
MANUAL TRANSAXLE

CONTENTS

22109000111

MANUAL TRANSAXLE 22A

MANUAL TRANSAXLE OVERHAUL 22B

MANUAL TRANSAXLE

CONTENTS

22109000180

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WARNINGS REGARDING SERVICING OF SUPPLEMENTAL RESTRAINT SYSTEM (SRS) EQUIPPED VEHICLES

WARNING!

- (1) Improper service or maintenance of any component of the SRS, or any SRS-related component, can lead to personal injury or death to service personnel (from inadvertent firing of the air bag) or to the driver and passenger (from rendering the SRS inoperative).
- (2) Service or maintenance of any SRS component or SRS-related component must be performed only at an authorized MITSUBISHI dealer.
- (3) MITSUBISHI dealer personnel must thoroughly review this manual, and especially its GROUP 52B - Supplemental Restraint System (SRS) and GROUP 00 - Maintenance Service, before beginning any service or maintenance of any component of the SRS or any SRS-related component.

NOTE

The SRS includes the following components: SRS-ECU, SRS warning light, air bag module, clock spring, and interconnecting wiring. Other SRS-related components (that may have to be removed/installed in connection with SRS service or maintenance) are indicated in the table of contents by an asterisk (*).

GENERAL INFORMATION

22100010182

The new F5M41 and F5M42 manual transaxles are used. These quieter units have high performance, high reliability, and are smooth shifting.

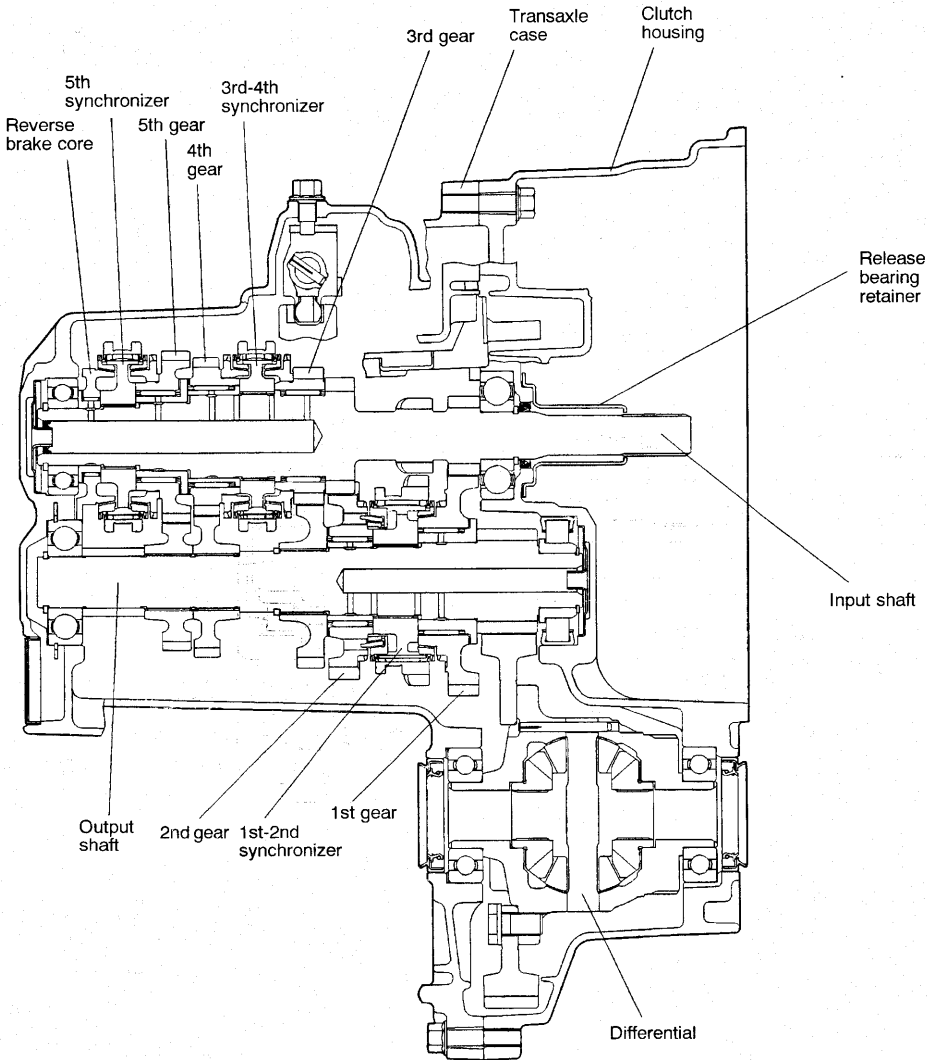
Item		Specifications	
Model		F5M41-1-F8A4	F5M42-1-F8A7
Applicable engine		4G15	4G93
Type		5-speed floor shift	5-speed floor shift
Gear ratio	1st	3.583	3.583
	2nd	1.947	1.947
	3rd	1.343	1.379
	4th	0.976	1.030
	5th	0.804	0.767
	Reverse	3.416	3.363
Final gear ratio		3.714	3.722
Speedometer gear ratio (driven/drive)		31/36	31/36

SECTIONAL VIEW

F5M41

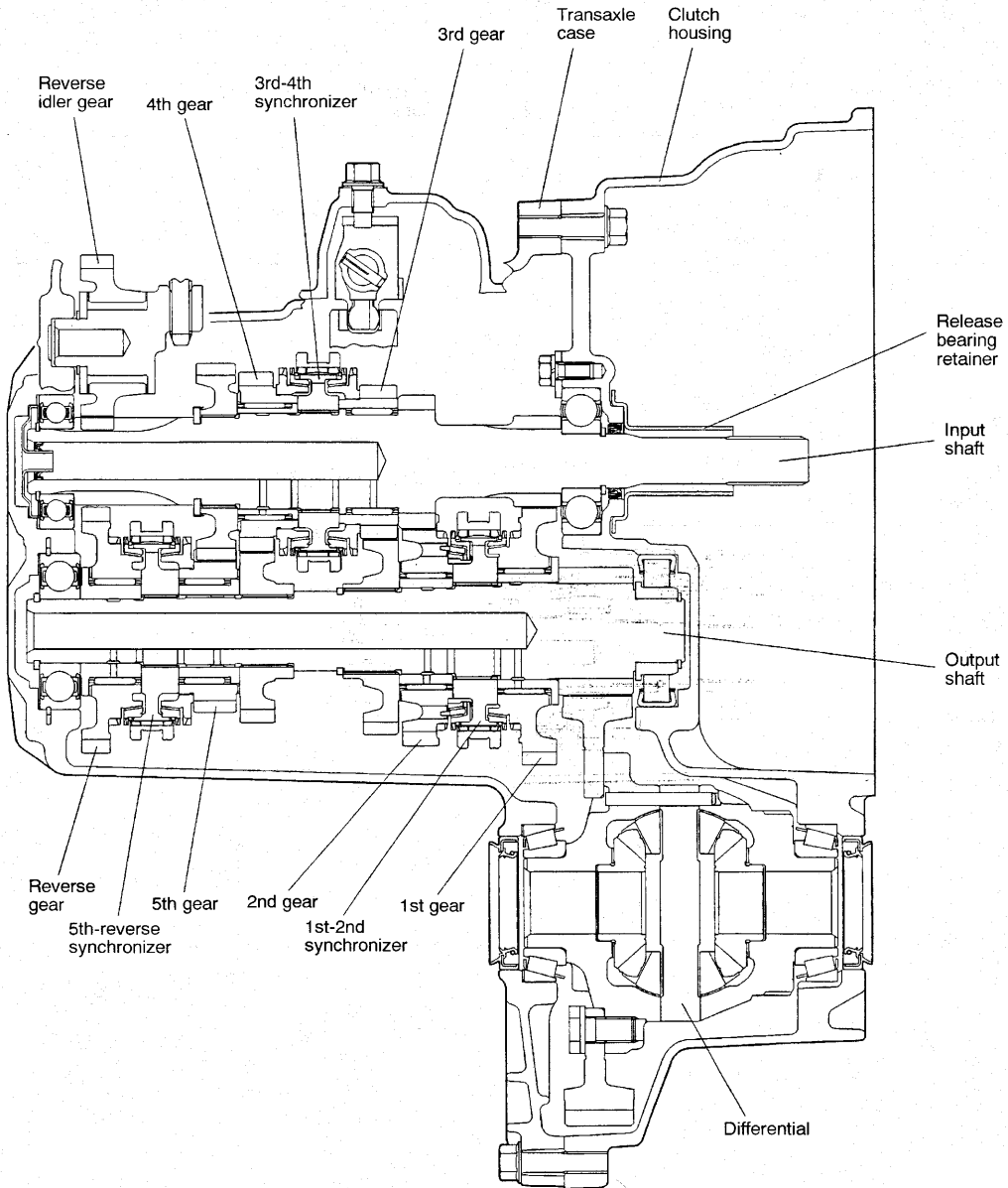
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53A1



SECTIONAL VIEW

F5M42



SERVICE SPECIFICATION

22100030034

Item	Standard value
Protruding length of stabilizer bar mounting bolt mm (in.)	22 (.87)

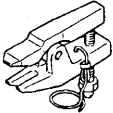
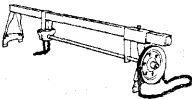
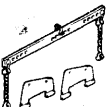
LUBRICANT

22100040136

Item	Specified lubricant	Quantity dm ³ (qts.)
Transmission oil	API classification GL-4, SAE 75W - 90 or 75W - 85W	2.1 (2.2) <F5M41>
		2.1 (2.3) <F5M42>

SPECIAL TOOLS

22100060118

Tool	Tool number and name	Supersession	Application
 B991113	MB991113 Steering linkage puller	MB991113-01	Tie rod end and lower arm disconnection
 Z203827	GENERAL SERVICE TOOL MZ203827 Engine lifter	General service tool	Supporting the engine assembly during removal and installation of the transaxle
 B991453	MB991453 Engine hanger		

TROUBLESHOOTING

22100070050

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

ON-VEHICLE SERVICE

22100090261

TRANSMISSION OIL LEVEL CHECK

Refer to GROUP 00 - Maintenance Service.

TRANSMISSION OIL REPLACEMENT

22100100261

Refer to GROUP 00 - Maintenance Service.

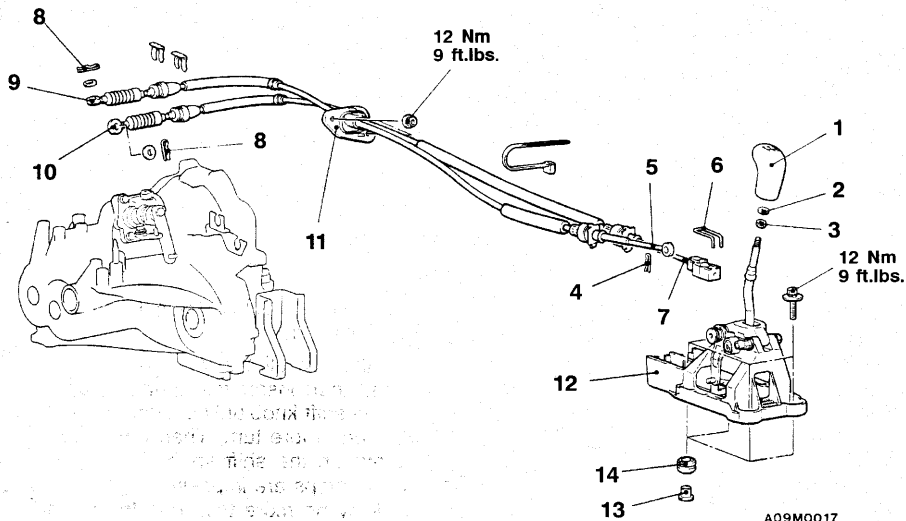
TRANSAXLE CONTROL

REMOVAL AND INSTALLATION

Pre-removal and Post-installation Operation
Air Cleaner Assembly Removal and Installation

Caution: SRS

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



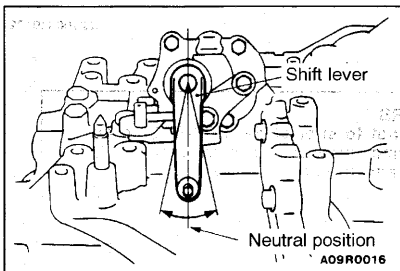
A09M0017

Shift cable and select cable assembly removal steps

- ▶B◀ 1. Shift knob
- ▶B◀ 2. Spring washer
- ▶B◀ 3. Nut
 - Front floor console (Refer to GROUP 52A.)
- 4. Snap pin
- 5. Select cable connection (Shift lever side)
- 6. Clip
- 7. Shift cable connection (Shift lever side)
- 8. Snap pin
- ▶A◀ 9. Select cable connection (Transaxle side)
- ▶A◀ 10. Shift cable connection (Transaxle side)
- ▶A◀ 11. Shift cable and select cable assembly

Shift lever assembly removal steps

- ▶B◀ 1. Shift knob
- ▶B◀ 2. Spring washer
- ▶B◀ 3. Nut
 - Front floor console (Refer to GROUP 52A.)
- 4. Snap pin
- 5. Select cable connection (Shift lever side)
- 6. Clip
- 7. Shift cable connection (Shift lever side)
- 12. Shift lever assembly
- 13. Distance piece
- 14. Bushing



INSTALLATION SERVICE POINTS

▶A◀ SHIFT CABLE AND SELECT CABLE ASSEMBLY/ SHIFT CABLE CONNECTION/SELECT CABLE CONNECTION

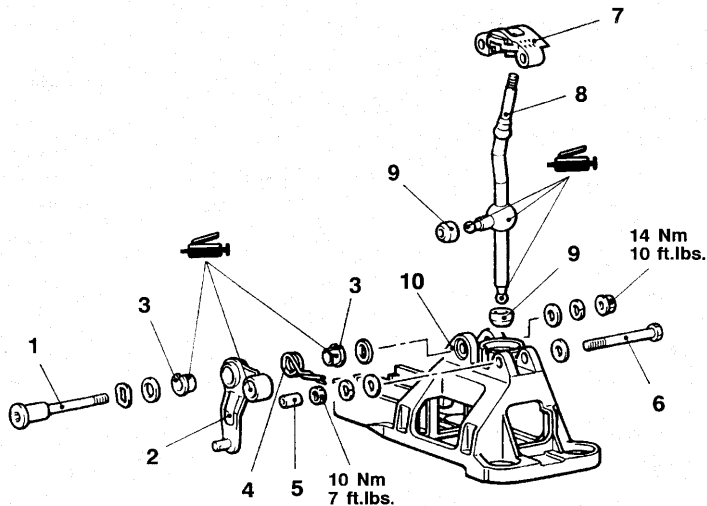
- (1) Set the transaxle side shift lever and the passenger compartment side shift lever to the neutral position.

- (2) For the transaxle side, the white and yellow paint marks on the shift and select cable ends should face the snap pins.
- (3) Move the shift lever to all positions and check for smooth operation.

▶B◀ NUT/SPRING WASHER/SHIFT KNOB INSTALLATION

- (1) Screw in the nut all the way by hand, turn back half a turn, and then insert the spring washer.
- (2) Screw in the shift knob until it touches the spring washer, and make one more turn. Then turn more to adjust the shift pattern on the shift knob.
- (3) If the above steps are impossible, you can turn the shift knob back by no more than one turn (after screwing in all the way) to adjust the shift pattern.

SHIFT LEVER ASSEMBLY DISASSEMBLY AND REASSEMBLY



A09M0013

Disassembly steps

1. Bolt
2. Select lever
3. Bushing
4. Return spring
5. Collar

6. Bolt
7. Cap
8. Shift lever
9. Shift lever bushing
10. Base block

TRANSAXLE ASSEMBLY

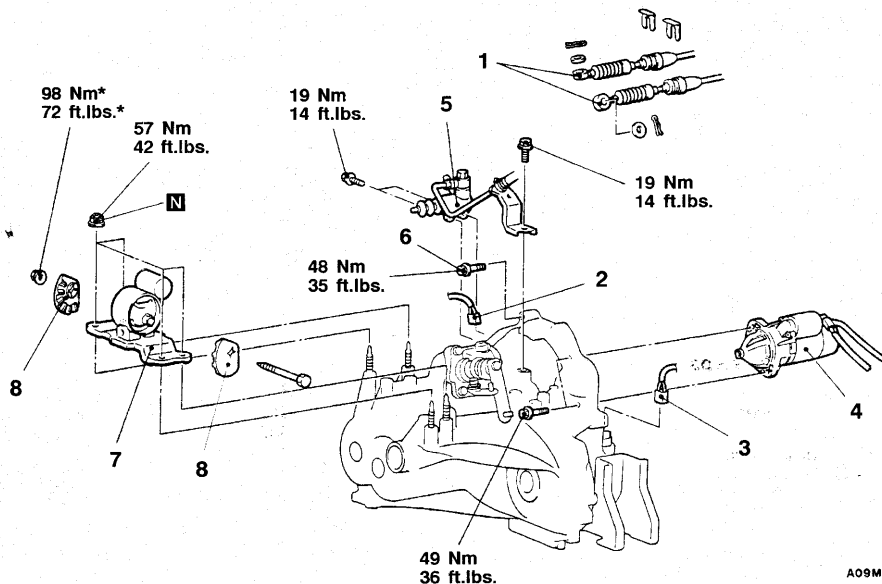
REMOVAL AND INSTALLATION

Pre-removal Operation

- (1) Transaxle Oil Draining
(Refer to GROUP 00 - Maintenance Service.)
- (2) Under Cover Removal
- (3) Battery and Battery Tray Removal
- (4) Air Cleaner Assembly Removal

Post-installation Operation

- (1) Air Cleaner Assembly Installation
- (2) Battery and Battery Tray Installation
- (3) Under Cover Installation
- (4) Transaxle Oil Supplying
(Refer to GROUP 00 - Maintenance Service.)
- (5) Shift Lever Operation Check
- (6) Speedometer Operation Check
- (7) Press the dust cover with a finger to check whether the dust cover is cracked or damaged.



A09M0033

Removal steps

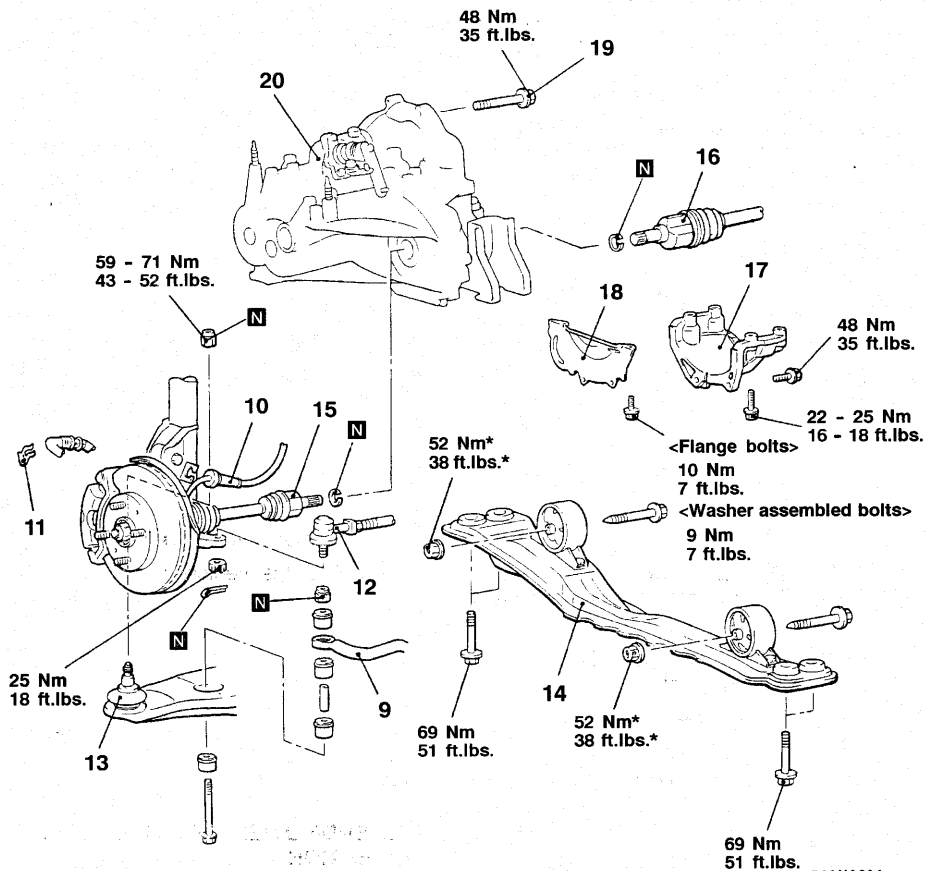
1. Shift cable and select cable connection (Refer to P.22A-8.)
2. Backup light switch connector
3. Vehicle speed sensor connector
4. Starter motor
5. Clutch release cylinder connection
6. Transaxle assembly upper part coupling bolts
7. Transaxle mount bracket

- ▶B◀ 8. Transaxle mount stopper
◀D▶ ● Engine assembly supporting

Caution

Mounting locations marked by * should be provisionally tightened, and then fully tightened when the body is supporting the full weight of the engine.





Lifting up of the vehicle



9. Stabilizer bar connection
10. Wheel speed sensor cable connection
<Vehicles with ABS>
11. Brake hose clamp
12. Tie rod end connection
13. Lower arm ball joint connection
14. Centermember assembly
15. Drive shaft <LH> connection
16. Drive shaft <RH> connection
17. Transaxle stay <Except 1.5L engine>

18. Bell housing cover
19. Transaxle assembly lower part
coupling bolts
20. Transaxle assembly



Caution
Mounting locations marked by * should be provisionally tightened, and then fully tightened when the body is supporting the full weight of the engine.



REMOVAL SERVICE POINTS

◀A▶ STARTER MOTOR REMOVAL

Remove the starter motor with the starter motor harness still connected and secure it inside the engine compartment.

◀B▶ CLUTCH RELEASE CYLINDER REMOVAL

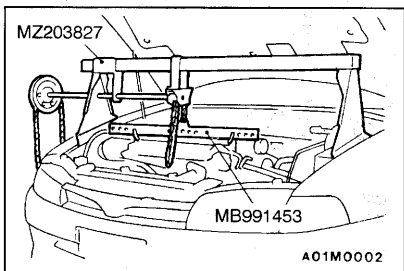
Remove the clutch release cylinder without disconnecting the oil line connection, and fix it to the vehicle chassis.

◀C▶ TRANSAXLE MOUNT BRACKET REMOVAL

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

◀D▶ ENGINE ASSEMBLY SUPPORTING

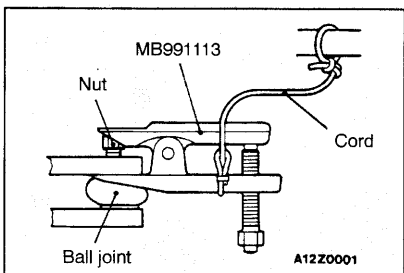
Set the special tool to the vehicle to support the engine assembly.



◀E▶ TIE ROD END/LOWER ARM BALL JOINT DISCONNECTION

Caution

1. Use the special tool to 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. So it will not come off.



◀F▶ DRIVE SHAFT <LH>/DRIVE SHAFT <RH> DISCONNECTION

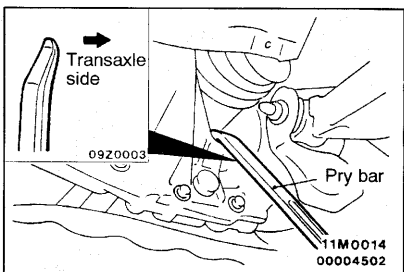
- (1) Insert a pry bar between the transaxle case and the drive shaft as shown to remove the drive shaft.

NOTE

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

Caution

Always use a pry bar, or the TJ will be damaged.

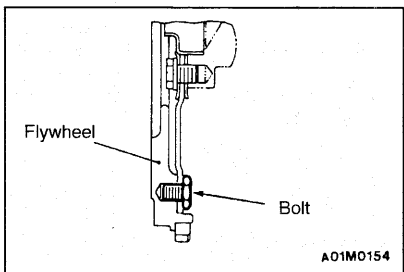


- (2) Suspend the removed drive shaft with a wire so that there are no sharp bends in any of the joints.
- (3) Use a shop towel to cover the transaxle case so foreign material will not get into it.

◀▶ TRANSAXLE ASSEMBLY REMOVAL

Caution

Do not remove the flywheel mounting bolt shown by the arrow. If this bolt is removed, the flywheel will become out of balance and damaged.

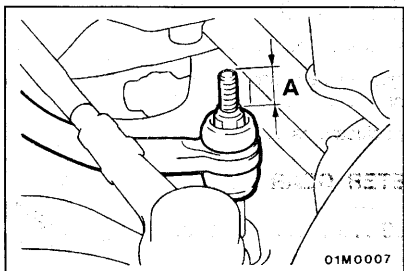


INSTALLATION SERVICE POINTS

▶◀ STABILIZER BAR INSTALLATION

Tighten the self-locking nut so that the stabilizer bar mounting bolt protrudes as shown.

Standard value (A): 22 mm (.87 in.)



▶◀ TRANSAXLE MOUNT STOPPER INSTALLATION

Install the transaxle mount stopper so that the arrow points as shown in the illustration.

