FRONT AXLE

CONTENTS

M26AA- -

SPECIFICATIONS

M26CA-A

GENERAL SPECIFICATIONS

Items	FWD	AWD
Wheel bearing		
Type	Double-row angular-contact ball bearing	Unit ball bearing
O.D. x I.D. mm (in.)	84 x 45 (3.31 x 1.77)	
Drive shaft		
Joint type		
Outer	B.J.	B.J.
Inner	T.J.	T.J.
Length mm (in.)		
L.H. shaft	417 (16.4)	419 (16.5)
R.H. shaft	405 (15.9) or 393 (15.5)"	391 (15.4)

NOTE
*: <A/T>

SERVICE SPECIFICATIONS

M26CB-A

terns	Specifications
Standard value	
Setting of T.J. boot length mm (in.)	
L.H.	85 ± 3 (3.35 ± .12)
R.H.	85 ± 3 (3.35 ± .12)
Limit	
Hub end play mm (in.)	0.05 (.002)
Wheel bearing starting torque (Hub starting torque) Nm (in.lbs.)	1.8 (16)

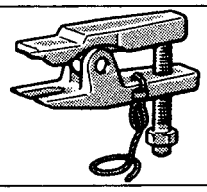
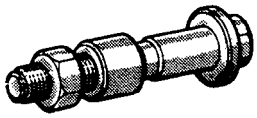
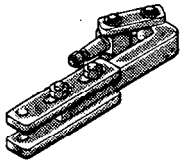
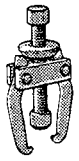
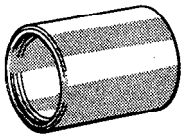
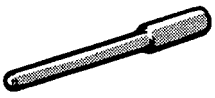
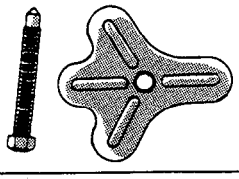
LUBRICANTS

M26CD-A

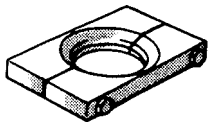
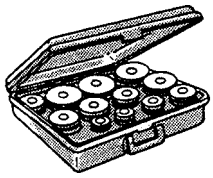
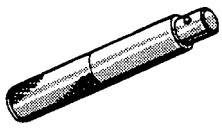
Items	Specified lubricants	Quantity
T.J. boot grease	Repair kit grease	160 g (5.64 oz.)
B.J. boot grease		
<FWD>	Repair kit grease	145 g (5.11 oz.)
<AWD>		135 g (4.76 oz.)
Dust seal inner	Multipurpose grease	14 – 20 g (.49 – .71 oz.)
Dust seal outer		8 – 12 g (.28 – .42 oz.)

SPECIAL TOOLS

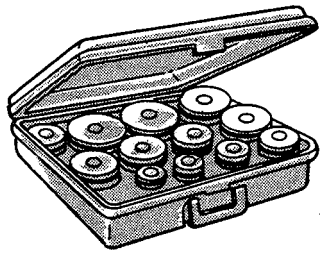
M26DA-A

Tool	Number	Name	Use
	MB990635-01	Steering linkage puller	Removal of the lower arm ball joint and tie rod
	MB990998-01	Front hub remover and installer	Removal or press-in the front hub <FWD> Measurement of front hub unit bearing rotation starting torque <AWD>
	MB991355	Knuckle arm bridge	Removal of the hub <FWD>
	MB990810-01	Side bearing puller	Removal of the wheel bearing inner race <FWD>
	MB990955-01	Oil seal installer	Press-fitting of the oil seal (hub side)
	MB990947	Lower arm bushing arbor	
	MB990890-01	Rear suspension bushing base	Press-fitting of the wheel bearing and oil seal <FWD>
	MB990883-01	Rear suspension arbor	
	MB990241-01	Axle puller	Removal of the drive shaft

TSB Revision

Tool	Number	Name	Use
	MB991 248 or MD998801	Inner shaft remover	Removal of the inner shaft
	MB990925-01	Bearing and oil seal installer set	Removal of wheel bearing M B990932-01 M B990938-01 Removal and installation of center bearing MB990930-01 MB990932-01 M B990938-01
	MB990938-0 1	Handle	

MB990925-01

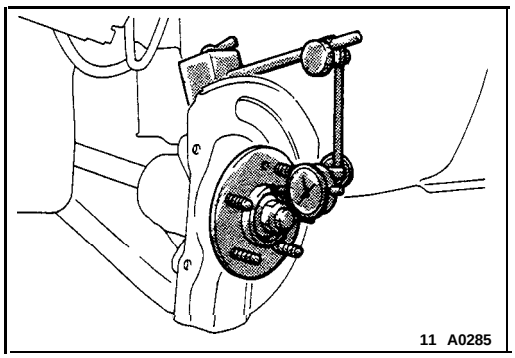


Tool number	Installer disc O.D. mm (in.)
MB990926-01	39.0 (1.54)
MB990927-01	45.0 (1.77)
MB990928-01	49.5 (1.95)
M B990929-01	51 .0 (2.01)
MB990930-01	54.0 (2.13)
MB990931-01	57.0 (2.24)
MB990932-01	61 .0 (2.40)
MB990933-01	63.5 (2.50)
MB990934-01	67.5 (2.66)
MB990935-01	71.5 (2.81)
MB990936-01	75.5 (2.97)
MB990937-01	79.0 (3.11)

TROUBLESHOOTING

M26EBAA

Symptom	Probable cause	Remedy
Vehicle pulls to one side	Seizure of drive shaft ball joint	Replace
	Abnormal wear, play or seizure of wheel bearing	Replace
	Malfunction of front suspension or steering	Adjust or replace
Vibration	Bend, damage or abnormal wear of drive shaft	Replace
	Play in drive shaft and hub serration	Replace
	Abnormal wear, play or seizure of wheel bearing	Replace
Shimmy	Improper wheel alignment	Adjust or replace
	Malfunction of front suspension or steering	Adjust or replace
Excessive noise	Broken boot, grease leakage	Replace, repack grease
	Bend, damage or abnormal wear of drive shaft	Replace
	Play of drive shaft and hub serration	Replace
	Abnormal wear, play or seizure of center bearing	Replace
	Abnormal wear, play or seizure of wheel bearing	Replace
	Loose wheel nut	Retighten
	Malfunction of front suspension and steering	Adjust or replace



SERVICE ADJUSTMENT PROCEDURES

HUB END PLAY INSPECTION

M26FAAE

1. Jack up the vehicle and remove the front wheels.
2. Remove the disc brake caliper and suspend it with a wire. (Refer to GROUP 35 – Service Adjustment Procedures.)
3. Attach a dial indicator as shown in the illustration, and then measure the axial play while moving the hub back and forth.

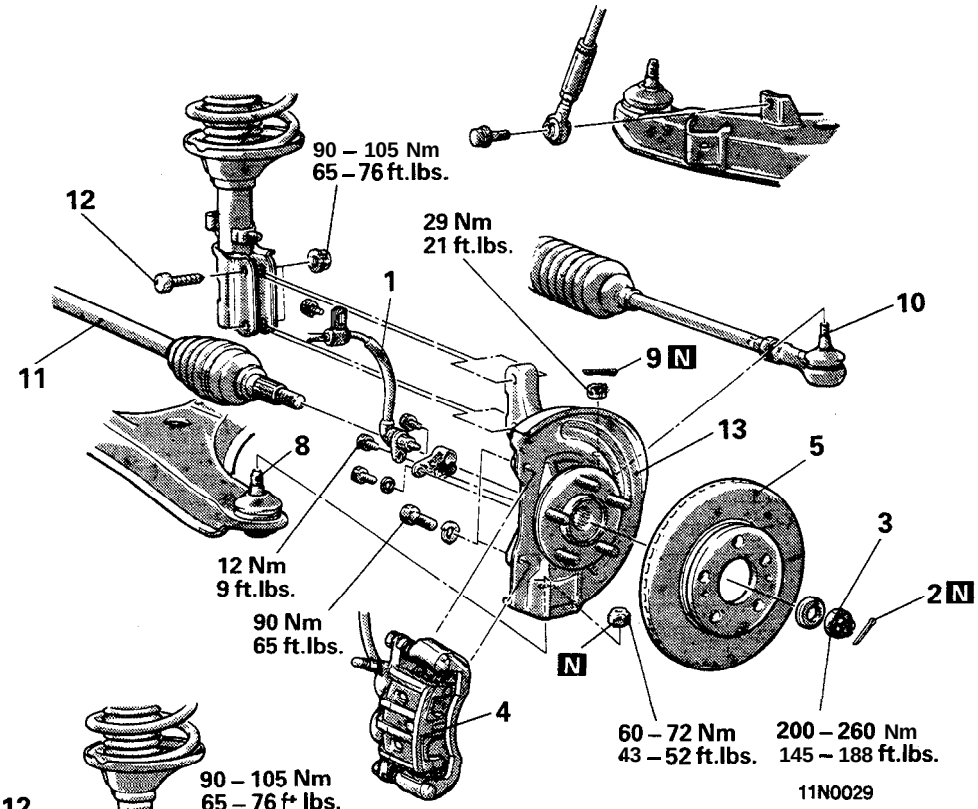
   Limit: 0.05 mm (.002 in.)
4. If axial play exceeds the limit, disassemble and check parts.

HUB AND KNUCKLE

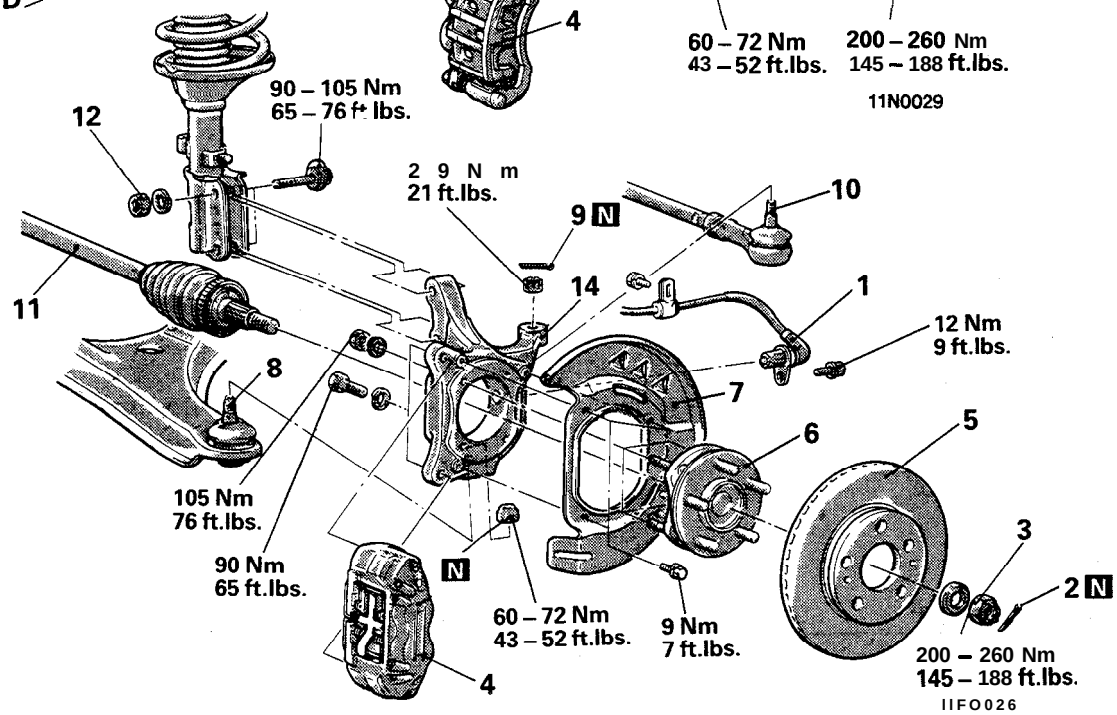
M26IA- -

REMOVAL AND INSTALLATION

<FWD>



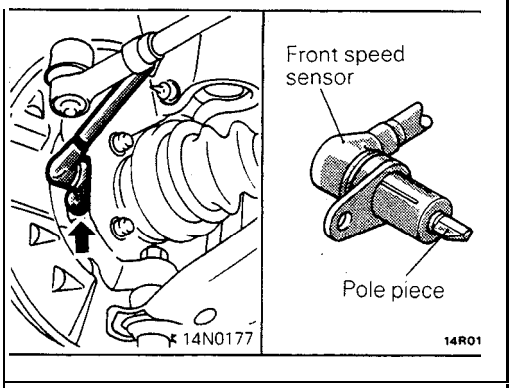
<AWD>



Removal steps

- ⇔ 1. Front speed sensor connection <Vehicles with A.B.S.*>
- ● * 2. Cotter pin
- ⇔ ● + 3. Drive shaft nut
- ⇔ 4. Caliper assembly
- 5. Brake disc
- 6. Front hub unit bearing
- 7. Dust shield
- ⇔ 8. Lower arm ball joint connection
- 9. Cotter pin
- ⇔ 10. Tie rod end connection
- ⇔ 11. Drive shaft
- 12. Front strut mounting bolt
- 13. Hub and knuckle
- ⇔ 14. Hub

NOTE
*: Anti-lock braking system

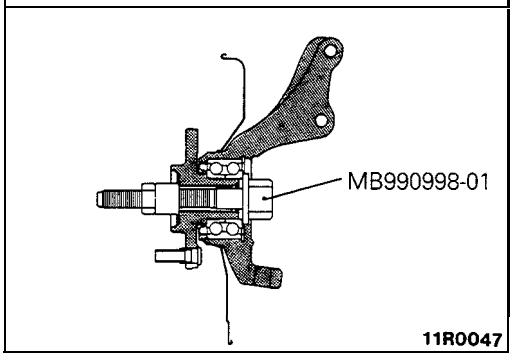


SERVICE POINTS OF REMOVAL M261BAH

1. DISCONNECTION OF FRONT SPEED SENSOR

Remove the mounting bolts which hold the speed sensor bracket to the knuckle, and then remove the speed sensor.

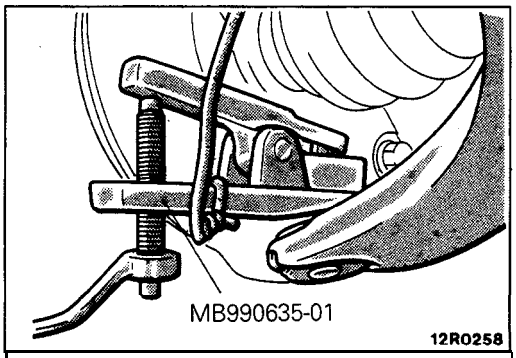
Caution
Be careful when handling the pole piece at the tip of the speed sensor and the toothed edge of the rotor so as not to damage them by striking against other parts.



3. REMOVAL OF DRIVE SHAFT NUT

Loosen the drive shaft nut while the vehicle is on the floor with the brakes applied.

Caution
Do not apply vehicle load to the wheel bearing loosing the drive shaft nut. If, however, vehicle load must be applied to the bearing in moving the vehicle, temporarily secure the wheel bearing by using the special tools, MB990998-01, etc.



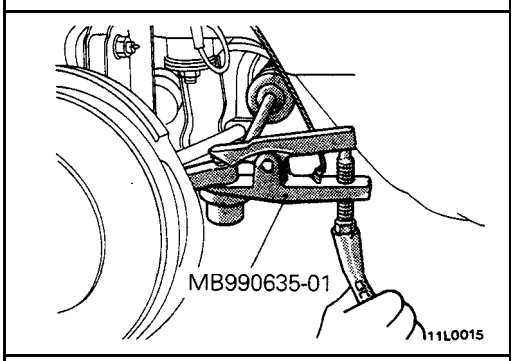
4. REMOVAL OF CALIPER ASSEMBLY

Remove the caliper assembly and suspend it with wires.

8. DISCONNECTION OF LOWER ARM BALL JOINT

Using the special tool, disconnect the lower arm ball joint from the knuckle.

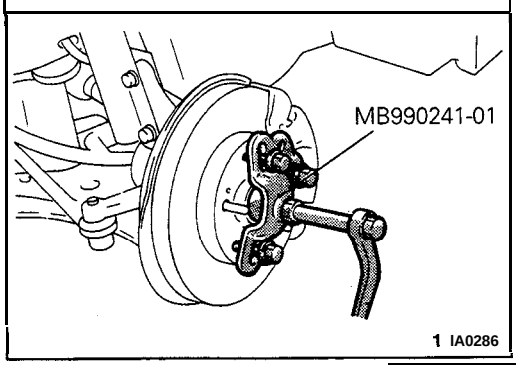
Caution
1. Be sure to tie the cord of the special tool to the nearby part.
2. Loosen the nut but do not remove it.



10. DISCONNECTION OF TIE ROD END

Using the special tool, disconnect the tie rod end from the knuckle.

Caution
1. Be sure to tie the cord of the special tool to the nearby part.
2. Loosen the nut but do not remove it.



11. REMOVAL OF DRIVE SHAFT

Use the special tool to push out the drive shaft from the front hub.

14. REMOVAL OF HUB

In the case of AWD-vehicles with A.B.S., take care not to damage the rotor for A.B.S. installed to the B.J. outer race when removing the hub.

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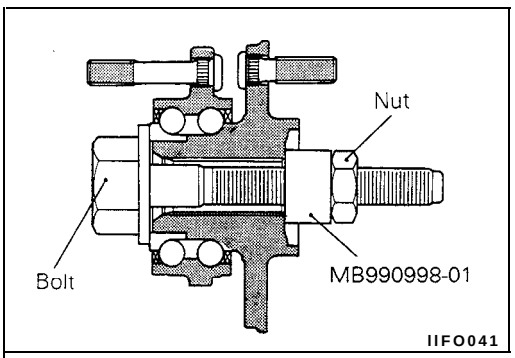
INSPECTION

M26ICAE

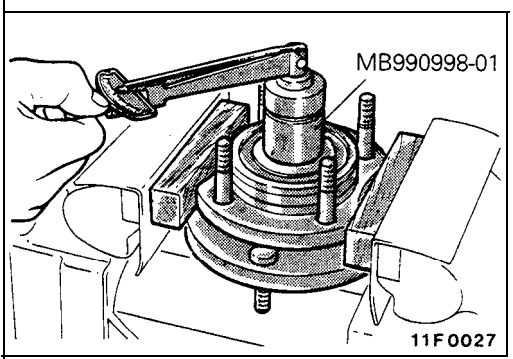
- Check the hub for cracks and spline for wear.
- Check the oil seal for damage.
- Check the knuckle for cracks.
- Check for defective bearing.

NOTE
If the meshing of the wheel bearing outer race and the knuckle, or of the wheel bearing inner race and the hub, is loose, replace the bearing or damaged parts.

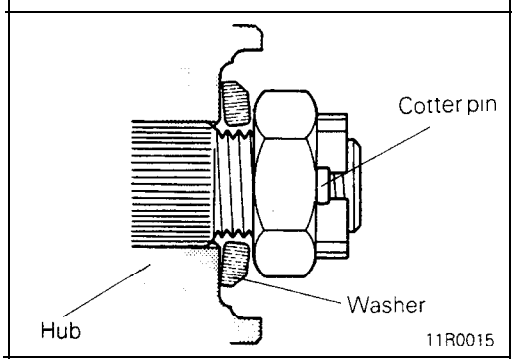


MEASUREMENT OF FRONT HUB UNIT BEARING ROTATION STARTING TORQUE

(1) Set the special tool to the front hub unit bearing.
(2) Holding the special tool (bolt), tighten its nut to 200 to 260 Nm (145 to 188 ft.lbs.).
(3) Turn the hub to cause grease to distribute evenly over the bearing.



(4) Measure the rotation starting torque of the hub.
Limit: 1.8 Nm (16 in.lbs.) or less



SERVICE POINT OF INSTALLATION

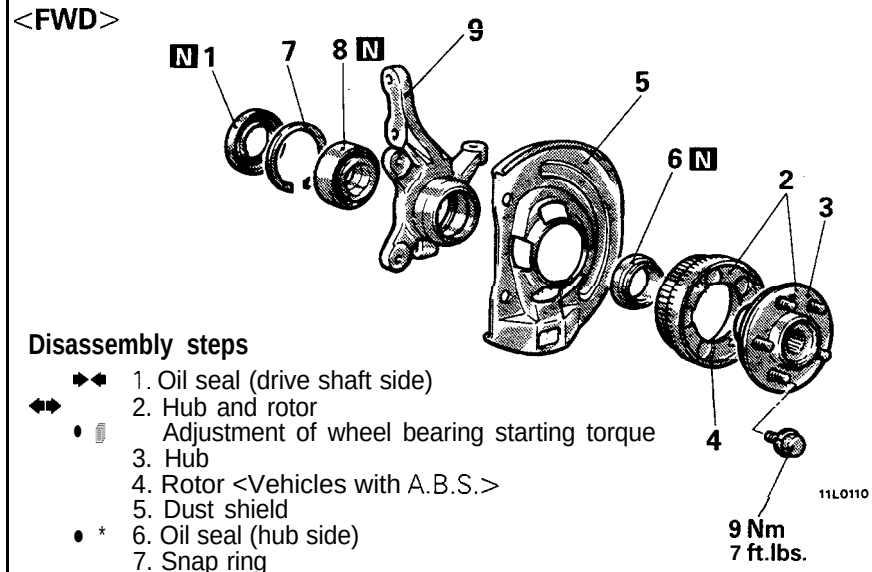
M26IDAG

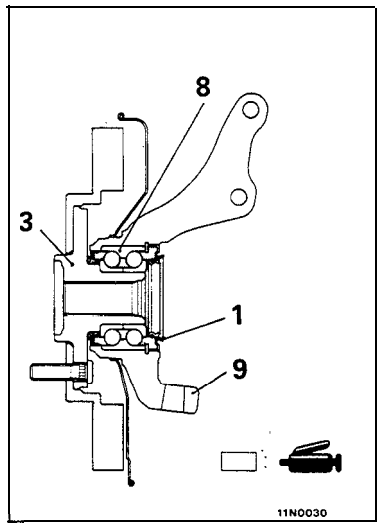
3. INSTALLATION OF DRIVE SHAFT NUT / 2. COTTER PIN

(1) Be sure to install the washer and wheel bearing nut in the specified direction.
(2) After installing the wheel, lower the vehicle to the ground and finally tighten the wheel bearing nut.
(3) If the position of the cotter pin holes does not match, tighten the nut up to 260 Nm (188 ft.lbs.) in maximum.
(4) Install the cotter pin in the first matching holes and bend it securely.

DISASSEMBLY AND REASSEMBLY

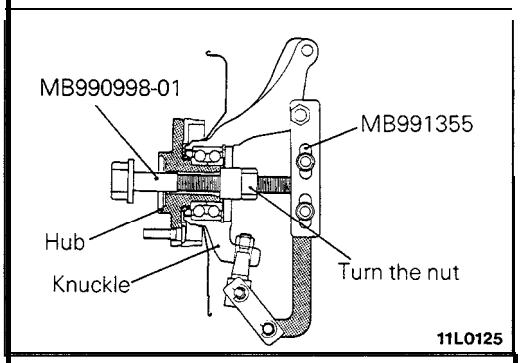
M26IE-.

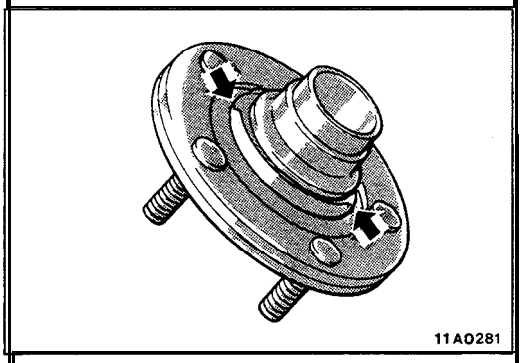


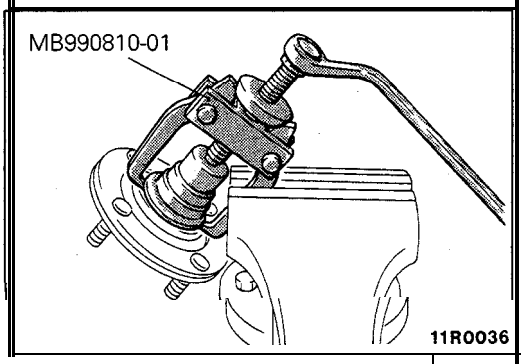


Disassembly steps

- ◆◆ 1. Oil seal (drive shaft side)
- ◆◆ 2. Hub and rotor
- • ▯ Adjustment of wheel bearing starting torque
- 3. Hub
- 4. Rotor <Vehicles with A.B.S.>
- 5. Dust shield
- • * 6. Oil seal (hub side)
- 7. Snap ring
- ◆◆ • * 8. Wheel bearing
- 9. Knuckle







SERVICE POINTS OF DISASSEMBLY

M26IFAP

2. REMOVAL OF HUB AND ROTOR

(1) Attach the special tools to the knuckle and front hub.
(2) Secure the knuckle in a vise.
(3) Tighten the nut of the special tool and remove the hub and rotor from the knuckle.

Caution
1. Be sure to use the special tools.
2. If the hub and knuckle are disassembled by striking them with a hammer, the bearing will be damaged.

8. REMOVAL OF WHEEL BEARING

(1) Crush the oil seal in two places to that the tabs of the special tool will be caught on the wheel bearing inner race.

(2) Remove the wheel bearing inner race from the hub by using the special tool.

Caution
Be careful that the hub will not fall down as the wheel bearing inner race (outer side) is removed from the hub.

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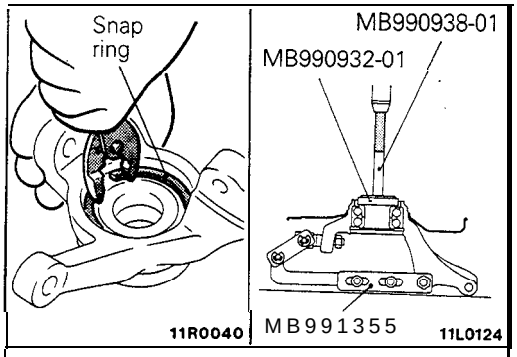


(3) Remove the snap ring from the knuckle.
(4) Remove the bearing by using the special tools.

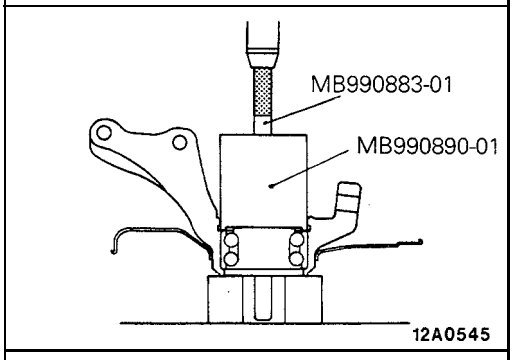
NOTE
Removal is easier if the outer side inner race removed from the hub is placed on the bearing and the wheel bearing is then removed.

INSPECTION M26IGAC

- Check the hub and brake disc mounting surfaces for galling and contamination.
- Check the knuckle inner surface for galling and cracks.
- Check for defective bearing.

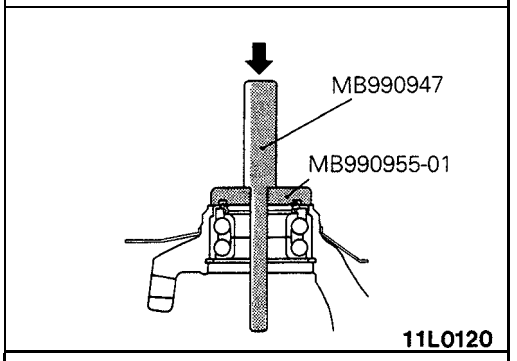
SERVICE POINTS OF REASSEMBLY M26IHAO

8. INSTALLATION OF WHEEL BEARING



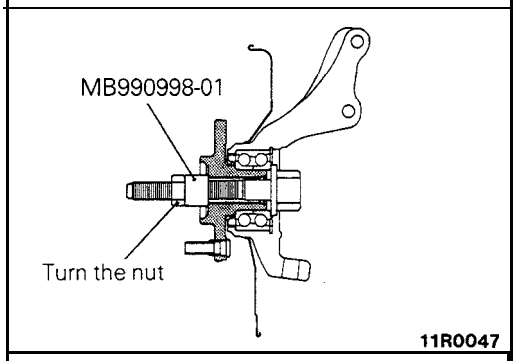
(1) Fill the wheel bearing with multipurpose grease.
(2) Apply a thin coating of multipurpose grease to the knuckle and bearing contact surfaces.
(3) With the wheel bearing inner race removed, press-in the bearing by using the special tools.
(4) Install the wheel bearing inner race to the wheel bearing.

6. INSTALLATION OF OIL SEAL (HUB SIDE)

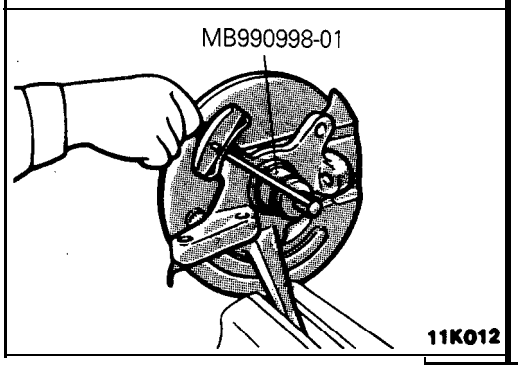


(1) Drive the oil seal (hub side) into the knuckle by using the special tools until it is flush with the knuckle end surface.
(2) Apply multipurpose grease to the lip of the oil seal and to the surfaces of the oil seal which contact the hub.

. ADJUSTMENT OF WHEEL BEARING STARTING TORQUE



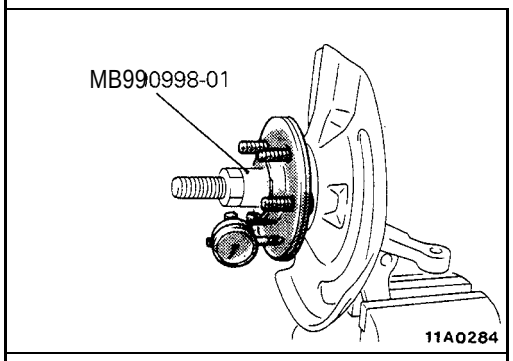
(1) Use the special tool to mount the hub assembly onto the knuckle.
(2) Tighten the nut of the special tool to 200 – 260 Nm (145 – 188 ft.lbs.).
(3) Rotate the hub assembly in order to seat the bearing.

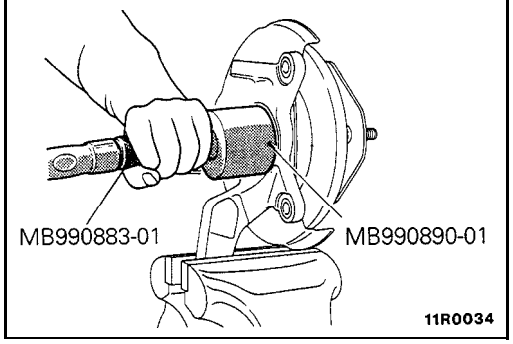


(4) Measure the wheel bearing starting torque (hub starting torque) by using the special tools.

Limit: 1.8 Nm (16 in.lbs.) or less

NOTE
The starting torque must be within the limit and, in addition, the bearing must not feel rough when rotated.





(5) Measure to determine whether the end play of the hub is within the specified limit or not.

Limit: 0.05 mm (.002 in.)

(6) If the starting torque and hub end play are not within the limit range while the nut is tightened to 200 – 260 Nm (145 – 188 ft.lbs.), the bearing, hub and/or knuckle have probably not been installed correctly. Repeat the disassembly and assembly procedure.

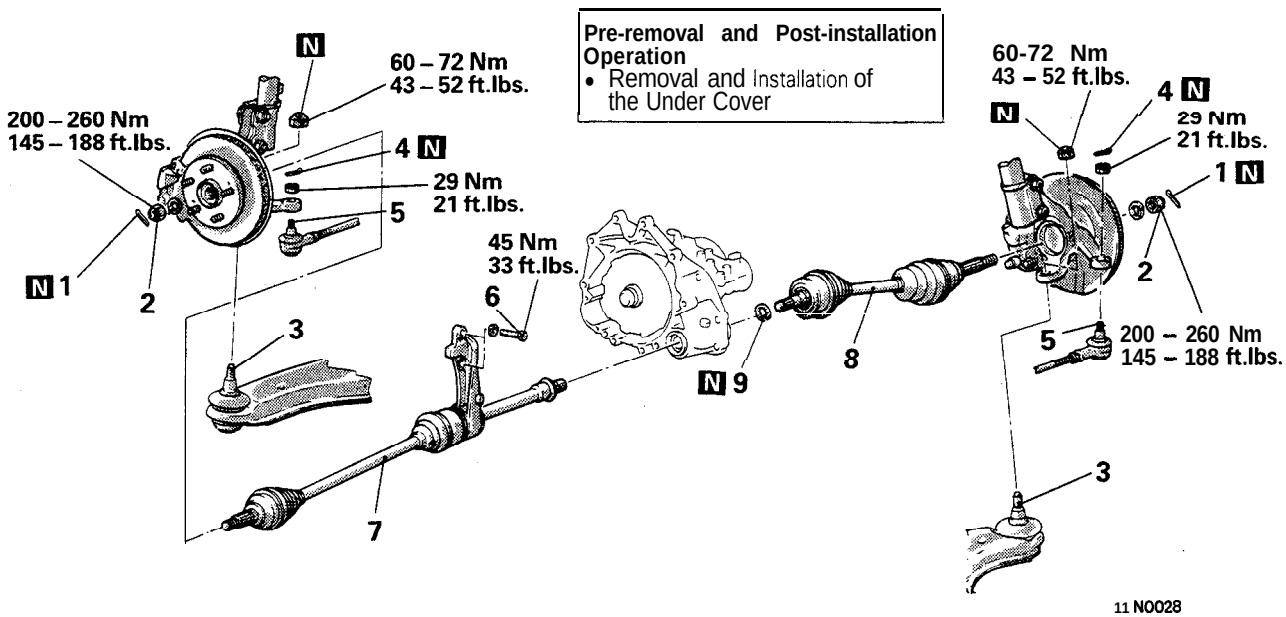
1. INSTALLATION OF OIL SEAL (DRIVE SHAFT SIDE)

Drive the oil seal (drive shaft side) into the knuckle until it contacts the snap ring.
Apply multipurpose grease to the lip of the oil seal.

DRIVE SHAFT

M26QA--

REMOVAL AND INSTALLATION

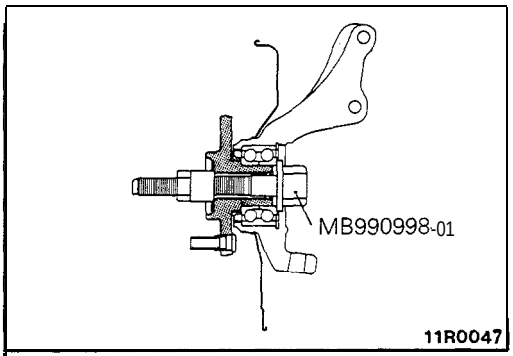


Removal steps

- 1. Cotter pin
- ◆◆ • a 2. Drive shaft nut
- ◆◆ 3. Lower arm ball joint connection
- 4. Cotter pin
- ◆◆ 5. Tie rod end connection
- 6. Center bearing bracket installation bolt
- ◆◆ 7. Drive shaft and inner shaft assembly (L.H.)
- ◆◆ 8. Drive shaft (R.H.)
- 9. Circlip

Caution
In the case of AWD-vehicles with A.B.S., take care not to damage the rotor for A.B.S. installed to the B.J. outer race.

TSB Revision

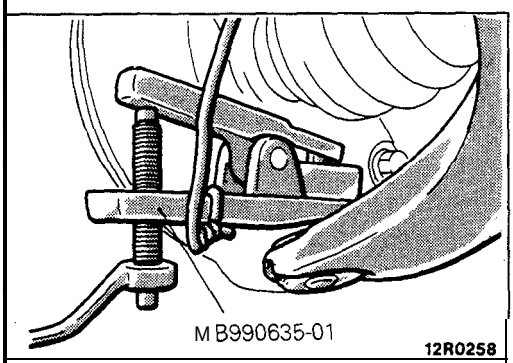


SERVICE POINTS OF REMOVAL M26QBAY

2. REMOVAL OF DRIVE SHAFT NUT

Loosen the drive shaft nut while the vehicle is on the floor with the brakes applied.

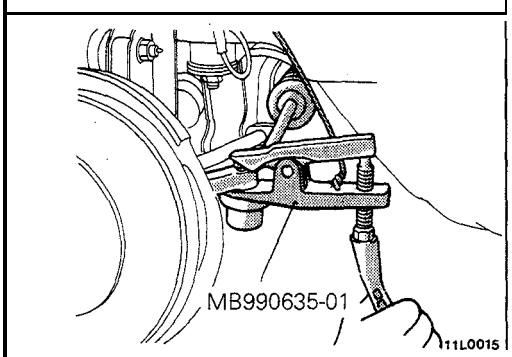
Caution
Do not apply vehicle load to the wheel bearing loosing the drive shaft nut. If, however, vehicle load must be applied to the bearing in moving the vehicle, temporarily secure the wheel bearing by using the special tools, MB990998-01, etc.



3. DISCONNECTION OF LOWER ARM BALL JOINT

Using the special tool, disconnect the lower arm ball joint from the knuckle.

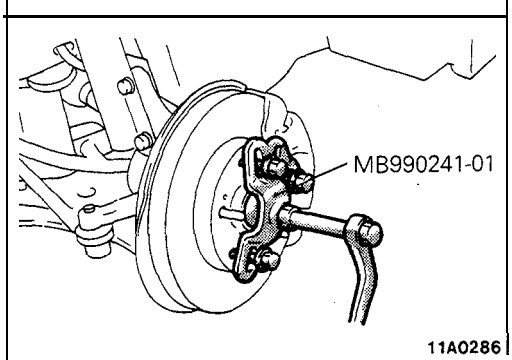
Caution
1. Be sure to tie the cord of the special tool to the nearby part.
2. Loosen the nut but do not remove it.



5. DISCONNECTION OF TIE ROD END

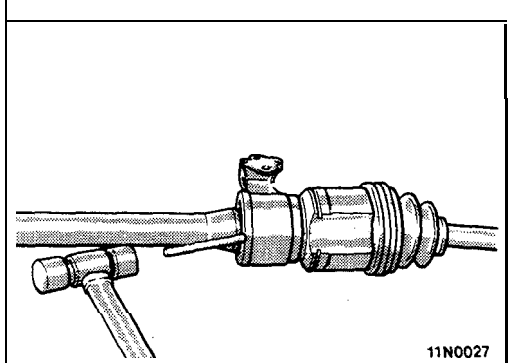
Using the special tool, disconnect the tie rod end from the knuckle.

Caution
1. Be sure to tie the cord of the special tool to the nearby part.
2. Loosen the nut but do not remove it.

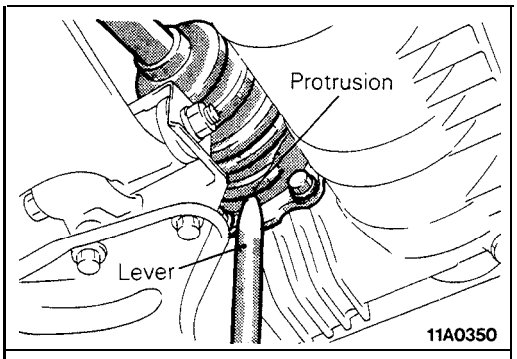


7. REMOVAL OF DRIVE SHAFT AND INNER SHAFT ASSEMBLY (L.H.) / 8. DRIVE SHAFT (R.H.)

(1) Using the special tool, push out the drive shaft and inner shaft assembly (L.H.) or the drive shaft (R.H.) from the hub.



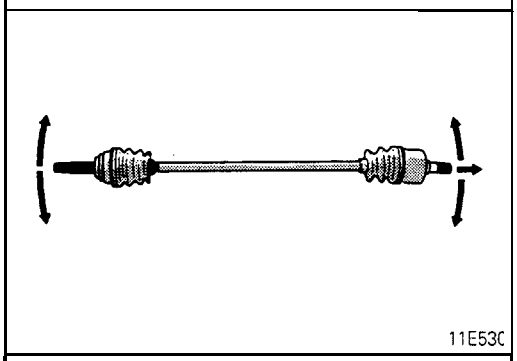
(2) If the inner shaft is hard to remove from the transaxle, strike the center bearing bracket lightly with a plastic hammer.



(3) To remove the drive shaft (R.H.) from the transaxle, pry off the shaft using a lever against the protrusion of the drive shaft.

Caution
Pulling the drive shaft can cause damage to the T.J. Be sure to use a lever.

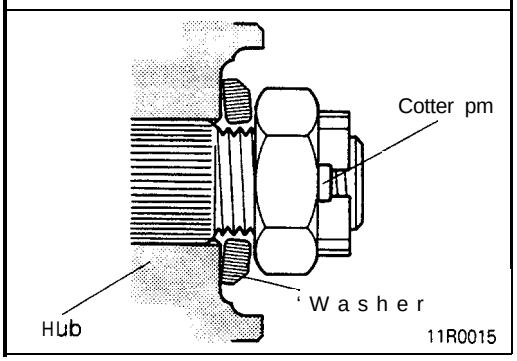
INSPECTION M26QCAG



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

SERVICE POINT OF INSTALLATION M26QDAR

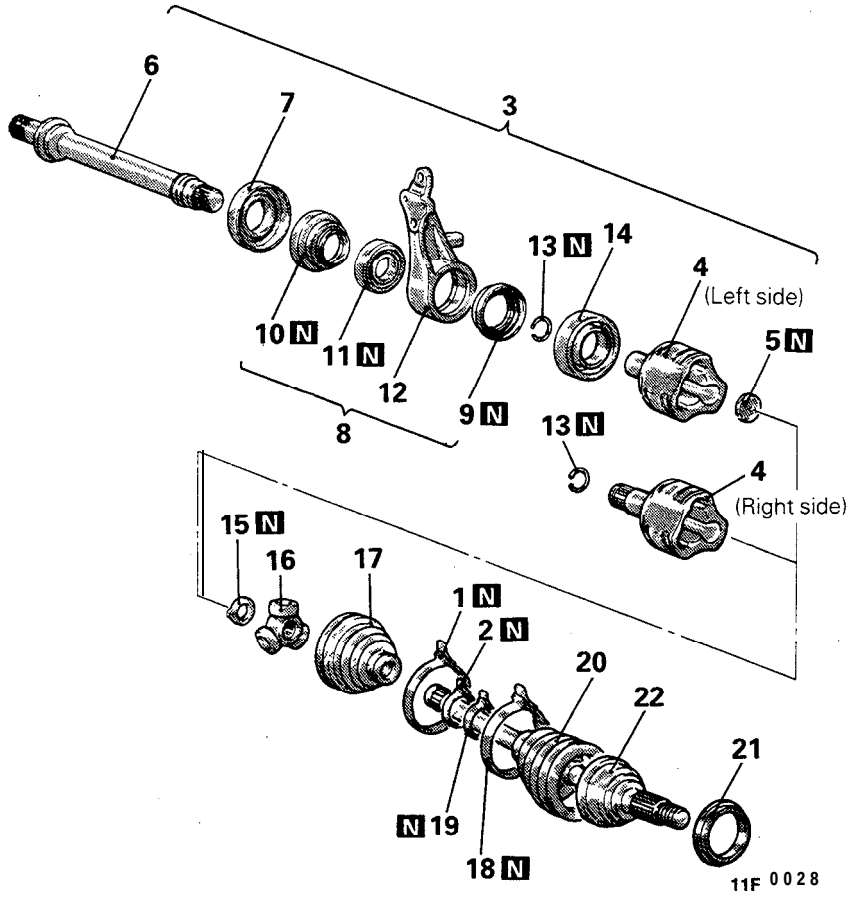
2. INSTALLATION OF DRIVE SHAFT NUT

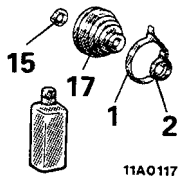


(1) Be sure to install the washer and wheel bearing nut in the specified direction.
(2) After installing the wheel, lower the vehicle to the ground and finally tighten the wheel bearing nut.
(3) If the position of the cotter pin holes does not match, tighten the nut up to 260 Nm (188 ft.lbs.) in maximum.
(4) Install the cotter pin in the first matching holes and bend it securely.

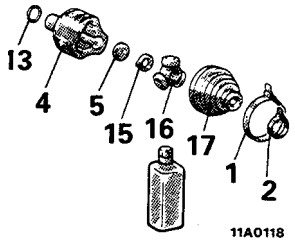
DISASSEMBLY AND REASSEMBLY

M26QE--

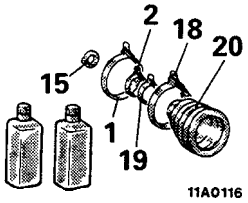




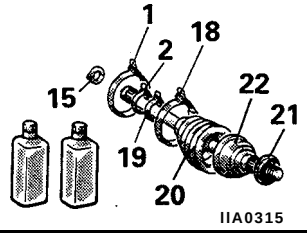
T.J. Boot Repair Kit



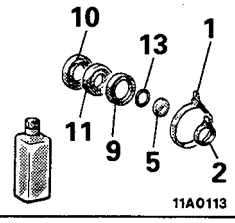
T.J. Repair Kit



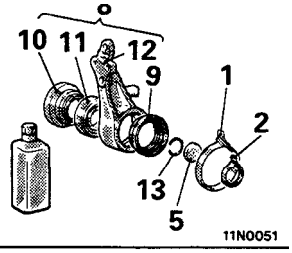
B.J. Boot Repair Kit



B.J. Repair Kit



Bearing Dust Seal Repair Kit



Bracket Assembly Repair Kit

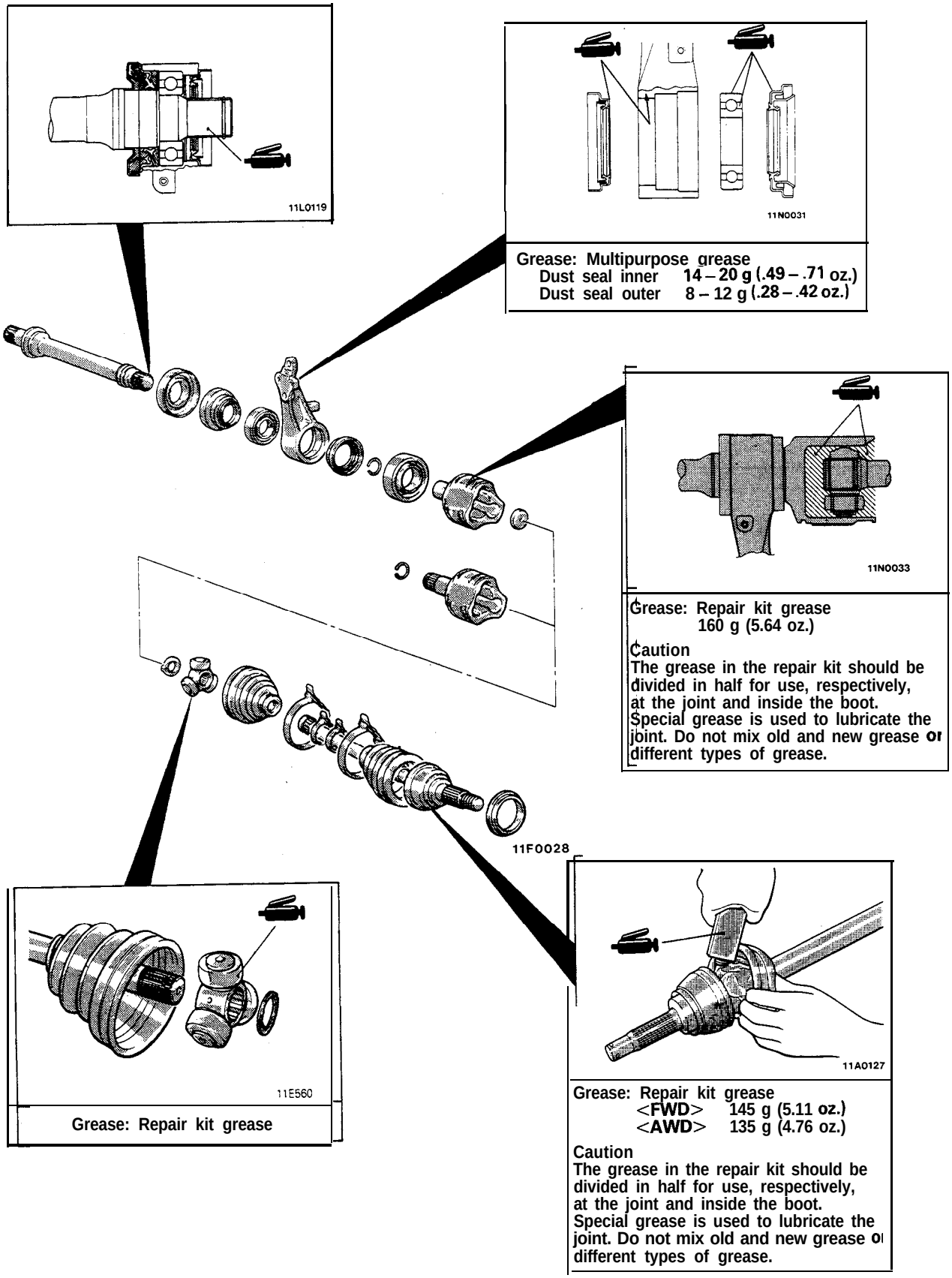
Disassembly steps

- ● + 1. T.J. boot band (large)
- ● * 2. T.J. boot band (small)
- ➡◀ 3. T.J. case and inner shaft assembly
- 4. T.J. case
- 5. Seal plate
- ● *● + 6. Inner shaft
- 7. Dust shield
- 8. Bracket assembly
- ● a 9. Dust seal outer
- ➡◀ 10. Dust seal inner
- ◀➡ ➡◀ 11. Center bearing
- 12. Center bearing bracket
- 13. Circlip
- 14. Dust shield
- 15. Snap ring
- ● * 16. Spider assembly
- ◀➡ ● * 17. T.J. boot
- 18. B.J. boot band (large)
- 19. B.J. boot band (small)
- ● *➡◀ 20. B.J. boot
- 21. Dust shield
- ◀➡ 22. B.J. assembly

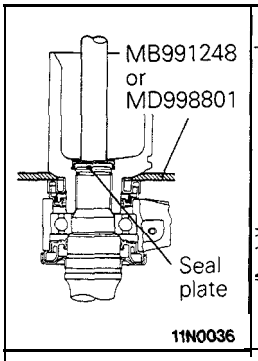
Caution
In the case of AWD-vehicles with A.B.S., take care not to damage the rotor installed to the B.J. outer race.

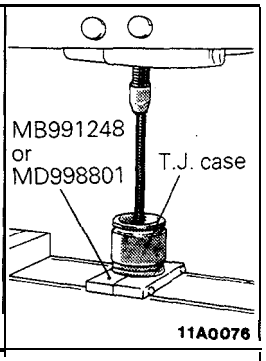
TSB Revision

ubrication Points



TSB Revision



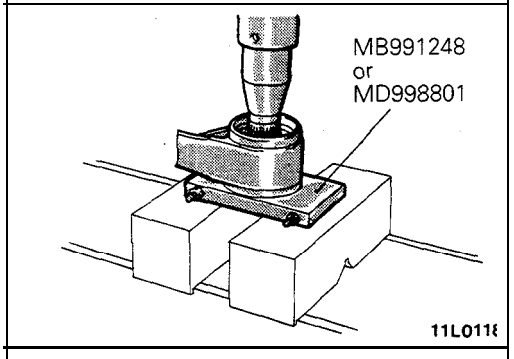


SERVICE POINTS OF DISASSEMBLY M26QFDE

6. REMOVAL OF INNER SHAFT

(1) Using the special tool, remove the inner shaft assembly, together with the seal plate, from the T.J. case.

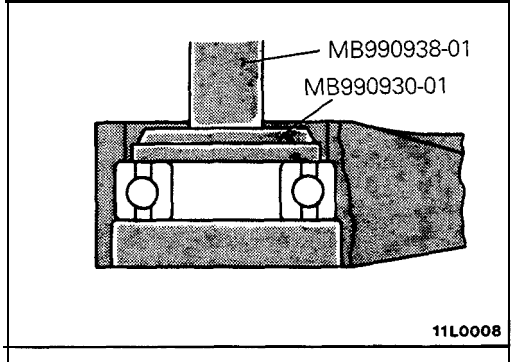
NOTE
Press the tool directly against the seal plate. The tool under pressure will puncture and deform the seal plate, and push out the inner shaft underneath.



(2) Use the special tool to remove the inner shaft from the center bearing bracket.

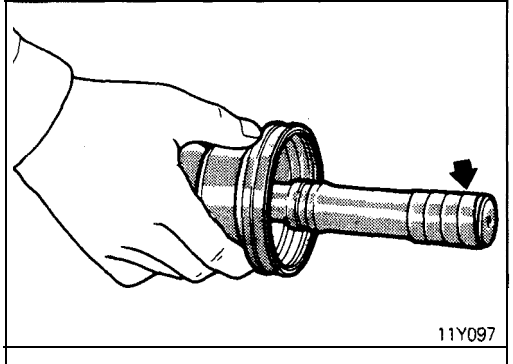
11. REMOVAL OF CENTER BEARING

Use the special tools to remove the center bearing from the center bearing bracket.



17. REMOVAL OF T.J. BOOT / 20. B.J. BOOT

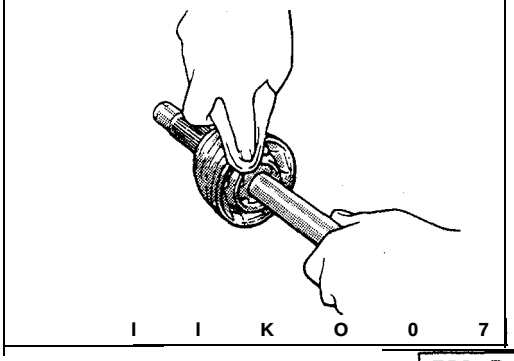
(1) Wrap vinyl tape around the spline on the T.J. side of the drive shaft so that the T.J. and B.J. boots are not damaged when they are removed.
(2) Withdraw the T.J. and B.J. boots from the drive shaft.



22. REMOVAL OF GREASE FROM B.J. ASSEMBLY

Wipe off grease from the B.J. assembly.

Caution
B.J. assembly cannot be disassembled.



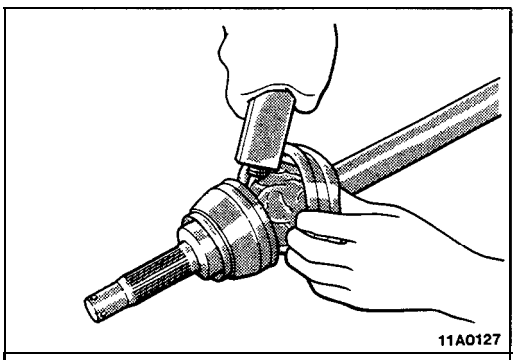
INSPECTION M26QGDD

- Check the drive shaft for damage, bending or corrosion.
- Check the inner shaft for damage, bending or corrosion.
- Check the drive shaft splines for wear or damage.
- Check the inner shaft splines for wear or damage.
- Check for entry of water and/or foreign material into B.J.
- Check the spider assembly for roller rotation, wear or corrosion.
- Check the groove inside T.J. case for wear of corrosion.
- Check the boots for deterioration, damage or cracking.
- Check the center bearing for seizure, discoloration or roughness of rolling surface.
- Check the dust cover for damage or deterioration.

SERVICE POINTS OF REASSEMBLY M26QHDF

20. INSTALLATION OF B.J. BOOT / 17. T.J. BOOT

(1) Wrap vinyl tape around the splines on the drive shaft, and then install the R.J. boots and T.J. boots, in that order.



(2) Fill the inside of the B.J. and B.J. boot with the specified grease.

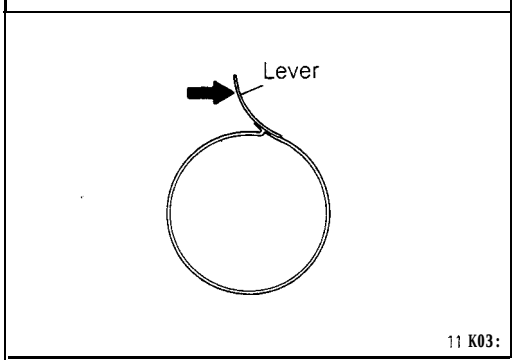
Specified grease: Repair kit grease

<FWD>	**145 g (5.11 oz.)**
<AWD>	**135 g (4.76 oz.)**

Caution

1. **The grease in the repair kit should be divided in half for use, respectively, at the joint and inside the boot.**
2. **Special grease is used to lubricate the joint. Do not mix old and new grease or different types of grease.**

(3) Secure the boot bands.

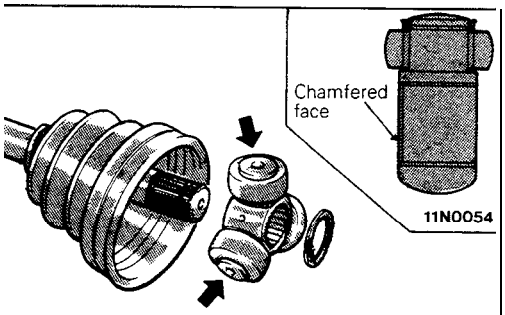


Boot band \ Models		FWD	AWD
B.J. boot band	Large	20–22#BJ104	20–75#BJ1 OOL
	Small	20–15#BJ104	20–72#BJ100
T.J. boot band	Large	20–131#BJ100	20–1 3 1 #BJ100
	Small	20–72#BJ100	20–72#BJ100

Caution

1. **The boot bands should be tightened with the drive shaft at a 0" joint angle.**
2. **The B.J. boot band and T.J. boot band are identified by the identification number stamped on the lever. Take good care to install the correct one.**

TSB Revision



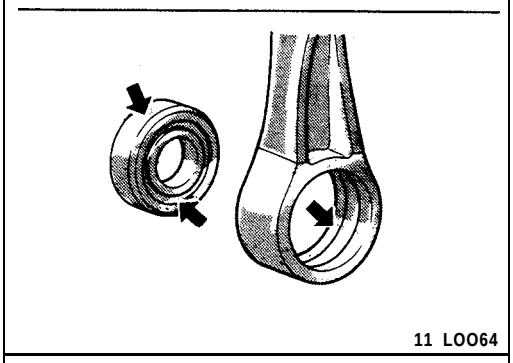
16. INSTALLATION OF SPIDER ASSEMBLY

(1) Pack specified grease amply between the spider shaft and rollers of the spider assembly.

Specified grease: Repair kit grease

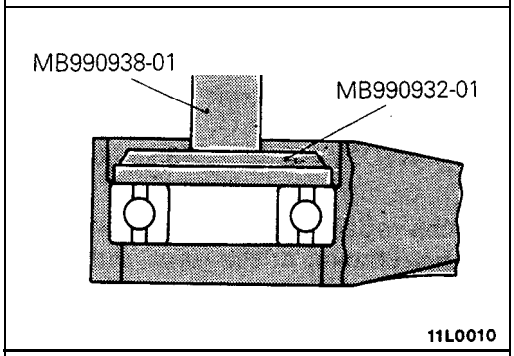
Caution
Special grease is used to lubricate the joint. Do not mix old and new grease or different types of grease.

(2) To install the spider assembly to the shaft, insert the shaft from the chamfered end of the spider.

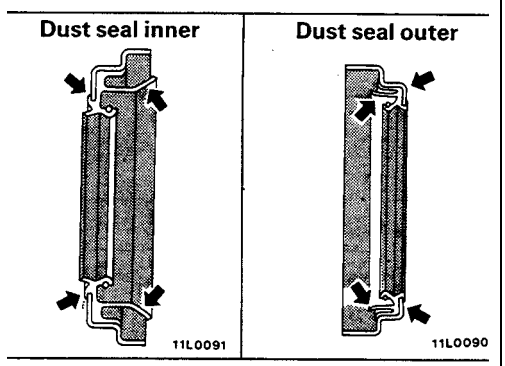


11. INSTALLATION OF CENTER BEARING

(1) Apply multipurpose grease to the center bearing and inside the center bearing bracket.



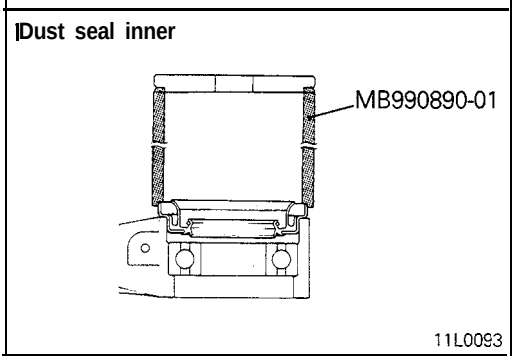
(2) Use the special tools to press-fit the center bearing into the center bearing bracket.



10.9. INSTALLATION OF DUST SEALS

(1) Apply multipurpose grease to the rear surfaces of all dust seals.

Dust seal inner: 14 – 20 g (.49 – .71 oz.)
Dust seal outer: 8 – 12 g (.28 – .42 oz.)



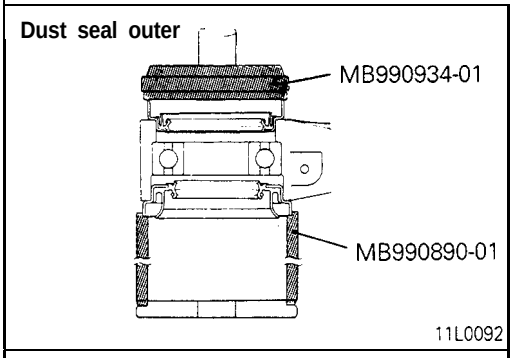
(2) Press the oil seal into the center bearing bracket using the special tool.

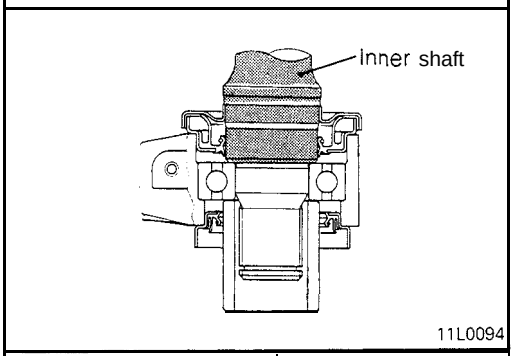
Caution
Take care not to damage the rubber part on the periphery of the dust seal.

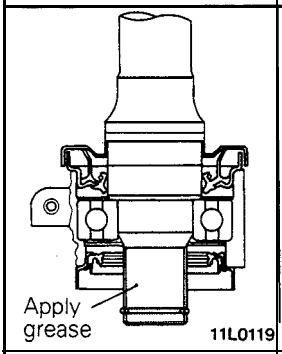
(3) Apply multipurpose grease to the lip of each dust seal.

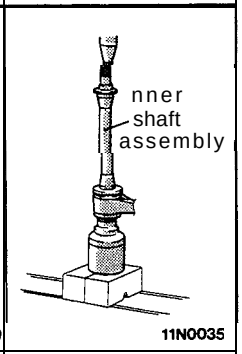
NOTE
When applying grease, make sure that it does not adhere to anything outside the lip.

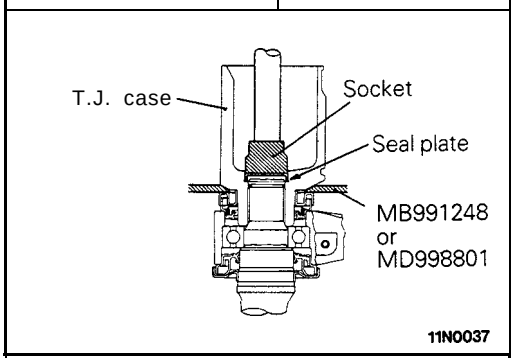
TSB Revision

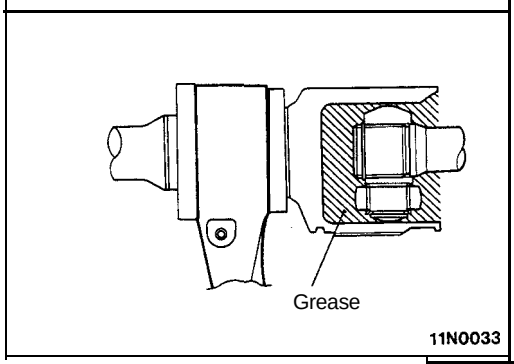












6. INSTALLATION OF INNER SHAFT

Use the pipe to hold the inner race of the center bearing and force the inner shaft into place.

3. INSTALLATION OF T.J. CASE AND INNER SHAFT ASSEMBLY

(1) Apply multipurpose grease to the inner shaft spline, then press fit it into the T.J. case.

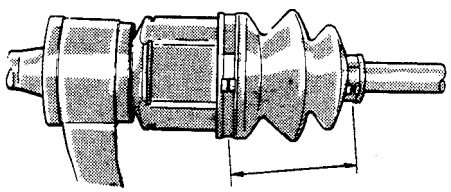
(2) Using the special tool, press the seal plate into the T.J. case.

(3) Fill the specified grease furnished in the repair kit to the T.J. case.

Specified grease: Repair kit grease
160 g (5.64 oz.)

Caution

1. **The grease in the repair kit should be divided in half for use, respectively, at the joint and inside the boot.**
2. **The drive shaft joint uses special grease. Do not mix old and new or different types of grease.**



2. 1. INSTALLATION OF T.J. BOOT BANDS

Set the T.J. boot bands at the specified distance in order to adjust the amount of air inside the T.J. boot, and then tighten the T.J. boot band securely.

Standard value: 85 ± 3 mm (3.35 ± .12 in.)