

TROUBLESHOOTING

22100070036

Symptom	Probable cause	Remedy
Vibration, noise	Loose or damaged transaxle and engine mounts	Tighten or replace mounts
	Inadequate shaft end play	Correct the end play
	Worn or damaged gears	Replace gears
	Use of inadequate grade of oil	Replace with specified oil
	Low oil level	Refill
	Inadequate engine idle speed	Adjust the idle speed
Oil leakage	Broken or damaged, oil seal or O-ring	Replace the oil seal or O-ring
Hard shift	Faulty control cable	Replace the control cable
	Poor contact or wear of synchronizer ring and gear cone	Correct or replace
	Weakened synchronizer spring	Replace synchronizer spring
	Use of inadequate grade of oil	Replace with the specified oil
Jumps out of gear	Worn gear shift fork or broken poppet spring	Replace the shift fork or poppet spring
	Synchronizer hub to sleeve spline clearance too large	Replace the synchronizer hub and sleeve

ON-VEHICLE SERVICE

22100090053

TRANSAXLE OIL LEVEL CHECK

Refer to GROUP 00 - Maintenance Service.

TRANSAXLE OIL REPLACEMENT

22100100055

Refer to GROUP 00 - Maintenance Service.

TRANSFER OIL LEVEL CHECK

22100110035

Refer to GROUP 00 - Maintenance Service.

TRANSFER OIL REPLACEMENT

22100120035

Refer to GROUP 00 - Maintenance Service.

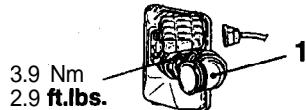
TRANSAXLE CONTROL

REMOVAL AND INSTALLATION

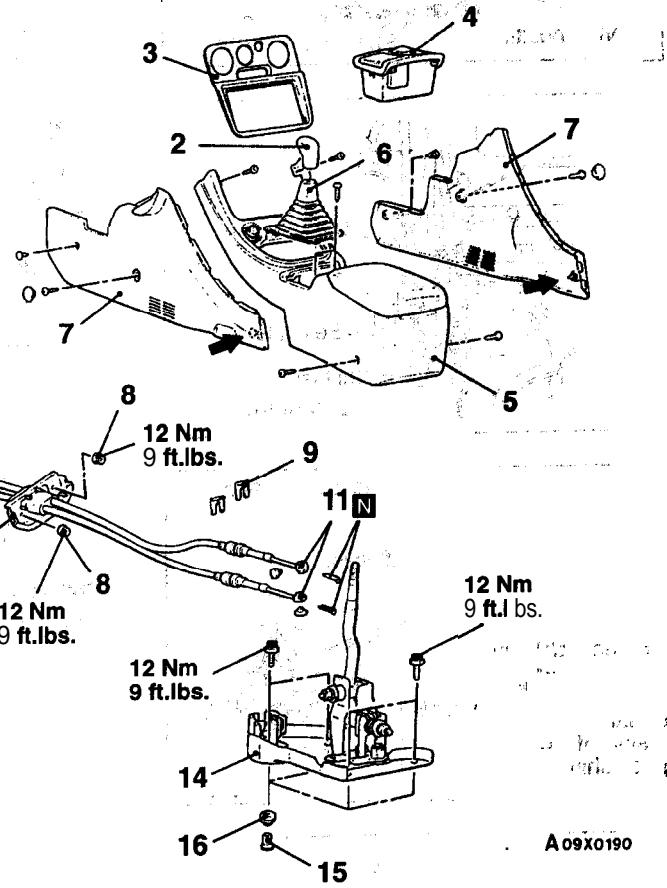
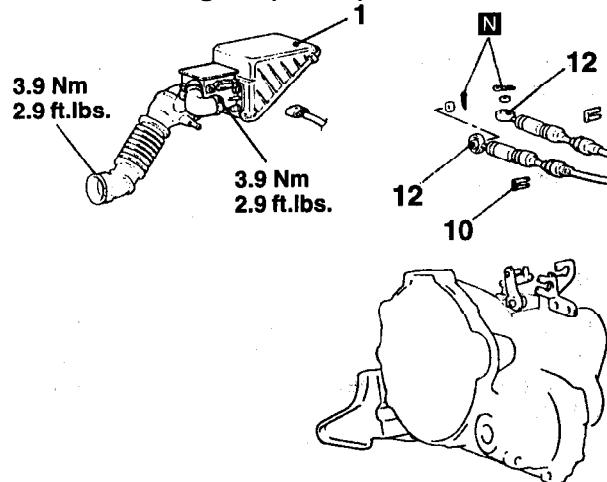
Caution: SRS

Be careful not to subject the SRS-ECU to any shocks during removal and installation of the transaxle control cable and shift lever assembly.

<2.4L Engine>



<2.0L Engine (Turbo)>



A09X0190

NOTE

◀: Resin clip position

Transaxle control cable assembly removal steps

1. Air cleaner and air intake hose assembly
2. Shift lever knob
3. Center panel
4. Cupholder assembly
5. Floor console assembly
6. Shift lever cover
7. Console side cover
8. Nut
9. Clip (passenger compartment side)
10. Clip (transaxle side)

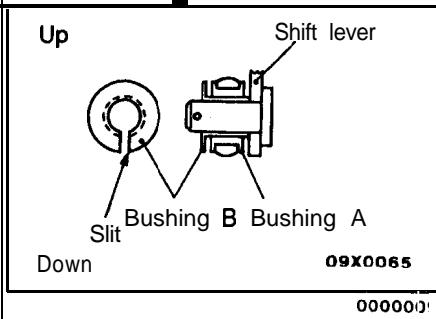
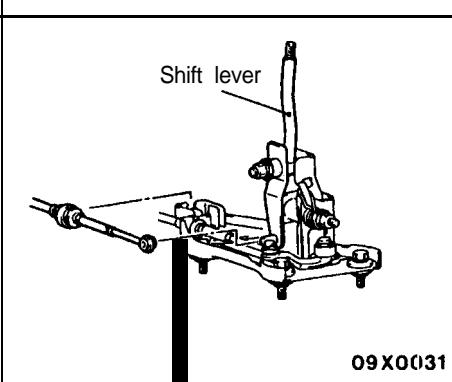
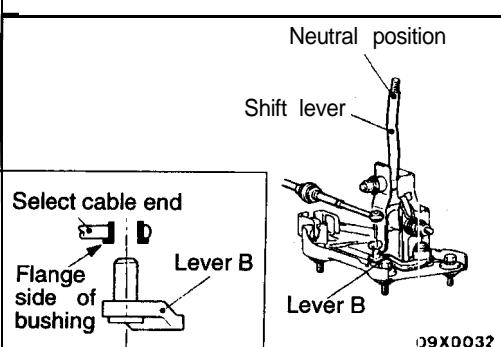
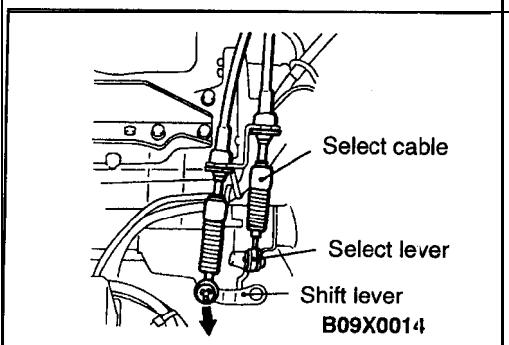
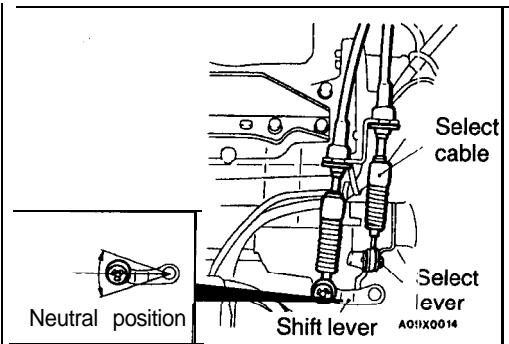
►B◀ 11. Shift cable and select cable connection (passenger compartment side)

►A◀ 12. Shift cable and select cable connection (transaxle side)

13. Shift cable and select cable assembly

Shift lever assembly removal steps

2. Shift lever knob
3. Center panel
4. Cupholder assembly
5. Floor console assembly
6. Shift lever panel
7. Console side cover
9. Clip (passenger compartment side)
11. Shift cable and select cable connection (passenger compartment side)
14. Shift lever assembly
15. Distance piece
16. Bushing



INSTALLATION SERVICE POINTS

►A◀ SHIFT CABLE AND SELECT CABLE CONNECTION (TRANSAXLE SIDE)

SELECT CABLE

- (1) Connect the select cable to the transaxle side select lever.
- (2) Set the shift lever of the transaxle side at the neutral position.

NOTE

When the shift lever of the transaxle side is set at the neutral position, the select lever of the transaxle side is also set at the neutral position.

SHIFT CABLE

- (1) Connect the shift cable to the transaxle shift lever.
- (2) While leaving the select lever at the transaxle side in the neutral position, move the shift lever at the transaxle side in the direction of the arrow in the illustration to set it to 4th gear.

NOTE

If the shift lever does not move easily, depress and hold the clutch pedal.

►B◀ SHIFT CABLE AND SELECT CABLE CONNECTION (PASSENGER COMPARTMENT SIDE)

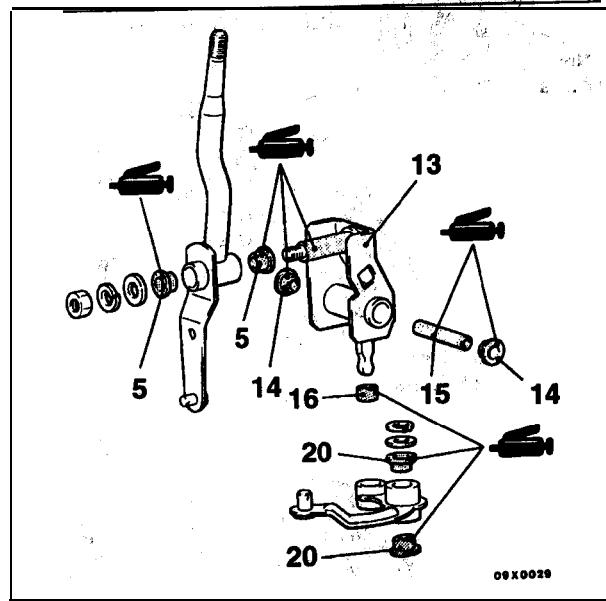
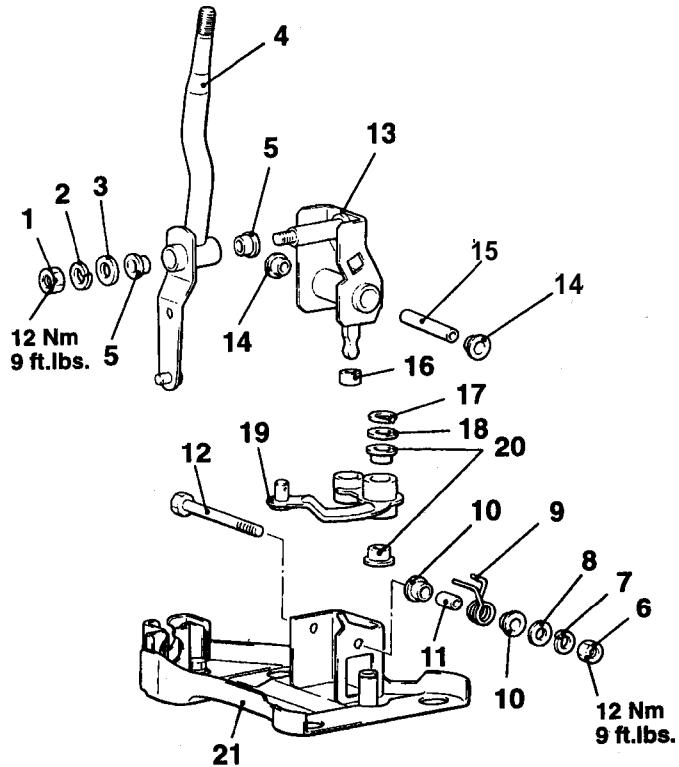
SELECT CABLE

- (1) While leaving the shift lever inside the passenger compartment in the neutral position, install the select cable to the passenger compartment side of the shift lever.
- (2) Install the select cable so that the flange side of resin bushing is positioned at the edge of lever B side.

SHIFT CABLE

- (1) Pull the shift lever at the passenger compartment side fully in the direction shown in the illustration (4th gear position), and install the shift cable to the shift lever at the passenger compartment side. Install so that the slit section of the bushing B is facing either up or down.
- (2) Put the shift lever to all the positions and make sure that the operation is smooth.

**SHIFT LEVER ASSEMBLY
DISASSEMBLY AND REASSEMBLY**



Disassembly steps

- 1. Nut
- 2. Spring washer
- 3. Plain washer
- 4. Shift lever
- 5. Bushing
- 6. Nut
- 7. Spring washer
- 8. Plain washer
- 9. Return spring
- 10. Bushing
- 11. Pipe
- 12. Bolt
- 13. Lever A
- 14. Bushing
- 15. Collar
- 16. Bushing
- 17. Snap ring
- 18. Washer
- 19. Lever B
- 20. Bushing
- 21. Bracket assembly

TRANSAXLE ASSEMBLY <FWD>

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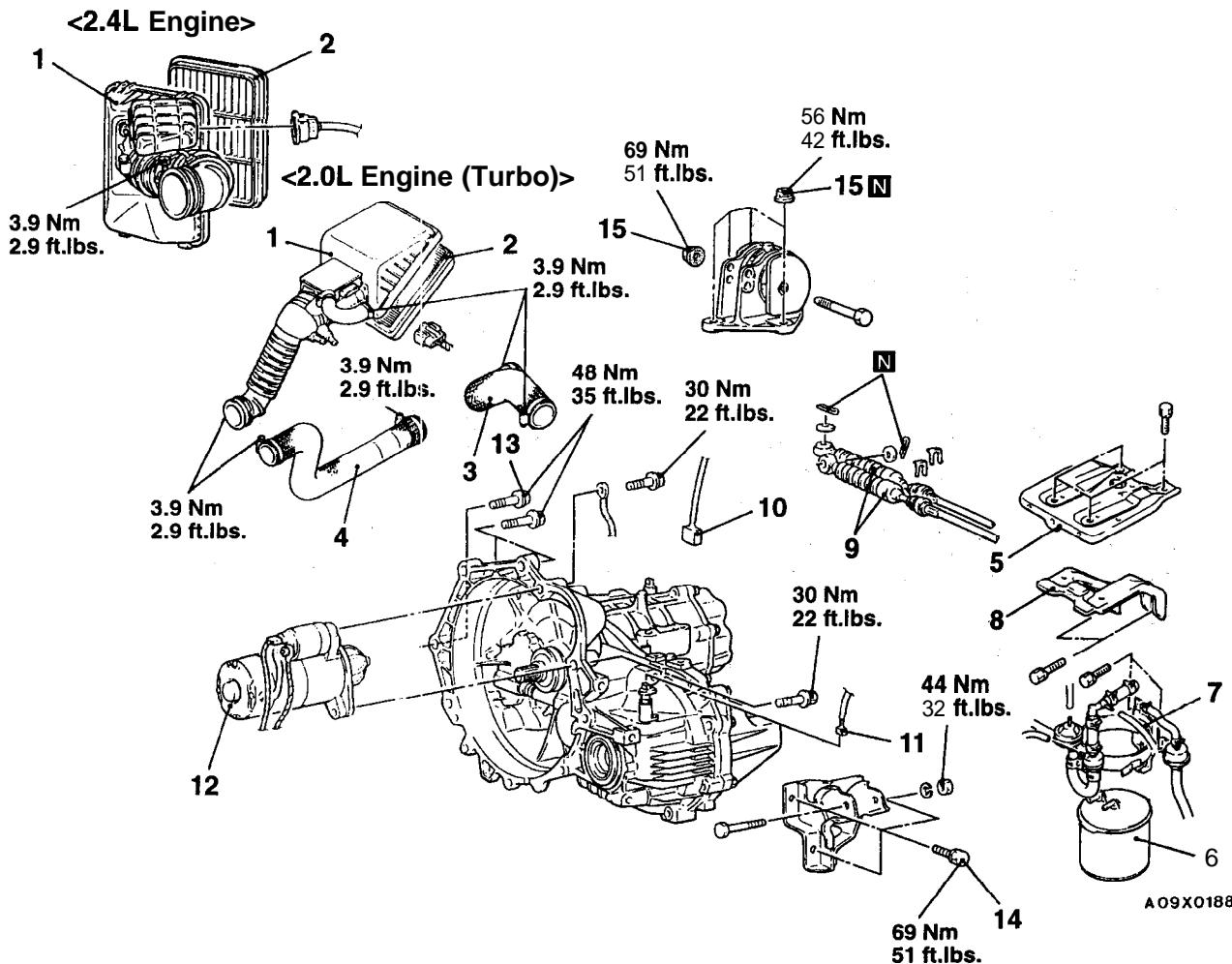
REMOVAL AND INSTALLATION

Pre-removal Operation

- Transaxle Oil Draining (Refer to GROUP 00 – Maintenance Service.)
- Battery Removal
- Under Cover Removal (Refer to GROUP 42 – Under Cover.)

Post-installation Operation

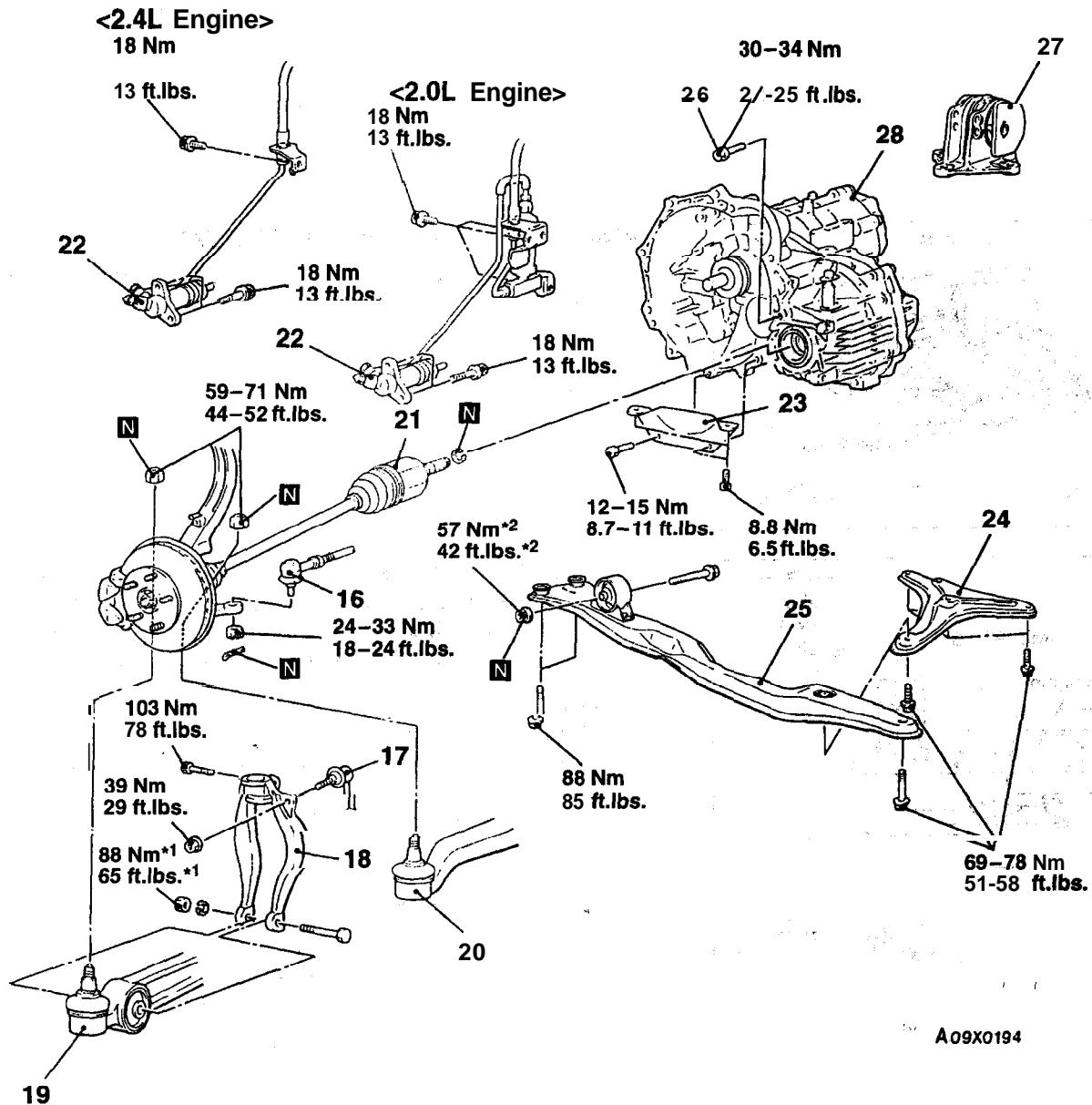
- Supplying Transaxle Oil (Refer to GROUP 00 – Maintenance Service.)
- Shift Lever Operation Check
- Speedometer Operation Check
- Under Cover Installation (Refer to GROUP 42 – Under Cover.)
- Battery installation



Removal steps

1. Air cleaner cover and air intake hose assembly
2. Air cleaner element
3. Air hose C <2.0L Engine (Turbo)>
4. Air hose A <2.0L Engine (Turbo)>
5. Battery tray
6. Evaporative emission canister <2.0L Engine (Turbo)>
7. Evaporative emission canister holder <2.0L Engine (Turbo)>
8. Battery tray stay
9. Shift cable and select cable connection
10. Backup light switch connector
11. Vehicle speed sensor connector
12. Starter motor
13. Transaxle assembly mounting bolts
14. Rear roll stopper bracket mounting bolts
15. Transaxle mounting bracket mounting nuts
- Supporting engine assembly





Lifting up of the vehicle

- ◀C▶ 16. Tie rod end ball joint and knuckle connection
- 17. Stabilizer link connection
- 18. Damper fork
- 19. Lateral lower arm ball joint and knuckle connection
- 20. Compression lower arm ball joint and knuckle connection
- 21. Drive shaft connection
- 22. Clutch release cylinder connection
- 23. Bell housing cover
- 24. Stay (R.H.)
- 25. Center member assembly
- 26. Transaxle assembly mounting bolt

- 27. Transaxle mounting
- 28. Transaxle assembly

Caution

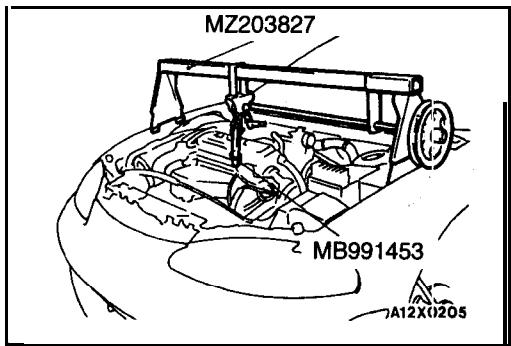
- *1: Indicates parts which should be temporarily tightened, and then fully **tightened** with the vehicle on the ground in the unladen condition.
- *2: For tightening locations indicated by the symbol, first tighten temporarily, and then make the final tightening with the entire **weight** of the engine applied to the vehicle body.

REMOVAL SERVICE POINTS**◀A▶ TRANSAXLE MOUNTING BRACKET MOUNTING NUTS REMOVAL**

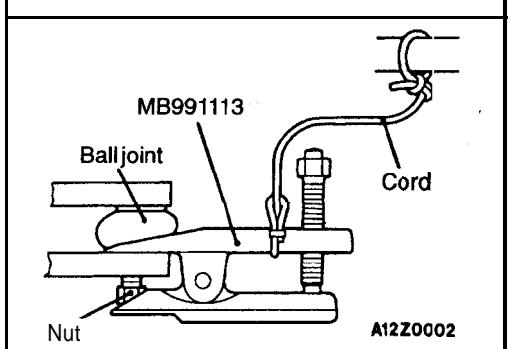
Jack up the transaxle assembly gently with a garage jack, and then remove the transaxle mounting bracket nuts.

Caution

Be sure not to tilt the transaxle assembly.

**◀B▶ SUPPORTING ENGINE ASSEMBLY**

Set the special tool to the vehicle to support the engine assembly.

**◀C▶ TIE ROD END BALL JOINT AND KNUCKLE/ LATERAL LOWER ARM BALL JOINT AND KNUCKLE/COMPRESSION LOWER ARM BALL JOINT AND KNUCKLE DISCONNECTION****Caution**

1. Using the special tool, loosen the tie rod end mounting nut. Only loosen the nut; do not remove it from the ball joint.
2. Support the special tool with a cold, etc. to prevent it from coming off.

◀D▶ DRIVE SHAFT DISCONNECTION

- (1) Insert a pry bar between the transaxle case and the drive shaft to remove the drive shaft.

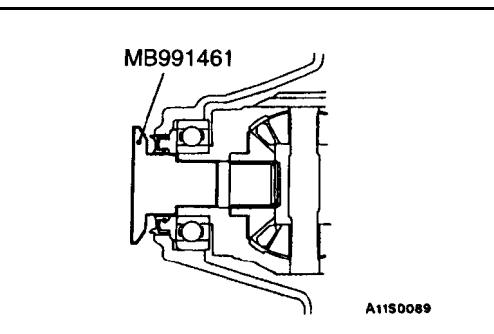
NOTE

Do not remove the hub and knuckle from the drive shaft.

Caution

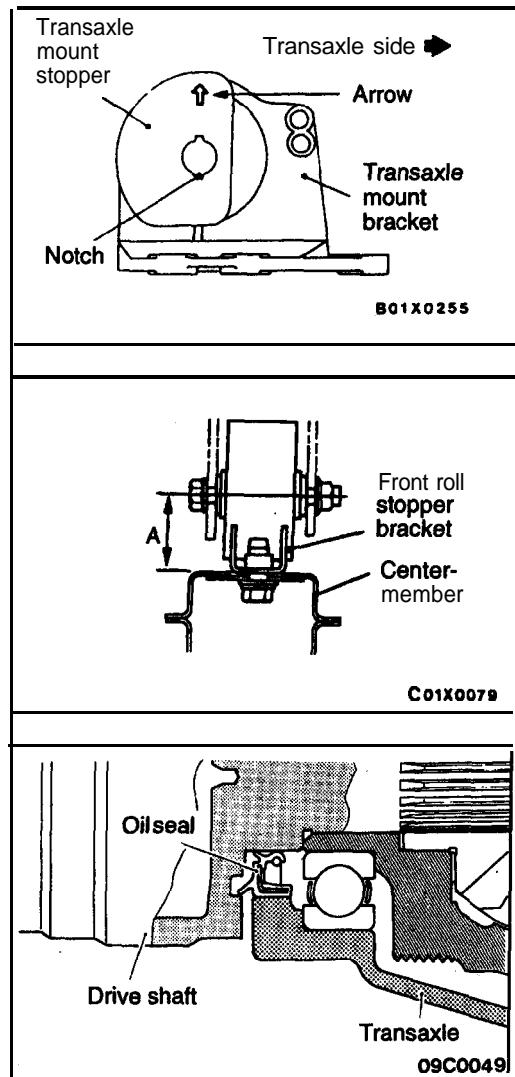
1. Use a pry bar to remove the drive shaft from the B.J. assembly, or the T.J. assembly may be damaged.
2. Do not insert the bar too far, or the oil seal may be damaged.

- (2) Suspend the removed drive shaft with wire so that there are no sharp bends in any of the joints.
- (3) Use the special tool as a cover not to let foreign objects get into the transaxle case.



◀▶ E CLUTCH. RELEASE CYLINDER DISCONNECTION

Remove the clutch release cylinder without disconnecting the oil line, and suspend it to a nearby ~~parts~~ with a wire, etc.



INSTALLATION SERVICE POINT

▶ A ◀ TRANSAXLE MOUNTING INSTALLATION

Align the notches on the stopper with the transaxle mount bracket with the arrow mark facing toward the shown direction. Then install the stopper.

▶ B ◀ CENTER MEMBER ASSEMBLY INSTALLATION

If the dimension shown in the illustration is outside the standard value when the weight of the engine is on the body, replace the front roll stopper bracket assembly.

Standard value (A): 43 ± 3 mm (1.69 ± .12 in.)

▶ C ◀ DRIVE SHAFT CONNECTION

Temporarily install the drive shaft so that the T.J. case of the drive shaft is perpendicular to the transaxle.

Caution

Do not damage the oil seal lip by the serrated part of the drive shaft.

TRANSAXLE ASSEMBLY <AWD>

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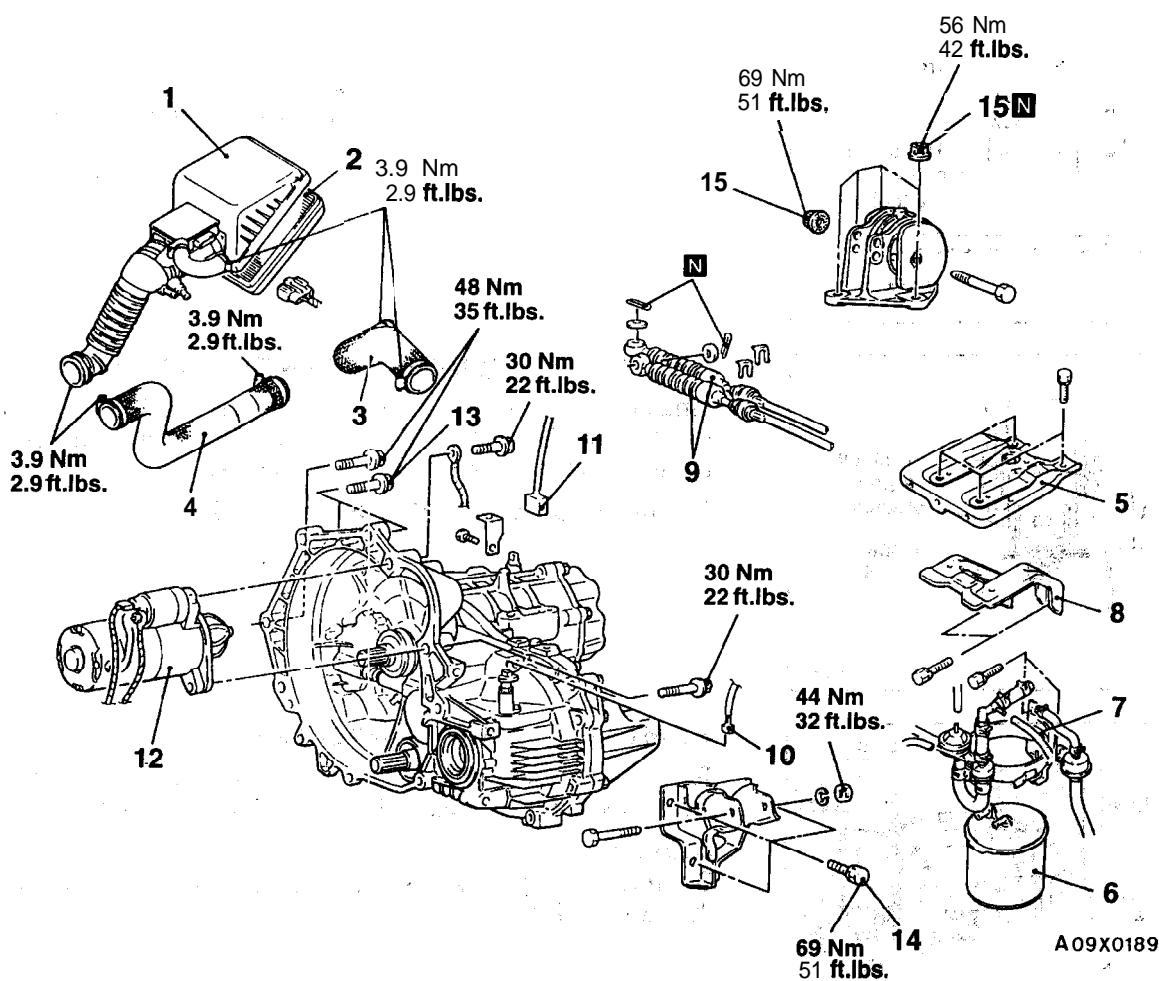
REMOVAL AND INSTALLATION

Pre-removal Operation

- Transaxle Oil Draining (Refer to GROUP 00 – Maintenance Service.)
- Battery Removal
- Under Cover Removal (Refer to GROUP 42 – Under Cover.)
- Transfer Assembly Removal (Refer to P.22A-2.)

Post-installation Operation

- Supplying Transaxle Oil (Refer to GROUP 00 – Maintenance Service.)
- Shift Lever Operation Check
- Speedometer Operation Check
- Transfer Assembly Installation (Refer to P.22A-20.)
- Under Cover Installation (Refer to GROUP 42 – Under Cover.)
- Battery Installation

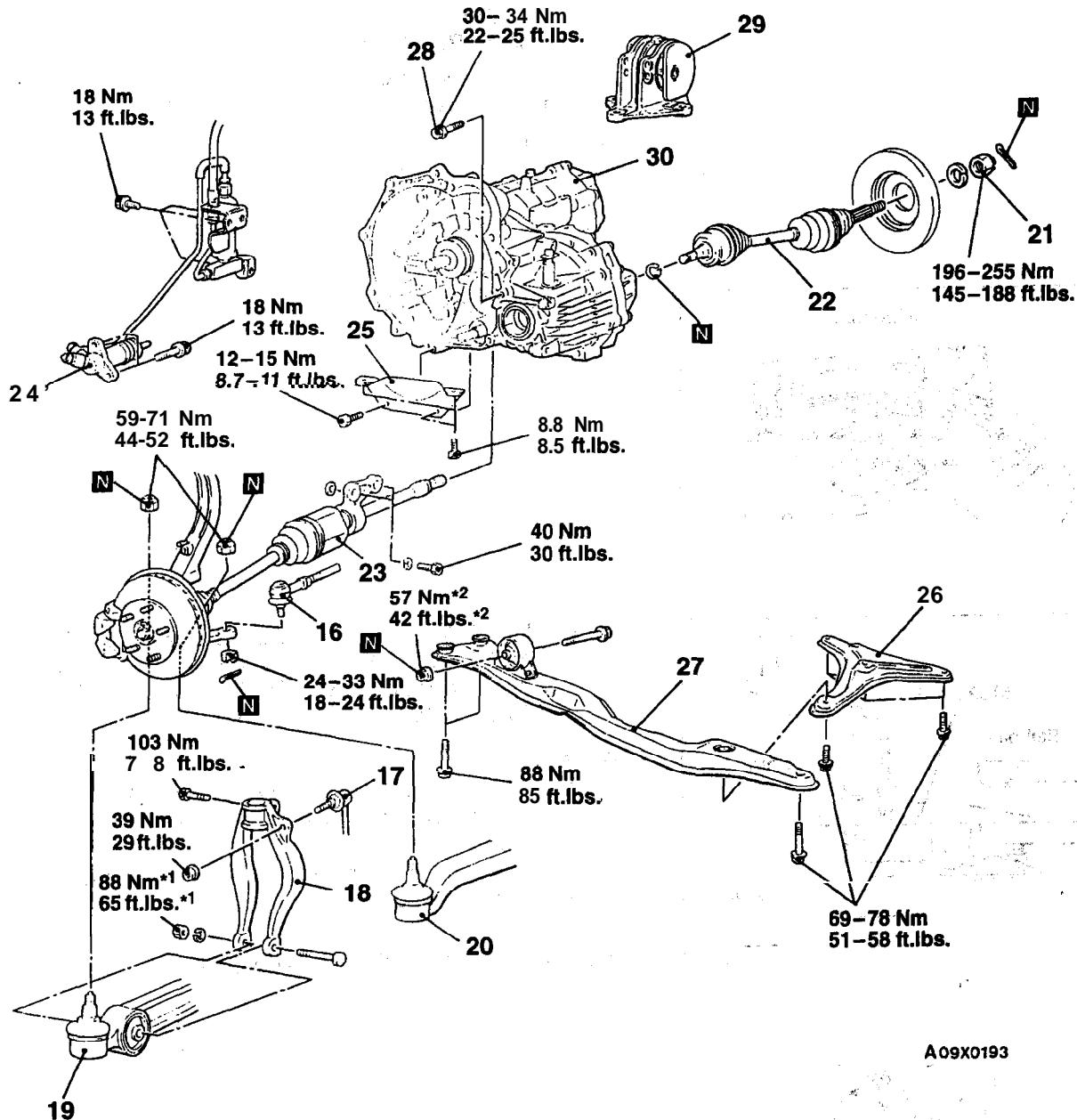


Removal steps

1. Air cleaner cover and air intake hose assembly
2. Air cleaner element
3. Air hose C
4. Air hose A
5. Battery tray
6. Evaporative emission canister
7. Evaporative emission canister holder
8. Battery tray stay
9. Shift cable and select cable connection
10. Backup light switch connector
11. Vehicle speed sensor connector
12. Starter motor
13. Transaxle assembly mounting bolts
14. Rear roll stopper bracket mounting bolts
15. Transaxle mounting bracket mounting nuts
- Supporting engine assembly

◀A▶

◀B▶



A09X0193

Lifting up of the vehicle

- ◀ C 16. Tie rod end ball joint and knuckle connection
- ◀ C 17. Stabilizer link connection
- ◀ C 18. Damper fork
- ◀ C 19. Lateral lower arm ball joint and knuckle connection
- ◀ C 20. Compression lower arm ball joint and knuckle connection
- ◀ D 21. Drive shaft nut
- ◀ E 22. Drive shaft
- ◀ F 23. Drive shaft with inner shaft connection
- ◀ G 24. Clutch release cylinder connection
- ◀ C 25. Bell housing cover
- 26. Stay (R.H.)

- ▶ B 27. Center member assembly
- ▶ B 28. Transaxle assembly mounting bolt
- ▶ A 29. Transaxle mounting
- 30. Transaxle assembly

Caution

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

*2: For tightening locations indicated by the symbol, first tighten temporarily, and **then make the final tightening with the entire weight of the engine applied to the vehicle body**.

REMOVAL SERVICE POINTS

◀A▶ TRANSAXLE MOUNTING BRACKET MOUNTING
NUTS REMOVAL

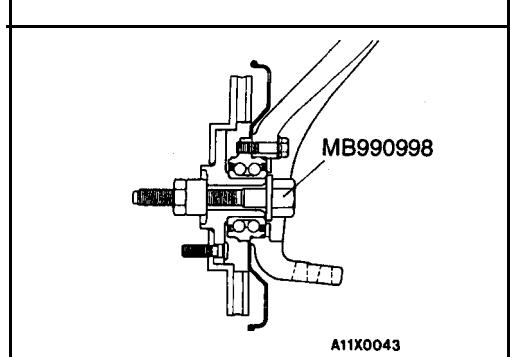
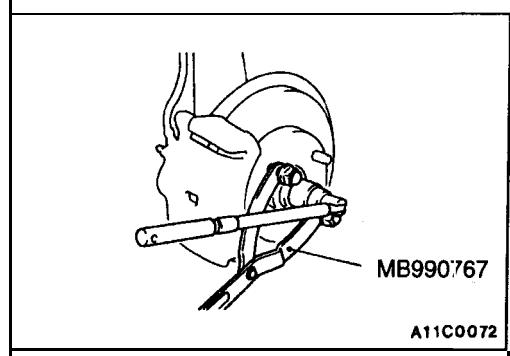
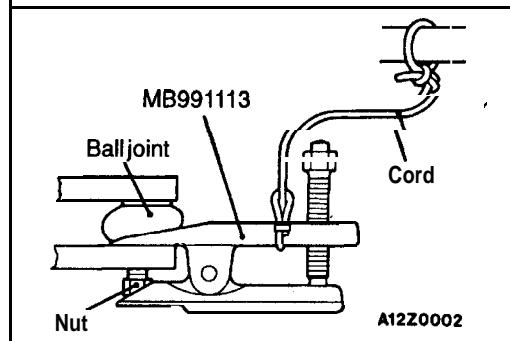
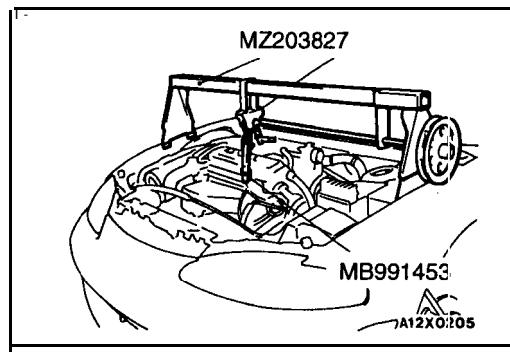
Jack up the transaxle assembly gently with a garage jack, and then remove the transaxle mounting bracket nuts.

Caution

Be sure not to tilt the transaxle assembly.

◀B▶ SUPPORTING ENGINE ASSEMBLY

Set the special tool to the vehicle to support the engine assembly.

◀C▶ TIE ROD END BALL JOINT AND KNUCKLE/
LATERAL LOWER ARM BALL JOINT AND
KNUCKLE/COMPRESSION LOWER ARM BALL
JOINT AND KNUCKLE DISCONNECTION

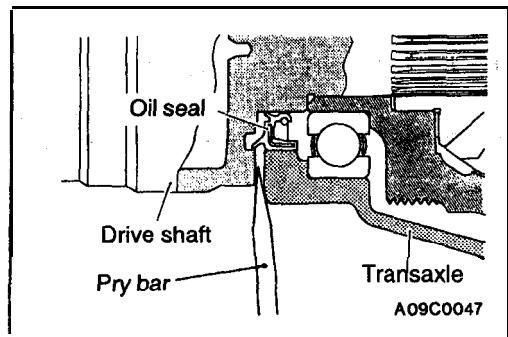
Caution

1. Using the special tool, loosen the tie rod end mounting nut. Only loosen the nut; do not remove it from the ball joint.
2. Support the special tool with a cord, etc. to prevent it from coming off.

◀D▶ DRIVE SHAFT NUT REMOVAL

Caution

Do not apply the vehicle weight to the wheel bearing while loosening the drive shaft nut. If, however, the vehicle weight must be applied to the bearing (because of moving the vehicle), temporarily use the special tool MB990998, etc. to secure the wheel bearing.

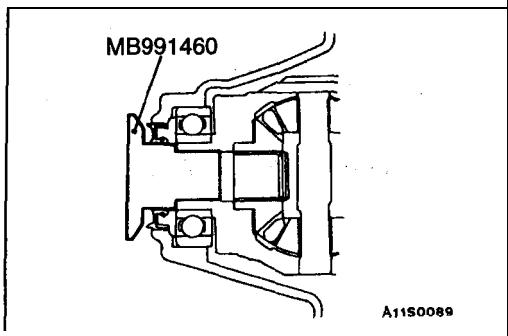


◀E▶ DRIVE SHAFT REMOVAL

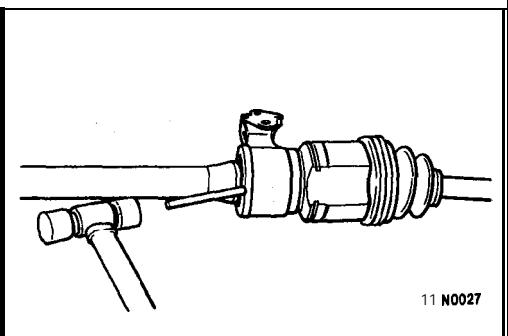
(1) Insert a pry bar between the transaxle case and the drive shaft, and then pry the drive shaft from the transaxle.

Caution

1. Use a pry bar to remove the drive shaft from the B.J. assembly, or the T.J. assembly may be damaged.
2. Do not insert the bar too far, or the oil seal may be damaged.

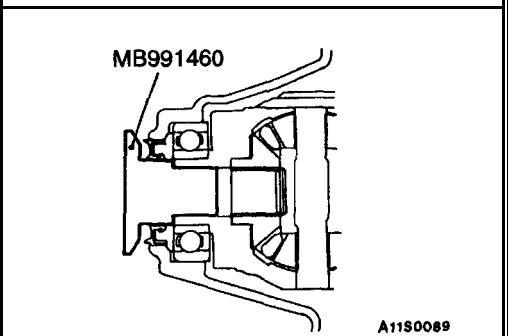


(2) Use the special tool to cover the transaxle case not to let foreign materials get into the transaxle case.



◀F▶ DRIVE SHAFT WITH INNER SHAFT DISCONNECTION

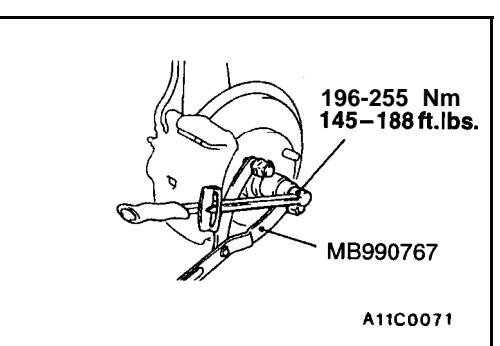
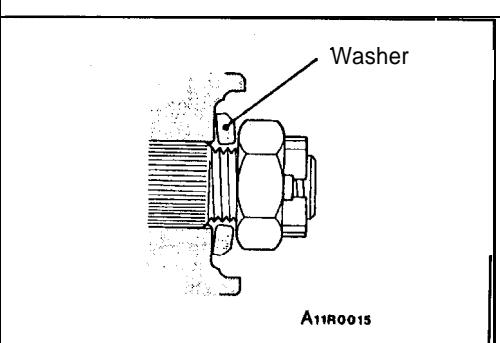
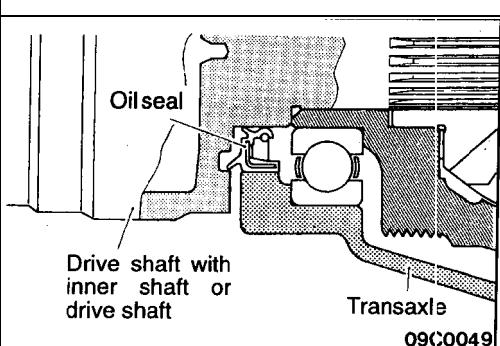
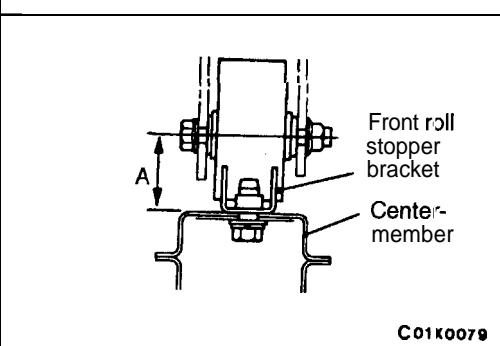
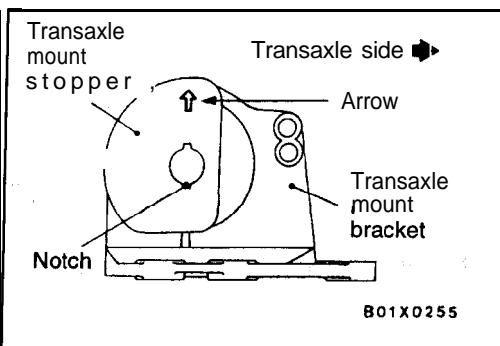
(1) Lightly tap the center bearing bracket with a plastic hammer or similar tool to remove the inner shaft from the transaxle.



(2) Suspend the removed drive shaft with inner shaft with wire so that there are no sharp bends in any of the joints.
(3) Use the special tool to cover the transaxle case not to let foreign materials get into the transaxle case.

◀G▶ CLUTCH RELEASE CYLINDER DISCONNECTION

Remove the clutch release cylinder without disconnecting the oil line, and suspend it to a nearby parts with a wire, etc.



INSTALLATION SERVICE POINT

►A◄ TRANSAXLE MOUNTING INSTALLATION

Align the notches on the stopper with the transaxle mount bracket with the arrow mark facing toward the shown direction. Then install the stopper.

►B◄ CENTER MEMBER ASSEMBLY INSTALLATION

If the dimension shown in the illustration is outside the standard value when the weight of the engine is on the body, replace the front roll stopper bracket assembly.

Standard value (A): 43 ± 3 mm (1.69 $\pm .12$ in.)

►C◄ DRIVE SHAFT WITH INNER SHAFT CONNECTION/DRIVE SHAFT INSTALLATION

Temporarily install the drive shaft so that the inner shaft or T.J. case of the drive shaft is perpendicular to the transaxle.

Caution

Do not damage the oil seal lip by the serrated part of the drive shaft.

►D◄ DRIVE SHAFT NUT INSTALLATION

(1) Install the drive shaft washer in the specified direction.

(2) Use the special tool to tighten the drive shaft nut.

Caution

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

(3) If the position of the cotter pin holes does not match, tighten the nut up to 255 Nm (188 ft.lbs.) in maximum.

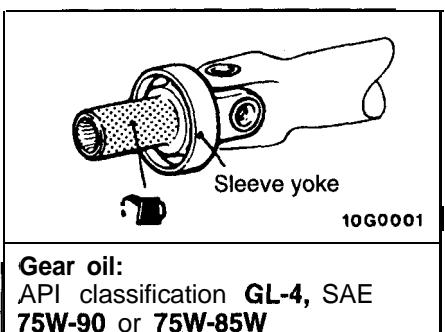
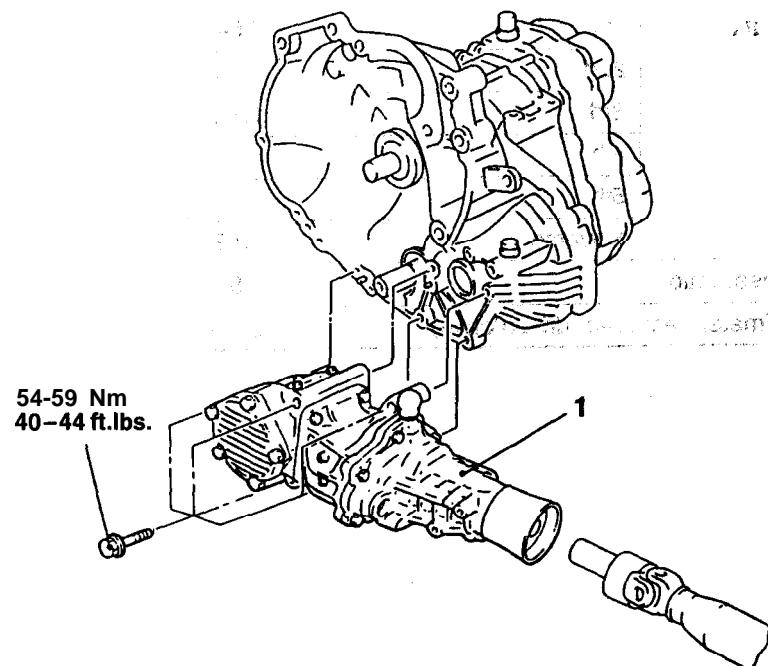
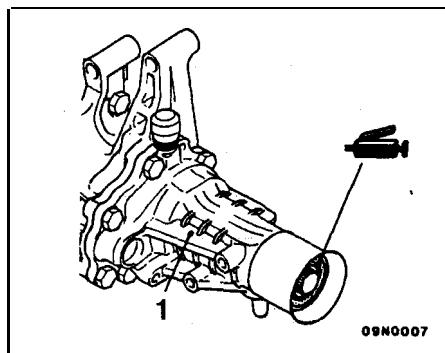
(4) Install the cotter pin in the first matching holes and bend it securely.

TRANSFER ASSEMBLY <AWD>

REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation

- Transfer Oil Draining and Supplying
(Refer to GROUP 00 - Maintenance Service.)
- Front Exhaust Pipe Removal and Installation
(Refer to GROUP 15 - Exhaust Pipe, Muffler.)

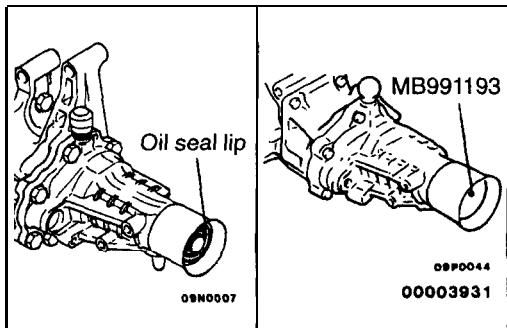


Gear oil:
API classification **GL-4**, SAE
75W-90 or **75W-85W**

09X0125
00003930



1. Transfer assembly



REMOVAL SERVICE POINT

(A) TRANSFER ASSEMBLY REMOVAL

Caution

- Do not damage the oil seal lip of the transfer.
- Use the special tool to cover the transaxle case to prevent oil from gushing out or foreign materials from getting into the transaxle case.