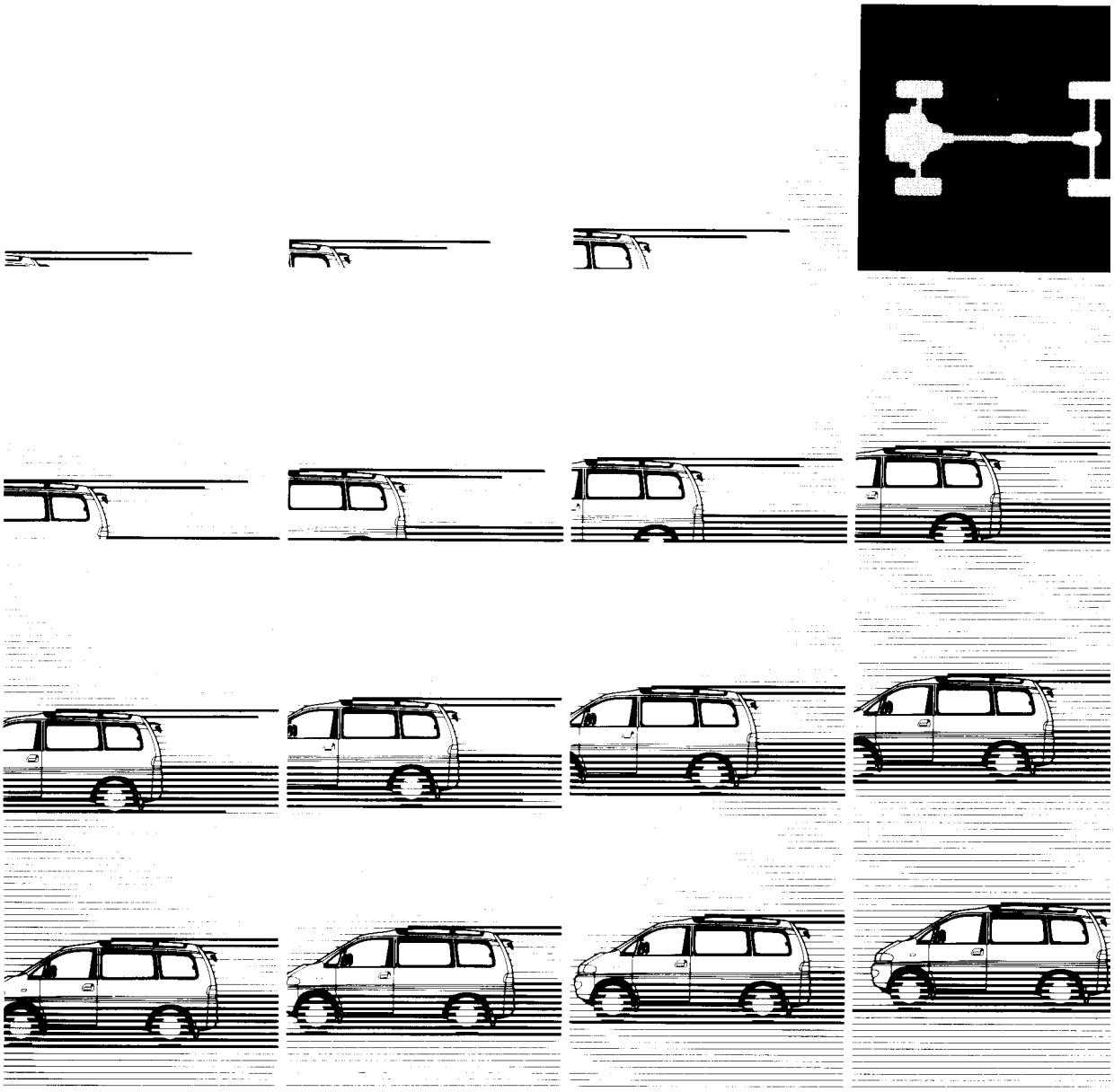
MITSUBISHI MOTORS

Workshop Manual

chassis

SUPPLEMENT

MITSUBISHI L400 '97



Pub. No. PWWE9410-B

MITSUBISHI L400

WORKSHOP MANUAL SUPPLEMENT

FOREWORD

This Workshop Manual contains procedures for service mechanics, including removal, disassembly, inspection, adjustment, reassembly and installation.
Use the following manuals in combination with this manual as required.

TECHNICAL INFORMATION MANUAL	PYWE9410
WORKSHOP MANUAL	
CHASSIS GROUP	PWWE9410
	PWWE9410-A
ENGINE GROUP	PWEE□□□□
	(Looseleaf edition)
ELECTRICAL WIRING	PHWE9407
	PHWE9407-A
	PHWE9407-B
BODY REPAIR MANUAL	PBWE9404
PARTS CATALOGUE	B603A805A□

All information, illustrations and product descriptions contained in this manual are current as at the time of publication. We, however, reserve the right to make changes at any time without prior notice or obligation.

MITSUBISHI MOTORS CORPORATION

GROUP 00

GENERAL

VEHICLE IDENTIFICATION

MODELS

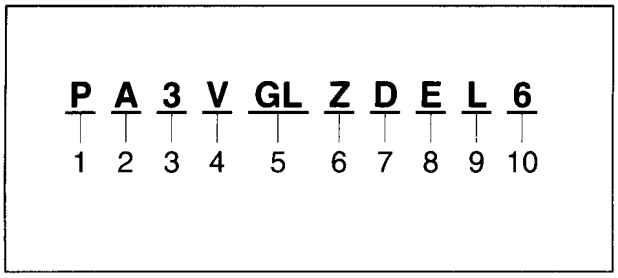
<Standard wheelbase models>

Model code		Engine model	Transmission model	Fuel supply system
PA3V	GLZDEL6	4G63 (1,997 m ℓ)	R5M21 (2WD-5M/T)	MPI
	GLZDER6			
	NLZDEL6			
	NLNUEL6			
PA5V	GLZDTL6	4D56 (2,477 m ℓ) with turbocharger	R5M21 (2WD-5M/T)	Diesel Fuel Injection
	GLZDTR6			
	NLZDTL6			
PD4V	NLNDEL6	4G64 (2,350 m ℓ)	V5M21 (4WD-5M/T)	MPI
PD5V	GLNDTL6	4D56 (2,477 m ℓ) with turbocharger	V5M21 (4WD-5M/T)	Diesel Fuel Injection
PA3W	NLZJEL6	4G63 (1,997 m ℓ)	R5M21 (2WD-5M/T)	MPI
	NLZUEL6			
	NLNUEL6			
	NLEUEL6		R4AW2 (2WD-4A/T)	
PA4W	NSNHEL6	4G64 (2,350 m ℓ)	R5M21 (2WD-5M/T)	MPI
	NSEHEL6		R4AW2 (2WD-4A/T)	
	HSNHEL6		R5M21 (2WD-5M/T)	
	HSEHEL6		R4AW2 (2WD-4A/T)	
PA5W	NLZUFL6	4D56 (2,477 m ℓ) with intercooler turbocharger	R5M31 (2WD-5M/T)	Diesel Fuel Injection
	NLNUFL6			
PD4W	NLNUEL6	4G64 (2,350 m ℓ)	V5M21 (4WD-5M/T)	MPI
PD5W	NLNUFL6	4D56 (2,477 m ℓ) with intercooler turbocharger	V5M31 (4WD-5M/T)	Diesel Fuel Injection

<Long wheelbase models>

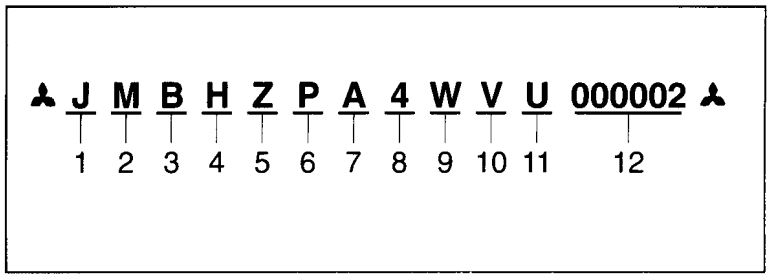
Model code		Engine model	Transmission model	Fuel supply system
PB3V	HLZDEL6	4G63 (1,997 m ℓ)	R5M21 (2WD-5M/T)	MPI
	JLZDEL6			
	JLZDER6			
PB5V	HLZDTL6	4D56 (2,477 m ℓ) with turbocharger	R5M21 (2WD-5M/T)	Diesel Fuel Injection
	JLZDTL6			
	JLZDTR6			

MODEL CODE



No.	Items		Contents
1	Sort	P	L400 VAN or SPACE GEAR
2	Chassis type	A	Standard wheelbase <2WD>
		B	Long wheelbase <2WD>
		D	Standard wheelbase <4WD>
3	Development order	3	1,997 m ℓ , Petrol engine
		4	2,350 m ℓ , Petrol engine
		5	2,476 m ℓ , Diesel engine
4	Body type	V	Panel van or window van
		W	Wagon
5	Roof type	NS	Standard roof – 3-door with tailgate (Clear window)
		NL	Standard roof – 4-door with tailgate (Clear window)
		HS	High roof – 3-door with tailgate (Clear window)
		HL	High roof – 4-door with tailgate (Clear window)
		JL	High roof – 4-door with tailgate (Dark window)
		GL	Standard roof – 4-door with tailgate (Dark window)
6	Transmission type	Z	5-speed manual transmission (Column shift)
		N	5-speed manual transmission (Floor shift)
		E	4-speed automatic transmission (Column shift)
7	Trim code	D	GL
		H	GLS
		U	GLX
8	Specified engine feature	E	SOHC-MPI
		F	Turbocharger with intercooler
		T	Turbocharger
9*	Steering wheel location	L	Left hand
		R	Right hand
10*	Destination	6	For Europe

NOTE:
* Indicates change



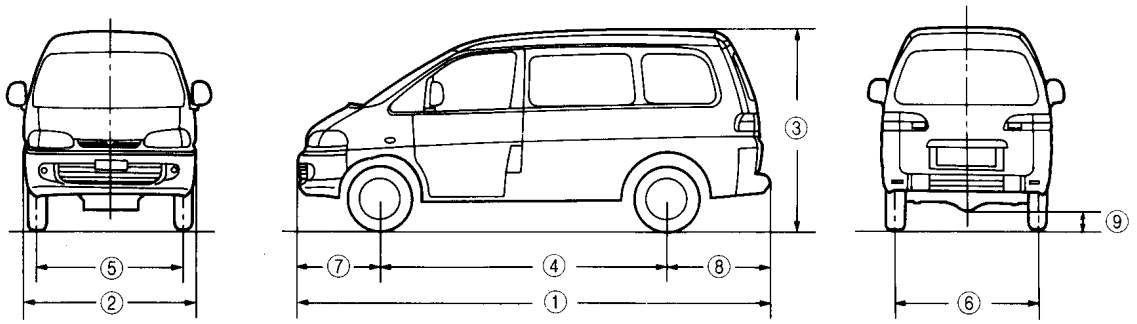
CHASSIS NUMBER

The chassis number is stamped on the toeboard inside the engine compartment.

No.	Items		Contents
1	Fixed figure	J	Asia
2	Distribution channel	M	Japan channel
3	Destination	A	For Europe, right hand drive
		B	For Europe, left hand drive
4	Body style	G	Standard roof (Dark window)
		H	High roof (Clear window)
		J	High roof (Dark window)
		N	Standard roof (Clear window)
5	Transmission type	E	4-speed automatic transmission (Column shift)
		N	5-speed manual transmission (Floor shift)
		Z	5-speed manual transmission (Column shift)
6	Vehicle line	P	L400 VAN or SPACE GEAR
7	Feature	A	Standard wheelbase <2WD>
		B	Long wheelbase <2WD>
		D	Standard wheelbase <4WD>
8	Development order	3	1,997 m ℓ , Petrol engine
		4	2,350 m ℓ , Petrol engine
		5	2,476 m ℓ , Diesel engine
9	Body type	V	Panel van or window van
		W	Wagon
10	Model year	V*	1997
11	Plant	U	Mizushima Motor Vehicle Works
12	Serial number	–	–

NOTE:
* Indicates change

MAJOR SPECIFICATIONS



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Items			PA3VGLZDEL6 PA3VGLZDER6	PA3VNLZDEL6	PA3VNLNUEL6	PA5VGLZDTL6 PA5VGLZDTR6 PA5VNLZDTL6	PD4VNLNDEL6
Vehicle dimensions mm	Overall length	①	4,595	4,595	4,595	4,595	4,595
	Overall width	②	1,695	1,695	1,695	1,695	1,695
	Overall height (unladen)	③	1,855	1,855	1,855	1,855	1,965
	Wheelbase	④	2,800	2,800	2,800	2,800	2,800
	Tread-Front	⑤	1,445	1,445	1,445	1,445	1,440
	Tread-Rear	⑥	1,420	1,420	1,420	1,420	1,435
	Overhang-Front	⑦	795	795	795	795	795
	Overhang-Rear	⑧	1,000	1,000	1,000	1,000	1,000
	Ground clearance (unladen)	⑨	195	195	190	190	195
Vehicle weight kg	Kerb weight		1,460	1,480	1,525	1,535, 1,560*	1,650
	Maximum vehicle weight		2,510	2,510	2,510	2,510	2,510
Seating capacity			3	6	5	3, 6*	5
Engine	Model		4G63	4G63	4G63	4D56	4G64
	Total displacement m ℓ		1,997	1,997	1,997	2,477	2,350
Transmission	Model		R5M21	R5M21	R5M21	R5M21	V5M21
	Type		5-speed manual	5-speed manual	5-speed manual	5-speed manual	5-speed manual

NOTE
*: PA5VNLZDTL6

Items			PD5VGLNDTL6	PA3WNLZJEL6	PA3WNLZUEL6	PA3WNLNUEL6	PA3WNLEUEL6
Vehicle dimensions mm	Overall length	①	4,595	4,595	4,595	4,595	4,595
	Overall width	②	1,695	1,695	1,695	1,695	1,695
	Overall height (unladen)	③	1,965	1,855	1,855	1,855	1,855
	Wheelbase	④	2,800	2,800	2,800	2,800	2,800
	Tread-Front	⑤	1,440	1,445	1,455	1,455	1,455
	Tread-Rear	⑥	1,435	1,420	1,420	1,420	1,420
	Overhang-Front	⑦	795	795	795	795	795
	Overhang-Rear	⑧	1,000	1,000	1,000	1,000	1,000
	Ground clearance (unladen)	⑨	195	195	195	195	195
Vehicle weight kg	Kerb weight		1,630	1,570	1,585	1,595	1,610
	Maximum vehicle weight		2,600	2,460	2,460	2,440	2,440
Seating capacity			2	9	9	8	8
Engine	Model		4D56	4G63	4G63	4G63	4G63
	Total displacement m ℓ		2,477	1,997	1,997	1,997	1,997
Transmis-sion	Model		V5M21	R5M21	R5M21	R5M21	R4AW2
	Type		5-speed manual	5-speed manual	5-speed manual	5-speed manual	4-speed automatic

Items			PA4WNSNHEL6	PA4WNSEHEL6	PA4WHSNHEL6	PA4WHSEHEL6
Vehicle dimensions mm	Overall length	①	4,595	4,595	4,595	4,595
	Overall width	②	1,695	1,695	1,695	1,695
	Overall height (unladen)	③	1,855	1,855	1,950	1,950
	Wheelbase	④	2,800	2,800	2,800	2,800
	Tread-Front	⑤	1,445	1,445	1,445	1,445
	Tread-Rear	⑥	1,420	1,420	1,420	1,420
	Overhang-Front	⑦	795	795	795	795
	Overhang-Rear	⑧	1,000	1,000	1,000	1,000
	Ground clearance (unladen)	⑨	190	190	190	190
Vehicle weight kg	Kerb weight		1,620	1,645	1,670	1,695
	Maximum vehicle weight		2,440	2,440	2,440	2,440
Seating capacity			7	7	7	7
Engine	Model		4G64	4G64	4G64	4G64
	Total displacement m ℓ		2,350	2,350	2,350	2,350
Transmis-sion	Model		R5M21	R4AW2	R5M21	R4AW2
	Type		5-speed manual	4-speed automatic	5-speed manual	4-speed automatic

Items			PA5WNLZUFL6 PA5WNLNUFL6	PD4WNLNUEL6	PD5WNLNUFL6	PB3VHLZDEL6 PB3VJLZDEL6 PB3VJLZDER6	PB5VHLZDTL6 PB5VJLZDTL6 PB5VJLZDTR6
Vehicle dimensions mm	Overall length	①	4,595	4,595	4,595	4,995	4,995
	Overall width	②	1,695	1,695	1,695	1,695	1,695
	Overall height (unladen)	③	1,855	1,965	1,965	1,960	1,960
	Wheelbase	④	2,800	2,800	2,800	3,000	3,000
	Tread-Front	⑤	1,445	1,440	1,440	1,445	1,445
	Tread-Rear	⑥	1,420	1,435	1,435	1,420	1,420
	Overhang-Front	⑦	795	795	795	795	795
	Overhang-Rear	⑧	1,000	1,000	1,000	1,200	1,200
	Ground clearance (unladen)	⑨	190	195	195	190	170
Vehicle weight kg	Kerb weight		1,665 1,675*1	1,750	1,850	1,510*2 1,490	1,640*3 1,595
	Maximum vehicle weight		2,550 2,520*1	2,580	2,700	2,700	2,700
Seating capacity			9, 8*1	8	8	6*2, 3	6*3, 3
Engine	Model		4D56	4G64	4D56	4G63	4D56
	Total displacement m ℓ		2,477	2,350	2,477	1,997	2,477
Transmission	Model		R5M31	V5M21	V5M31	R5M21	R5M21
	Type		5-speed manual	5-speed manual	5-speed manual	5-speed manual	5-speed manual

NOTE
*1: PA5WNLNUFL6
*2: PB3VHLZDEL6
*3: PB5VHLZDTL6

MULTIPOINT FUEL INJECTION (MPI)

CONTENTS

GENERAL

OUTLINE OF CHANGE

The engine control relay and fuel pump relay, which were previously integrated into a single relay, have now been separated in order to simplify the circuit, and the engine-ECU has also been changed. To correspond to this, service procedures have been established for the parts which have changed.

GENERAL INFORMATION

GENERAL SPECIFICATIONS

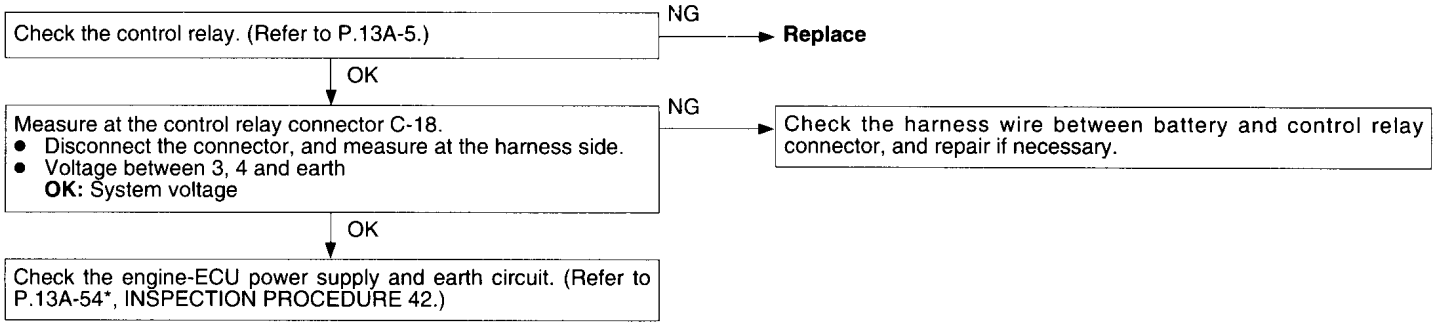
Items				Specifications
Engine-ECU	Identification model No.	Vehicles without immobilizer system	4G63-Panel van and window van	E2T63182
			4G63-Wagon	E2T63184
			4G64	E2T63186
		Vehicles with immobilizer system	4G63-Panel van and window van	E2T63183
			4G63-Wagon	E2T63185
			4G64	E2T63187
Actuators	Control relay type			Contact switch type
	Fuel pump relay type			Contact switch type

TROUBLESHOOTING

INSPECTION PROCEDURE FOR TROUBLE SYMPTOMS

INSPECTION PROCEDURE 23

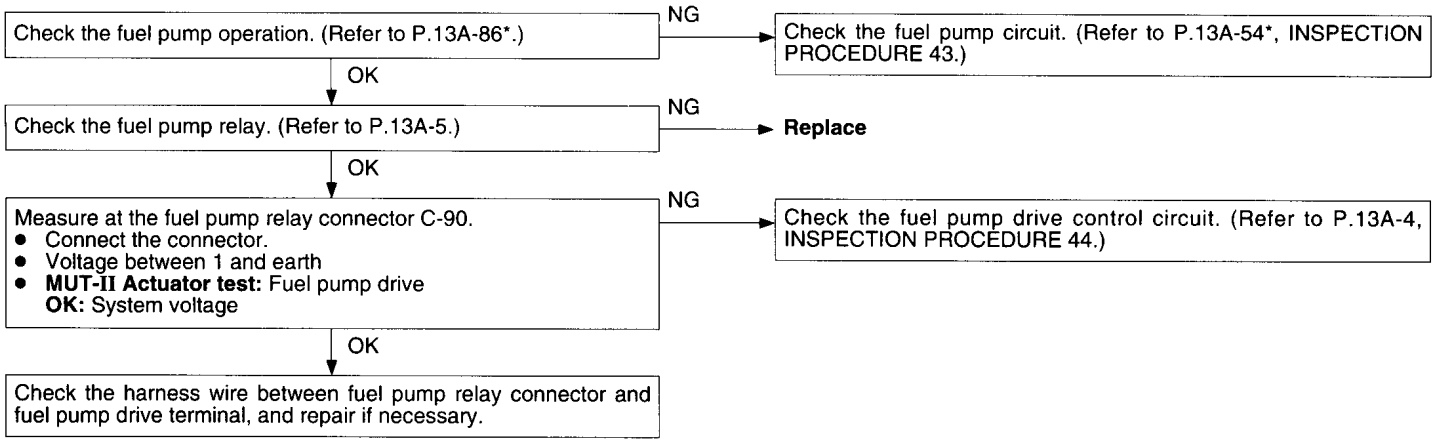
Power supply system and ignition switch – IG system	Probable cause
[Comment] When an ignition switch ON signal is input to the engine-ECU, the engine-ECU turns the control relay ON. This causes battery voltage to be supplied to the engine-ECU, injectors and air flow sensor.	• Malfunction of the ignition switch • Malfunction of the control relay • Improper connector contact, open circuit or short-circuited harness wire • Disconnected engine-ECU earth wire • Malfunction of the engine-ECU



NOTE
*: Refer to L400 Workshop Manual (Pub. No. PWWE9410)

INSPECTION PROCEDURE 24

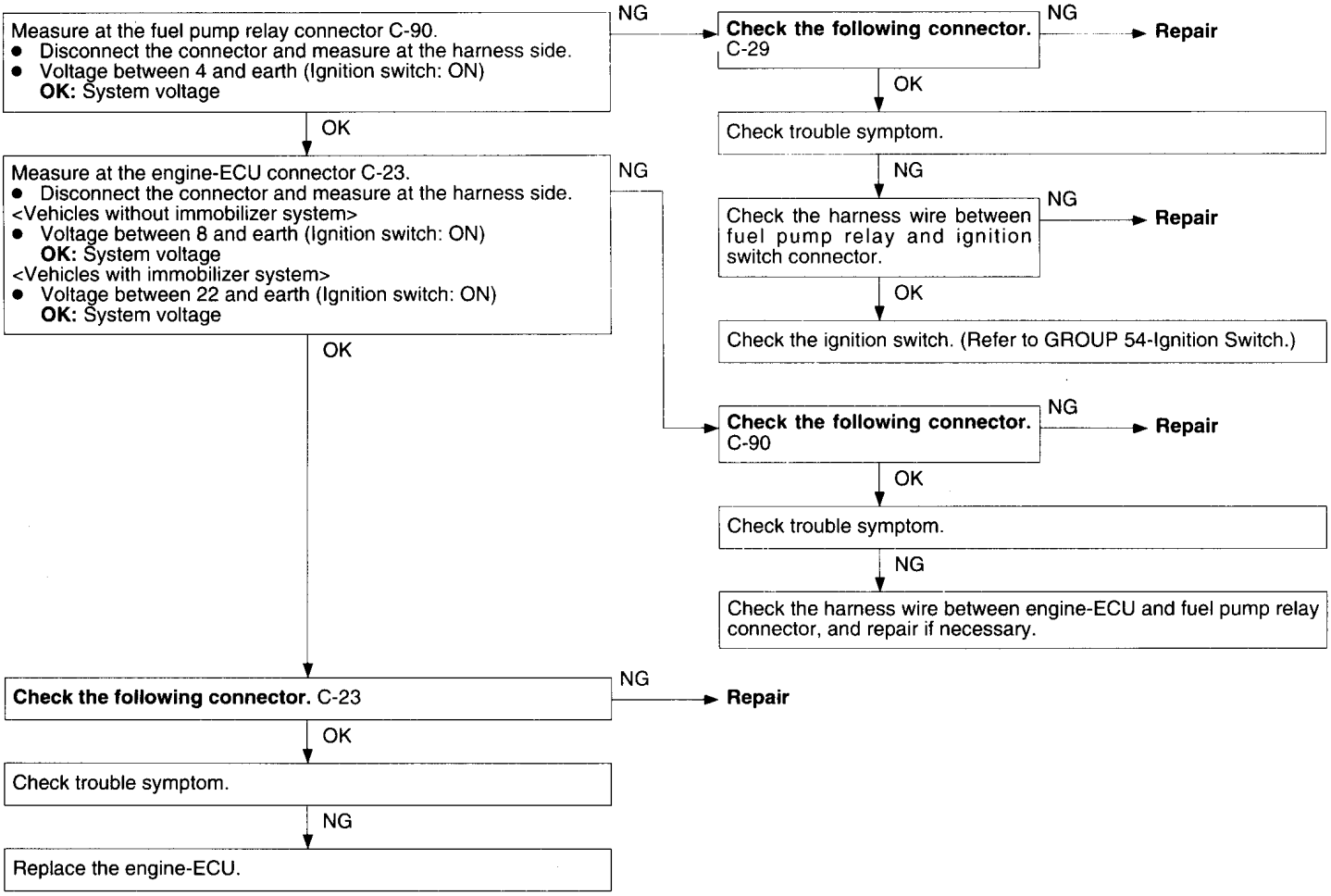
Fuel pump system	Probable cause
[Comment] The engine-ECU turns the fuel pump relay ON when the engine is cranking or running, and this supplies power to drive the fuel pump.	• Malfunction of the fuel pump relay • Malfunction of the fuel pump • Improper connector contact, open circuit or short-circuited harness wire • Malfunction of the engine ECU

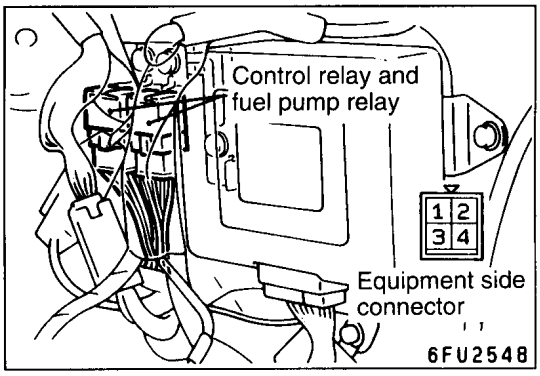


NOTE
*: Refer to L400 workshop Manual (Pub. No. PWWE9410)

INSPECTION PROCEDURE 44

Check the fuel pump drive control circuit.





SERVICE ADJUSTMENT PROCEDURES

CONTROL RELAY AND FUEL PUMP RELAY CONTINUITY CHECK

Battery voltage	Terminal No.			
	1	2	3	4
Not supplied		○		○
Supplied	○	⊖	○	⊕

GROUP 27

REAR AXLE

GENERAL

OUTLINE OF CHANGES

- The differential reduction gear for the rear axle has been changed. <4D56 – Wagon>
- A helical gear-type limited slip differential has been added as an option. The removal, installation and inspection procedures for the differential case are the same as before, however be careful not to disassemble the differential case. Moreover, the same rear axle gear oil which is used for conventional differentials is used. <All models>

SPECIFICATIONS

GENERAL SPECIFICATIONS

Item		2WD	4WD
		4D56 <Wagon> Standard wheelbase	4D56 <Wagon> Standard wheelbase
Drive gear type		Hypoid gear	Hypoid gear
Reduction ratio		3.909	4.636
Differential gear type (type × No. of teeth)	Side gear	Straight bevel gear × 2	Straight bevel gear × 2
	Pinion gear	Straight bevel gear × 2 (Straight bevel gear × 4)	Straight bevel gear × 2 (Straight bevel gear × 4)
Number of teeth	Drive gear	43	51
	Drive pinion	11	11
	Side gear	14	14
	Pinion gear	10	10
Bearing (O.D. × I.D.) mm	Side	80.0 × 45.2	80.0 × 45.2
	Front	68.3 × 30.2	68.3 × 30.2
	Rear	76.2 × 36.5	76.2 × 36.5

NOTE
( ): Vehicles with torque-responsive mechanical type limited slip differential

LUBRICANTS

Item	Specified lubricants	Quantity ℓ		
Rear differential gear oil	● Helical gear-type limited slip differential Hypoid gear oil API classification GL-5 or higher SAE viscosity No. 90, 80 W	2WD	4G63 Standard wheelbase	1.2
			4G63 Long wheelbase	1.6
			4G64	
			4D56 Standard wheelbase	
			4D56 Long wheelbase	2.6
		4WD	4G64	1.8
			4D56	

GROUP 35A

BASIC BRAKE SYSTEM

GENERAL

OUTLINE OF CHANGES

- Front ventilated disc brakes (V5-W43) are available as an option for 2WD wagons. The service procedures for these brakes are the same as before.

SPECIFICATIONS

GENERAL SPECIFICATIONS

Items	2WD Wagon
Front brakes disc effective dia. mm	200 or 228*1
Front brakes wheel cylinder I.D. mm	60.3 or 42.9*2

NOTE
(1)*1: Vehicles with 15" front ventilated disc brakes.
(2)*2: Vehicles with dual piston type front disc brakes.

GROUP 35B

ANTI-SKID BRAKE SYSTEM (ABS) <2WD>

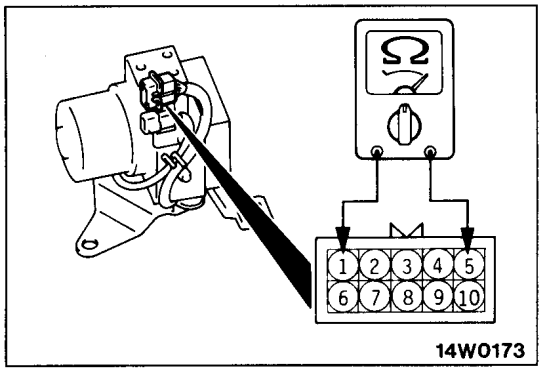
GENERAL

OUTLINE OF CHANGES

- The following service procedures have been changed to correspond to changes in the hydraulic unit.

SERVICE SPECIFICATIONS

Items		Standard value
Hydraulic unit solenoid valve internal resistance Ω	OUT	3.4
	IN	8.2



SERVICE ADJUSTMENT PROCEDURES

SOLENOID VALVE CHECK

Measure the resistance between terminals.

Standard value:

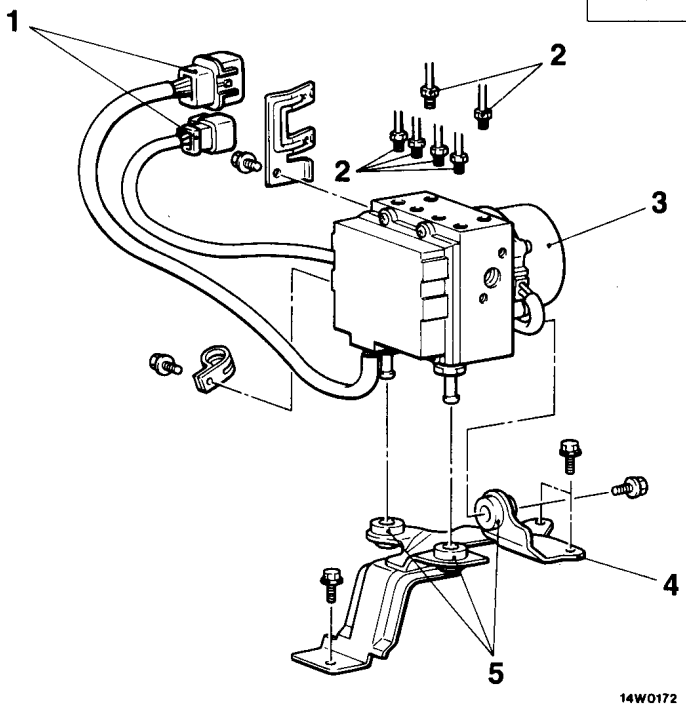
Solenoid valve	Measurement terminals	Resistance between terminals
Front IN (right side)	1 – 5	8.2Ω
Front IN (left side)	2 – 10	
Rear IN (right side)	3 – 10	
Rear IN (left side)	4 – 5	
Front OUT (right side)	5 – 6	3.4Ω
Front OUT (left side)	7 – 10	
Rear OUT (right side)	8 – 10	
Rear OUT (left side)	5 – 9	

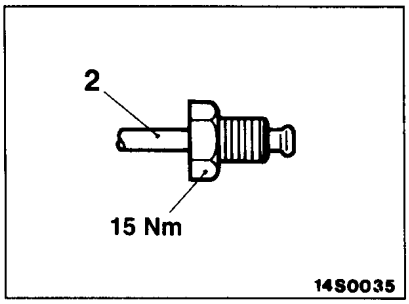
HYDRAULIC UNIT

REMOVAL AND INSTALLATION

Pre-removal Operation
- Brake Fluid Draining
- Air Cleaner Removal

Post-installation Operation
- Air Cleaner Installation
- Brake Fluid Supplying
- Brake Lines Bleeding (Refer to P.35B-29*.)
- Hydraulic Unit Checking (Refer to P.35B-31*.)





Removal steps

1. Harness connector
2. ▶A◀ Brake tube connection
3. ◀A▶ Hydraulic unit
4. Hydraulic unit bracket
5. Mount A

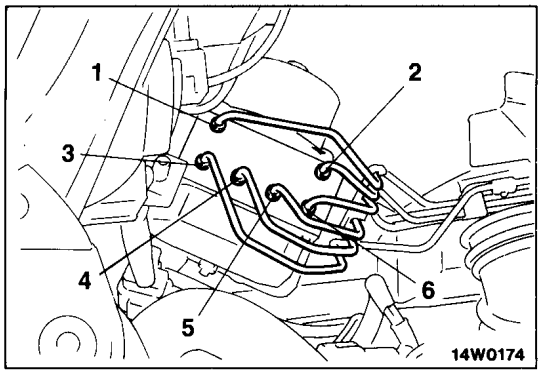
NOTE
*: Refer to the '95 L400 Workshop Manual <Pub. No. PWWE9410>

REMOVAL SERVICE POINT

◀A▶ HYDRAULIC UNIT REMOVAL

Caution

1. **The hydraulic unit is heavy, and so care should be taken when removing it.**
2. **The hydraulic unit is not to be disassembled; its nuts and bolts should absolutely not be loosened.**
3. **The hydraulic unit must not be dropped or otherwise subjected to impact shocks.**
4. **The hydraulic unit must not be turned upside down or laid on its side.**



INSTALLATION SERVICE POINT

▶A◀ BRAKE TUBE CONNECTION

Connect the tube to the hydraulic unit as shown in the illustration.

1. Master cylinder (for front: secondary piston)
2. Master cylinder (for rear: primary piston)
3. Front brake (R.H.)
4. Rear brake (L.H.)
5. Rear brake (R.H.)
6. Front brake (L.H.)

GROUP 42

BODY

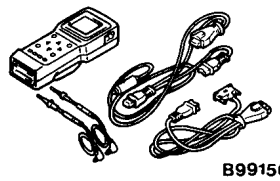
GENERAL

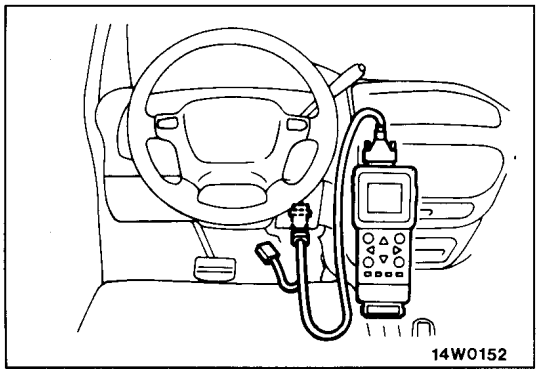
OUTLINE OF CHANGES

- The central door locking system is now controlled by the ETACS-ECU instead of by the door lock control unit. The following service procedures have been changed to correspond to this.

CENTRAL DOOR LOCKING SYSTEM

SPECIAL TOOLS

Tool	Number	Name	Use
 B991502	MB991502	MUT-II sub assembly	ETACS-ECU input signal checking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TROUBLESHOOTING

DIAGNOSIS FUNCTION

Input Signal Inspection Points

1. Connect the MUT-II to the diagnosis connector.
2. If buzzer of the MUT-II sounds once when door lock actuator switch is operated (LOCK/UNLOCK), the ETACS-ECU input signal for that switch circuit system is normal.

INSPECTION CHART FOR TROUBLE SYMPTOMS

Trouble symptom		Inspection procedure	Reference page
Communication with MUT-II is impossible.	Communication with all systems is impossible.	1	42-2
	Communication with one-shot pulse input signal only is impossible.	2	42-2
Door locking mechanism	None of the door lock functions operate.	3	42-3
	None of the doors lock or unlock when the door key is operated (including by means of the driver's side inside door locking knob).	4	42-4
	Some doors do not lock or unlock.	5	42-4

INSPECTION PROCEDURE FOR TROUBLE SYMPTOMS

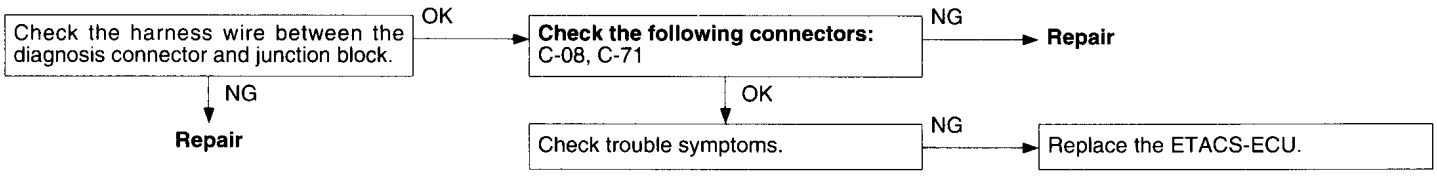
Inspection Procedure 1

Communication with MUT-II is impossible. (Communication with all systems is impossible.)	**Probable cause**
The cause is probably a defective power supply system (including earth) for the diagnosis line.	• Malfunction of wiring harness or connector

Refer to GROUP 13A – Troubleshooting. (Refer to the '95 L400 Workshop Manual <Pub. No. PWWE9410>)

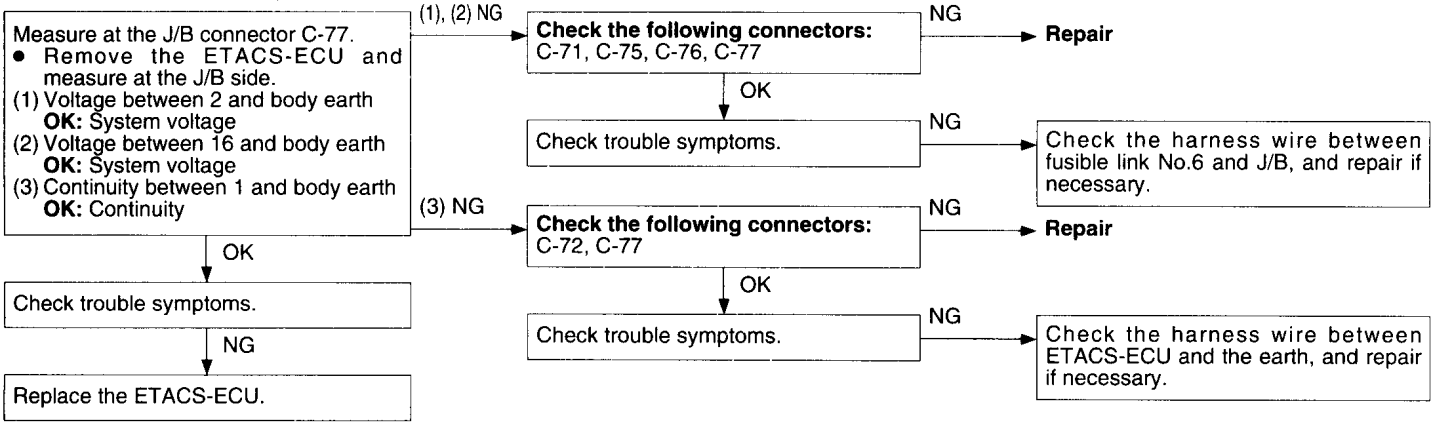
Inspection Procedure 2

Communication with MUT-II is impossible. (Communication with the one-shot pulse input signal only is impossible.)	**Probable cause**
The cause is probably a defective one-shot pulse input circuit system of the diagnosis line.	• Malfunction of wiring harness or connector • Malfunction of ETACS-ECU



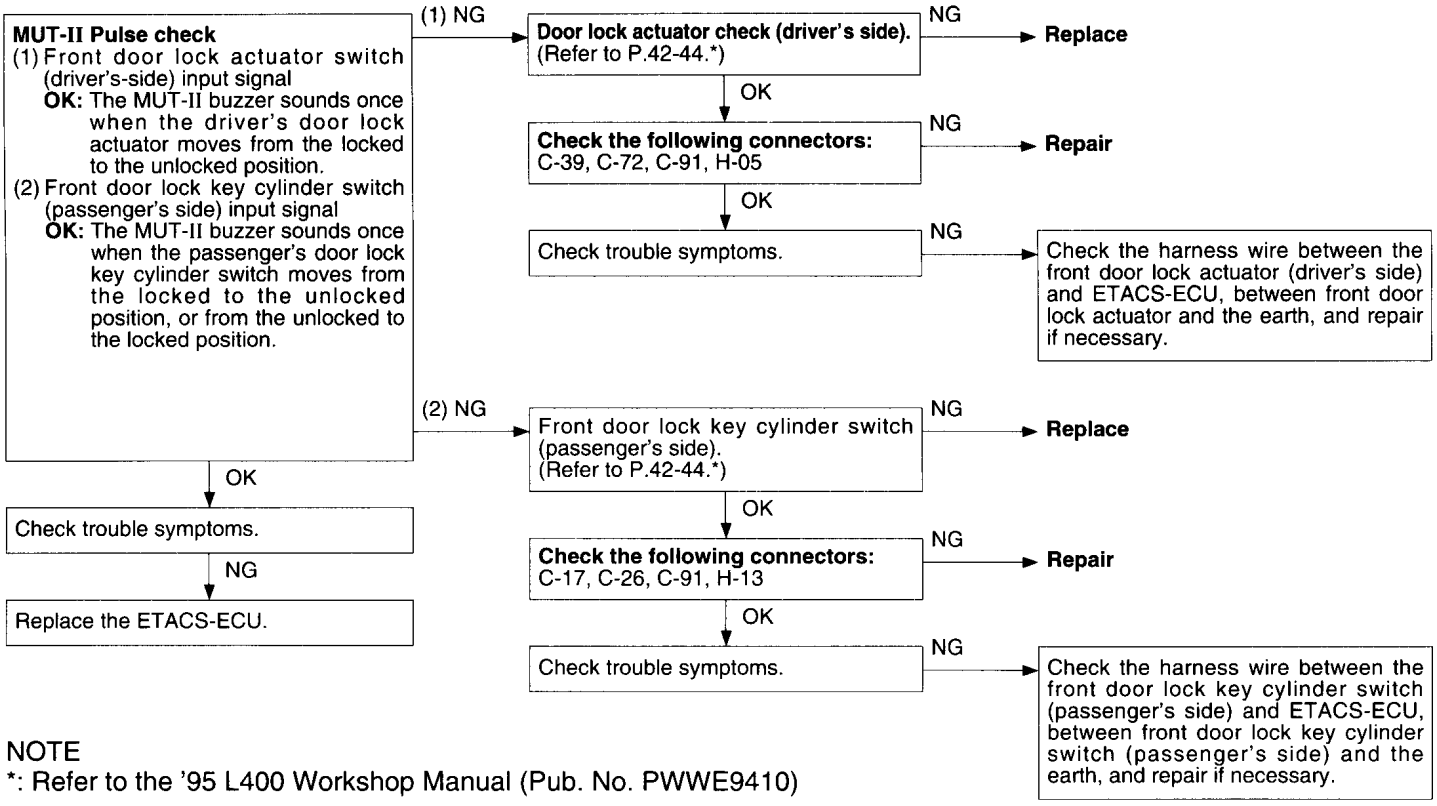
Inspection Procedure 3

None of the door lock functions operate.	Probable cause
The cause may be a malfunction of the ETACS-ECU power supply circuit system or of the earth circuit system.	• Malfunction of wiring harness or connector • Malfunction of ETACS-ECU



Inspection Procedure 4

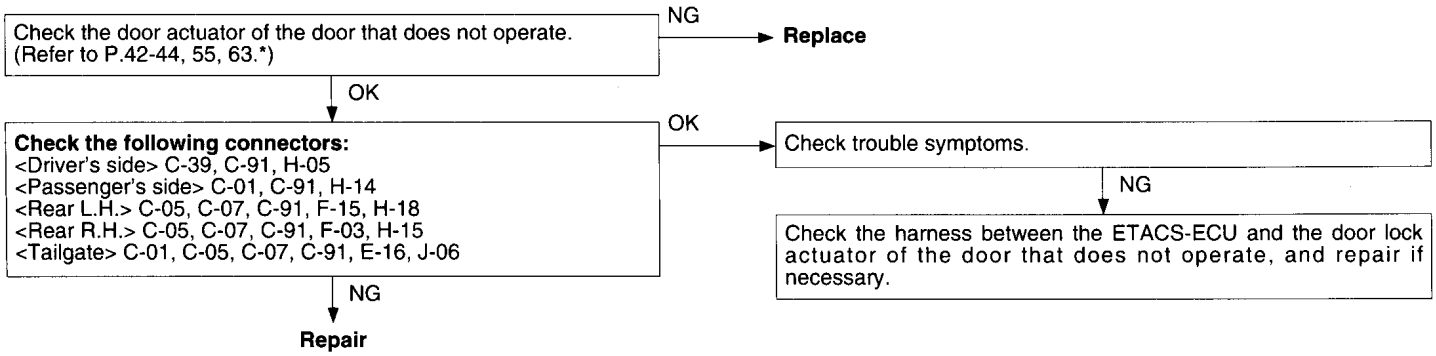
None of the doors lock or unlock when the door key is operated (including by means of the driver's side inside door locking knob).	Probable cause
The cause may be a malfunction of the door lock actuator switch, front door lock key cylinder switch, the ETACS-ECU or of a wiring harness or connector.	• Malfunction of front door lock actuator (driver's side) • Malfunction of front door lock key cilinder switch (passenger's side) • Malfunction of ETACS-ECU • Malfunction of wiring harness or connector



NOTE
*: Refer to the '95 L400 Workshop Manual (Pub. No. PWWE9410)

Inspection Procedure 5

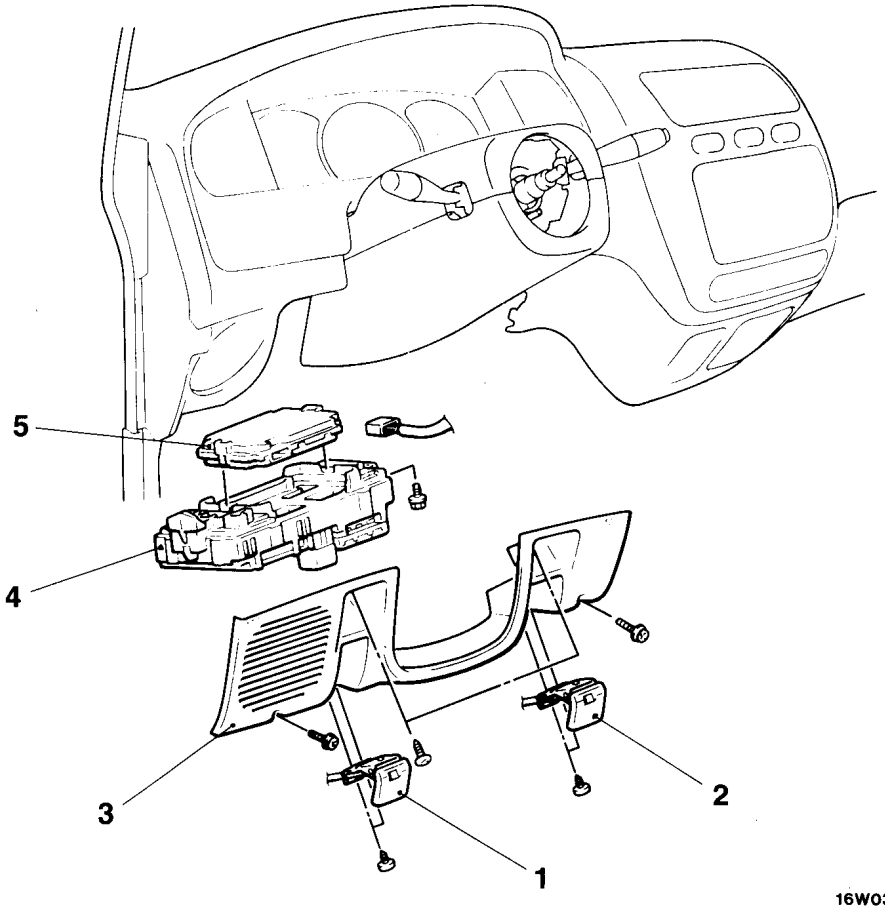
Some doors do not lock or unlock.	Probable cause
The cause may be a malfunction of the door lock actuator or of a wiring harness or connector.	• Malfunction of door lock actuator • Malfunction of wiring harness or connector



NOTE
*: Refer to the '95 L400 Workshop Manual (Pub. No. PWWE9410)

ETACS-ECU

REMOVAL AND INSTALLATION



Removal steps

1. Hood lock release handle
2. Fuel lid lock release handle
3. Under cover
4. Junction block
5. ETACS-ECU

NOTE
⇦ : Metal clip position

GROUP 52A
INTERIOR

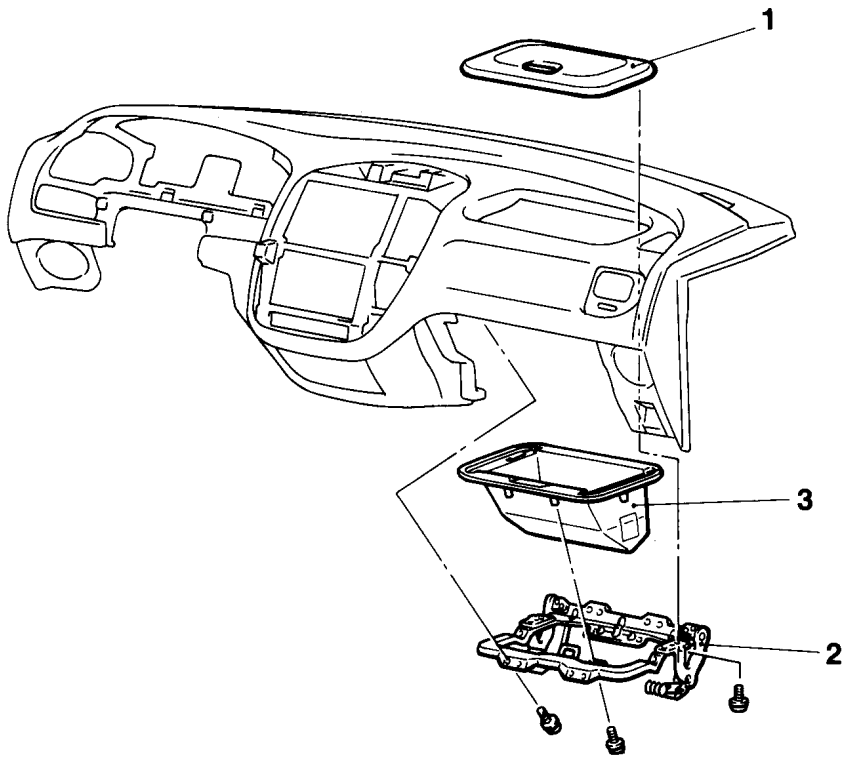
GENERAL

- Service procedures have been added to correspond to the addition of an upper glove box in vehicles without SRS.
- The head lining in vans has been changed from a paste type to an insertion type. Service procedures have been added to correspond to this change.
- Service procedures have been added to correspond to the addition of dual height-adjustable seat as the driver's-side seat.
- Service procedures have been added to correspond to the addition of bench seats with slide adjuster as the rear seats.

INSTRUMENT PANEL

UPPER GLOVE BOX

REMOVAL AND INSTALLATION



19W0259

Removal steps

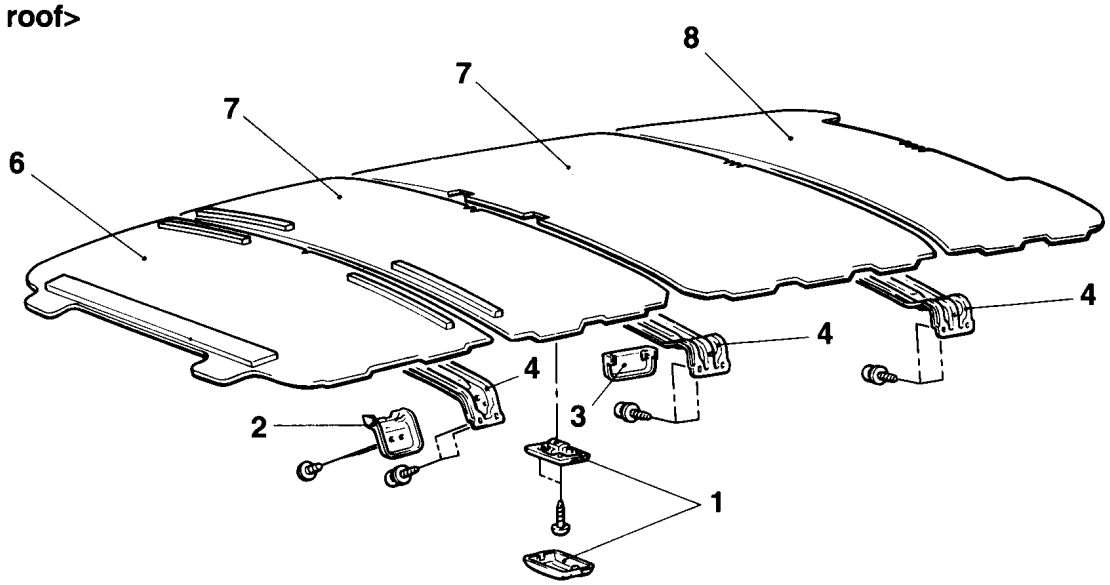
1. Lid assembly
- Instrument panel
  (Refer to GROUP 52A – Instrument Panel*)
2. Bracket assembly
3. Box assembly

NOTE
*: Refer to the '95 L400 Workshop Manual (Pub. No. PWWE9410)

HEADLINING

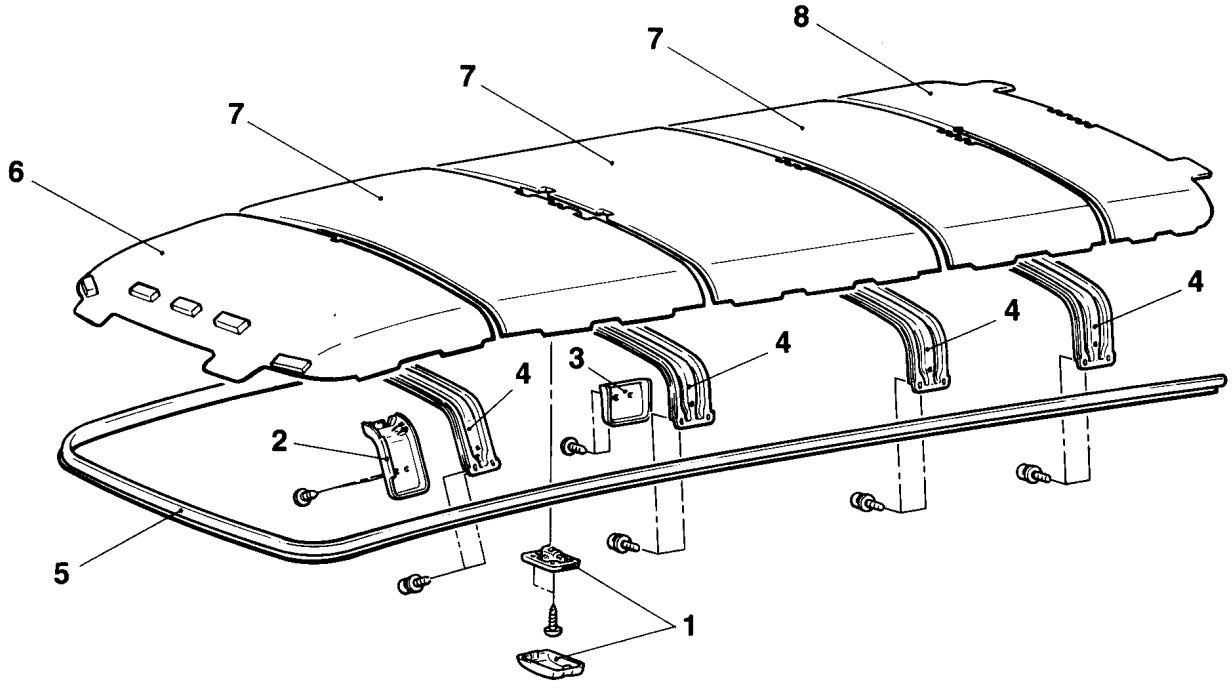
REMOVAL AND INSTALLATION

<Standard roof>



19W0258

<High roof>



19W0257

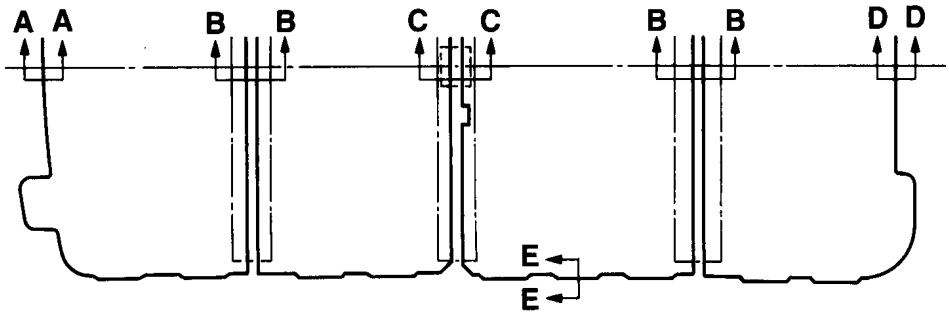
Removal steps

1. Room lamp assembly
2. Roof bow protector A
3. Roof bow protector B
4. Roof bow
5. Roof rail trim

▶A◀ 6. Headlining (front)
▶A◀ 7. Headlining (center)
▶A◀ 8. Headlining (rear)

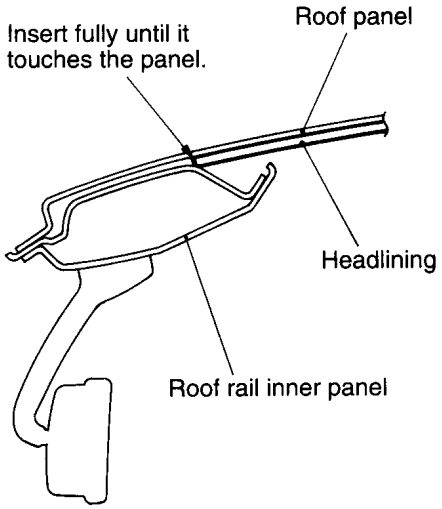
INSTALLATION SERVICE POINT

▶A◀ HEADLINING (FRONT)/HEADLINING (CENTER)/HEADLINING (REAR) INSTALLATION

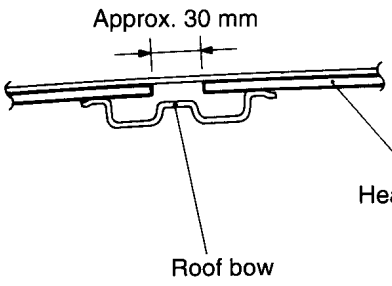


19W0253

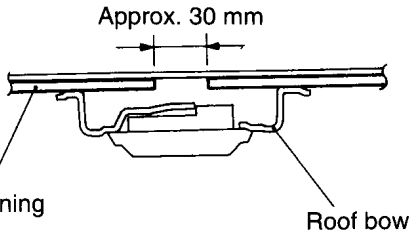
Section A-A



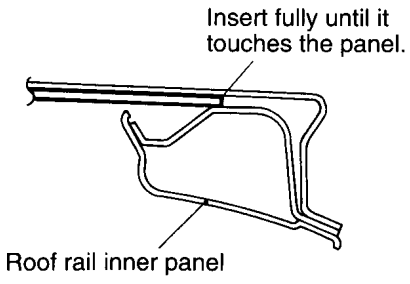
Section B-B



Section C-C



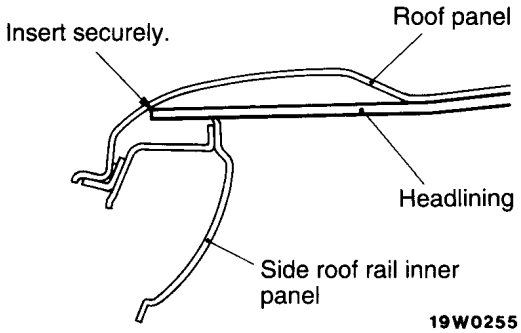
Section D-D



19W0254

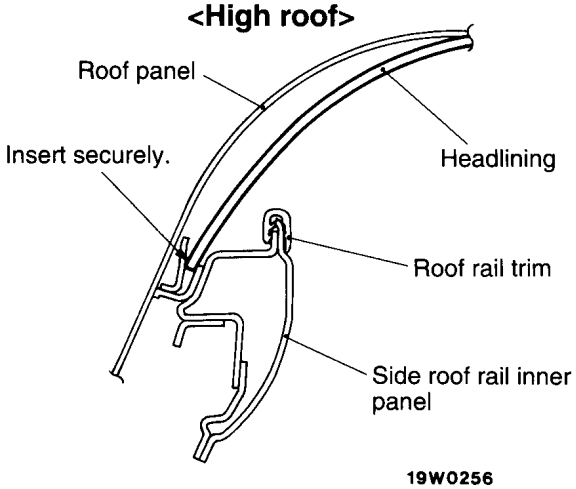
Section E-E

<Standard roof>



19W0255

<High roof>



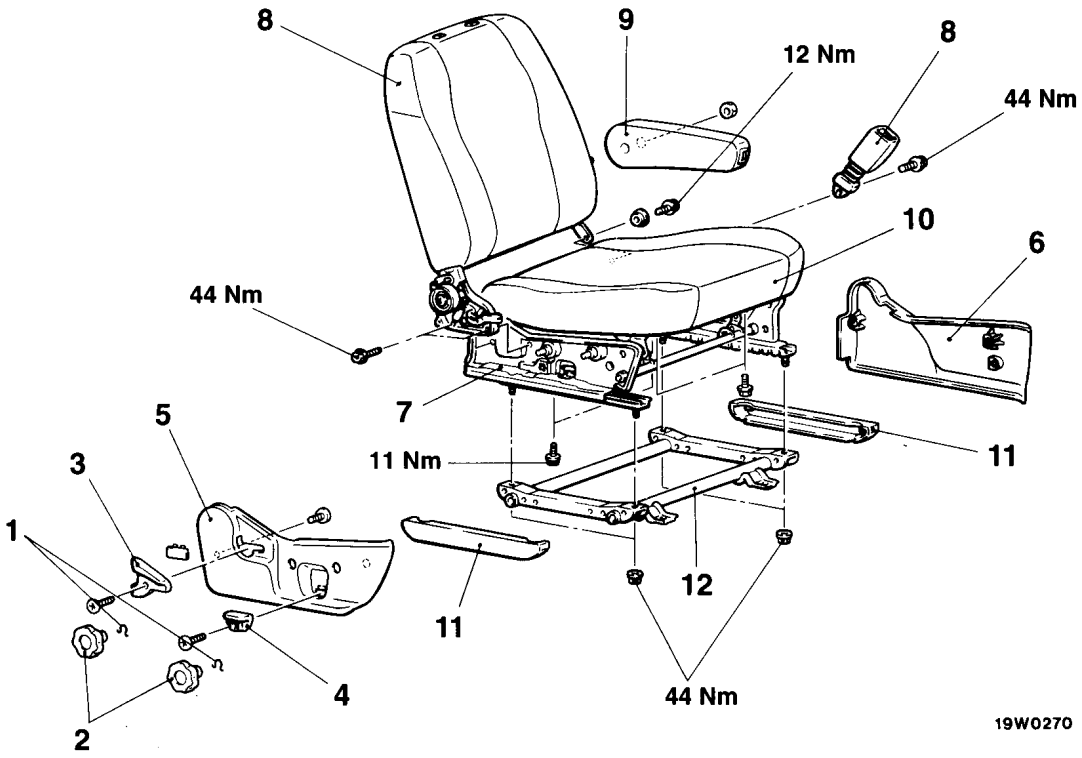
19W0256

SEAT

FRONT SEAT

DISASSEMBLY AND REASSEMBLY

<Driver's-side seat>

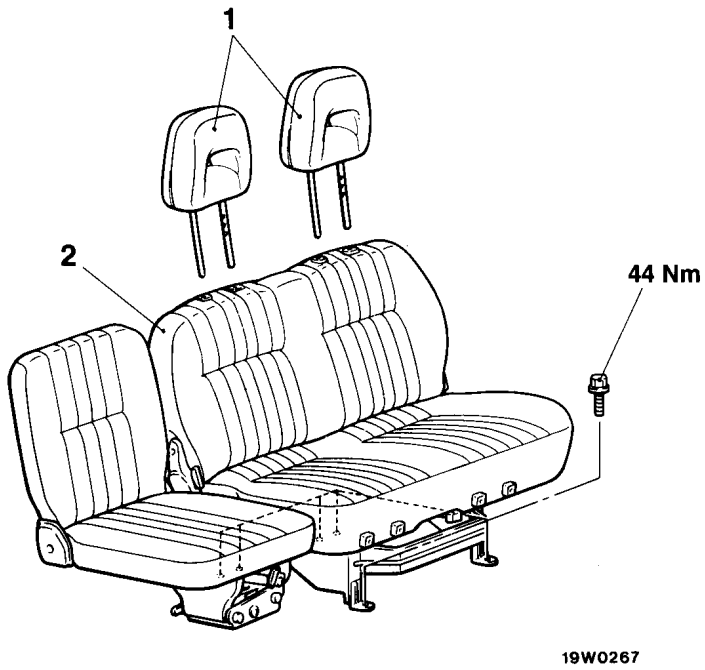


Disassembly steps

1. Shaft snap ring
2. Height adjuster knob
3. Reclining knob
4. Seat adjuster knob
5. Hinge cover, R.H.
6. Hinge cover, L.H.
7. Seat adjuster
8. Inner seat belt
9. Front seat back
10. Armrest
11. Front seat cushion
12. Stand cover
13. Stand assembly

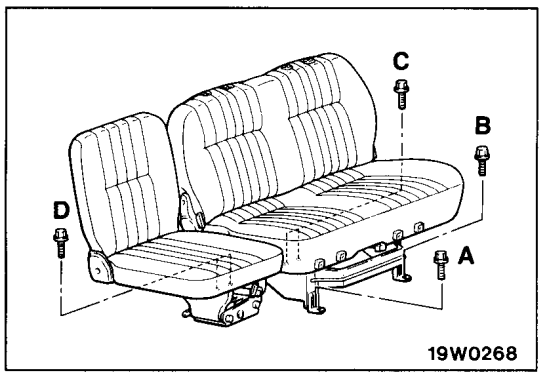
SECOND SEAT (BENCH TYPE) REMOVAL AND INSTALLATION

<Bench slide type>



Removal steps

1. Headrestraint
▶A◀ 2. Second seat assembly



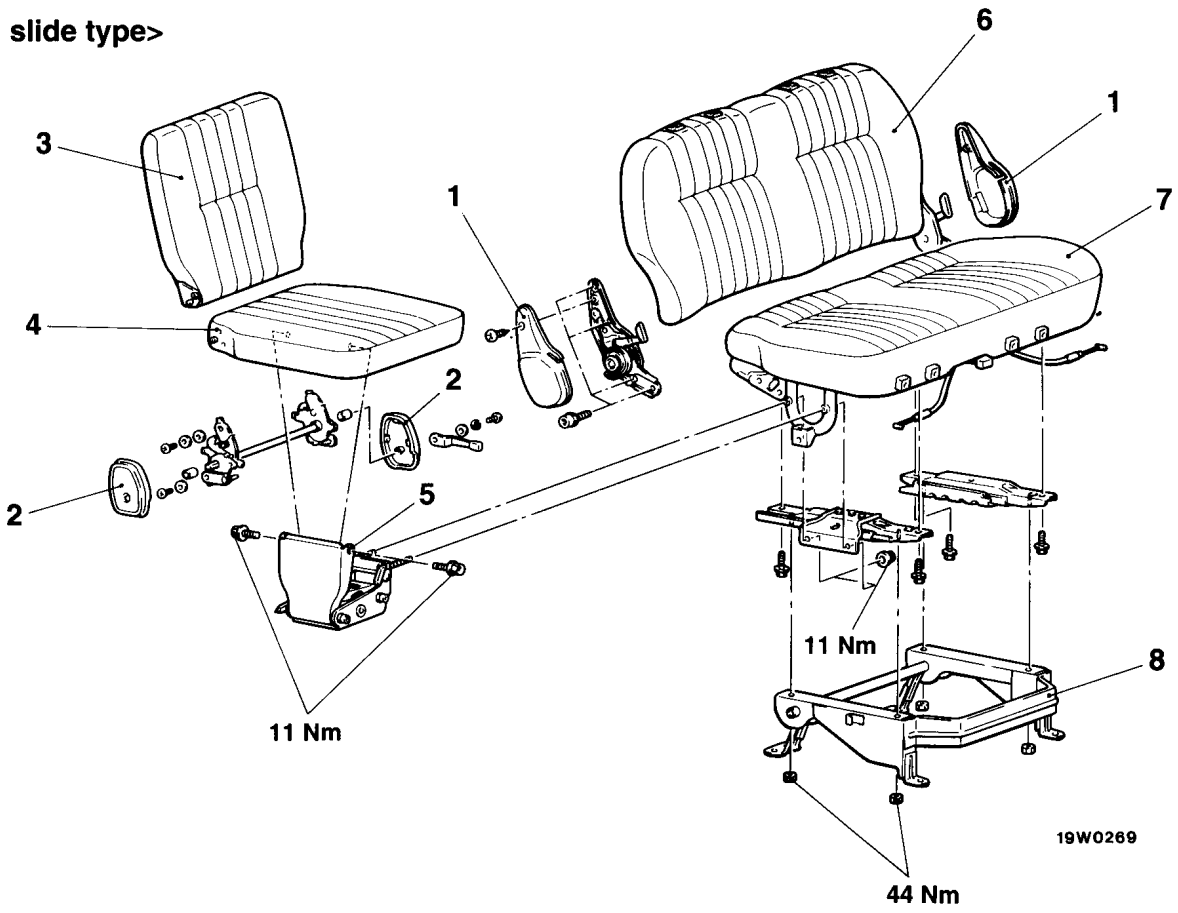
INSTALLATION SERVICE POINT

▶A◀ SECOND SEAT ASSEMBLY INSTALLATION

Tighten the second seat mounting bolts in the order A, B, C, and D.

DISASSEMBLY AND REASSEMBLY

<Bench slide type>



Disassembly steps

1. Reclining cover
2. Hinge cover
3. Jump seat back
4. Jump seat cushion
5. Jump seat link assembly
6. Second seat back
7. Second seat cushion
8. Floor stay assembly

GROUP 52B

SUPPLEMENTAL RESTRANT SYSTEM (SRS)

GENERAL

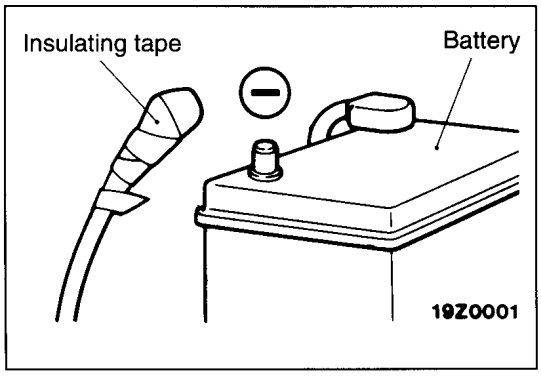
OUTLINE OF CHANGE

- Special tools for troubleshooting and troubleshooting procedures have been changed to correspond to changes in the SRS-ECU.

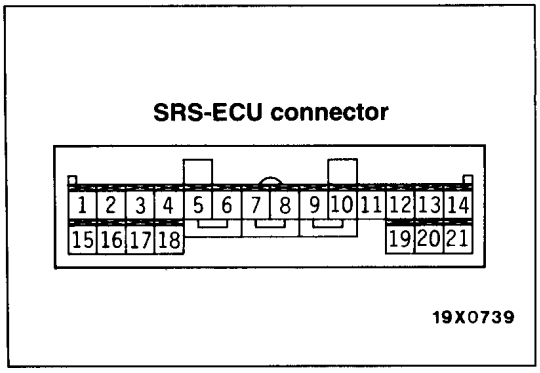
SRS SERVICE PRECAUTIONS

1. In order to avoid injury to yourself or others from accidental deployment of the air bag during servicing, read and carefully follow all the precautions and procedures described in this manual.
2. Do not use any electrical test equipment on or near SRS components, except those specified on P.52B-5. (Refer to the '95 L400 Workshop Manual <Pub. No. PWWE9410>)
3. **Never Attempt to Repair the Following Components:**
   - SRS Air Bag Control Unit (SRS-ECU)
   - Clock Spring
   - Air Bag Module
     (Driver's side or front passenger's side*)
   - Front Impact-Sensor

NOTE
*: Vehicles with front passenger's air bag
If any of these components are diagnosed as faulty, they should only be replaced, in accordance with the INDIVIDUAL COMPONENTS SERVICE procedures in this manual, starting at page 52B-31. (Refer to the '95 L400 Workshop Manual <Pub. No. PWWE9410>)



4. **After disconnecting the battery cable, wait 60 seconds or more before proceeding with the following work. The SRS system is designed to retain enough voltage to deploy the air bag for a short time even after the battery has been disconnected, so serious injury may result from unintended air bag deployment if work is done on the SRS system immediately after the battery cables are disconnected. Wind a tape around the disconnected (–) terminal for insulation.**



5. Do not attempt to repair the wiring harness connectors of the SRS. If any of the connectors are diagnosed as faulty, replace the wiring harness. If the wires are diagnosed as faulty, replace or repair the wiring harness according to the following table.

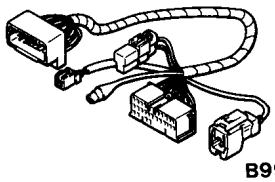
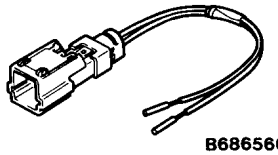
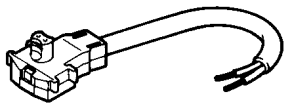
SRS-ECU terminal No.	Harness connector (No. of terminals, colour)	Destination of harness	Corrective action
1 to 4	21 pins, yellow	–	–
5		Body wiring harness → Clock spring → Air bag module (Driver's side)	Correct or replace each wiring harness. Replace clock spring.
6			
7*1		Body wiring harness → Air bag module (Front passenger's side)	Correct or replace each wiring harness.
8*1			
9, 10		–	–
11		Body wiring harness → Diagnosis connector	Correct or replace each wiring harness.
12		Body wiring harness → Front wiring harness → Front impact sensor (RH)	Sensor cable*2 installation procedures. (Refer to the '95 L400 Workshop Manual <Pub. No. PWWE9410>)
13		Body wiring harness → Junction block (fuse No.4)	Correct or replace each wiring harness.
14		Body wiring harness → Junction block (fuse No.8)	
15		Body wiring harness → SRS warning lamp	
16		–	–
17		Body wiring harness → Front wiring harness → Front impact sensor (RH)	Sensor cable*2 installation procedures. (Refer to the '95 L400 Workshop Manual <Pub. No. PWWE9410>)
18		Body wiring harness → Front wiring harness → Front impact sensor (LH)	
19			
20		Body wiring harness → Earth	Correct or replace body wiring harness.
21			

NOTE
(1) *1: Vehicles with front passenger's air bag
(2) The sensor cable marked with *2 is available as service part.

6. SRS components should not be subjected to heat over 93°C, so remove the SRS-ECU, air bag module, clock spring and front impact sensors before drying or baking the vehicle after painting.
7. Whenever you finish servicing the SRS, check warning lamp operation to make sure that the system functions properly. (Refer to the '95 L400 Workshop Manual P.52B-5. <Pub. No. PWWE9410>)
8. Make certain that the ignition switch is OFF when the MUT-II is connected or disconnected.
9. If you have any questions about the SRS, please contact your local distributor.

NOTE
SERIOUS INJURY CAN RESULT FROM UNINTENDED AIR BAG DEPLOYMENT, SO USE ONLY THE PROCEDURES AND EQUIPMENT SPECIFIED IN THIS MANUAL.

SPECIAL TOOLS

Tool	Number	Name	Use
 B991613	MB991613	SRS check harness	Checking the SRS electrical circuitry
 B686560	MB686560	SRS air bag adapter harness A	• Deployment of air bag modules inside the vehicle • Deployment of air bag module (front passenger's side) outside the vehicle
 B628919	MR203491 or MB628919	SRS air bag adapter harness B	Deployment of air bag module (driver's side) outside the vehicle

TROUBLESHOOTING

1. INSPECTION CHART FOR DIAGNOSIS CODES

Code No.	Diagnosis item	Reference page
11, 12, 13	Front impact sensor system	52B-4
14	Analog G-sensor system in the SRS-ECU	52B-4
15, 16	Safing G-sensor system in the SRS-ECU	52B-5
21, 22	Driver's side air bag module (squib) system	52B-5
24*1, 25*1	Front passenger's side air bag module (squib) system	52B-6
31, 32	SRS-ECU capacitor system	52B-6
34*2	Connector lock system	52B-6
35	SRS-ECU (deployed air bag) system	52B-7
41*2	IG_1 (A) power circuit system	52B-7
42*2	IG_1 (B) power circuit system	52B-8
43*2	SRS warning lamp drive circuit system (Lamp does not illuminate.)	52B-9
44*2	SRS warning lamp drive circuit system	52B-10
45	SRS-ECU non-volatile memory (EEPROM) and A/D converter system	52B-10
51, 52	Driver's side air bag module (squib ignition drive circuit) system	52B-10
54*1, 55*1	Front passenger's side air bag module (squib ignition drive circuit) system	52B-10

NOTES
(1) *1: Vehicles with front passenger's air bag.
(2) *2: If the vehicle condition returns to normal, the diagnosis code will be automatically erased, and the SRS warning lamp will return to normal.
(3) If the vehicle has a discharged battery it will store the fault codes 41 or 42. When these diagnosis codes are displayed, check the battery.

2. INSPECTION PROCEDURE CLASSIFIED BY DIAGNOSTIC TROUBLE

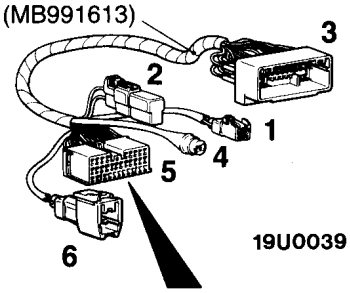
Code No.11, 12 or 13 Front impact sensor system	Probable cause
These diagnosis codes are output if there is abnormal resistance between the input terminals of the front impact sensor. The trouble causes for each code No. are as follows.	• Malfunction of front impact sensor • Malfunction of harnesses of connectors • Malfunction of SRS-ECU

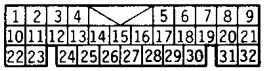
Code No.	Trouble Symptom
11	• Short in front impact sensor or harness short • Short in front impact sensor harness leading to the vehicle body earth • Short in front impact sensor harness leading to the power supply
12	• Open circuit in either left or right front impact sensor open harness • Short in front impact sensor harness leading to the power supply
13	• Open circuit in both left and right front impact sensors or open harness • Short in front impact sensor harness leading to the power supply

Inspection of front impact sensor (Refer to P.52B-33.*) → NG → **Replace**

OK ↓

SRS check harness (MB991613)





19L0567

Measure at SRS check harness connector (5).
- Disconnect SRS-ECU connector C-36.
- Connect SRS check harness connector (3).
- Resistance between terminals (12) – (17)
  OK: 2,000 ± 20Ω
- Resistance between terminals (18) – (19)
  OK: 2,000 ± 20Ω
- Continuity between terminals 12, 17, 18, 19 – Body earth
  OK: No continuity

NG → **Check the following connectors.**
A-26, A-32, C-36, C-40 → NG → **Repair**

OK ↓

Check trouble symptom.

NG ↓

Inspect or repair harness between SRS-ECU and front impact sensor.

NG ↓

Install the sensor harness.

OK ↓

Replace the SRS-ECU.

NOTE
*: Refer to the '95 L400 Workshop Manual (Pub. No. PWWE9410)

Code No.14 Analog G-sensor system in the SRS-ECU	Probable cause
The SRS-ECU monitors the output of the analog G-sensor inside the SRS-ECU. It outputs this code when any of the following are detected. • When the analog G-sensor is not operating • When the characteristics of the analog G-sensor are abnormal • When the output from the analog G-sensor is abnormal	• Malfunction of SRS-ECU

Replace the SRS-ECU.

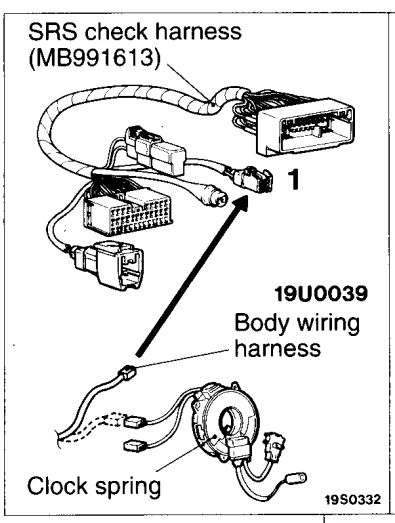
Code No.15 or 16 Safing G-sensor system in the SRS-ECU	Probable cause
This code is output if there is a short or open circuit between the terminals of the safing G-sensor inside the SRS-ECU. The trouble causes for each diagnosis code No. are as follows.	• Malfunction of SRS-ECU

Code No.	Trouble Symptom
15	Short circuit in the safing G-sensor
16	Open circuit in the safing G-sensor

Replace the SRS-ECU.

Code No.21 or 22 Driver's side air bag module (squib) system	Probable cause
These diagnosis codes are output if there is abnormal resistance between the input terminals of the driver's side air bag module (squib). The trouble causes for each diagnosis code No. are as follows.	• Malfunction of clock spring • Malfunction of wiring harnesses or connectors • Malfunction of driver's side air bag module (squib) • Malfunction of SRS-ECU

Code No.	Trouble Symptom
21	• Short in driver's side air bag module (squib) or harness short • Short in clock spring
22	• Open circuit in driver's side air bag module (squib) or open harness • Open circuit in clock spring • Malfunction of connector contact



MUT-II Self-diagnosis code
- Disconnect clock spring connector C-49.
- Connect SRS check harness connector (1).
- Connect negative battery cable
- Erase diagnosis code memory.

Are code Nos.21 or 22 output?

Yes → **Check the following connectors:** C-36, C-49 — NG → **Repair**

OK → Check trouble symptoms.

NG → Check the harness wire between the SRS-ECU and clock spring. — NG → **Repair**

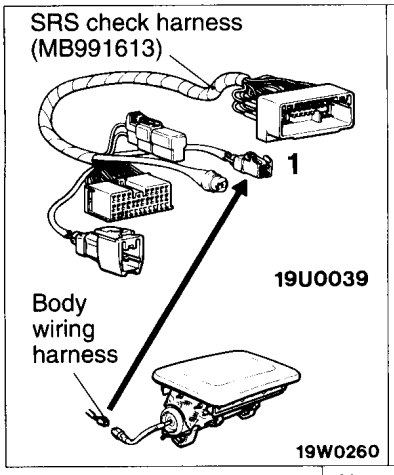
OK → Replace the SRS-ECU.

No → Check the clock spring. (Refer to P.52B-15.) — NG → **Repair**

OK → Replace the driver's side air bag module.

Code No.24 or 25 Front passenger's side air bag module (squib) system	Probable cause
These diagnosis codes are output if there is abnormal resistance between the input terminals of the passenger's side air bag module (squib). The trouble causes for each diagnosis code No. are as follows.	• Malfunction of wiring harnesses or connectors • Malfunction of front passenger's side air bag module (squib) • Malfunction of SRS-ECU

Code No.	Trouble Symptom
24	• Short in front passenger's side air bag module (squib) or harness short
25	• Open circuit in front passenger's side air bag module (squib) or open harness • Malfunction of connector contact



MUT-II Self-diagnosis code
- Disconnect front passenger's side air bag module connector C-86.
- Connect SRS check harness connector (1).
- Connect negative battery cable
- Erase diagnosis code memory.

Are code Nos. 24 or 25 output?

Yes → **Check the following connectors:** C-86, C-36 — NG → **Repair**

OK → Check trouble symptoms.

NG → Check the harness wire between the front passenger's side air bag module (squib) and SRS-ECU. — NG → **Repair**

OK → Replace the SRS-ECU.

No → Replace the front passenger's side air bag module.

Code No.31 or 32 SRS-ECU capacitor system	Probable cause
These diagnosis codes are output if there is abnormal resistance between the input terminals of the driver's side air bag module (squib).	• Malfunction of SRS-ECU

Replace the SRS-ECU.

Code No.34 Connector lock system	Probable cause
This diagnosis code is output if a poor connection of the SRS-ECU is detected. However, if the vehicle condition returns to normal, diagnosis code No.34 will be automatically erased, and the SRS warning lamp will switch off.	• Malfunction of connectors • Malfunction of SRS-ECU

Check the following connector: C-36 — NG → **Repair**

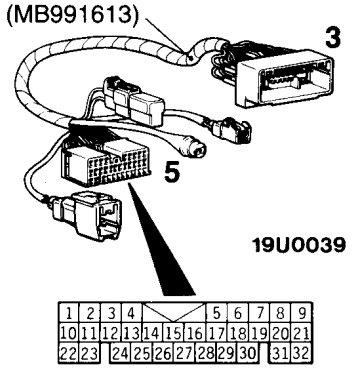
OK → Replace the SRS-ECU.

Code No.35 SRS-ECU (deployed air bag) system	Probable cause
This diagnosis code is output after the air bag deploys. If this code is output before the air bag has deployed, the cause is probably a malfunction inside the SRS-ECU.	• Malfunction of SRS-ECU

Replace the SRS-ECU.

Code No.41 IG_1 (A) power circuit system	Probable cause
This diagnosis code is output if the voltage between the IG_1 (A) terminal and the earth is lower than the specified value for a continuous period of 5 seconds or more. However, if the vehicle condition returns to normal, diagnosis code No.41 will be automatically erased, and the SRS warning lamp will switch off.	• Malfunction of wiring harnesses or connectors • Malfunction of SRS-ECU

SRS check harness (MB991613)



Measure at SRS check harness connector (5).
- Disconnect SRS-ECU connector C-36.
- Connect SRS check harness connector (3).
- Continuity between terminals (20) and (21)

OK: Continuity

NG → **Check the following connectors:** C-07, C-36 NG → **Repair**

OK → Check trouble symptoms.

NG → Check the harness wire between the SRS-ECU and earth, and repair if necessary.

OK

Measure at SRS check harness connector (5).
- Disconnect SRS-ECU connector C-36.
- Connect SRS check harness connector (3).
- Connect negative battery cable
- Ignition switch: ON
- Voltage between terminal (14) and body earth

OK: 9 V or more

NG → **Check the following connectors:** C-36, C-69, C-72, D-28 NG → **Repair**

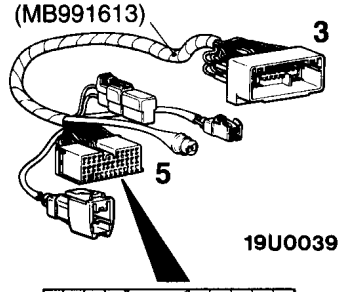
OK → Check trouble symptoms.

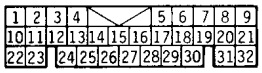
NG → Check the harness wire between the SRS-ECU and ignition switch IG_1, and repair if necessary.

OK → Replace the SRS-ECU.

Code No.42 IG_1 (B) power circuit system	Probable cause
This diagnosis code is output if the voltage between the IG_1 (B) terminal and the earth is lower than the specified value for a continuous period of 5 seconds or more. However, if the vehicle condition returns to normal, diagnosis code No.42 will be automatically erased, and the SRS warning lamp will switch off.	• Malfunction of wiring harnesses or connectors • Malfunction of SRS-ECU

SRS check harness (MB991613)





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Measure at SRS check harness connector (5).
- Disconnect SRS-ECU connector C-36.
- Connect SRS check harness connector (3).
- Continuity between terminals (20) and (21)

OK: Continuity

NG → **Check the following connectors:** C-07, C-36 NG → **Repair**

OK → Check trouble symptoms.

NG → Check the harness wire between the SRS-ECU and earth, and repair if necessary.

OK

Measure at SRS check harness connector (5).
- Disconnect SRS-ECU connector C-36.
- Connect SRS check harness connector (3).
- Connect negative battery cable
- Ignition switch: ON
- Voltage between terminal (13) and body earth

OK: 9 V or more

NG → **Check the following connectors:** C-36, C-70, C-72 NG → **Repair**

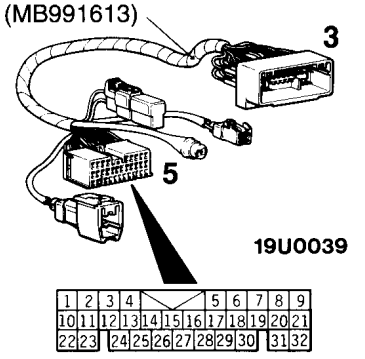
OK → Check trouble symptoms.

NG → Check the harness wire between the SRS-ECU and ignition switch IG_1, and repair if necessary.

OK → Replace the SRS-ECU.

Code No.43 SRS warning lamp drive circuit system (Lamp does not illuminate.)	Probable cause
This diagnosis code is output when an open circuit occurs for a continuous period of 5 seconds while the SRS-ECU in monitoring the SRS warning lamp and the lamp is OFF (transistor OFF). However, if this code is output due to an open circuit, if the vehicle condition returns to normal, this diagnosis code No.43 will be automatically erased, and the SRS warning lamp will return to normal.	• Malfunction of wiring harnesses or connectors • Blown bulb • Malfunction of SRS-ECU • Malfunction of combination meter

SRS check harness (MB991613)



Measure at SRS check harness connector (5).
- Disconnect SRS-ECU connector C-36.
- Connect SRS check harness connector (3).
- Continuity between terminals (20) and (21)

OK: Continuity

NG → **Check the following connector:** C-36 → NG → **Repair**

OK → Check trouble symptoms.

NG → Check the harness wire between the SRS-ECU and earth, and repair if necessary.

OK → Measure at SRS check harness connector (5).
- Disconnect SRS-ECU connector C-36.
- Connect SRS check harness connector (3).
- Connect negative battery cable.
- Ignition switch: ON
- Connect terminal (15) to the body earth.

OK: Lamp illuminates

NG → Blown bulb inspection → NG → **Repair**

OK → **Check the following connectors:** C-36, C-69, D-01, D-03, D-07, D-28 → NG → **Repair**

OK → Check trouble symptoms.

NG → Check the harness wire between the SRS-ECU and ignition switch (IG_1). → NG → **Repair**

NG → REplace the combination meter.

OK → Replace the SRS-ECU.

Code No.44 SRS warning lamp drive circuit system	Probable cause
This diagnosis code is output when a short occurs in the lamp drive circuit or a malfunction of the output transistor inside the SRS-ECU is detected while the SRS-ECU is monitoring the SRS warning lamp drive circuit.	• Malfunction of wiring harnesses or connectors • Malfunction of SRS-ECU

Check the SRS warning lamp drive circuit system. (Refer to P.52B-9) → OK → Replace the SRS-ECU.

Code No.45 SRS-ECU non-volatile memory (EEPROM) and A/D converter system	Probable cause
This diagnosis code is output if there is a malfunction in the SRS-ECU non-volatile memory (EEPROM) and A/D converter.	• Malfunction of SRS-ECU

Replace the SRS-ECU.

Code No.51 or 52 Driver's side air bag module (squib ignition drive circuit) system	Probable cause
This diagnosis code is output if a short (No.51) or an open circuit (No.52) is detected in the circuit for the driver's seat.	• Malfunction of SRS-ECU

Replace the SRS-ECU.

Code No.54 or 55 Front passenger's side air bag module (squib ignition drive circuit) system	Probable cause
This diagnosis code is output if a short (No.54) or an open circuit (No.55) is detected in the circuit for the passenger's seat.	• Malfunction of SRS-ECU

Replace the SRS-ECU.

INSPECTION CHART FOR TROUBLE SYMPTOMS

Get an understanding of the trouble symptoms and check according to the inspection procedure chart.

Trouble symptom		Inspection procedure No.	Reference page
Communication with MUT-II is not possible.	Communication with all systems is not possible.	1	52B-11
	Communication is not possible with SRS only.	2	52B-12
When the ignition key is turned to "ON" (engine stopped), the SRS warning lamp does not illuminate.		Refer to diagnosis code No.43.	52B-9
After the ignition switch is turned to ON, the SRS warning lamp is still on after approximately 7 seconds have passed.		Refer to diagnosis code No.43.	52B-9

INSPECTION PROCEDURE FOR TROUBLE SYMPTOMS

Inspection Procedure 1

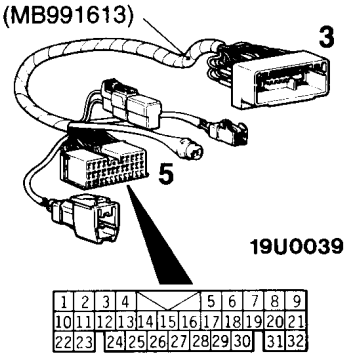
Communication with MUT-II is not possible. (Communication with all systems is not possible.)	**Probable cause**
The cause is probably a power supply system (including earth circuit) of the diagnosis line.	• Malfunction of connectors • Malfunction of wiring harness

Refer to GROUP 13A – Troubleshooting. (Refer to the '95 L400 Workshop Manual <Pub. No. PWWE9410>)

Inspection Procedure 2

Communication with MUT-II is not possible. (Communication is not possible with SRS only.)	Probable cause
If communication is not possible with the SRS only, the cause is probably an open circuit in the diagnosis output circuit of the SRS or in the power circuit (including earth circuit).	• Malfunction of wiring harnesses or connectors • Malfunction of SRS-ECU

SRS check harness (MB991613)



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Measure at SRS check harness connector (5).
- Disconnect SRS-ECU connector C-36.
- Connect SRS check harness connector (3).
- Continuity between terminals (20) and (21)

OK: Continuity

NG → **Check the following connector:** C-36 → NG → **Repair**

OK → Check trouble symptoms.

NG → Check the harness wire between the SRS-ECU and earth, and repair if necessary.

OK

Measure at SRS check harness connector (5).
- Disconnect SRS-ECU connector C-36.
- Connect SRS check harness connector (3).
- Connect negative battery cable.
- Ignition switch: ON
- Voltage between terminal (13) and body earth
  OK: 9 V or more
- Voltage between terminal (14) and body earth
  OK: 9 V or more

NG → **Check the following connectors:** C-36, C-69, C-70, C-72, D-28 → NG → **Repair**

OK → Check trouble symptoms.

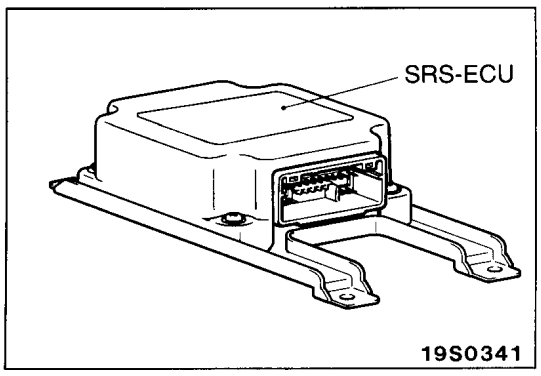
NG → Check the harness wire between the SRS-ECU and ignition switch IG_1, and repair if necessary.

OK

Check the harness wire between the SRS-ECU and diagnosis connector. → NG → **Repair**

OK

Replace the SRS-ECU.



POST-COLLISION DIAGNOSIS

REPAIR PROCEDURE

WHEN AIR BAG DOES NOT DEPLOY IN LOW-SPEED COLLISION.

SRS AIR BAG CONTROL UNIT (SRS-ECU)

1. Check SRS-ECU case and brackets for dents, cracks or deformation.
2. Check connector for damage, and terminals for deformation.

SRS AIR BAG CONTROL UNIT (SRS-ECU)

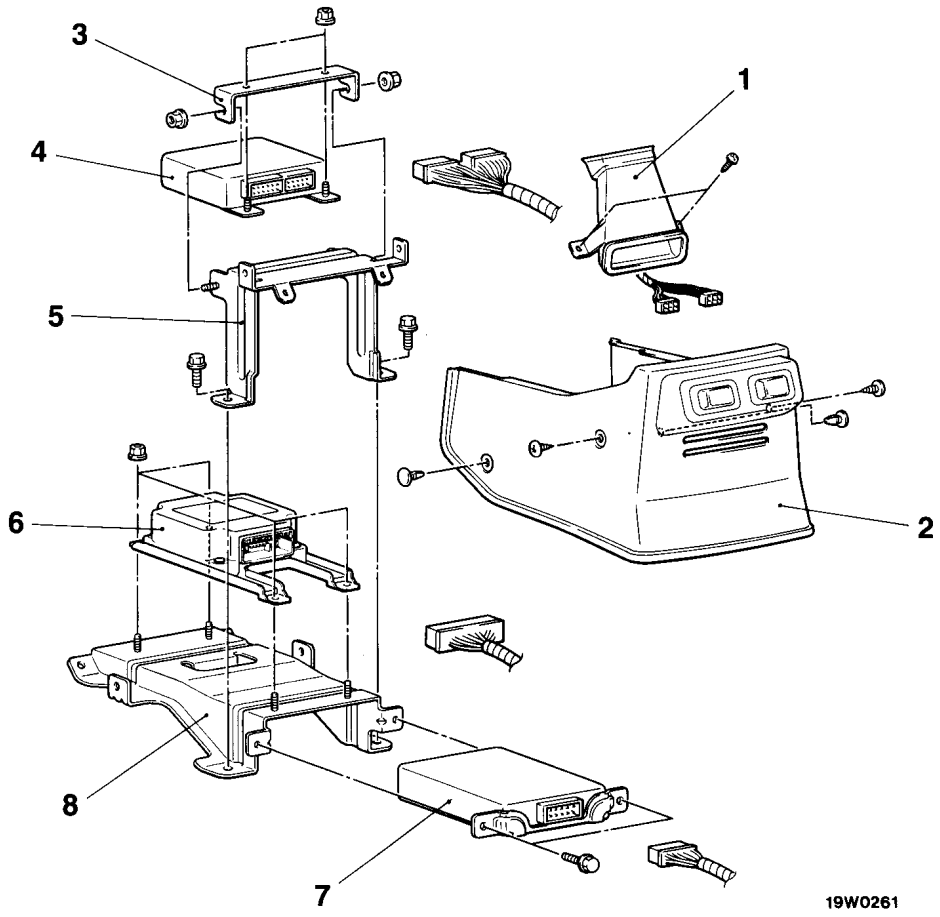
Caution

1. **Disconnect the battery (–) terminal and wait for 60 seconds or more before starting work. Furthermore, the disconnected battery terminal should be covered with tape to insulate it. (Refer to P.52B-1.)**
2. **Never attempt to disassemble or repair the SRS-ECU. If faulty, replace it.**
3. **Do not drop or subject the SRS-ECU to impact or vibration.**
   If denting, cracking, deformation, or rust are discovered in the SRS-ECU, replace it with a new SRS-ECU. Discard the old one.
4. **After deployment of an air bag, replace the SRS-ECU with a new one.**
5. **Never use an ohmmeter on or near the SRS-ECU, and use only the special test equipment described on P.52B-5*.**

NOTE
*: Refer to the '95 L400 Workshop Manual (Pub. No. PWWE9410)

REMOVAL AND INSTALLATION

Pre-removal Operation
- Turn the ignition key to the "LOCK" position.



Removal steps

▶B◀ ● Post-installation inspection
● Negative (–) battery cable connection
1. Foot distribution rear duct
2. Computer cover
3. ABS bracket
4. ABS-ECU
5. Rear ABS bracket

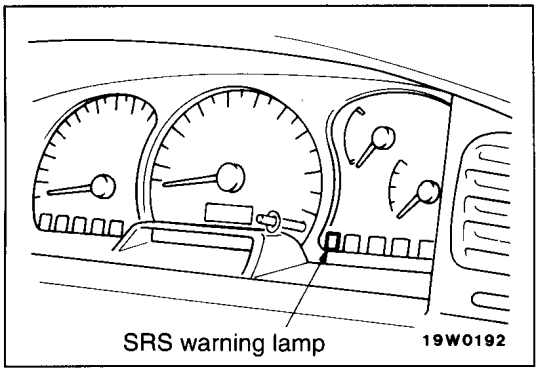
▶A◀ 6. SRS air bag control unit (SRS-ECU)

7. A/T-ECU
8. SRS air bag control unit (SRS-ECU) bracket

INSTALLATION SERVICE POINTS

▶A◀ SRS AIR BAG CONTROL UNIT (SRS-ECU) INSTALLATION

Caution
The SRS may not activate if SRS-ECU is not installed properly, which could result in serious injury or death to the vehicle's deiver.



▶B◀ POST-INSTALLATION INSPECTION

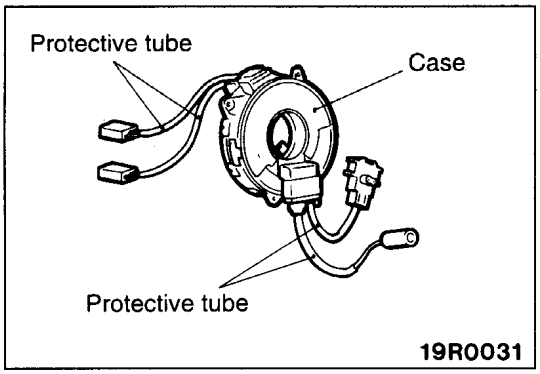
1. Reconnect the negative battery terminal.
2. Turn the ignition key to the "ON" position.
3. Does the "SRS" warning lamp illuminate for about 7 seconds, and then remain extinguished for at least 5 seconds after turning OFF?
4. If yes, SRS system is functioning properly.
   If no, consult page 52B-3.

INSPECTION

Check the SRS-ECU case and brackets for dents, cracks or deformation.

Caution
If a dent, crack, deformation or rust is discovered, replace the SRS-ECU with a new one.

NOTE
For checking of the SRS-ECU other than described above, refer to the section concerning troubleshooting. (Refer to P.52B-3.)



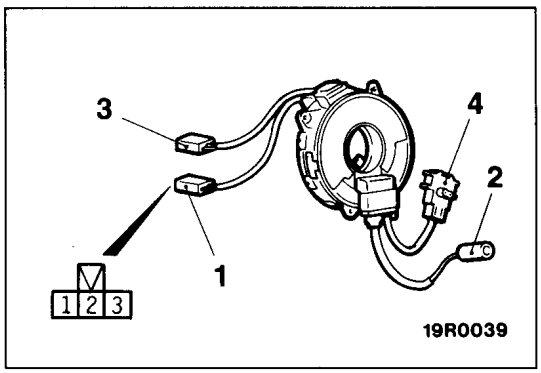
AIR BAG MODULES AND CLOCK SPRING

INSPECTION

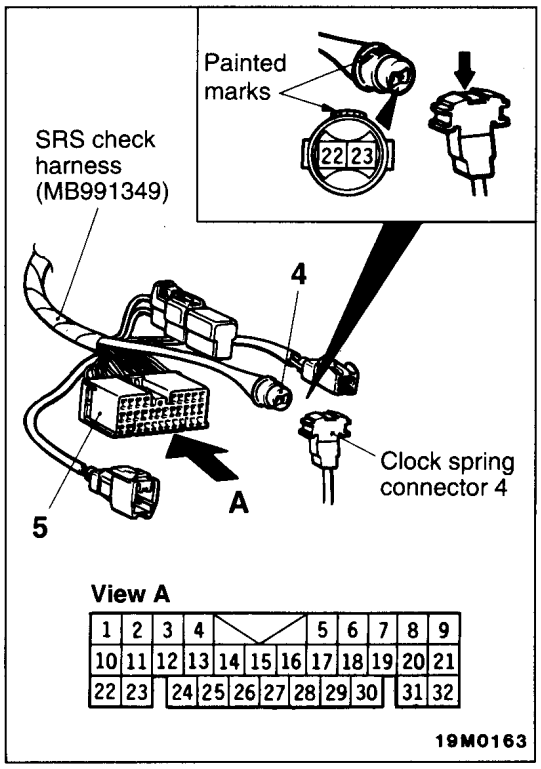
CLOCK SPRING CHECK

If, as result of following checks, evern one abnormal point is discovered, replace the clock spring with a new one.

1. Check connectors and protective tube for damage, and terminals for deformation.
2. Visually check the case for damage.



3. Check that there is continuity between terminal (3) of the clock spring No.1 connector and the No.2 connector.



4. When joining SRS Check harness connector No. 4 and 4 align paint of the No. 4 with the arrow portion of the No. 4 connector of the clock spring.
5. Check for continuity between terminal 22 and terminal 23 of SRS Check harness connector No. 5.

GROUP 54

CHASSIS ELECTRICAL

GENERAL

OUTLINE OF CHANGES

- The following service procedures have been established to correspond to the addition of a diagnosis function as a result of changes in the immobilizer-ECU.
- The ignition key cylinder illumination lamp is now controlled by the ETACS-ECU instead of by the buzzer-ECU. Furthermore, the ETACS-ECU installation position is the same as the previous buzzer-ECU installation position. <GLX, GLS>
- The lighting monitor buzzer is now controlled by the ETACS-ECU instead of by the buzzer-ECU. <GLX, GLS>

IGNITION SWITCH AND IMMOBILIZER SYSTEM

TROUBLESHOOTING

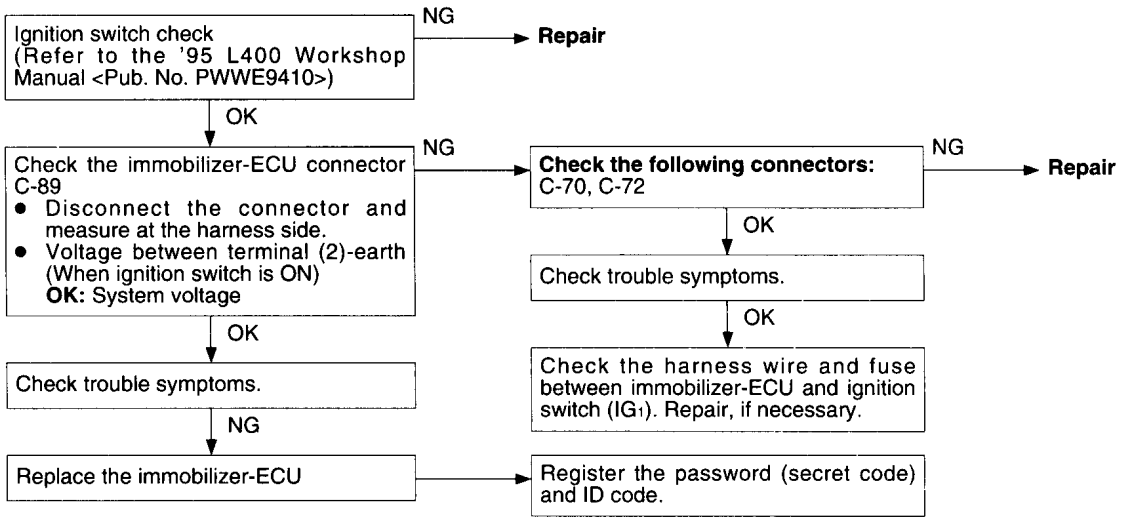
INSPECTION CHART FOR DIAGNOSIS CODES <PETROL-POWERED VEHICLES>

Diagnosis code No.	Inspection items	Reference page
11*	Transponder communication system or radio interference of ID code	※
12*	ID codes are not the same or are not registered	※
21	Communication system between MUT-II and engine-ECU	※
31	EEPROM abnormality inside immobilizer-ECU	※
32	IG signal circuit system	54-2
33*	Starting prevention mode activated due to incorrect operation	54-2

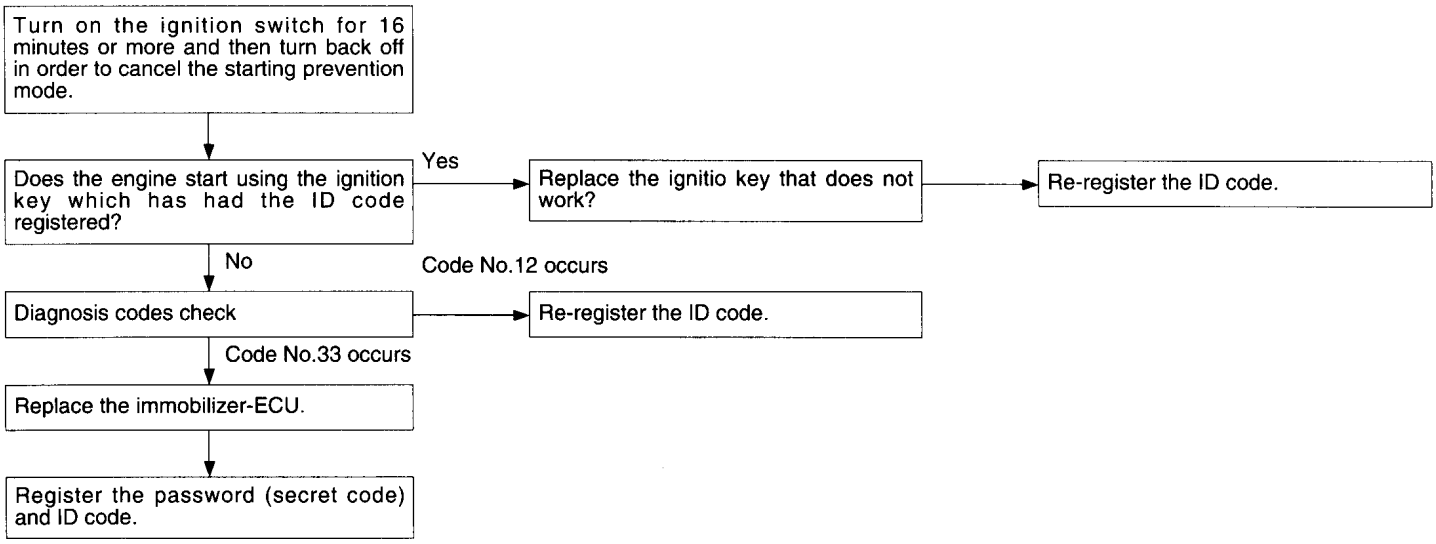
NOTE
(1) If the system condition returns to normal, the diagnosis code with* mark will automatically erased.
(2) ※ : Refer to the '96 L400 Workshop Manual <Pub. No. PWWE9410-A>

INSPECTION PROCEDURE FOR DIAGNOSIS CODES <PETROL-POWERED VEHICLES>

Code No.32 IG signal circuit system	Probable cause
The ignition switch signal is not being input to the immobilizer-ECU.	• Malfunction of wiring harness or connector • Malfunction of the ignition switch • Malfunction of the immobilizer-ECU



Code No.33 Starting prevention mode activated due to incorrect operation	Probable cause
The ID codes do not match for a total of 5 continuous operations.	• The ID code in the ignition key being used has not been properly registered. • Malfunction of the immobilizer-ECU • Malfunction of the transponder

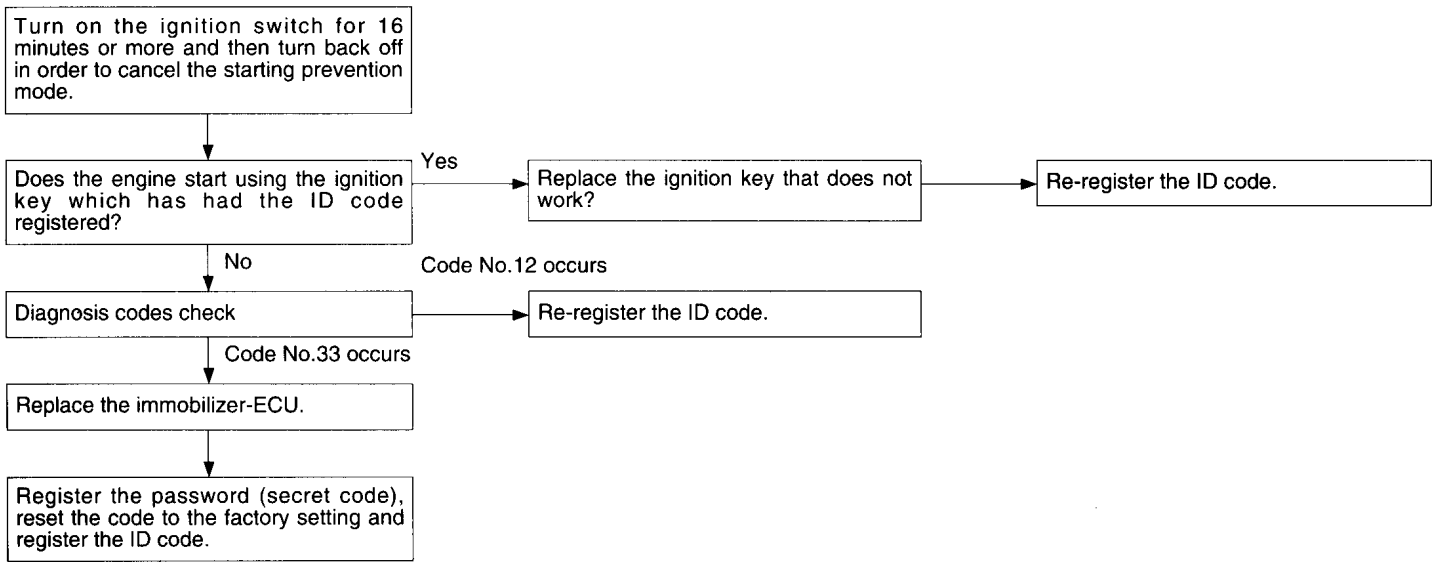


INSPECTION CHART FOR DIAGNOSIS CODES <DIESEL-POWERED VEHICLES>

Diagnosis code No.	Inspection items	Reference page
11*	Transponder communication system or radio interference of ID code	※
12*	ID codes are not the same or are not registered	※
21	Communication system between fuel cut valve controller and immobilizer-ECU	※
22	Malfunction of fuel cut valve controller system	※
23	Identification codes are not identical	※
31	EEPROM abnormality inside immobilizer-ECU	※
33*	Starting prevention mode activated due to incorrect operation	54-3

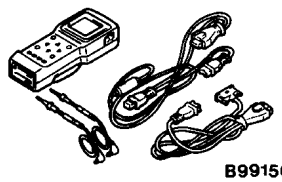
NOTE
(1) If the system condition returns to normal, the diagnosis code with * mark will automatically erased.
(2) ※: Refer to the '96 L400 Workshop Manual <Pub. No. PWWE9410-A>

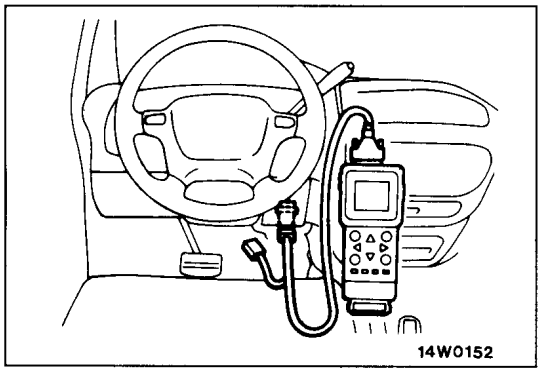
Code No.33 Starting prevention mode activated due to incorrect operation	**Probable cause**
The ID codes do not match for a total of 5 continuous operations.	• The ID code in the ignition key being used has not been properly registered. • Malfunction of the immobilizer-ECU • Malfunction of the transponder



IGNITION KEY HOLE ILLUMINATION LAMP SYSTEM

SPECIAL TOOL

Tool	Number	Name	Use
 B991502	MB991502	MUT-II sub assembly	● ETACS-ECU input signal checking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TROUBLESHOOTING

DIAGNOSIS FUNCTION

<VEHICLES WITH ETACS-ECU>

Input Signal Inspection Points

1. Connect the MUT-II to the diagnosis connector.
2. If buzzer of the MUT-II sounds once when a switch is operated (ON/OFF), the ETACS-ECU input signal for that switch circuit system is normal.

INSPECTION CHART FOR TROUBLE SYMPTOMS

Trouble symptoms		Inspection procedure	Reference page
Communication with MUT-II is impossible.	Communication with all systems is impossible.	1	54-5
	Communication with one-shot pulse input signal only is impossible.	2	54-5
Ignition key hole illumination lamp system	Even if the driver's side door is opened, the key hole illumination lamp does not illuminate.	3	54-5
	Key hole illumination lamp remains illuminated.	4	54-6

INSPECTION PROCEDURE FOR TROUBLE SYMPTOMS

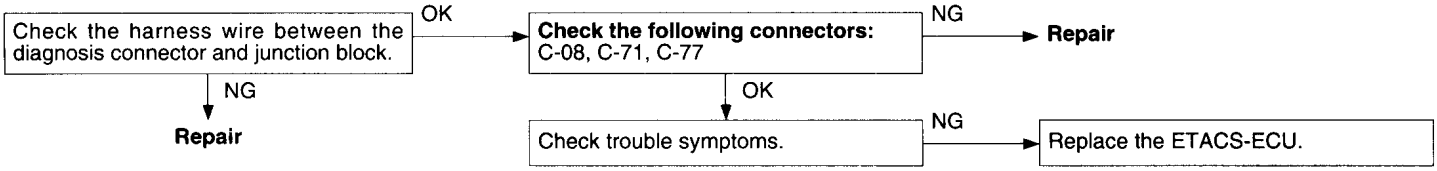
Inspection Procedure 1

Communication with MUT-II is impossible. (Communication with all systems is impossible.)	Probable cause
The cause is probably a defective power supply system (including earth) for the diagnosis line.	• Malfunction of wiring harness or connector

Refer to GROUP 13A – Trouble-shooting. (Refer to the '95 L400 Workshop Manual <Pub. No. PWWE9410>)

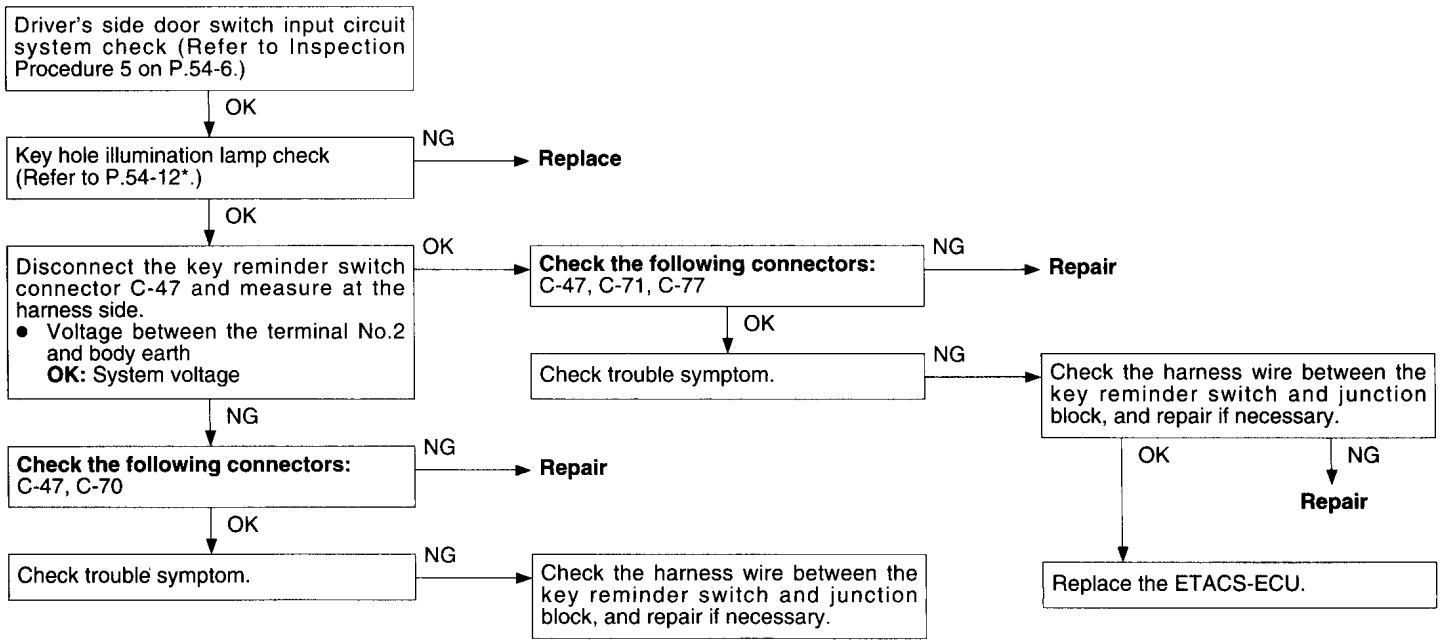
Inspection Procedure 2

Communication with MUT-II is impossible. (Communication with the one-shot pulse input signal only is impossible.)	Probable cause
The cause is probably a defective one-shot pulse input circuit system of the diagnosis line.	• Malfunction of ETACS-ECU • Malfunction of wiring harness or connector



Inspection Procedure 3

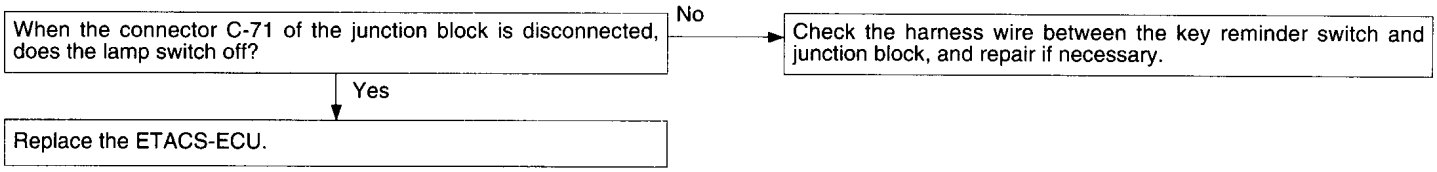
Even if the driver's side door is opened, the key hole illumination lamp does not illuminate.	Probable cause
The cause is probably a defective key hole illumination lamp circuit system or a defective driver's side door switch input circuit system.	• Malfunction of driver's side door switch • Malfunction of key hole illumination lamp • Malfunction of ETACS-ECU • Malfunction of wiring harness or connector



NOTE
*: Refer to the '95 L400 Workshop Manual (Pub. No. PWWE9410)

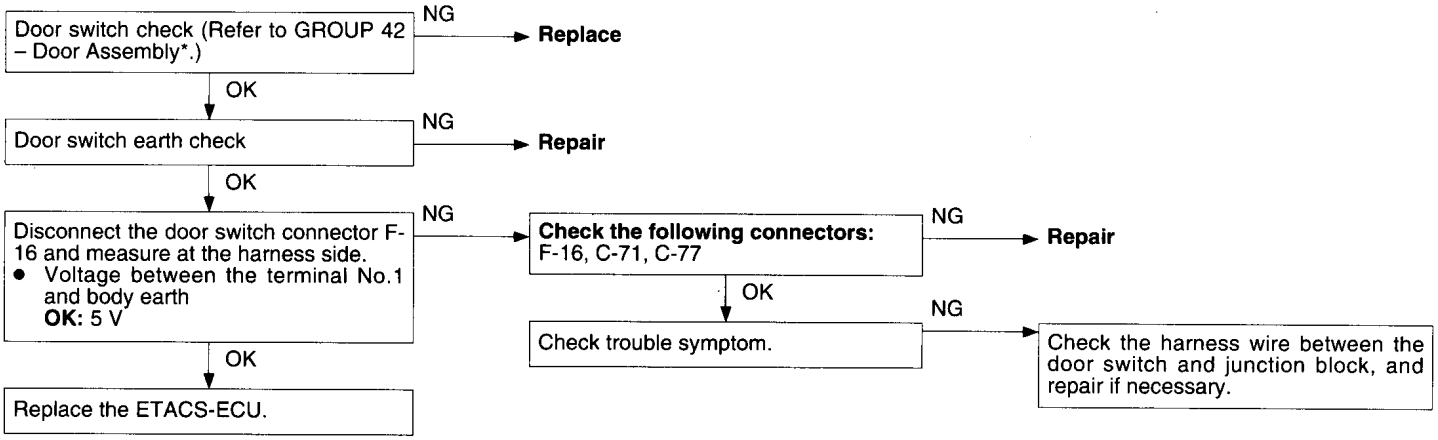
Inspection Procedure 4

Key hole illumination lamp remains illuminated.	Probable cause
The cause is probably a short harness or a defective ETACS-ECU.	• Malfunction of ETACS-ECU • Malfunction of wiring harness or connector



Inspection Procedure 5

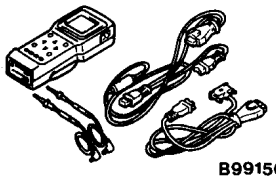
Driver's side door switch input circuit system check

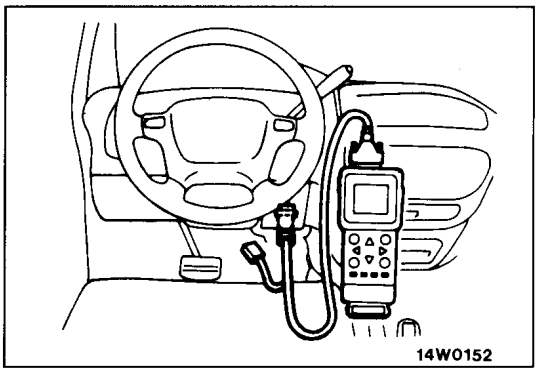


NOTE
*: Refer to the '95 L400 Workshop Manual (Pub. No. PWWE9410)

LIGHTING MONITOR BUZZER SYSTEM

SPECIAL TOOL

Tool	Number	Name	Use
 B991502	MB991502	MUT-II sub assembly	• ETACS-ECU input signal checking


14W0152

TROUBLESHOOTING

DIAGNOSIS FUNCTION

<VEHICLES WITH ETACS-ECU>

Input Signal Inspection Points

1. Connect the MUT-II to the diagnosis connector.
2. If buzzer of the MUT-II sounds once when a switch is operated (ON/OFF), the ETACS-ECU input signal for that switch circuit system is normal.

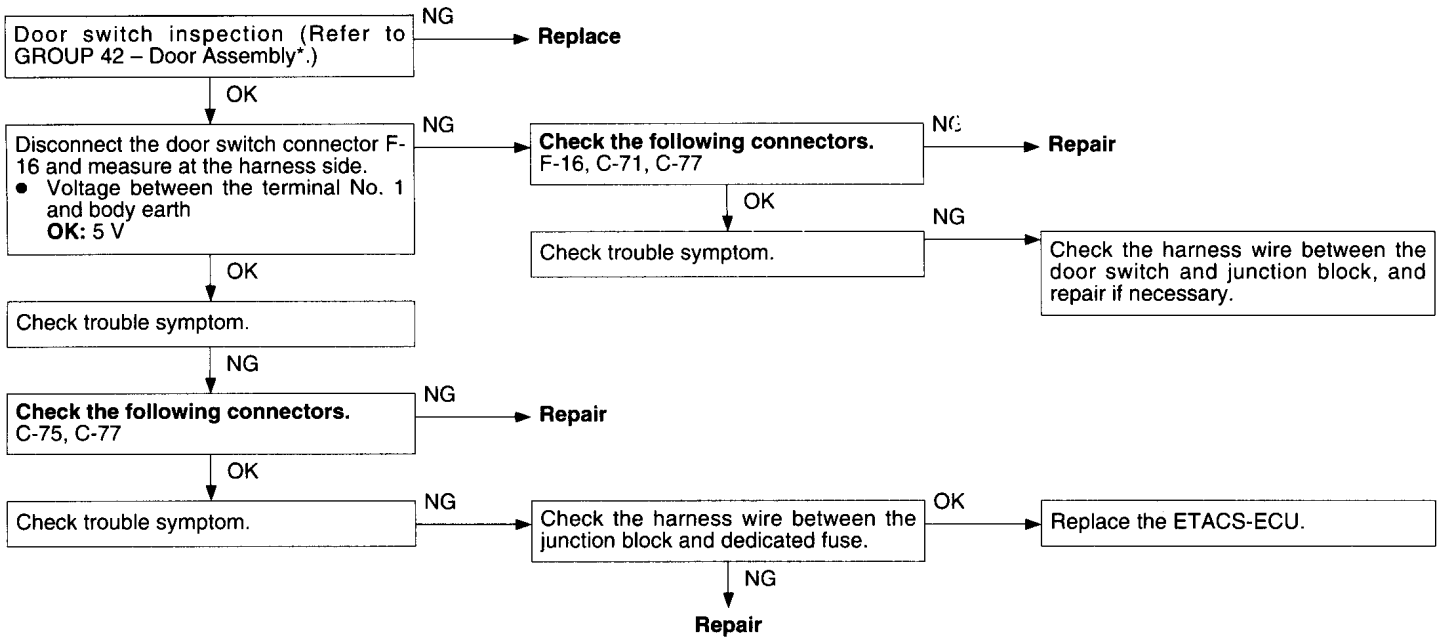
INSPECTION CHART FOR TROUBLE SYMPTOMS

Trouble symptoms		Inspection procedure	Reference page
Communication with MUT-II is impossible.	Communication with all systems is impossible.	1	54-5
	Communication with one-shot pulse input signal only is impossible.	2	54-5
While the tail lamps or headlamps are illuminated, driver's side door is opened but the light reminder warning buzzer does not sound.		3	54-8

INSPECTION PROCEDURE FOR TROUBLE SYMPTOMS

Inspection Procedure 3

While the tail lamps or headlamps are illuminated, driver's side door is opened but the light reminder warning buzzer does not sound.	Probable cause
The cause is probably a defective lighting switch input circuit system or a defective driver's side door switch input circuit system.	• Malfunction of driver's side door switch • Malfunction of wiring harness or connector • Malfunction of ETACS-ECU



NOTE
*: Refer to the '95 L400 Workshop Manual (Pub. No. PWWE9410)