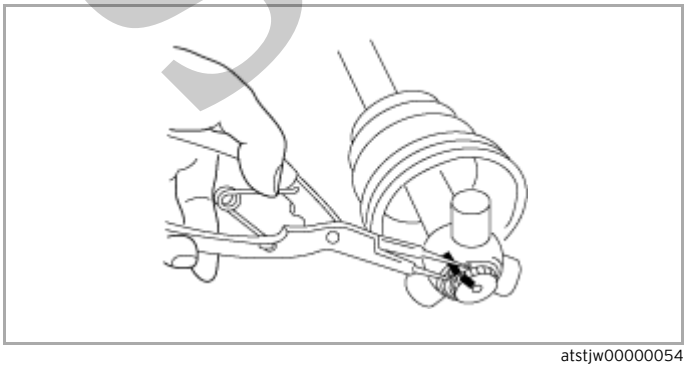
2.Assemble a new snap ring using snap ring pliers.



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3.Verify that the snap ring is assembled correctly in the groove of the shaft.

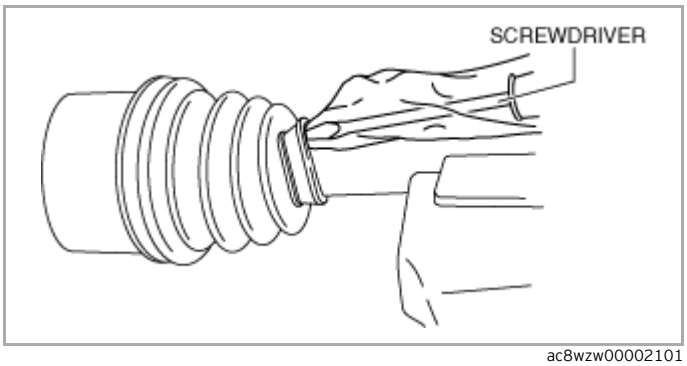
Bearing Assembly Note

1.Assemble the new bearing using the SST and the press.

6.Release any trapped air from the boot by carefully lifting up the small end of the boot with a screwdriver wrapped in a clean rag.

Note

- Do not damage the boot. Verify that there is no grease leakage.
- If the boot is deformed, it may not be possible to perform the full-length adjustment of the shaft.



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7.Verify that the drive shaft length is within the standard when the inside of the boot is at atmospheric pressure.

- If not within the standard, repeat from Step 5.

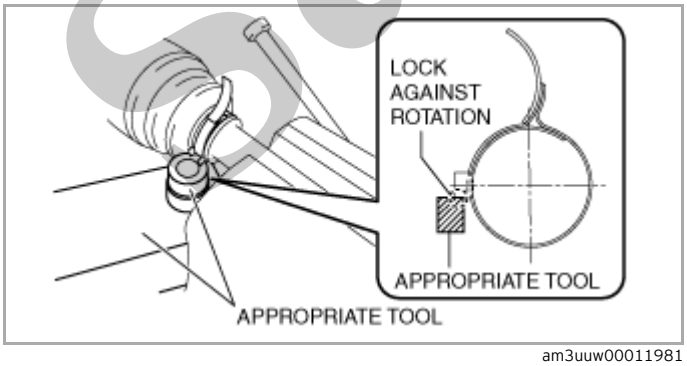
Boot Band (Transaxle Side) Assembly Note

Warning

- Your hands could be injured while assembling the boot band. Therefore always wear gloves.

1.Apply rust prevention oil to the inside of the boot band.

2.Lock the boot band against rotation using an appropriate tool as shown in the figure.



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Caution

- Do not put the boot band back to its original position after bending it using pliers because it will damage the boot band.

3.Using a pair of pliers, grip the lever at the base (fulcrum point) and rotate it in the direction of the arrow.

REAR DRIVE SHAFT INSPECTION

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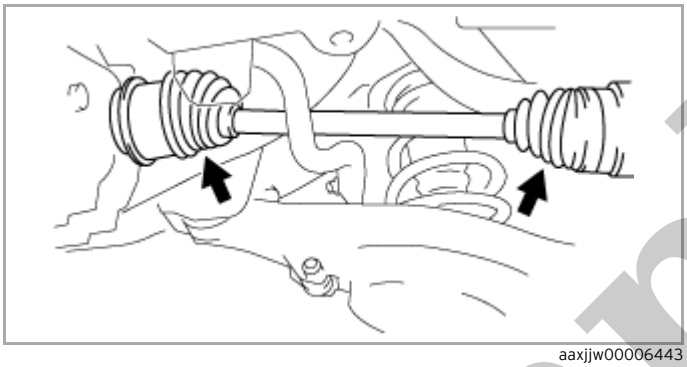
1.Inspect each connecting part for looseness.

- If there is any malfunction, replace the applicable part. (See REAR DRIVE SHAFT REMOVAL/INSTALLATION.)

2.Inspect the boot for damage and cracks.



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- If there is any malfunction, replace the applicable part. (See REAR DRIVE SHAFT DISASSEMBLY/ASSEMBLY.)

3.Move the spline and joint up and down, left and right by hand and verify that there is no excessive play.

- If there is any malfunction, replace the applicable part. (See REAR DRIVE SHAFT DISASSEMBLY/ASSEMBLY.)

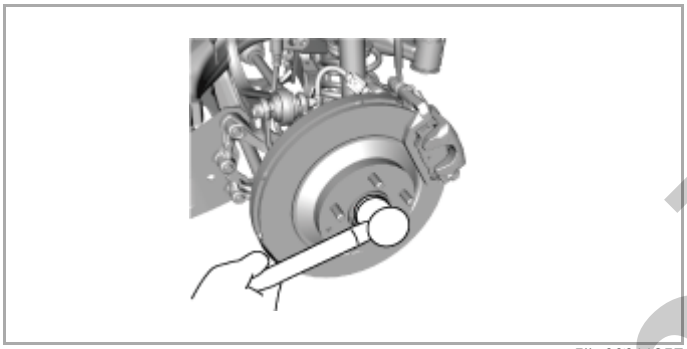
Caution

• When removing the locknut, remove it manually without using an electric or pneumatic tool. Otherwise, the locknut may seize.
• When removing the locknut, do not apply load at the ground to the axle. Otherwise, it could damage the wheel hub.

1.Remove the locknut with the brake pedal depressed.

2.Install a spare nut onto the drive shaft.

3.Tap the nut with a copper hammer and separate the drive shaft from the axle.



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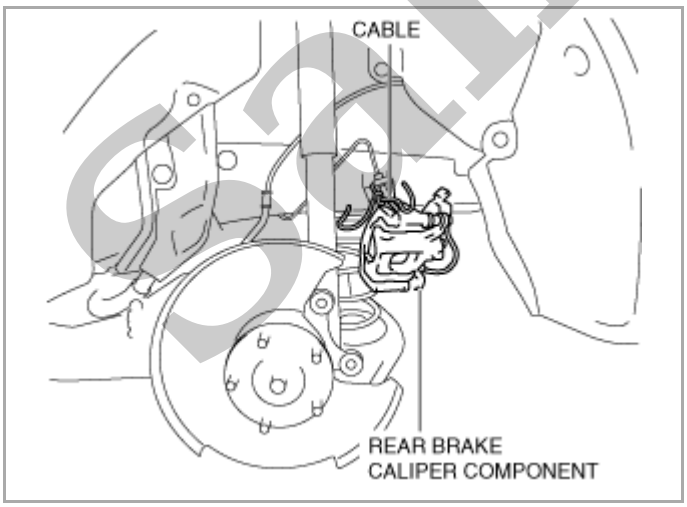
Brake Caliper Component Removal Note

1.Remove the rear brake caliper component and suspend it out of the way using a cable.



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Rear Drive Shaft Removal Note

Caution

• The oil seal could be damaged by the end of the drive shaft. When removing the rear drive shaft, be careful not to damage the oil seal. If the oil seal is damaged, replace it with a new one.
• Be careful not to damage the rear drive shaft boot.
• Be careful not to damage the rear ABS sensor rotor.

REAR DRIVE SHAFT DISASSEMBLY/ASSEMBLY

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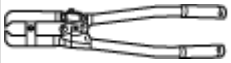
Special Service Tool (SST)

49 T025 001 Boot clamp crimpers	

Replacement Part

Boot band (differential side) Quantity: 2 Location of use: Boot (differential side)	Snap ring Quantity: 1 Location of use: Tripod joint	Boot (differential side) Quantity: 1 Location of use: Rear drive shaft (differential side)
Boot band (wheel side) Quantity: 2 Location of use: Boot (wheel side)	Boot (wheel side) Quantity: 1 Location of use: Rear drive shaft (wheel side)	–

Oil and Chemical Type

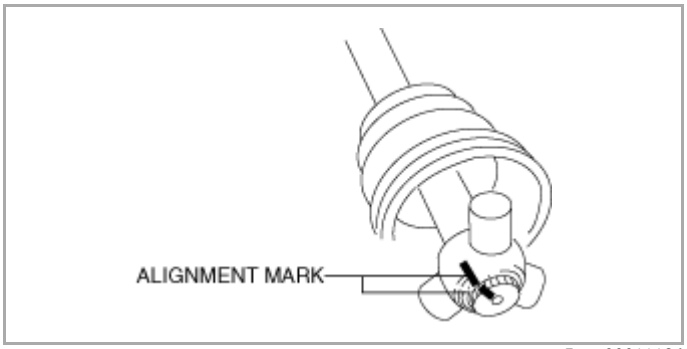
Grease Type: Maintenance parts

Caution

• Do not allow a magnetized tool such as a magnetized screwdriver to come into contact with the ABS sensor rotor. If the ABS sensor rotor becomes magnetized it will be unable to read the ABS wheel speed sensor waveform correctly resulting in an ABS system malfunction to be determined and the inability to perform ABS control. If a magnetized object comes into contact with the ABS sensor rotor, it will be necessary to newly replace the rear drive shaft (ABS sensor rotor).

1.Disassemble in the order shown in the figure.

2.Assemble in the reverse order of disassembly.



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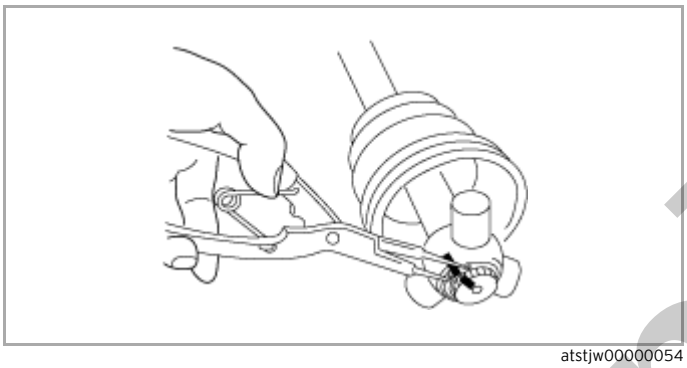
2.Remove the snap ring using snap ring pliers.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Caution

• When using the hammer and urethane bar or equivalent, be careful not to scratch the roller area so as to prevent damage to the part.

Note

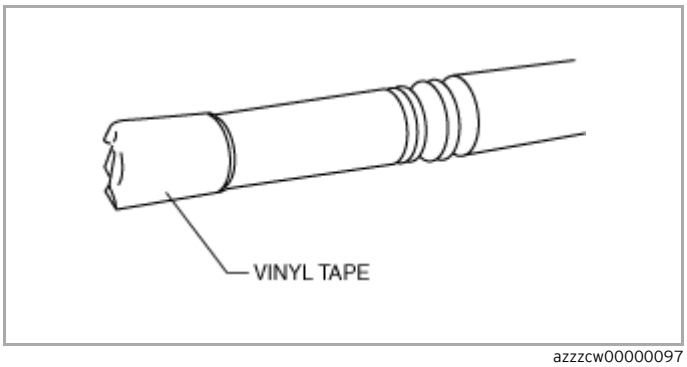
• If the tripod joint cannot be removed from the shaft, lightly tap the tripod joint evenly using a hammer and urethane bar or equivalent, and remove the tripod joint from the shaft.

3.Remove the tripod joint from the shaft.

4.Wipe off grease on the shaft and tripod joint using a clean rag.

Boot (Differential Side) Disassembly Note

1.Wrap vinyl tape around the spline area of the shaft to prevent damage to the boot.



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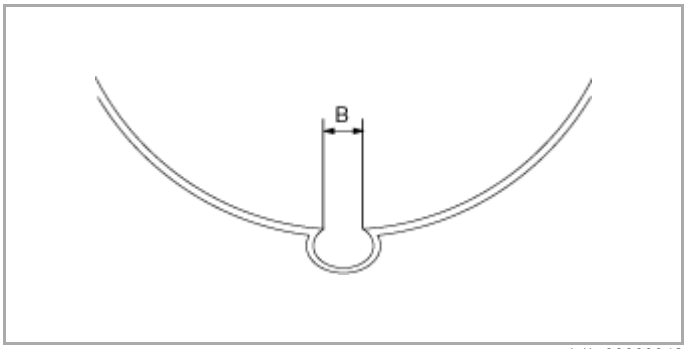

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Standard B

1.2–4.0 mm {0.05–0.15 in}

• If crimp B exceeds the standard, decrease opening A of the SST and crimp the boot band again.
• If crimp B is less than the standard, replace the boot band, increase opening A of the SST, and crimp the new boot band.

4.Verify that the boot band does not protrude from the boot band assembly area.

• If the boot band protrudes from the assembly area, replace it with a new one and repeat Steps 1 to 3.

Boot (Differential Side) Assembly Note

Note

• The boot shapes on the wheel side and the differential side are different. Do not assemble the wrong boot by mistake.

1.Insert the shaft through the boot (differential side) with vinyl tape left wrapped around the spline area of the shaft.

2.Remove the vinyl tape left wrapped around the spline area of the shaft.

Tripod Joint, Snap Ring Assembly Note

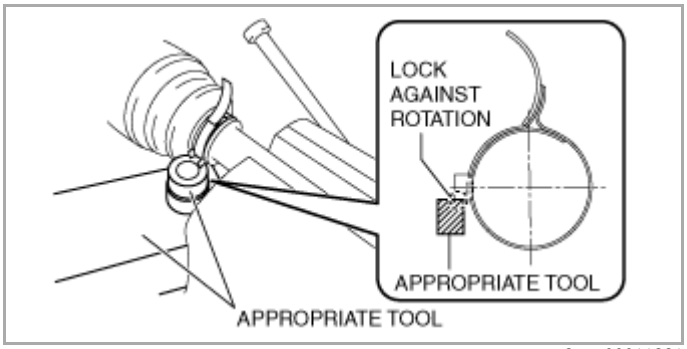
1.Assemble the tripod joint with the alignment marks on the shaft and tripod joint aligned.

Caution

• When using the hammer and urethane bar or equivalent, be careful not to scratch the roller area so as to prevent damage to the part.

Note

• If the tripod joint cannot be assembled to the shaft, lightly tap the tripod joint evenly using a hammer and urethane bar or equivalent, and assemble the tripod joint to the shaft.



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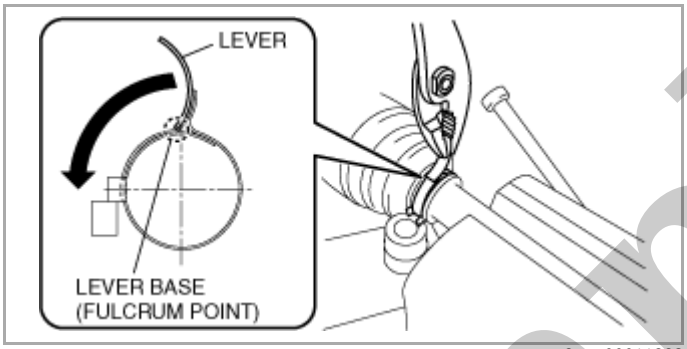
Caution

• Do not put the boot band back to its original position after bending it using pliers because it will damage the boot band.

3.Using a pair of pliers, grip the lever at the base (fulcrum point) and rotate it in the direction of the arrow.



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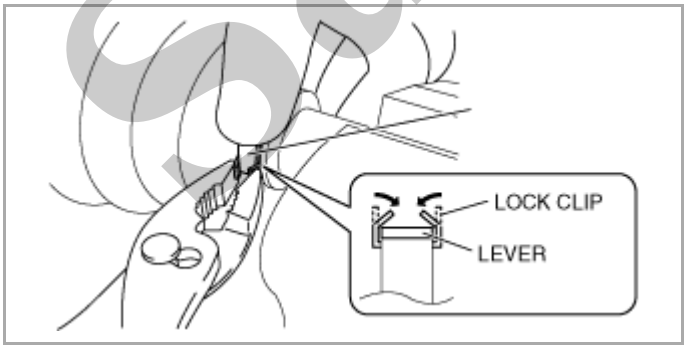
Caution

• If the lever flips back by reactive force, press it back again a maximum of only three times to prevent damage to the boot band.

4.Hold the rotated lever with a finger and temporarily secure the lock clip by squeezing it with a pair of pliers.



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5.Lightly tap the lock clip with a hammer until the gap in the lock clip is 1 mm {0.04 in} or less.

REAR DIFFERENTIAL REMOVAL/INSTALLATION

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Oil and Chemical Type

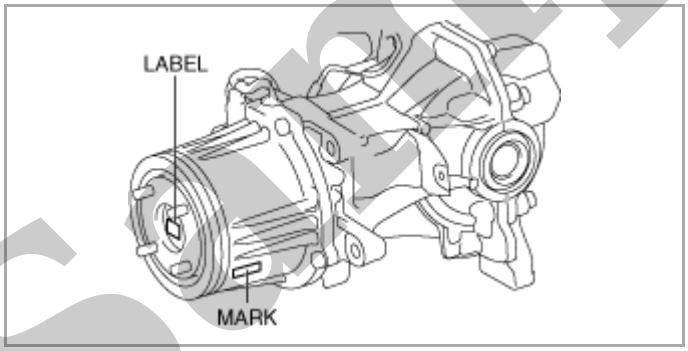
Sealant Type: TB1217C or equivalent

Caution

• Performing the following procedures could cause an open circuit in the rear ABS wheel-speed sensor wiring harness if it is pulled by mistake. Before servicing, disconnect the rear ABS wheel-speed sensor and set it aside so that the wiring harness will not be pulled by mistake.
• If the characteristic value of a new coupling component is not input to the AWD control module or the characteristic value is input incorrectly after replacing the coupling component, it could result in the following conditions.

— The system does not operate normally.
— A problem with durability of the coupling component occurs.

• After replacing the coupling component, read out the characteristic value of a new coupling component and write it to the AWD control module. (See COUPLING COMPONENT CALIBRATION DATA WRITING.)
• Read out the characteristic value of the coupling component from the label or mark shown in the figure.



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Note

• The AWD control module stores the characteristic value of the coupling component before replacement.
• If the characteristic value of a new coupling component is not written, the AWD control module does not store the value.

1.Switch the ignition ON (engine off).

2.Release the electric parking brake.

3.Switch the ignition off.

4.Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.)

5.Remove the wheels and tires. (See WHEEL AND TIRE REMOVAL/INSTALLATION.)