

## GENERAL

### OUTLINE OF CHANGES

Since the following changes have been made to vehicles with 4G94 engine, service procedures which are different from conventional service procedures have been established.

- Specifications have been changed.
- A steering shift switch and a downshift inhibitor buzzer have been added. <Vehicles with sport mode>
- A selector lever with boot has been adopted. <Vehicles with sport mode>

### SPECIFICATIONS

Item		Specification
Transmission model		F4A4B-1-J1Z
Engine model		4G94-MPI
Torque converter	Type	3-element, 1-stage, 2-phase type
	Lock-up	Provided
	Stall torque ratio	2.1
Transmission type		4 forward speeds, 1 reverse speed, fully automatic
Transmission gear ratio	1st	2.842
	2nd	1.529
	3rd	1.000
	4th	0.712
	Reverse	2.480
Final reduction ratio (Differential gear ratio)		4.041

## TROUBLESHOOTING <Vehicles with sport mode>

### INSPECTION CHART FOR TROUBLE SYMPTOMS

Trouble Symptom	Reference page
<a href="#">Steering shift switch system</a>	23B-2
Downshift inhibitor buzzer	54B*

#### NOTE

The ETACS-ECU controls the downshift inhibitor buzzer. For troubleshooting, refer to GROUP 54B – Troubleshooting.

### INSPECTION PROCEDURES FOR TROUBLE SYMPTOMS

\*: Refer to LANCER 2001 Workshop Manual chassis Volume 2 (Pub. No. PWME0021 2/2).

Steering shift switch system	Possible causes
The cause is probably a malfunction of the steering shift switch system circuit and the engine-A/T-ECU.	<ul style="list-style-type: none"> <li>• Malfunction of steering shift switch assembly</li> <li>• Malfunction of inhibitor switch system</li> <li>• Damaged harness wires and connectors</li> <li>• Malfunction of the engine-A/T-ECU</li> </ul>

## MUT-II data list

- No.70 Steering shift switch

OK:

OK→Intermittent malfunction.  
(Refer to GROUP 00, How to Cope with Intermittent Malfunction.)\*

NG

Check the following connector: C-231

NG→Repair

OK

Check the steering shift switch.

NG→Replace

OK

Measure at clock spring connectors C-230 and C-205.

- Disconnect the connector and measure at the clock spring side.
- Continuity between terminal No. 2 (C-205) and terminal No. 5 (C-230)
- Continuity between terminal No. 3 (C-205) and terminal No. 4 (C-230)

OK: Continuity exists.

NG→Replace

OK

Measure at steering shift switch connector C-231.

- Disconnect the connector, and measure at the wiring harness side.
- Ignition switch: ON
- Voltage between terminal 2 and body earth

OK: 4.5 – 4.9 V

OK

Measure at steering shift switch connector C-231.

- Disconnect the connector, and measure at the wiring harness side.
- Ignition switch: ON
- Resistance between terminal 1 and body earth

OK: 2 Ω or less

OK

## MUT-II data list

- No.70 Steering shift switch

OK:

NG→Malfunction of the engine-A/T-ECU  
OK→Intermittent malfunction.  
(Refer to GROUP 00, How to Cope with Intermittent Malfunction.)\*

NG

Measure at engine-A/T-ECU connector C-114.

- Measure the voltage at the ECU terminals.
- Ignition: ON
- Voltage between terminal 125 and body earth

OK: 4.5 – 4.9 V

OK

Check the following connectors:

C-114, C-130, C-205, C-230

NG→Repair

OK

Check the wiring harness between the engine-A/T-ECU and the steering shift switch.

- Check the power supply line for open circuit or damage.

NG→Repair

NG

Check the following connectors:

C-114, C-130, C-205, C-230

NG→Repair

OK

Check the wiring harness between the engine-A/T-ECU and the steering shift switch.

- Check the power supply line for short circuit or damage.

NG→Repair

OK

NG

Check the following connectors:

C-121, C-130, C-205, C-230

NG→Repair

OK

Check the wiring harness between the engine-A/T-ECU and the steering shift switch.

- Check the earth line for open circuit or damage.

NG→Repair

OK

## MUT-II data list

- No.70 Steering shift switch

OK:

NG→Replace the engine-A/T-ECU.  
OK→Intermittent malfunction.  
(Refer to GROUP 00, How to Cope with Intermittent Malfunction.)\*

## DATA LIST REFERENCE TABLE

Data list No.	Check item	Inspection conditions		Normal condition
70	Steering shift switch	Ignition switch: ON Engine: Stopped	Steering shift switch (up): ON Steering shift switch (down): OFF	3,400 – 3,600 mV
			Steering shift switch (up): OFF Steering shift switch (down): ON	2,300 – 2,500 mV
			Steering shift switch (up): OFF Steering shift switch (down): OFF	4,900 – 5,000 mV

## ACTUATOR TEST JUDGEMENT VALUE

Item No.	Check item	Test contents	Inspection conditions	Normal condition
15	Downshift inhibitor buzzer	The engine-A/T-ECU makes the ETACS-ECU sound the downshift inhibitor buzzer.	Ignition switch: ON Selector lever position: P Engine: Stopped Accelerator pedal: released Fail-safe mode: deactivated	Buzzer sounds.

## CHECK AT A/T-ECU TERMINALS

1	2	3	4		5	6	7	8	41	42	43		44	45	46	71	72	73	74		75	76	77	101	102	103	104		105	106	107																			
9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	47	48	49	50	51	52	53	54	55	56	57	78	79	80	81	82	83	84	85	86	87	88	89	108	109	110	111	112	113	114	115	116	117	118	119	120
24	25	26	27	28	29	30	31	32	33	34	35	58	59	60	61	62	63	64	65	66	90	91	92	93	94	95	96	97	98	121	122	123	124	125	126	127	128	129	130											

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Terminal No.	Check item	Inspection conditions	Standard value
125	Steering shift switch	Ignition switch: ON Steering shift switch (up): ON Steering shift switch (down): OFF	3.4 – 3.6 V
		Ignition switch: ON Steering shift switch (up): OFF Steering shift switch (down): ON	2.3 – 2.4 V
		Ignition switch: ON Steering shift switch (up): OFF Steering shift switch (down): OFF	4.9 – 5.0 V
128	Downshift inhibitor buzzer	The engine-A/T-ECU has made the ETACS-ECU sound the downshift inhibitor buzzer (using MUT-II actuator test function).	1 V or less

## ON-VEHICLE SERVICE <Vehicles with sport mode>

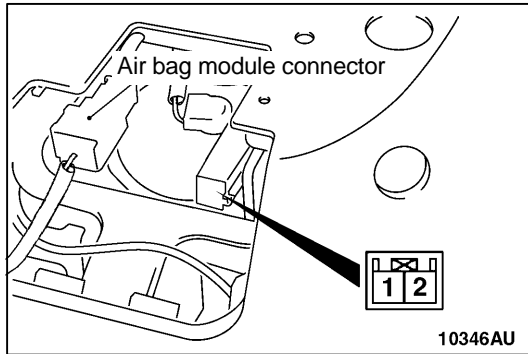
### A/T CONTROL COMPONENT CHECK

#### STEERING SHIFT SWITCH CHECK

1. Remove the steering wheel lower cover.
2. Disconnect the steering shift switch connector and measure the resistance between terminals 1 and 2.

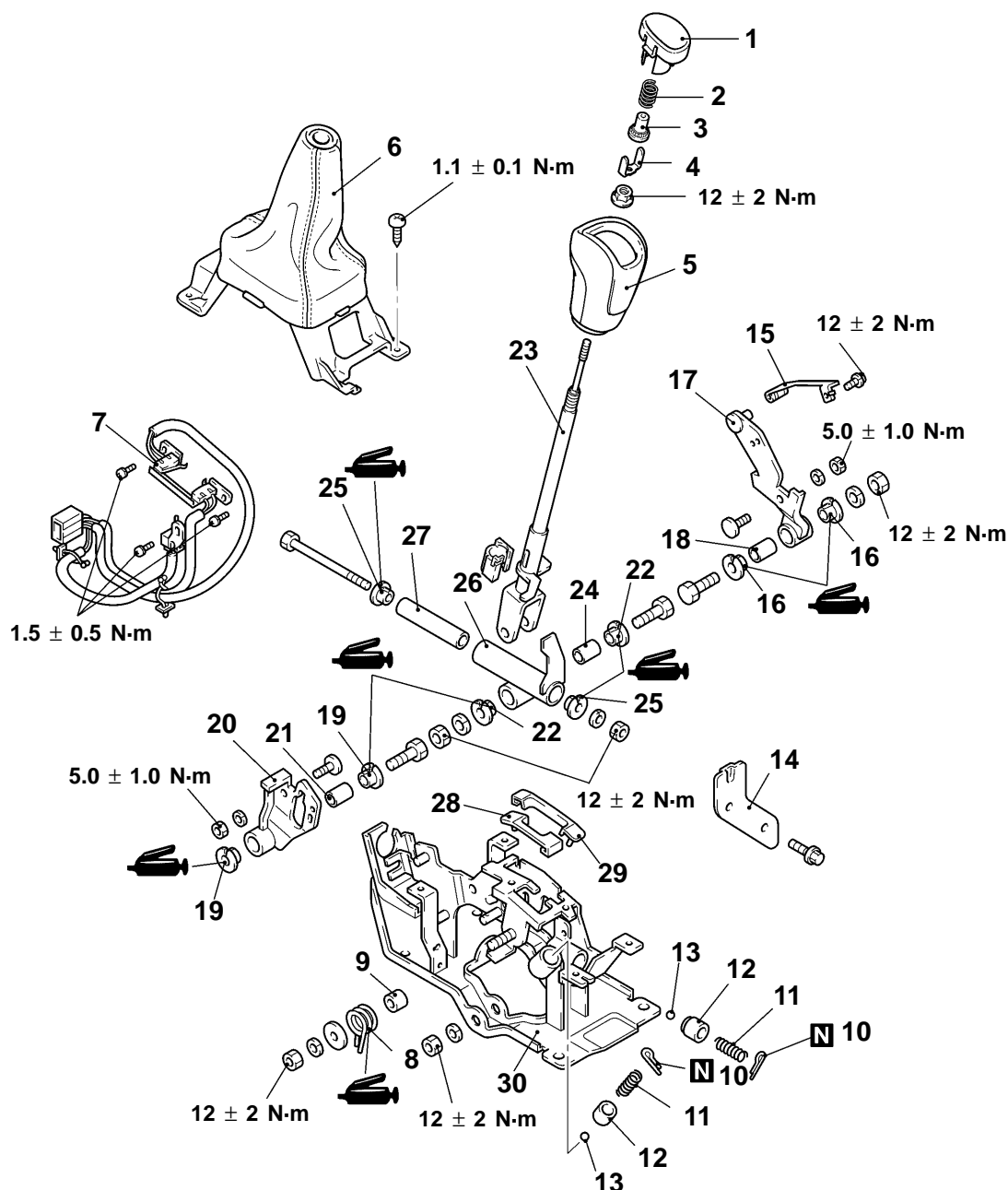
Steering shift switch	Resistance [ $\Omega$ ]
Upshift and hold	990 – 1,010
Downshift and hold	388 – 396

3. If the resistance is other than above, replace the driver's air bag module. (Refer to GROUP 52B – Air bag module and clock spring.)



## TRANSMISSION CONTROL &lt;Vehicles with sport mode&gt;

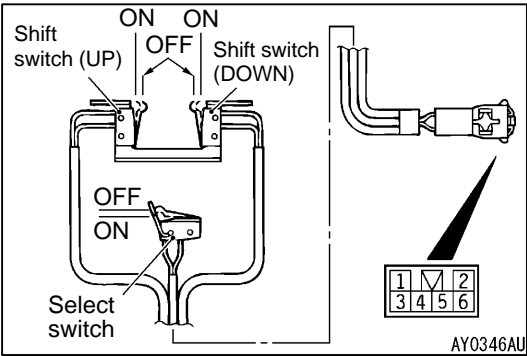
## DISASSEMBLY AND REASSEMBLY

Main  
IndexGroup  
23B

## Disassembly steps

- |                            |                      |
|----------------------------|----------------------|
| 1. Push button             | 16. Bushing          |
| 2. Spring                  | 17. Arm assembly     |
| 3. Cap                     | 18. Inner pipe       |
| 4. Adjuster                | 19. Bushing          |
| 5. A/T shift knob          | 20. Plate assembly   |
| 6. Panel with boot         | 21. Inner pipe       |
| 7. Shift switch assembly   | 22. Bushing          |
| 8. Return spring           | 23. Lever assembly   |
| 9. Pipe                    | 24. Inner pipe       |
| 10. Split pin              | 25. Bushing          |
| 11. Spring                 | 26. Pipe assembly    |
| 12. Ball support           | 27. Inner pipe       |
| 13. Ball                   | 28. Stopper A        |
| 14. Plate                  | 29. Stopper B        |
| 15. Detent spring assembly | 30. Bracket assembly |

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INSPECTION  
SHIFT SWITCH ASSEMBLY CONTINUITY CHECK

Switch position		Terminal No.					
		1	2	3	4	5	6
Select switch	ON						
	OFF						
Upshift switch	ON						
	OFF						
Downshift switch	ON						
	OFF						