GROUP 33A

FRONT SUSPENSION

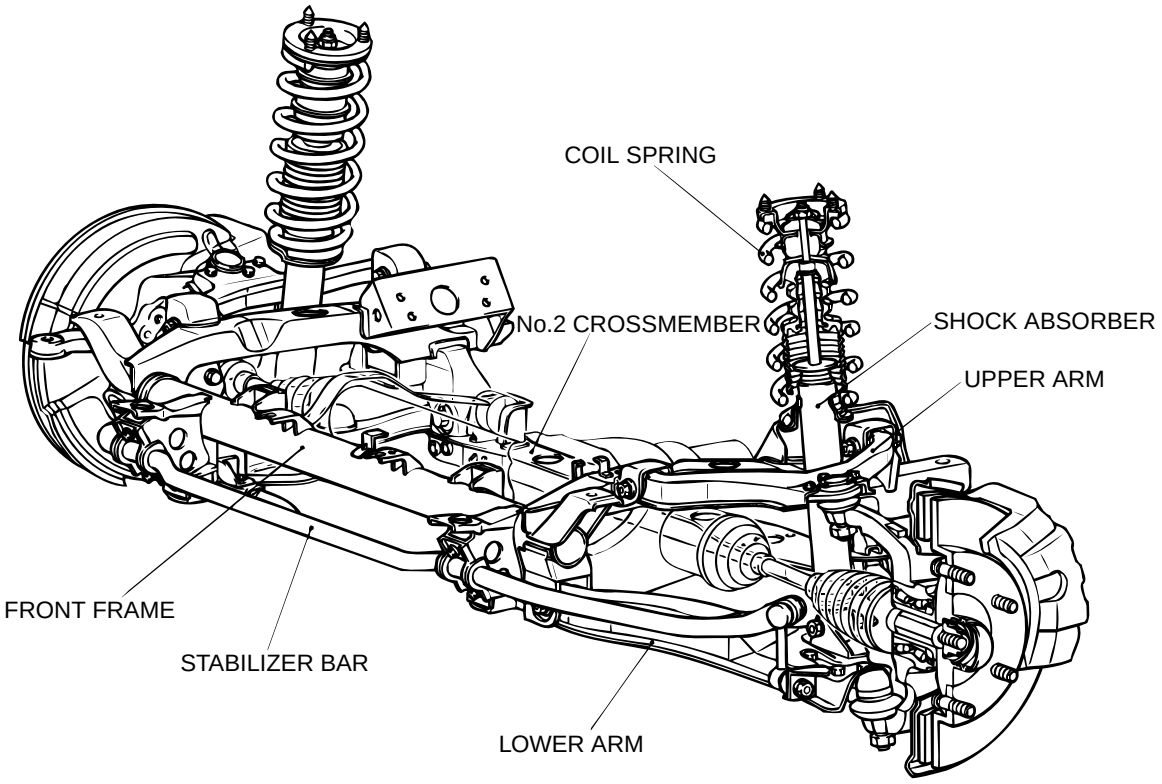
CONTENTS

GENERAL DESCRIPTION

M1331000100084

This is a coil spring-type double wishbone independent-type front suspension. This type of suspension is rigid, has very little variation in roll center height and provides excellent riding comfort.

CONSTRUCTION DIAGRAM



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FRONT SUSPENSION DIAGNOSIS

INTRODUCTION TO FRONT SUSPENSION DIAGNOSIS

M1332009000184

If the rear suspension is faulty, the vehicle will not track straight or unusual noise will occur. Incorrect wheel alignment, malfunction of shock absorber, stabilizer bar, coil spring, control arms or out-of-balance tires may cause these problems.

TROUBLESHOOTING STRATEGY

M1332009100170

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 suspension 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.

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SYMPTOM CHART

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SYMPTOM	INSPECTION PROCEDURE	REFERENCE PAGE
Steering wheel is heavy, vibrates or pulls to one side	1	P.33A-3
Excessive body rolling	2	P.33A-3
Poor ride	3	P.33A-4
Unequal ride height	4	P.33A-4
Noise	5	P.33A-4

SYMPTOM PROCEDURES

INSPECTION PROCEDURE 1: Steering Wheel is Heavy, Vibrates or Pulls to One Side

DIAGNOSIS

STEP 1. Check the tires.
Refer to GROUP 31, Diagnosis P.31-2.

Q: Are the tires at normal condition?
YES : Replace the tires as necessary, then go to Step 2.
NO : If out of balance, balance the tires as necessary. If excessively worn, replace the tires as necessary and go to Step 5.

STEP 2. Check the wheel alignment.

Q: Is the wheel alignment correct?
YES : Go to Step 3.
NO : Adjust it, then go to Step 5.

STEP 3. Check the ball joint.

Q: Is the ball joint in good condition?
YES : Go to Step 4.
NO : Replace it, then go to Step 5.

STEP 4. Check the coil spring.

Q: Is the coil spring in good condition?
YES : Go to Step 5.
NO : Replace it, then go to Step 5.

STEP 5. Retest the system.

Q: Is the malfunction eliminated?
YES : The procedure is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 2: Excessive Body Rolling

DIAGNOSIS

STEP 1. Check for broken or deteriorated stabilizer bar.

Q: Is the stabilizer bar in good condition?
YES : Go to Step 2.
NO : Replace it, then go to Step 3.

STEP 2. Check for shock absorber damage.

Q: Is the shock absorber in good condition?
YES : Go to Step 3.
NO : Replace it, then go to Step 3.

STEP 3. Retest the system.

Q: Is the malfunction eliminated?
YES : The procedure is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 3: Poor Ride

DIAGNOSIS

STEP 1. Check for improper tire inflation pressure.
Refer to GROUP 31, On-vehicle Service – Tire Inflation Pressure Check P.31-7.

Q: Is the tire inflation correct?
YES : Go to Step 2.
NO : Adjust it, then go to Step 4.

STEP 2. Check for broken or deteriorated coil spring(s).

Q: Are the coil spring(s) broken or deteriorated?
YES : Replace it, then go to Step 4.
NO : Go to Step 3.

STEP 3. Check for shock absorber damage.

Q: Is the shock absorber damaged?
YES : Replace it, then go to Step 4.
NO : Go to Step 4.

STEP 4. Retest the system.

Q: Is the malfunction eliminated?
YES : The procedure is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 4: Unequal Ride Height

DIAGNOSIS

STEP 1. Check for broken or deteriorated coil spring(s).

Q: Is the coil spring(s) broken or deteriorated?
YES : Replace it, then go to Step 2.
NO : Go to Step 2.

STEP 2. Retest the system.

Q: Is the malfunction eliminated?
YES : The procedure is complete.
NO : Return to Step 1.

INSPECTION PROCEDURE 5: Noise

DIAGNOSIS

STEP 1. Check for lack of lubrication.

Q: Is lubrication inadequate?
YES : Lubricate it, then go to Step 5.
NO : Go to Step 2.

STEP 2. Check the tightened parts for looseness as well as the bushings for wear.

Q: Are the tightened parts and bushings in good condition?
YES : Go to Step 3.
NO : Replace it, then go to Step 5.

STEP 3. Check for broken coil spring.

Q: Is the coil spring broken?
YES : Replace it, then go to Step 5.
NO : Go to Step 4.

STEP 4. Check for shock absorber damage.

Q: Is the shock absorber damaged?
YES : Replace it, then go to Step 5.
NO : Go to Step 5.

STEP 5. Retest the system.

Q: Is the malfunction eliminated?
YES : The procedure is complete.
NO : Return to Step 1.

SPECIAL TOOLS

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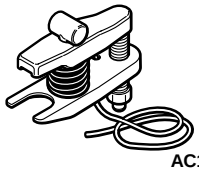
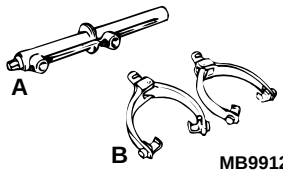
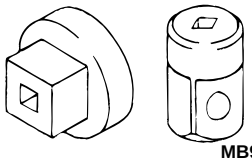
TOOL	TOOL NUMBER AND NAME	SUPERSESSION	APPLICATION
 AC106827	MB991897 Ball joint remover	MB991113-01, MB990635-01 or General service tool	Ball joint disconnection *NOTE: Steering linkage puller (MB990635 or MB991113) is also available to disconnect ball joint.*
 A B MB991237	A:MB991237 spring compressor body B:MB991238 arm set	MIT221369	Coil spring removal and installation
 MB990326	MB990326 Preload socket	General service tool	Ball joint rotating torque check
 MB990799	MB990799 Ball joint remover and installer	MB990799-01	Dust cover installation

ON-VEHICLE SERVICE

FRONT WHEEL ALIGNMENT CHECK AND ADJUSTMENT

M1331000900295

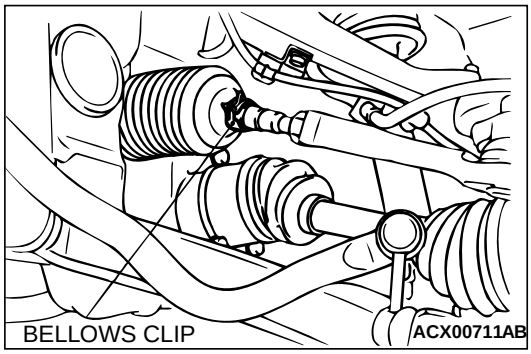
Required Special Tool:

- MB991004: Wheel Alignment Gauge Attachment.

Measure wheel alignment with alignment equipment on a level surface. The front suspension, steering system, and wheels should be serviced to normal condition before measuring wheel alignment.

TOE-IN

Standard value: 2.5 ± 2.5 mm (0.1 ± 0.1 inch)



1. Adjust the toe-in by undoing the bellows clip and turning the left and right tie rod turnbuckles by the same amount (in opposite directions).

   NOTE: The toe will move out as the left turnbuckle is turned toward the front of the vehicle and the right turnbuckle is turned toward the rear of the vehicle.
2. Use a turning radius gauge to check that the steering angle is at the standard value. (Refer to GROUP 37A, On-vehicle Service P.37A-16.)

STEERING ANGLE

Standard value:

Inner wheel	36°30' ± 1°30'
Outer wheel (reference)	31°40'

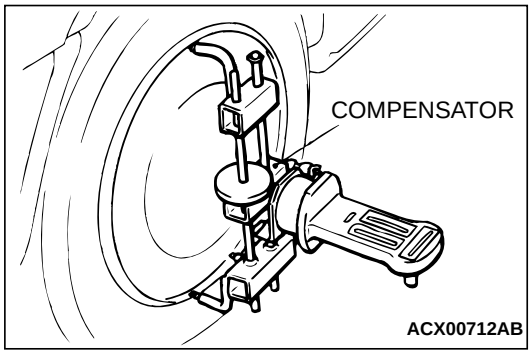
CAMBER AND CASTER

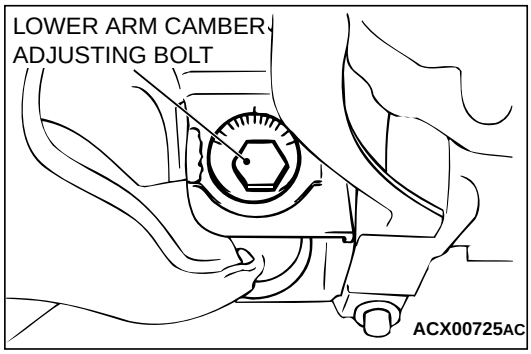
Standard value:

Camber: 0°00'± 30' (difference between right and left wheels: within 30')

Caster: 3°50'± 1° (difference between right and left wheels: within 30')

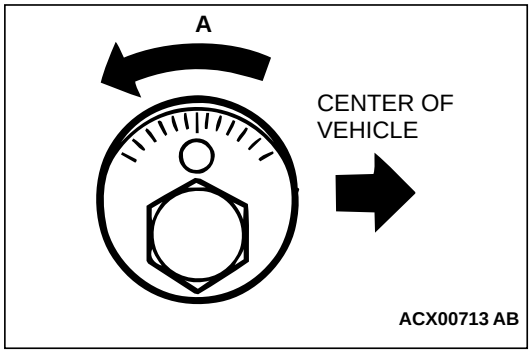
If the standard value is not obtained, make adjustment by the following procedure.





1. Adjust the camber and caster until they meets the standard value by turning the lower arm camber adjusting bolt according to the camber and caster reference table. (Refer to P.33A-6.)
2. After adjusting the camber, the toe should be adjusted.

Camber and caster reference table



How to read this table (example)

If the camber difference –0°35' and the caster difference is 0°18' by comparing the measurement value with the standard value, rotate the front adjusting cam by 1.5 graduations and the rear adjusting cam by 2.5 graduations to the opposite direction against the "A" direction.

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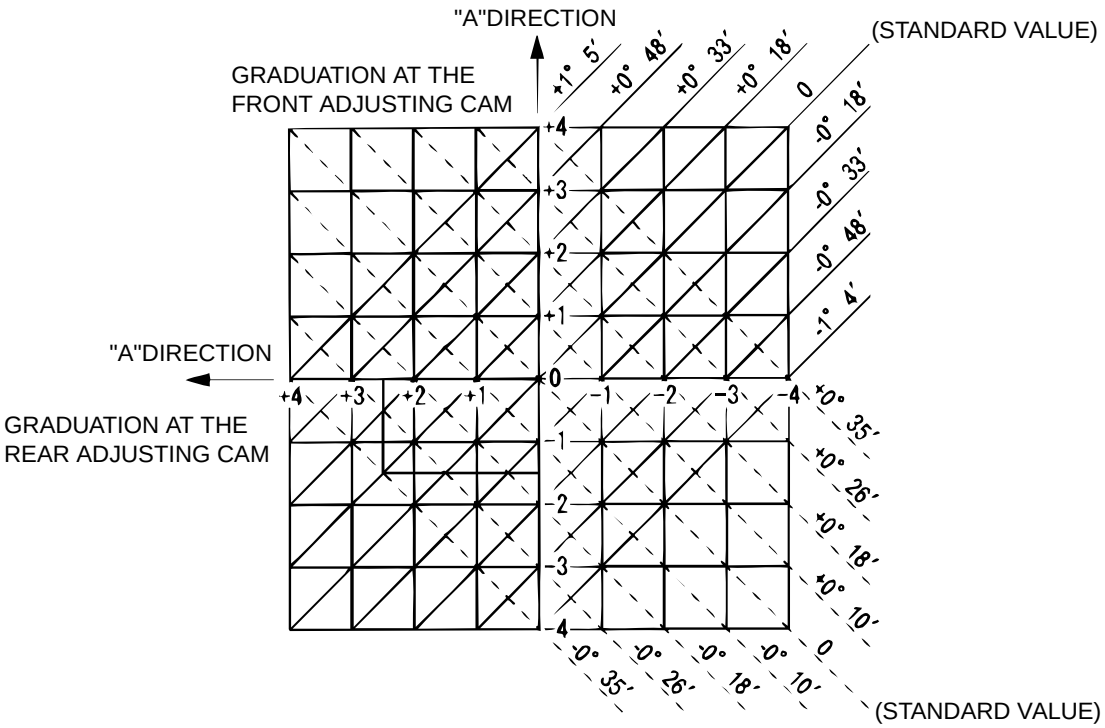

NOTE: Solid lines show caster, broken lines show camber.

UPPER ARM BALL JOINT END PLAY CHECK

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1. Raise the vehicle.
2. Move the upper arm up and down with your hands to check for an excessive play in the axial direction of the ball joint. If there is an excessive play, replace the upper arm ball joint assembly.

BALL JOINT DUST COVER CHECK

M1332008600224

1. Press the dust cover with your finger to check that there are no cracks or damage in the dust cover.
2. If the dust cover is cracked or damaged, replace the upper arm ball joint assembly, lower arm ball joint assembly or stabilizer link.

   NOTE: If the dust cover is cracked or damaged, it is possible that there may also be damage to the ball joint.

UPPER ARM ASSEMBLY

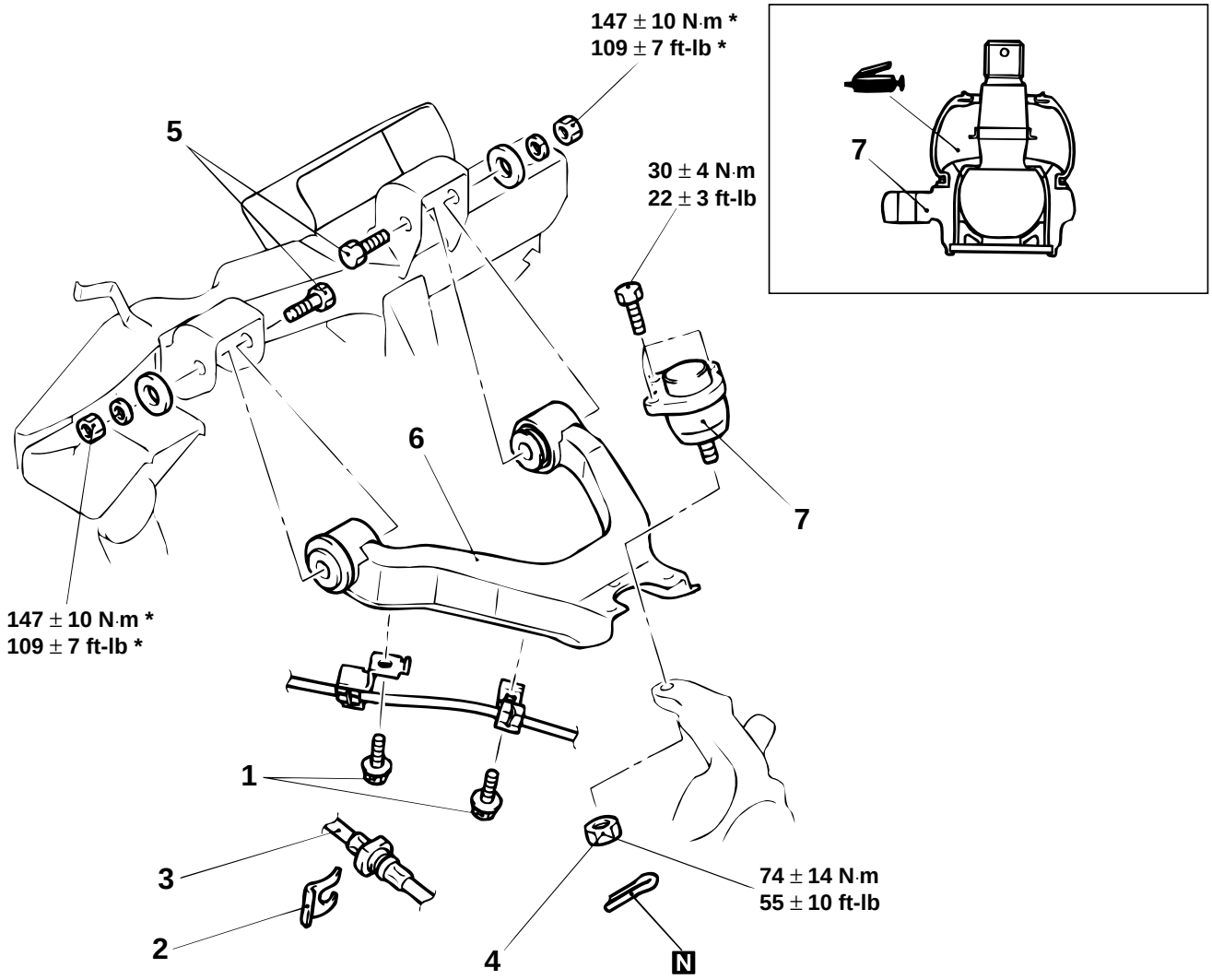
REMOVAL AND INSTALLATION

M1332004300050

⚠ CAUTION

***: Indicates parts which should be temporarily tightened, and then fully tightened with the vehicle on the ground in an unladen condition.**

Post-installation Operation
- Check the dust cover for cracks or damage by pushing it with your finger.
- Wheel Alignment Check and Adjustment (Refer to P.33A-5.)



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REMOVAL STEPS
1. FRONT WHEEL SPEED SENSOR BRACKET MOUNTING BOLT
2. CLIP
3. BRAKE HOSE
<<A>> 4. UPPER ARM BALL JOINT AND KNUCKLE CONNECTION
5. UPPER ARM ASSEMBLY AND FRONT FRAME CONNECTION

REMOVAL STEPS (Continued)
6. UPPER ARM ASSEMBLY
7. UPPER ARM BALL JOINT ASSEMBLY

Required Special Tool:
- MB991897: Ball Joint Remover

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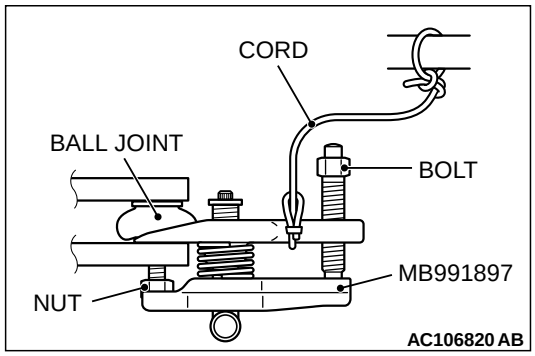
REMOVAL SERVICE POINT

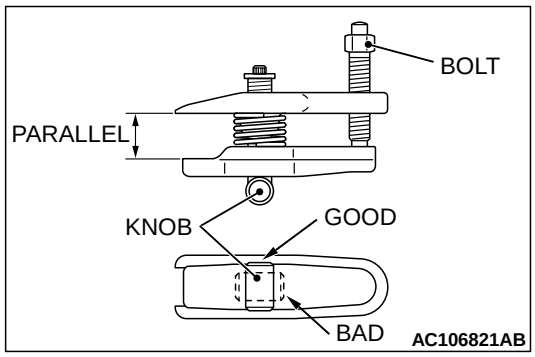
<<A>> UPPER ARM BALL JOINT AND KNUCKLE DISCONNECTION

⚠ CAUTION

- **Do not remove the nut from ball joint. Loosen it and use special tool MB991897 to avoid possible damage to ball joint threads.**
- **Hang special tool MB991897 with a cord to prevent it from falling.**

1. Install special tool MB991897 as shown in the figure.





2. Turn the bolt and knob as necessary to make the jaws of special tool MB991897 parallel, tighten the bolt by hand and confirm that the jaws are still parallel.

   NOTE: When adjusting the jaws in parallel, make sure the knob is in the position shown in the figure.

3. Tighten the bolt with a wrench to disconnect the ball joint.

INSPECTION

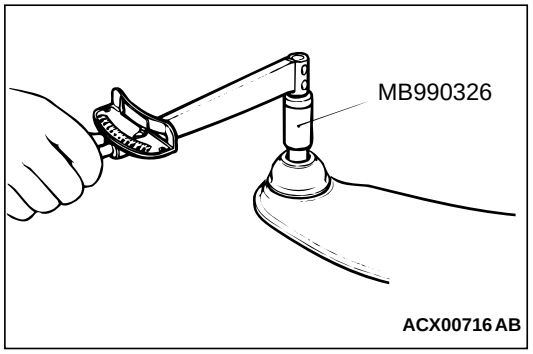
M1332004400057

- Check the bushing for wear and deterioration.
- Check the upper arm for bend or breakage.
- Check all bolts for condition and straightness.

UPPER ARM BALL JOINT TURNING TORQUE CHECK

Required Special Tool:

- MB990326: Preload Socket



1. After shaking the ball joint stud several times, install the nut to the stud and use special tool MB990326 to measure the turning torque of the ball joint.

   Standard value: 0.4 – 2.5 N·m (4 – 22 in-lb)

2. If the measured value exceeds the standard value, replace the upper arm ball joint assembly.
3. If the measured value is lower than the standard value, check that the upper arm ball joint turns smoothly without excessive play. If so, it is possible to use that ball joint.

UPPER ARM BALL JOINT DUST COVER CHECK

1. Press the dust cover with your finger to check that there are no cracks or damage in the dust cover.
2. If the dust cover is cracked or damaged, replace the upper arm ball joint assembly.

   NOTE: If the dust cover is cracked or damaged, it is possible that there may also be damage to the ball joint. If it is damaged during service work, replace the dust cover.

BALL JOINT DUST COVER REPLACEMENT

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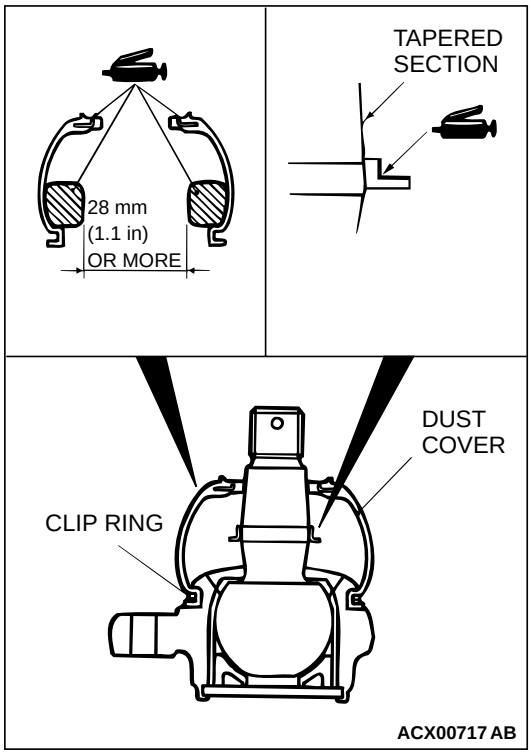


⚠ CAUTION

Do not apply grease to the place (tapered section) where the threaded section of the ball joint connects with the knuckle. Wipe the grease off if it is applied to this area. To prevent the grease from being applied to the ball joint connection (taper) with knuckle, do not compress the dust cover before installation.

Only when the dust cover is damaged accidentally during service work, replace the dust cover as follows:

1. Remove the clip ring, and then remove the dust cover.
2. Apply multipurpose grease to the inside of the dust cover as shown.
3. Apply multipurpose grease to the shown parts inside the dust cover and the ball joint stud.
4. Wrap plastic tape around the upper arm ball joint stud, and then install the dust cover to the upper arm ball joint.
5. Secure the dust cover in place with the clip ring.
6. Press the dust cover with your finger to check that there are no cracks or damage in the dust cover.

SHOCK ABSORBER ASSEMBLY

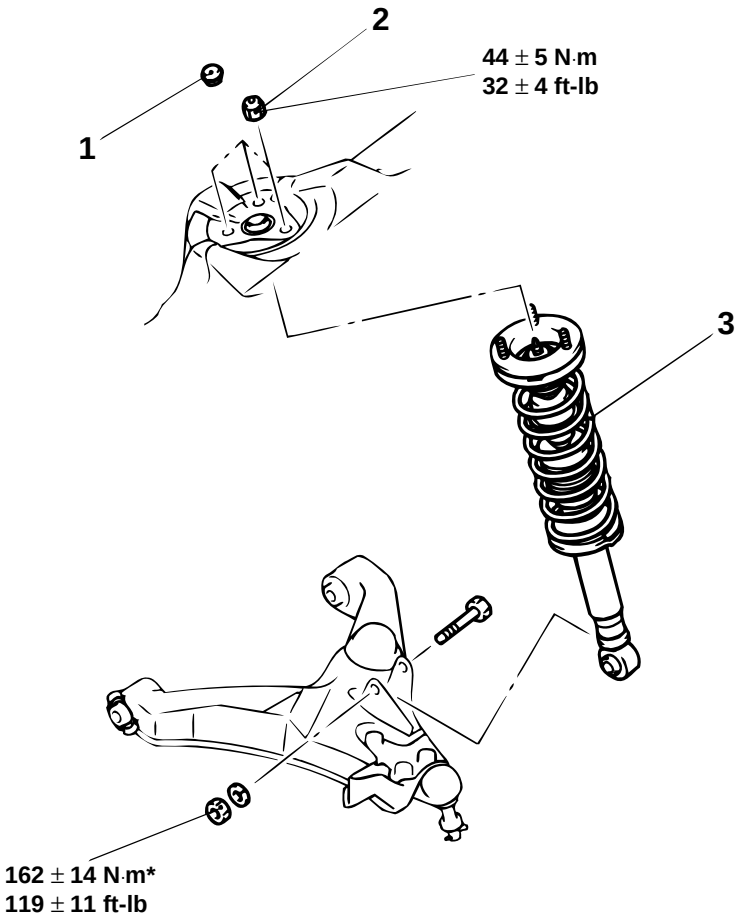
REMOVAL AND INSTALLATION

M1332004600051

⚠ CAUTION

To prevent bushings from breakage, the parts indicated by * should be temporarily tightened, and then fully tightened with the vehicle on the ground in the unladen condition.

Pre-removal Operations	Post-installation Operations
• Upper Arm Assembly Removal (Refer to P.33A-8.) • Battery, Battery Tray Removal • Condenser Tank Removal (Refer to GROUP 14, Radiator P.14-8.) • Air Cleaner Assembly Removal (Refer to GROUP 15, Air Cleaner P.15-6.)	• Air Cleaner Assembly Installation (Refer to GROUP 15, Air Cleaner P.15-6.) • Condenser Tank Installation (Refer to GROUP 14, Radiator P.14-8.) • Battery, Battery Tray Installation • Upper Arm Assembly Installation (Refer to P.33A-8.) • Wheel Alignment Check and Adjustment (Refer to P.33A-5.)



REMOVAL STEPS

1. CAP

REMOVAL STEPS (Continued)

2. SHOCK ABSORBER MOUNTING NUT
3. SHOCK ABSORBER ASSEMBLY

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DISASSEMBLY AND ASSEMBLY

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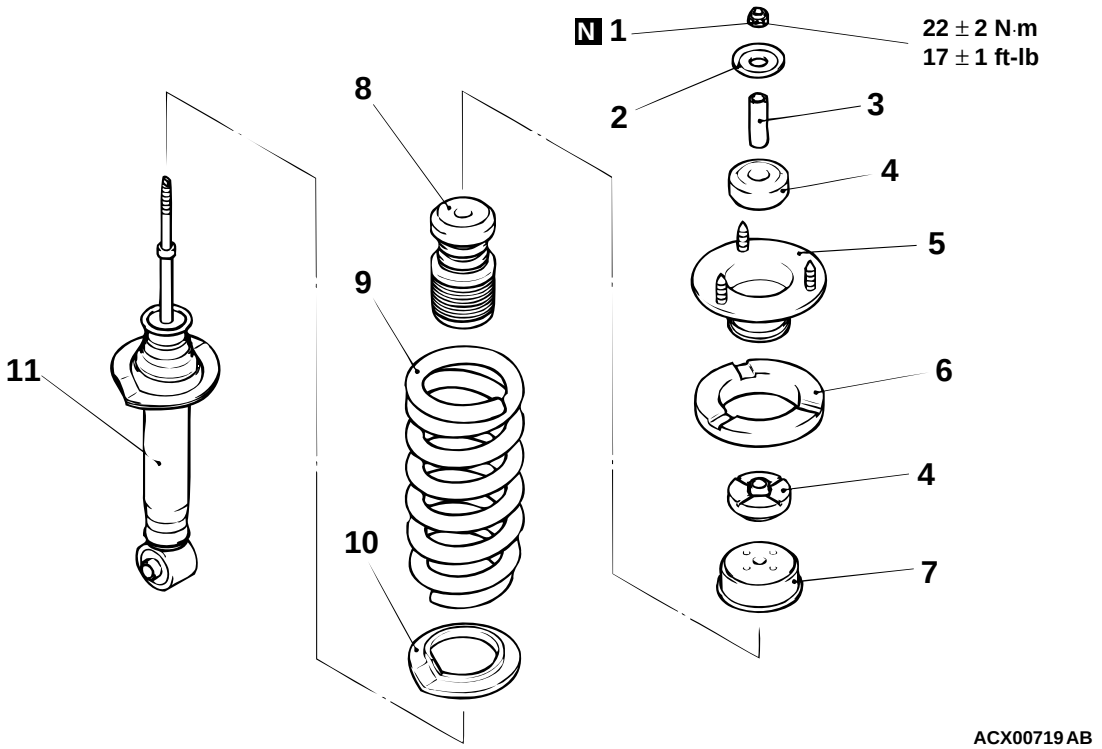

DISASSEMBLY STEPS

<<A>> >>C<< 1. SELF-LOCKING NUT
2. SEAT
3. COLLAR
4. UPPER BUSH
>>B<< 5. SPRING BRACKET ASSEMBLY
6. SPRING UPPER PAD
7. CUP ASSEMBLY
8. HELPER RUBBER

DISASSEMBLY STEPS (Continued)

>>A<< 9. COIL SPRING
>>A<< 10. SPRING LOWER PAD
11. SHOCK ABSORBER ASSEMBLY

Required Special Tools:

- MB991237: Spring Compressor
- MB991238: Arm Set

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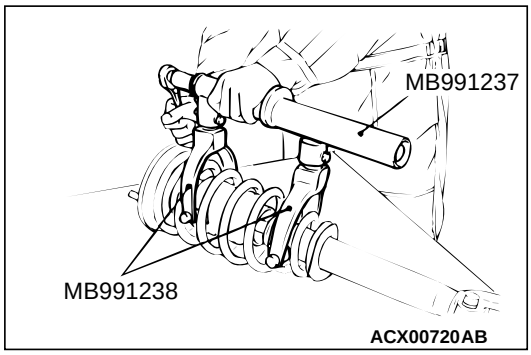
DISASSEMBLY SERVICE POINT

<<A>> SELF-LOCKING NUT REMOVAL

⚠ CAUTION

Do not tighten the special tool bolt too tight. The tool will be broken if the bolt is tightened over the allowable torque 74 N·m (55 ft-lb). Install the special tools evenly, and so that the maximum length will be attained within the installation range. Do not use an impact wrench, as it will cause the bolt of the special tool to be seized.

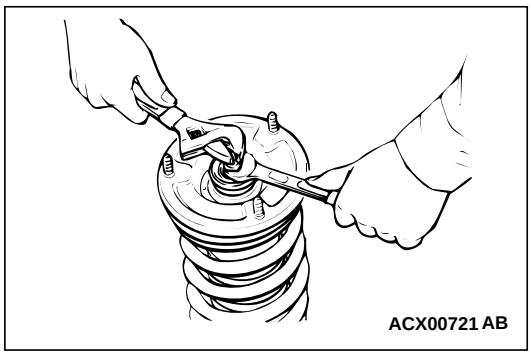
1. Use special tools MB991237 and MB991238 to press the coil spring.



⚠ CAUTION

To prevent the piston rod lock nut inside the strut from loosening, do not use an impact wrench when the locking nuts are loosened.

2. To prevent the piston rod from turning and unscrew the self-locking nut.



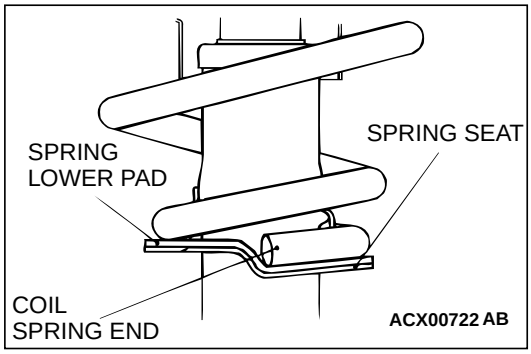
ASSEMBLY SERVICE POINTS

>>A<< SELF-LOCKING NUT INSTALLATION

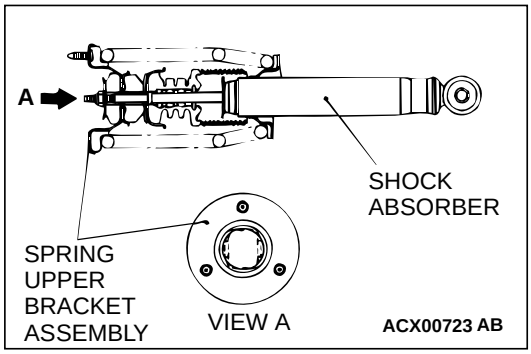
⚠ CAUTION

- **Do not tighten the special tool bolt too tight. The tool will be broken if the bolt is tightened over the allowable torque 74 N·m(55 ft-lb).**
- **Install the special tools evenly, and so that the maximum length will be attained within the installation range.**
- **Do not use an impact wrench, as it will cause the bolt of the special tool to be seized.**

1. Install special tools MB991237 and MB991238 same as its removal and compress the coil spring to install to the shock absorber.



2. Align the coil spring lower end and the stepped spring lower pad with the shock absorber spring seat stepped part.



>>B<< SPRING BRACKET ASSEMBLY INSTALLATION

Install the spring bracket assembly which faces the shock absorber as shown in the illustration.

>>C<< SELF-LOCKING NUT INSTALLATION

1. Tighten the self-locking nut loosely.

⚠ CAUTION

Do not use an impact wrench, as it will cause the bolt of the special tool to be seized.

2. Remove special tools MB991237 and MB991238, and then tighten the self-locking nut to the specified torque 22 ± 2 N·m (17 ± 1 ft-lb).

LOWER ARM

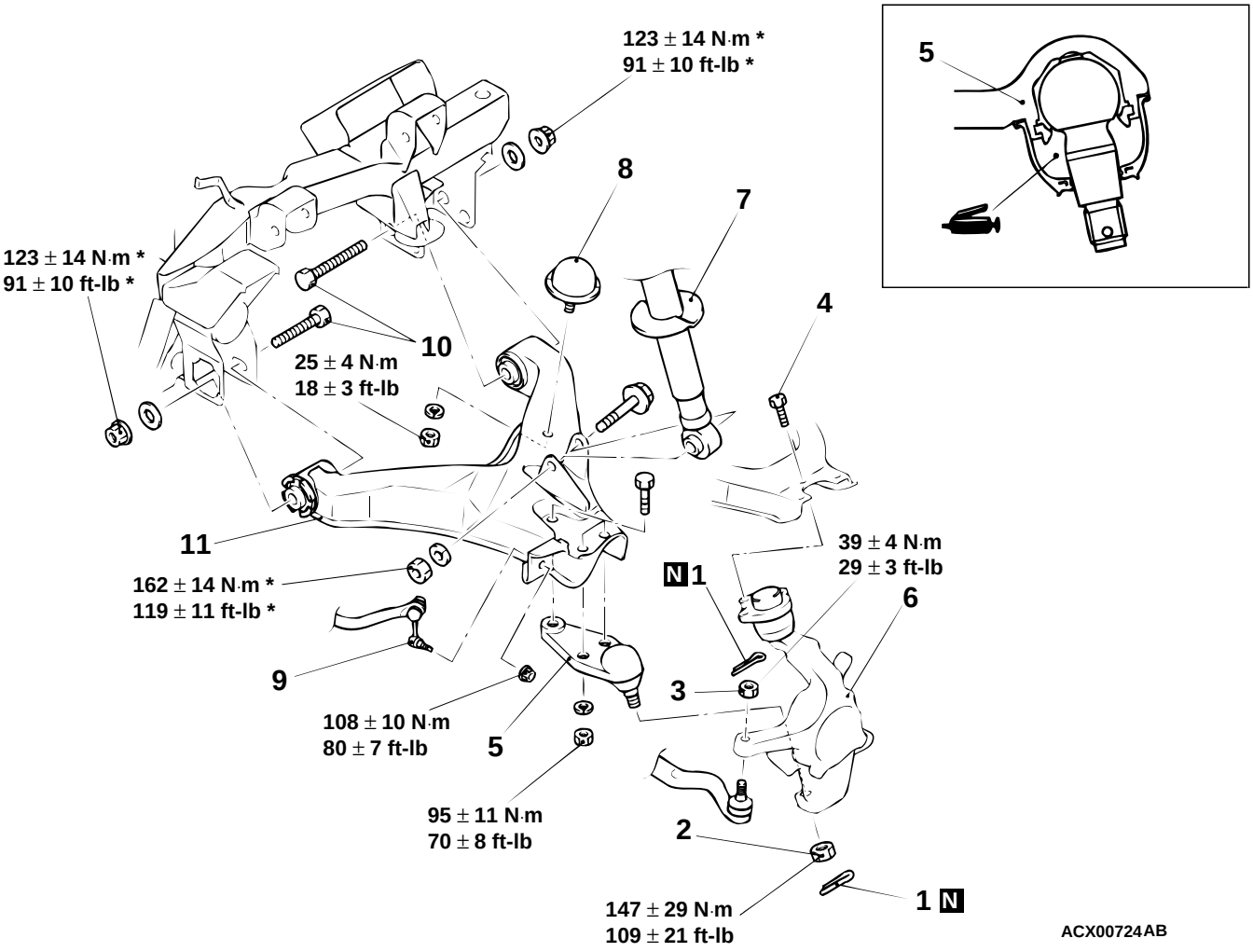
REMOVAL AND INSTALLATION

M1332001500129

⚠ CAUTION

To prevent bushings from breakage, the parts indicated by * should be temporarily tightened, and then fully tightened with the vehicle on the ground in the unladen condition.

Pre-removal Operations	Post-installation Operations
• Drive Shaft Removal (Refer to GROUP 26, Drive Shaft P.26-23.)	• Check the dust cover for cracks or damage by pushing it with your finger. • Drive Shaft Installation (Refer to GROUP 26, Drive Shaft P.26-23.) • Wheel Alignment Check and Adjustment (Refer to P.33A-5.)



REMOVAL STEPS

1. COTTER PIN
<<A>> 2. LOWER ARM BALL JOINT AND KNUCKLE ASSEMBLY CONNECTION
<<A>> 3. TIE ROD END AND KNUCKLE ASSEMBLY CONNECTION
4. UPPER ARM AND UPPER ARM BALL JOINT CONNECTION
5. LOWER ARM BALL JOINT
6. HUB AND KNUCKLE ASSEMBLY

REMOVAL STEPS (Continued)

7. SHOCK ABSORBER AND LOWER ARM ASSEMBLY CONNECTION
8. BUMP STOPPER
9. LOWER ARM ASSEMBLY AND STABILIZER LINK CONNECTION
<<B>> 10. LOWER ARM MOUNTING BOLT
11. LOWER ARM ASSEMBLY

Required Special Tool:

- MB991897: Ball Joint Remover

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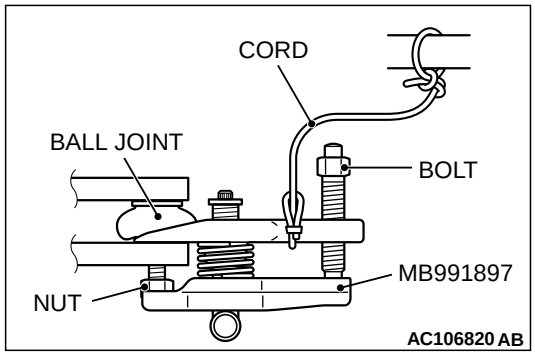
REMOVAL SERVICE POINTS

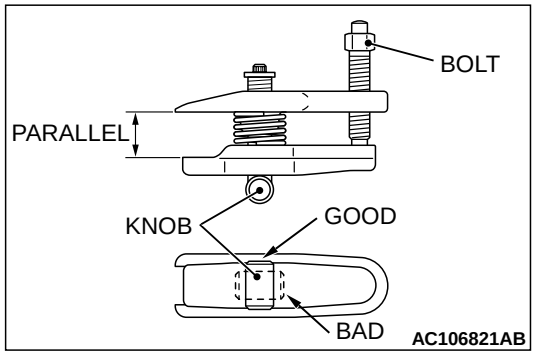
<<A>> TIE ROD END AND KNUCKLE ASSEMBLY/LOWER ARM BALL JOINT AND KNUCKLE ASSEMBLY DISCONNECTION

⚠ CAUTION

- **Do not remove the nut from ball joint. Loosen it and use special tool MB991897 to avoid possible damage to ball joint threads.**
- **Hang special tool MB991897 with a cord to prevent it from falling.**

1. Install special tool MB991897 as shown in the figure.





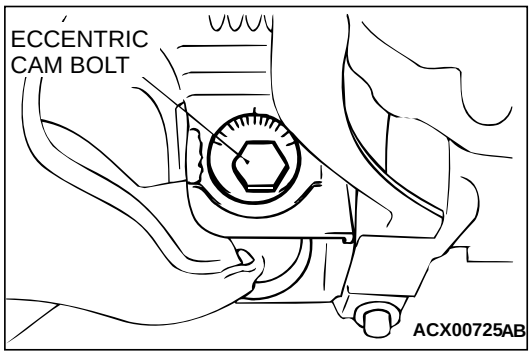
2. Turn the bolt and knob as necessary to make the jaws of special tool MB991897 parallel, tighten the bolt by hand and confirm that the jaws are still parallel.

   NOTE: When adjusting the jaws in parallel, make sure the knob is in the position shown in the figure.

3. Tighten the bolt with a wrench to disconnect the ball joint.

<<B>> LOWER ARM MOUNTING BOLT REMOVAL

After making the alignment mark on the bracket and eccentric cam bolt, remove them.



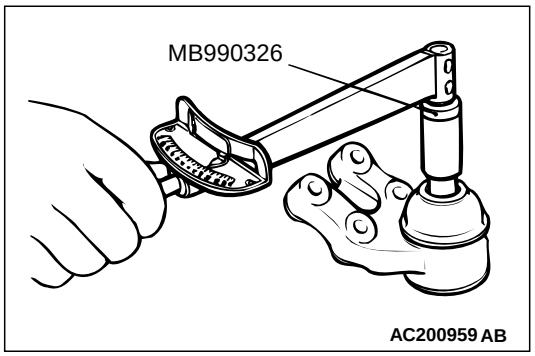
INSPECTION

M1332002900056

- Check the bushing for wear and deterioration.
- Check the lower arm for bend or breakage.
- Check the lower arm for deterioration or damage.
- Check all bolts for condition and straightness.

LOWER ARM BALL JOINT TURNING TORQUE CHECK

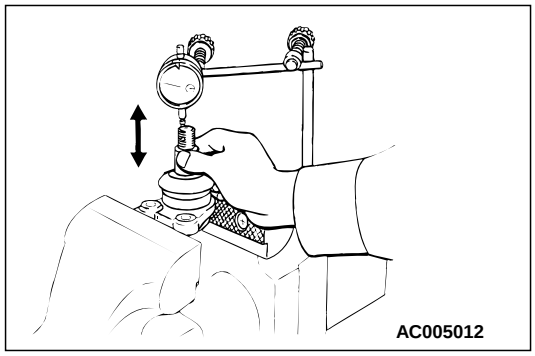
Required Special Tool:
- MB990326: Preload Socket



1. After shaking the ball joint stud several times, use special tool MB990326 to measure the turning torque of the lower ball joint.

   Standard value: 1.0 – 6.9 N·m (9 – 61 in-lb)

2. If the measured value exceeds the standard value, replace the lower arm ball joint.



3. If the measured value is lower than the standard value, measure the lower arm ball joint end play with a dial indicator.
4. If the end play exceeds a minimum scale of the dial indicator [0.01 mm (0.0004 inch)], replace the lower arm ball joint.

LOWER ARM BALL JOINT DUST COVER CHECK

1. Press the dust cover with your finger to check that there are no cracks or damage in the dust cover.
2. If the dust cover is cracked or damaged, replace the lower arm ball joint assembly.

   NOTE: If the dust cover is cracked or damaged, it is possible that there may also be damage to the ball joint. If it is damaged during service work, replace the dust cover.

BALL JOINT DUST COVER REPLACEMENT

M1332007800032

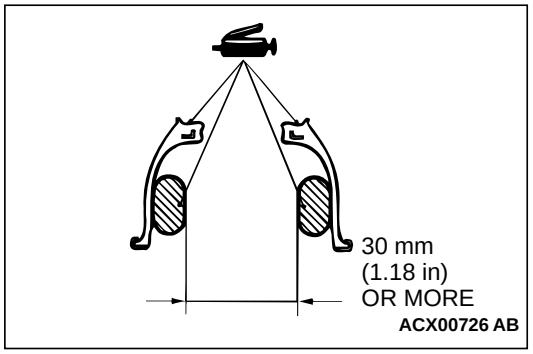
Required Special Tool:
- MB990799: Ball Joint Remover and Installer

⚠ CAUTION

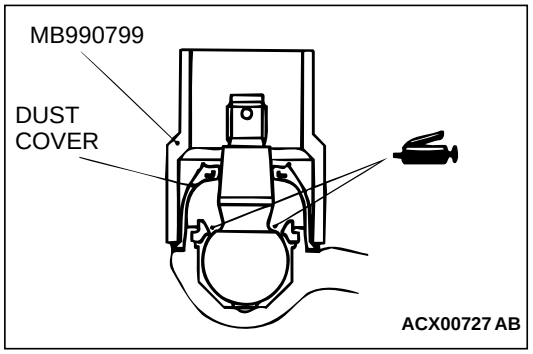
Do not apply grease to the place (tapered section) where the threaded section of the ball joint connects with the knuckle. Wipe the grease off if it is applied in this area. To prevent the grease from being applied to the ball joint connection (taper) with knuckle, do not compress the dust cover before installation.

If the dust cover is damaged accidentally during service work, replace the dust cover as follows:

1. Remove the clip ring, and then remove the dust cover.



2. Apply multipurpose grease to the inside of the dust cover as shown.



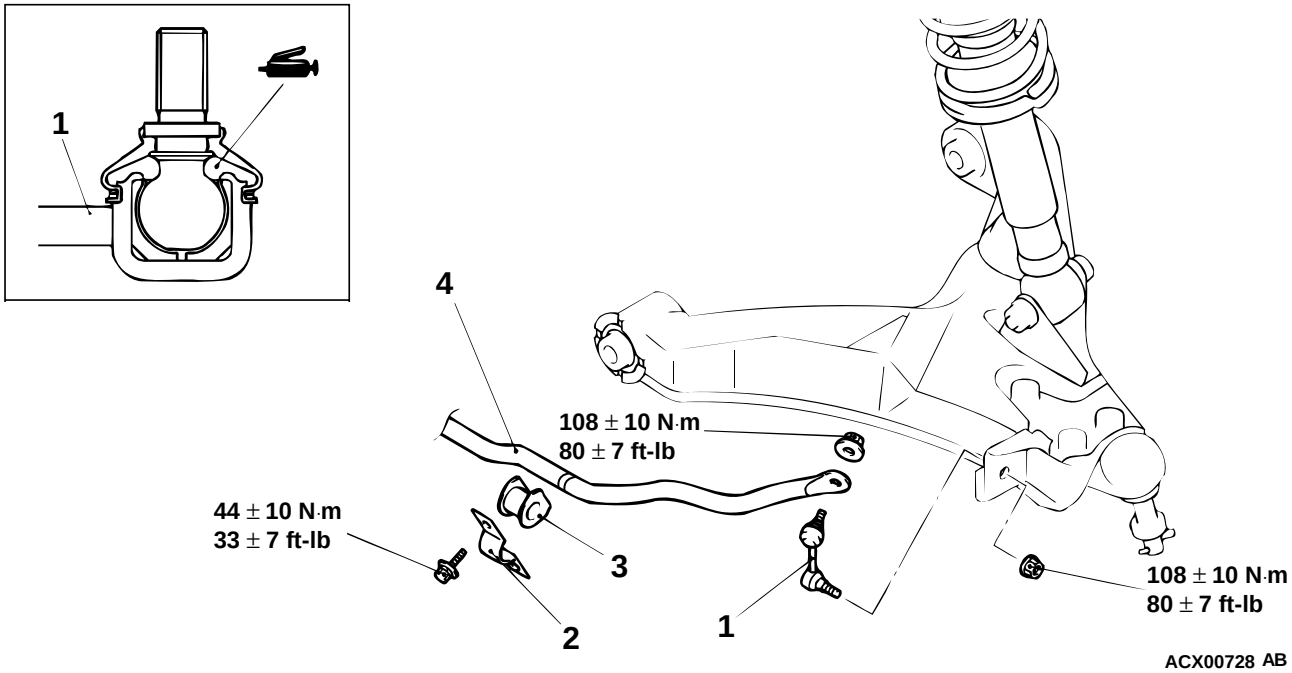
3. Apply multipurpose grease to the shown parts inside the dust cover and the ball joint stud.
4. Wrap plastic tape around the lower arm ball joint stud, and then install the dust cover to the lower arm ball joint.
5. Using special tool MB990799, drive the dust cover into the position shown in the illustration.
6. Press the dust cover with your finger to check that there are no cracks or damage in the dust cover.

STABILIZER BAR

REMOVAL AND INSTALLATION

M1332004000178

Pre-removal Operations	Pre-installation Operation
• Under Cover Removal	• Press the dust cover with your finger to check that there are no cracks or damage in the dust cover. • Under Cover Installation



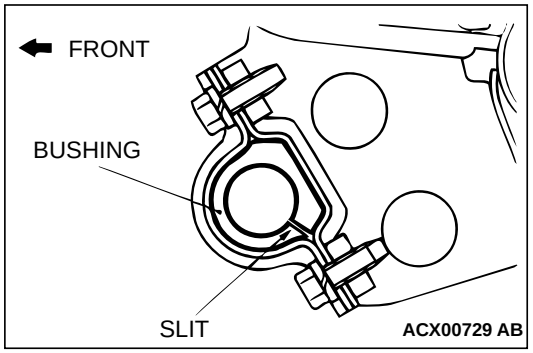
TSB Revision

REMOVAL STEPS
1. STABILIZER LINK
>>B<< 2. STABILIZER CLAMP

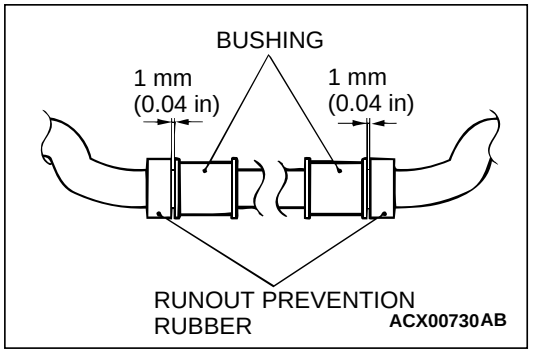
REMOVAL STEPS (Continued)
>>A<< 3. STABILIZER BUSHING
4. STABILIZER BAR

INSTALLATION SERVICE POINTS

>>A<< STABILIZER BAR BUSHING INSTALLATION
Position the bush slit as shown in the illustration.



>>B<< STABILIZER CLAMP INSTALLATION
Position the stabilizer clamp as shown in the illustration and then tighten the stabilizer clamp mounting bolt.



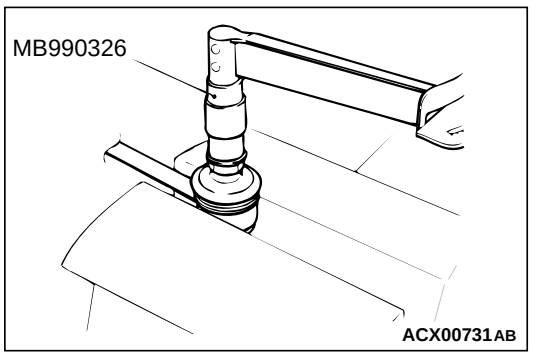
INSPECTION

M1332002000194

- Check the bushing for wear and deterioration.
- Check the stabilizer bar for deterioration or damage.
- Check all bolts for condition and straightness.

STABILIZER LINK BALL JOINT TURNING TORQUE CHECK

Required Special Tool:
- MB990326: Preload Socket



1. After shaking the ball joint stud several times, install the nut to the stud and use special tool MB990326 to measure the turning torque of the ball joint.
   Standard value: 0.5 – 2.0 N·m (4 – 17 in-lb)
2. If the measured value exceeds the standard value, replace the stabilizer link.
3. If the measured value is lower than the standard value, check that the ball joint turns smoothly without excessive play. If so, it is possible to use that ball joint.

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STABILIZER LINK BALL JOINT DUST COVER CHECK

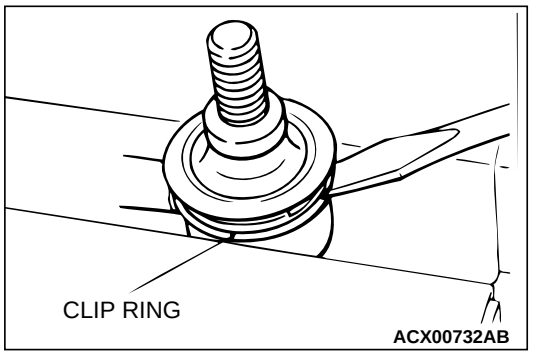
1. Press the dust cover with your finger to check that there are no cracks or damage in the dust cover.
2. If the dust cover is cracked or damaged, replace the stabilizer link.

   NOTE: If the dust cover is cracked or damaged, it is possible that there may also be damage to the ball joint. When it is damaged during service work, replace the dust cover.

STABILIZER LINK BALL JOINT DUST COVER REPLACEMENT

M1332008300074

Only when the dust cover is damaged accidentally during service work, replace the dust cover as follows:



1. Remove the clip ring, and then remove the dust cover.
2. Apply the multipurpose grease to the inside of the dust cover.
3. Wrap plastic tape around the stabilizer link stud, and then install the dust cover to the stabilizer link.
4. Secure the dust cover in place with the clip ring.
5. Press the dust cover with your finger to check that there are no cracks or damage in the dust cover.

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

M1331001200095

ITEM	SPECIFICATION
Upper arm assembly	
Upper arm assembly to front frame securing nut	147 ± 10 N·m (109 ± 7 ft-lb)
Upper arm assembly to knuckle securing nut	74 ± 14 N·m (55 ± 10 ft-lb)
Upper arm to upper arm joint assembly securing bolt	30 ± 4 N·m (22 ± 3 ft-lb)
Shock absorber assembly	
Shock absorber to body securing nut	44 ± 5 N·m (32 ± 4 ft-lb)
Shock absorber to lower arm assembly securing nut	162 ± 14 N·m (119 ± 11 ft-lb)
Shock absorber self-lock nut	22 ± 2 N·m (17 ± 1 ft-lb)
Lower arm assembly	
Bumper stopper nut	25 ± 4 N·m (18 ± 3 ft-lb)
Lower arm assembly to stabilizer link securing nut	108 ± 10 N·m (80 ± 7 ft-lb)
Lower arm ball joint to knuckle assembly securing nut	147 ± 29 N·m (109 ± 21 ft-lb)
Lower arm ball joint to lower arm assembly securing nut	95 ± 11 N·m (70 ± 8 ft-lb)
Lower arm to body securing nut	123 ± 14 N·m (91 ± 10 ft-lb)

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ITEM	SPECIFICATION
Tie rod end to knuckle assembly securing nut	39 ± 4 N·m (29 ± 3 ft-lb)
Stabilizer bar	
Stabilizer clamp securing bolt	44 ± 10 N·m (33 ± 7 ft-lb)
Stabilizer link securing nut	108 ± 10 N·m (80 ± 7 ft-lb)

GENERAL SPECIFICATIONS

M1331000200092

COIL SPRING

ITEM	XLS	LTD
Wire diameter mm (in)	16.8 (0.66)	16.9 (0.67)
Average diameter mm (in)	109.0 (4.29)	109.0 (4.29)
Free length mm (in)	322.5 (12.70)	327.0 (12.87)

SERVICE SPECIFICATIONS

M1331000300099

ITEM		SPECIFICATION
Toe-in mm (in)		2.5 ± 2.5 (0.10 ± 0.10)
Steering angle	Inner wheel	36°30' ± 1°30'
	Outer wheel (reference)	31°40'
Camber		0°00' ± 30' (Left/right deviation within 30')
Caster		3°50' ± 30' (Left/right deviation within 30')
Upper arm ball joint turning torque N·m (in-lb)		0.4 – 2.5 (4 – 22)
Lower arm ball joint turning torque N·m (in-lb)		1.0 – 6.9 (9 – 61)
Stabilizer link ball joint turning torque N·m (in-lb)		0.5 – 2.0 (4 – 17)

NOTES