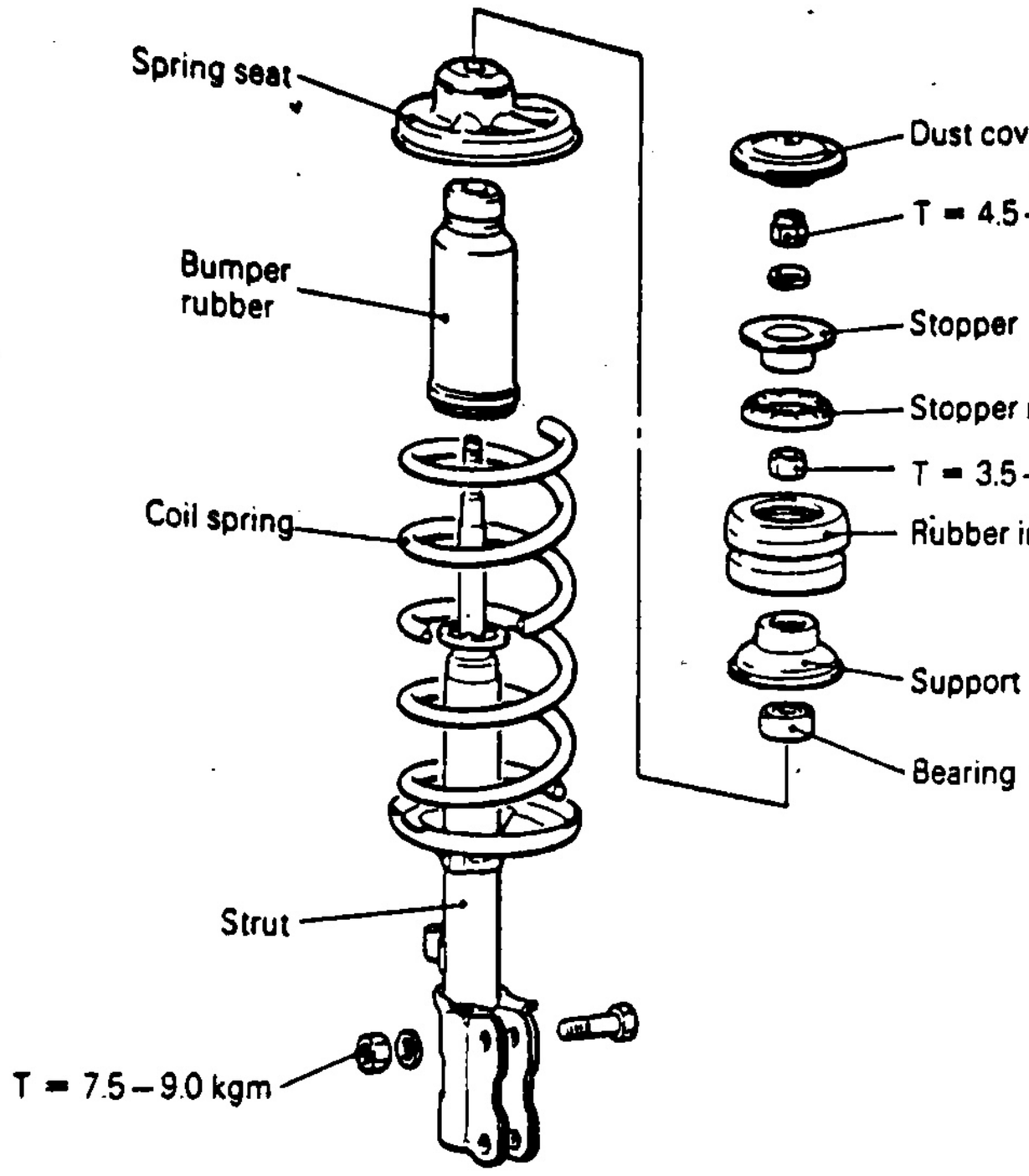
GROUP-12A

FRONT SUSPENSION

COMPONENTS

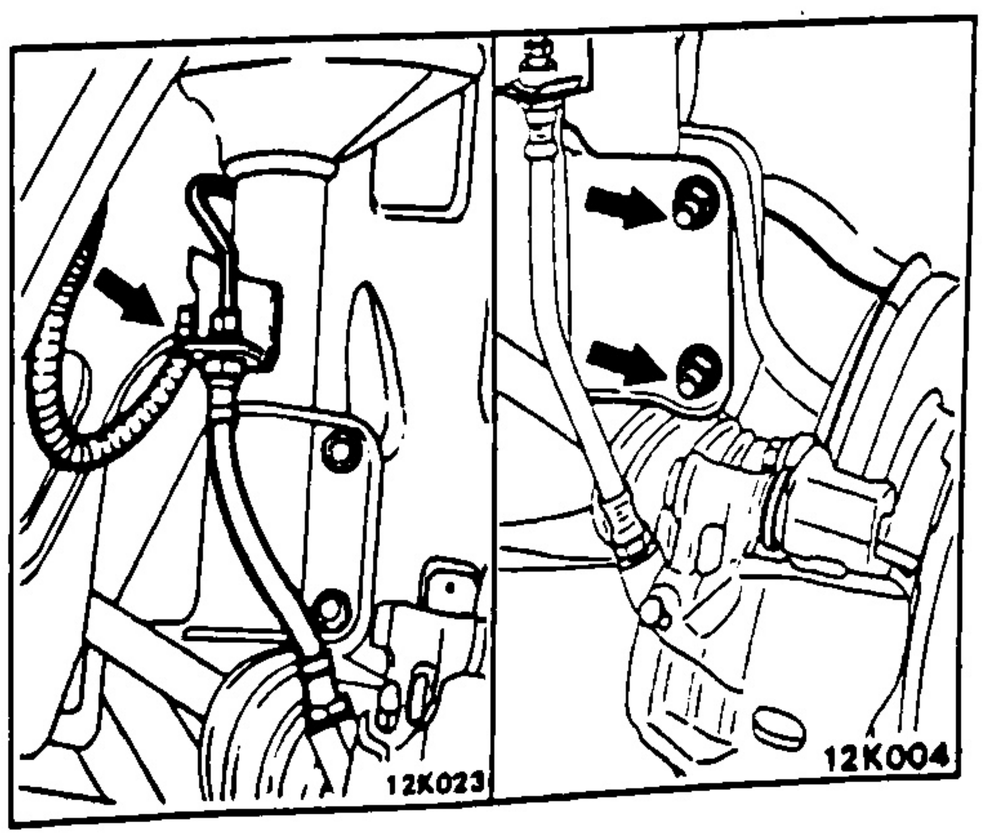


12U0034

REMOVAL

Detach the brake hose bracket from the strut assembly.

Disconnect the strut assembly from the knuckle arm.



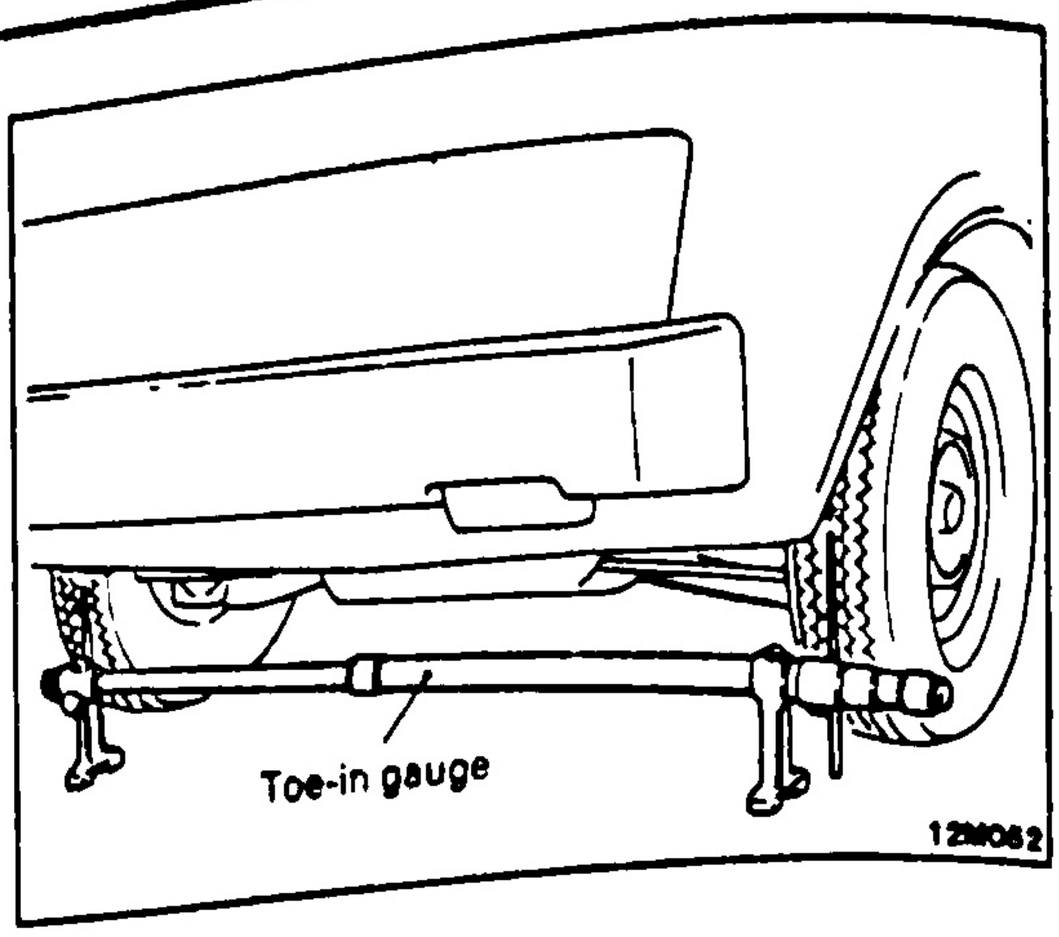
ON-VEHICLE SERVICE

Inspection and Adjustment of the Wheel Alignment

Measure the wheel alignment with the vehicle parked on a level surface and with the front wheels placed in the straight ahead position.
The front suspension, steering system, and wheels should be serviced to normal condition prior to measurement of wheel alignment.

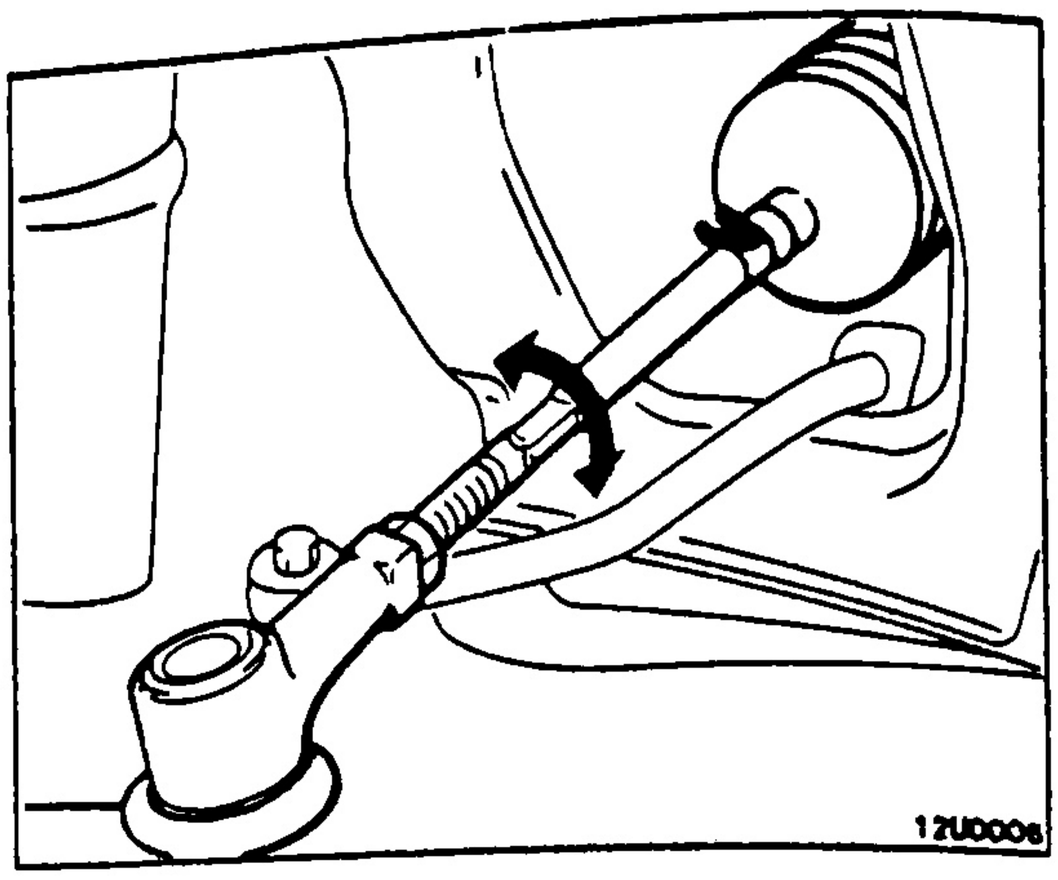
TOE-IN

Measure the toe-in with a toe-in gauge.
If the toe-in is not within the standard value, adjust the toe-in by undoing the clips and turning the left and right tie rod turnbuckles by the same amount (in opposite directions).
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.
For each half turn of the left and right tie rods, the toe-in will be adjusted by 6 mm.
After making the adjustments, use a turning radius gauge to confirm that the steering wheel turning angle is within the standard value range. (Refer to GROUP 13A.)



TOE-OUT ANGLE ON TURNS

To check the steering linkage, especially after the vehicle has been involved in an accident or if an accident is presumed, it is advisable to check the toe-out angle on turns in addition to the wheel alignment.
Conduct this test on the left turn as well as on the right turn.



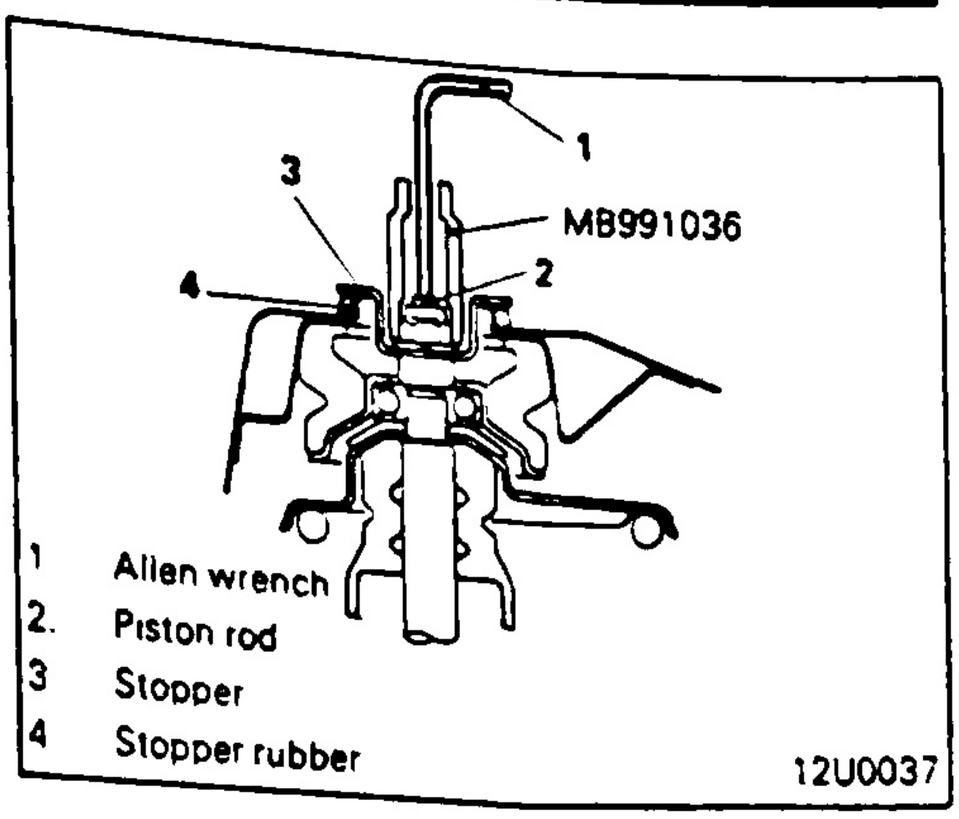
CAMBER AND CASTER

Measure the camber and caster with a camber/caster/kingpin gauge and a turning radius gauge.

NOTE
Camber and caster require no adjustment.

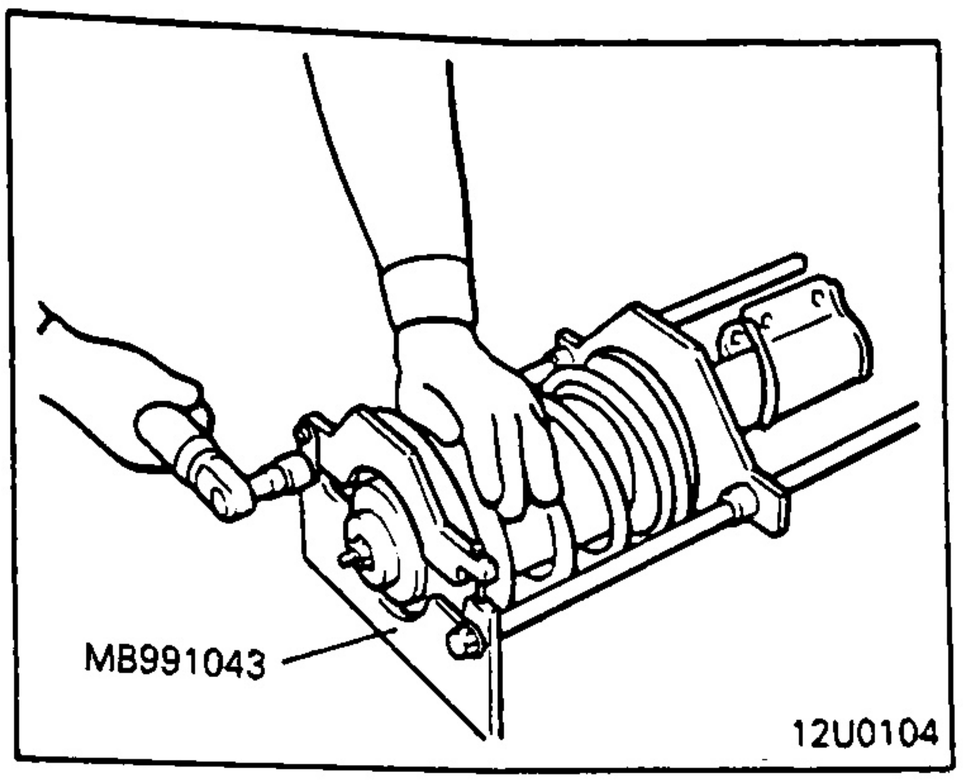
he dust cover from the stopper.
special tool, remove the strut assembly
nuts and remove the stopper and stop-

the strut assembly from the wheel

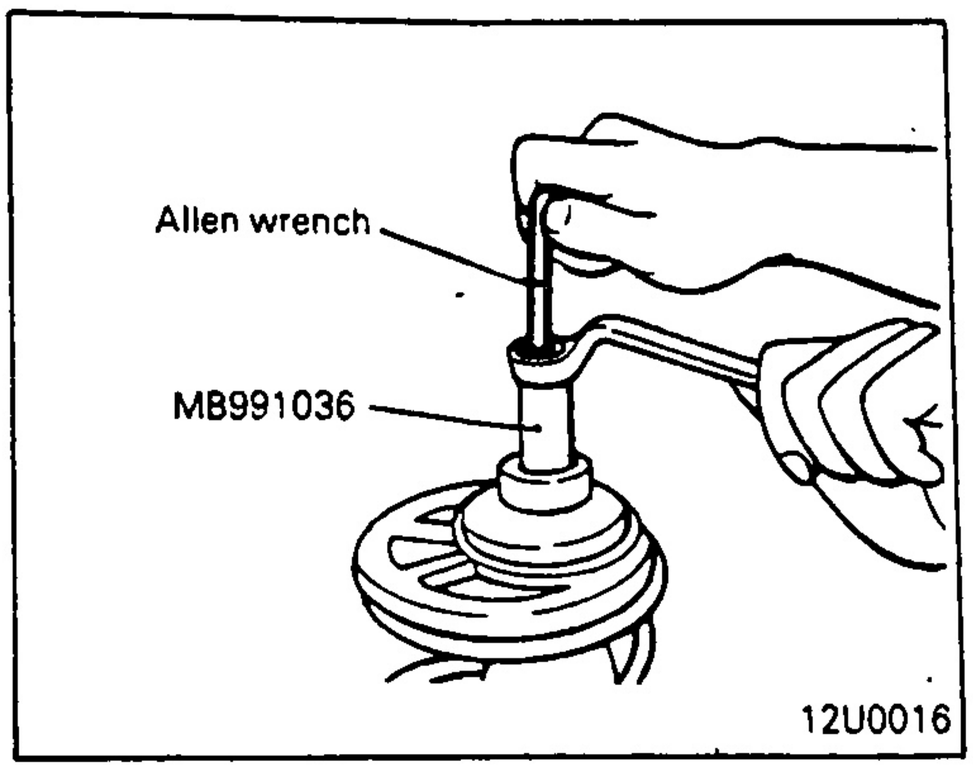


MBLY

the coil spring by using the special



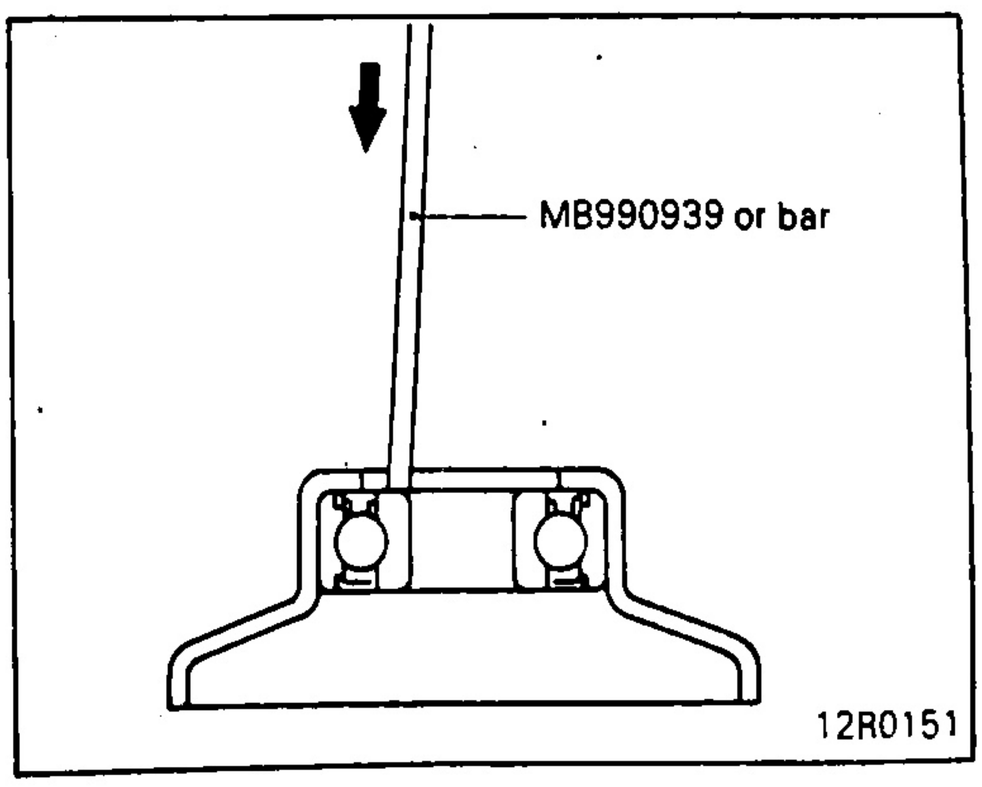
special tool, remove the piston rod
nut.
the rubber insulator, support, spring
per rubber and coil spring.



special tool, remove the bearing from
ort.

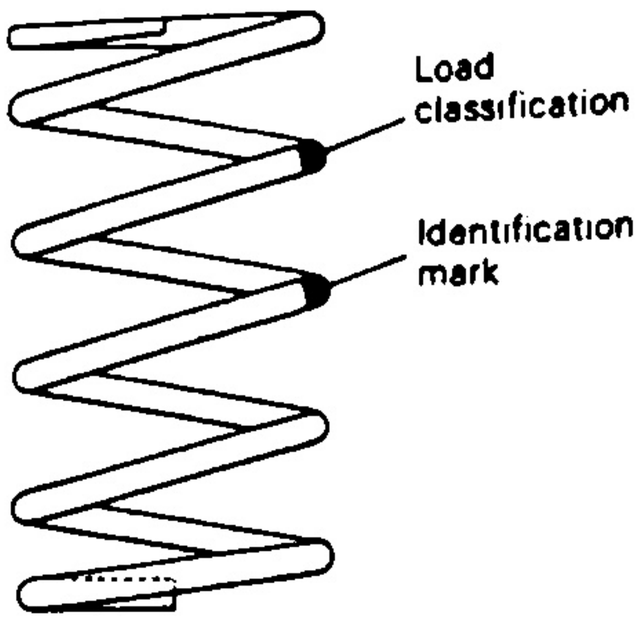
TION

bearing for wear.
rubber parts for damage.
coil springs for cracks, damage or
ioration.
stopper and support for deformation.



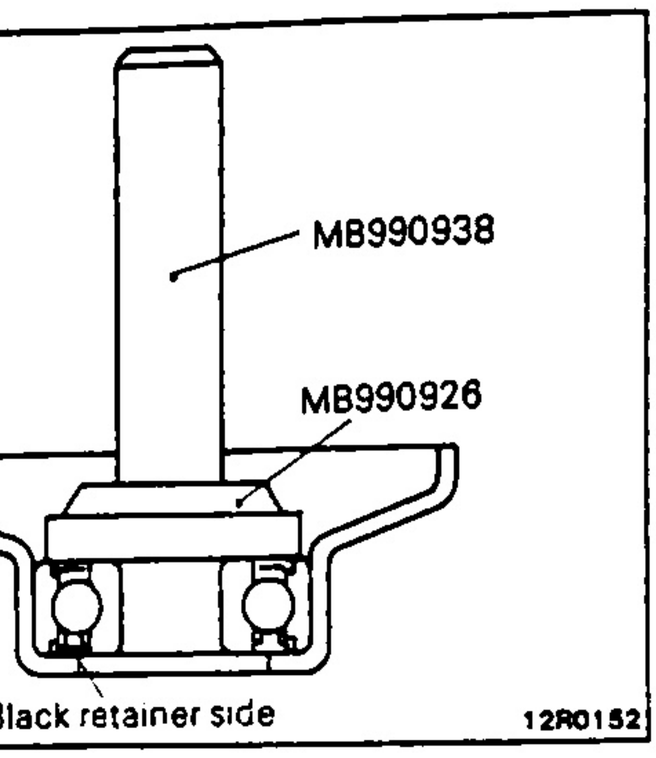
REASSEMBLY

Coil springs have colour marks to indicate coil spring identification and load classification. The coil spring identification mark indicates the applicable vehicle model equipped with that particular coil spring. When replacing a coil spring, be sure to use a spring having the appropriate identification mark.



12K062

Using special tools, install the bearing in the support. In this case, the bearing should be installed with the black retainer side toward the support.
Attach the special tool (MB990987) to the coil spring, compress fully, and then install the coil spring into the strut. (Refer to P.12A-8.)
Extend the piston rod all the way and install the bumper rubber, spring seat and support on the piston rod.

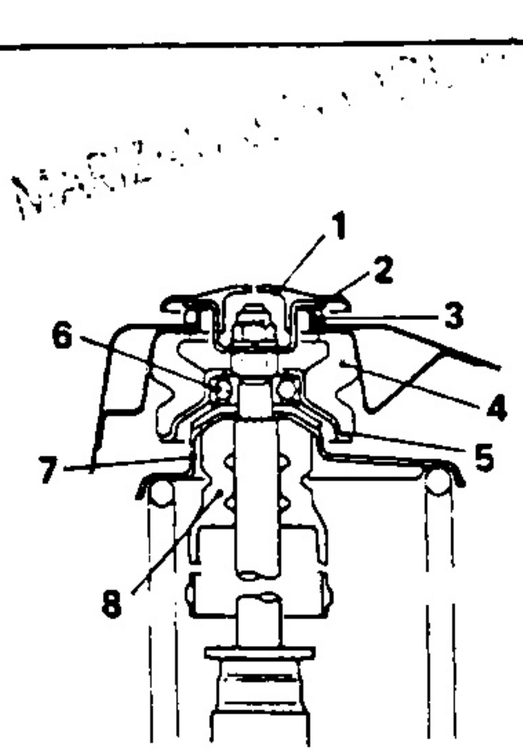


12R0152

Install the support on the piston rod and use the special tool (MB991036) to tighten the nut to the specified torque. (Refer to P.12A-7, 8.)
Align both ends of the coil spring correctly with the grooves in the spring seats, and then, being careful that neither the upper nor lower spring seat becomes twisted, loosen the special tool (MB990987).
Install the rubber insulator in the strut assembly.

INSTALLATION

After finishing the installation, check the wheel alignment. (Refer to P.12A-6.)

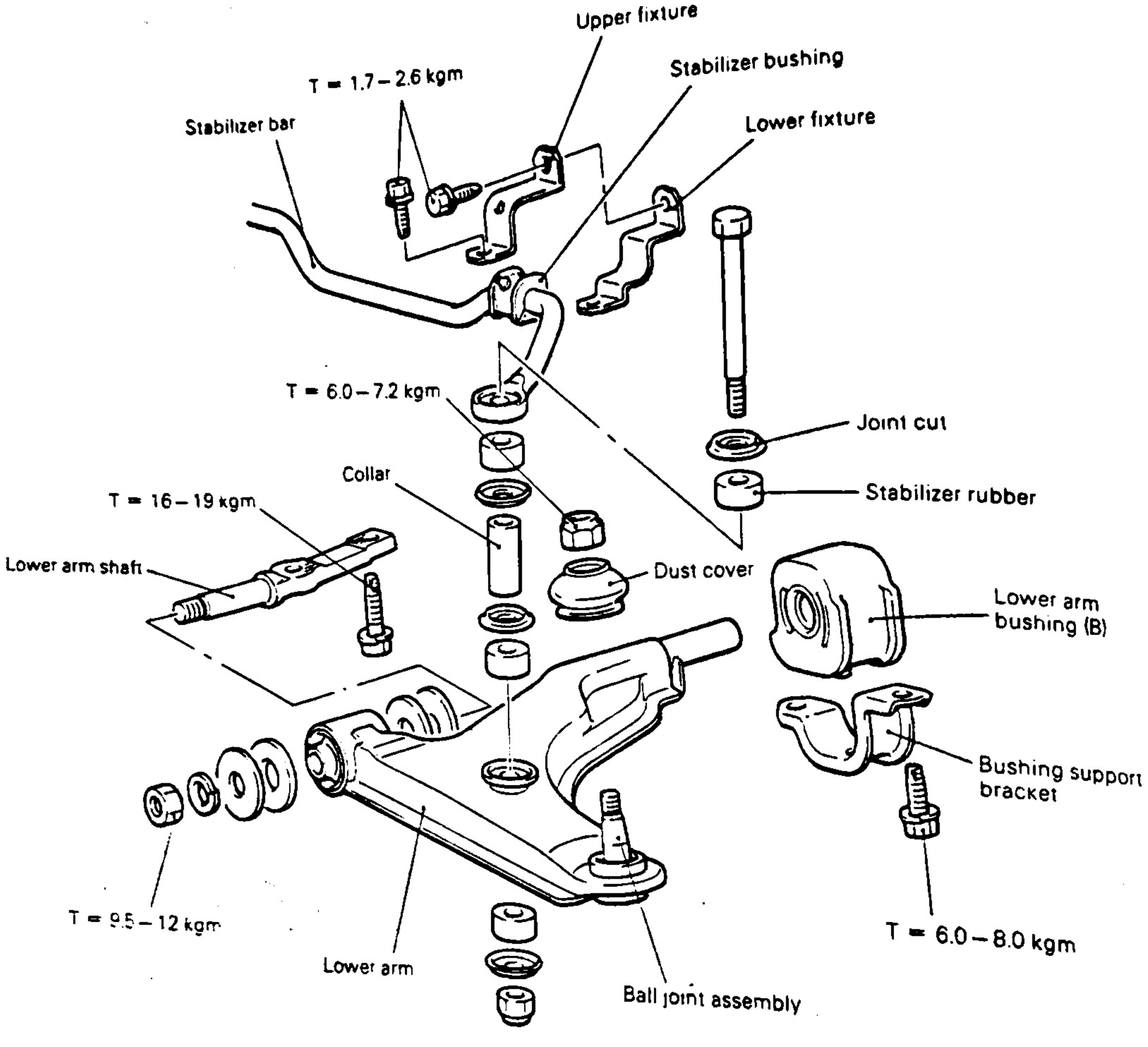


1. Dust cover
2. Stopper
3. Stopper rubber
4. Rubber insulator
5. Support
6. Bearing
7. Spring seat
8. Bumper rubber

12U0036

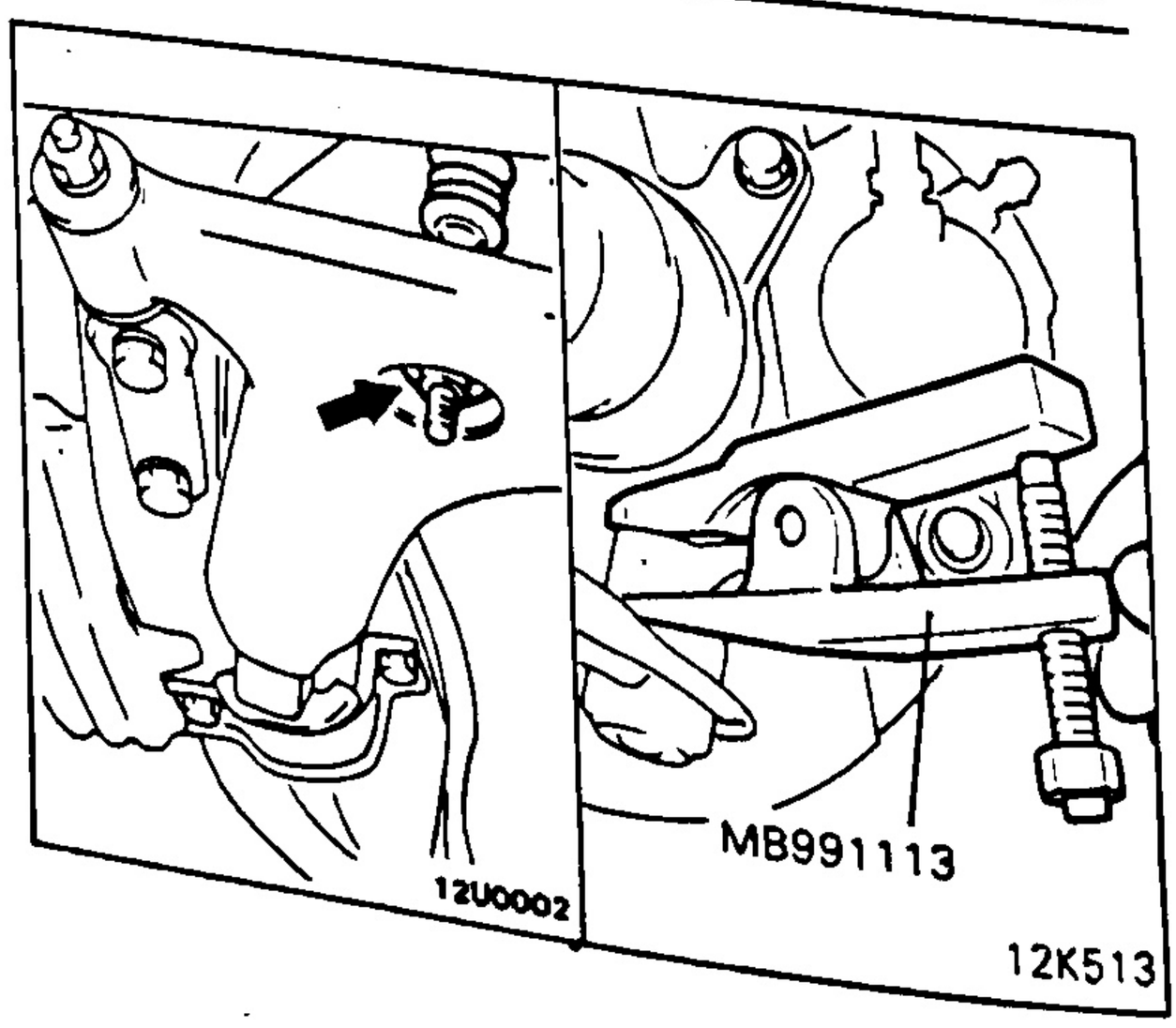
LOWER ARM AND STABILIZER BAR

COMPONENTS



REMOVAL

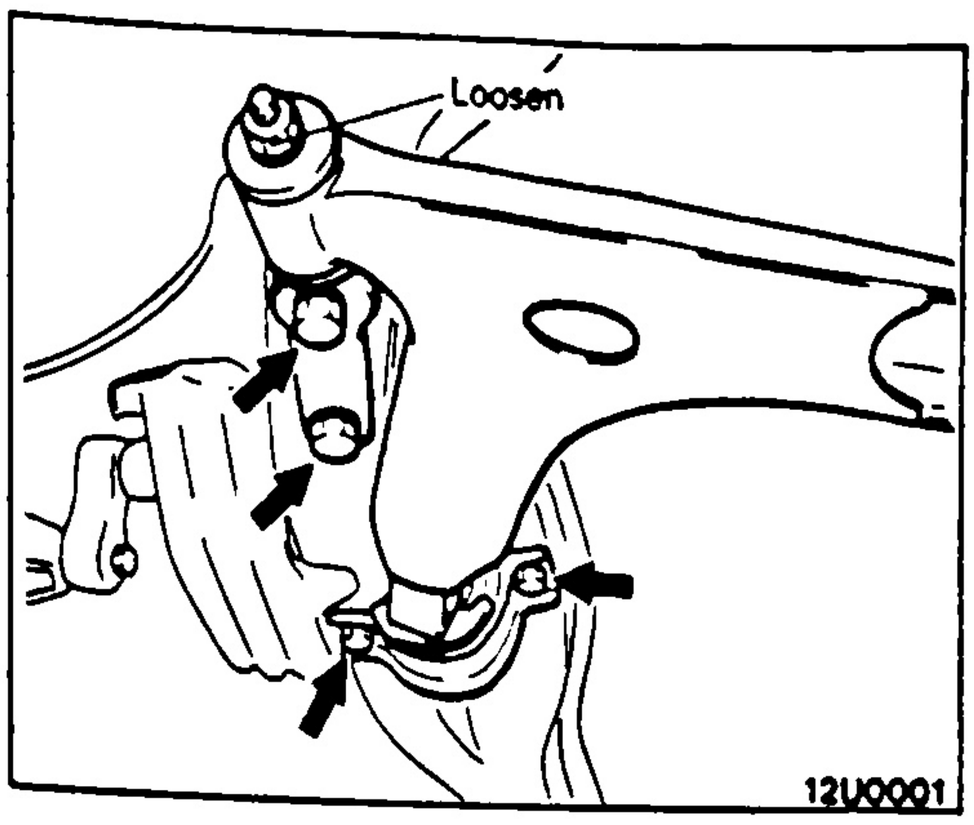
Remove the under cover from the under body.
Disconnect the stabilizer bar from the lower arm.
Loosen the ball joint stud nut and disconnect the ball joint from the knuckle by using the special tool.



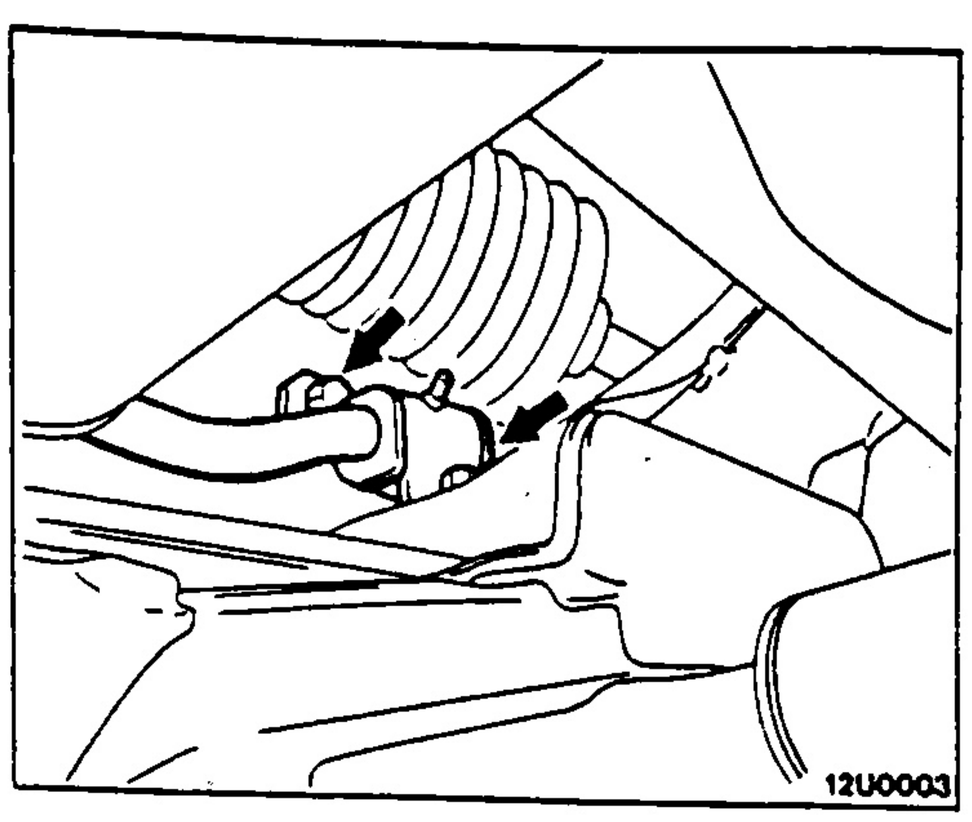
Loosen the lower arm coupled with lower arm shaft and then remove the lower arm.
Remove the dust cover from the ball joint.

NOTE
Do not attempt disassembly of the ball joint assembly from the lower arm but replace the lower arm assembly.

Caution
The dust cover must be replaced with a new one.



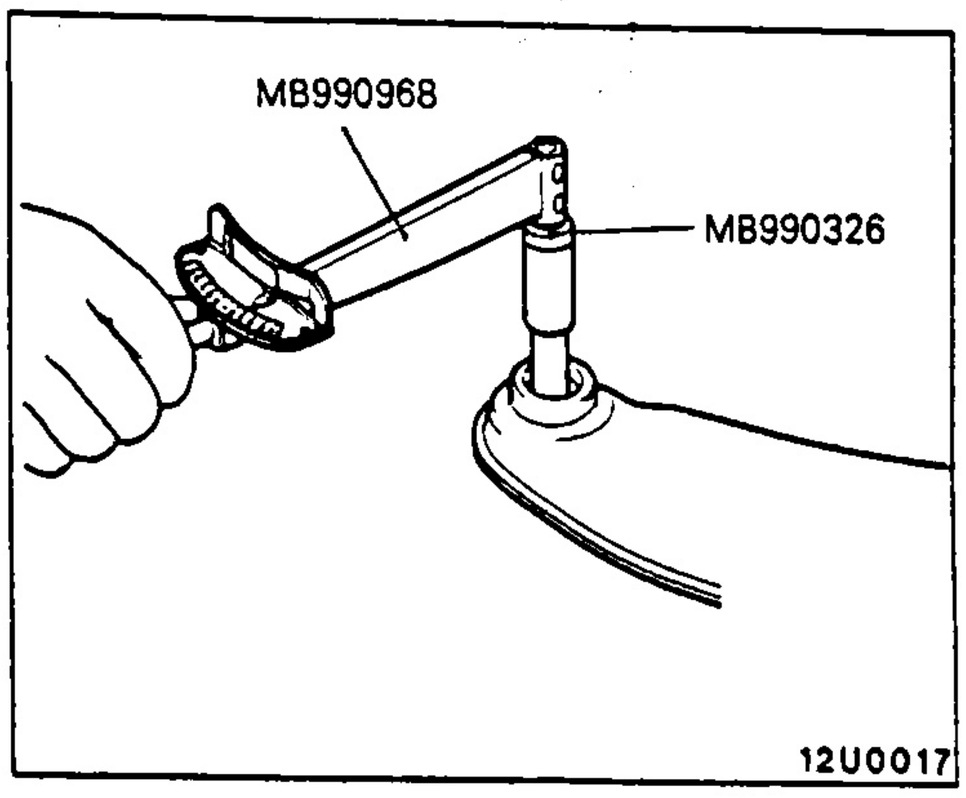
To remove the stabilizer bar, disconnect the tie rod end from the knuckle.
Then, remove the lower bolt from the rear roll stopper and remove the stabilizer bar. (Refer to GROUP 1, 13A.)



INSPECTION

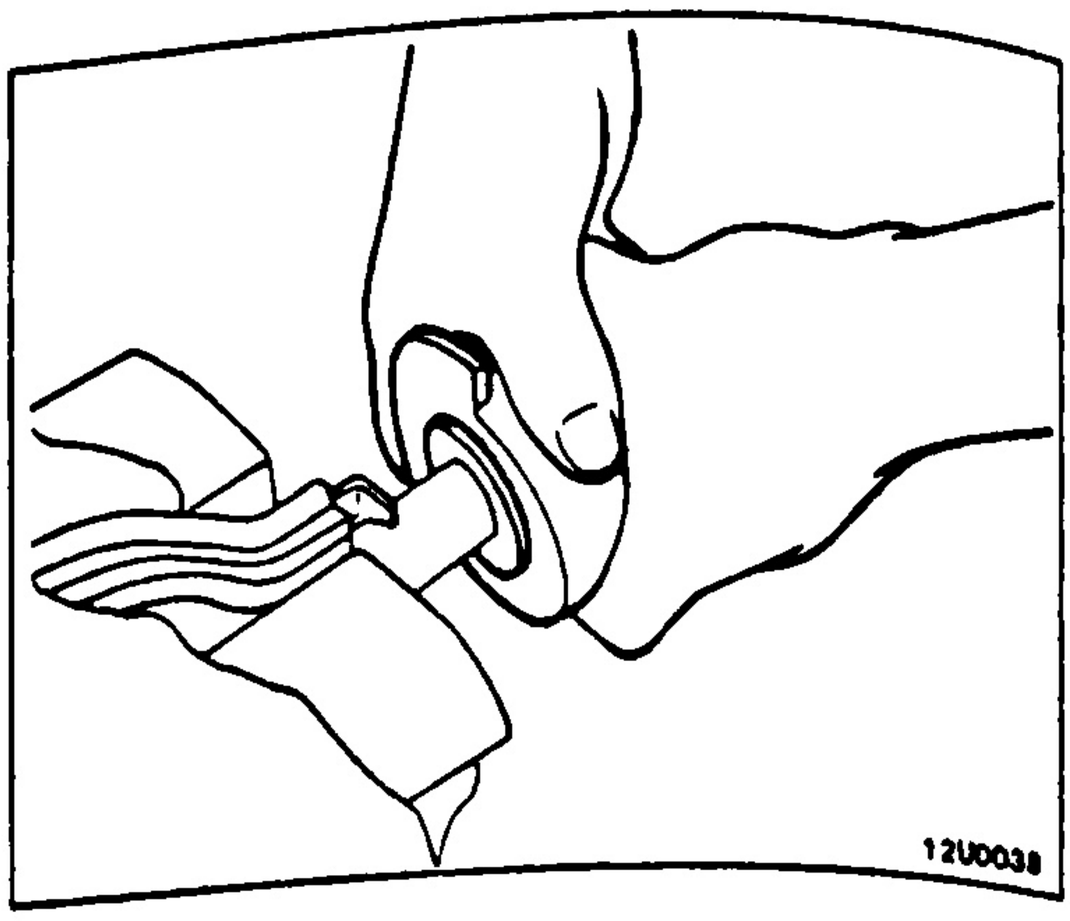
(1) Check lower arm for cracks or deterioration.
(2) Check lower arm shaft for cracks or damage.
(3) Check bushing support bracket for deformation or damage.
(4) Check rubber parts for cracks, deterioration or wear.
(5) Check stabilizer bar for cracks, damage or deformation.
(6) Check ball joint for starting torque.

NOTE
Even if ball joint starting torque is below the lower limit, reuse may be possible as long as no grinding is felt.

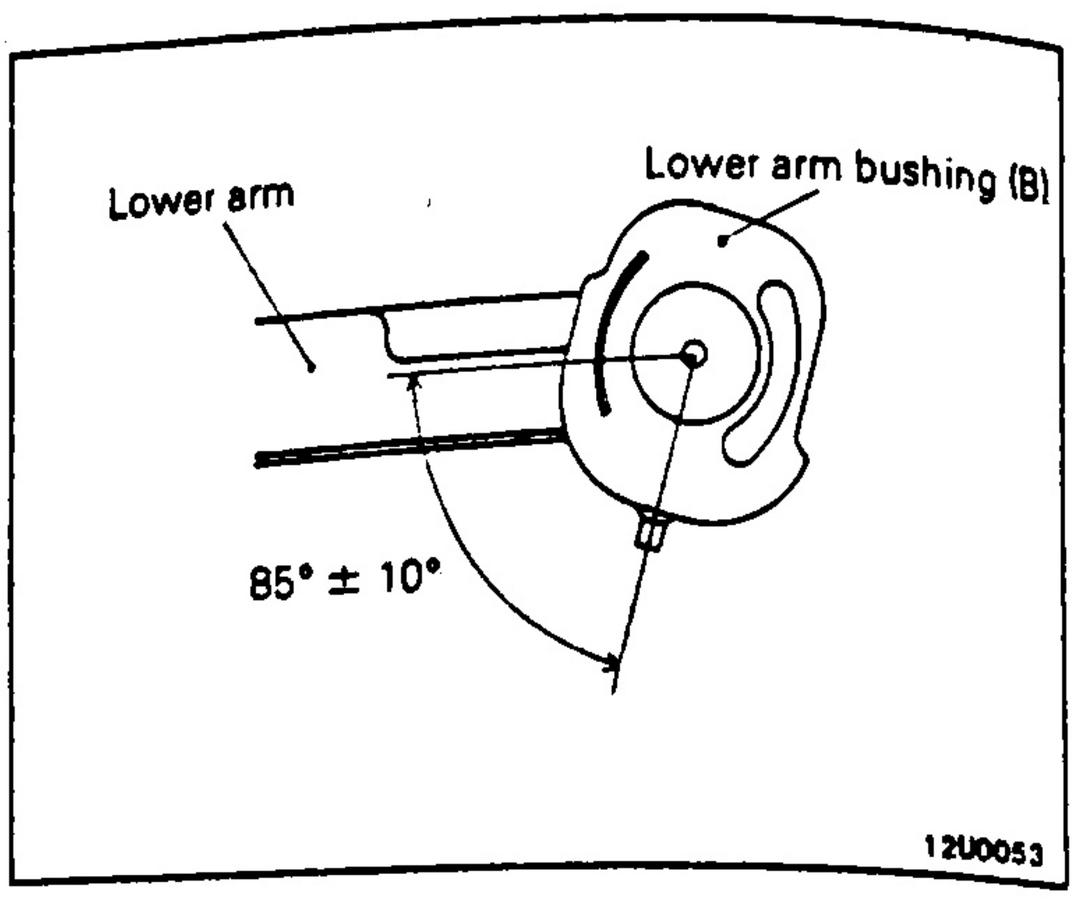


LOWER ARM BUSHING (B) REPLACEMENT

(1) Put sufficient soap suds between the bushing and shaft of lower arm.
(2) While prying the bushing with a screwdriver, remove the bushing.


12U0038

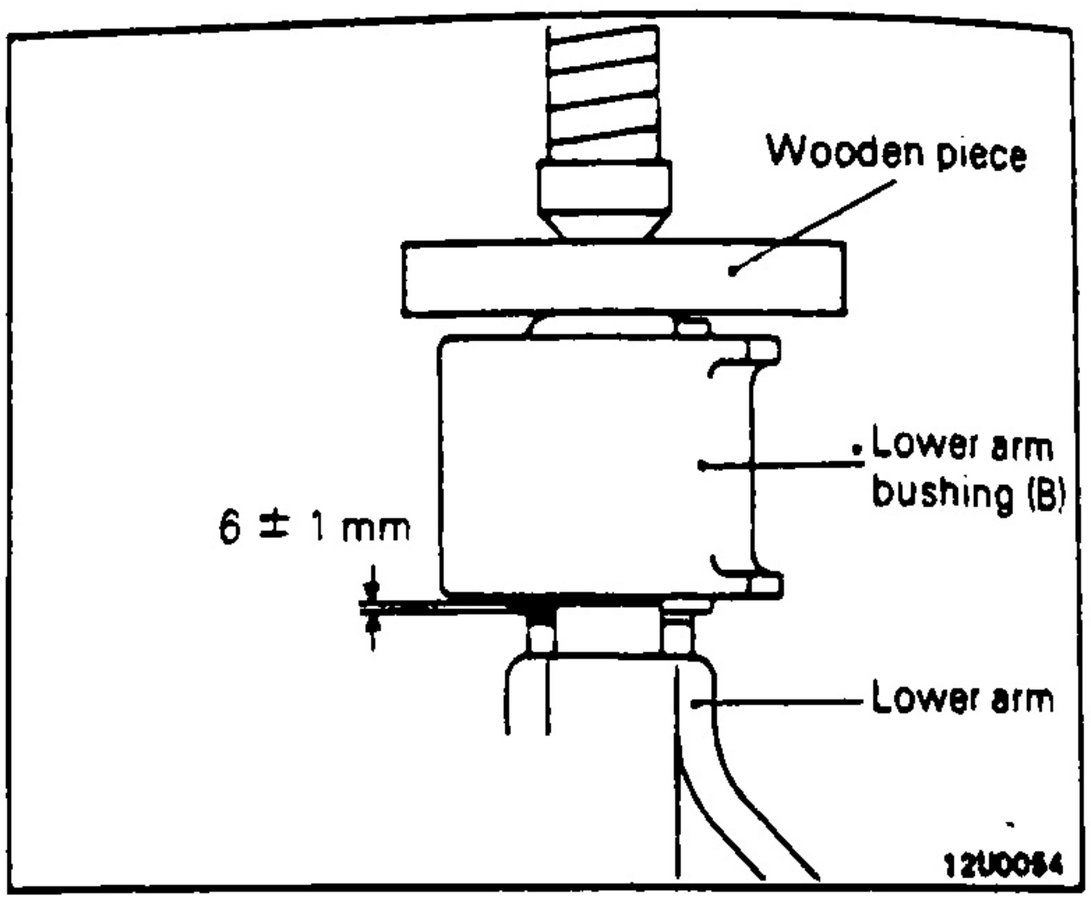
(3) Apply sufficient soap suds to a new bushing and the shaft of lower arm.
(4) Install the bushing onto the lower arm by hand so that its angle will be as specified in illustration.



12U0053

(5) Using a press, press the bushing in up to the dimension specified in illustration.

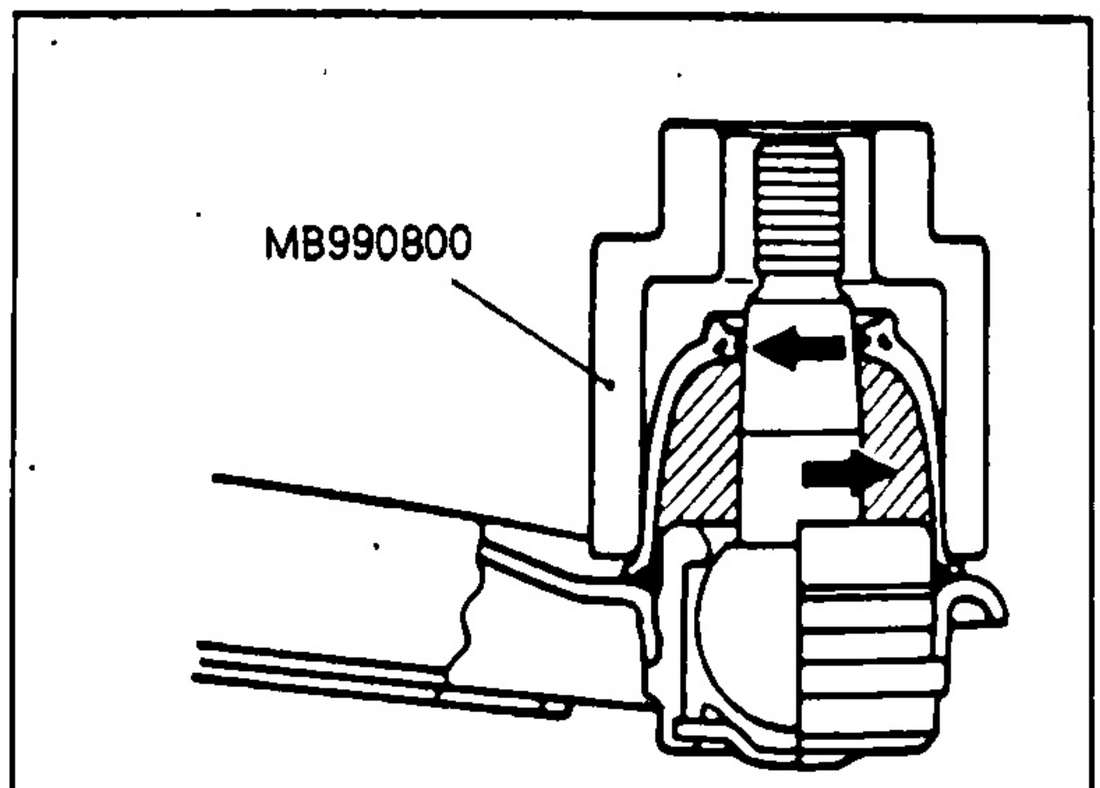
Caution
Make sure that the installation load does not exceed 500 kg.



12U0054

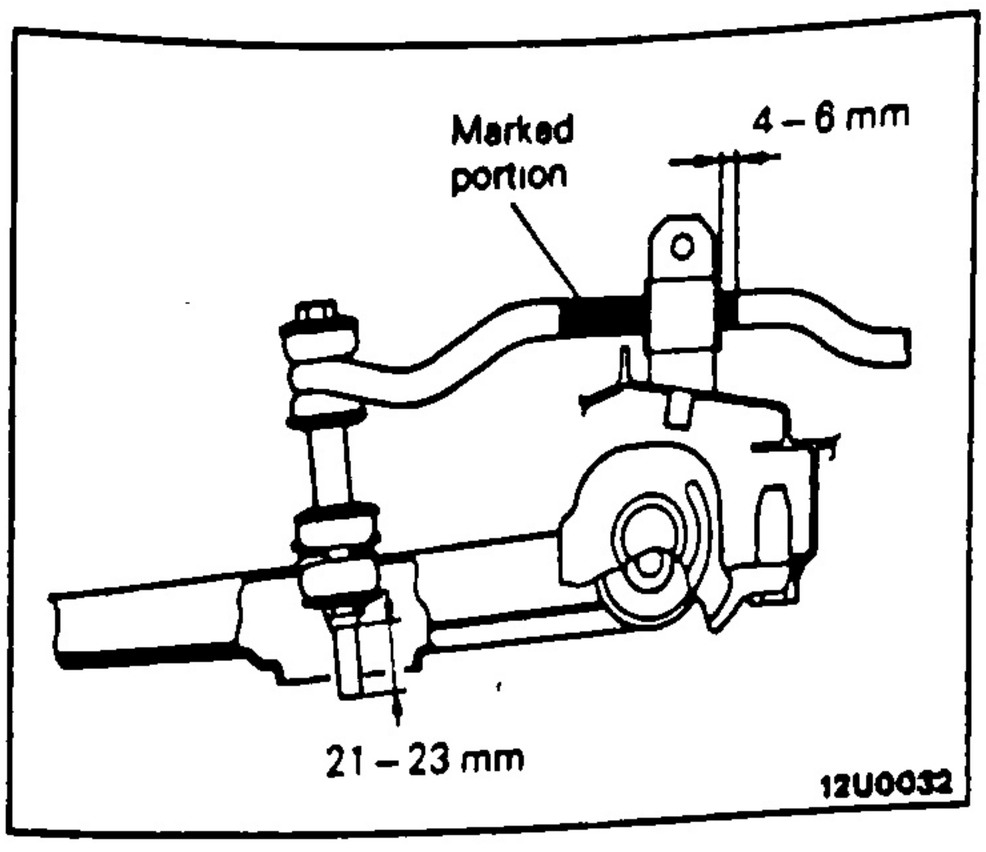
INSTALLATION

Apply the specified multipurpose grease to the lip and inside of the new dust cover.
Using the special tool, hammer the dust cover in until it touches the lower arm end surface.

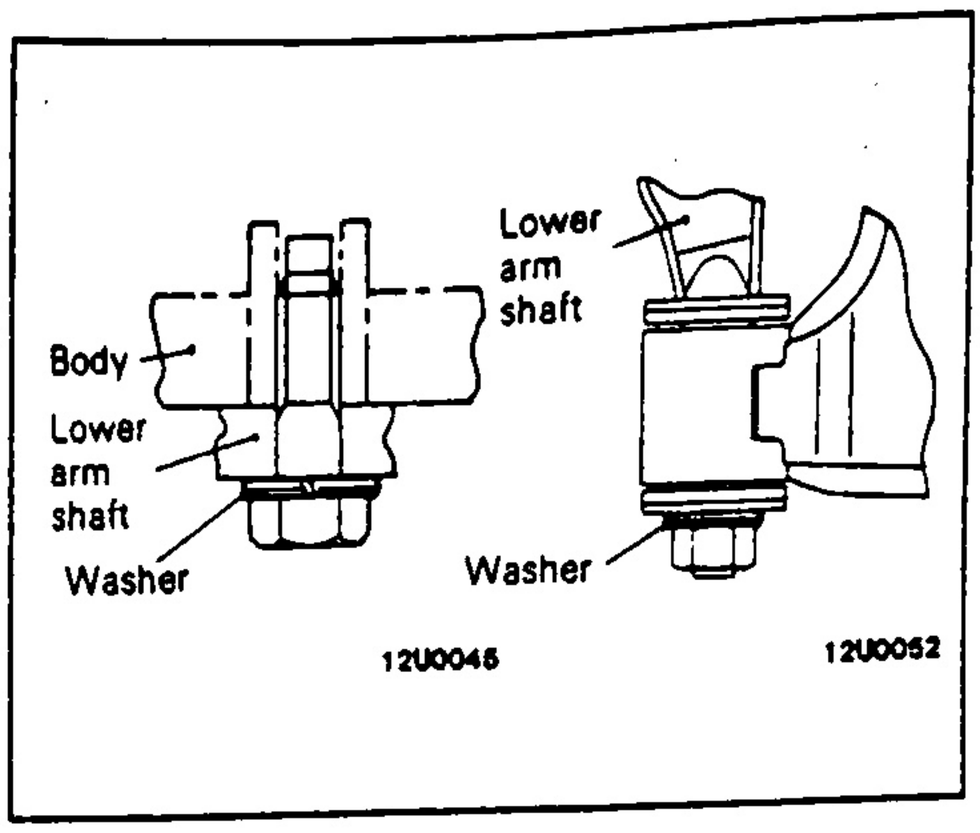


12U0027

When installing the stabilizer bar, position the marked portion so that its protrusion from the fixture will comply with the dimension shown in illustration and tighten the bolt of the stabilizer bar so that its end dimension will be standard value.



Install the washer of the lower arm shaft in the direction shown in illustration.
Fully tighten the lower arm shaft to the lower arm with the vehicle in unladen condition.



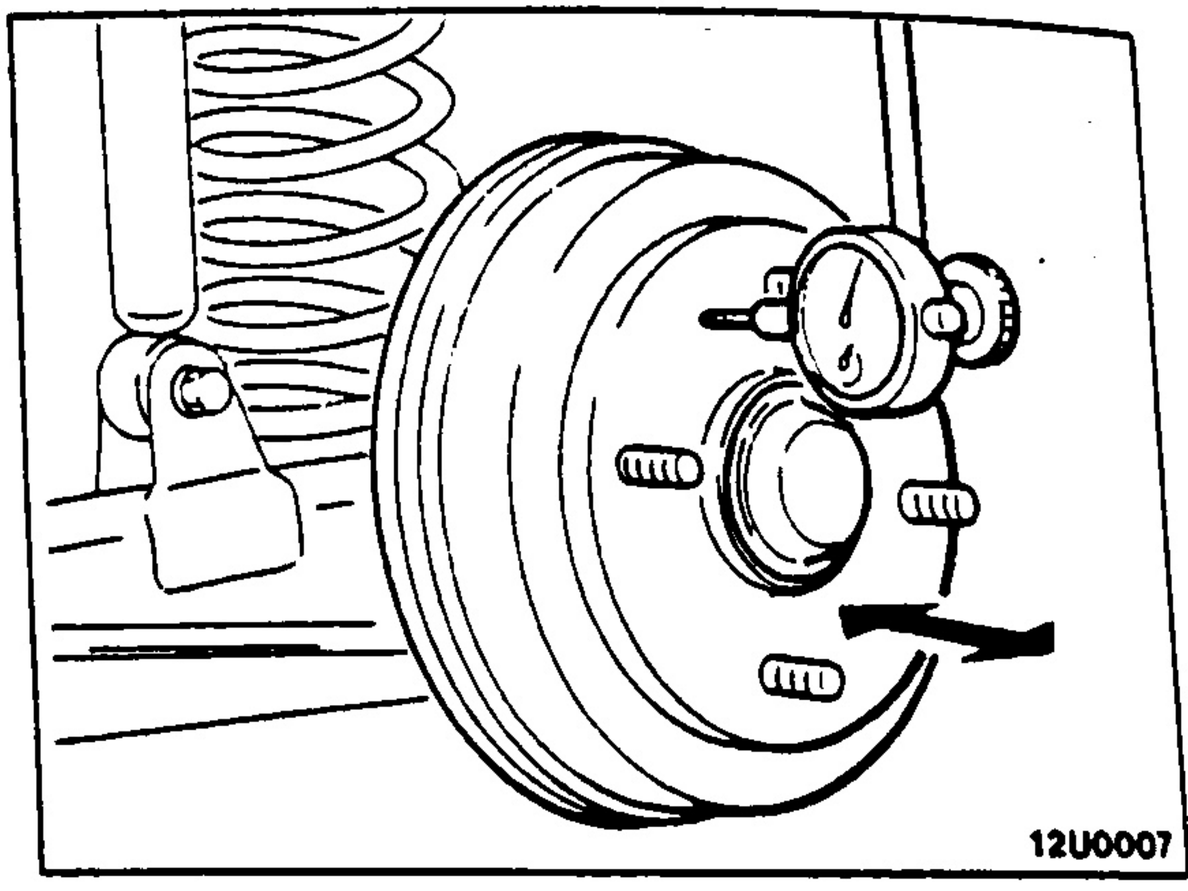
GROUP-12B

REAR SUSPENSION

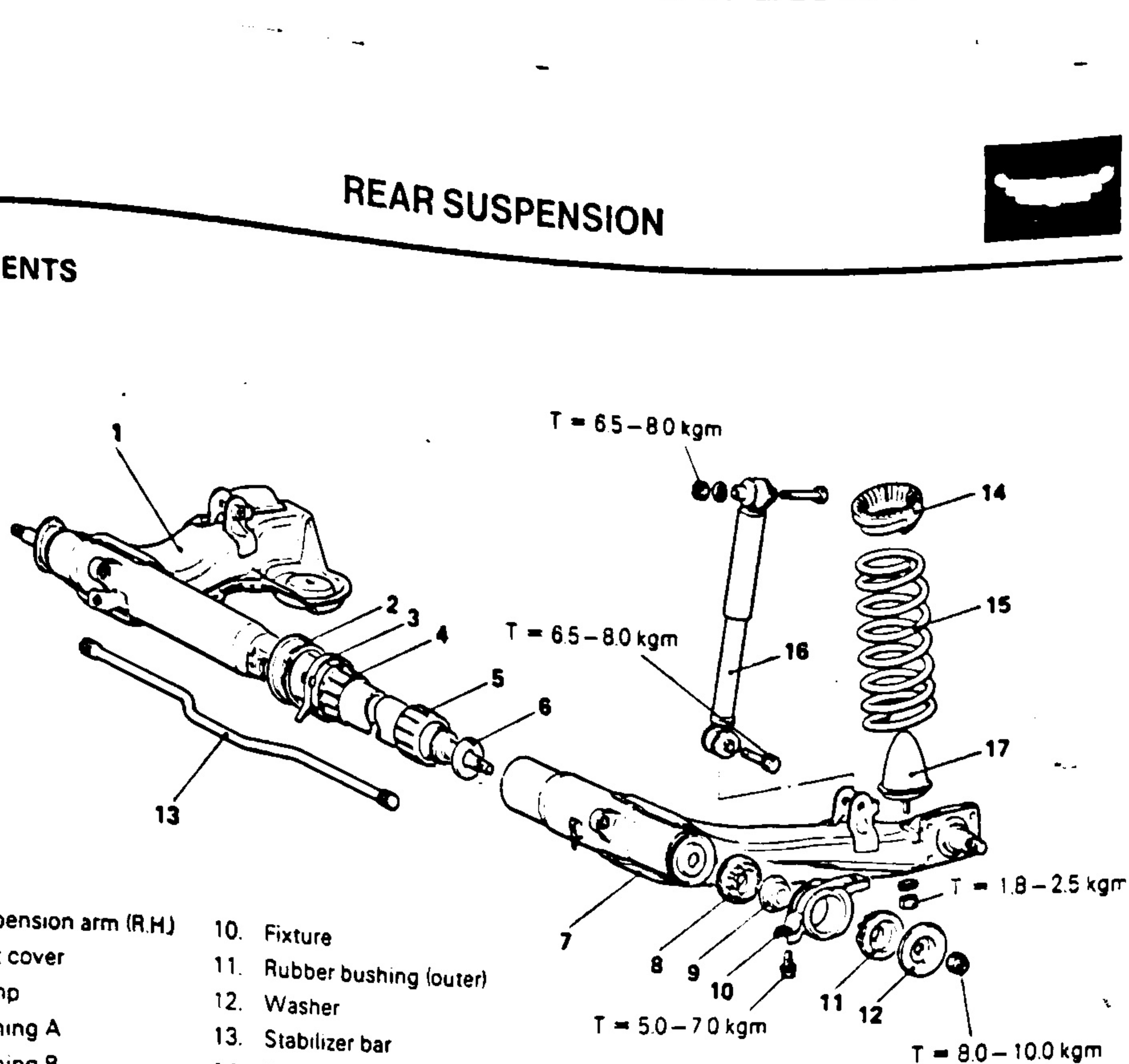
ON-VEHICLE SERVICE

Inspection of Wheel Bearing Axial Play

Jack up the vehicle and remove the rear wheels.
Release the parking brake lever.
Attach a dial indicator as shown in the illustration, and then measure the axial play while moving the drum back and forth.
If the axial play exceeds the limit value, additionally tighten the self-locking nut to the specified torque and recheck the play.
If the axial play is still beyond the limit value, replace the bearing.
(Refer to P.12B-11.)



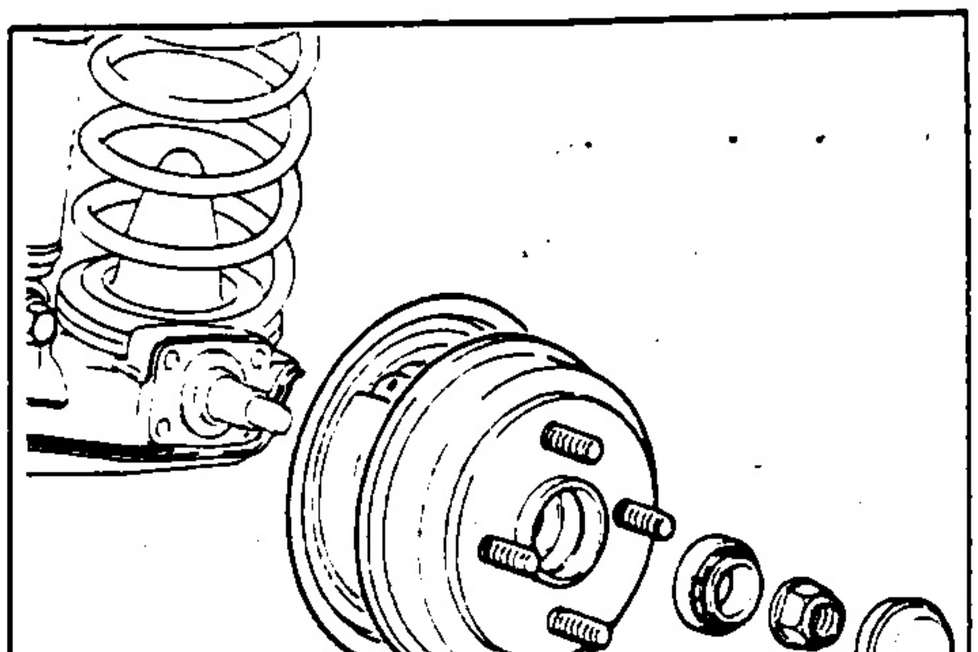
COMPONENTS



1 Suspension arm (R.H.)
2 Dust cover
3 Clamp
4 Bushing A
5 Bushing B
6 Rubber stopper
7 Suspension arm (L.H.)
8. Rubber bushing (inner)
9 Rubber stopper
10. Fixture
11. Rubber bushing (outer)
12. Washer
13. Stabilizer bar
14. Spring seat
15. Coil spring
16 Shock absorber
17. Bump stopper

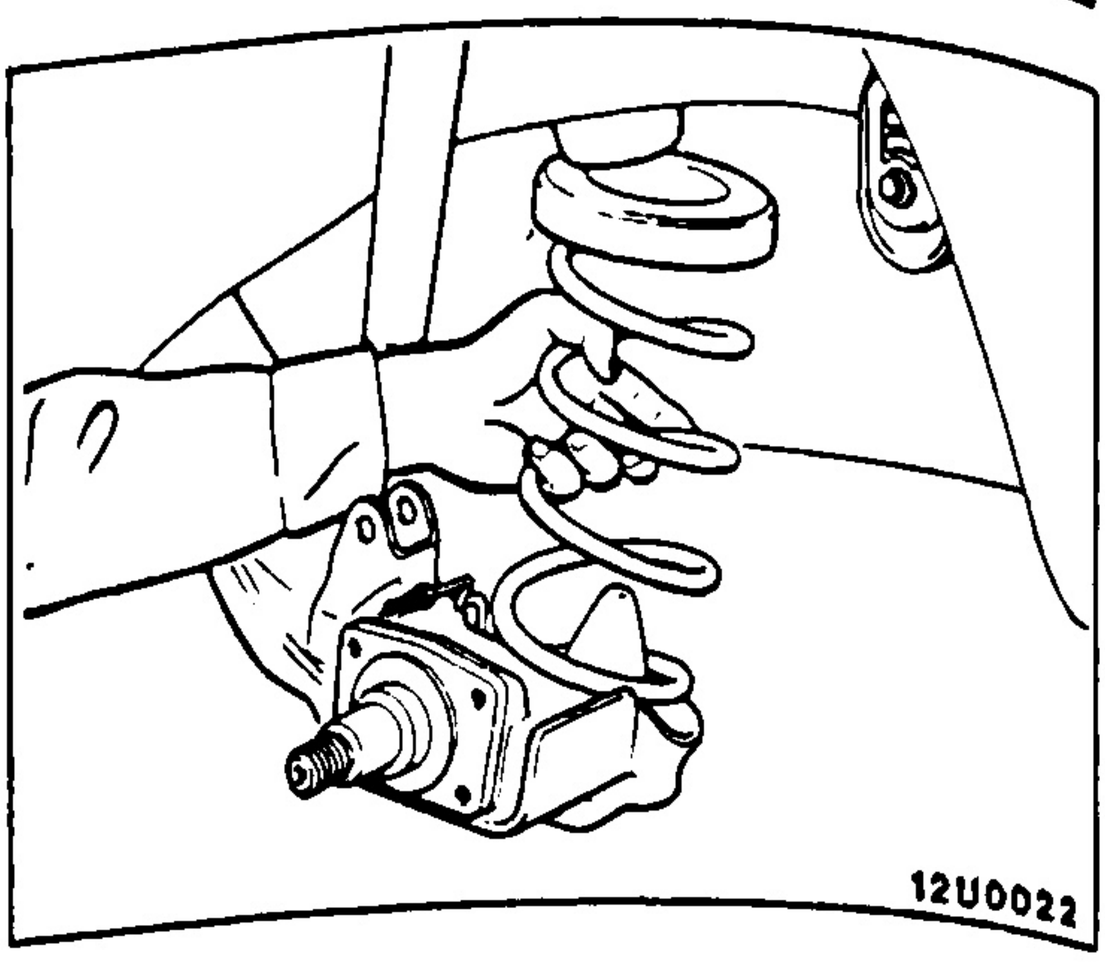
REMOVAL

Remove the rear brake assembly. (Refer to GROUP 14A.)
Remove the main muffler. (Refer to GROUP 5.)
Disconnect the parking brake cable from the suspension arm. (Refer to GROUP 14B.)

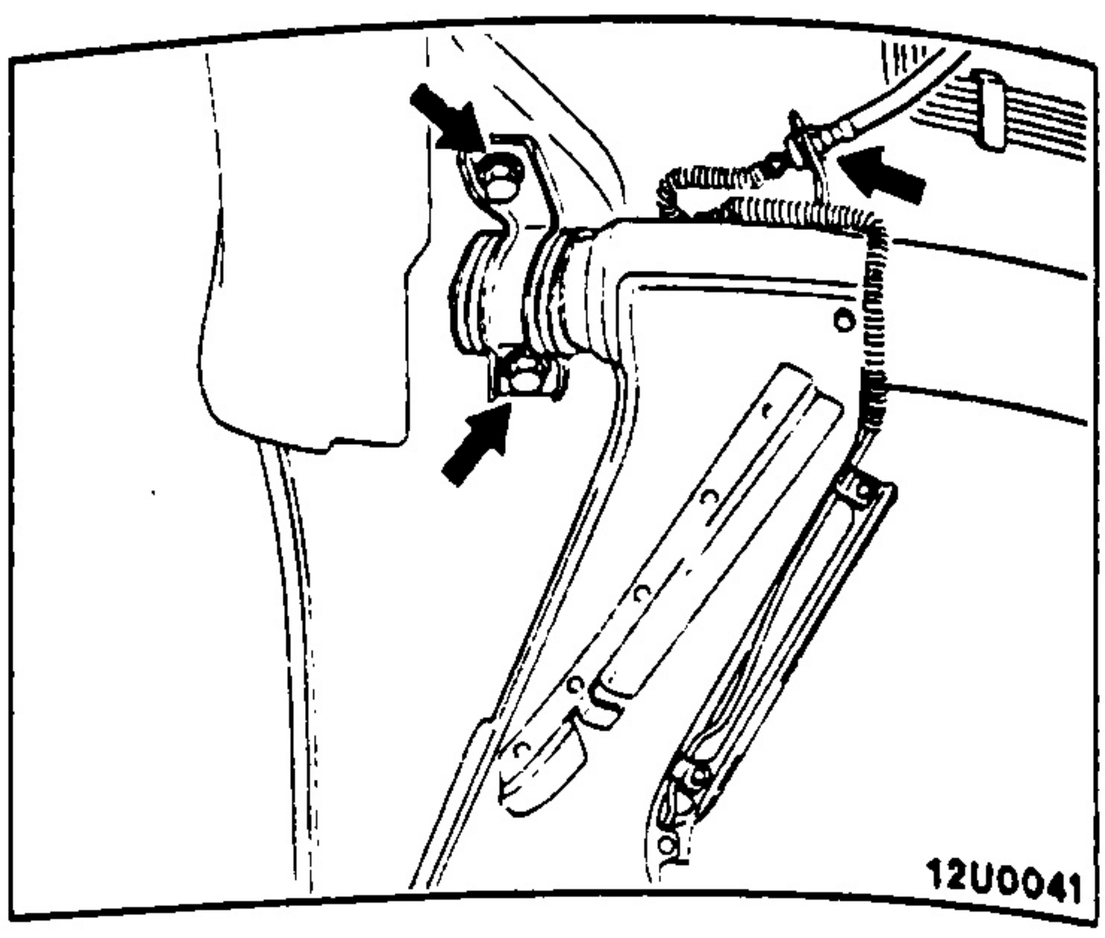


Jack up the suspension arm to keep it slightly raised.
Remove the shock absorber lower attaching bolt.

Lower the jack and remove the coil spring.



Disconnect the brake hoses at the suspension arm.
Remove the suspension assembly from the body.



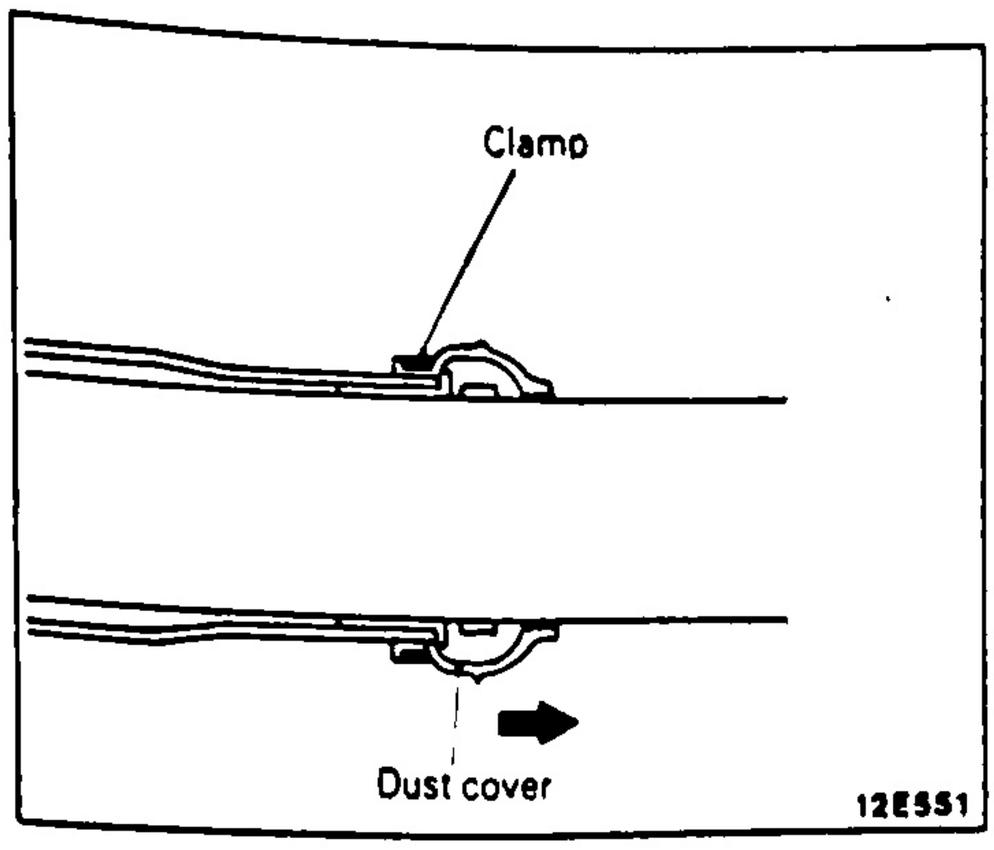
INSPECTION

(1) Check suspension arm for deformation or damage.
(2) Check shaft portion of suspension arm for deformation or damage
(3) Check dust cover for damage.
(4) Check shock absorbers for function, oil leakage or abnormal noise.
(5) Check coil springs for deterioration, cracks or damage
(6) Check spring seats or bump stoppers for damage.
(7) Check stabilizer bar for damage.

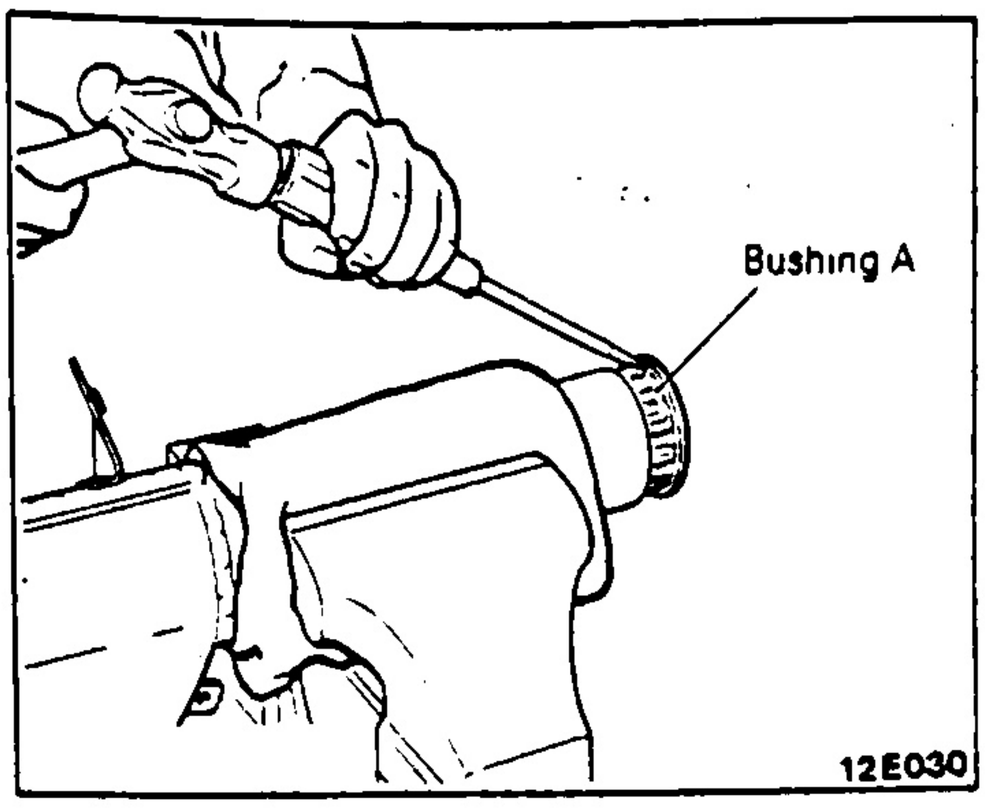
DISASSEMBLY

Before the fixture is removed, make alignment marks on the fixture and suspension arm for reference at reassembly.
Before removing the stabilizer bar, make a mating mark on the stabilizer bar in alignment with the punch mark on the stabilizer bracket.
Remove the nuts on both ends of the suspension arm, and then remove the fixtures and rubber bushings.

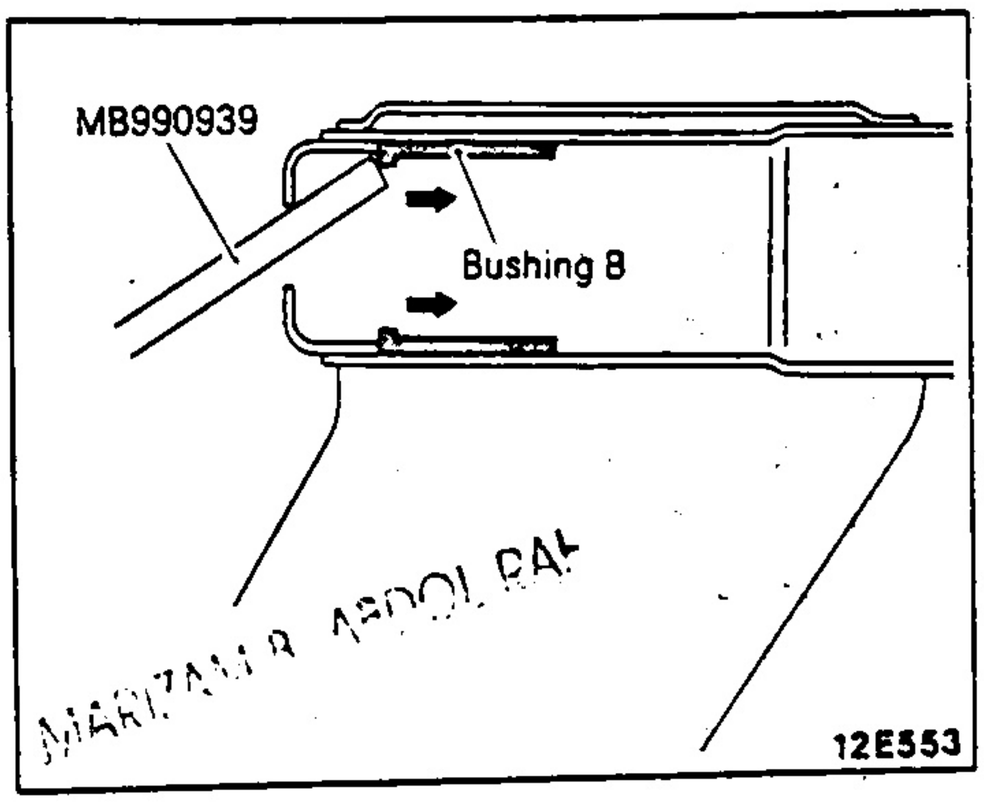
Remove the dust cover clamp, and then slide the dust cover to the right, being very careful not to damage it.
Separate the suspension arm into the right and left arms.



Remove bushing A from the suspension arm (L.H.) by using screwdriver.

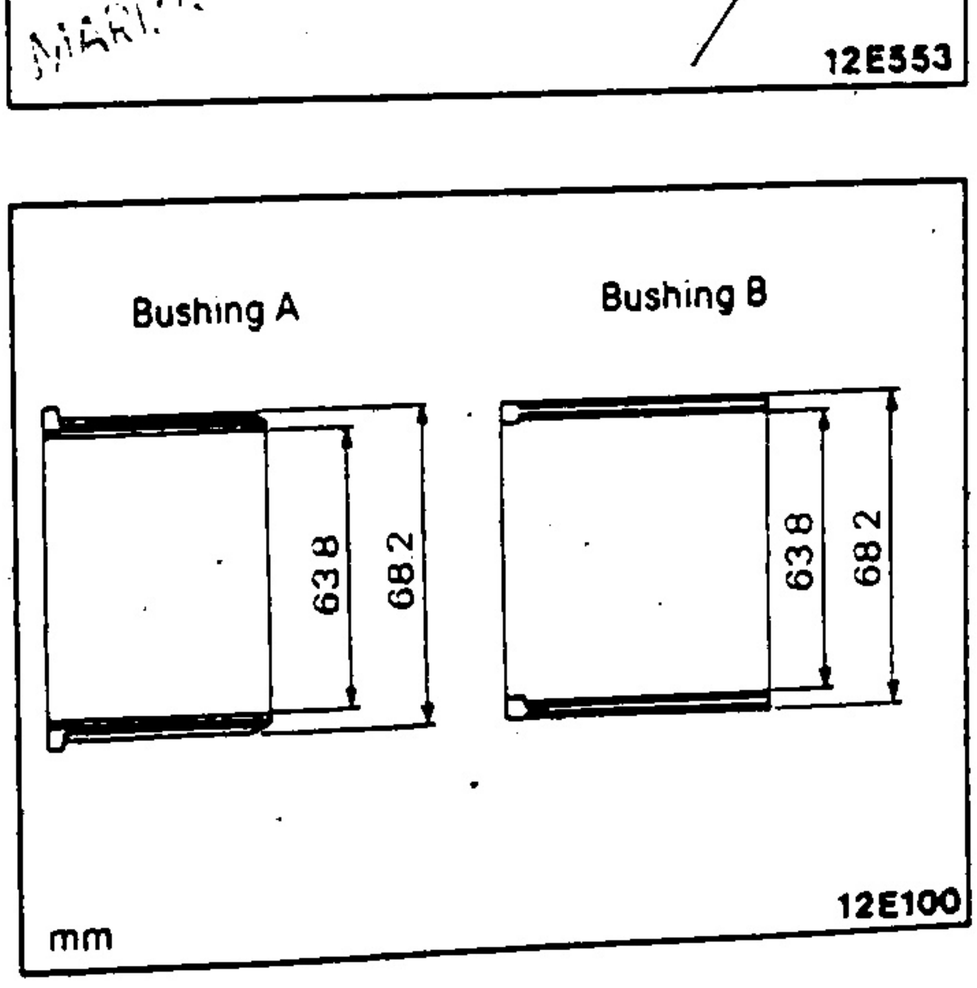


Using the special tool, strike (press) the periphery of bushing B evenly to remove bushing B.
Wash all of the disassembled metal parts in lead-free gasoline, and then use compressed air to dry them. Wipe the oil off of the non-metal parts.



INSPECTION

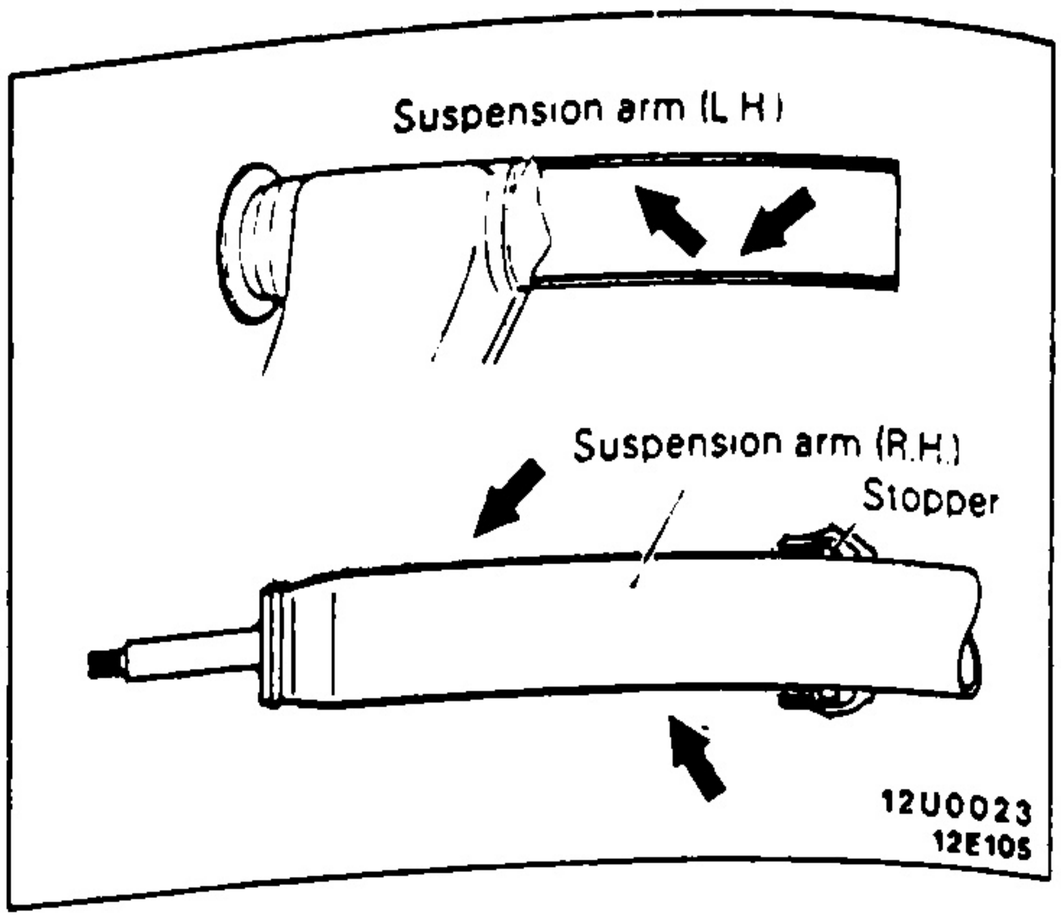
(1) Check rubber bushings for wear or damage.
(2) Check rubber stopper for damage.
(3) Check bushing A or B for wear or damage.



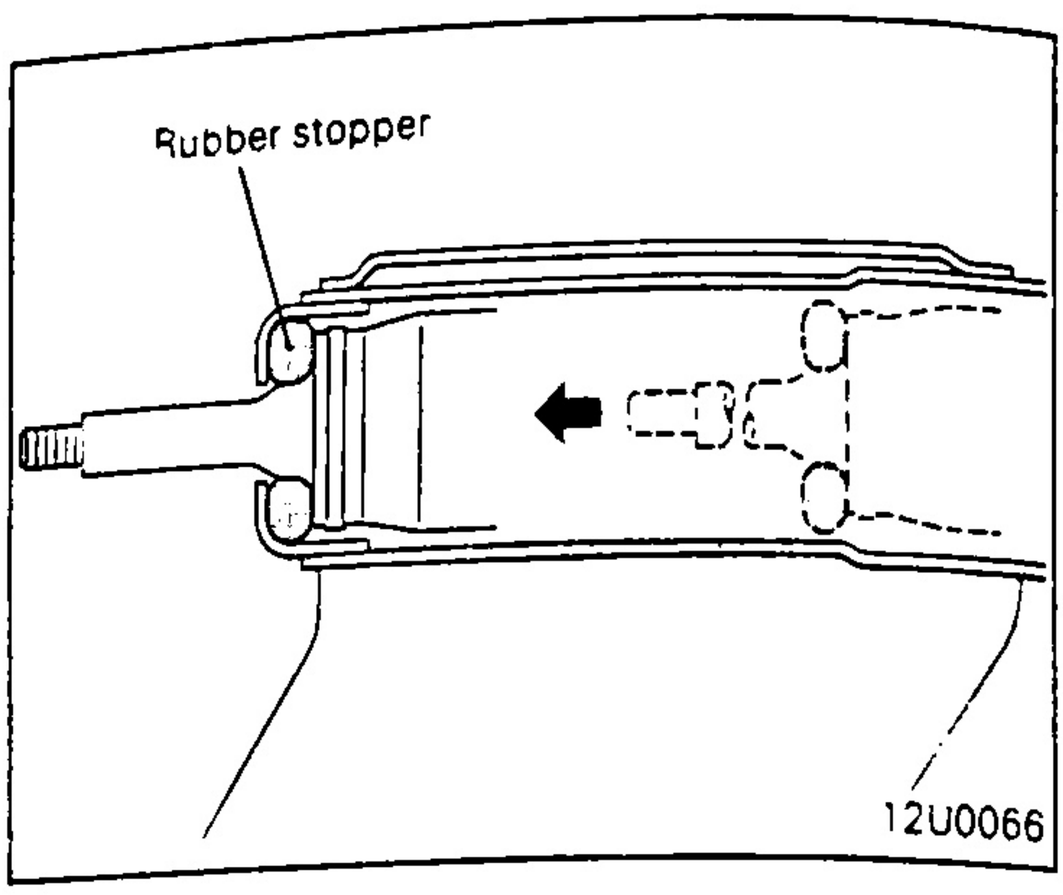
REASSEMBLY

Apply the specified multipurpose grease to the rubber stopper, inside of the suspension arm (L.H.) and outer periphery of the suspension arm (R.H.)

When the dust cover has been replaced, push the new dust cover up to the stopper positioned on the suspension arm (R.H.) before applying the grease

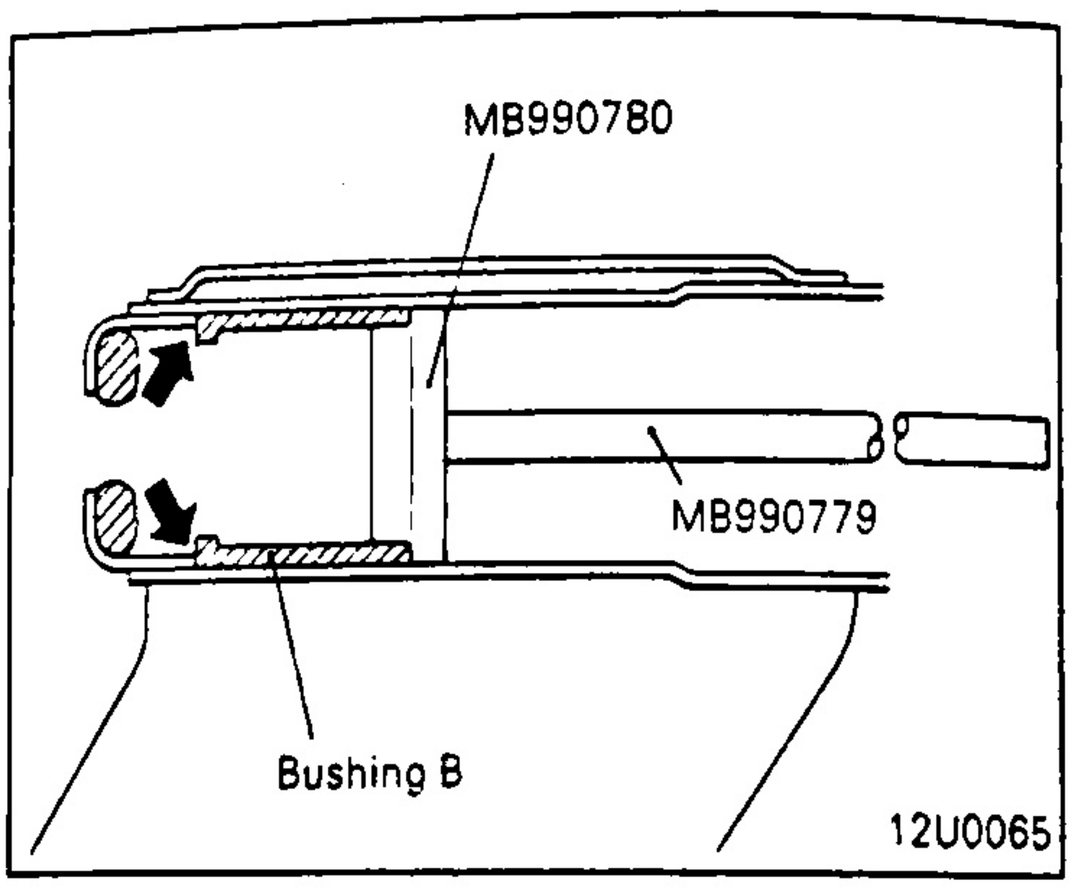


Install the rubber stopper to the suspension arm (L.H.).



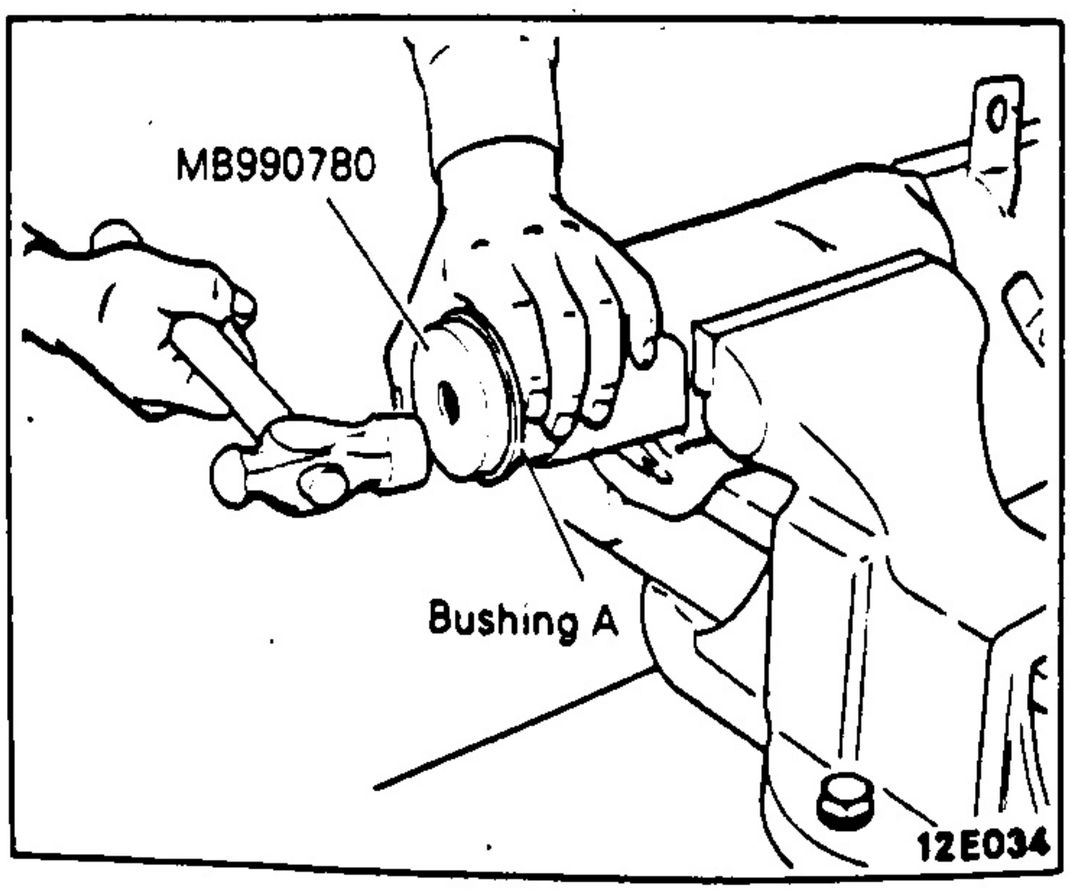
Apply the specified multipurpose grease to the entire periphery of bushings A and B.

Press-fit bushing B by using the special tools until the bushing makes contact with the end of the suspension arm (L.H.).

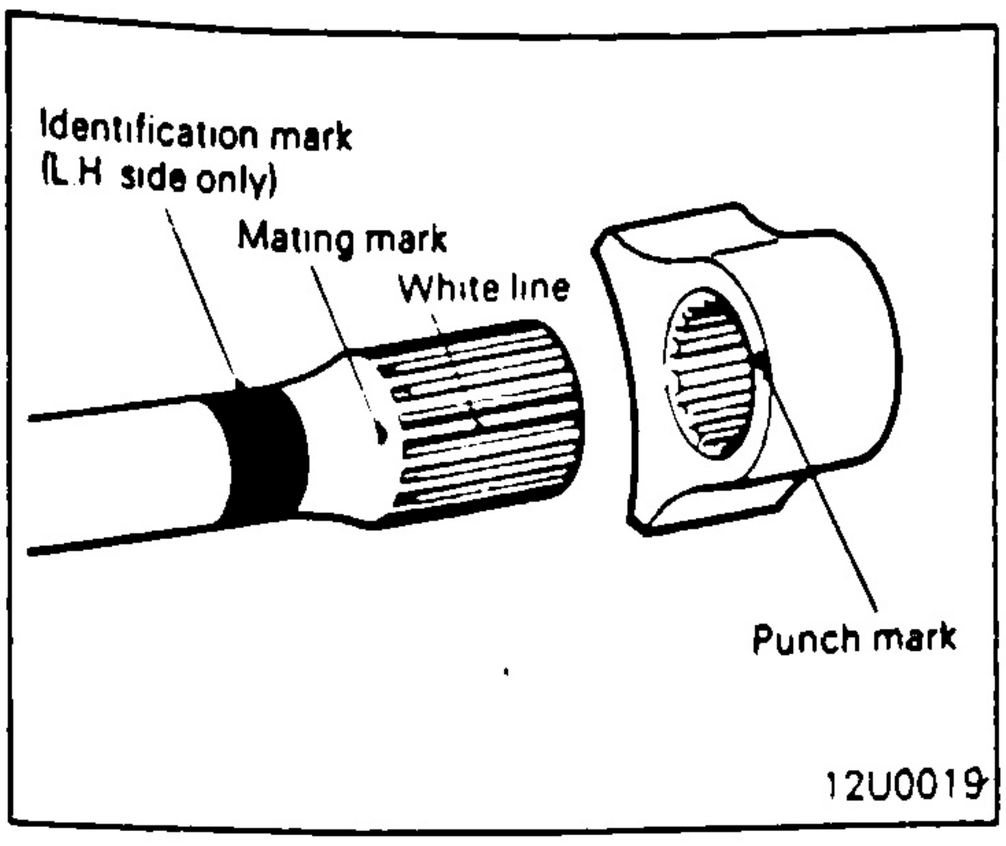


Install bushing A to the suspension arm (L.H.) by using the special tool.

Wrap tape on the threads of the suspension arm (R.H.) to prevent grease from getting on them, and then carefully fit the suspension arms (L.H., R.H.) together, wiping off any grease that comes out.

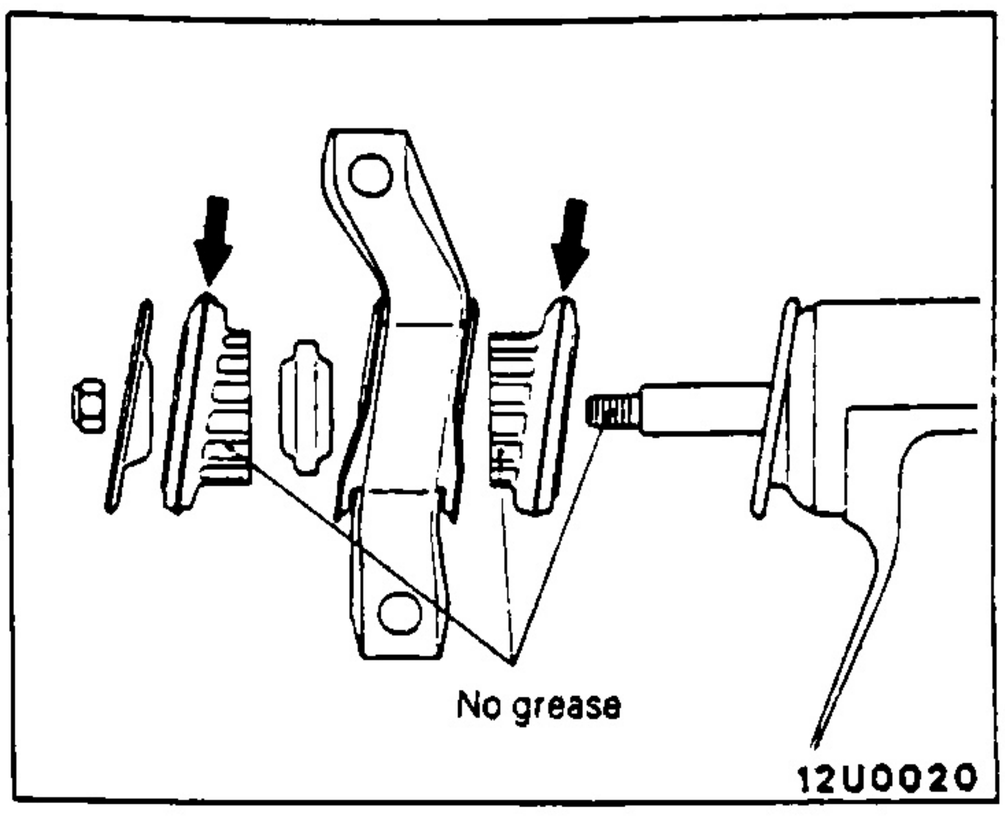


When install the stabilizer bar, install the R.H. and L.H. suspension arms with the white line on the spline of the stabilizer bar or the mating mark made on the stabilizer bar at disassembly and the punch mark on the stabilizer bracket in alignment.
When doing this, fit the end of the stabilizer bar which has the identification mark into the suspension arm (L.H.).

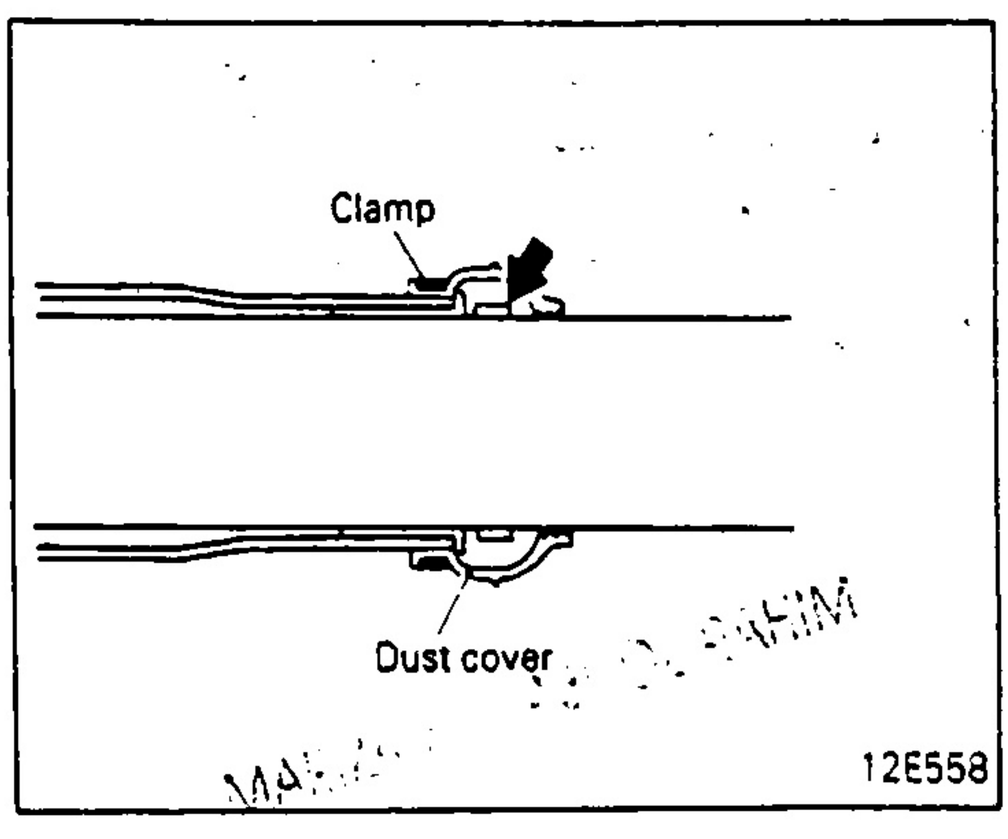


Fit the suspension arms together, and then mount the rubber bushings, the rubber stopper, the fixtures, and the washers.
After aligning the fixture with the suspension arm according to the alignment marks, tighten the nut to the specified torque.

NOTE
Install the rubber bushing with its projection directed toward the front.
Be sure to mount the washers and the fixtures in the correct direction.

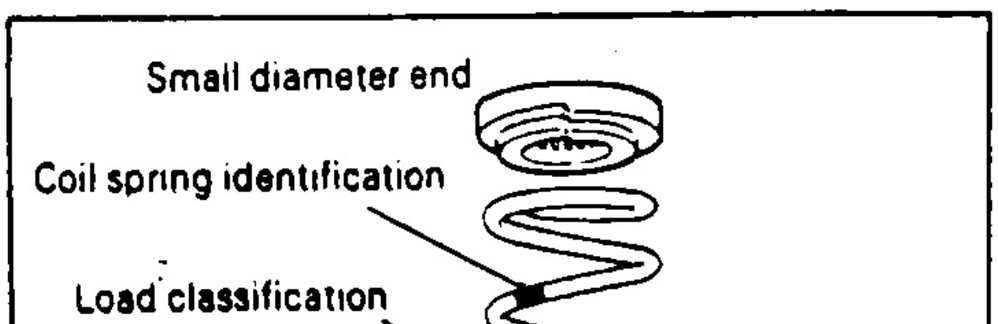


After installation, pack the specified multipurpose grease in the dust cover and lip, and secure with a new clamp.

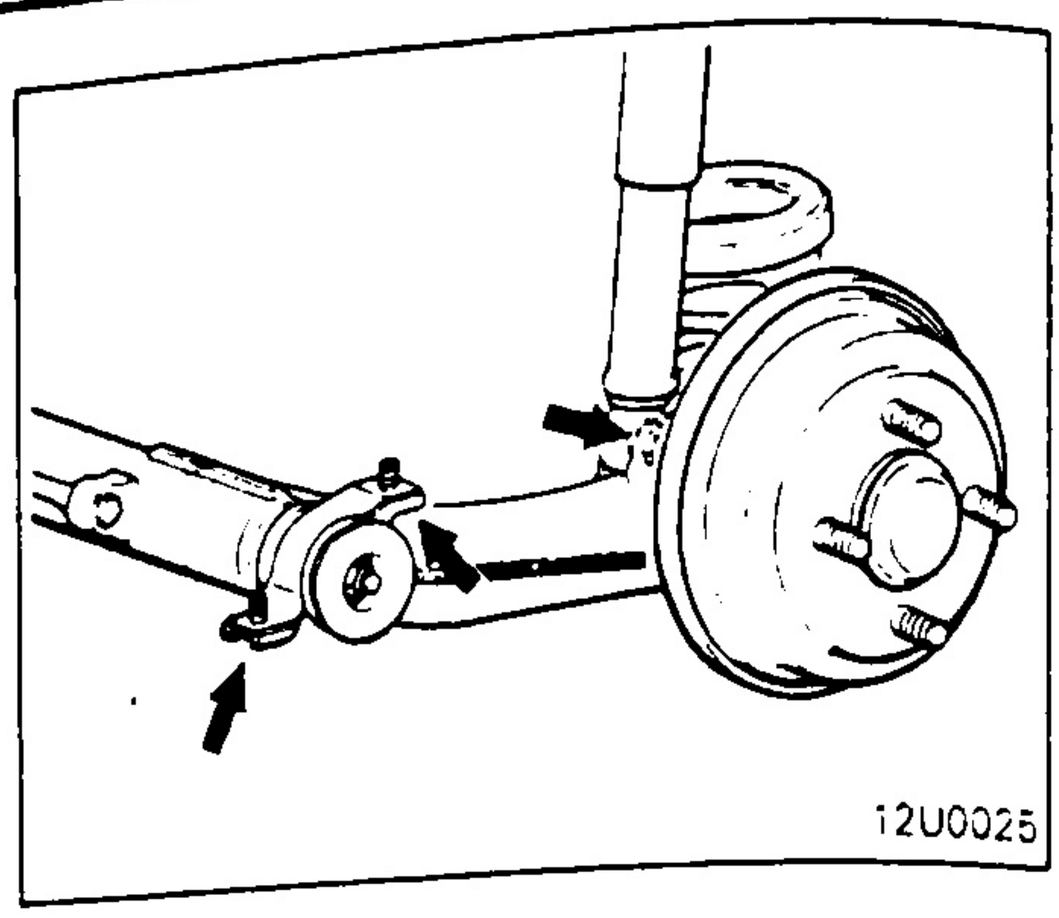


INSTALLATION

Install the coil spring with its small diameter end (the end with identification colour) directed upward.
Coil springs have colour marks to indicate load classification and coil spring identification.
The coil spring identification mark indicates the applicable vehicle models equipped with that particular coil spring. When replacing a coil spring, be sure to use a spring having the appropriate identification mark.

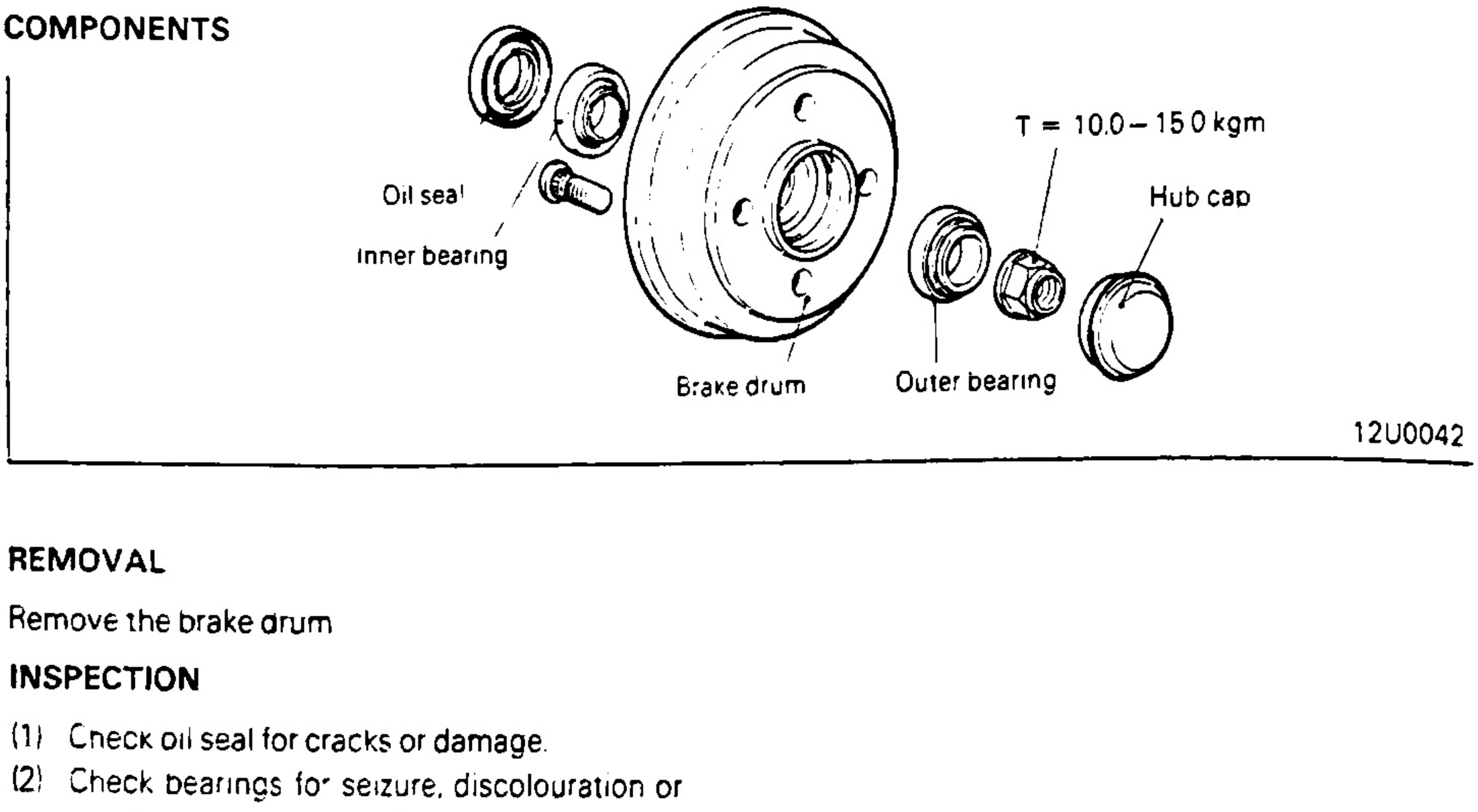


Tighten the suspension assembly to the body temporarily. Then, with the vehicle unladed, tighten the parts marked with an arrow in the illustration to the specified torque



REAR AXLE HUB

COMPONENTS



REMOVAL

Remove the brake drum

INSPECTION

(1) Check oil seal for cracks or damage.
(2) Check bearings for seizure, discolouration or roughened race way surface
(3) Check drum inside diameter for wear or damage.

Inspection of Turning Torque for Loosening Rear Wheel Bearing Nut

(1) Set the rear wheel bearing nut at the position shown in the illustration.
(2) Turn the nut from this position counterclockwise and measure the turning torque required. Be sure to read the torque indicated between the start of turning and 2 to 3 turns.

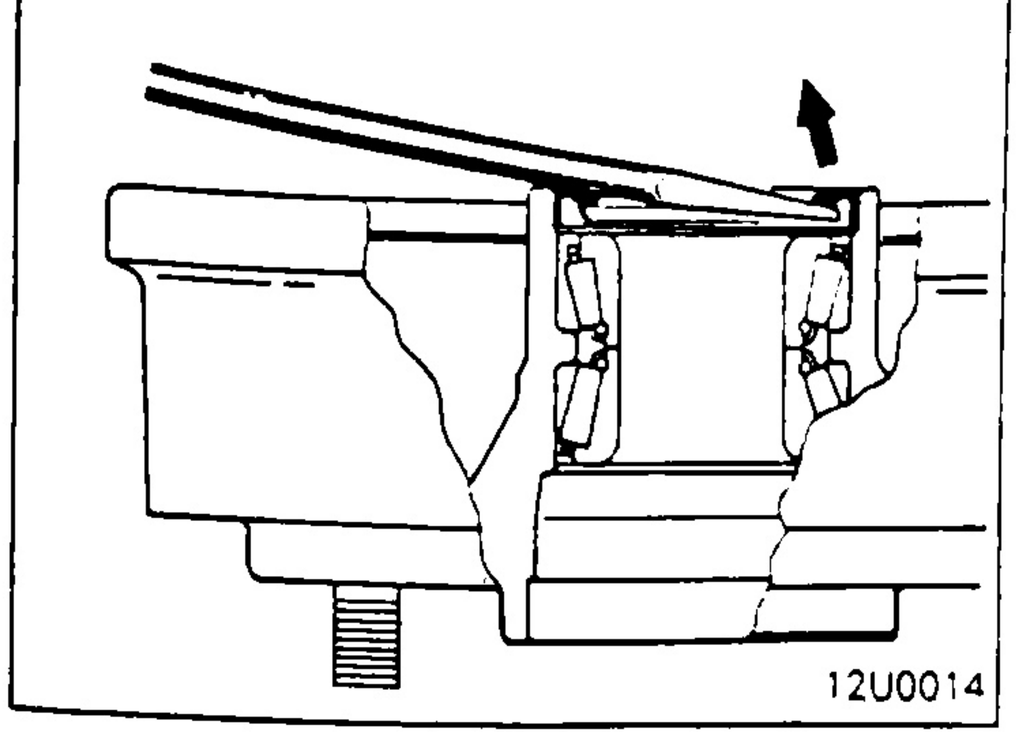
Caution

Be sure to measure the turning torque when loosening the nut.

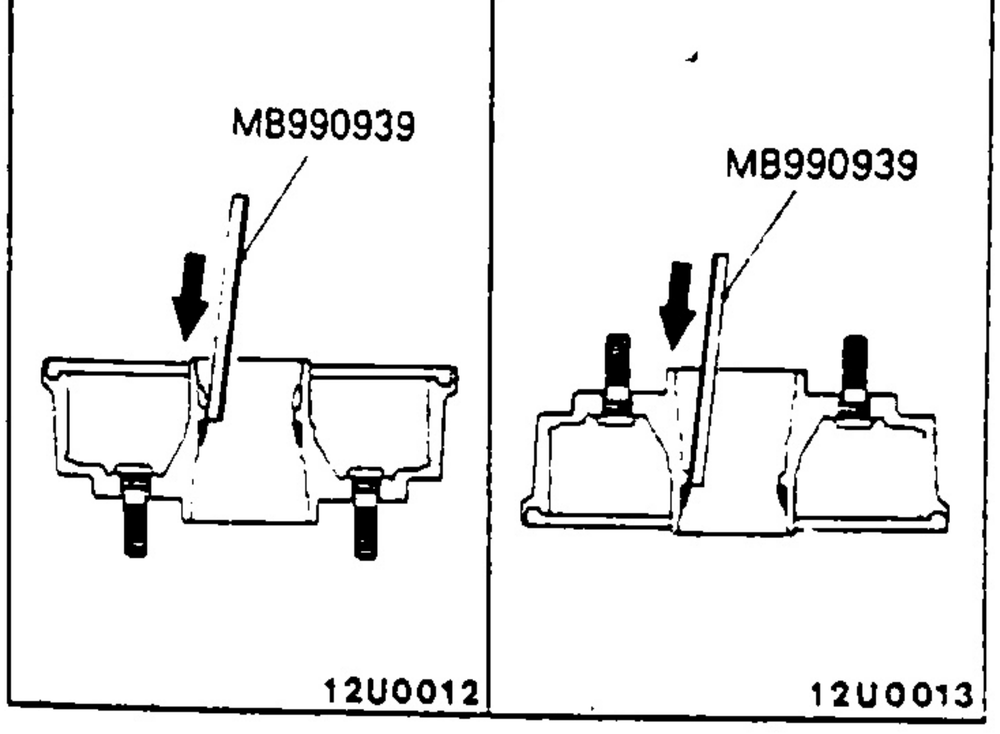
(3) If the measured torque does not reach the limit, replace the rear wheel bearing nut with a new one.

BEARING REPLACEMENT

Remove the oil seal by using a screwdriver.

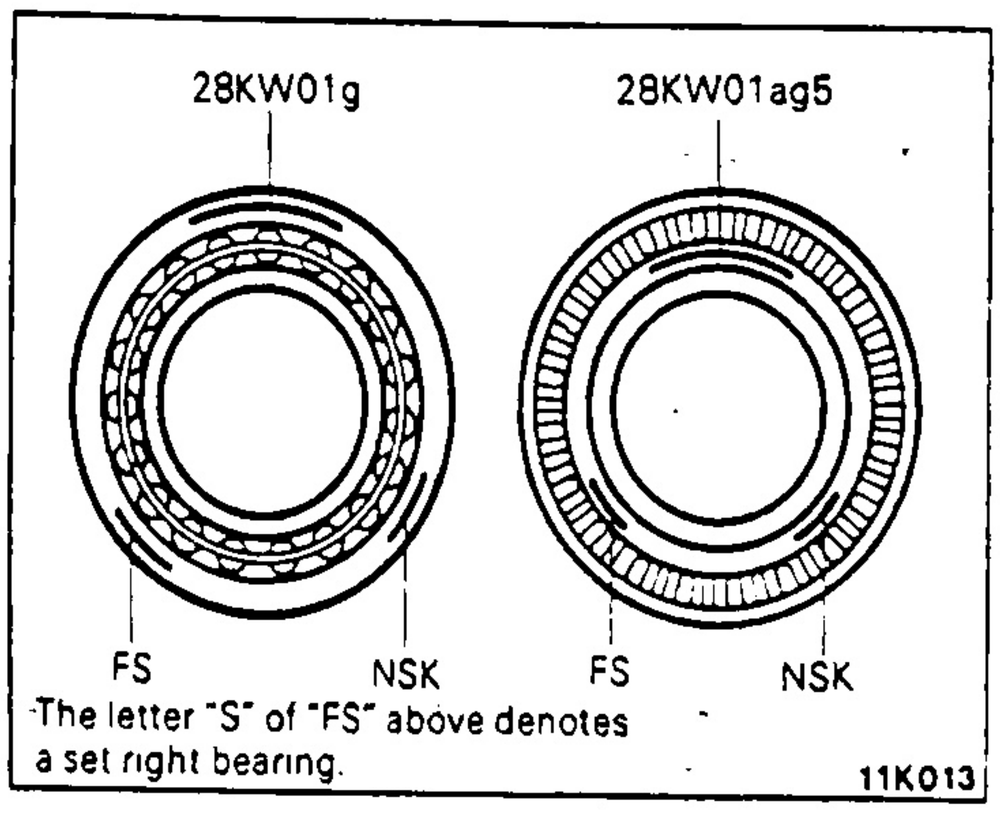


After removing the grease, use the special tool to extract the bearing outer races.

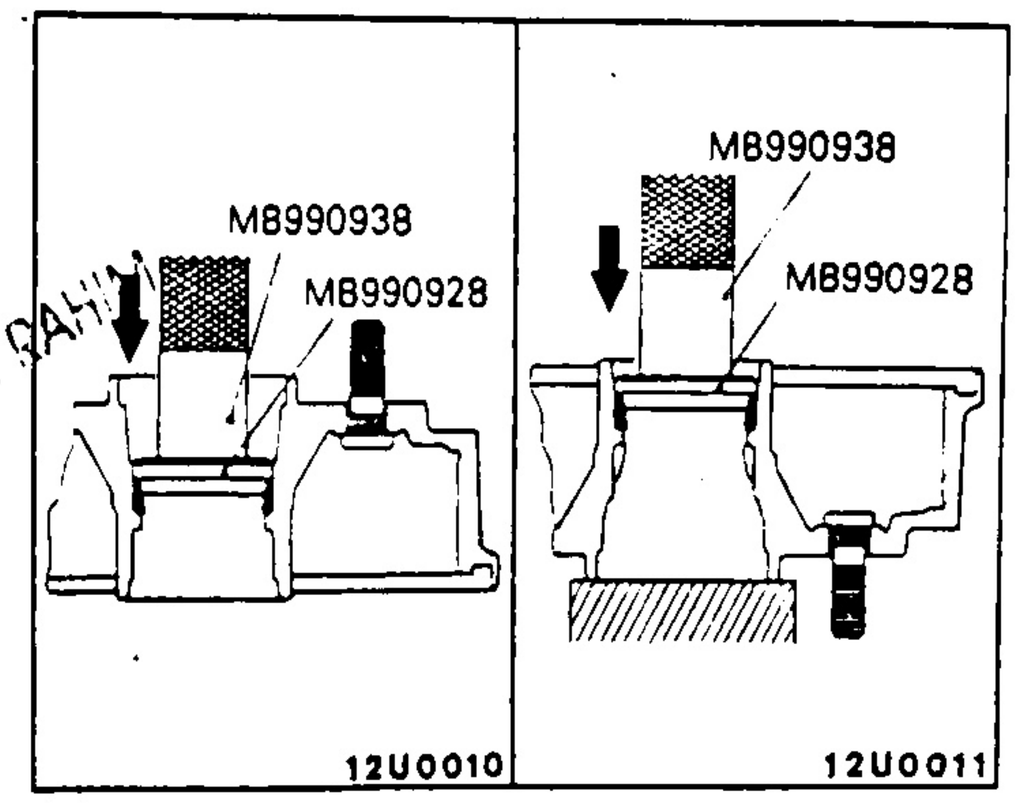


Confirm that the identification marks on the bearing are correct.

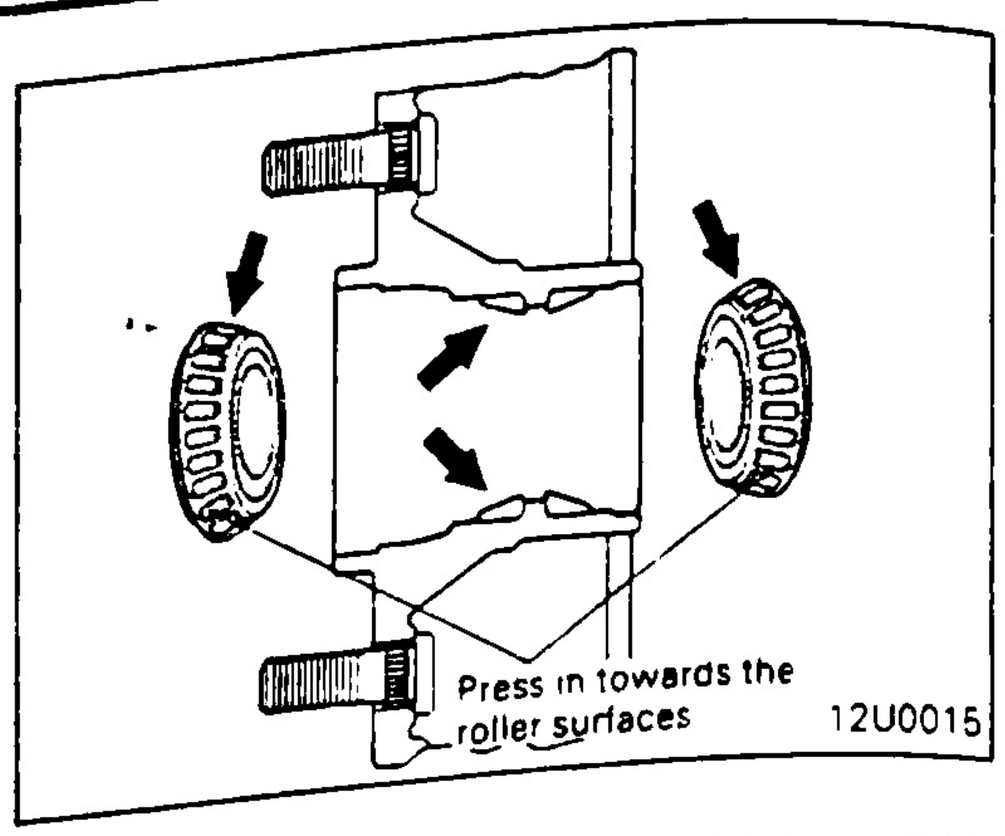
Caution
Do not use a bearing which has no identification marks.



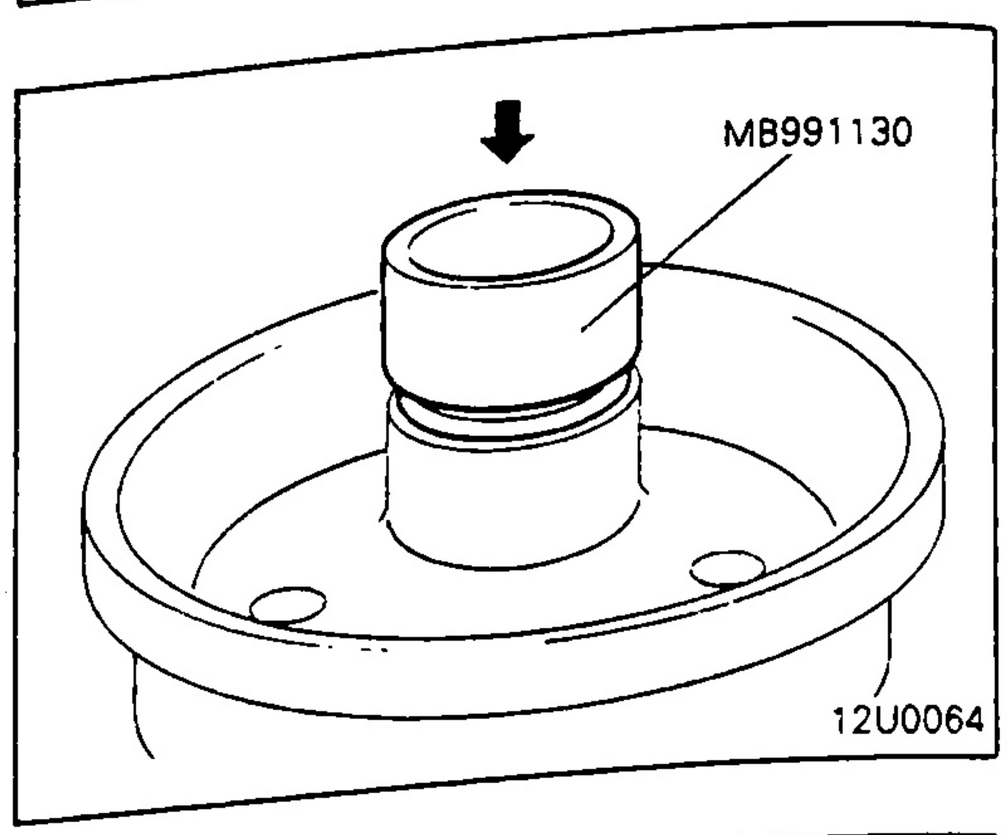
Install the bearing outer races by using the special tools.
If the press-fitting force is less than the standard value, replace the whole drum assembly.



Apply the specified multipurpose grease to the bearings and inside surface of the hub.



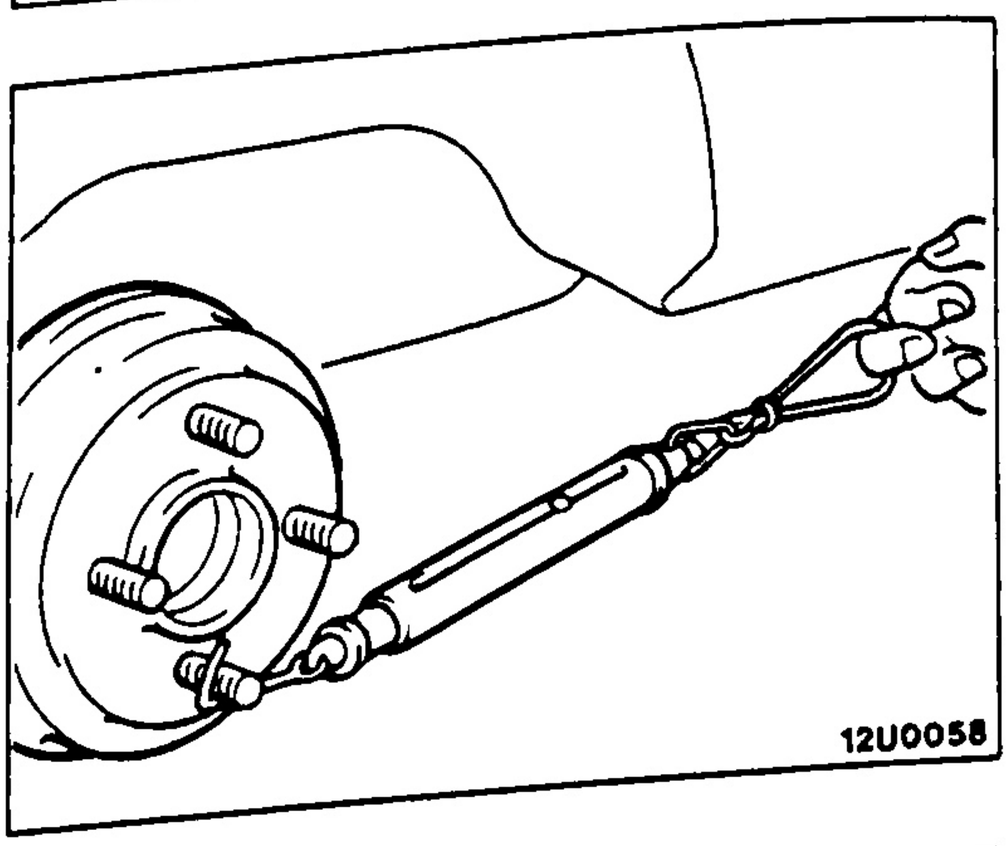
Install the inner bearing inner races, and then use the special tools to press-fit the oil seal into the end of the drum.



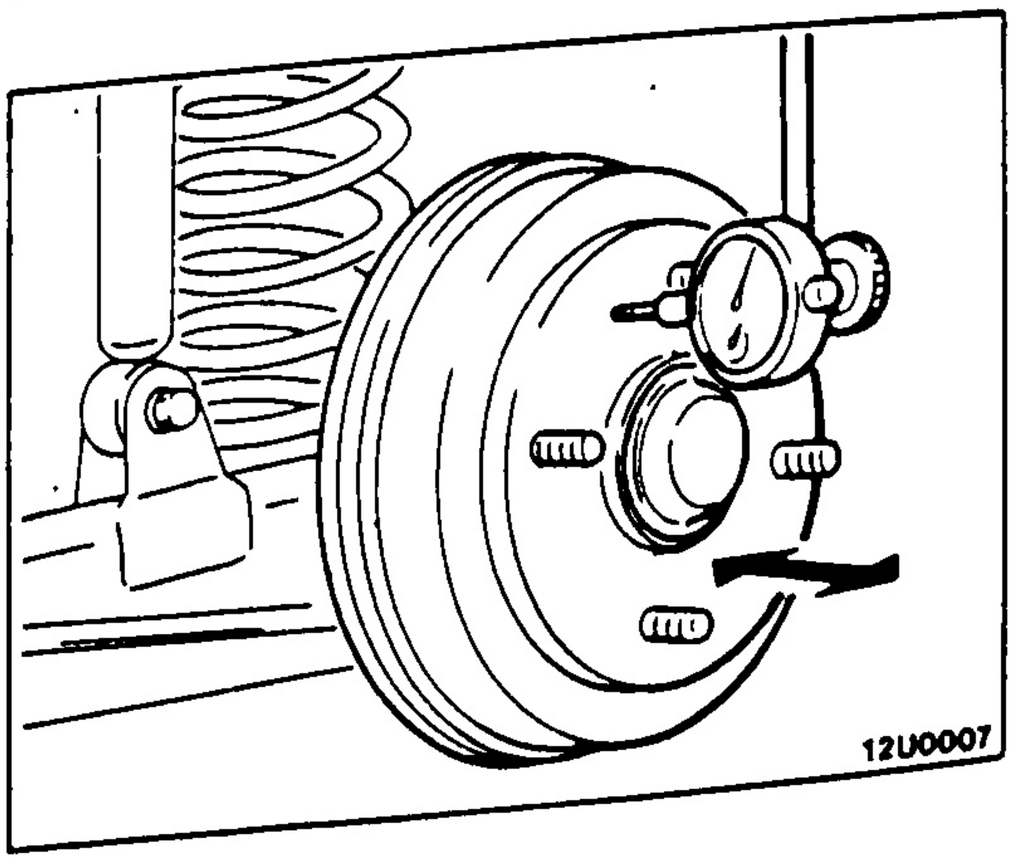
INSTALLATION

Turn the hub to lubricate the bearing with grease thoroughly.
Measure the hub starting torque.
Apply the specified grease to the bearings and oil seal lips.
Install the brake drum and tighten to the specified torque.

Caution
Make sure that a new self-locking nut is used.



Measure the wheel bearing axial play.
If the wheel bearing axial play cannot be reduced to less than the limit value within the specified tightening torque range, it is likely that the bearing and knuckle and hub have been improperly installed. Reassemble.



REAR AXLE HUB

Pack the specified grease in the hub cap before installation.

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