

SECTION 54B

SMART WIRING SYSTEM (SWS)

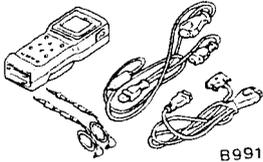
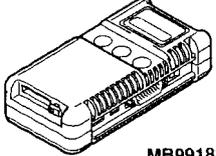
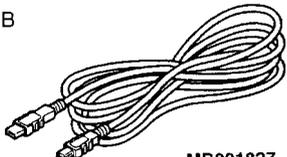
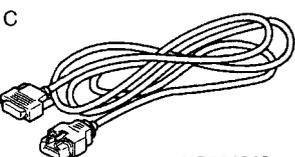
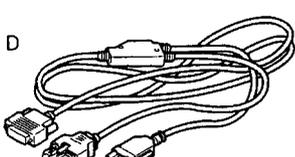
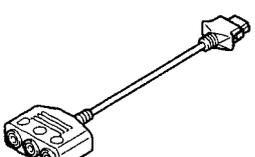
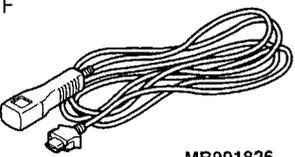
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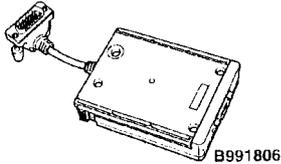
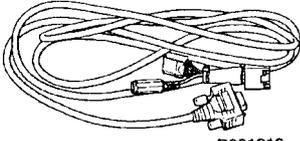
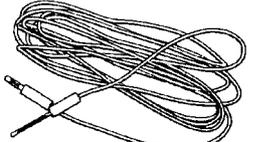
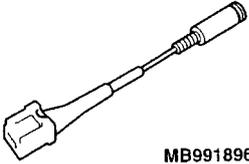
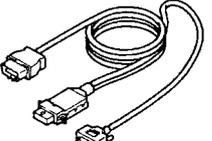
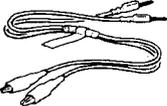
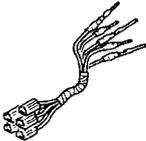
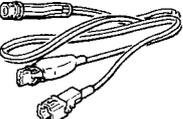
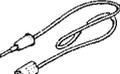
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General

The SWS version has been changed from the previous Ver.0 to Ver.3. The following servicing information has been established accordingly.

Special tools

Tool	Number	Name	Use
 <p>B991502</p>	MB991502	MUT-II sub-assembly	Checking SWS communications line (ECU check, service data)
<p>A</p>  <p>MB991824</p> <p>B</p>  <p>MB991827</p> <p>C</p>  <p>MB991910</p> <p>D</p>  <p>MB991911</p> <p>E</p>  <p>MB991825</p> <p>F</p>  <p>MB991826 MB991955</p>	<p>MB991955</p> <p>A: MB991824 B: MB991827 C: MB991910 D: MB991911 E: MB991825 F: MB991826</p>	<p>MUT-III sub-assembly</p> <p>A: V.C.I. (Vehicle Communication Interface) B: USB cable C: MUT-III main harness A (for vehicles fitted with CAN communications) D: MUT-III main harness B (for vehicles not fitted with CAN communications) E: Measurement adapter F: Trigger harness</p>	<p>Checking SWS communications line (ECU check, service data)</p> <p>Remarks In vehicles not fitted with CAN communications, the MUT-III main harness B must be used instead of the MUT-III main harness A.</p>

Tool	Number	Name	Use
<p>A</p>  <p>B991806</p> <p>B</p>  <p>B991812</p> <p>C</p>  <p>B991822</p>	<p>MB991862</p> <p>A: MB991806 B: MB991812 C: MB991822</p>	<p>SWS monitor kit A : SWS monitor cartridge B : SWS monitor harness (using column ECU) C : Probe harness</p>	<p>Checking SWS communications line (ECU check, service data)</p>
 <p>MB991896</p>	<p>MB991896</p>	<p>Door-to-door communications adapter harness</p>	<p>Checking door-to-door communications line (service data)</p>
 <p>MB991960</p>	<p>MB991960</p>	<p>Intermediate harness for customizing SWS monitor</p>	<p>Checking SWS communications line (ECU check, service data)</p>
	<p>MB991529</p>	<p>Diagnosis code check harness</p>	<p>Checking input signals by voltmeter</p>
<p>A</p>  <p>B</p>  <p>C</p>  <p>D</p>  <p>C991223</p>	<p>MB991223</p> <p>A: MB991219 B: MB991220 C: MB991221 D: MB991222</p>	<p>Harness set A: Test harness B: LED harness C: LED harness adapter D: Probe</p>	<p>Checking connectivity and measuring voltage between harnesses and connectors A : For testing contact pressure of connector pins B: For checking power supply circuit C: For checking power supply circuit D: For connecting a commercial tester</p>

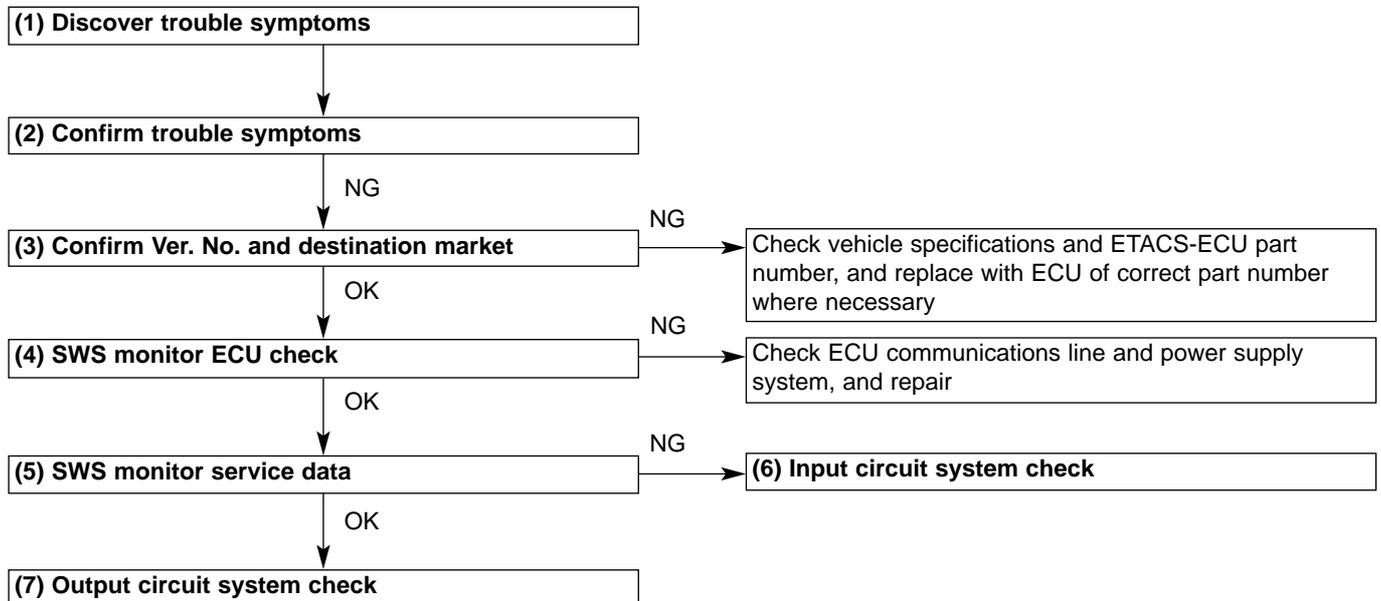
Troubleshooting

1. Before starting troubleshooting

Before starting troubleshooting, make sure that there is no problem with either of the following:

- Check the state of coupling of the connectors between the ETACS-ECU and the junction box, and between the front ECU and the relay box in the engine room
- Check that the fuses and fusible links relating to all systems have not blown.

2. Standard flow or diagnostic troubleshooting



(1) Discover trouble symptoms

(2) Confirm trouble symptoms

Note:

If there is a fault in the SWS communications line, then the ECU isolated from the communications line will enter a fail-safe operation, or back-up operation. Therefore, in such cases, the circumstances may not match the items listed in the Chart of Trouble Symptoms.

However, it is possible to discover the cause of the trouble by proceeding with diagnostic troubleshooting using the SWS monitor described below.

(3) Confirm Version No. and destination market

Check that the vehicle specifications and the SWS version No. (3) and destination market (Japan) are not different. If they are different, replace the ETACS-ECU with the correct one.

(4) SWS monitor ECU check

Check whether or not the ECUs used on the input side or output side relating to the function causing the trouble has a normal communications state.

- If all related ECUs show "OK":

All ECUs are communicating correctly, but a disconnection may occur if there is an abnormality in the input circuit system or output circuit system. Check the SWS monitor service data.

- If any one of the related ECUs shows "NG":

Either there is a malfunction in the actual ECU showing "NG", or in its power supply or earth system, or a malfunction in the harness or connectors leading to the ECU. Check the ECU, and the harness and connectors relating to that ECU.

(5) SWS monitor service data

From the Diagnosis by Function menu, select the function which is causing the trouble, and check the service data shown for each item of the function.

Note:

The SWS monitor service data also includes a Service data menu, in addition to the Diagnosis by Function menu. All items for all ECUs can be checked.

(1) Monitoring the SWS communications line

It can be determined whether the cause is located in the input circuit system or the output circuit system, by checking whether or not the communications data is normal.

- If the switch status does not match the service data display:
Input system relating to function where trouble is occurring.
- If the switch status matches the service data display:
Output system relating to function where trouble is occurring.

(2) Monitoring the door-to-door communications line

The communications data transmitted by the electric window module (electric window main switch) can be checked. By changing the position at which the probe is inserted, the location of the cause can be narrowed down.

- If the switch status does not match the service data display:
Harness/connector between the electric window module and the location of the probe.
- If the switch status matches the service data display:
Harness/connector from the location of the probe to the respective door motors, or the motors themselves.

(6) Input circuit system check

Check the relevant switches, sensors and input side ECUs, and the harnesses and connectors between them.

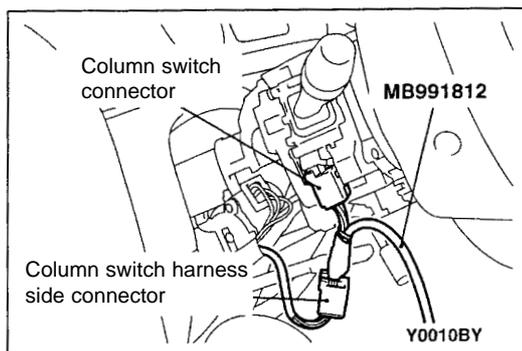
(7) Output circuit system check

Check the output side ECUs and load sections and the harnesses and connectors between them.

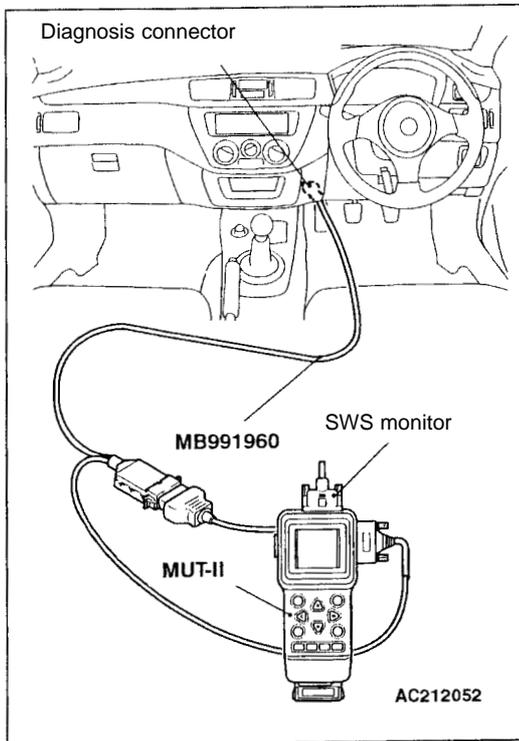
3. SWS monitor connections**How to connect the SWS communications line**

Note :

Connection or disconnection of the SWS monitor and MUT-II/III must always be carried out with the ignition switch in the LOCK (OFF) position.

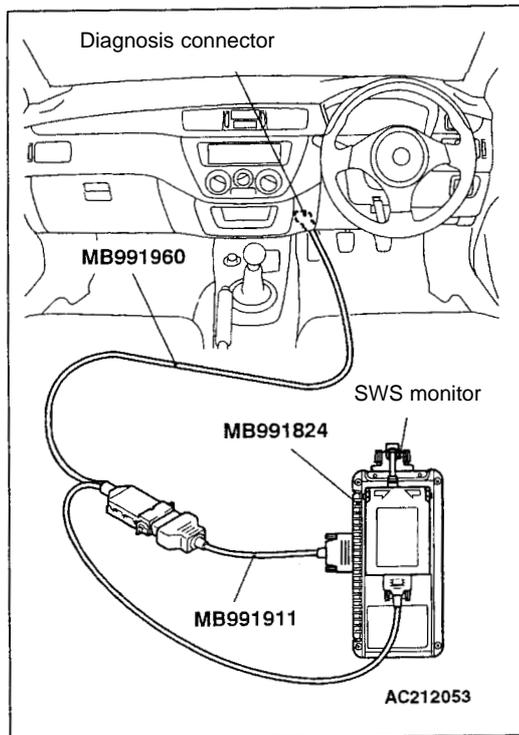
**(Connecting the SWS monitor harness to the column switch)**

- (1) Connect the MUT-II/III to the diagnosis connector.
- (2) Remove the column cover.
- (3) Detach the column switch connector.
- (4) Connect the special SWS monitor harness (MB991812) to the column switch connector and the column switch harness side connector.



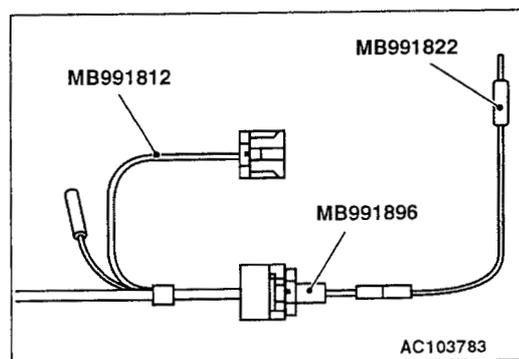
(Connecting to the diagnosis connector using the Intermediate harness for customizing the SWS monitor (using the MUT-II))

- (1) Connect the MUT-II to the Intermediate harness for customizing the SWS monitor (MB991960).
- (2) Take the Intermediate harness for customizing the SWS monitor (connected at step (1)), and connect it to the diagnosis connector and the SWS monitor.



(Connecting to the diagnosis connector using the Intermediate harness for customizing the SWS monitor (using the MUT-III))

- (1) Connect the MUT-III main harness B (MB991911) to the Intermediate harness for customizing the SWS monitor (MB991960).
- (2) Take the MUT-III main harness B (connected at step (1)), and connect it to the V.C.I. (MB991824).
- (3) Take the Intermediate harness for customizing the SWS monitor (MB991960) (connected at step 1), and connect it to the diagnosis connector and the SWS monitor.



Door-to-door communications connection method

- (1) Connect the SWS monitor harness (MB991812) and the Door-to-door communications adapter harness (MB991896).
- (2) Connect the Probe harness (MB991822) to the Door-to-door communications adapter harness (MB991896) connected at step (1).
- (3) After all connections have been made, insert the probe section of the probe harness into the terminals of the respective female connectors on the door-to-door communications line, from the rear side of the connector.

Note:

Refer to the chart below for the connector and terminal nos. on the door-to-door communications line into which to insert the probe.

Chart of connector numbers and terminal numbers in door-to-door communications line

Insert the probe section of the probe harness into the terminal of the respective female connectors of the door-to-door communications line, from the rear side of the connector.

Connector name		Connector No.	Terminal No.
Intermediate connector	Coupling between instrument panel harness and front door harness (RH)	C-114 (Front door harness side)	7
	Coupling between instrument panel harness and front door harness (LH)	C-33 (Front door harness side)	8
	Coupling between floor harness (RH) and rear door harness (RH)	D-03 (Floor harness side)	7
	Coupling between floor harness (LH) and rear door harness (LH)	D-13 (Floor harness side)	7
Electric window main switch		E-02	11
Electric window sub-switch (front : LH)		E-06	6
Electric window sub-switch (rear : RH)		E-102	6
Electric window sub-switch (rear : LH)		E-105	6

4. ECU check service points

- (1) The ECU check is performed using the MUT-II/III and SWS monitor.
(See MUT-II Reference Manual or MUT-III Instruction Manual)
- (2) The following ECU checks can be performed when the ECU is connected to the MUT-II/III and the SWS monitor.

Note:

If an abnormality arises during ECU checking, then troubleshooting should be performed by referring to the Inspection procedures classified by trouble symptoms.

(See p.54B-21)

ECU subjected to ECU communications check using SWS monitor, and possible ECU states

ECU under inspection	MUT display	Normal state	ECU state
Column switch (column ECU)	Column ECU	OK* ¹	Column switch, power supply, earth, communications line : all normal
ETACS-ECU	ETACS	OK	ETACS-ECU, power supply, earth, communications line : all normal
Front ECU	Front ECU	OK* ²	Front ECU, power supply, earth, communications line : all normal
Electric window main switch (electric window module)	P/W module	OK* ² (Ignition switch: ON)	Electric window main switch, power supply, earth, communications line : all normal
Sunroof motor assembly (sunroof ECU)	Sunroof ECU	OK* ²	Sunroof motor assembly, power supply, earth, communications line : all normal
Multi-centre display	Centre display	OK* ³	Multi-centre display, power supply, earth, communications line : all normal
ECUs relating to parts of SWS other than the above	All other ECU apart from above	NG	ECU not installed

Note:

- (1) *¹: If the ignition switch is OFF when "NG" is displayed on the ETACS-ECU, then "NG" is displayed on the column ECU.
- (2) *²: If "NG" is displayed on the ETACS-ECU, then "NG" will be displayed on the front ECU, electric window main switch (electric window module), and sunroof assembly (sunroof ECU).
- (3) *³: If "NG" is displayed on the column ECU, then "NG" will be displayed on the multi-centre display.

5. Service data check service points

(1) The service data is checked using the MUT-II/III and the SWS monitor.

A service data check performed using the SWS monitor only relates to the signals present on the SWS communications line and the door-to-door communications line. For information on the input signals which are not checked by the SWS monitor, refer to the Pulse check service points (MUT-II/III or voltmeter) p.54B-20.

(2) The following input signals can be checked when the MUT-II/III and SWS monitor are connected.

Note:

If an abnormality arises during service data checking, then troubleshooting should be performed by referring to Confirming problems in input signal check (Service data, Diagnosis by Function, or pulse check). (See p.54B-24)

(Service data chart)

- Column switch (column ECU)

Item No.	Check item	MUT display	Check conditions	Normal state
00	Headlight switch	Headlight SW	Lighting switch : HEAD	ON
			Lighting switch : not HEAD	OFF
01	Tail light switch	Tail light SW	Light switch : TAIL	ON
			Light switch : OFF	OFF
02	Dimmer switch	Dimmer SW	Dimmer switch : ON	ON
			Dimmer switch : OFF	OFF
03	Passing switch	Passing SW	Passing switch : ON	ON
			Passing switch : OFF	OFF
05	Windscreen intermittent wiper switch	INT wiper SW	Wiper switch : INT	ON
			Wiper switch : not INT	OFF
06	Windscreen low-speed wiper switch	LO wiper SW	Wiper switch : LO	ON
			Wiper switch : not LO	OFF
07	Windscreen high-speed wiper switch	HI wiper SW	Wiper switch : HI	ON
			Wiper switch : not HI	OFF
08	Windscreen mist wiper switch	Mist wiper SW	Power switch : Mist	ON
			Power switch : not Mist	OFF
09	Windscreen washer switch	Front washer SW	Windscreen washer switch : ON	ON
			Windscreen washer switch : OFF	OFF
10	RH turn indicator light switch	RH turn indicator light SW	Turn indicator light switch : RH	ON
			Turn indicator light switch : not RH	OFF
11	LH turn indicator light switch	LH turn indicator light SW	Turn indicator light switch : LH	ON
			Turn indicator light switch : not LH	OFF
13	Rear wiper switch	Rear wiper SW	Rear wiper switch : INT	ON
			Rear wiper switch : not INT	OFF
14	Rear washer switch	Rear washer SW	Rear wiper switch : Washer	ON
			Rear wiper switch not Washer	OFF

Item No.	Check item	MUT display	Check conditions	Normal state
15	Windscreen intermittent wiper volume on/off	Intermittent VOL	Vehicle with intermittent volume	YES
			Vehicle without intermittent volume	NO

- ETACS-ECU

Item No.	Check item	MUT display	Check conditions	Normal state
30	Ignition switch (IG1)	Ignition SW IG1	Ignition switch : ON or START	ON
			Ignition switch : LOCK (OFF) or ACC	OFF
31	Ignition switch (ACC)	Ignition SW ACC	Ignition switch : ACC or ON	ON
			Ignition switch : LOCK (OFF) or START	OFF
32	Driver's door switch	Driver's door SW	Driver's door switch: ON (driver's door open)	ON
			Driver's door switch: OFF (driver's door closed)	OFF
33	Powered window switch enabled	P/W SW enabled	Ignition switch : ON or START	Enabled
			Ignition switch : ON or START → LOCK (OFF) or ACC	Enabled → Prohibited (after approx. 30)
34	Multi-mode keyless entry	Multi-mode keyless	1. Keyless entry transmitter LOCK switch : ON 2. Repeat keyless entry transmitter LOCK switch : ON (The second ON operation involves pressing for at least 1 second within 30 seconds of the first operation)	Multi-close (at instant of switch operation only)
			1. Keyless entry transmitter UNLOCK switch : ON 2. Repeat keyless entry transmitter UNLOCK switch : ON (The second ON operation involves pressing for at least 1 second within 30 seconds of the first operation)	Multi-open (at instant of switch operation only)
			1. During multi-mode operation 2. Repeat keyless entry transmitter Either switch : ON	Multi-stop (at instant of switch operation only)
			All other conditions apart from the above	Standby
35	Headlight automatic cut-off function	HD light auto cut	1. Lighting switch : not OFF 2. Ignition switch : ON or START → LOCK (OFF) or ACC 3. Driver's door switch : ON (Driver's door : open)	OFF → ON (after about 1 second)
			Conditions for headlight automatic cut-off function are not satisfied	OFF
36	Fog light lighting request	Fog lamp	1. Lighting switch : HEAD or TAIL 2. Fog light switch : ON	ON
			All other conditions apart from the above	OFF
37	Windscreen intermittent wiper time	Wiper INT time	1. Ignition switch : ACC or ON 2. Operate intermittent wiper volume to change interval between wiper movements.	Display interval time corresponding to intermittent wiper volume

Item No.	Check item	MUT display	Check conditions	Normal state
38	All door switch	Security alarm	Any door : open	ON
			All doors : closed	OFF
41	Reversing light switch	Inhibitor SW (R)	Reversing light switch : ON	ON
			Reversing light switch : OFF	OFF
42	Wiper drive indication at start up	Wiper drive indication	1. Wiper switch : INT 2. Travel at 7 km/h or above	YES
			Any conditions apart from the above	NO
43	Buzzer	Buzzer	1. Ignition switch : LOCK (OFF) 2. Key reminder switch : ON 3. Driver's door switch : ON (Driver-s door : open)	ON
			Conditions for sounding of any buzzer are not satisfied.	OFF

Note : When inspecting Item No.43 Buzzer, in addition to the conditions listed in the table, "ON" is displayed due to operation of the light switch-off reminder warning function.

- Multi-display

Item No.	Check item	MUT display	Check conditions	Normal state
60	beep data	beep data	1. Ignition switch : ACC or ON 2. Perform audio preset operation.	ON (2 kHz) (only at instant of switch operation)
			Any other conditions	OFF
61	Centre display sleep mode	Display asleep	Ignition switch : LOCK (OFF)	Asleep
			Ignition switch : ACC or ON	Active
62	Centre display input signal	Display input	1. Ignition switch : ACC or ON 2. Perform audio preset operation.	YES (Only at instant of switch operation)
			Any other conditions	NO

Item No.	Check item	MUT display	Check conditions	Normal state
70	Front ECU response	Front ECU response	Lighting switch : not OFF (except for high-beam on) or Wiper switch : not OFF	Normal response
			<ul style="list-style-type: none"> • Ignition switch : ON or START • Lighting switch : OFF • Wiper switch : OFF 	Sleep response
			<ul style="list-style-type: none"> • Lighting switch : HEAD • Headlight : High beam on 	High beam response
				No response

Note:

When Item No.70 Front ECU check is performed and “No response” is displayed, then “NG” is shown in the ECU check as well.

- Electric window main switch (electric window module)

Item No.	Check item	MUT display	Check conditions	Normal state
71	Electric window module response	P/W module response	Ignition switch : ON or START	Normal response
			<ol style="list-style-type: none"> 1. Ignition switch : ON or START 2. Operate any switch of the electric window main switch 	Input check (only at instant of switch operation)
				No response

Note: When Item No.71 P/W module response check is performed and “No response” is displayed, then “NG” is shown in the ECU check as well.

- Sunroof motor assembly (sunroof ECU)

Item No.	Check item	MUT display	Check conditions	Normal state
72	Sunroof ECU response	Sunroof ECU response	<ol style="list-style-type: none"> 1. Ignition switch : ON or START 2. Sunroof halted 	Normal response → Sleep response (after about 30 secs.)
			<ol style="list-style-type: none"> 1. Ignition switch : ON or START 2. Sunroof switch : Any switch ON 	Input check → Normal response
				No response

Note :

Note: When Item No.72 Sunroof ECU response check is performed and “No response” is displayed, then “NG” is shown in the ECU check as well.

- Door-to-door communications

Item No.	Check item	MUT display	Check conditions	Normal state
C0	Front passenger electric window switch UP	Passenger window UP	Front passenger electric window switch : UP	ON
			Front passenger electric window switch : not UP	OFF
C1	Front passenger electric window switch DOWN	Passenger window DOWN	Front passenger electric window switch : DOWN	ON
			Front passenger electric window switch : not DOWN	OFF
C2	Front passenger electric window switch AUTO	Passenger window AUTO	Front passenger electric window switch : AUTO	ON
			Front passenger electric window switch : not AUTO	OFF
C4	Rear right-hand electric window switch UP	Rear RH UP	Rear right-hand electric window switch : UP	ON
			Rear right-hand electric window switch : not UP	OFF
C5	Rear right-hand electric window switch DOWN	Rear RH DOWN	Rear right-hand electric window switch : DOWN	ON
			Rear right-hand electric window switch : not DOWN	OFF
C6	Rear right-hand electric window switch AUTO	Rear RH AUTO	Rear right-hand electric window switch : AUTO	ON
			Rear right-hand electric window switch : not AUTO	OFF
C8	Rear left-hand electric window switch UP	Rear LH UP	Rear left-hand electric window switch : UP	ON
			Rear left-hand electric window switch : not UP	OFF
C9	Rear left-hand electric window switch DOWN	Rear LH DOWN	Rear left-hand electric window switch : DOWN	ON
			Rear left-hand electric window switch : not DOWN	OFF
CA	Rear left-hand electric window switch AUTO	Rear LH AUTO	Rear left-hand electric window switch : AUTO	ON
			Rear left-hand electric window switch : not AUTO	OFF
CB	Electric window lock switch	P/W LOCK SW	Electric window lock switch : ON	ON
			Electric window lock switch : OFF	OFF
CD	Multi-stop	Multi-mode STOP	1. During multi-mode operations 2. Any switch of keyless entry transmitter : ON	ON (only at instant of switch operation)
			Any conditions other than above	OFF
CE	Electric window switch enabled	P/W SW enabled	Ignition switch : ON or START	Enabled
			Ignition switch : ON or START → LOCK (OFF) or ACC	Enabled → Prohibited (after about 30 secs.)
CF	Ignition switch (IG1)	IG1	Ignition switch : ON or START	ON
			Ignition switch : LOCK (OFF) or ACC	OFF

Note:

The door-to-door service data is output from the electric window main switch to the door-to-door communications line, and therefore unless a probe is inserted, the normal state will not change from "OFF".

(Diagnosis by Function)

In diagnosis by function, the service data displayed for each item of a function, and the normal states for each item, are collated into a single table. The normal state column indicates the value displayed when the named item is operated.

- Wipers

Item	Input signal name	Item No.	MUT display	Normal state
INT Intermittent	Windscreen intermittent wiper switch	05	INT Wiper SW	ON
	Windscreen low-speed wiper switch	06	LO Wiper SW	OFF
	Windscreen high-speed wiper switch	07	Hi Wiper SW	OFF
	Windscreen mist wiper switch	08	Mist Wiper SW	OFF
	Windscreen washer switch	09	Front Washer SW	OFF
	Ignition switch (ACC)	31	Ignition SW ACC	ON
	Windscreen intermittent wiper time interval	37	Wiper INT Time	Shows intermittent interval according to position of intermittent wiper volume
	Front ECU response	70	Front ECU Response	Normal response or high beam response
LO (low speed)	Windscreen intermittent wiper switch	05	INT Wiper SW	OFF
	Windscreen low-speed wiper switch	06	LO Wiper SW	ON
	Windscreen high-speed wiper switch	07	Hi Wiper SW	OFF
	Windscreen mist wiper switch	08	Mist Wiper SW	OFF
	Windscreen washer switch	09	Front Washer SW	OFF
	Ignition switch (ACC)	31	Ignition SW ACC	ON
	Front ECU response	70	Front ECU response	Normal response or high beam response

Item	Input signal name	Item No.	MUT display	Normal state
HI (High speed)	Windscreen intermittent wiper switch	05	INT Wiper SW	OFF
	Windscreen low-speed wiper switch	06	LO Wiper SW	OFF
	Windscreen high-speed wiper switch	07	Hi Wiper SW	ON
	Windscreen mist wiper switch	08	Mist Wiper SW	OFF
	Windscreen washer switch	09	Front Washer SW	OFF
	Ignition switch (ACC)	31	Ignition SW ACC	ON
	Front ECU response	70	Front ECU Response	Normal response or high beam response
Mist	Windscreen intermittent wiper switch	05	INT Wiper SW	OFF
	Windscreen low-speed wiper switch	06	LO Wiper SW	ON
	Windscreen high-speed wiper switch	07	Hi Wiper SW	OFF
	Windscreen mist wiper switch	08	Mist Wiper SW	OFF
	Windscreen washer switch	09	Front Washer SW	OFF
	Ignition switch (ACC)	31	Ignition SW ACC	ON
	Front ECU response	70	Front ECU response	Normal response or high beam response
Washer	Windscreen mist wiper switch	08	Mist Wiper SW	OFF
	Windscreen washer switch	09	Front Washer SW	ON
	Ignition switch (ACC)	31	Ignition SW ACC	ON
	Front ECU response	70	Front ECU response	Normal response or high beam response

- Rear Wiper

Item	Input signal name	Item No.	MUT display	Normal state
Rear wiper	Rear wiper switch	13	Rear wiper SW	ON
	Rear washer switch	14	Rear washer SW	OFF
	Ignition switch (ACC)	31	Ignition SW ACC	ON
Reverse travel	Rear wiper switch	13	Rear wiper SW	ON
	Ignition switch (ACC)	31	Ignition SW ACC	ON
	Reversing light switch	41	Inhibitor SW (R)	ON
Rear washer	Rear washer switch	14	Rear washer SW	ON
	Ignition switch (ACC)	31	Ignition SW ACC	ON

- Lighting

Item	Input signal name	Item No.	MUT display	Normal state
Lighting	Headlight switch	00	Headlight SW	OFF
	Tail light switch	01	Tail light SW	OFF
	Passing switch	03	Passing SW	OFF
	Ignition switch (IG1)	30	Ignition SW IG1	ON
	Headlight automatic cut-off function	35	HD light auto cut	OFF
	Front ECU response	70	Front ECU response	Normal response or sleep response
Tail	Headlight switch	00	Headlight SW	OFF
	Tail light switch	01	Tail light SW	ON
	Passing switch	03	Passing SW	OFF
	Ignition switch (IG1)	30	Ignition SW IG1	ON
	Headlight automatic cut-off function	35	HD light auto cut	OFF
	Front ECU response	70	Front ECU response	Normal response
LO (low beam)	Headlight switch	00	Headlight SW	ON
	Dimmer switch	02	Dimmer SW	OFF
	Passing switch	03	Passing SW	OFF
	Ignition switch (IG1)	30	Ignition SW IG1	ON
	Headlight automatic cut-off function	35	HD light auto cut	OFF
	Front ECU response	70	Front ECU response	Normal response
HI (high beam)	Headlight switch	00	Headlight SW	ON
	Dimmer switch	02	Dimmer SW	ON
	Ignition switch (IG1)	30	Ignition SW IG1	ON
	Headlight automatic cut-off function	35	HD light auto cut	OFF
	Front ECU response	70	Front ECU response	High beam response
Passing	Passing switch	03	Passing SW	ON
	Front ECU response	70	Front ECU response	Normal response or high beam response

Item	Input signal name	Item No.	MUT display	Normal state
Fog lamp	Headlight switch	00	Headlight SW	Any ON
	Tail light switch	01	Tail light SW	
	Ignition switch (IG1)	30	Ignition SW IG1	ON
	Headlight automatic cut-off function	35	HD light auto cut	OFF
	Fog light light request	36	Fog lamp	ON
	Front ECU response	70	Front ECU response	Normal response
Automatic cut-off	Headlight switch	00	Headlight SW	Any ON
	Tail light switch	01	Tail light SW	
	Ignition switch (IG1)	30	Ignition SW IG1	OFF
	Driver's door switch	32	Driver's door SW	ON
	Headlight automatic cut-off function	35	HD light auto cut	ON
	Front ECU response	70	Front ECU response	Normal response or high beam response

Note : When performing an input signal check for the lighting, tail lights, LO (low beam) or HI (high beam) operation, the headlight cut-off function is set to be switched OFF in order that accurate conclusions can be made when the ignition switch is "ON". However, since this has no direct bearing on the actual operation of the lights, it is not included in the reverse conditions in the title section of the MUT-II display.

When performing a HI (high beam) check, the display for Item No.02 Dimmer SW is "OFF", even when the high beam is lit. Therefore, check that the display changes to "ON" when the dimmer switch is operated.

- Turn indicator lamps

Item	Input signal name	Item No.	MUT display	Normal state
RH Turn indicator light	RH Turn indicator light switch	10	RH turn indicator SW	ON
	LH Turn indicator light switch	11	LH turn indicator SW	OFF
	Ignition switch (IG1)	30	Ignition SW IG1	ON
RH Turn indicator light	RH Turn indicator light switch	10	RH turn indicator SW	OFF
	LH Turn indicator light switch	11	LH turn indicator SW	ON
	Ignition switch (IG1)	30	Ignition SW IG1	ON

- Buzzer

Item	Input signal name	Item No.	MUT display	Normal state
Lighting monitor buzzer	Headlight switch	00	Headlight SW	Any ON
	Tail light switch	01	Tail light SW	
	Ignition switch (IG1)	30	Ignition SW IG1	OFF
	Driver's door switch	32	Driver's door SW	ON
	Headlight automatic cut-off function	35	HD light auto cut	OFF
	Buzzer	43	Buzzer	ON

Item	Input signal name	Item No.	MUT display	Normal state
Remove key reminder buzzer	Ignition switch (IG1)	30	Ignition SW IG1	OFF
	Driver's door switch	32	Driver's door SW	ON
	Buzzer	43	Buzzer	ON
Back buzzer	Ignition switch (IG1)	30	Ignition SW IG1	ON
	Inhibitor switch (R)	41	Inhibitor (R)	ON
	Buzzer	43	Buzzer	ON
Display buzzer	Buzzer	43	Buzzer	ON
	beep data	60	beep data	ON (2 kHz) (Only at instant of switch operation)

Note : Approximately one second after the lighting monitor buzzer has started to sound, the headlight automatic cut-off function activates, and the buzzer switches off.

- Electric windows

Item	Input signal name	Item No.	MUT display	Normal state
Electric window	Ignition switch (IG1)	30	Ignition SW IG1	ON
	Electric window switch enabled	33	P/W SW enabled	Enabled
	Electric window module response	71	P/W module response	Input check (only at instant of switch operation)

- Keyless entry

Item	Input signal name	Item No.	MUT display	Normal state
Multi-stop	Electric window switch enabled	33	P/W SW enabled	Enabled
	Multi-mode keyless entry	34	Multi-mode keyless	Multi-stop (only at instant of switch operation)
	Electric window module response	71	P/W module response	Normal response or P/W lock response
Multi-open	Electric window switch enabled	33	P/W SW enabled	Enabled
	Multi-mode keyless entry	34	Multi-mode keyless	Multi-open (only at instant of switch operation)
	Electric window module response	71	P/W module response	Normal response or P/W lock response
Multi-close	Electric window switch enabled	33	P/W SW enabled	Enabled
	Multi-mode keyless entry	34	Multi-mode keyless	Multi-close (only at instant of switch operation)
	Electric window module response	71	P/W module response	Normal response or P/W lock response
	Sunroof ECU response	72	Sunroof ECU response	Normal response

- Sunroof

Item	Input signal name	Item No.	MUT display	Normal state
Sunroof operation	Ignition switch (IG1)	30	Ignition SW IG1	ON
	Electric window module response	71	P/W module response	Normal response
	Sunroof ECU response	72	Sunroof ECU response	Input check (only at instant of switch operation)

(ETACS Switch Data Chart)

Item No.	Check item	MUT display	Check conditions	Normal state
01	Specifications change terminal	Specifications change		A/T
03	Key reminder switch	Key reminder SW	Key reminder switch : ON (ignition key removed)	ON
			Key reminder switch : OFF (ignition key inserted)	OFF
04	Hazard light switch	Hazard light SW	Hazard light switch : ON (switch operated)	ON
			Hazard light switch : OFF (switch not operated)	OFF
09	Rear wiper automatic stop switch	R wiper A/STOP	Rear wiper operating	ON
			Rear wiper not operating	OFF
10	Fog light switch	F for light SW	Fog light switch : ON (switch operated)	ON
			Fog light switch : OFF (switch not operated)	OFF
14	Motorized remote control mirrors (fold/return) switch	Motorized mirrors SW	Motorized remote control mirrors (fold/return) switch : ON (switch operated)	ON
			Motorized remote control mirrors (fold/return) switch : OFF (switch operated)	OFF
20	Impact sensor	Impact sensor		OFF
21	Driver-s door lock actuator lock switch	Dr Door lock SW	Locked	ON
			Any state but Locked	OFF
22	Driver-s door lock actuator unlock switch	Dr Door unlock SW	Unlocked	ON
			Any state but Unlocked	OFF
26	Central door lock switch	Central door lock		OFF
27	Central door unlock switch	Central door unlock		OFF
36	MUT diagnosis connector	MUT diagnosis connector	Diagnosis control connected	ON
			Diagnosis control not connected	OFF

(ETACS Analogue Data Chart)

Item No.	Check item	MUT display	Check conditions
02	Windscreen wiper intermittent volume	Wiper volume voltage	Displays voltage of windscreen wiper intermittent volume Changes according to position of windscreen wiper intermittent volume
03	Vehicle speed signal	Speed signal	Displays vehicle speed Changes with vehicle speed
04	Interior light automatic cut-off timer interval	Interior light timer	Displays operating time for interior light automatic cut-off function
05	Headlight automatic cut-off timer interval	HD light timer	Displays operating time for headlight automatic cut-off function
06	Electric window key off timer interval	P/W key off timer	Displays operating time for electric window key off timer
07	Intermittent wiper time interval	Wiper INT time	Displays the intermittent time interval for the windscreen wipers as calculated from the windscreen wiper intermittent volume and the vehicle speed signal Changes with windscreen wiper intermittent volume position and vehicle speed

6. Pulse check service points (MUT-II/III or voltmeter)

- (1) A pulse check is used to inspect input signals which cannot be inspected on the SWS monitor using the MUT-II/III or voltmeter (input signals which are not present on the communications line).
(See Chapter 00, How to Use Troubleshooting and Inspection Service Points.)
- (2) The following input signals are checked in this state.

Note :

If a problem arises in the pulse check, then troubleshooting should be performed by referring to Confirming Problems in Input Signal Check (Service data, Diagnosis by Function or Pulse Check) (see p.54B-24).

Switches and conditions for performing pulse check

Input signal	Buzzer sounding conditions
Load on generic fuse No. 17	Using load where generic fuse No.17 is taken as power supply

7. MUT-II/III flight recorder function

- (1) It is possible to store communications data for ECU checks, service data and function-based diagnosis in a memory in the SWS monitor cartridge. The stored communications data can be reproduced on a chart or graph display.
- (2) If data is stored for a long time by means of the flight recorder function, then in order to reduce vehicle battery consumption, it is possible to remove the MUT-II/III with the data stored in the SWS monitor cartridge.

Note :

For details of the MUT-II/III flight recorder function, see the MUT-II Reference Manual or MUT-III Instruction Manual.

8. Chart of Trouble Symptoms

(ESU communications system)

Trouble Symptom	Inspection Procedure No.	Reference page
No communication with SWS monitor	A-1	54B-26
No communication with column switch (column ECU)	A-2	54B-27
No communication with ETACS-ECU	A-3	54B-28
No communication with front ECU	A-4	54B-29
No communication with electric window main switch (electric window module)	A-5	54B-30
No communication with sunroof motor assembly	A-6	54B-31
No communication with multi-centre display	A-7	54B-32

(ESU communications system)

Trouble Symptom	Inspection Procedure No.	Reference page	
Warning functions	Ignition key left in reminder function not working correctly	B-1	54B-33
	Lights left on reminder function not working correctly	B-2	54B-34
	Door ajar warning function not working correctly	B-3	54B-35
	Turn indicator light operating noise not working correctly	B-4	54B-36
	Multi-centre display operating noise function not working correctly	B-5	54B-37
Central door locking	Central door locking not working at all	C-1	54B-38
	Some doors not operating, even when lock or unlock is performed	C-2	54B-39
Electric windows	None of electric windows working	D-1	54B-40
	Driver's electric window not responding to electric window main switch	D-2	54B-41
	Front passenger's or rear passenger's electric windows not responding to their respective switches	D-3	54B-42
	Front and/or rear passenger electric window not responding to electric window main switch	D-4	54B-45
	Electric window timer function not working correctly	D-5	54B-46
	While the window is winding up, it automatically starts to come down again	D-6	54B-47
	Electric window trapping prevention function not working correctly	D-7	54B-48
Keyless entry system	Keyless entry system not working at all	E-1	54B-50
	Keyless entry hazard answerback function or interior light answerback function not working correctly	E-2	54B-51
	Encrypted code cannot be registered	E-3	54B-52
	Multi-mode keyless entry function not working at all	E-4	54B-53
	Electric windows not working correctly with multi-mode keyless entry function	E-5	54B-54
	Sunroof close operation not working correctly with multi-mode keyless entry function	E-6	54B-55
Sunroof	Sunroof not working at all	F-1	54B-56
	Sunroof timer function not working correctly	F-2	54B-57
	Particular sunroof functions not working	F-3	54B-57
	Sunroof trap prevention function not working correctly	F-4	54B-57

Trouble Symptom		Inspection Procedure No.	Reference page
Windscreen wipers / Washer	Windscreen wipers not working at all	G-1	54B-58
	Windscreen wipers do not work at INT, washer or mist positions, and operate at low speed in both Lo & Hi positions.	G-2	54B-59
	Windscreen wipers do not stop in correct position	G-3	54B-59
	Windscreen wipers cannot be operated normally	G-4	54B-60
	Intermittent time interval of windscreen wipers does not change with vehicle speed or operation of intermittent windscreen wiper volume	G-5	54B-61
	Intermittent time interval of windscreen wipers does not change with vehicle speed	G-6	54B-62
	Windscreen washer not working correctly	G-7	54B-63
Rear wiper / washer	Rear wiper not working at all	H-1	54B-64
	Rear wiper does not stop in correct position	H-2	54B-65
	Rear wiper does not operate continuously, even when shift is set to R position	H-3	54B-66
	Rear washer does not work	H-4	54B-67
Motorized retractable door mirrors	Motorized retractable door mirrors not working at all	I-1	54B-68
	Motorized retractable door mirror timer function not working	I-2	54B-69
	Motorized retractable door mirror automatic return function (vehicle speed sensitive opening function) does not work correctly	I-3	54B-69
	Motorized retractable door mirror automatic return function (ignition driven function) does not work correctly	I-4	54B-70
	Motorized retractable door mirror automatic return function (keyless driven function) does not work correctly	I-5	54B-71
	One of the motorized retractable door mirrors is not working.	I-6	54B-72
Ignition key cylinder illumination lamp	Ignition key cylinder illumination light does not light up and switch off correctly	J-1	54B-73
Headlights, tail lamps	Headlights do not light up when passing switch is on. Low beam lights up (cannot be changed using dimmer switch)	K-1	54B-76
	Tail lights do not light up correctly	K-2	54B-76
	Head lights (low beam) do not light up	K-3	54B-77
	Head lights (high beam) do not light up	K-4	54B-78
	Head lights (low beam and high beam) do not light up when passing switch is ON	K-5	54B-79
	Headlight automatic cut-off function not working correctly	K-6	54B-80
	One of the headlights does not light up (including high beam indicator lamp)	K-7	54B-81
	One of the tail lights, position lights, or licence plate lights does not light up	K-8	54B-82
Fog lights	Fog lights do not light up correctly	L-1	54B-83
	One of the fog lights does not light up (including fog light indicator lamp)	L-2	54B-84
Flasher timer	Turn indicator lights do not light up	M-1	54B-85
	Hazard lights do not light up	M-2	54B-86
	One of the indicator lights does not light up	M-3	54B-87

Trouble Symptom		Inspection Procedure No.	Reference page
Interior light	Interior light does not light up or switch off correctly	N-1	54B-88
	Interior light automatic cut-off function not working correctly (cars fitted with keyless entry system)	N-2	54B-91
Door ajar indicator lamp	Door ajar indicator light does not light up or switch off correctly	O-1	54B-92
Security alarms	Security alarm does not enter warning state	P-1	54B-93
	Interior warning does not operate correctly when security alarm operates	P-2	54B-94
	Hazard lights do not flash when security alarm operates	P-3	54B-94
	Horn does not sound when security alarm operates	P-4	54B-95
Multi-centre display	Multi-centre display not working correctly	Q-1	See Chap. 54A*

Note * : See '00-5 Lancer Cedia Servicing Manual (No.1036K00)

9. Confirming problems in input signal check

(Service data, Diagnosis by Function or Pulse Check)

If a problem arises during the service data service points, then perform an inspection by referring to the table below.

Trouble Symptom		Inspection Procedure No.	Reference page
Ignition switch (ACC) signal not input		R-1	54B-96
Ignition switch (IG1) signal not input		R-2	54B-96
Reversing light switch signal not input		R-3	54B-97
Driver's door switch signal not input		R-4	54B-98
Column switches	Tail light switch signal not input	R-5	54B-99
	Headlight switch signal not input		
	Dimmer switch signal not input		
	Passing switch signal not input		
	LH turn indicator light switch signal not input		
	RH turn indicator light switch signal not input		
	Windscreen mist wiper switch signal not input	R-6	54B-100
	Windscreen intermittent wiper switch signal not input		
	Windscreen low speed wiper switch signal not input		
	Windscreen high speed wiper switch signal not input		
	Windscreen washer switch signal not input		
	Rear wiper switch signal not input		
	Rear washer switch signal not input		
Windscreen intermittent wiper volume signal not input	R-7	54B-101	
Electric window main switch	Respective switch signals not input	R-8	54B-101
Sunroof	Respective switch signals not input	R-9	54B-102
Multi-centre display	Respective switch signals not input	R-10	54B-103
Key reminder switch signal not input		R-11	54B-103
Motorized remote control mirror switch (fold / return switch) signal not input		R-12	54B-104
Hazard light switch signal not input		R-13	54B-105
All door switch signals not input (except driver's door)		R-14	54B-106
Driver's door lock actuator signal not input		R-15	54B-107
Vehicle speed signal not input		R-16	54B-108
Various switch signals of keyless entry transmitter not input		R-17	54B-109
Fog light switch signal not input		R-18	54B-110
Generic fuse No.17 load use signal not detected		R-19	54B-111

Chart of operational functions classified by input signal inspection procedure number

If a problem arises in a number of different functions when using the SWS, perform an input signal check by referring to the table below.

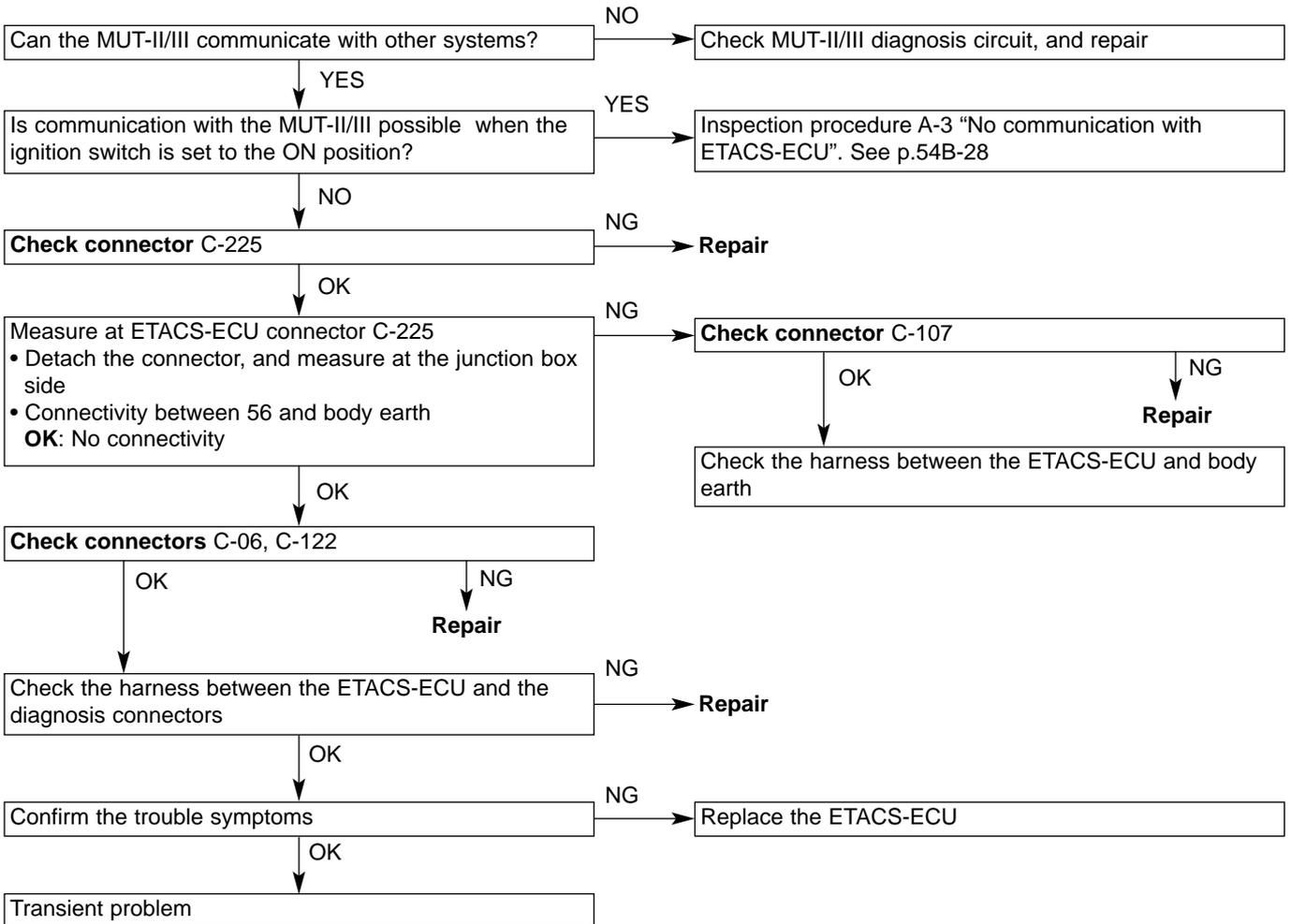
(Only the input signals and functions which may possibly give rise to multiple problems are listed in the table)

Name of function	R-1	R-2	R-3	R-4	R-5	R-6	R-11	R-13	R-14	R-15	R-16	R-17	R-19
Ignition key left in reminder warning		●		●			●						
Lights left on reminder warning		●		●	●								
Door ajar warning function				●						●	●		
Turn indicator light operating noise					●			●					
Central door locking control										●			
Keyless entry				●			●	●	●	●		●	
Keyless entry answer back		●								●			
Multi-mode keyless entry												●	
Electric window control		●											
Electric window timer		●		●									
Sunroof control				●									
Windscreen wiper & washer control	●					●					●		
Rear wiper & washer control	●		●			●							
Motorized retractable door mirror control		●									●		
Ignition key cylinder illumination light control		●		●			●						●
Tail light control					●								
Headlight control					●								
Headlight automatic cut-off		●		●	●								
Fog light control					●								
Turn indicator light control		●			●								
Hazard light control								●					
Interior light control		●		●			●		●	●			●
Interior light automatic cut-off	●												●
Door ajar indicator lamp				●					●				●
Security alarm	●			●			●		●			●	

10. Inspection Procedures Classified by Trouble Symptoms

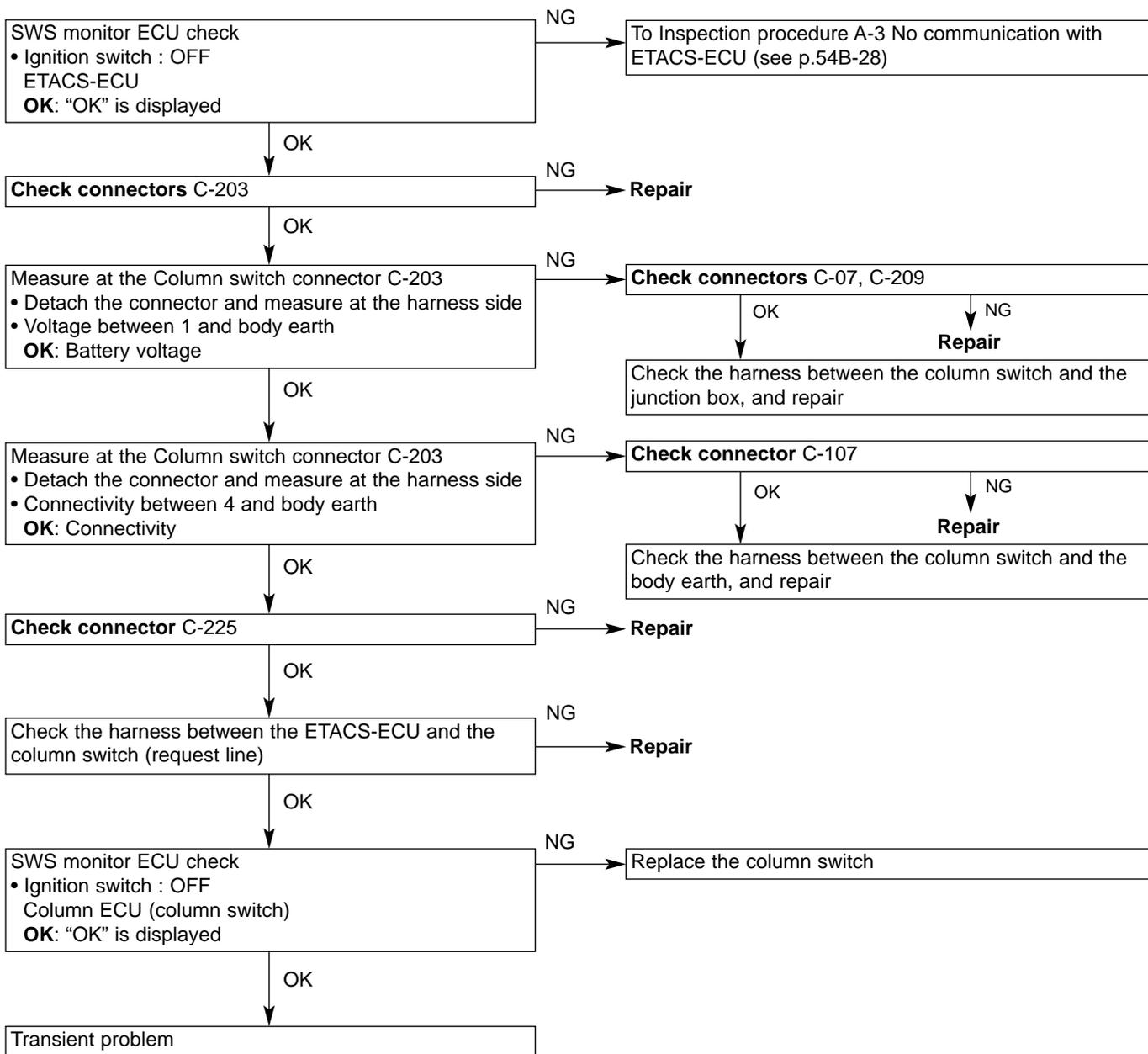
Inspection Procedure

No communication with SWS monitor	Probable Cause
There may be a malfunction in the connections to the SWS monitor	<ul style="list-style-type: none"> • Fault in SWS monitor main unit (I/F cartridge) • Fault in SWS monitor harness • Fault in harness / connectors • Fault in ETACS-ECU



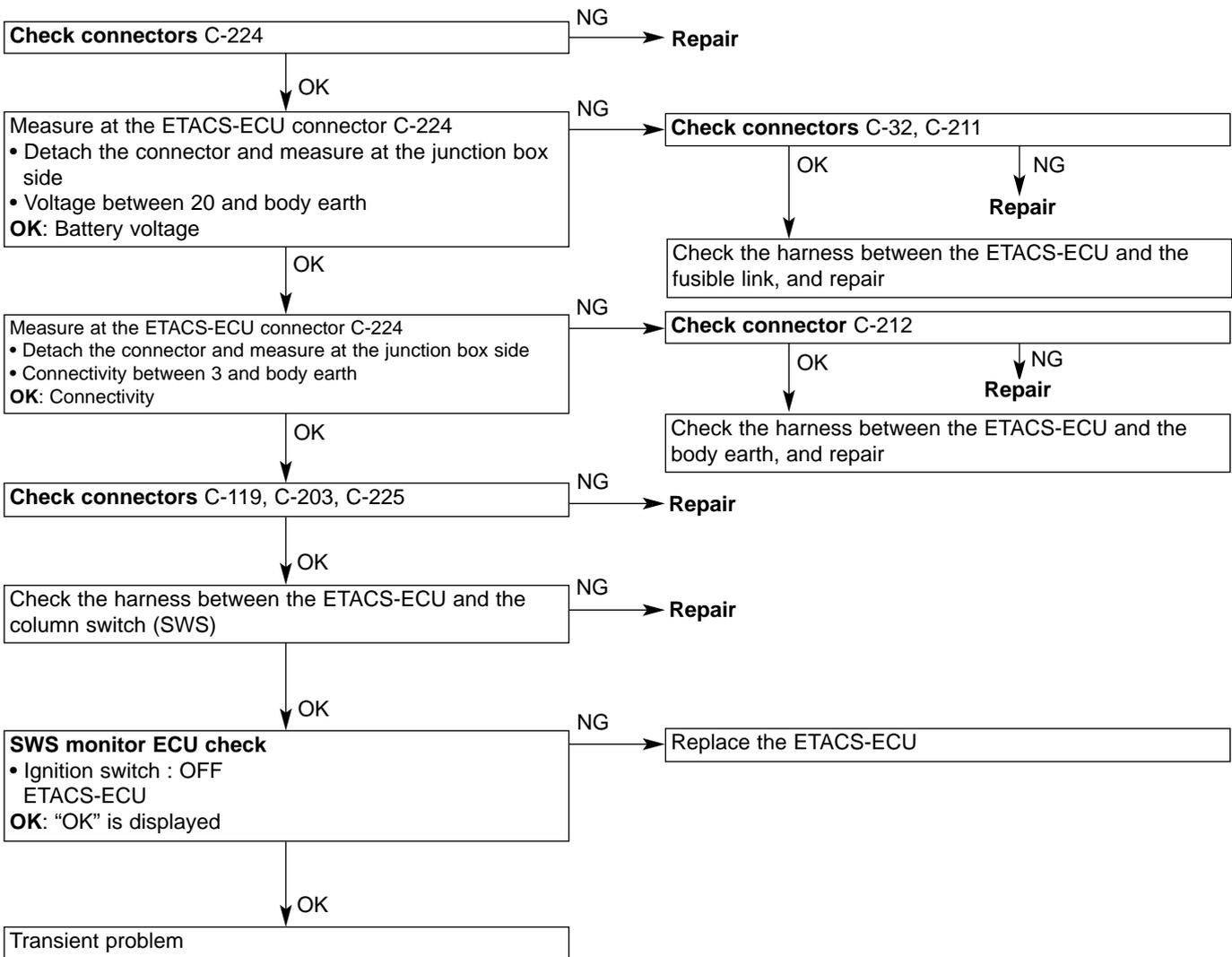
Inspection Procedure A-2

No communication with column switch (column ECU)	Probable Cause
There may be a problem in the column switch (column ECU) power supply circuit system. If there is a problem in the harness of the ECU battery power supply circuit (column switch terminal No.1), then the ignition switch (IG1) power supply circuit (column switch terminal No.9) should also be checked and repaired at the same time.	<ul style="list-style-type: none"> • Fault in column switch • Fault in harness or connectors



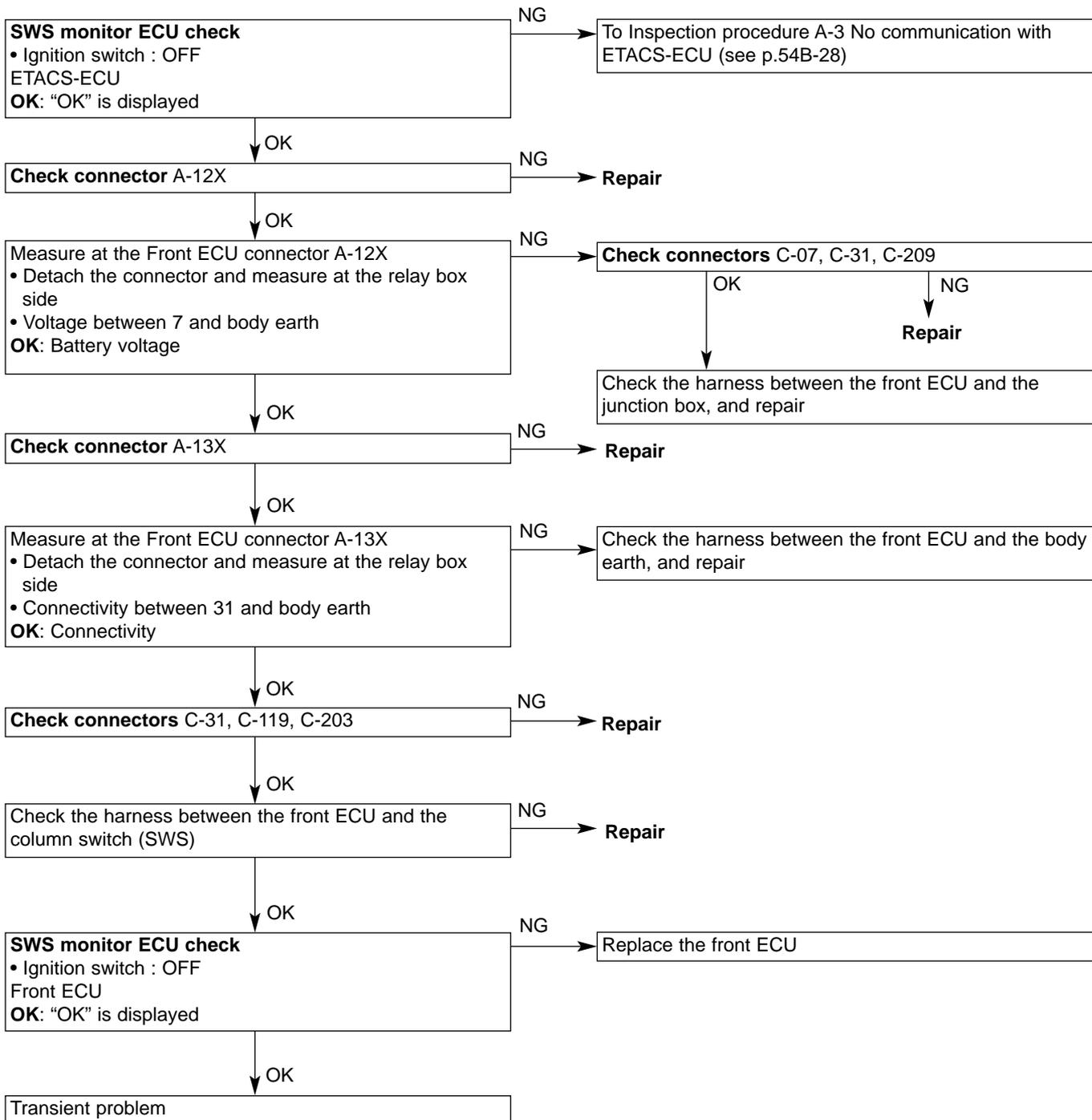
Inspection Procedure A-3

No communication with ETACS-ECU	Probable Cause
<p>There may be an abnormality in the power supply circuit of the ETACS-ECU or a problem in the harness or connectors between the SWS monitor and the ETACS-ECU. In the event of an abnormality in the harness of the ECU battery power supply (ETACS-ECU terminal No.20), the ignition switch (IG1) power supply circuit (ETACS-ECU terminal No.8) should be checked and repaired at the same time. Furthermore, in the event of an abnormality in the harness of the ECU earth circuit (ETACS-ECU terminal No.3), the centre earth circuit (ETACS-ECU terminal No.56) should be checked and repaired at the same time.</p>	<ul style="list-style-type: none"> • Fault in ETACS-ECU • Fault in harness or connectors



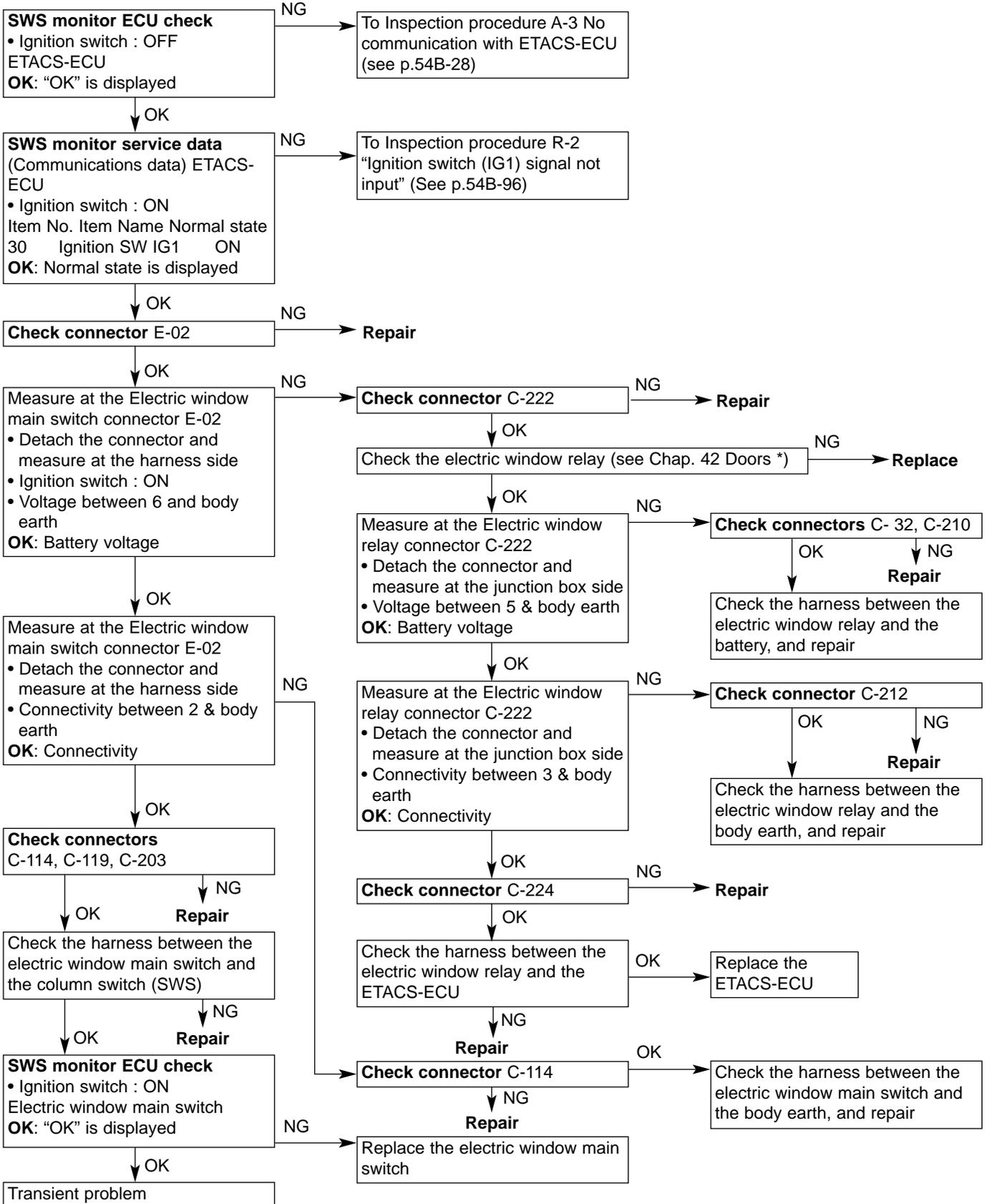
Inspection Procedure A-4

No communication with front ECU	Probable Cause
There may be an abnormality in the front ECU power supply circuit system, or a problem the harness and connectors between the SWS monitor and the front ECU. In the event of an abnormality in the harness of the ECU battery power supply circuit (Front ECU terminal No.7), the ignition switch (IG2) power supply circuit (front ECU terminal No.30) at the same time.	<ul style="list-style-type: none"> • Fault in front ECU • Fault in harness or connectors



Inspection Procedure A-5

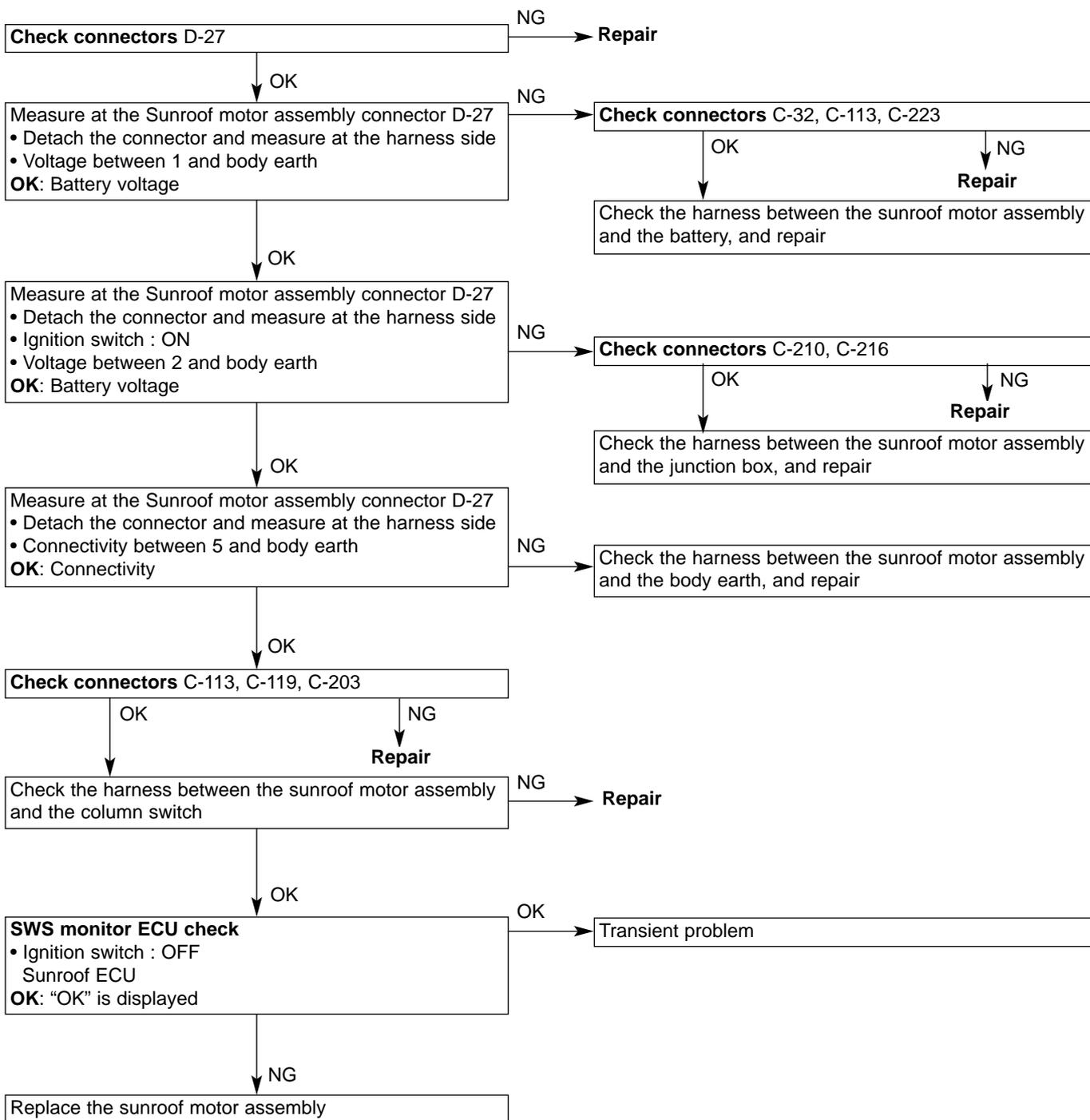
No communication with electric window main switch (electric window module)	Probable Cause
There may be an abnormality in the power supply circuit system of the electric window main switch (electric window relay drive circuit system), or in the communications circuit system.	<ul style="list-style-type: none"> • Fault in electric window main switch • Fault in electric window relay • Fault in ETACS-ECU • Fault in harness or connectors



Note * : See '00-5 '00-5 Lancer Cedia Servicing Manual (No. 1036K00)

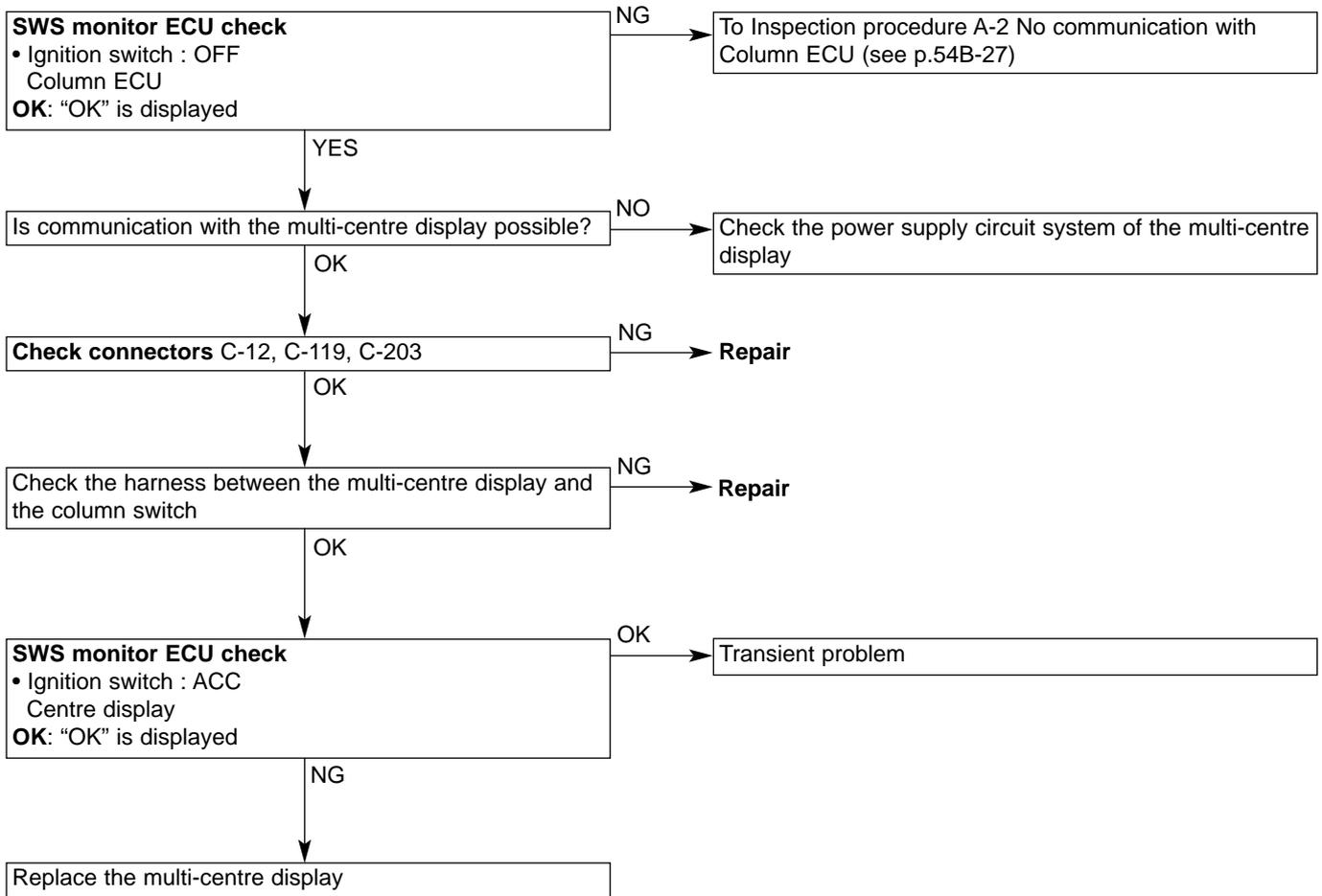
Inspection Procedure A-6

No communication with sunroof motor assembly	Probable Cause
There may be an abnormality in the communications circuit system or the power supply circuit system of the sunroof motor assembly	<ul style="list-style-type: none"> • Fault in sunroof motor assembly • Fault in harness or connectors



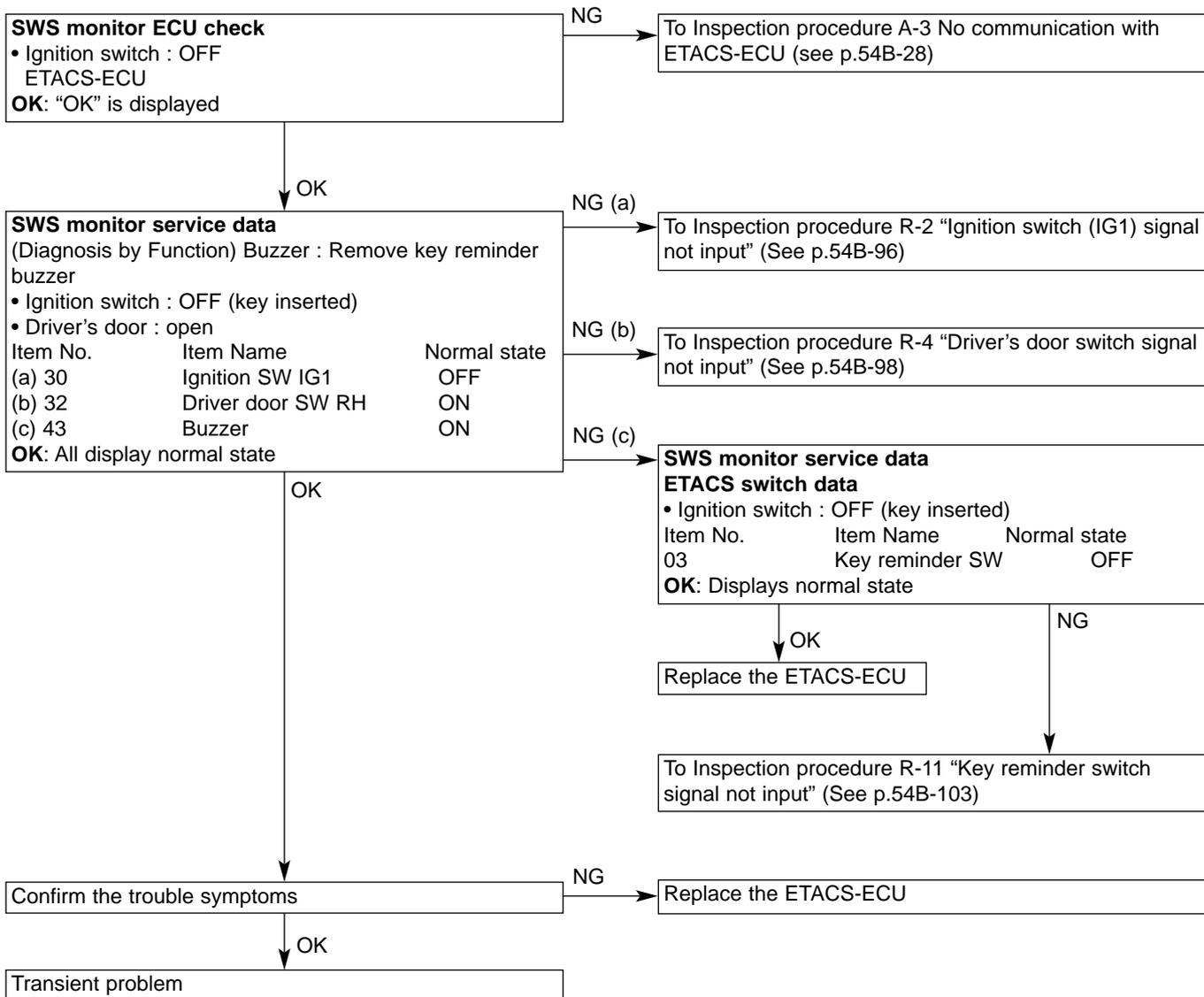
Inspection Procedure A-7

No communication with multi-centre display	Probable Cause
There may be an abnormality in the communications circuit system or the power supply circuit system of the multi-centre display	<ul style="list-style-type: none"> • Fault in multi-centre display • Fault in harness or connectors



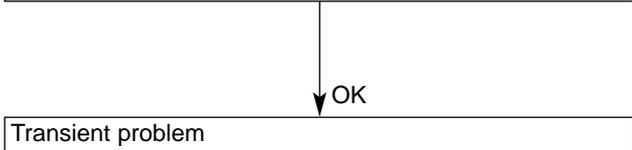
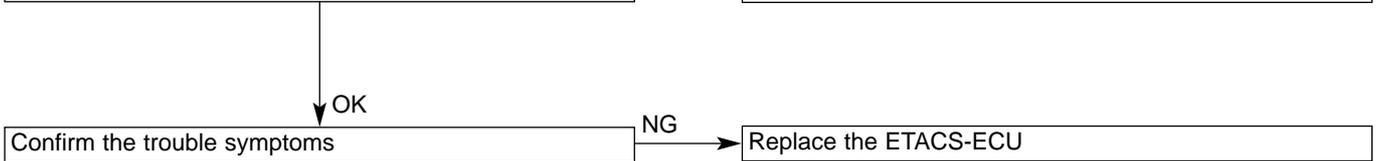
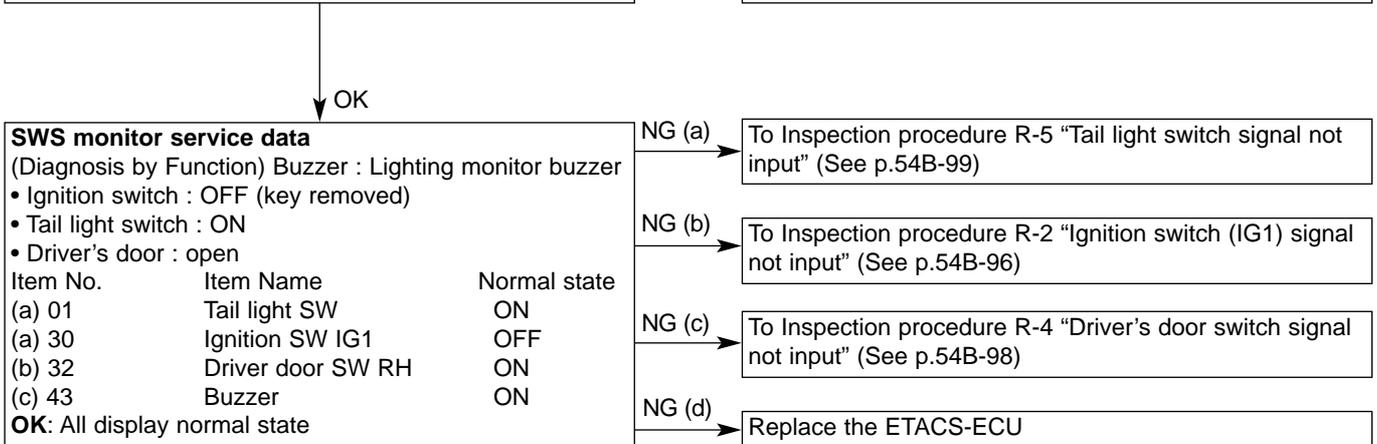
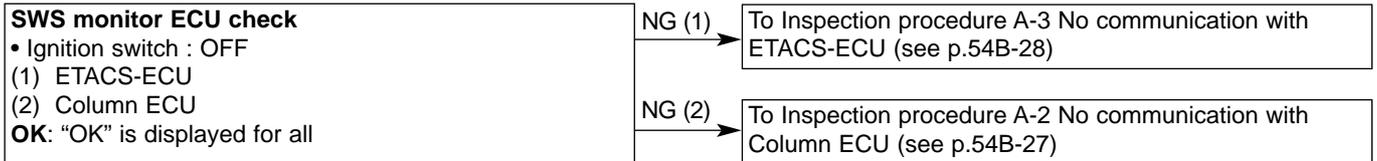
Inspection Procedure B-1

Ignition key left in reminder function not working correctly	Probable Cause
This function is operated by determining the following input signals in the ETACS-ECU. • Ignition switch (IG1) • Key reminder switch • Driver's door switch If the function is not working properly, then there is probably a problem in the input circuit system for these signals, or a malfunction in the ETACS-ECU.	• Fault in key reminder switch • Fault in driver's door switch • Fault in ETACS-ECU • Fault in harness or connectors



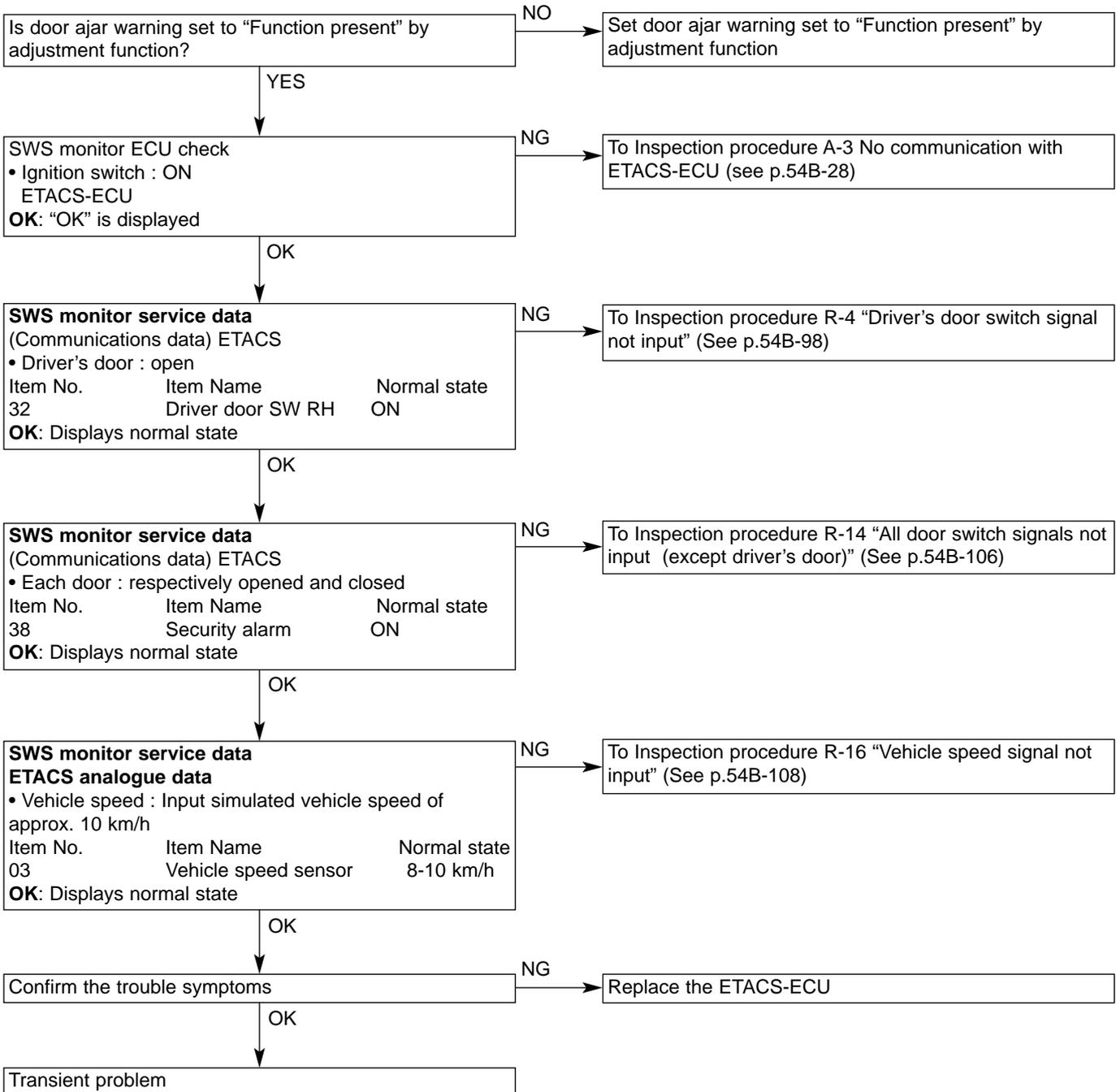
Inspection Procedure B-2

Lights left on reminder function not working correctly	Probable Cause
<p>This function is operated by determining the following input signals in the ETACS-ECU.</p> <ul style="list-style-type: none"> • Ignition switch (IG1) • Key reminder switch • Driver's door switch • Tail light switch <p>If the function is not working properly, then there is probably a problem in the input circuit system for these signals, or a malfunction in the ETACS-ECU.</p>	<ul style="list-style-type: none"> • Fault in key reminder switch • Fault in driver's door switch • Fault in column switch • Fault in ETACS-ECU • Fault in Front ECU • Fault in column ECU • Fault in harness or connectors



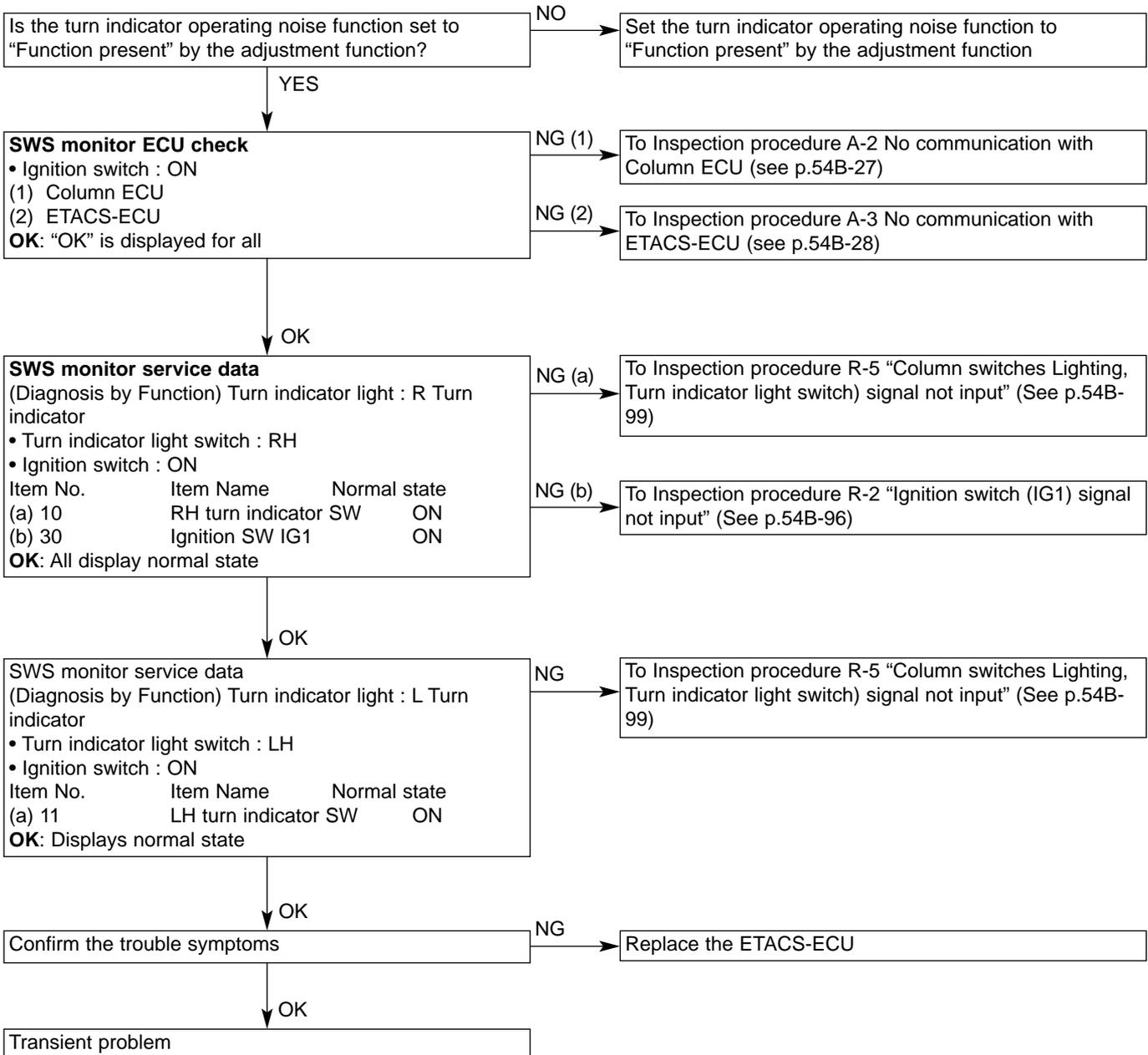
Inspection Procedure B-3

Door ajar warning function not working correctly	Probable Cause
This function is operated by determining the following input signals in the ETACS-ECU. • All door switch • Vehicle speed signal	• Fault in all door switch • Fault in ETACS-ECU • Fault in harness or connectors



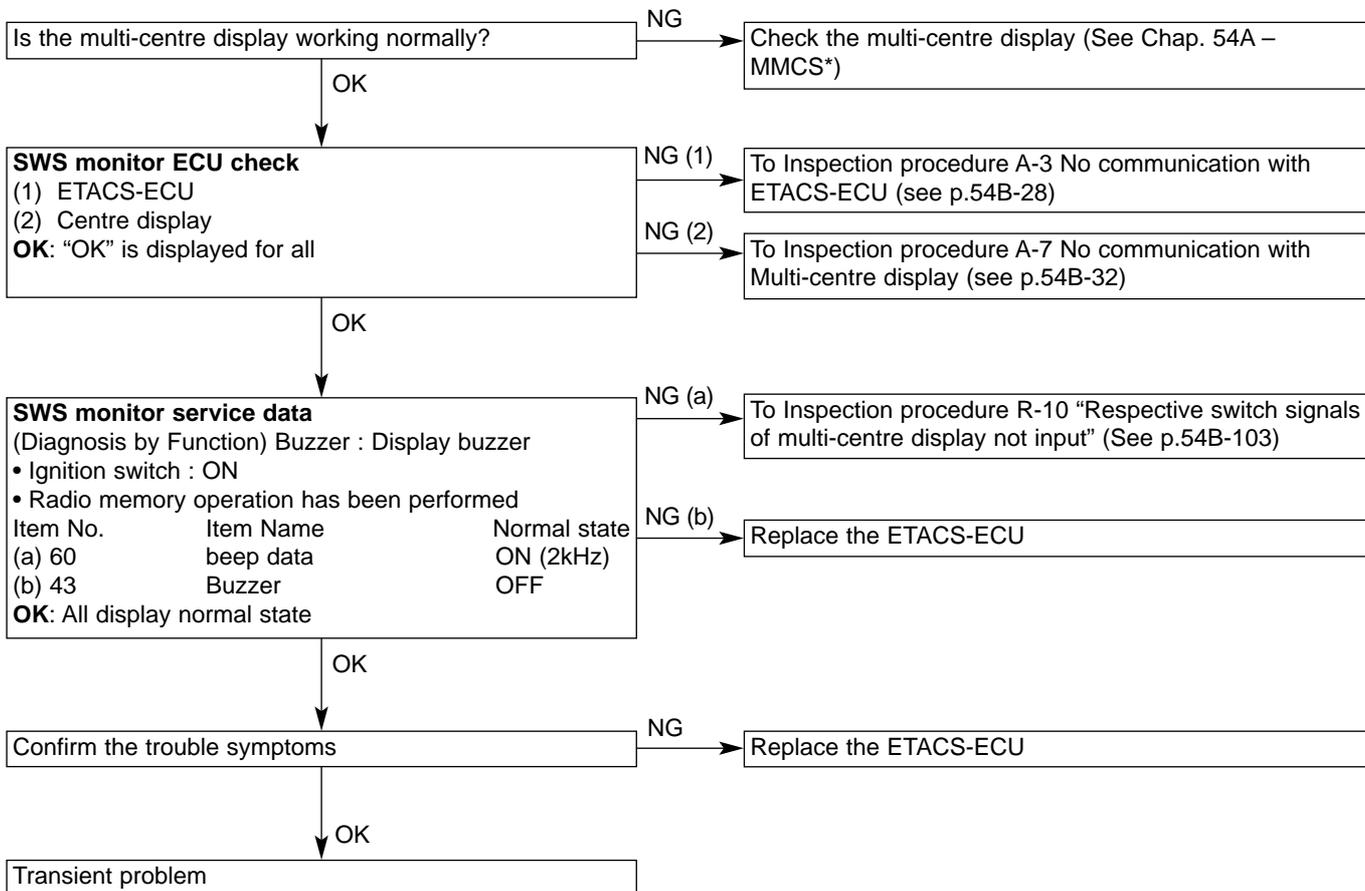
Inspection Procedure B-4

Turn indicator light operating noise not working correctly	Probable Cause
This function is operated by determining the following input signals in the ETACS-ECU. • Turn indicator light switch • Hazard light switch	• Fault in column switch • Fault in ETACS-ECU • Fault in harness or connectors



Inspection Procedure B-5

Multi-centre display operating noise function not working correctly	Probable Cause
A buzzer sounds when the ETACS-ECU receives a sound request signal from the multi-centre display. If this function does not work correctly, then this is probably due to an abnormality in the communications circuit, a fault in the multi-centre display, or a fault in the ETACS-ECU.	<ul style="list-style-type: none"> • Fault in multi-centre display • Fault in ETACS-ECU • Fault in harness or connectors

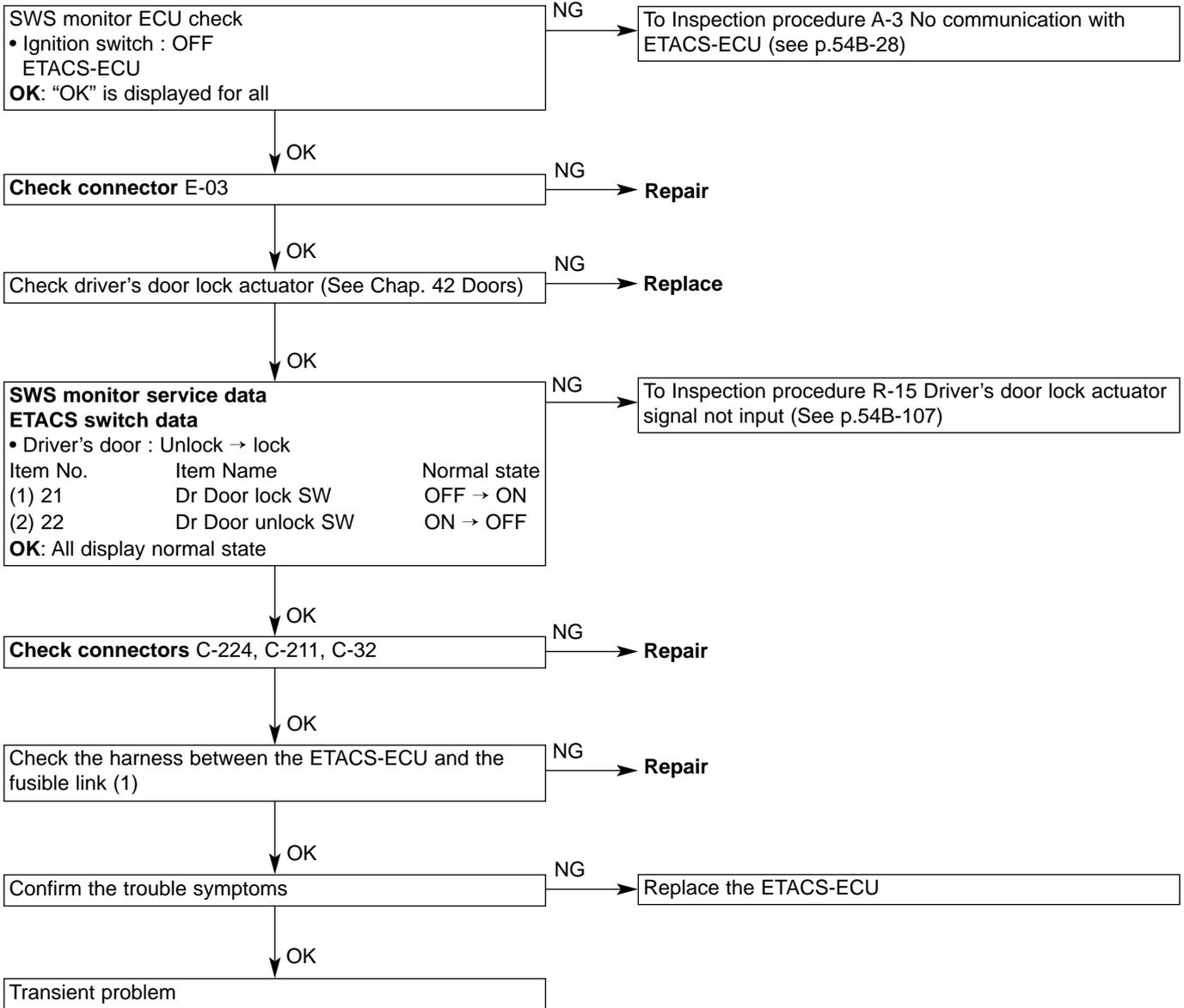


Note :

- (1) When performing the SWS monitor service data check, confirm at the same time that the 60 beep data state changes momentarily from "OFF" to the normal state when the image operating switch is activated.
- (2) *: See '00-5 Lancer Cedia Servicing Manual (No. 1036K00)

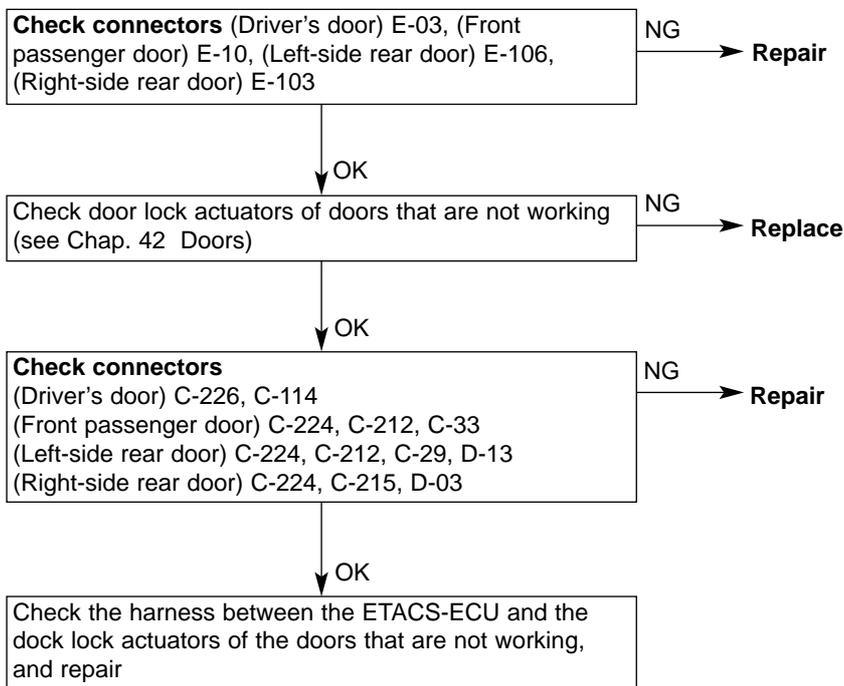
Inspection Procedure C-1

Central door locking not working at all	Probable Cause
<p>The ETACS-ECU locks or unlocks all the doors by activating all of the door lock actuators, when there is a change in the input signal from the driver's door lock actuator.</p> <p>If this function does not work properly, then there is probably a fault in the driver's door lock actuators or a fault in the ETACS-ECU.</p>	<ul style="list-style-type: none"> • Fault in driver's door lock actuator • Fault in ETACS-ECU • Fault in harness or connectors



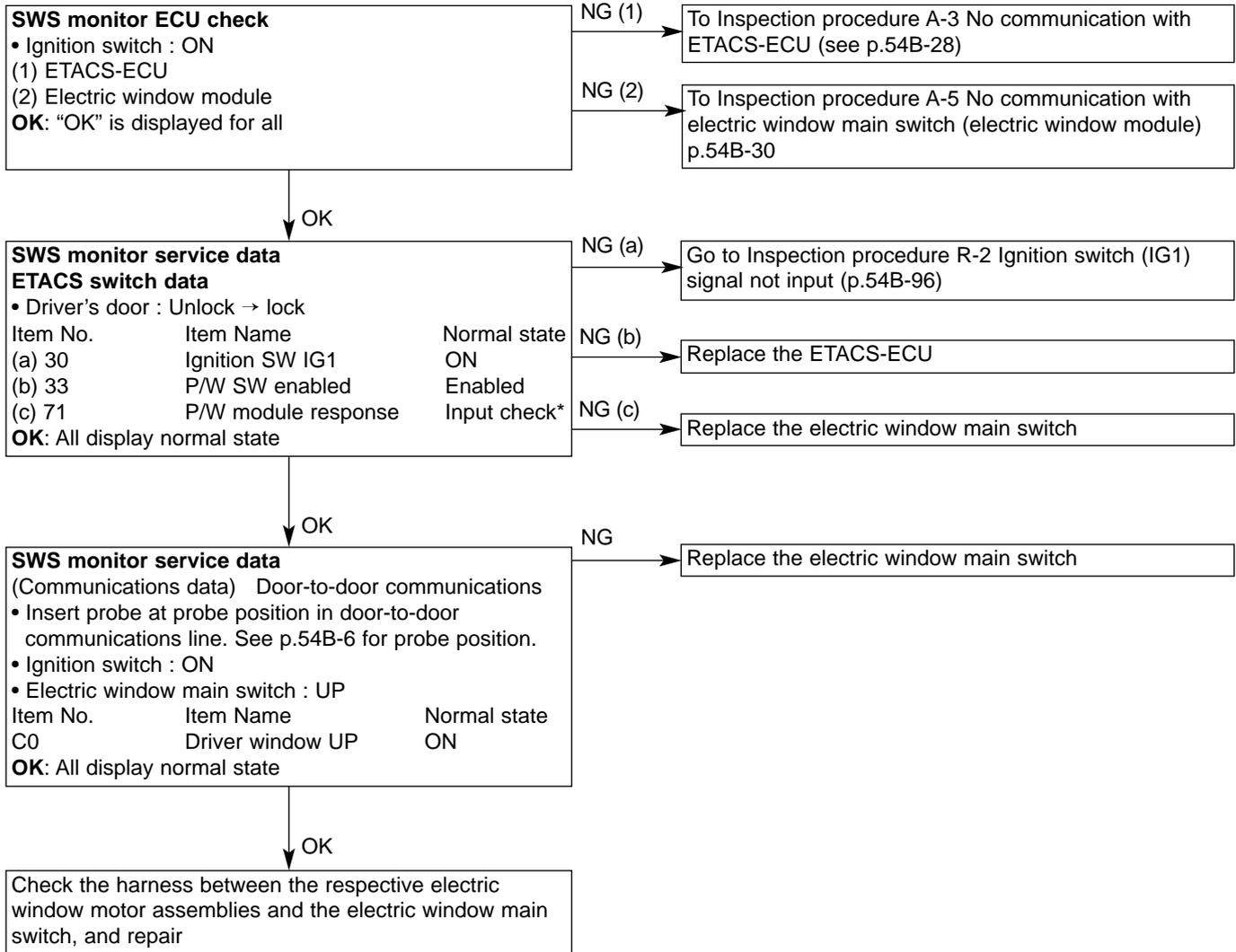
Inspection Procedure C-2

Some doors not operating, even when lock or unlock is performed	Probable Cause
There is probably a fault in the door lock actuator of the door(s) which are not working.	<ul style="list-style-type: none"> • Fault in door lock actuator • Fault in harness or connectors



Inspection Procedure D-1

None of electric windows working	Probable Cause
This is probably due to a fault in the electric window relay, a fault in the electric window main switch or a fault in the ETACS-ECU.	<ul style="list-style-type: none"> • Fault in electric window main switch • Fault in ETACS-ECU • Fault in harness or connectors

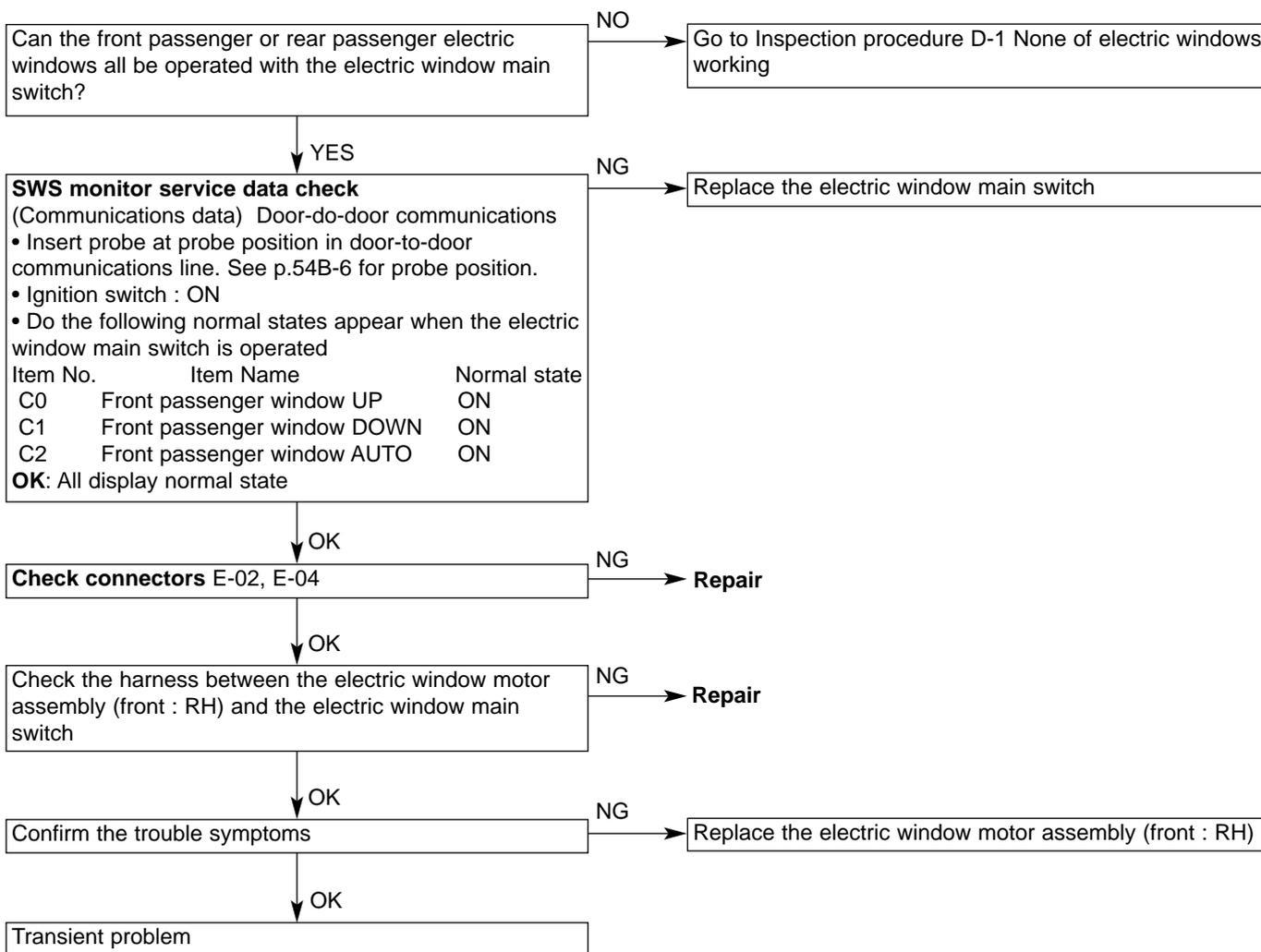


Note :

*: Also check that the "Normal response" changes momentarily to "Input check" when the electric window main switch is operated.

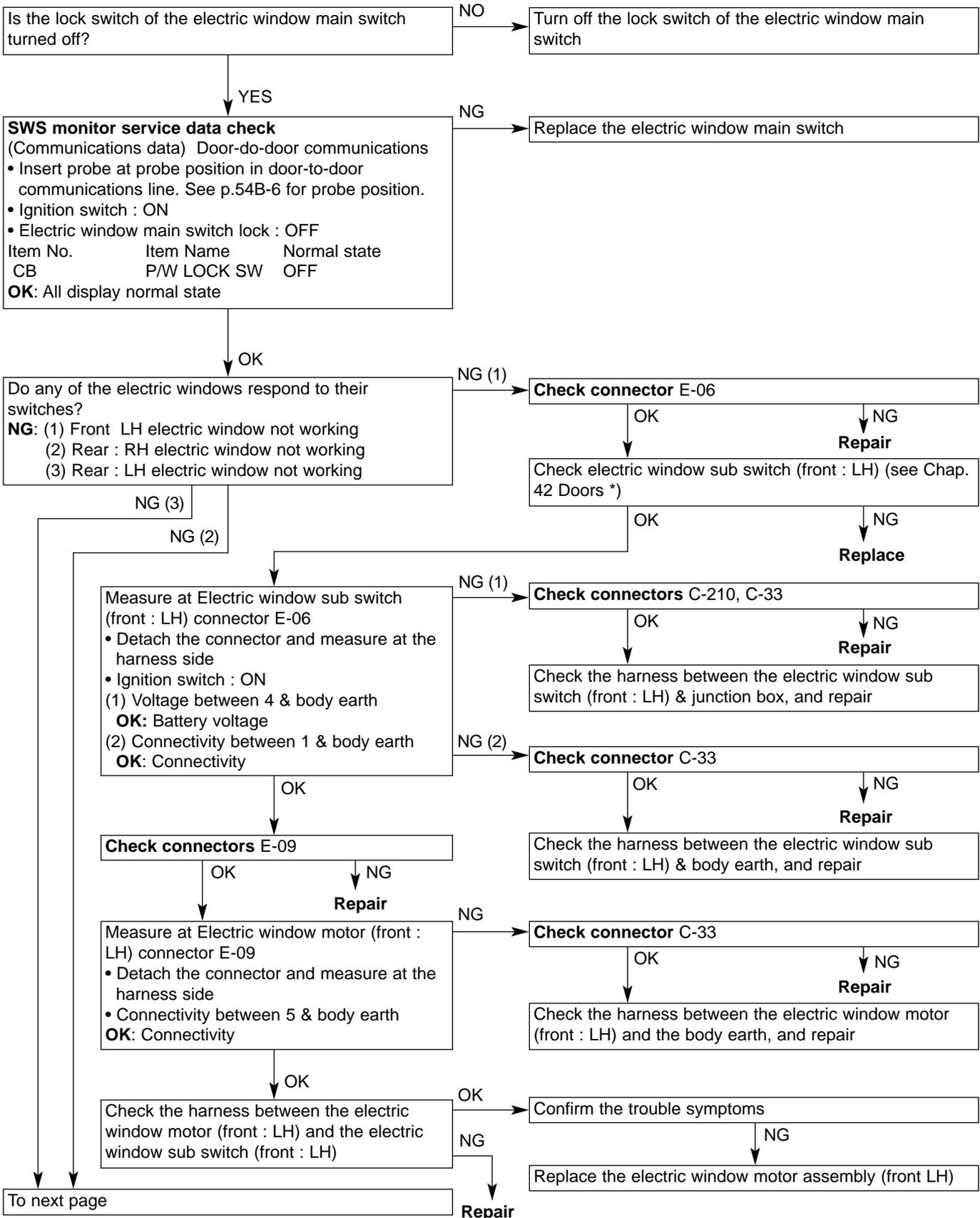
Inspection Procedure D-2

Driver's electric window not responding to electric window main switch	Probable Cause
There is probably a fault in the electric window main switch or the driver's electric window motor.	<ul style="list-style-type: none"> • Fault in electric window main switch • Fault in driver's electric window motor assembly • Fault in harness or connectors

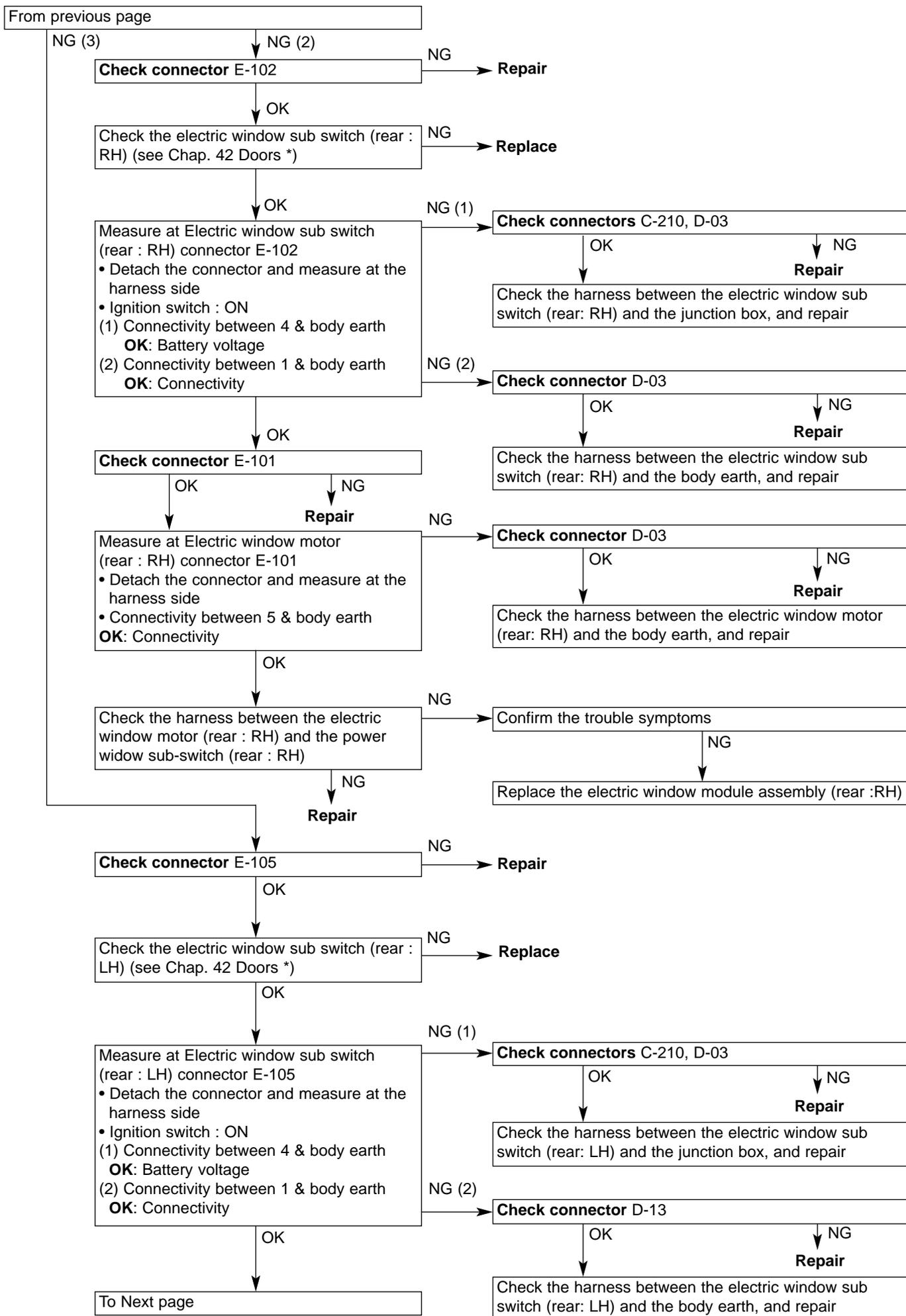


Inspection Procedure D-3

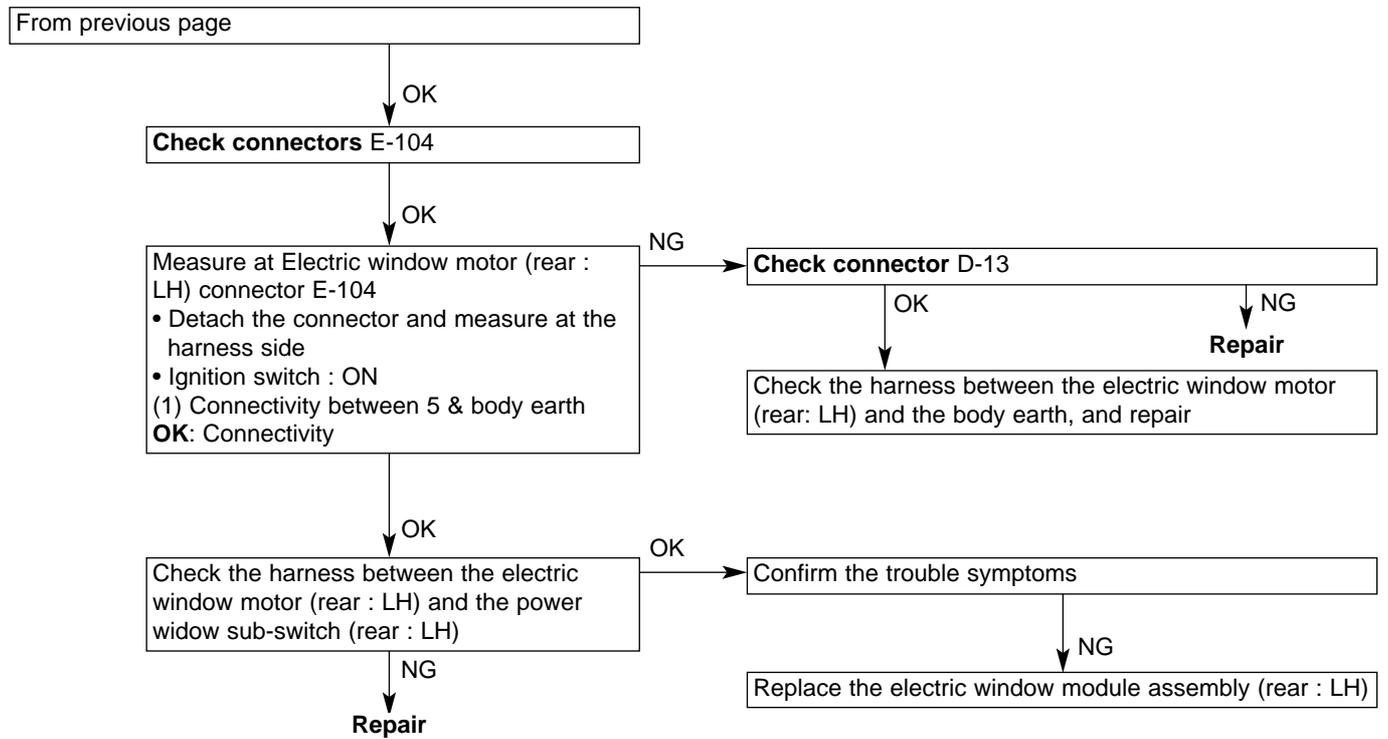
Front passenger's or rear passenger's electric windows not responding to their respective switches	Probable Cause
There is probably a fault in the electric window sub switch or the front or rear passenger electric window motor.	<ul style="list-style-type: none"> • Fault in electric window sub switch • Fault in front or rear passenger electric window motor assembly • Fault in harness or connectors



Note * : See '00-5 Lancer Cedia Servicing Manual (No. 1036K00)

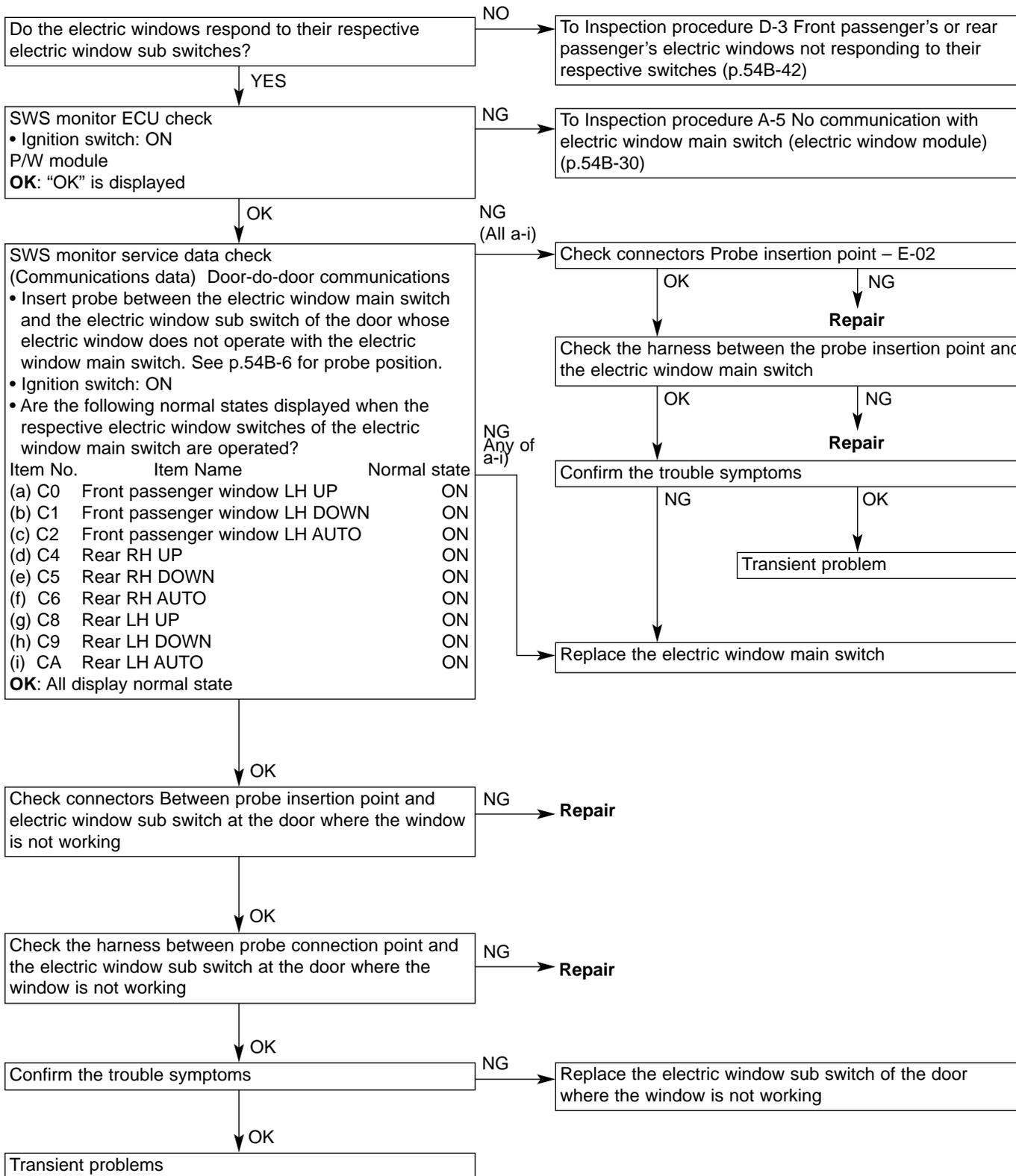


Note * : See '00-5 Lancer Cedia Servicing Manual (No. 1036K00)



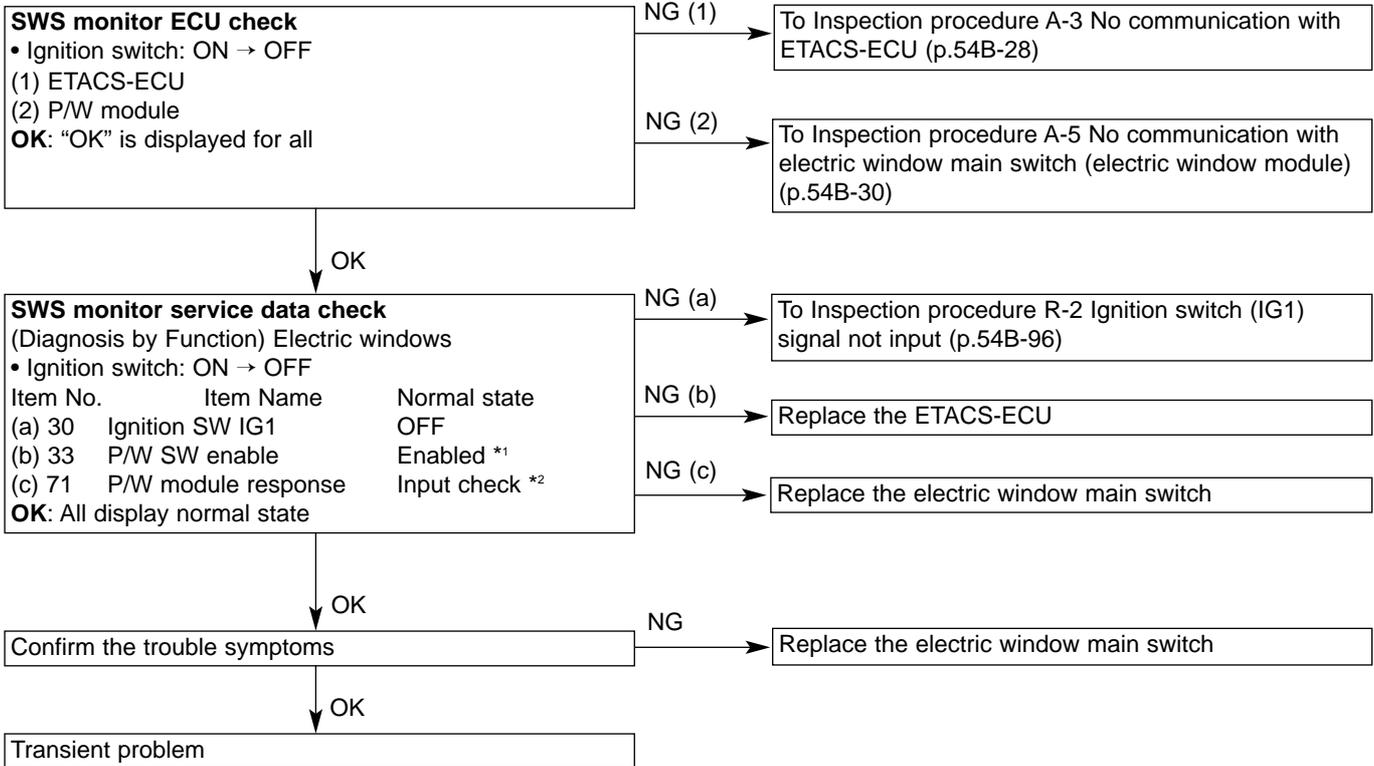
Inspection procedure D-4

Front and/or rear passenger electric window not responding to electric window main switch	Probable Cause
There is probably a fault in the electric window main switch or the front or rear passenger electric window sub switch	<ul style="list-style-type: none"> • Fault in electric window main switch • Fault in front or rear passenger electric window sub switch • Fault in harness or connectors



Inspection procedure D-5

Electric window timer function not working correctly	Probable Cause
This function is operated by determining the following input signals in the ETACS-ECU • Ignition switch (IG1) • Driver's door switch If the function is not working properly, then this is probably due to a problem in the input circuit for these signals, a fault in the electric window main switch, or a fault in the ETACS-ECU.	• Fault in driver's door switch • Fault in electric window main switch • Fault in ETACS-ECU • Fault in harness or connectors

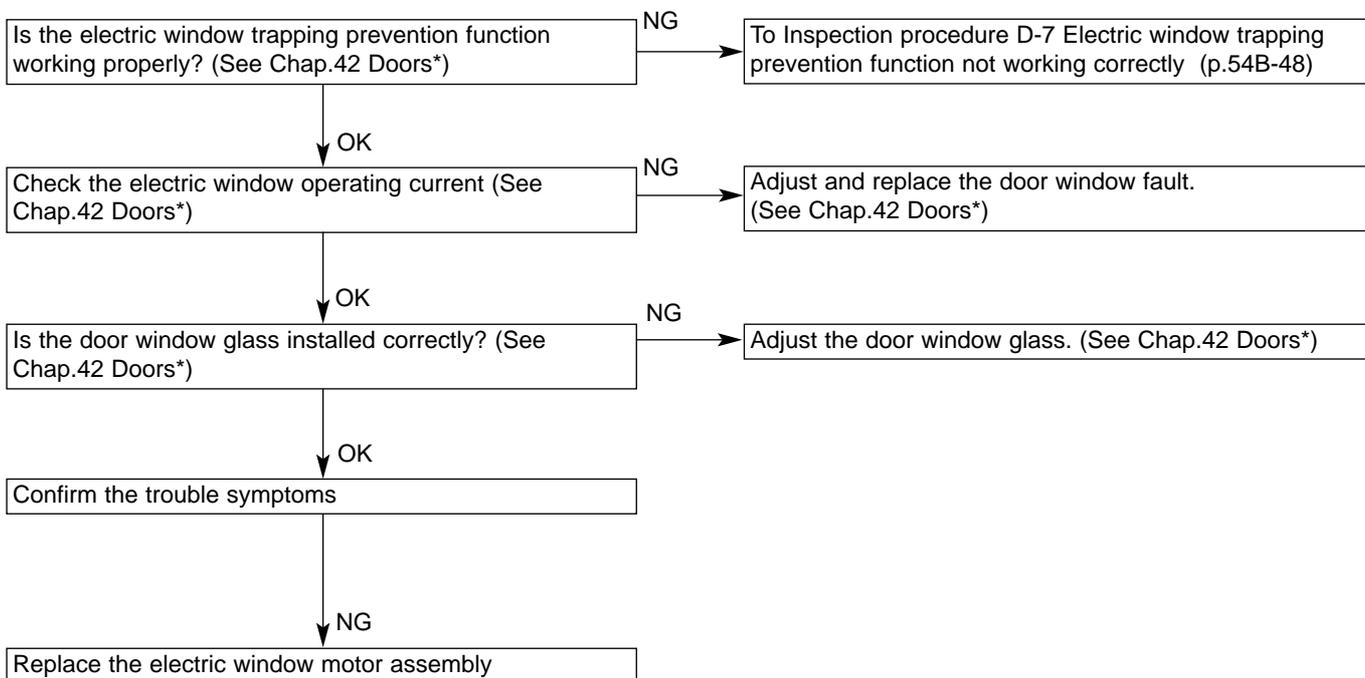


Note:

- (1) When performing the SWS monitor check, in analyzing the electric window main switch (electric window module), "OK" is displayed for about 1 min. and then the display changes to "NG". However, the ETACS-ECU only displays "OK".
- (2) *1: "Enabled" is shown for 30 seconds, and then the display changes to "Prohibited".
- *2 Check also that the response changes momentarily from "normal response" to "input check" when the electric window main switch is operated.
- (3) In both (1) and (2) above, the electric window timer period (approx. 30 seconds) can be extended by means of a delay operation.
(See '00-5 Lancer Cedia Servicing Manual (No. 1036K00))

Inspection procedure D-6

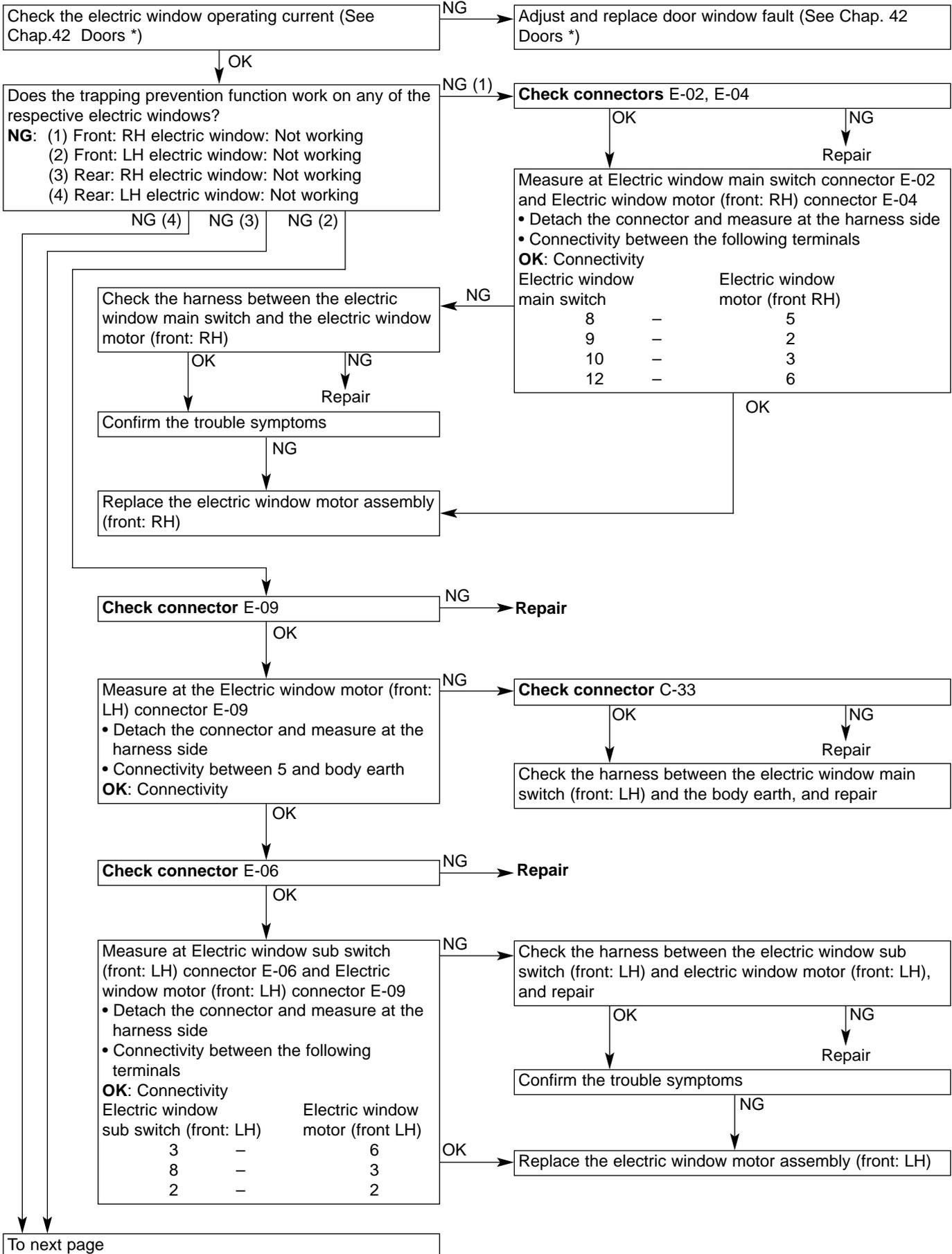
While the window is winding up, it automatically starts to come down again	Probable Cause
If there is a large resistance to the movement of the window glass when the electric window is being raised, then it is judged that the window is trapping an object and it is lowered by approx. 150 mm.	<ul style="list-style-type: none"> • Error in adjustment of window glass • Fault or deformation in glass sliding mechanism • Fault in electric window motor assembly • Fault in window regulator assembly

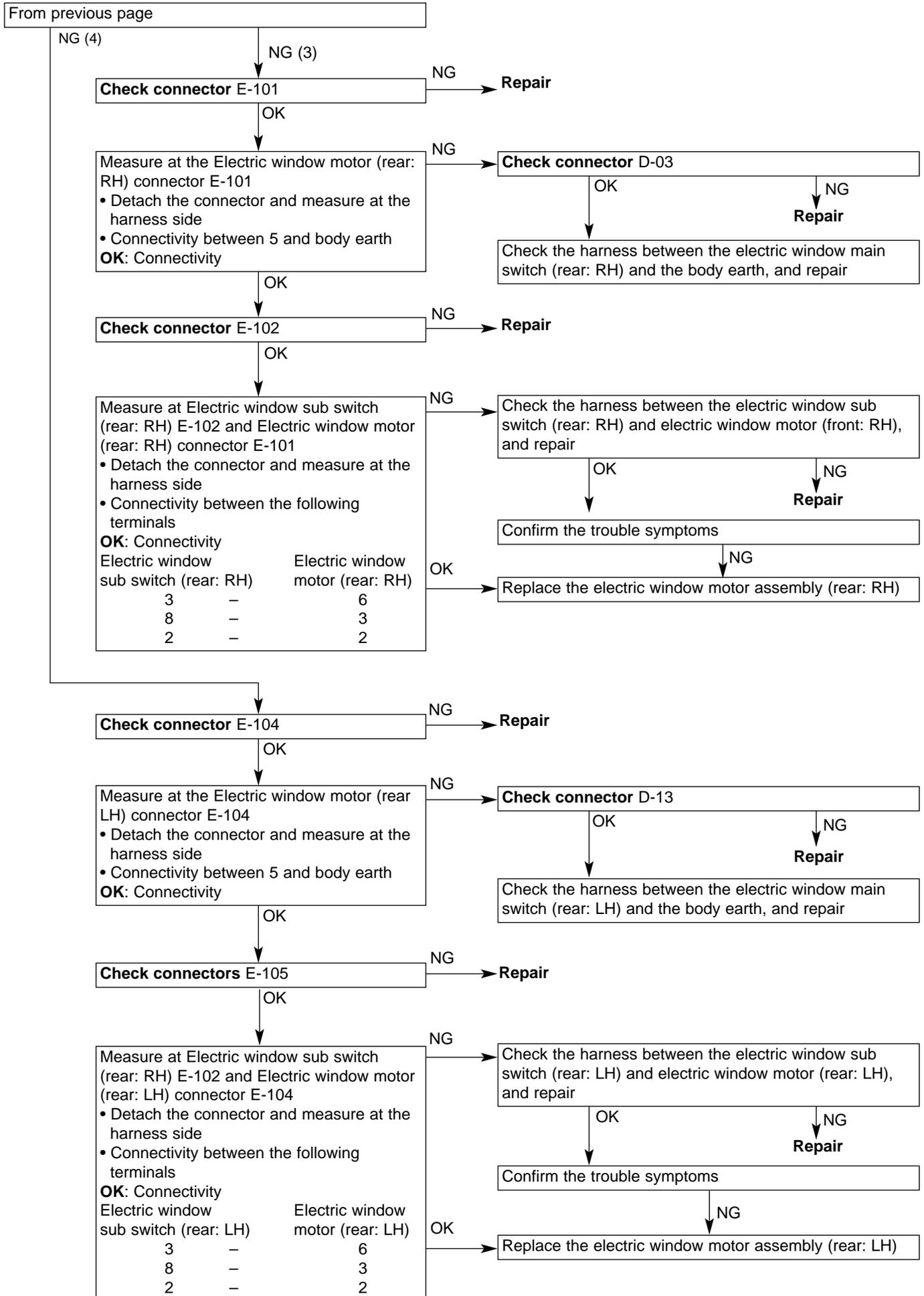


Note:
See '00-5 Lancer Cedia Servicing Manual (No. 1036K00)

Inspection procedure D-7

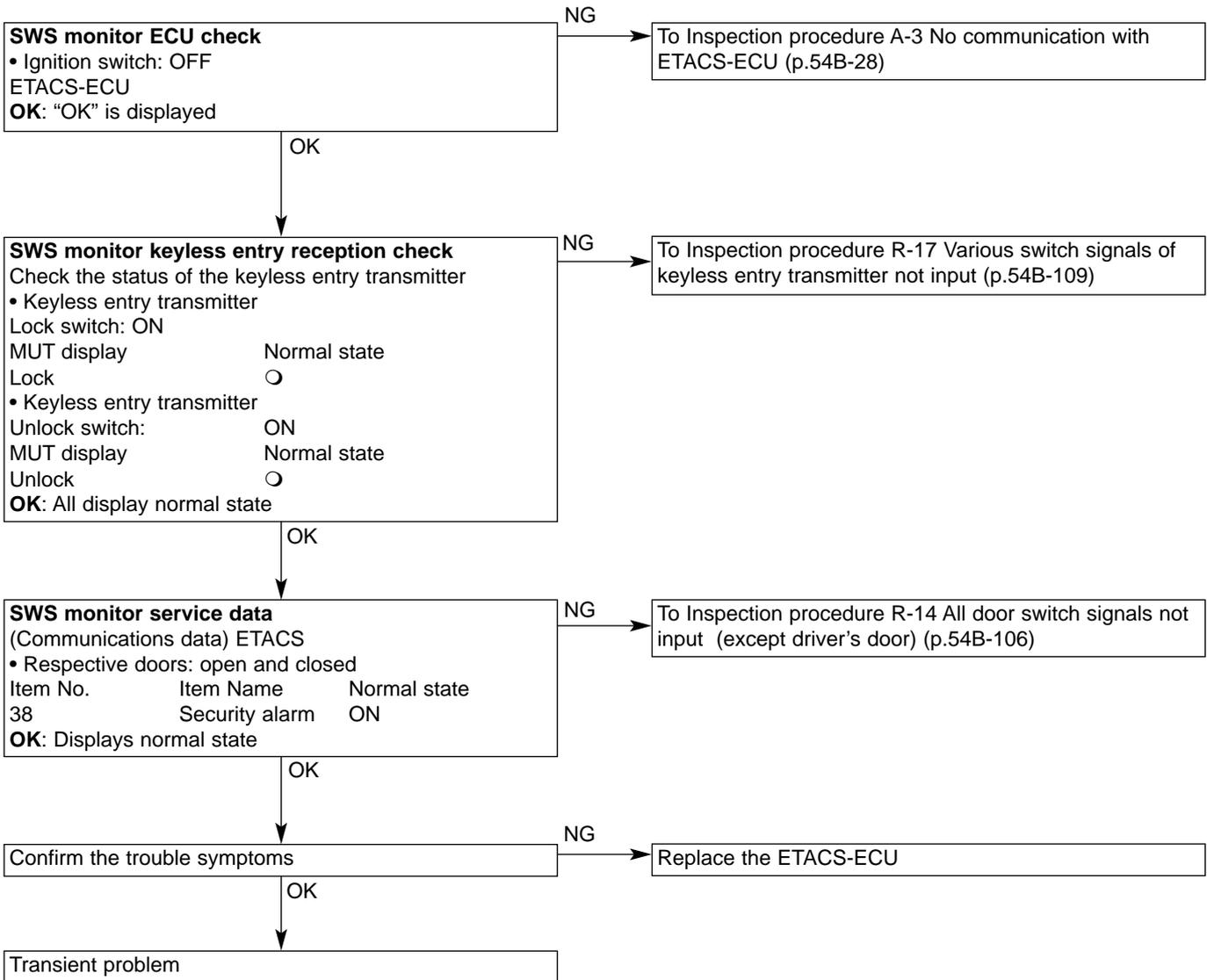
Electric window trapping prevention function not working correctly	Probable Cause
There is probably a fault in the rotation detector sensor in the electric window motor	• Fault in electric window motor assembly





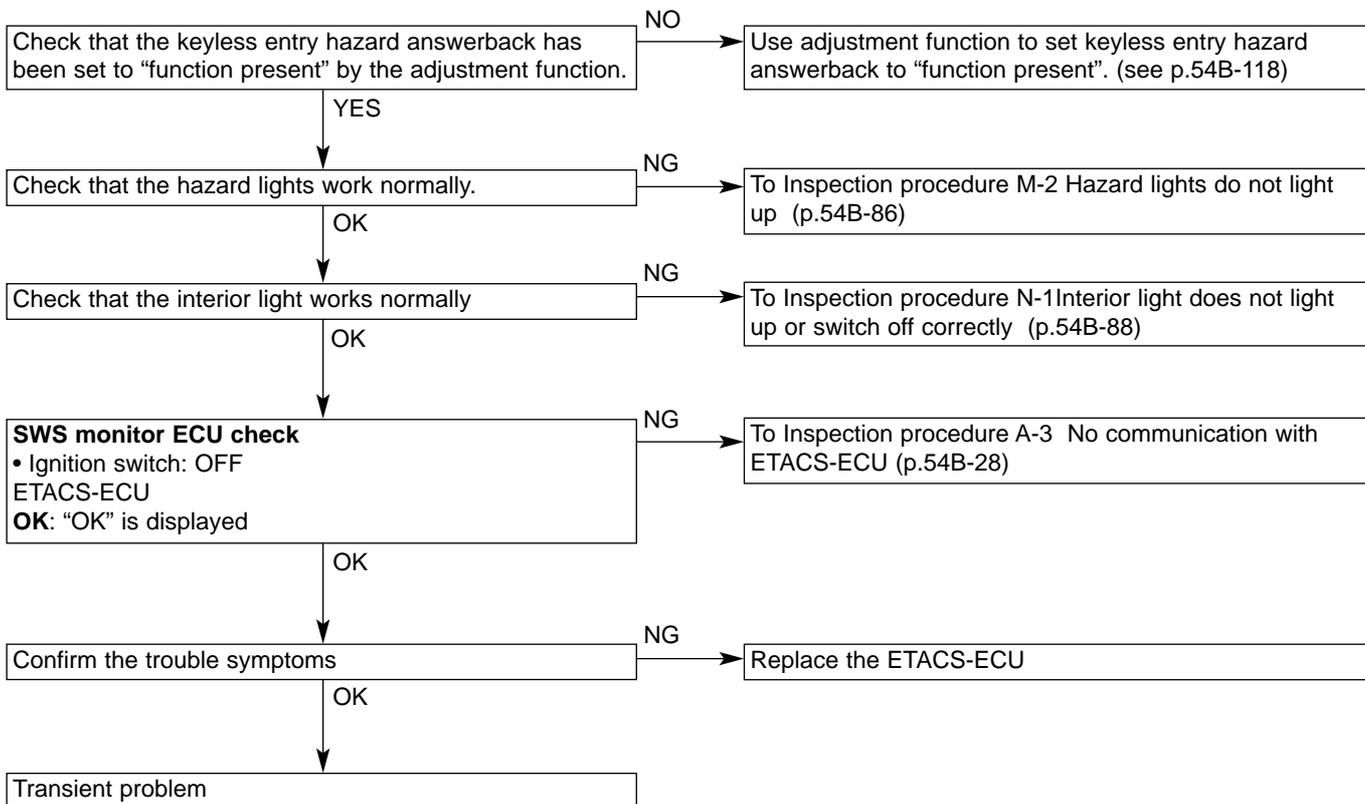
Inspection procedure E-1

Keyless entry system not working at all	Probable Cause
<p>This function is operated by determining the following input signals in the ETACS-ECU.</p> <ul style="list-style-type: none"> • Key reminder switch • All door switch • Keyless entry transmitter • Driver's door lock actuator <p>If the function is not working properly, then there is probably a problem in the input circuit system for these signals, or a fault in the ETACS-ECU.</p>	<ul style="list-style-type: none"> • Fault in key reminder switch • Fault in door switch • Fault in keyless entry transmitter • Fault in ETACS-ECU



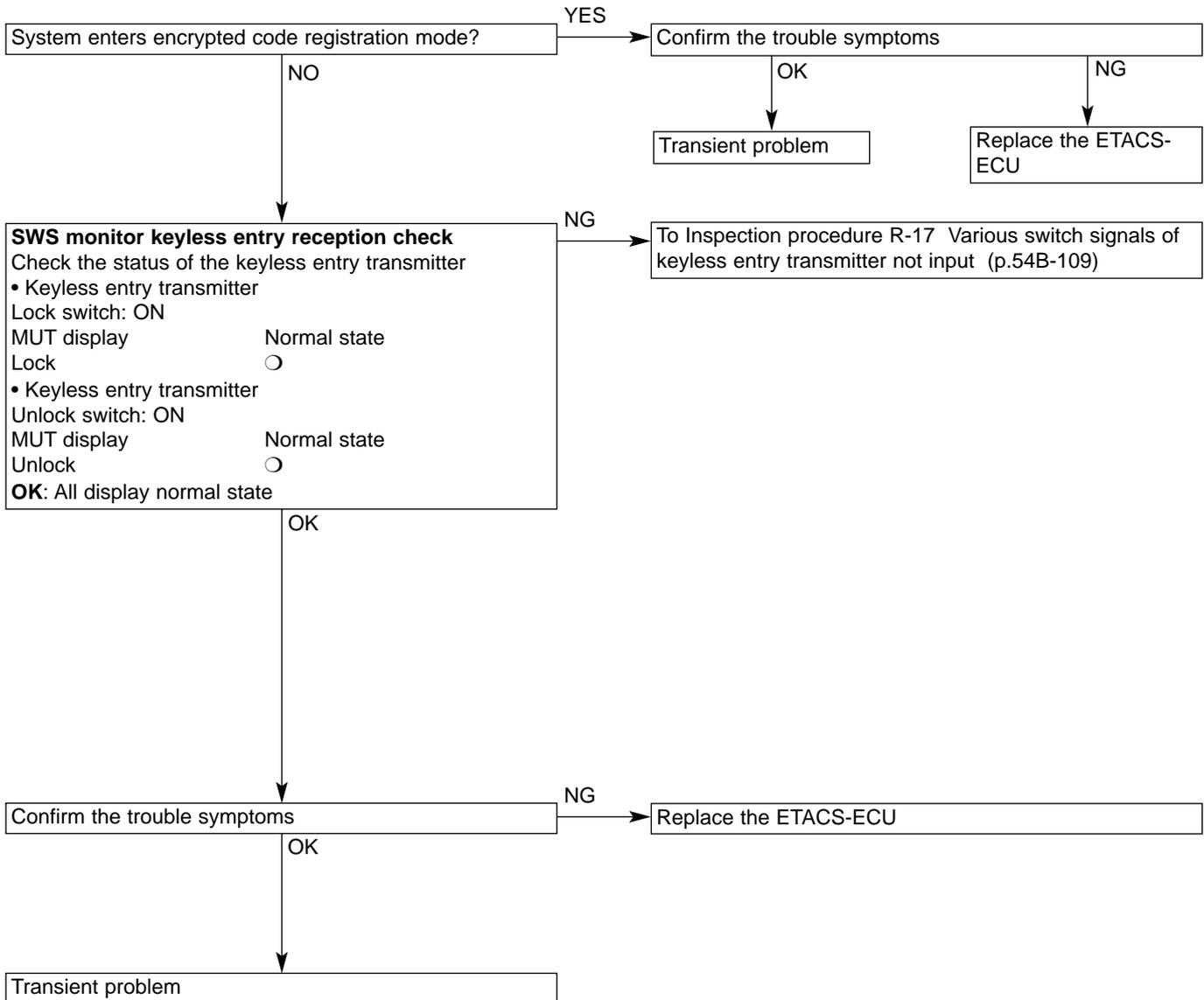
Inspection procedure E-2

Keyless entry hazard answerback function or interior light answerback function not working correctly	Probable Cause
If the hazard lights and interior light are working normally, then there is probably a fault in the ETACS-ECU. It is also possible that the function is switched off by the adjustment function.	<ul style="list-style-type: none"> • Fault in turn indicator lights • Fault in interior light • Fault in ETACS-ECU • Fault in harness or connectors



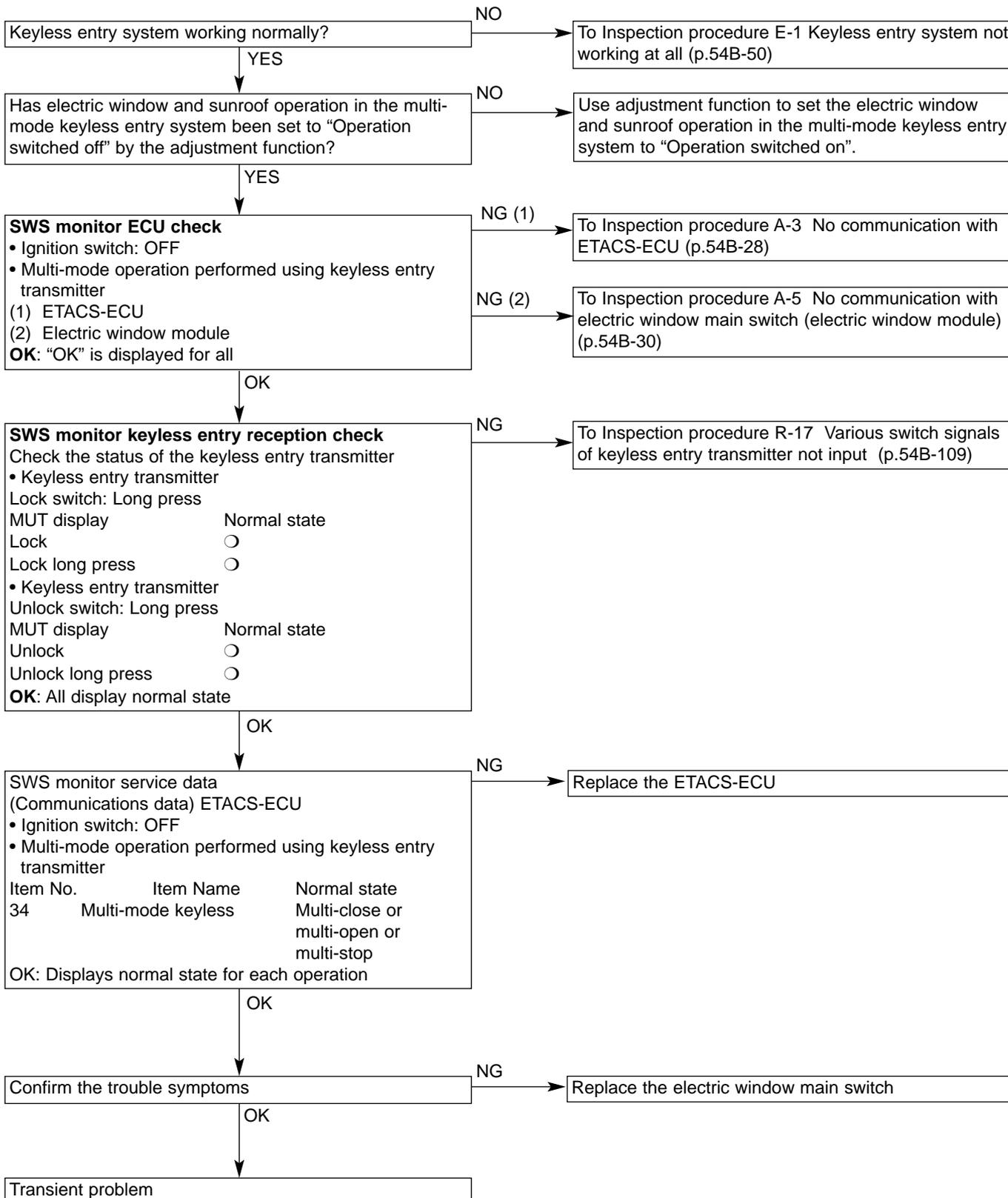
Inspection procedure E-3

Encrypted code cannot be registered	Probable Cause
<p>If the system cannot be set to encrypted code registration mode, then there is probably a problem in the input circuit system or a fault in the ETACS-ECU.</p> <p>If the encrypted code registration mode can be entered, but codes still cannot be registered, then there is probably a fault in the keyless entry transmitter or a fault in the ETACS-ECU.</p>	<ul style="list-style-type: none"> • Fault in keyless entry transmitter • Fault in ETACS-ECU • Fault in harness or connectors



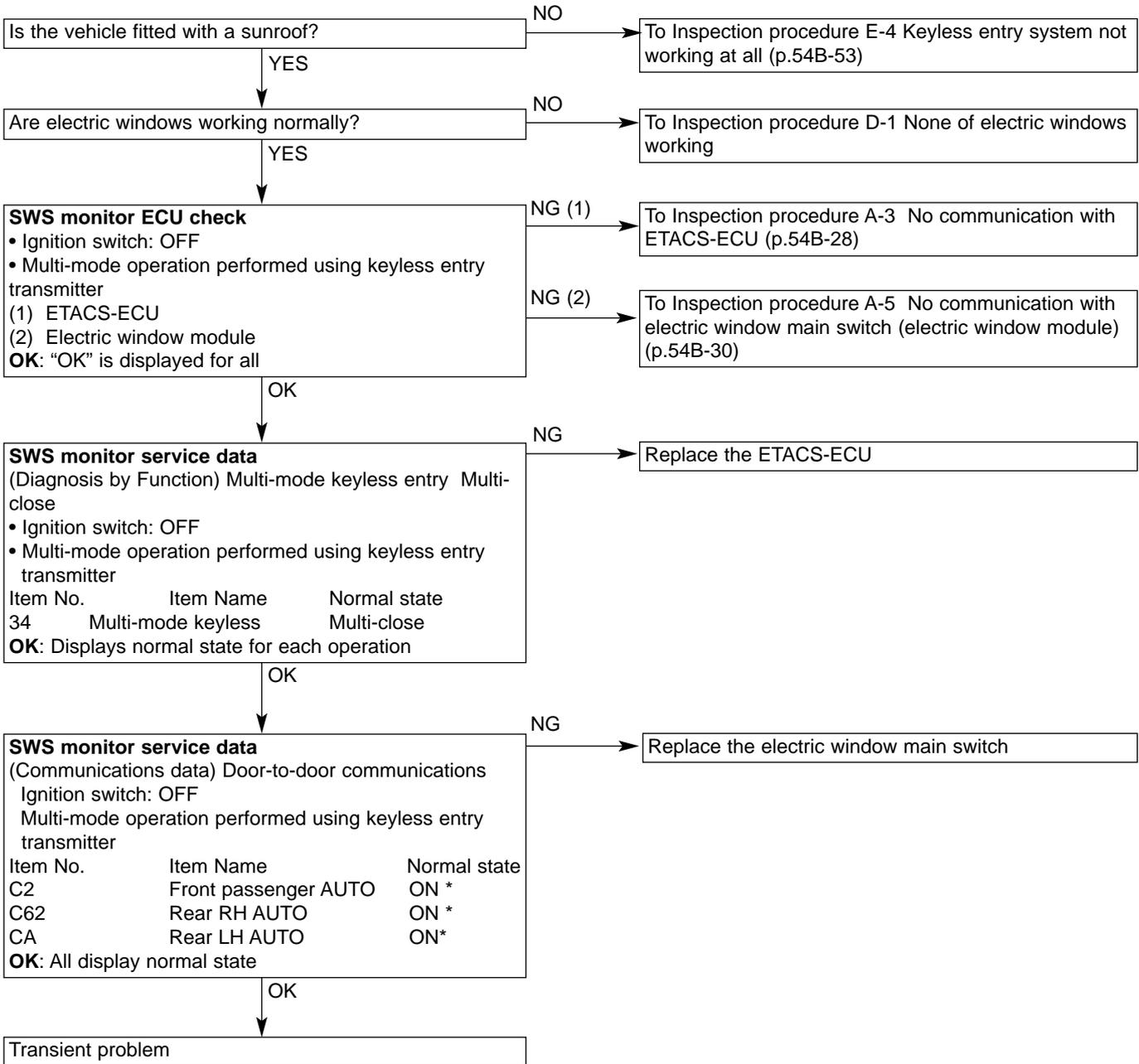
Inspection procedure E-4

Multi-mode keyless entry function not working at all	Probable Cause
<p>If the electric windows, sunroof, and motorized door mirrors are all working normally, then there is probably a fault in the ETACS-ECU. It is also possible that the electric window and sunroof operation has been set to "Operation switched off" by the adjustment function.</p>	<ul style="list-style-type: none"> • Fault in ETACS-ECU • Fault in keyless entry transmitter • Fault in electric window main switch



Inspection procedure E-5

Electric windows not working correctly with multi-mode keyless entry function	Probable Cause
If the electric windows are working correctly in normal operation, then there is probably a fault in the ETACS-ECU.	<ul style="list-style-type: none"> • Fault in ETACS-ECU • Fault in electric window main switch

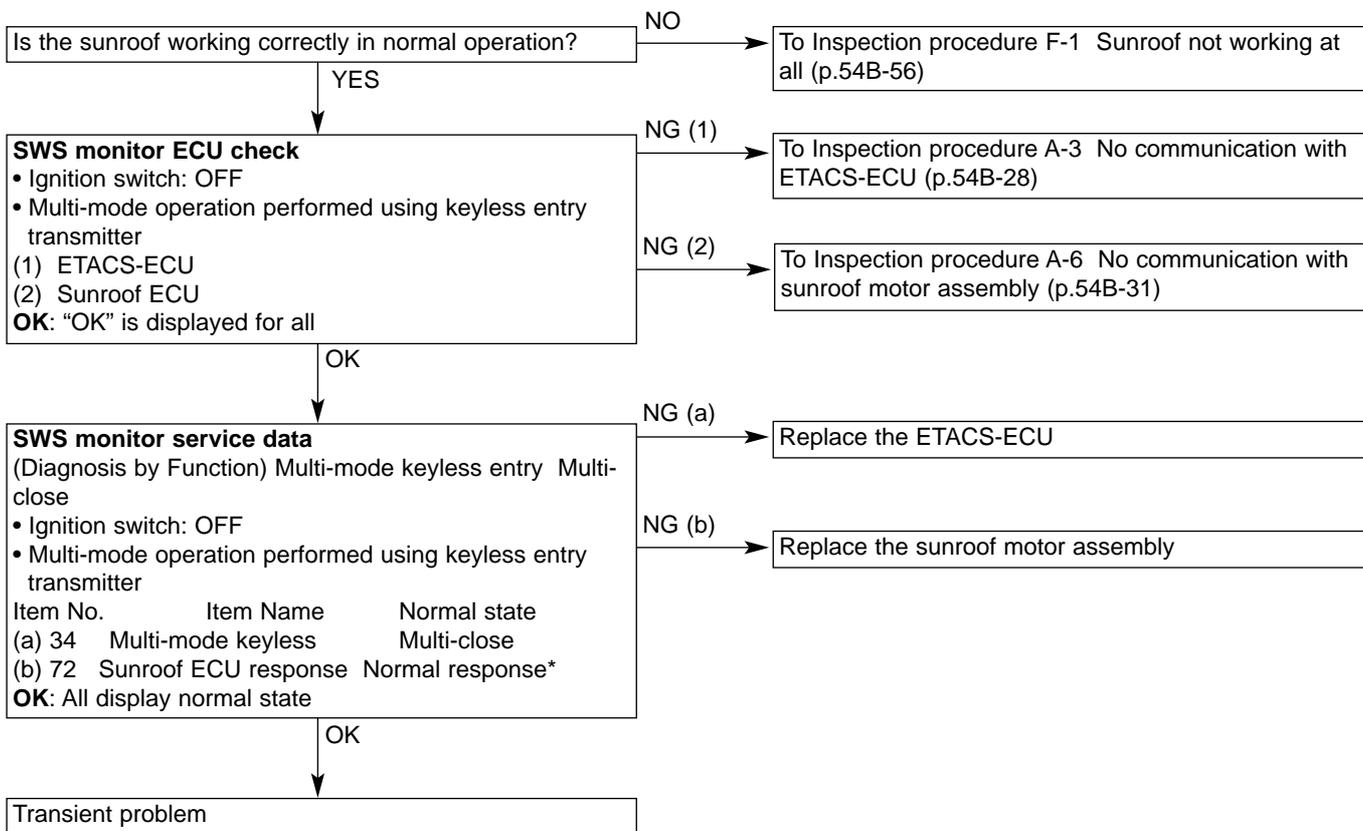


Note:

- When performing the SWS monitor ECU check, after operating the transmitter, the analysis for the electric window main switch (electric window module) will display “,” for approximately 1 minute, and then change to “¥”. However, the ETACS-ECU will only display “.”.
- *: When a close operation is performed using the multi-mode keyless entry function, the display will change from “OFF” to the normal state.

Inspection procedure E-6

Sunroof close operation not working correctly with multi-mode keyless entry function	Probable Cause
If the sunroof is working correctly in normal operation, then there is probably a fault in the ETACS-ECU.	<ul style="list-style-type: none"> • Fault in ETACS-ECU • Fault in sunroof motor assembly

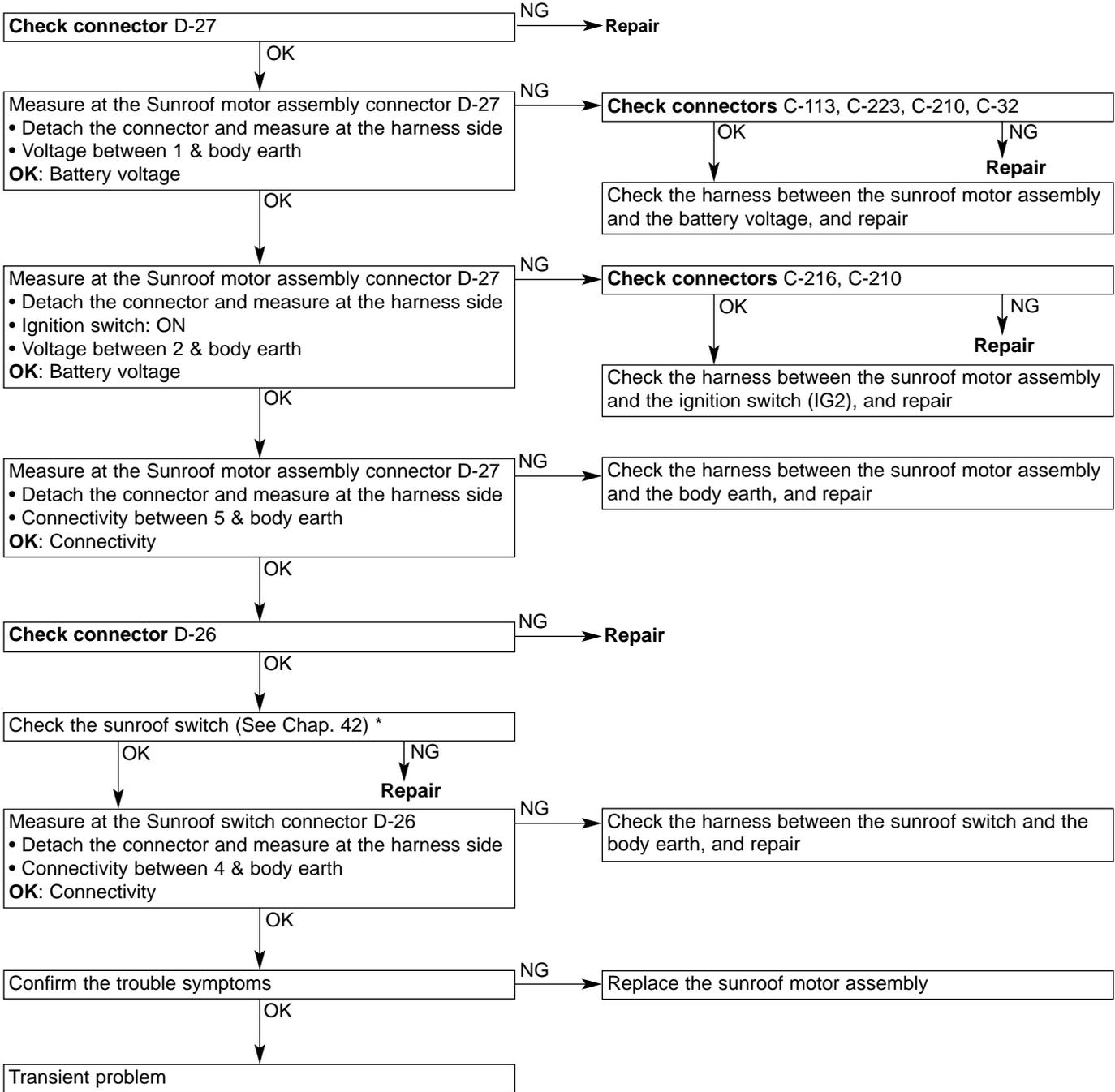


Note:

*: About 30 seconds after the end of the multi-mode operation, the display will change from “normal response” to “sleep response”.

Inspection Procedure F-1

Sunroof not working at all	Probable Cause
There is probably a fault in the sunroof switch, a problem in the sunroof motor assembly power circuit, or a fault in the sunroof motor assembly.	<ul style="list-style-type: none"> • Fault in sunroof switch • Fault in sunroof motor assembly • Fault in harness or connectors

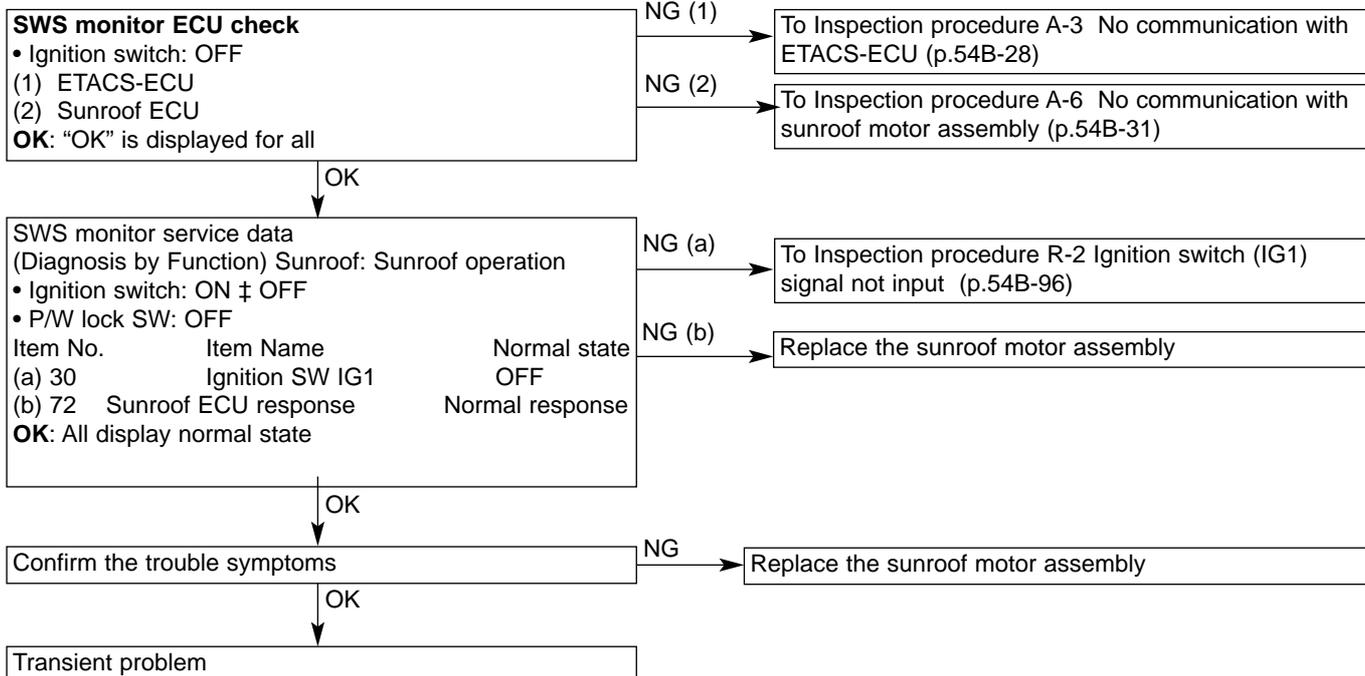


Note:

*: See '00-5 Lancer Cedia Servicing Manual (No. 1036K00)

Inspection procedure F-2

Sunroof timer function not working	Probable Cause
This function is operated by determining the ignition switch (IG1) signal from the ignition switch (IG2) circuit of the sunroof motor assembly and the ETACS-ECU.	<ul style="list-style-type: none"> • Fault in sunroof motor assembly • Fault in ETACS-ECU • Fault in harness or connectors

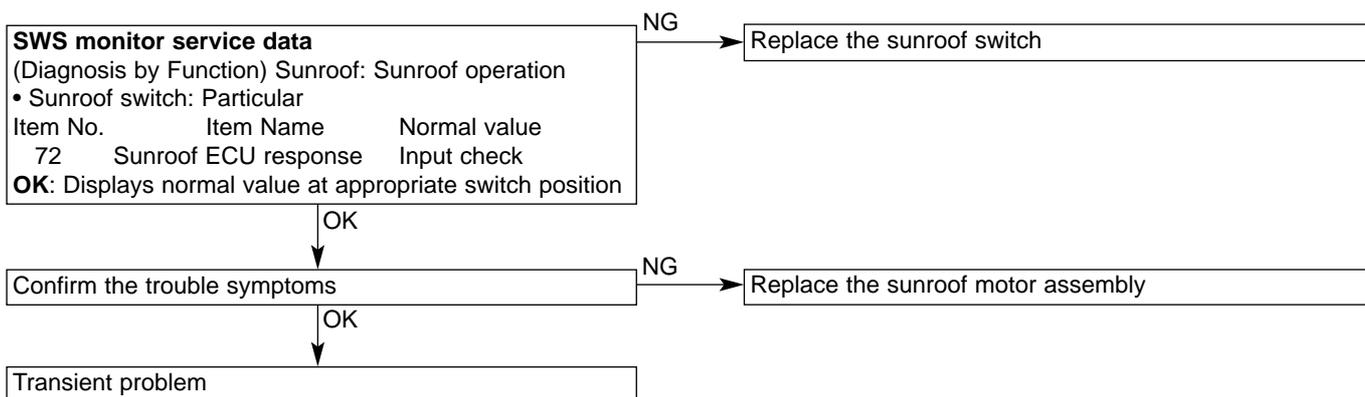


Note

When performing the SWS monitor service data check, the normal analysis value for Item No.72 Sunroof ECU response will show "Normal response" for about 30 seconds, before changing to "Sleep response". The sunroof timer period can be extended by means of a delay operation. (See '00-5 Lancer Cedia Servicing Manual (No. 1036K00))

Inspection procedure F-3

Particular sunroof functions not working	Probable Cause
If particular sunroof functions cannot be operated, then there is probably a fault in the sunroof motor assembly, or the sunroof switch.	<ul style="list-style-type: none"> • Fault in sunroof motor assembly • Fault in sunroof switch



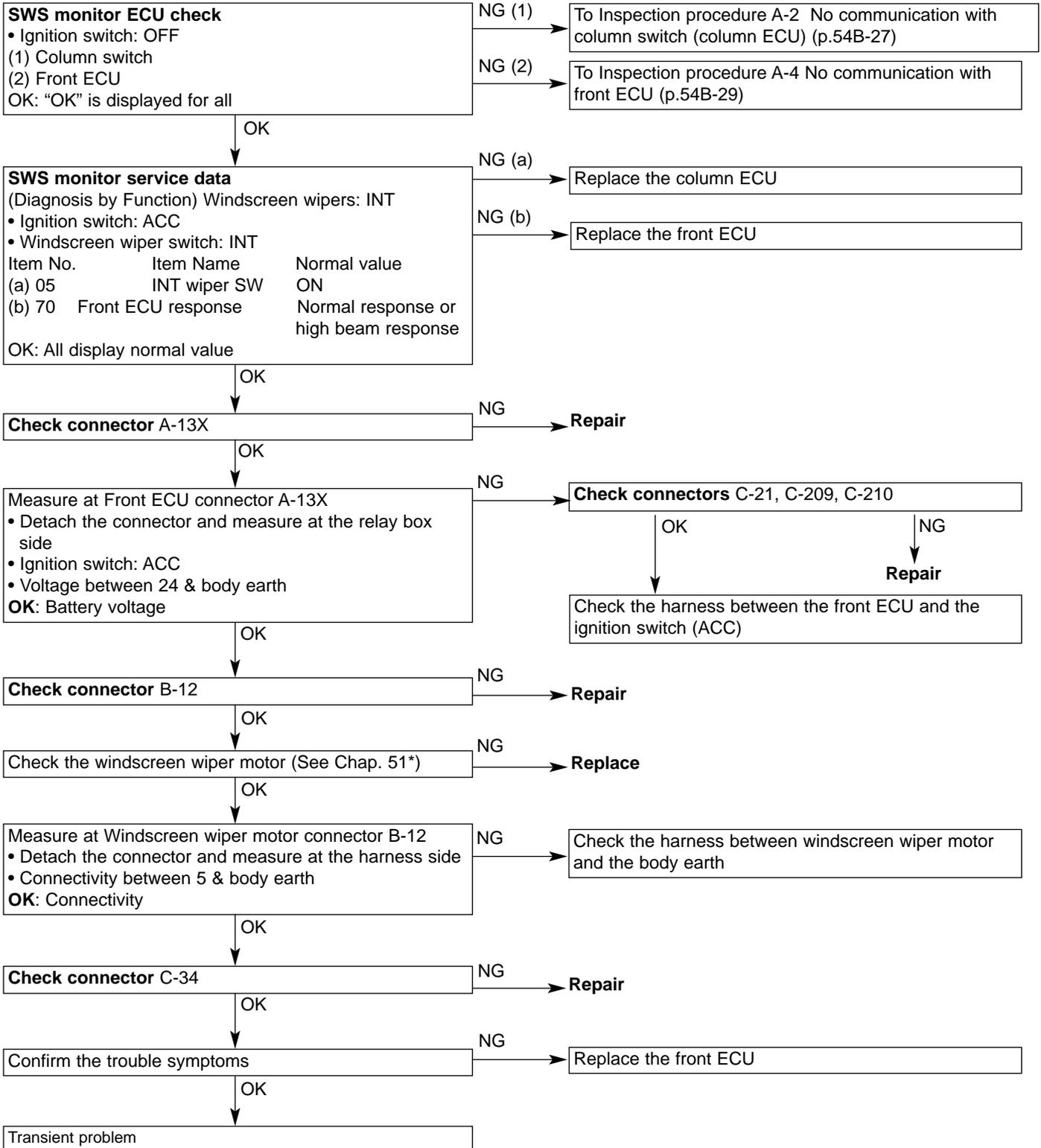
Inspection procedure F-4

Sunroof trap prevention function not working correctly	Probable Cause
There is probably a fault in the rotation detector sensor of the sunroof motor assembly.	<ul style="list-style-type: none"> • Fault in sunroof motor assembly

Replace the sunroof motor assembly

Inspection procedure G-1

Windscreen wipers not working at all	Probable Cause
There is probably a fault in the windscreen wipers, a fault in the column ECU or a fault in the front ECU. If the SWS monitor ECU check returns an NG result, then the wiper backup circuit should also be checked, and repaired, if necessary.	<ul style="list-style-type: none"> • Fault in column switch • Fault in front ECU • Fault in harness or connectors

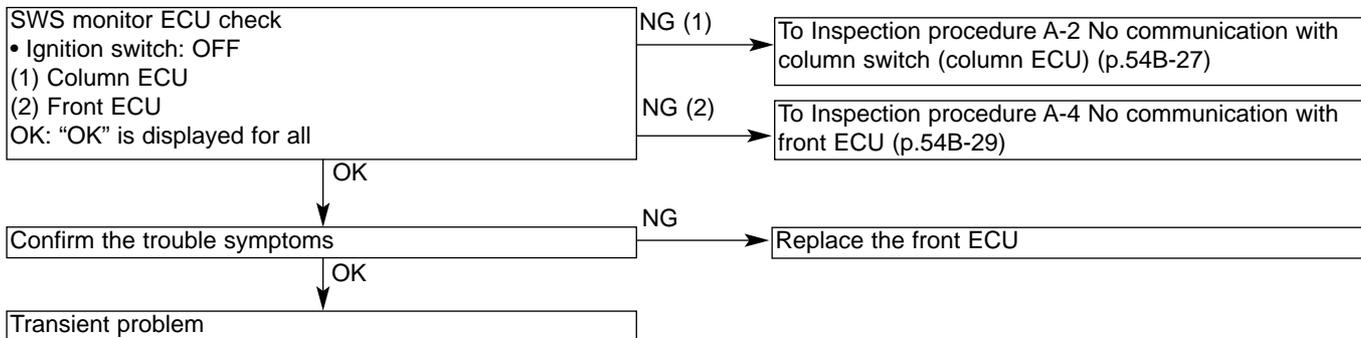


Note:

*: See '00-5 Lancer Cedia Servicing Manual (No. 1036K00)

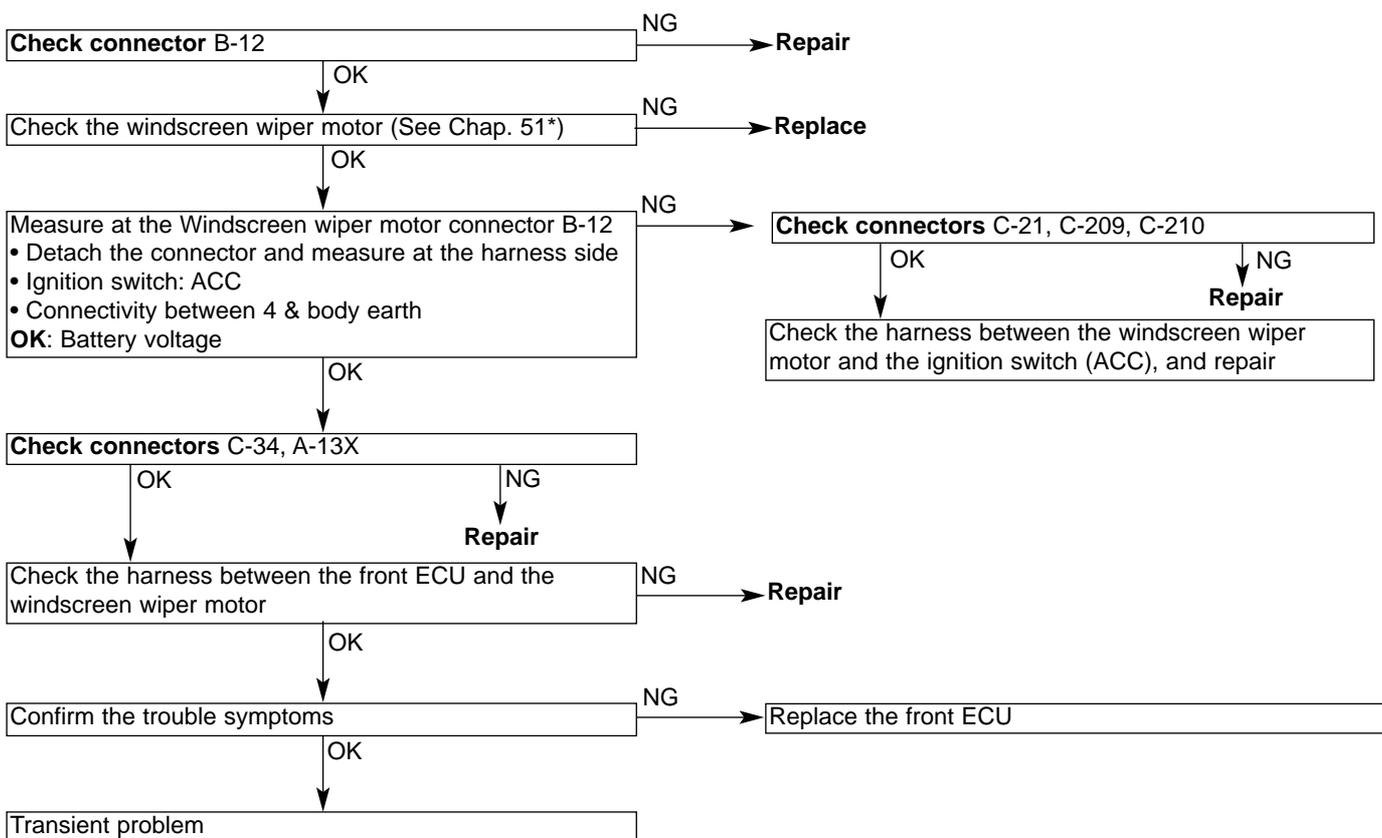
Inspection procedure G-2

Windscreen wipers do not work at INT, washer or mist positions, and operate at low speed in both Lo & Hi positions.	Probable Cause
The failsafe has probably engaged, due to a fault in the SWS communications line. If the ignition switch ACC signal is not input, due to a disconnection, etc., then a failsafe status is assumed at the ignition switch ACC position.	<ul style="list-style-type: none"> • Fault in column switch • Fault in front ECU • Fault in ETACS-ECU • Fault in harness or connectors



Inspection procedure G-3

Windscreen wipers do not stop in correct position	Probable Cause
There is probably a fault in the windscreen wiper motor or a fault in the front ECU	<ul style="list-style-type: none"> • Fault in windscreen wiper motor • Fault in front ECU • Fault in harness or connectors

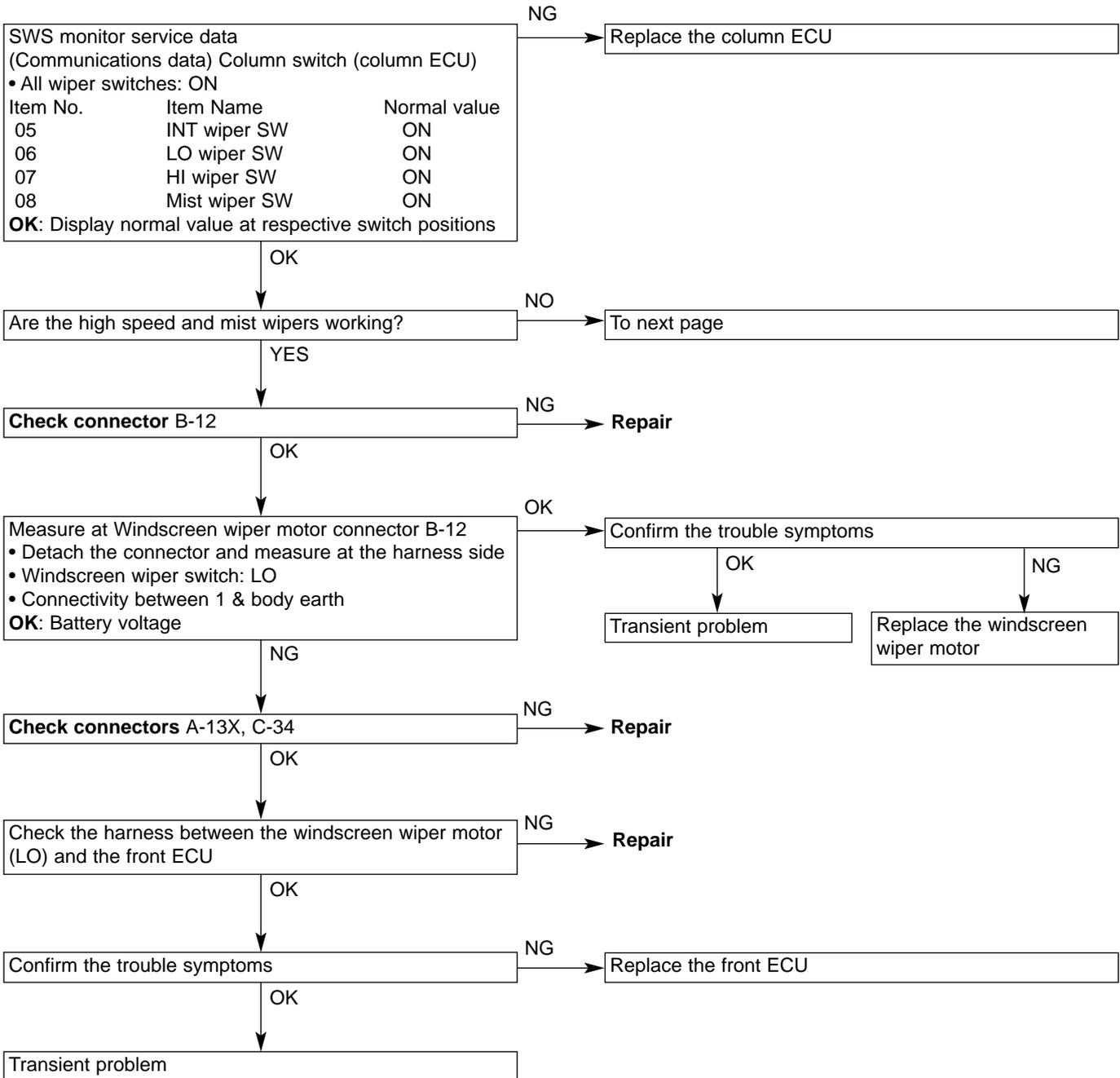


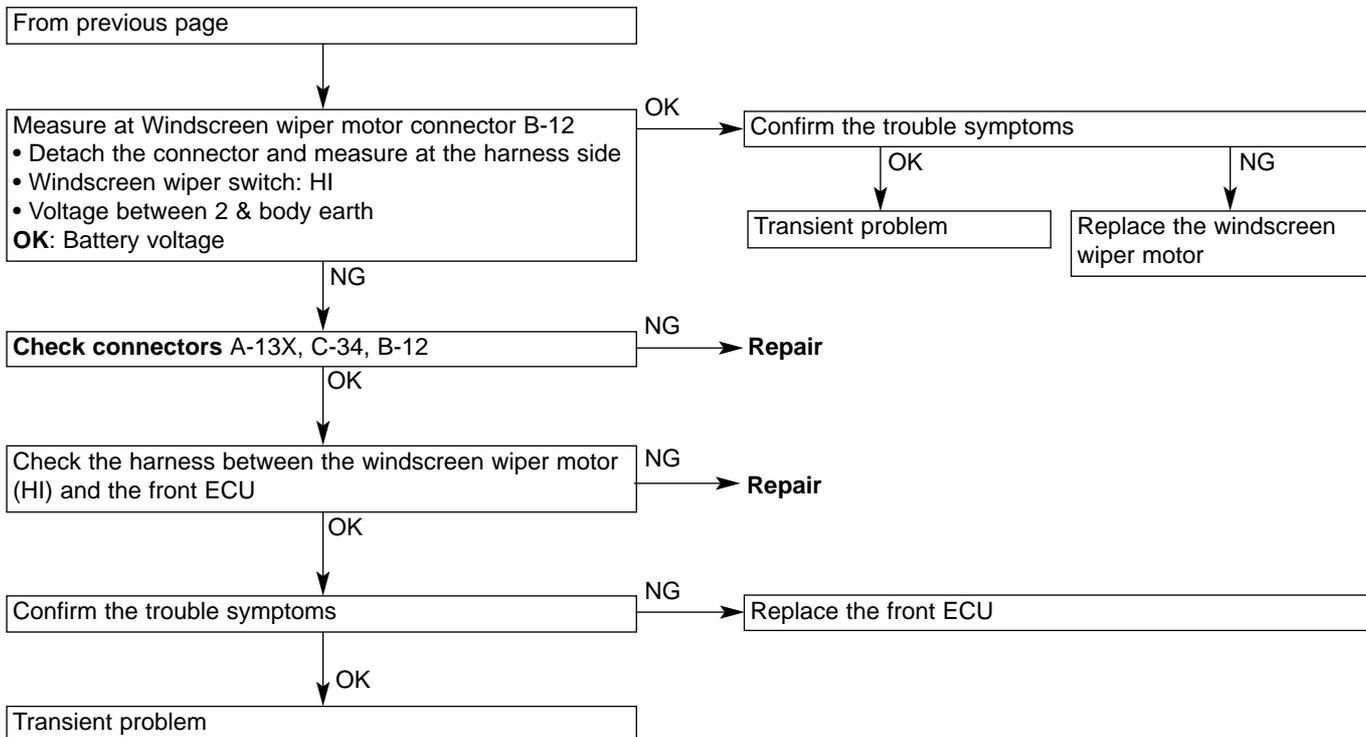
Note:

*: See '00-5 Lancer Cedia Servicing Manual (No. 1036K00)

Inspection procedure G-4

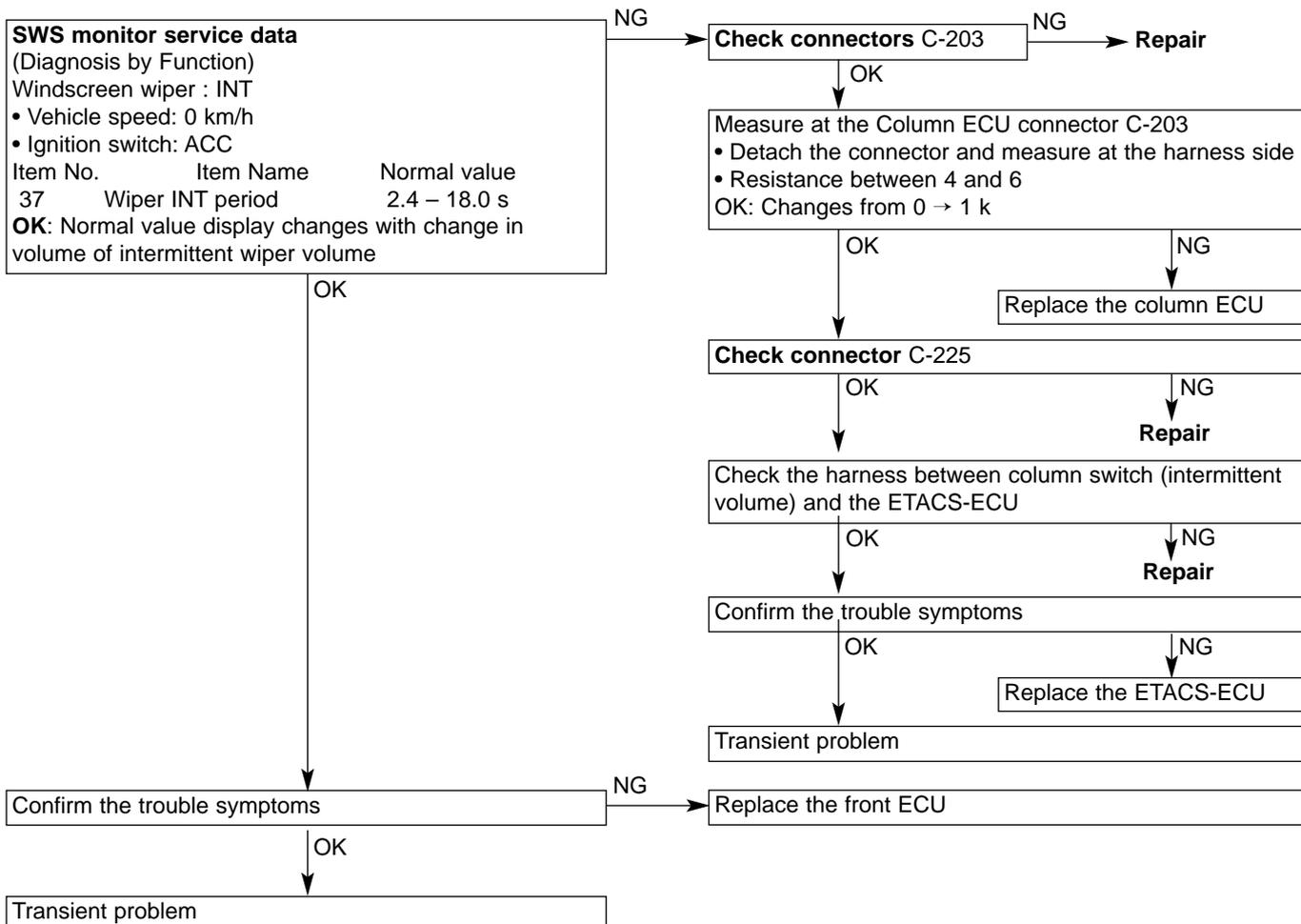
Windscreen wipers cannot be operated normally	Probable Cause
There is probably a fault in the windscreen wiper motor, a fault in the column ECU, or a fault in the front ECU	<ul style="list-style-type: none"> • Fault in column switch • Fault in windscreen wiper motor • Fault in front ECU • Fault in harness or connectors





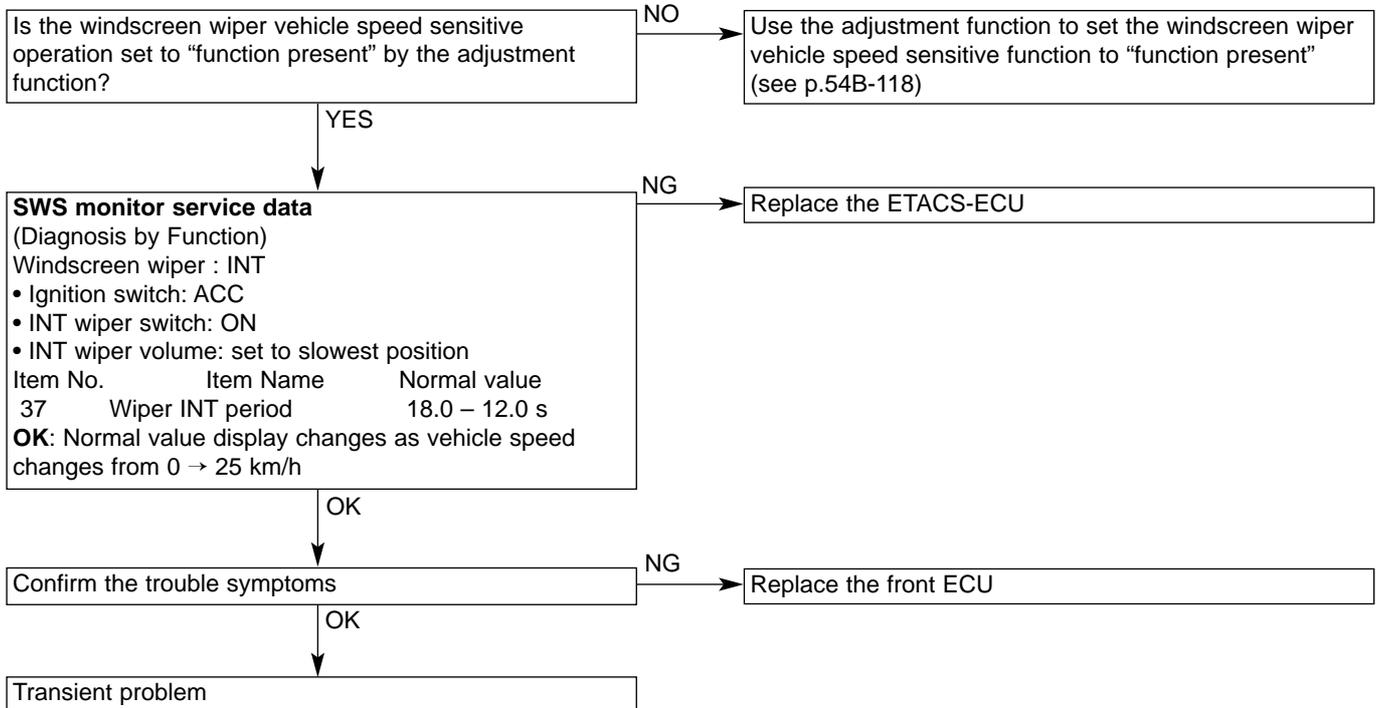
Inspection procedure G-5

Intermittent time interval of windscreen wipers does not change with vehicle speed or operation of intermittent windscreen wiper volume	Probable Cause
There is probably a fault in the front ECU or the ETACS-ECU.	<ul style="list-style-type: none"> • Fault in front ECU • Fault in ETACS-ECU • Fault in harness or connectors



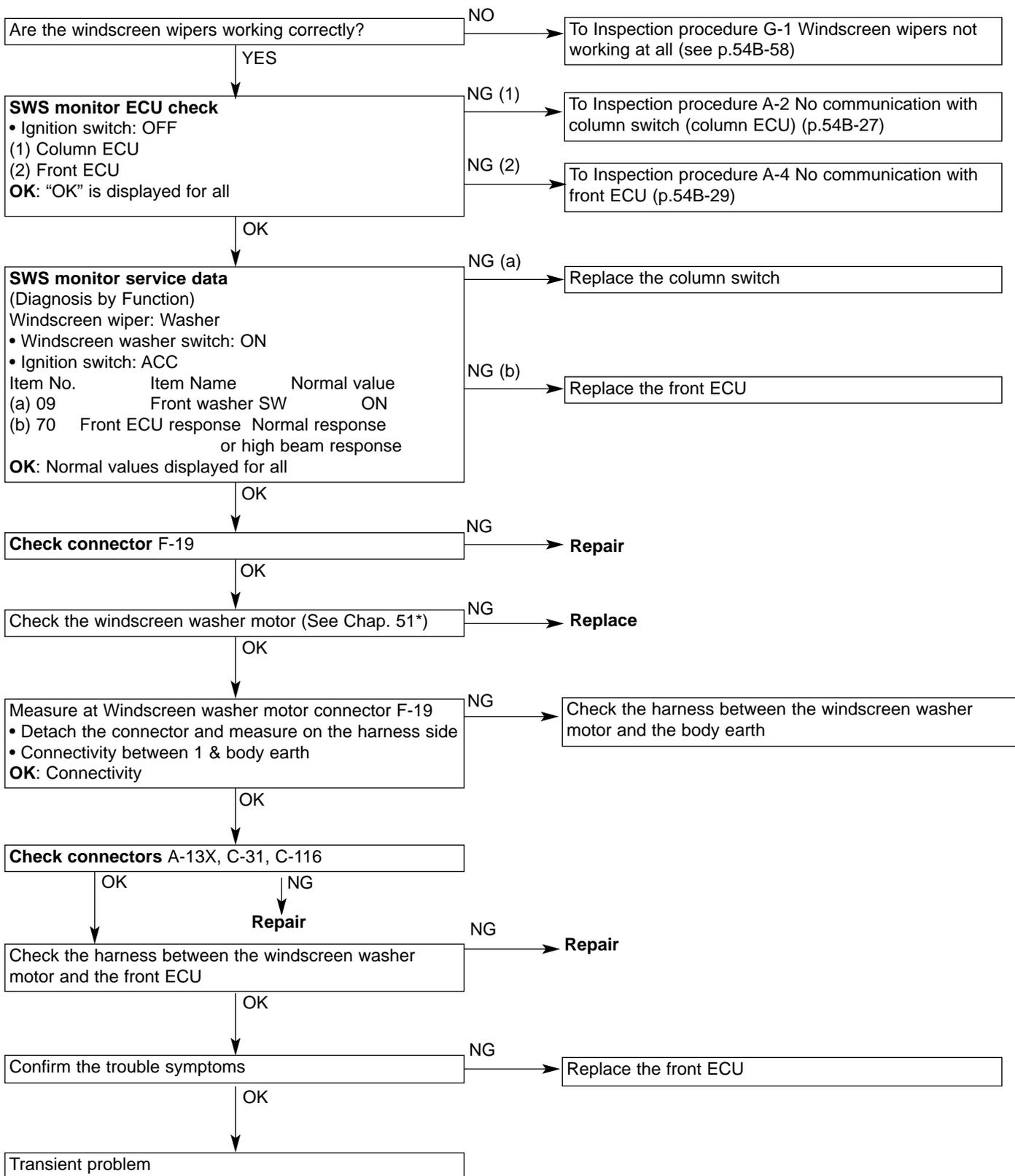
Inspection procedure G-6

Intermittent time interval of windscreen wipers does not change with vehicle speed	Probable Cause
There is probably a fault in the front ECU or the ETACS-ECU.	<ul style="list-style-type: none"> • Fault in front ECU • Fault in ETACS-ECU • Fault in harness or connectors



Inspection procedure G-7

Windscreen washer not working correctly	Probable Cause
There is probably a fault in the windscreen washer motor, a fault in the column ECU, or a fault in the front ECU	<ul style="list-style-type: none"> • Fault in column switch • Fault in front ECU • Fault in windscreen washer motor • Fault in harness or connectors

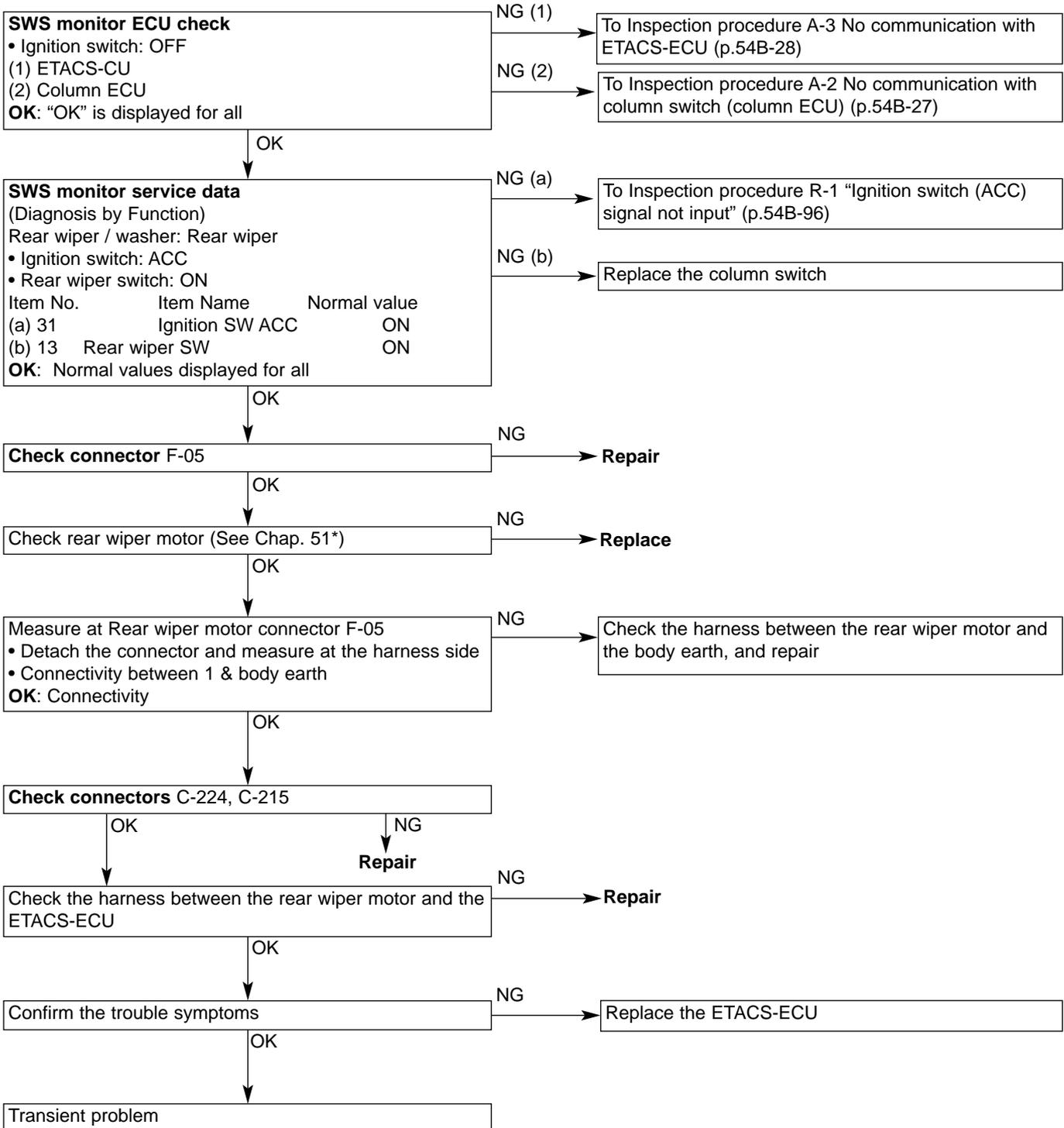


Note

*: See '01-1 Lancer Evolution VII Servicing Manual (No. 1036K02)

Inspection procedure H-1

Rear wiper not working at all	Probable Cause
The rear wiper is operated by determining the following input signals in the ETACS-ECU. • Ignition switch (ACC) • Rear wiper switch If the rear wiper does not work, then there is probably a malfunction in the input circuit system for these signals, or a fault in the rear wiper motor, or a fault in the ETACS-ECU.	• Fault in rear wiper motor • Fault in column switch • Fault in ETACS-ECU • Fault in harness or connectors

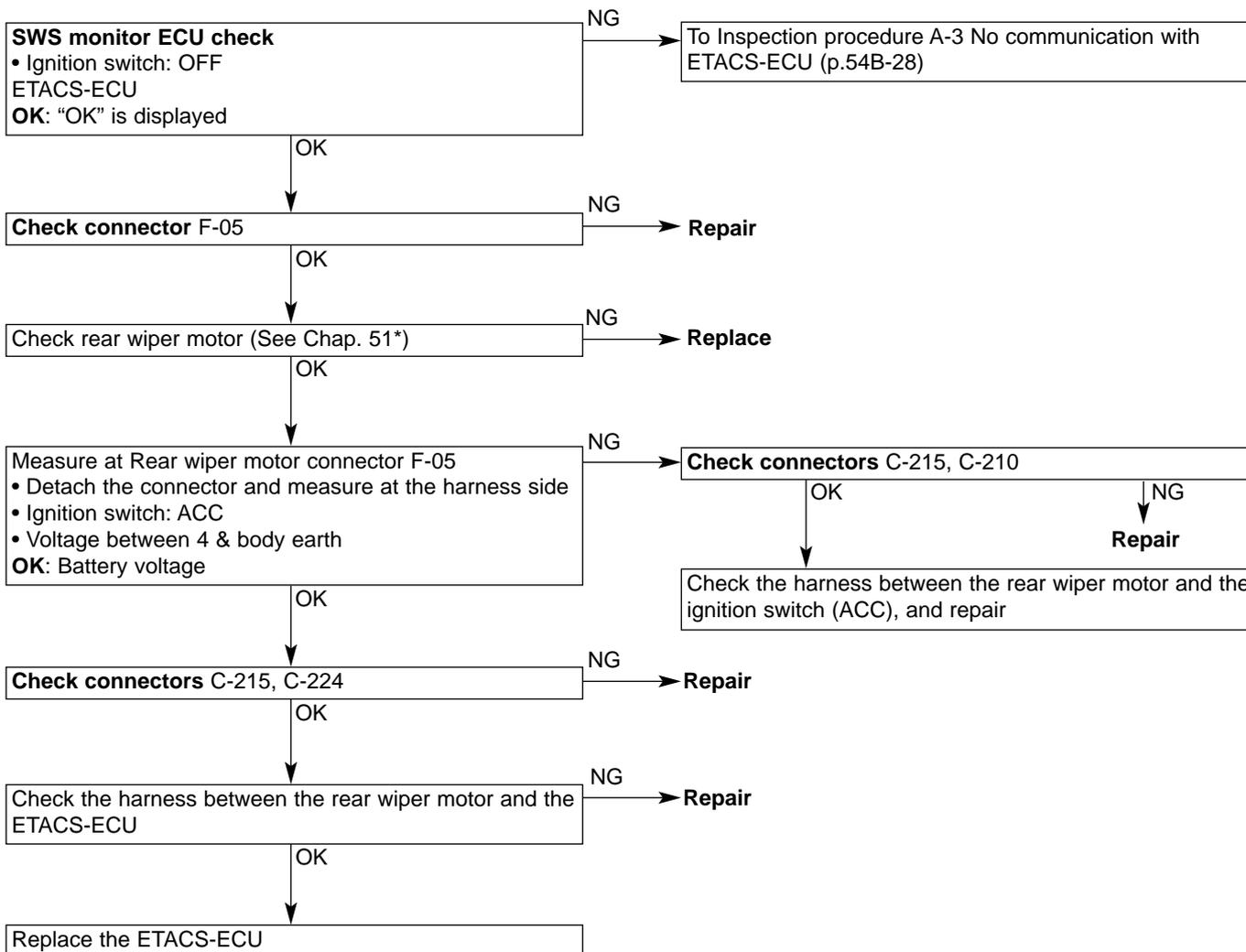


Note:

*: See '00-5 Lancer Sedia Servicing Manual (No. 1036K00)

Inspection procedure H-2

Rear wiper does not stop in correct position	Probable Cause
There is probably a fault in the rear wiper motor or a fault in the ETACS-ECU	<ul style="list-style-type: none"> • Fault in rear wiper motor • Fault in ETACS-ECU • Fault in harness or connectors

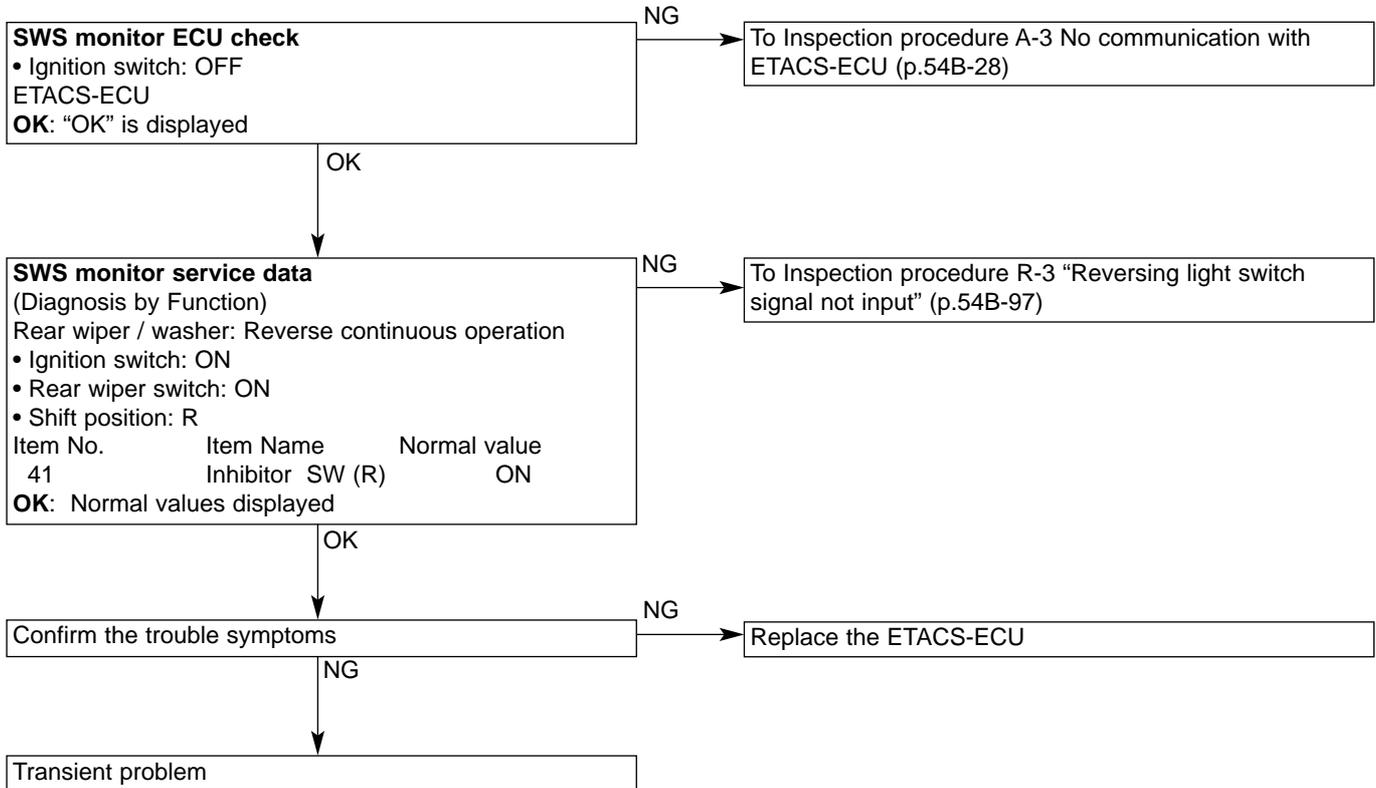


Note:

*: See '00-5 Lancer Sedia Servicing Manual (No. 1036K00)

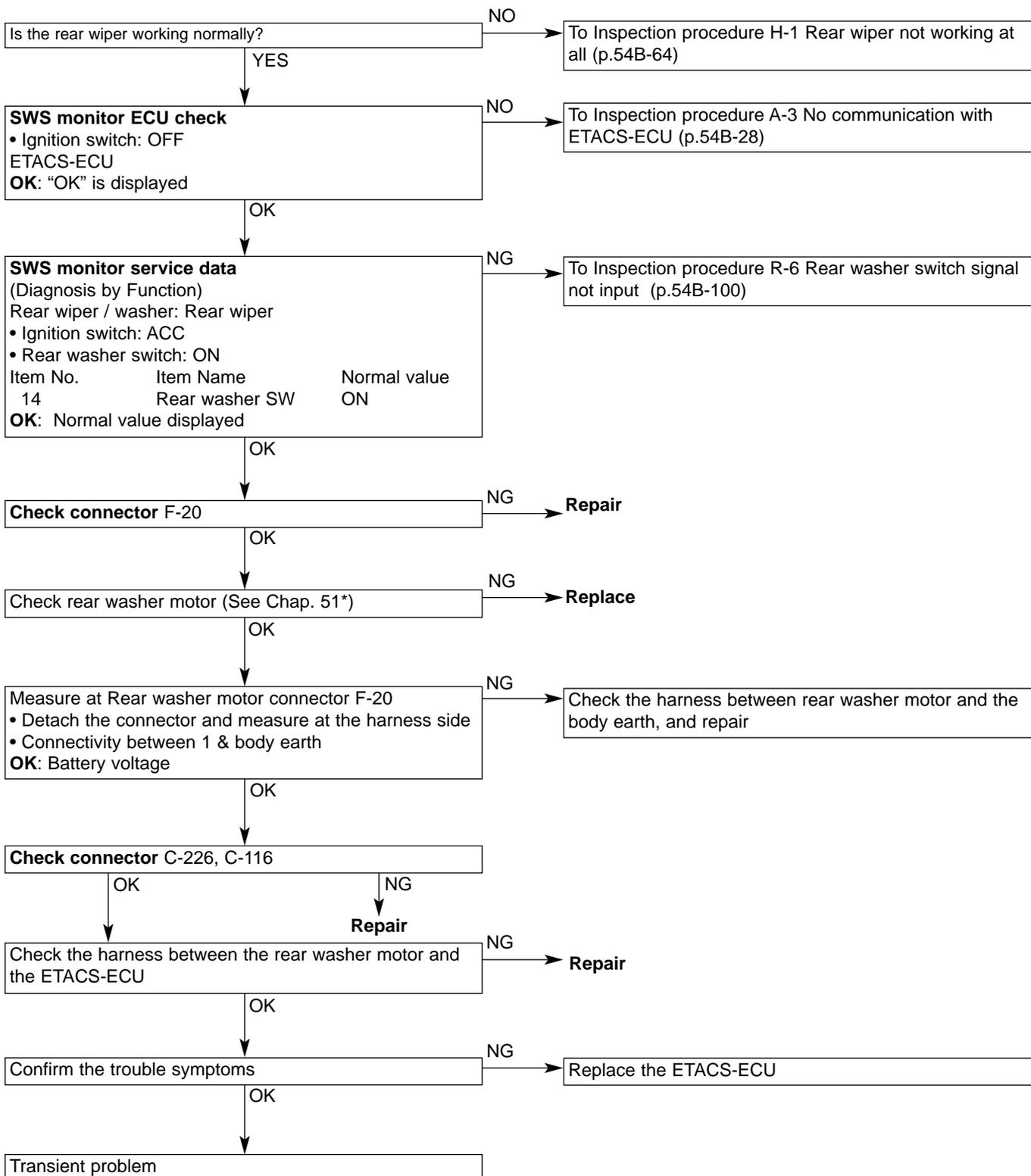
Inspection procedure H-3

<p>Rear wiper does not operate continuously, even when shift is set to R position</p>	<p>Probable Cause</p>
<p>There is probably a malfunction in the reversing light switch input circuit system, or a fault in the ETACS-ECU.</p>	<ul style="list-style-type: none"> • Fault in reverse light switch • Fault in ETACS-ECU • Fault in harness or connectors



Inspection procedure H-4

Rear washer does not work	Probable Cause
There is probably an abnormality in the rear washer switch input circuit system, a fault in the rear washer motor, or a fault in the ETACS-ECU.	<ul style="list-style-type: none"> • Fault in rear washer motor • Fault in column switch • Fault in ETACS-ECU • Fault in harness or connectors

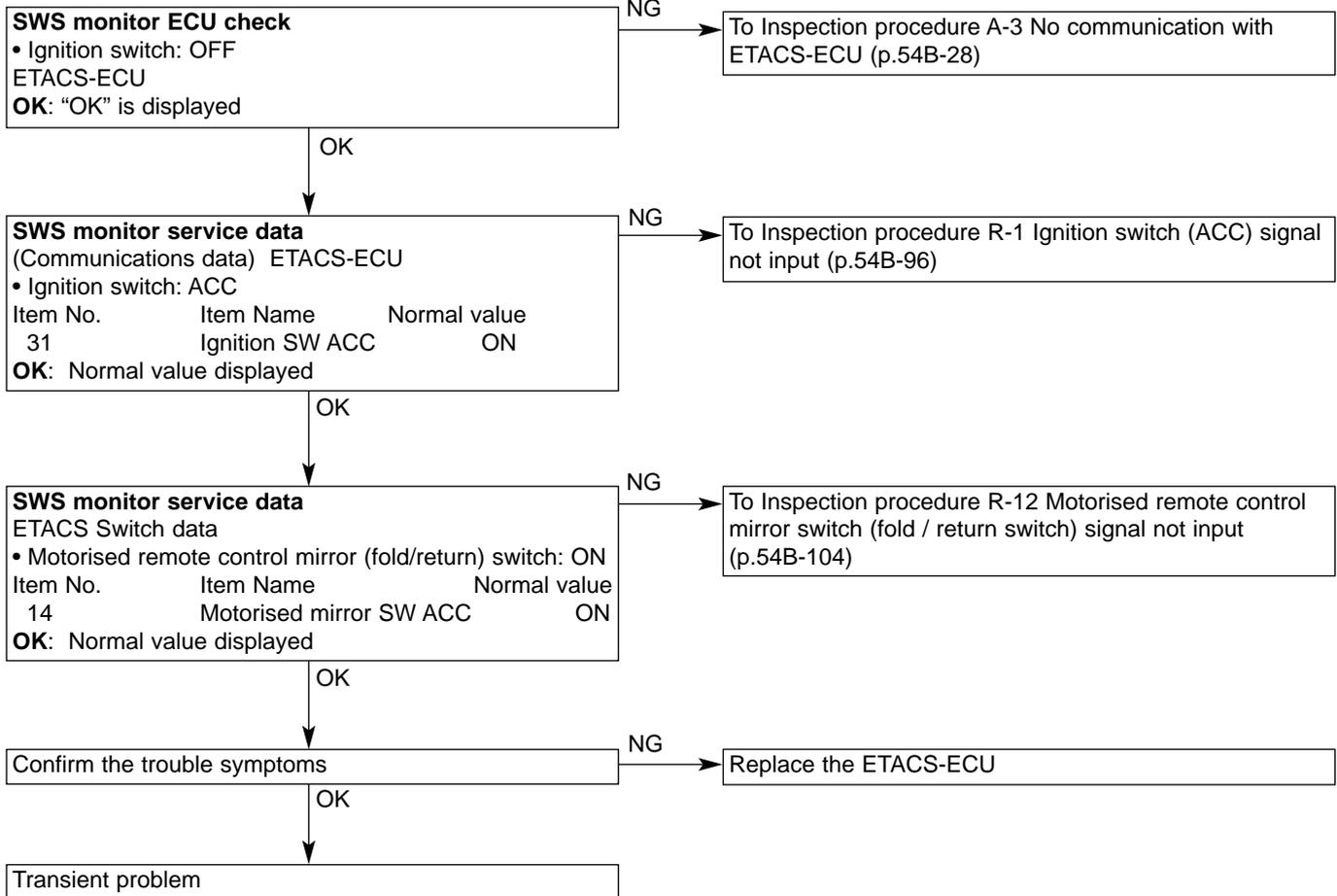


Note

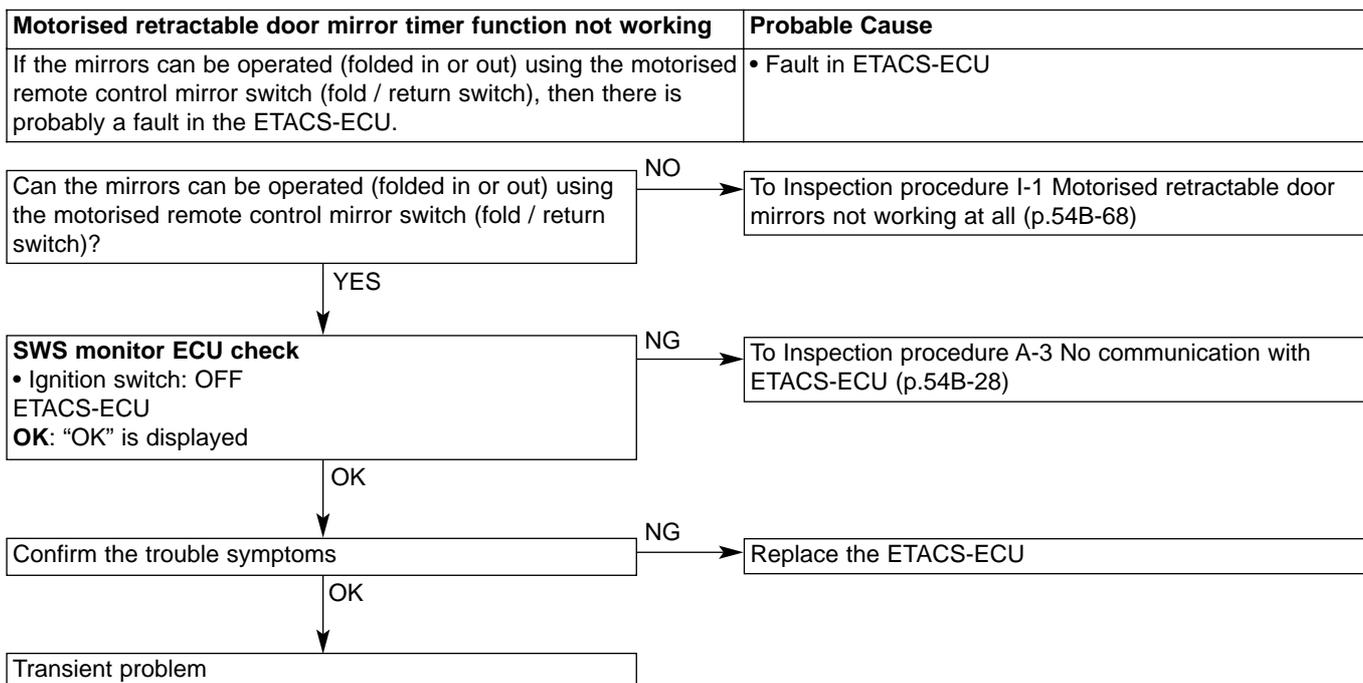
*: See '01-1 Lancer Evolution VII Servicing Manual (No. 1036K02)

Inspection procedure I-1

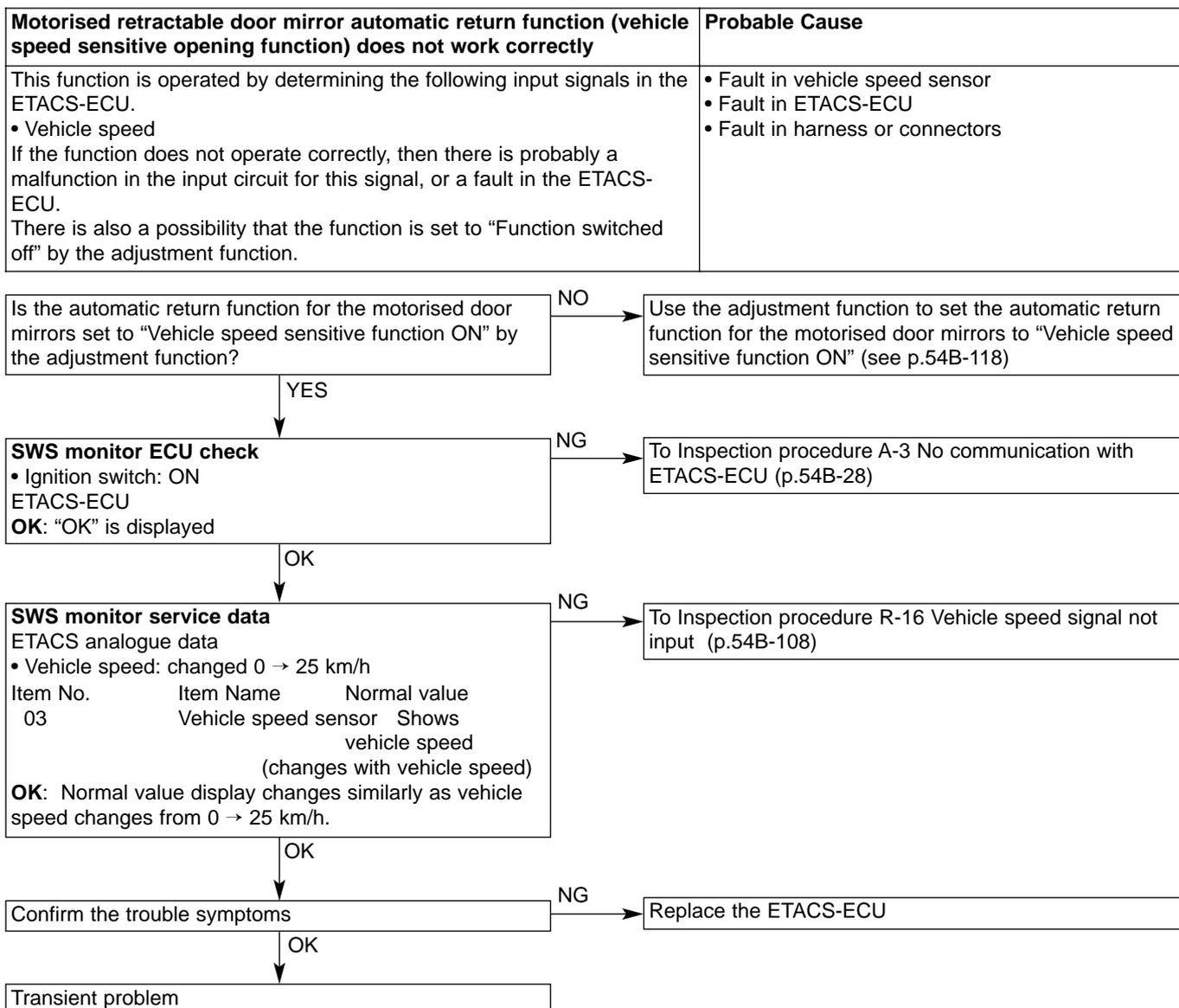
Motorised retractable door mirrors not working at all	Probable Cause
<p>The motorised retractable door mirrors are operated by determining the following input signals in the ETACS-ECU.</p> <ul style="list-style-type: none"> • Ignition switch (ACC) • Motorised remote control mirror switch (fold/return switch) <p>If the motorised retractable door mirrors do not operate, then there is probably a malfunction in the input circuit system for the above signals, or a fault in the door mirrors, or a fault in the ETACS-ECU.</p>	<ul style="list-style-type: none"> • Fault in motorised remote control mirror switch • Fault in mirror assembly • Fault in ETACS-ECU • Fault in harness or connectors



Inspection procedure I-2

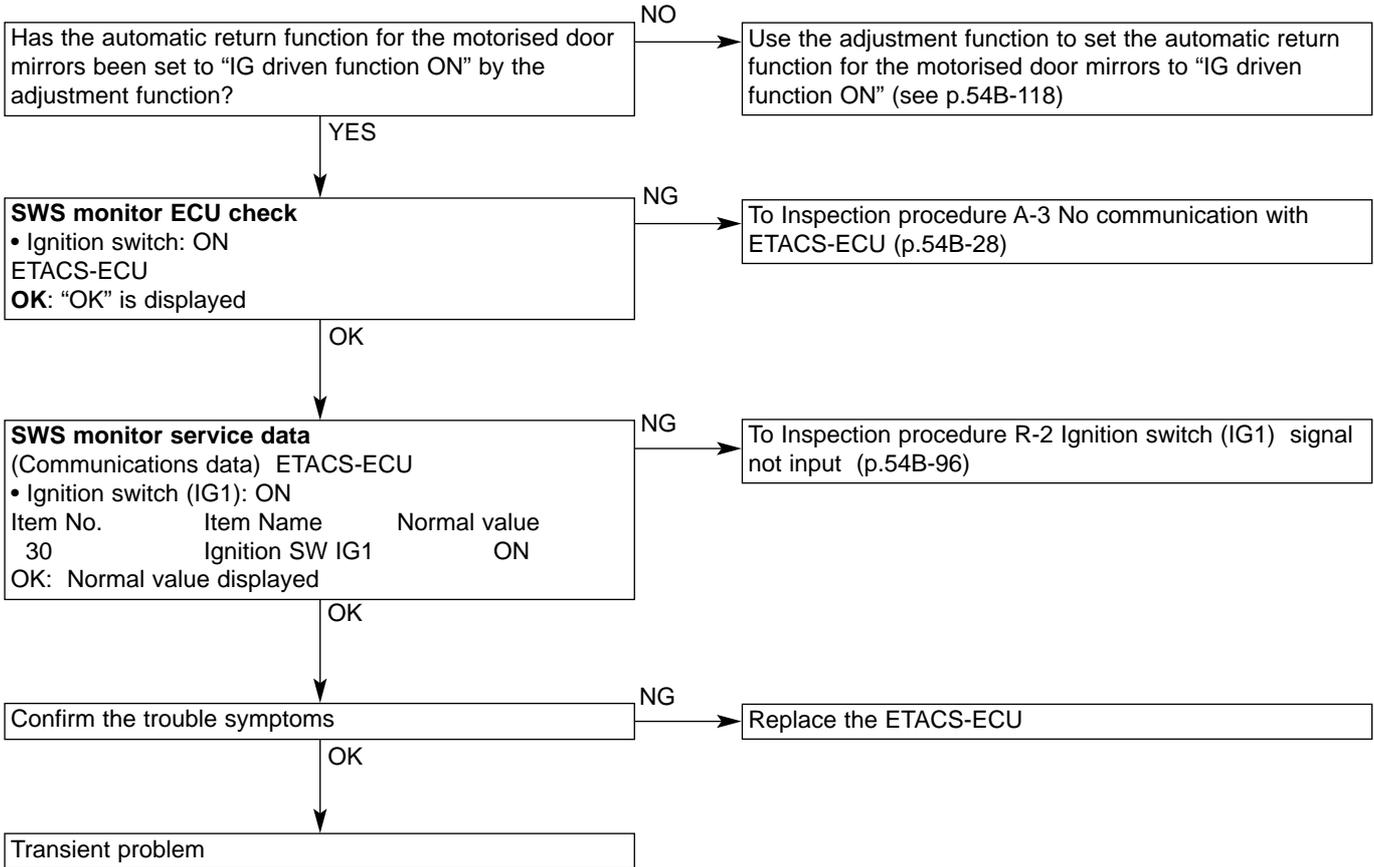


Inspection procedure I-3



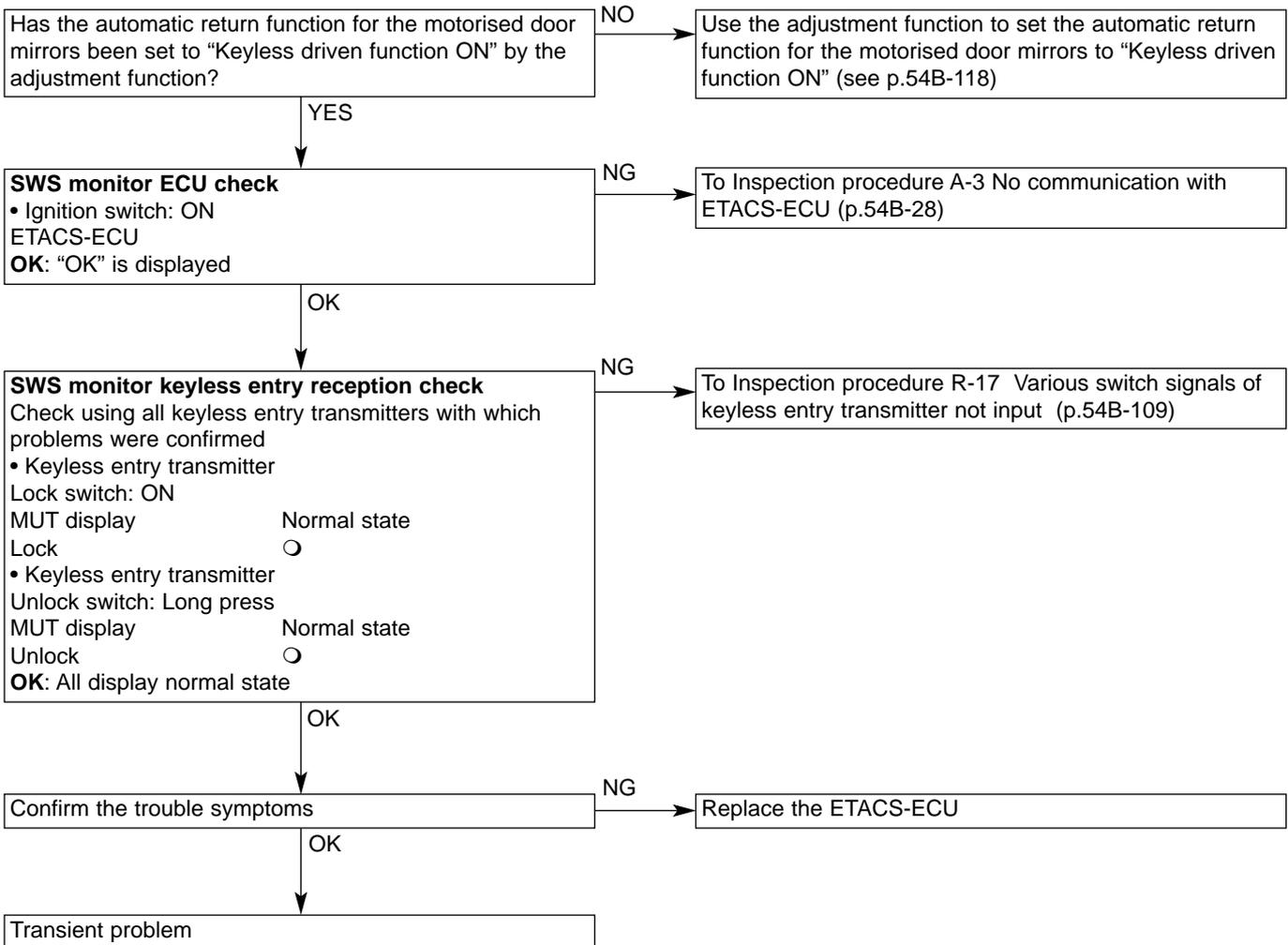
Inspection procedure I-4

Motorised retractable door mirror automatic return function (ignition driven function) does not work correctly	Probable Cause
<p>This function is operated by determining the following input signals in the ETACS-ECU.</p> <ul style="list-style-type: none"> • Ignition switch (IG1) <p>If this function does not operate correctly, then there is probably a malfunction in the input circuit system for this signal, or a fault in the ETACS-ECU.</p> <p>There is also a possibility that the function has been switched off by the adjustment function.</p>	<ul style="list-style-type: none"> • Fault in ETACS-ECU • Fault in harness or connectors



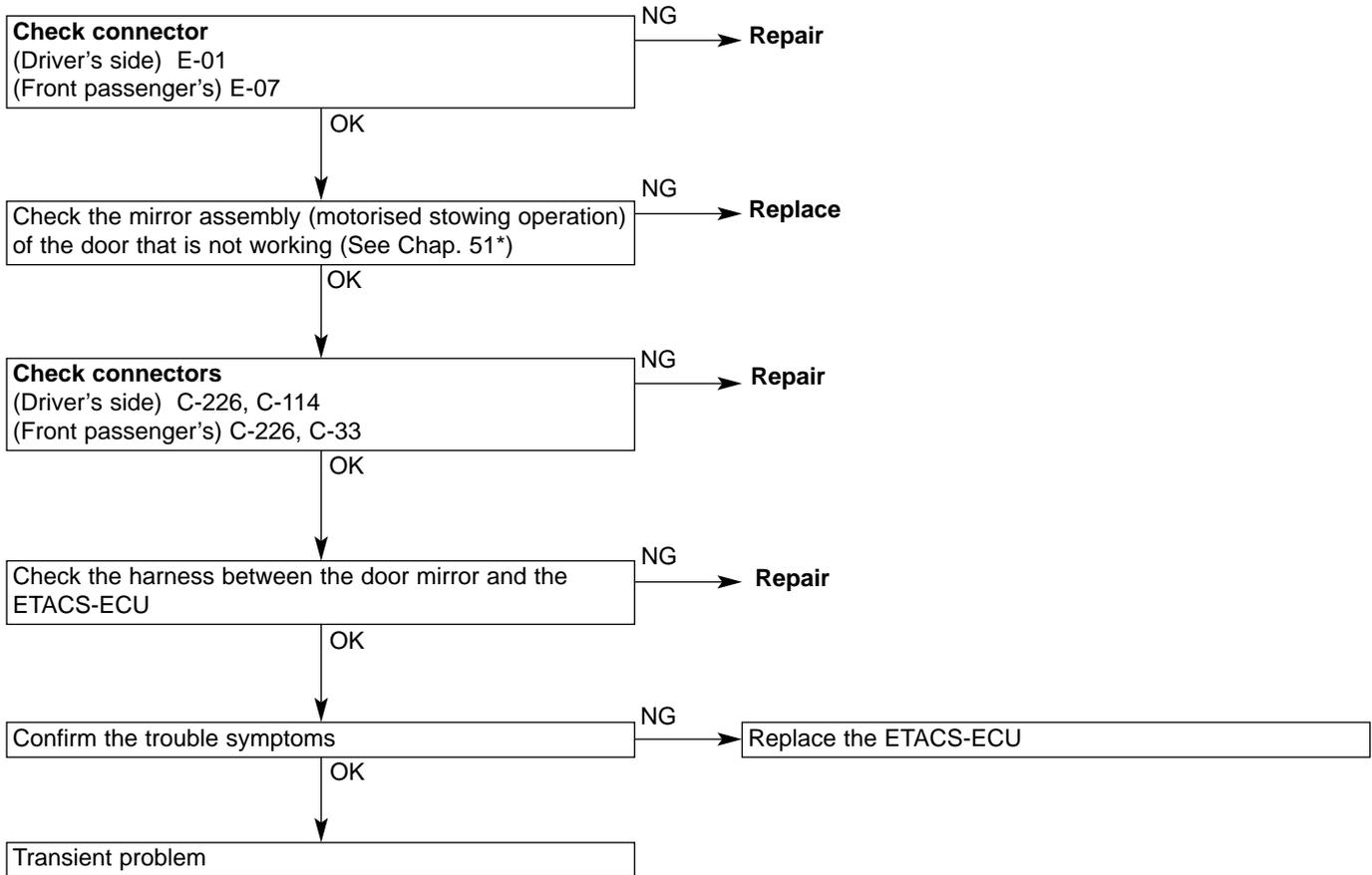
Inspection procedure I-5

Motorised retractable door mirror automatic return function (keyless driven function) does not work correctly	Probable Cause
<p>This function is operated by determining the following input signals in the ETACS-ECU.</p> <ul style="list-style-type: none"> • Keyless entry transmitter <p>If this function does not operate correctly, then there is probably a malfunction in the input circuit system for this signal, or a fault in the ETACS-ECU.</p> <p>There is also a possibility that the function has been switched off by the adjustment function.</p>	<ul style="list-style-type: none"> • Fault in keyless entry transmitter • Fault in ETACS-ECU • Fault in harness or connectors



Inspection procedure I-6

One of the motorised retractable door mirrors is not working.	Probable Cause
The motorised retractable door mirrors are operated by determining the following input signals in the ETACS-ECU. • Ignition switch (ACC) If any of the motorised door mirrors is not working, then there is probably a malfunction in the input circuit system for this signal, a fault in the door mirror, or a fault in the ETACS-ECU.	<ul style="list-style-type: none"> • Fault in mirror assembly • Fault in ETACS-ECU • Fault in harness or connectors



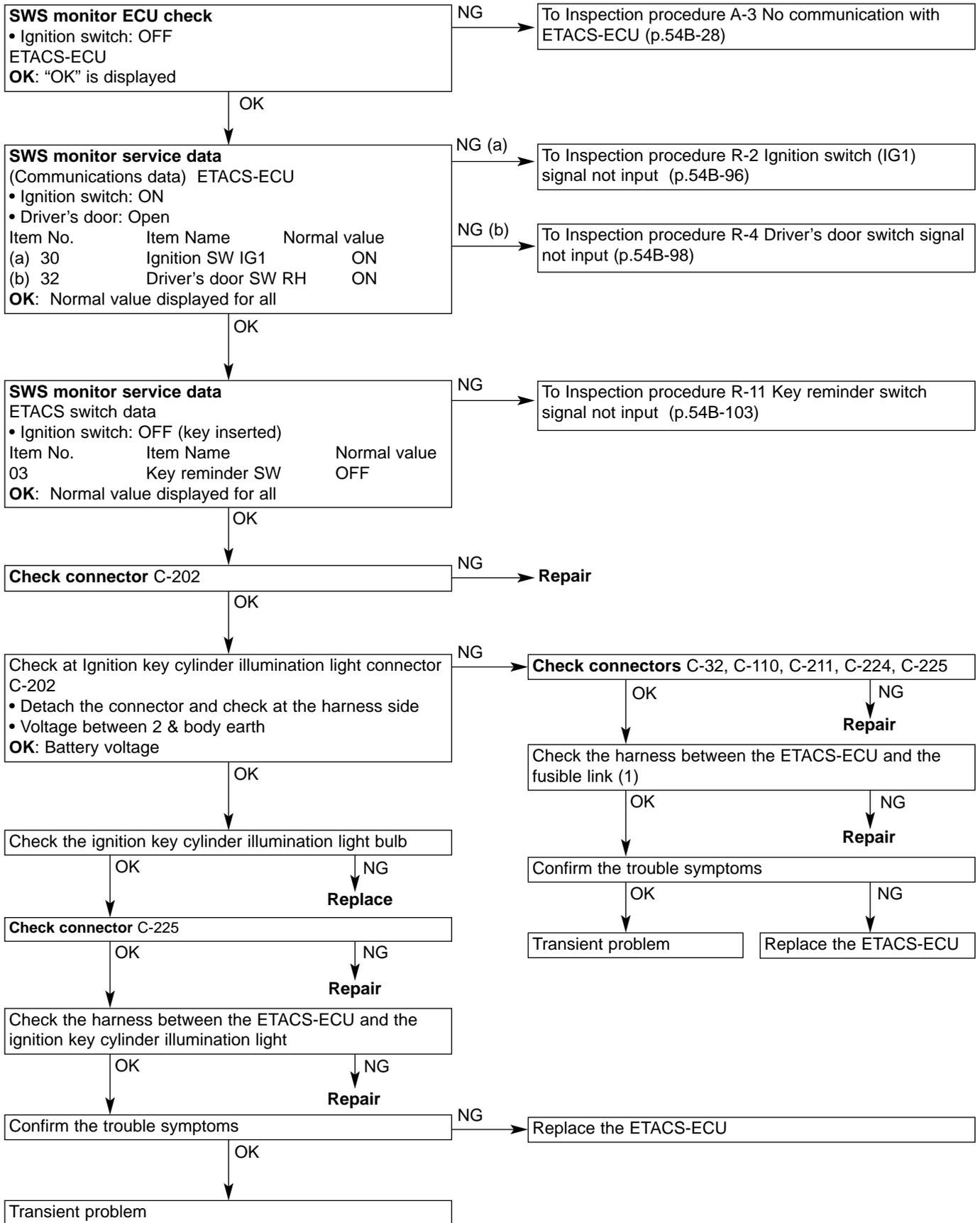
Note:

*: See '00-5 Lancer Sedia Servicing Manual (No. 1036K00)

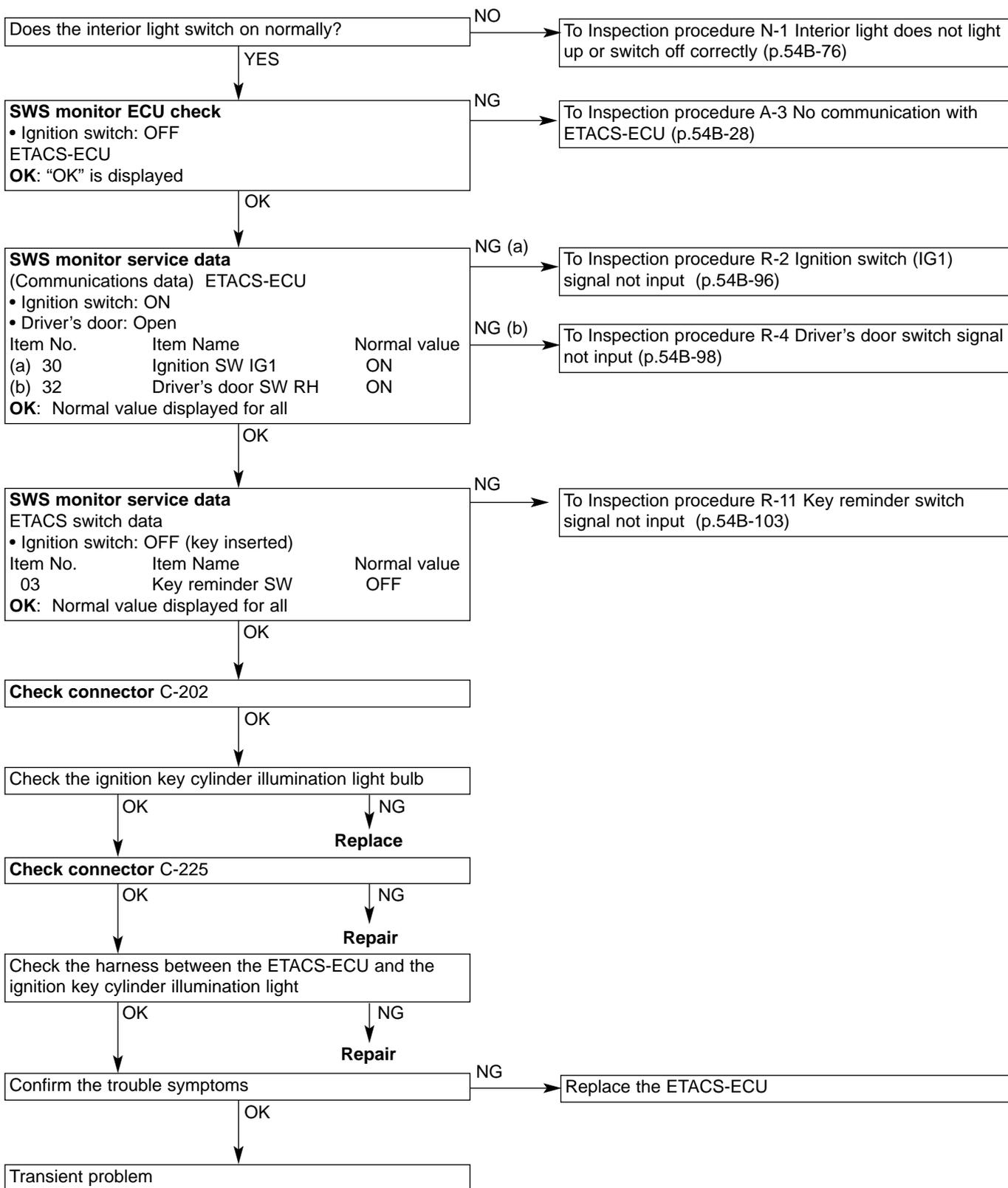
Inspection procedure J-1

Ignition key cylinder illumination light does not light up and switch off correctly	Probable Cause
<p>(Vehicle not fitted with keyless entry)</p> <p>The ignition key cylinder illumination light is switched on by determining the following input signals in the ETACS-ECU.</p> <ul style="list-style-type: none"> • Ignition switch (IG1) • Key reminder switch • Driver's door switch <p>If it does not work correctly, then there is probably a malfunction in the input circuit system for these signals, a fault in the ignition key cylinder illumination light, or a fault in the ETACS-ECU.</p>	<ul style="list-style-type: none"> • Fault in key reminder switch • Fault in driver's door switch • Fault in ignition key cylinder illumination light • Fault in ETACS-ECU • Fault in harness or connectors
<p>(Vehicle fitted with keyless entry)</p> <p>The ignition key cylinder illumination light is switched on by determining the following input signals in the ETACS-ECU. In addition, since the interior lights are switched off by the interior light cut-off function, then the input signal for the interior light cut-off should also be checked at the same time.</p> <ul style="list-style-type: none"> • Ignition switch (ACC) • Ignition switch (IG1) • Key reminder switch • Driver's door switch • All door switch • Generic fuse No.17 <p>If it does not work correctly, then there is probably a malfunction in the input circuit systems for these signals, a fault in the ignition key cylinder illumination light, a malfunction in the interior light cut-off, or a fault in the ETACS-ECU.</p>	<ul style="list-style-type: none"> • Fault in key reminder switch • Fault in driver's door switch • Fault in ignition key cylinder illumination light • Fault in ETACS-ECU • Fault in harness or connectors

(Vehicle not fitted with keyless entry)

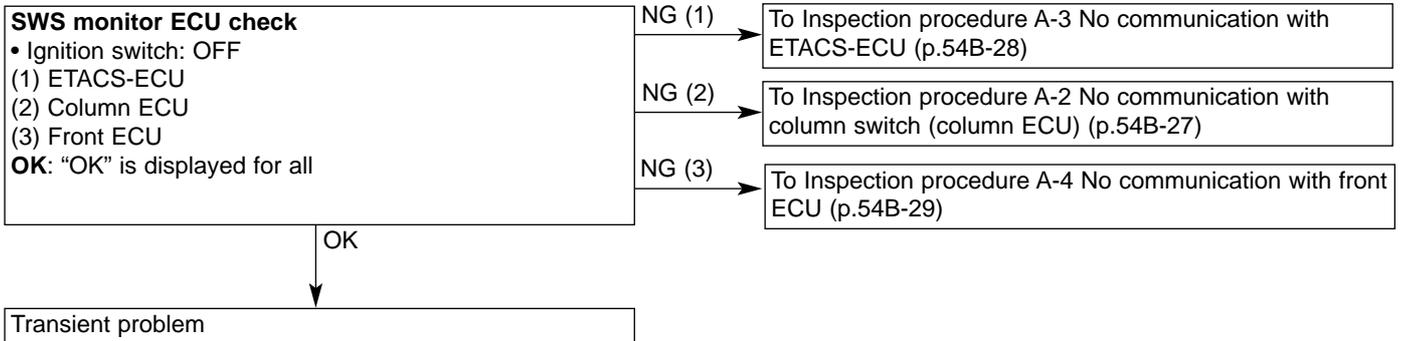


(Vehicle fitted with keyless entry)



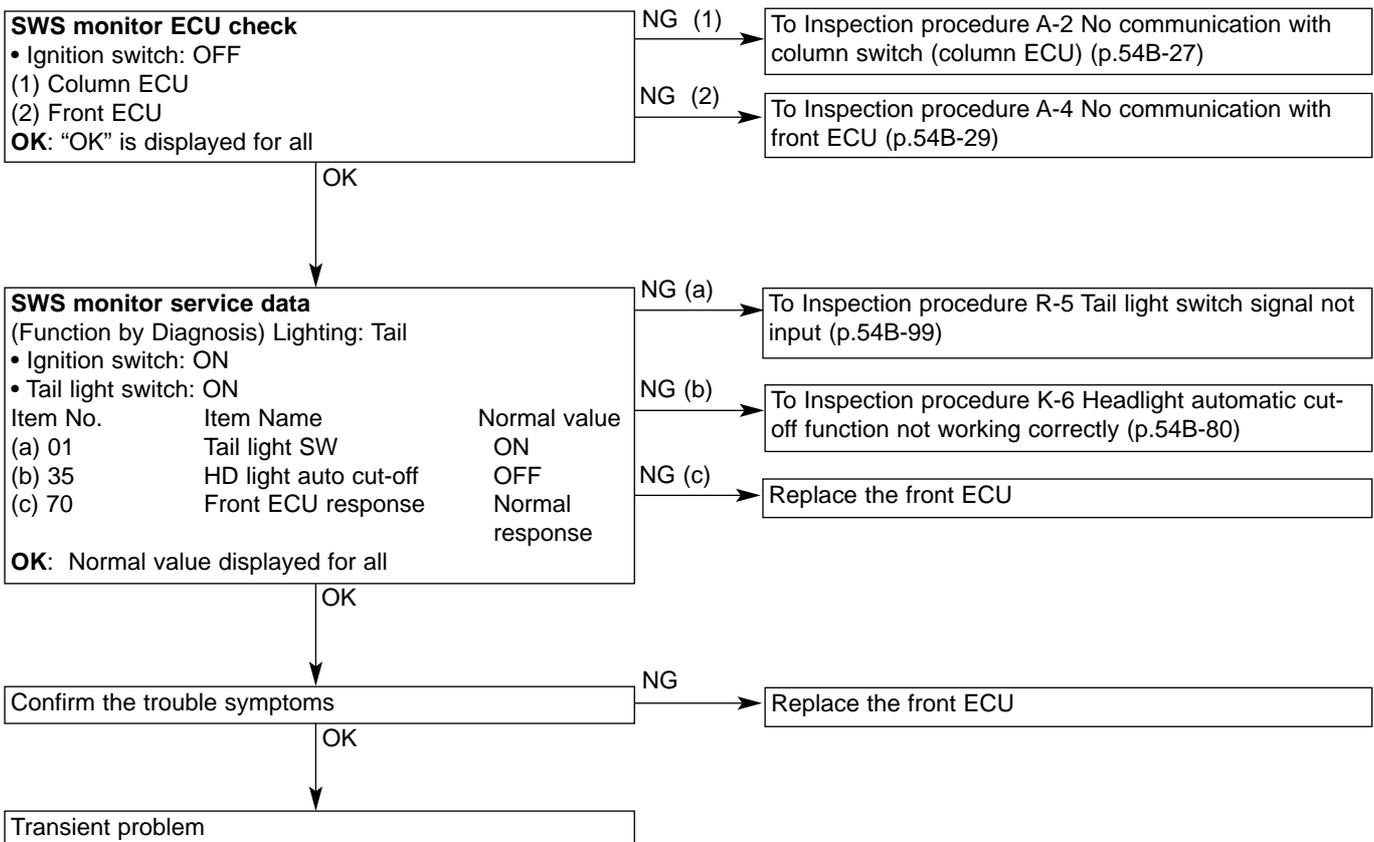
Inspection procedure K-1

Head lights do not light up when passing switch is on. Low beam lights up (cannot be changed using dimmer switch)	Probable Cause
If the low beam turns on, regardless of the position of the headlight switch, then the headlight failsafe function has probably engaged.	<ul style="list-style-type: none"> • Fault in column switch • Fault in front ECU • Fault in ETACS-ECU • Fault in harness or connectors



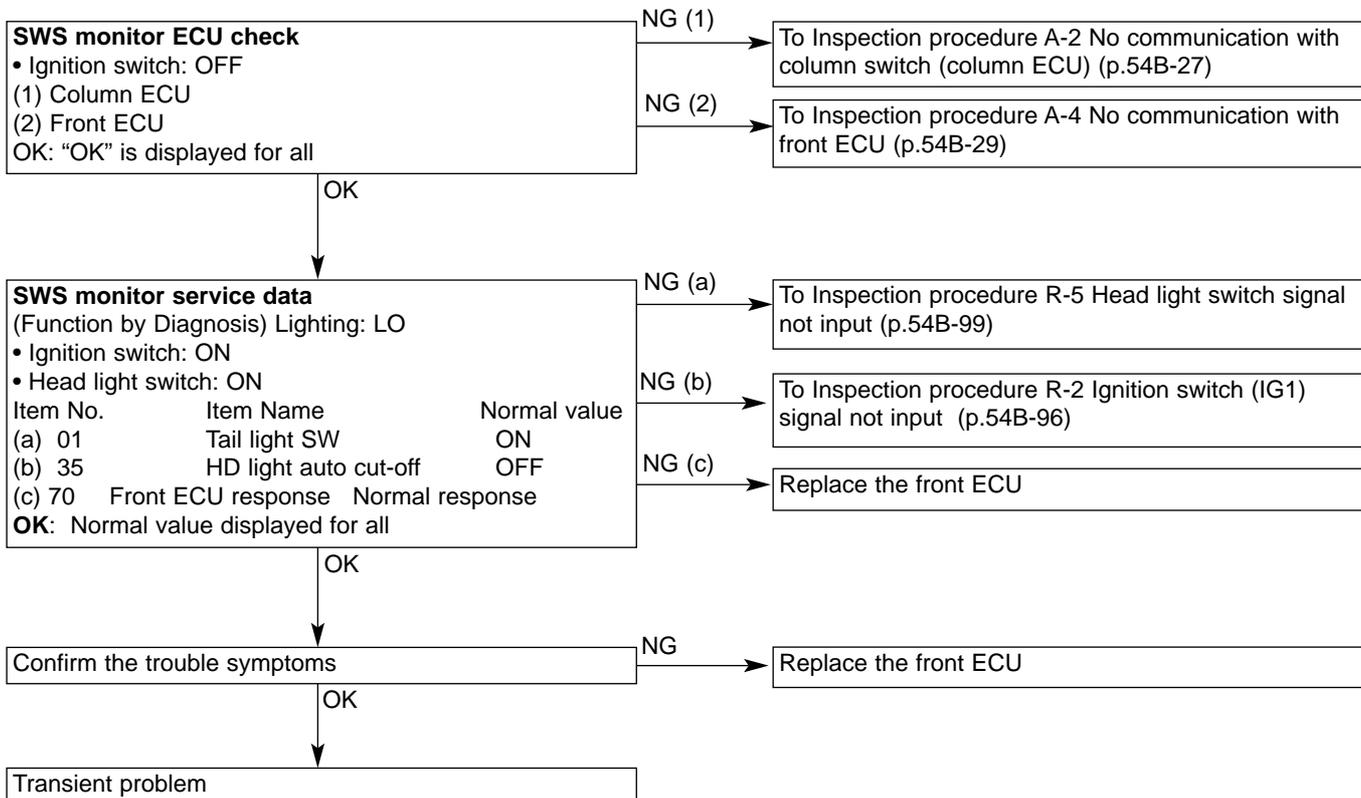
Inspection procedure K-2

Tail lights do not light up correctly	Probable Cause
If all of the tail lights do not light up properly, then there is probably a malfunction in the tail light switch input circuit system or a fault in the front ECU.	<ul style="list-style-type: none"> • Fault in column switch • Fault in front ECU • Fault in harness or connectors



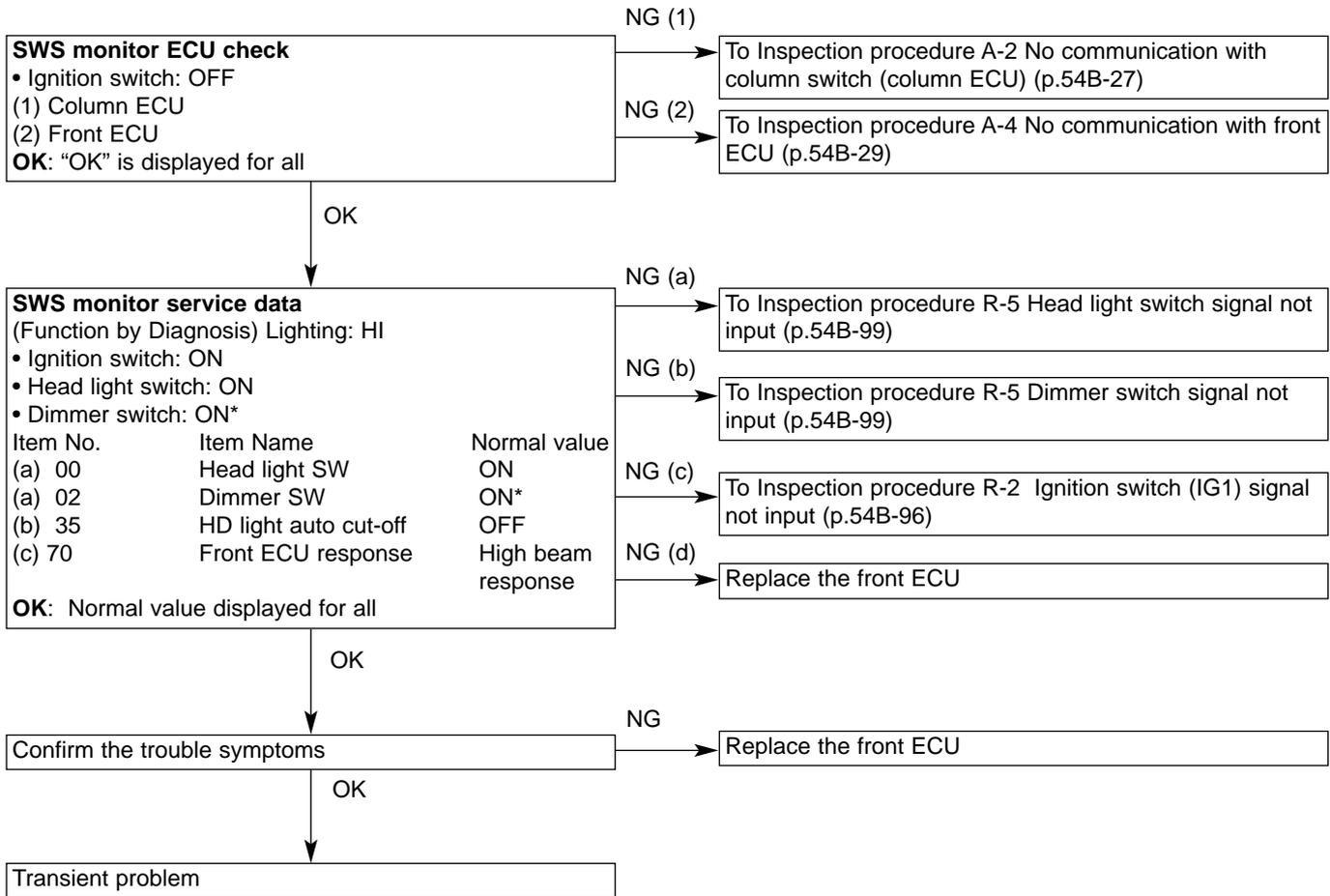
Inspection procedure K-3

Head lights (low beam) do not light up	Probable Cause
If neither of the head lights (low beam) lights up properly, then there is probably a malfunction in the head light switch input circuit system, or a fault in the front ECU. If the SWS monitor ECU check returns an "NG" result, then the headlight backup circuit should also be checked and repaired at the same time. (Column switch No.10 – Front ECU No.25)	<ul style="list-style-type: none"> • Fault in column switch • Fault in front ECU • Fault in column ECU • Fault in harness or connectors



Inspection procedure K-4

Head lights (high beam) do not light up	Probable Cause
If neither of the head lights (high beam) lights up properly, then there is probably a problem in the dimmer switch input circuit system or a fault in the front ECU	<ul style="list-style-type: none"> • Fault in column switch • Fault in front ECU • Fault in column ECU • Fault in harness or connectors

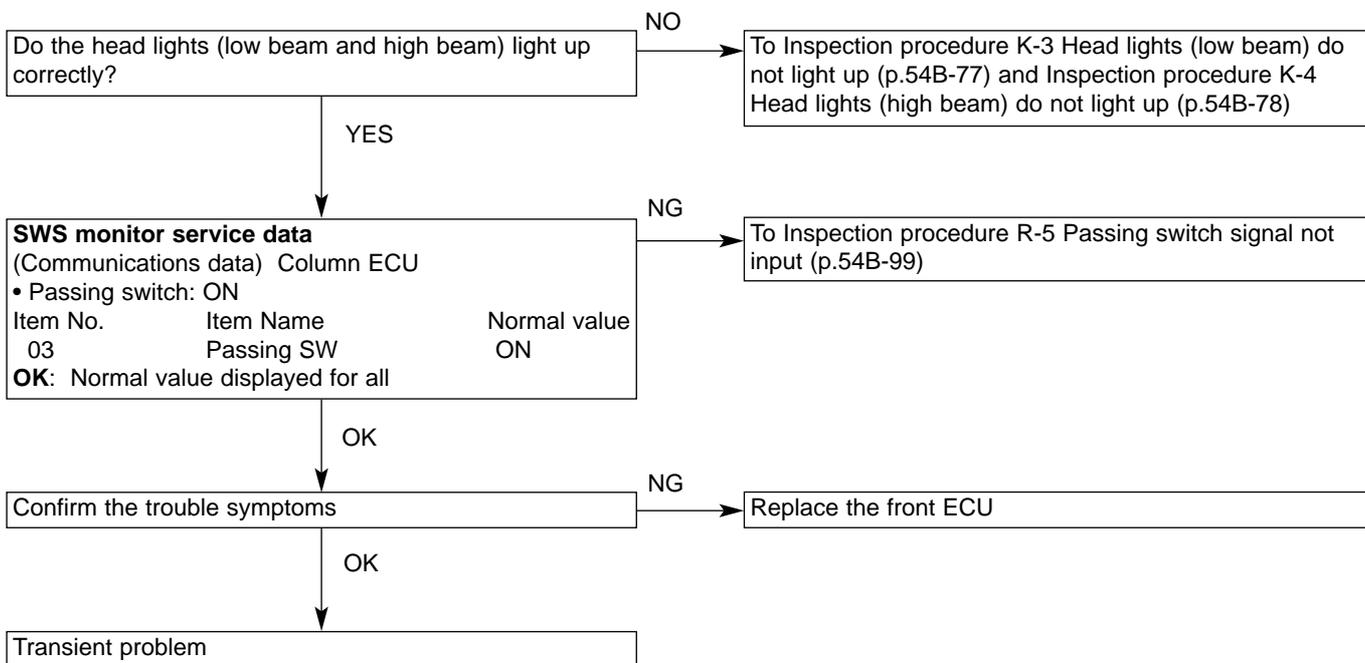


Note

*: The display will show "OFF" when the high beam lights are on, but check that it changes to "ON" when the dimmer switch is operated.

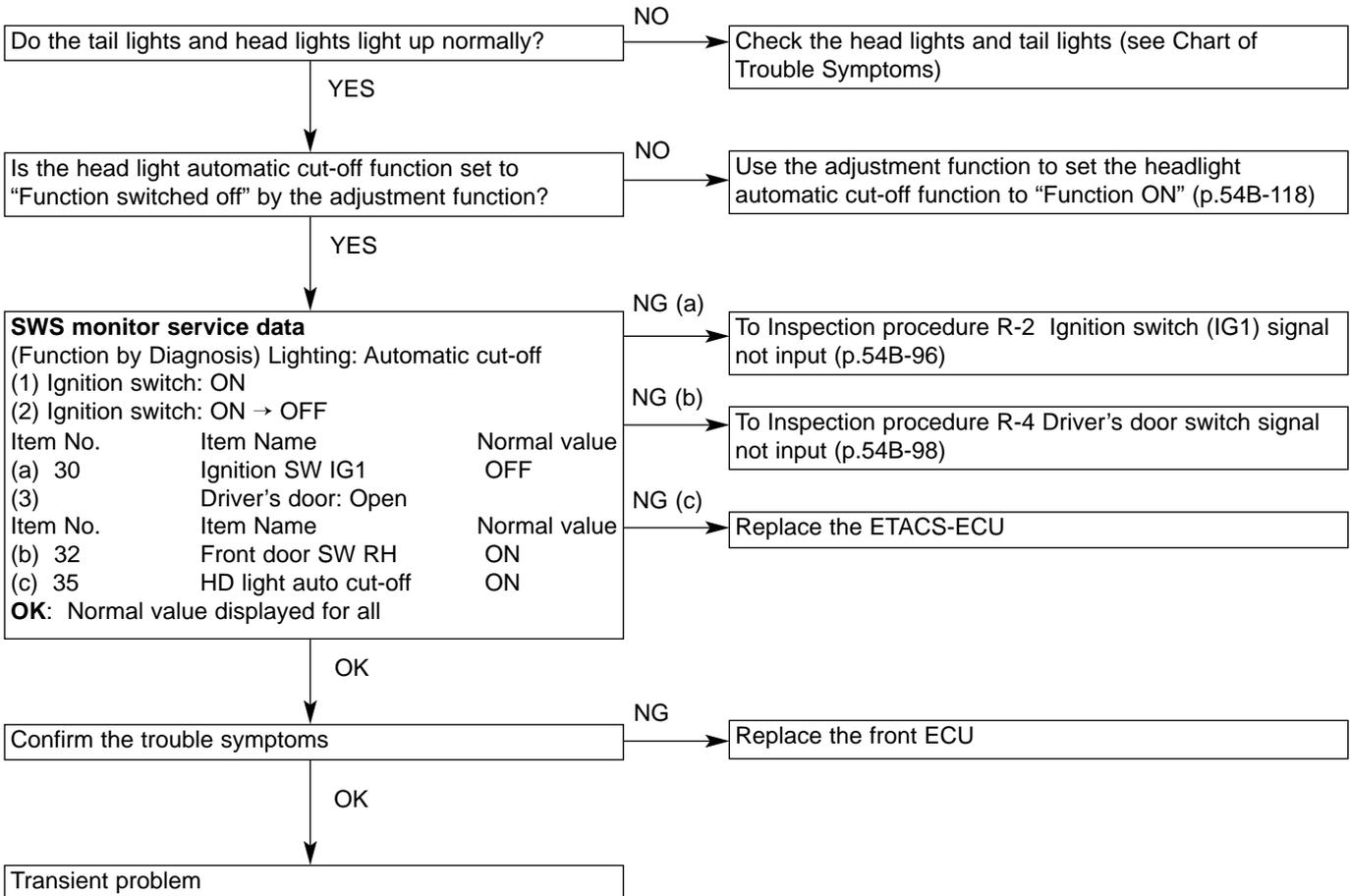
Inspection procedure K-5

Head lights (low beam and high beam) do not light up when passing switch is ON	Probable Cause
If neither of the head lights (low beam and high beam) lights up properly, then there is probably a problem in the passing switch input circuit system or a fault in the front ECU	<ul style="list-style-type: none"> • Fault in column switch • Fault in column ECU • Fault in front ECU • Fault in harness or connectors



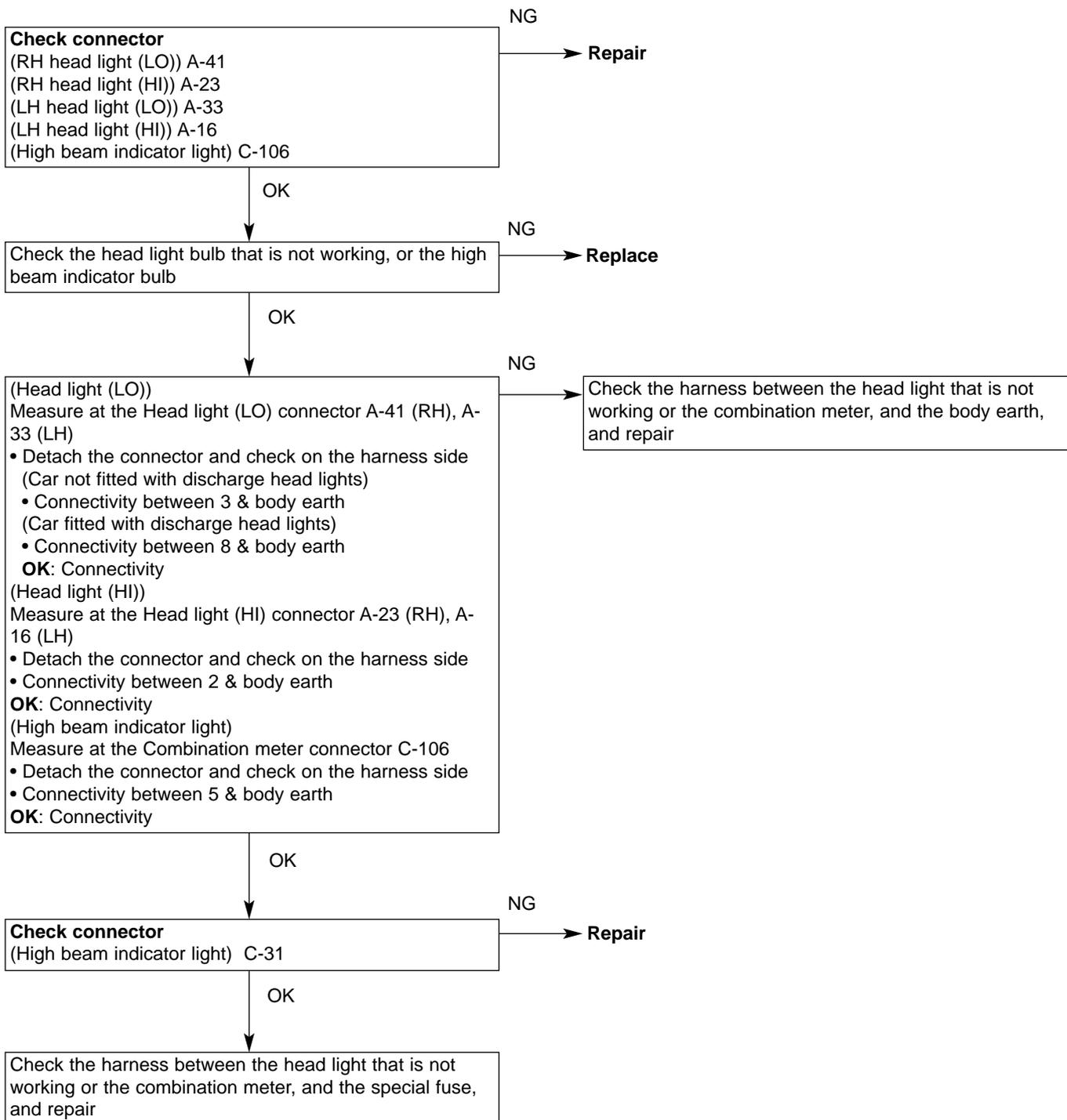
Inspection procedure K-6

Head light automatic cut-off function not working correctly	Probable Cause
<p>This function is operated by determining input signals from the ignition switch (IG1) and the driver's door switch in the ETACS-ECU. If it does not work properly, then there is probably a malfunction in the input circuit system, a fault in the front ECU or a fault in the ETACS-ECU.</p> <p>It is also a possibility that the function has been switched off by the adjustment function.</p>	<ul style="list-style-type: none"> • Fault in driver's door switch • Fault in front ECU • Fault in ETACS-ECU • Fault in harness or connectors



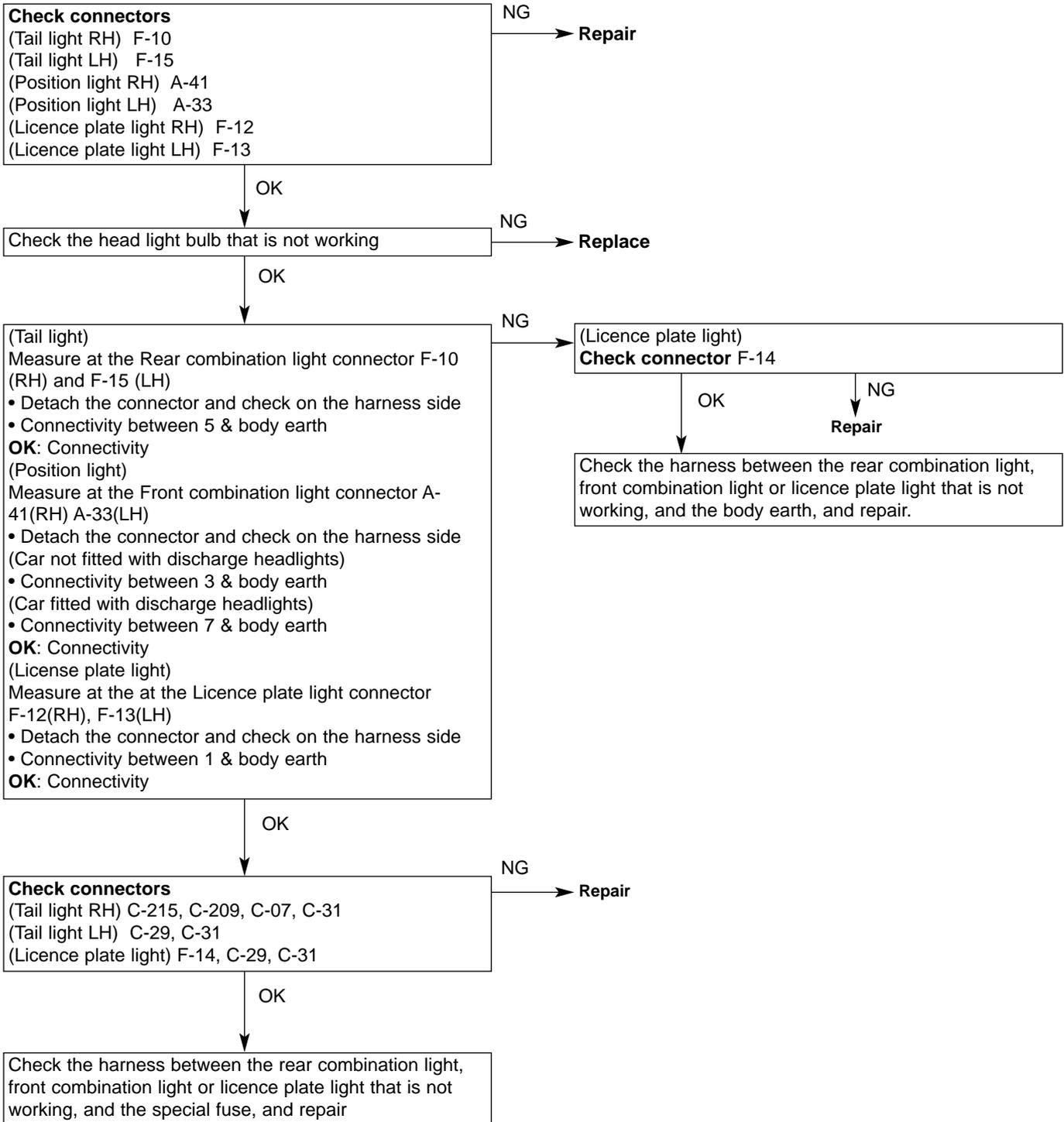
Inspection procedure K-7

One of the head lights does not light up (including high beam indicator light)	Probable Cause
If any one of the head lights does not light up correctly, then there is probably a fault in the harness connectors, or a fault in the bulb, or the fuse has blown.	<ul style="list-style-type: none"> • Fault in headlight bulb • Fault in high beam indicator bulb • Fault in harness or connectors



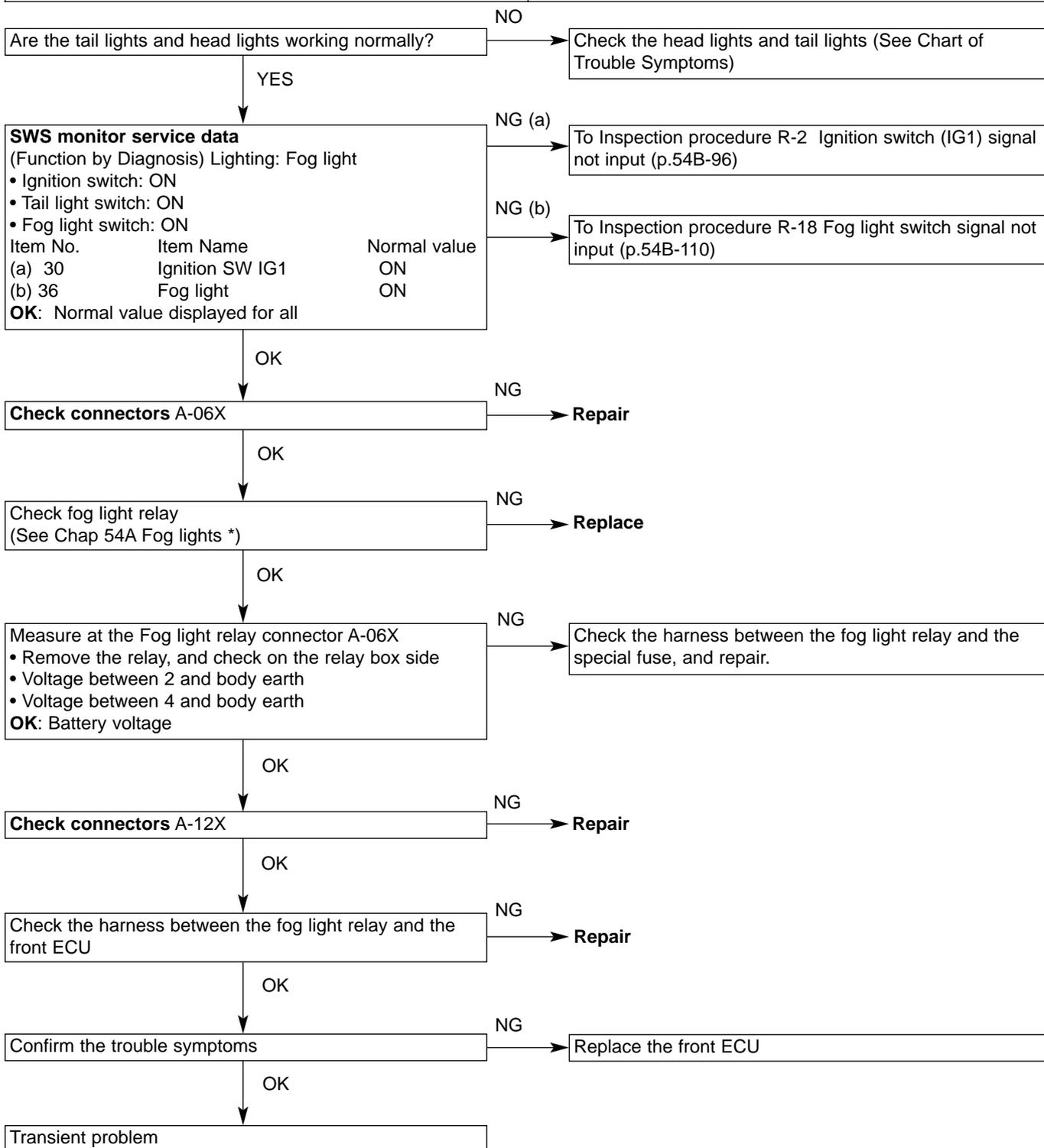
Inspection procedure K-8

One of the tail lights, position lights, or licence plate lights does not light up	Probable Cause
If any one of the tail lights, position lights or licence plate lights does not light up correctly, then there is probably a fault in the harness connectors, or a fault in the bulb, or the fuse has blown.	<ul style="list-style-type: none"> • Fault in tail light bulb • Fault in position light • Fault in licence plate light bulb • Fault in harness or connectors



Inspection procedure L-1

Fog lights do not light up correctly	Probable Cause
If any one of the fog lights does not light up correctly, but the tail lights and head lights are working normally, then there is probably a problem in the fog light switch input circuit system, a problem in the fog light relay, or a fault in the front ECU.	<ul style="list-style-type: none"> • Fault in fog light switch • Fault in fog light relay • Fault in front ECU • Fault in harness or connectors

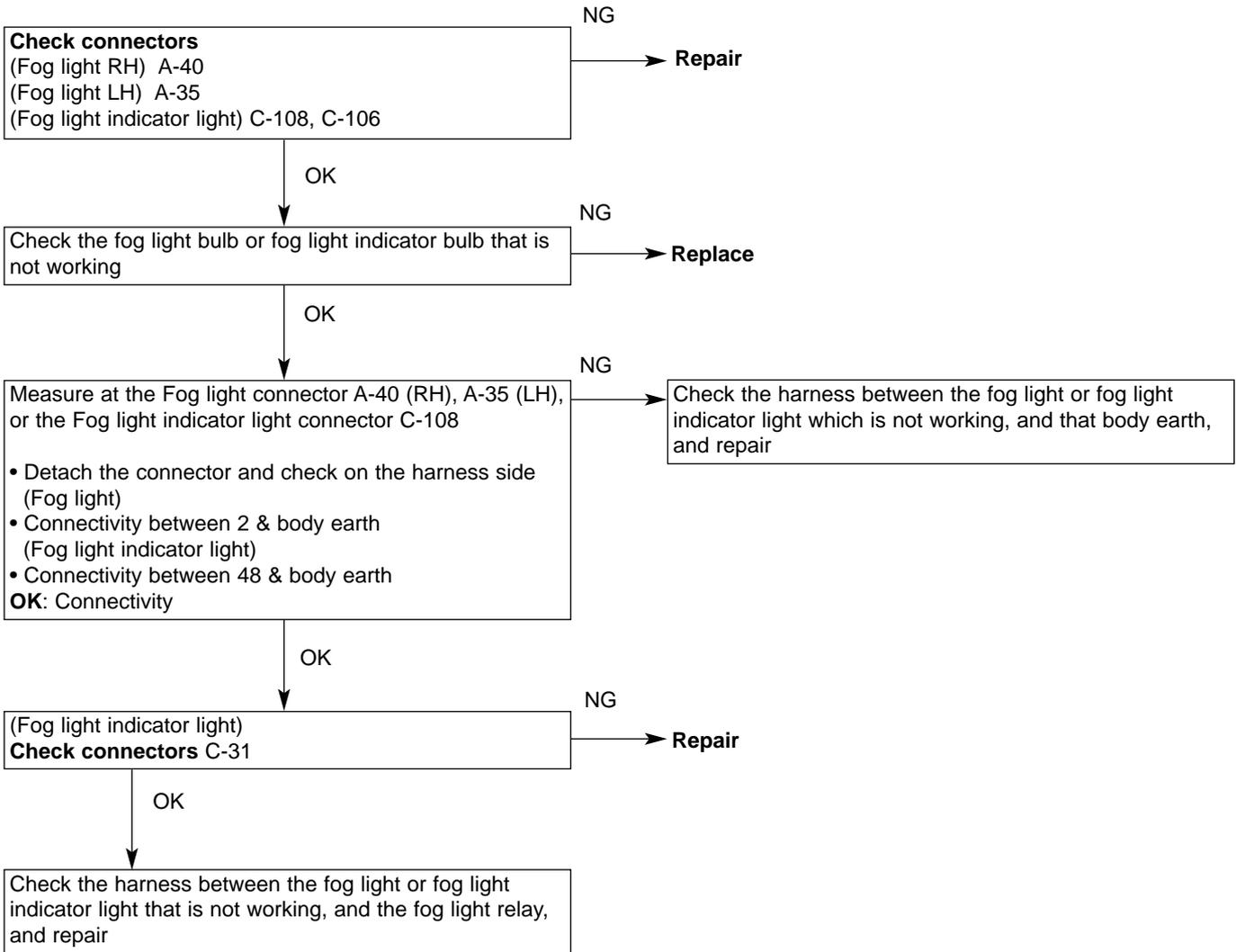


Note:

*: See '00-5 Lancer Sedia Servicing Manual (No. 1036K00)

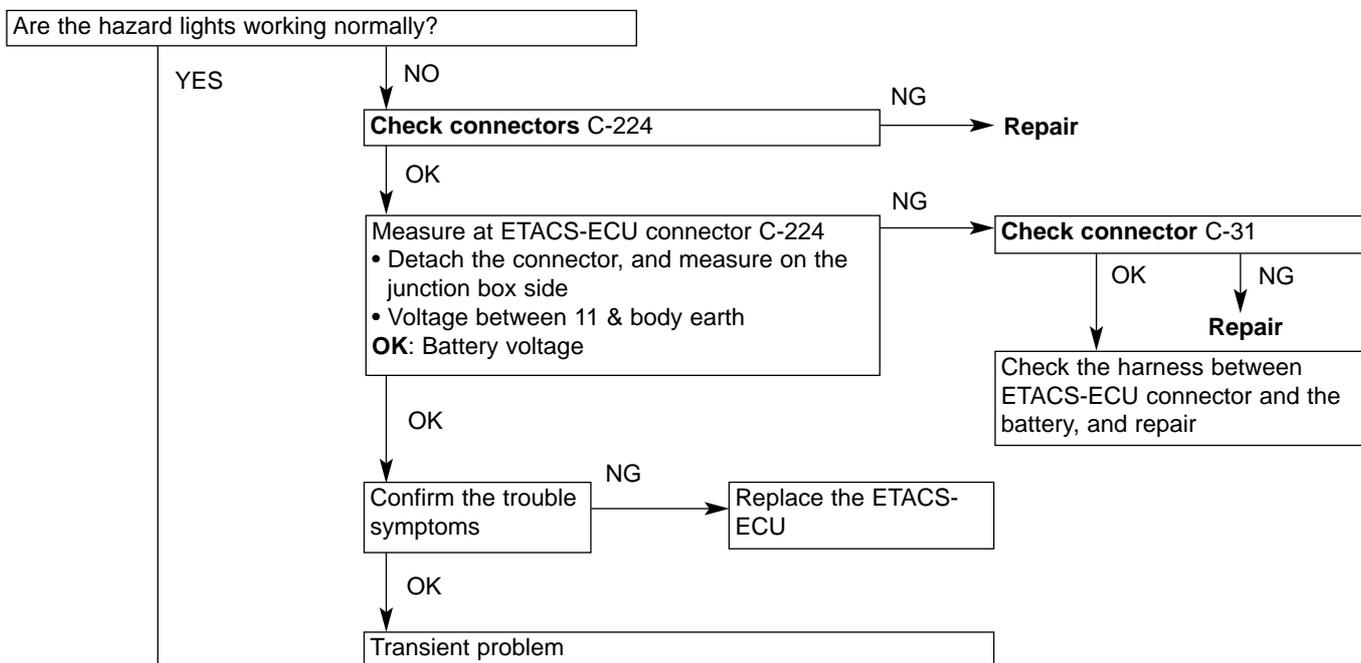
Inspection procedure L-2

One of the fog lights does not light up (including fog light indicator light)	Probable Cause
If any one of the fog lights does not light up normally, then there is probably a fault in the harness/connectors, or a fault in the bulb	<ul style="list-style-type: none"> • Fault in fog light bulb • Fault in harness or connectors



Inspection procedure M-1

Turn indicator lights do not light up	Probable Cause
If none of the turn indicator lights is working, then there is probably a problem in the ignition switch (IG1) or turn indicator light switch input circuit system, or a fault in the ETACS-ECU.	<ul style="list-style-type: none"> • Fault in column switch • Fault in ETACS-ECU • Fault in harness or connectors



SW monitor service data
 (Function by Diagnosis) Turn indicator lights: R turn signal
 • Turn indicator light switch: RH
 • Ignition switch: ON

Item No.	Item Name	Normal state
(a) 30	Ignition SW IG1	ON
(b) 10	RH turn indicator SW	ON

OK: Normal value displayed for all

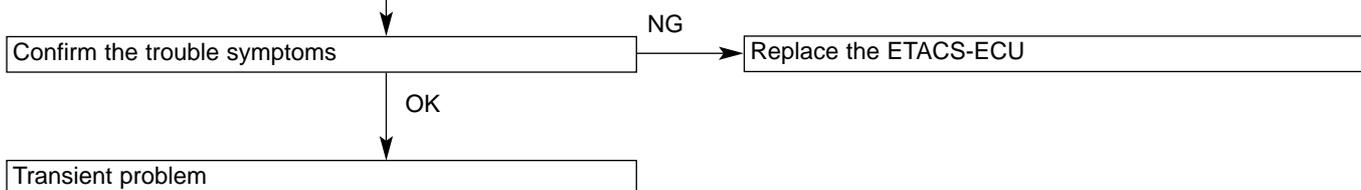
NG (a) → To Inspection procedure R-2 Ignition switch (IG1) signal not input (p.54B-96)
 NG (b) → To Inspection procedure R-5 RH turn indicator light switch signal not input (p.54B-99)

SW monitor service data
 (Function by Diagnosis) Turn indicator lights: L turn signal
 • Turn indicator light switch: LH
 • Ignition switch: ON

Item No.	Item Name	Normal state
11	LH turn indicator SW	ON

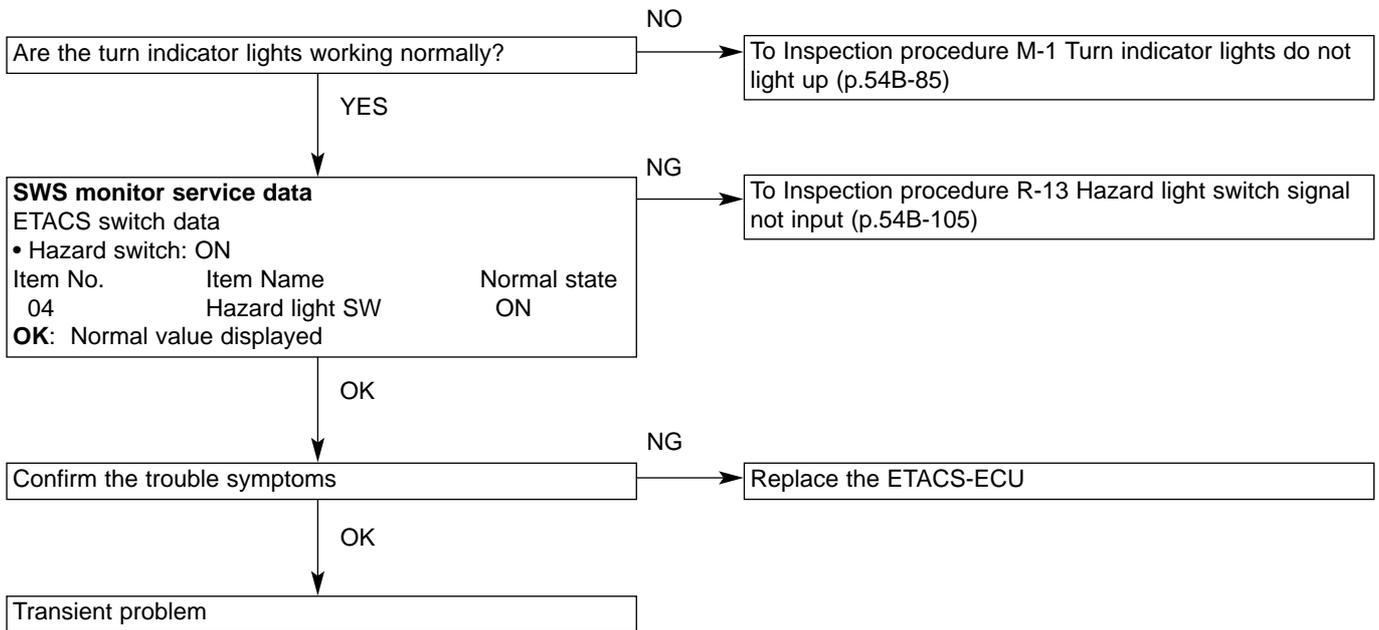
OK: Normal value displayed

NG → To Inspection procedure R-5 LH turn indicator light switch signal not input (p.54B-99)



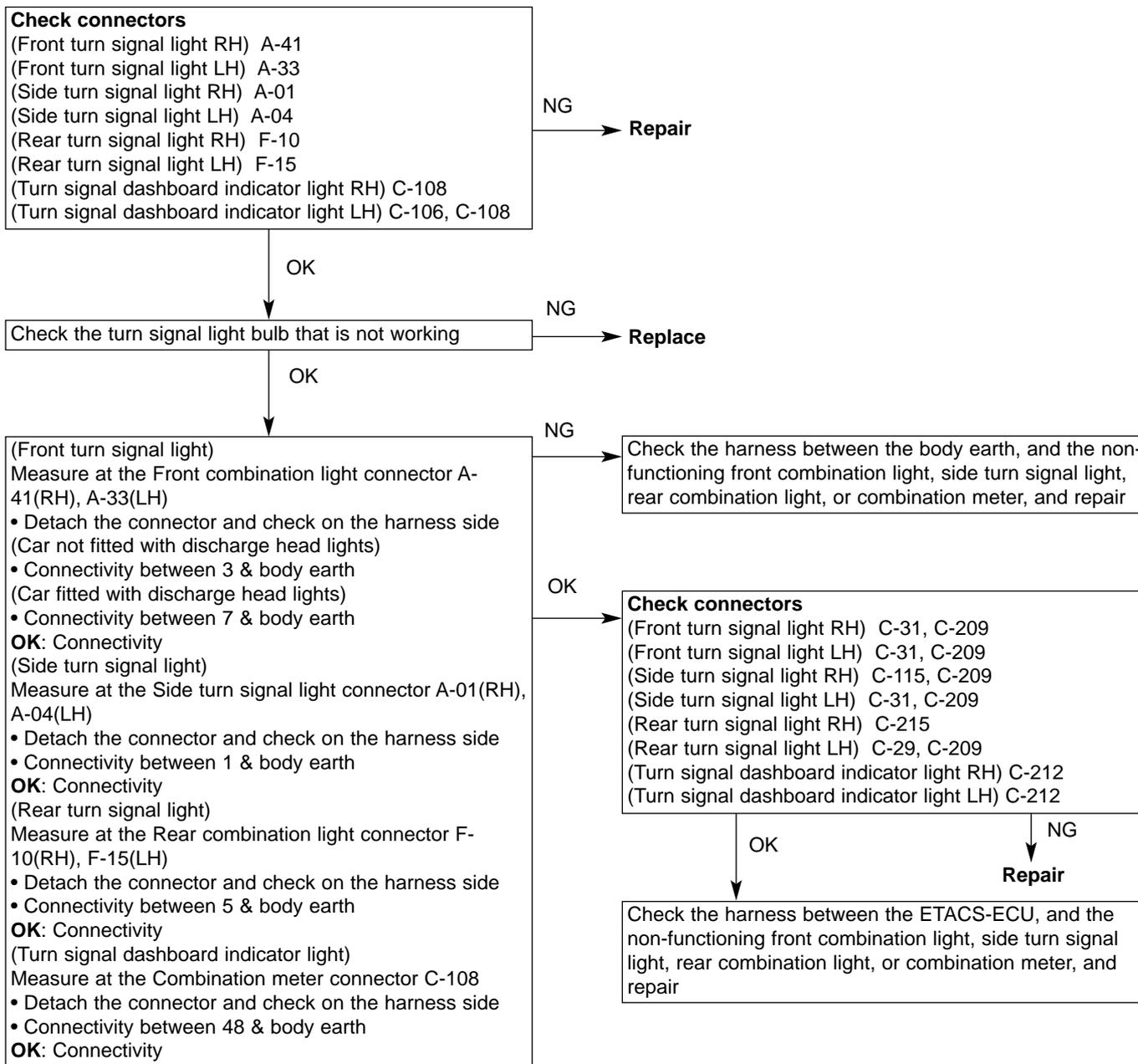
Inspection procedure M-2

Hazard lights do not light up	Probable Cause
If the hazard lights do not light up, then there is probably a problem in the hazard light switch input circuit system, or a fault in the ETACS-ECU.	<ul style="list-style-type: none"> • Fault in hazard light switch • Fault in ETACS-ECU • Fault in harness or connectors



Inspection procedure M-3

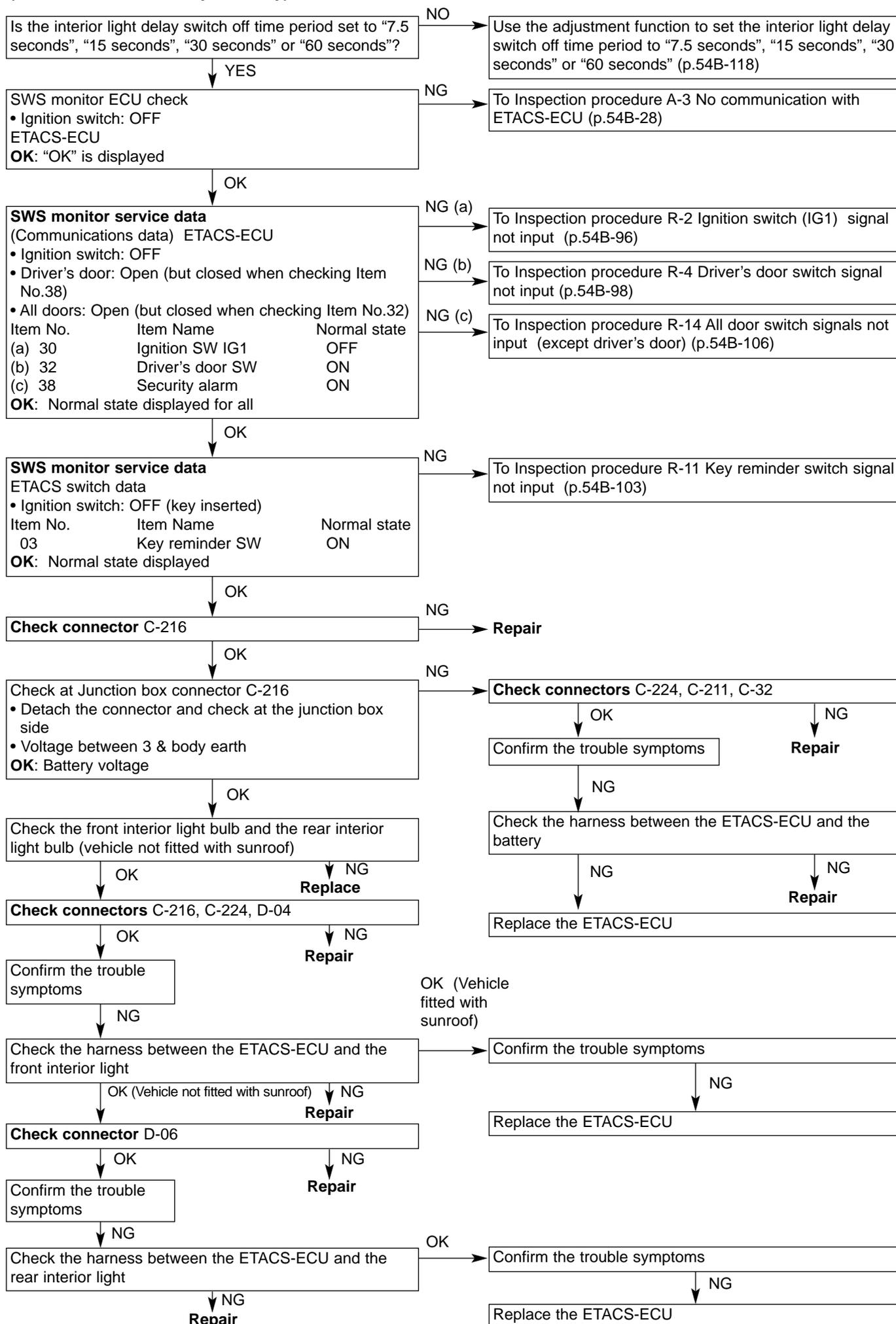
One of the turn indicator lights does not light up	Probable Cause
If one of the turn indicator lights is not working correctly, then there is probably a fault in the harness/connector, or a fault in the bulb.	<ul style="list-style-type: none"> • Fault in turn indicator light bulb • Fault in harness or connectors



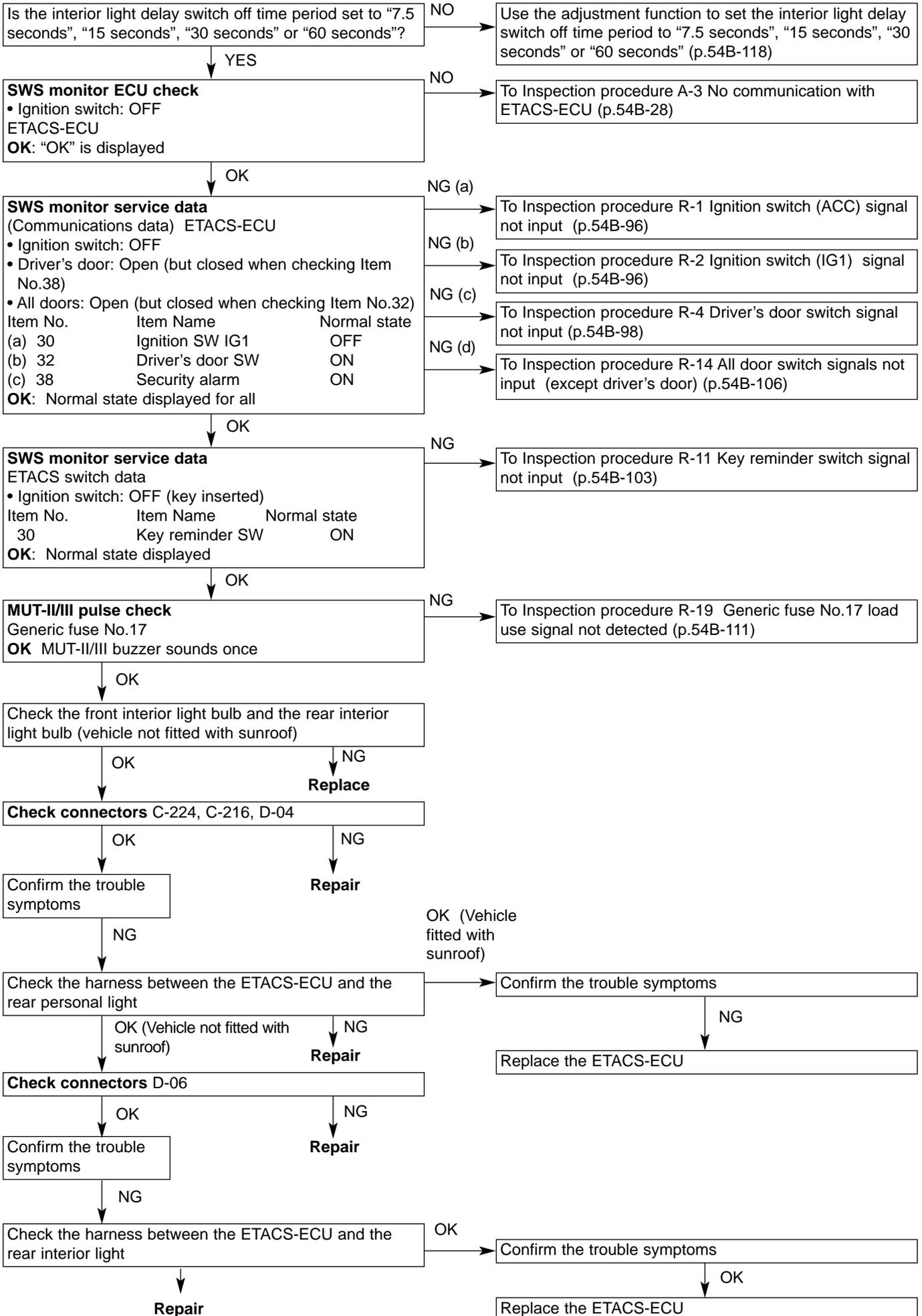
Inspection procedure N-1

Front interior light and/or rear interior light does not light up or switch off correctly (vehicle not fitted with sunroof)	Probable Cause
<p>(Vehicle not fitted with keyless entry)</p> <p>The front interior light and/or rear interior light (in vehicles not fitted with a sunroof) switches on/off by determining the following input signals in the ETACS-ECU.</p> <ul style="list-style-type: none"> • Ignition switch (IG1) • Key reminder switch • Driver's door switch • All door switch • Driver's door lock actuator <p>If the lights do not work correctly, then there is probably a problem in the input circuit system for these signals, or a fault in the ETACS-ECU. It is possible that the delay switch off time has been set to "0 seconds" by the adjustment function.</p>	<ul style="list-style-type: none"> • Fault in key reminder switch • Fault in door switch • Fault in driver's door lock actuator • Fault in ETACS-ECU • Fault in harness or connectors
<p>(Vehicle fitted with keyless entry)</p> <p>The front interior light and/or rear interior light (in vehicles not fitted with a sunroof) switches on/off by determining the following input signals in the ETACS-ECU.</p> <p>Moreover, since the interior lights are switched off by the interior light automatic cut-off function, the input signal from this interior light automatic cut-off function must be checked at the same time.</p> <ul style="list-style-type: none"> • Ignition switch (ACC) • Ignition switch (IG1) • Key reminder switch • Driver's door switch • All door switch • Driver's door lock actuator • Generic fuse No. 17 <p>If the lights do not work correctly, then there is probably a problem in the input circuit system for these signals, a malfunction in the interior light automatic cut-off function, or a fault in the ETACS-ECU. It is possible that the delay switch off time has been set to "0 seconds" by the adjustment function.</p>	<ul style="list-style-type: none"> • Fault in key reminder switch • Fault in door switch • Fault in driver's door lock actuator • Fault in ETACS-ECU • Fault in harness or connectors

(Vehicle not fitted with keyless entry)

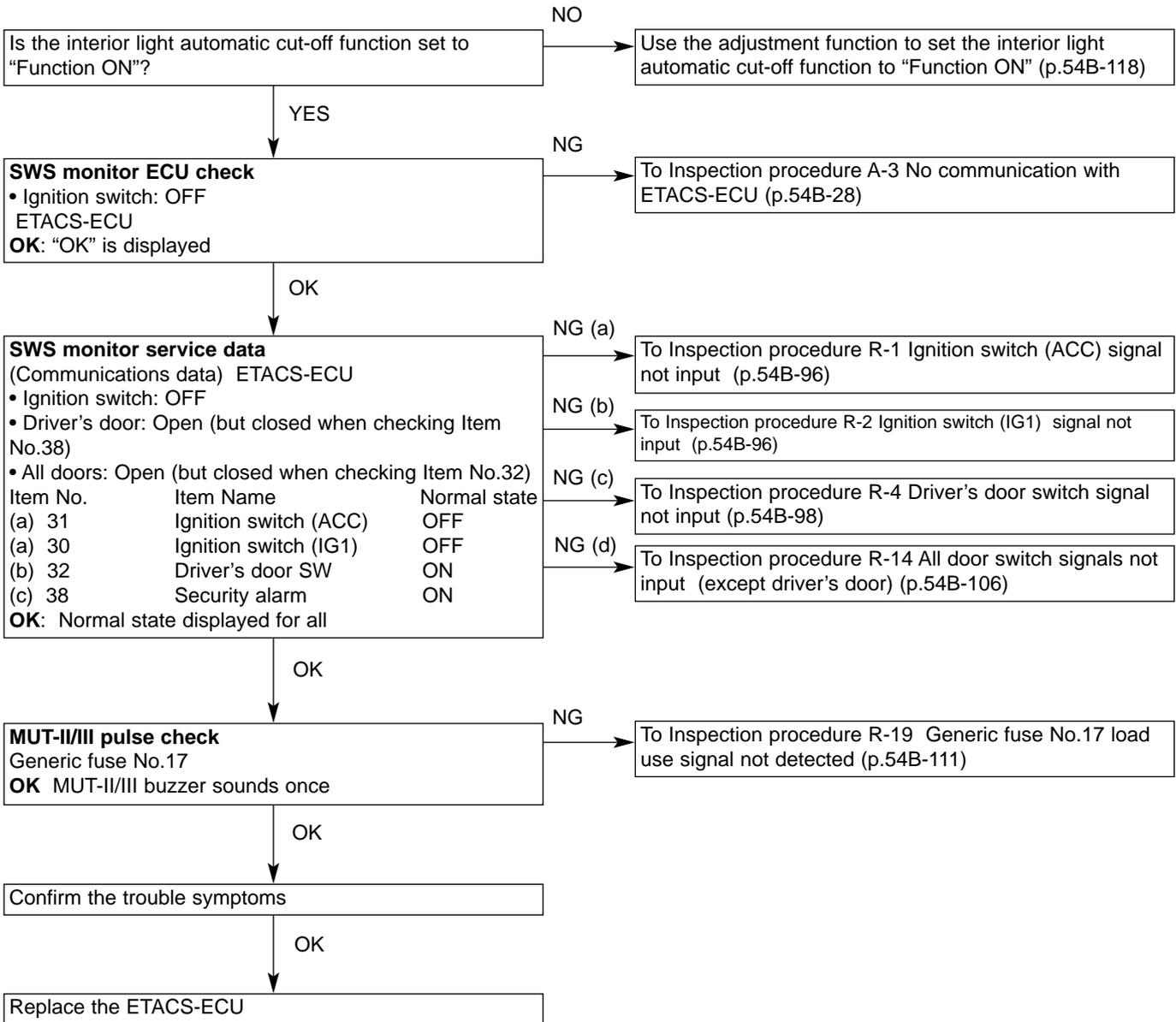


(Vehicle fitted with keyless entry)



Inspection procedure N-2

Interior light automatic cut-off function not working correctly (cars fitted with keyless entry system)	Probable Cause
<p>The interior light automatic cut-off function is operated by determining the following input signals in the ETACS-ECU.</p> <ul style="list-style-type: none"> • Ignition switch (IG1) • Ignition switch (ACC) • Driver's door switch • All door switch • Generic fuse No. 17 <p>If the lights do not work correctly, then there is probably a problem in the input circuit system for these signals, or a fault in the ETACS-ECU. There is also a possibility that the interior light automatic cut-off function has been switched off by the adjustment function.</p>	<ul style="list-style-type: none"> • Fault in all door switch • Fault in interior light switch • Fault in ETACS-ECU • Fault in harness or connectors

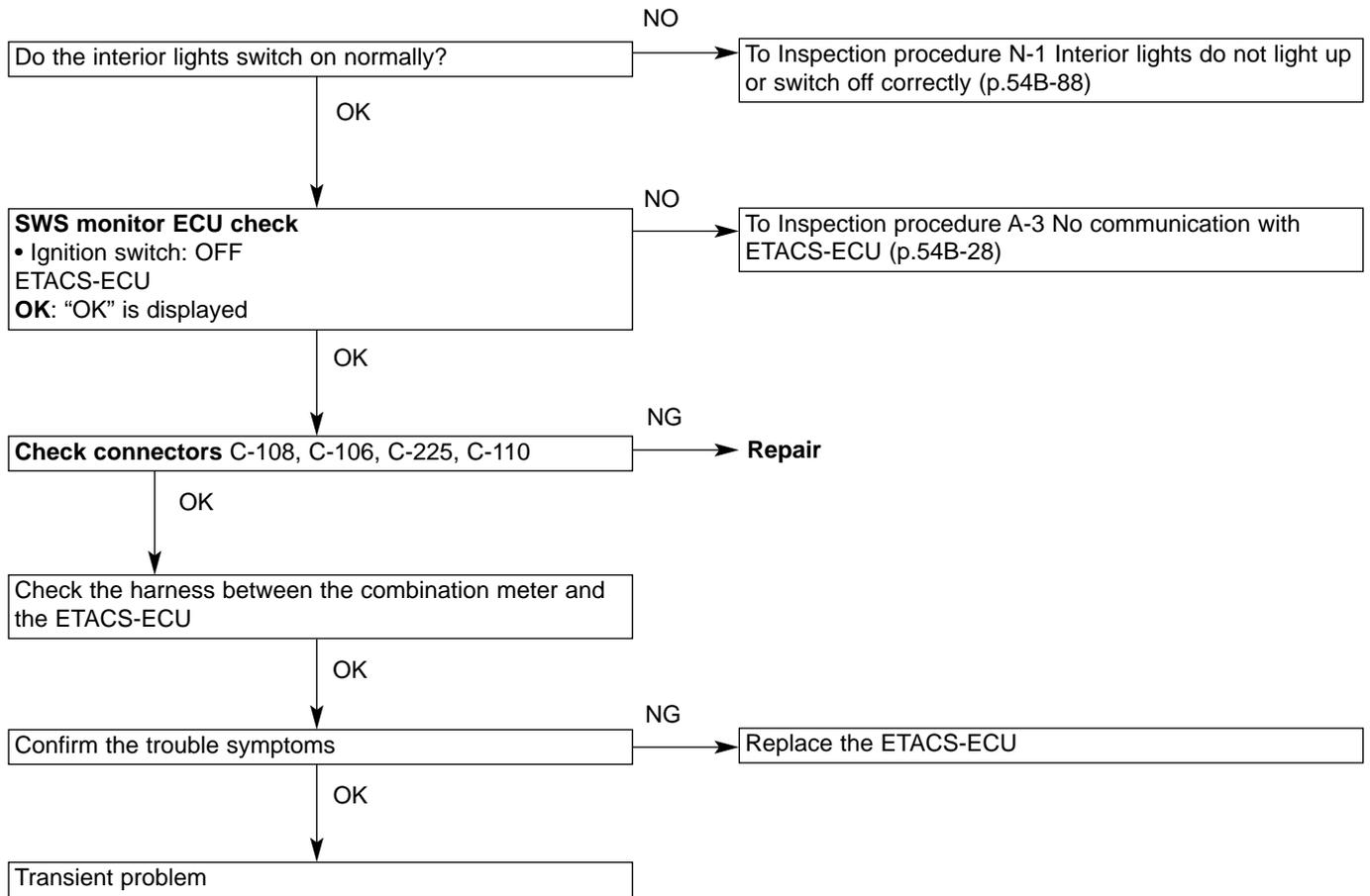


Note:

If only one of the interior lights will not switch off (front interior light, rear interior light (vehicle not fitted with sunroof), boot interior light, door ajar indicator light, ignition key cylinder illumination light), then check the bulb, and the harnesses between the ETACS-ECU and the light, and the light and the body earth.

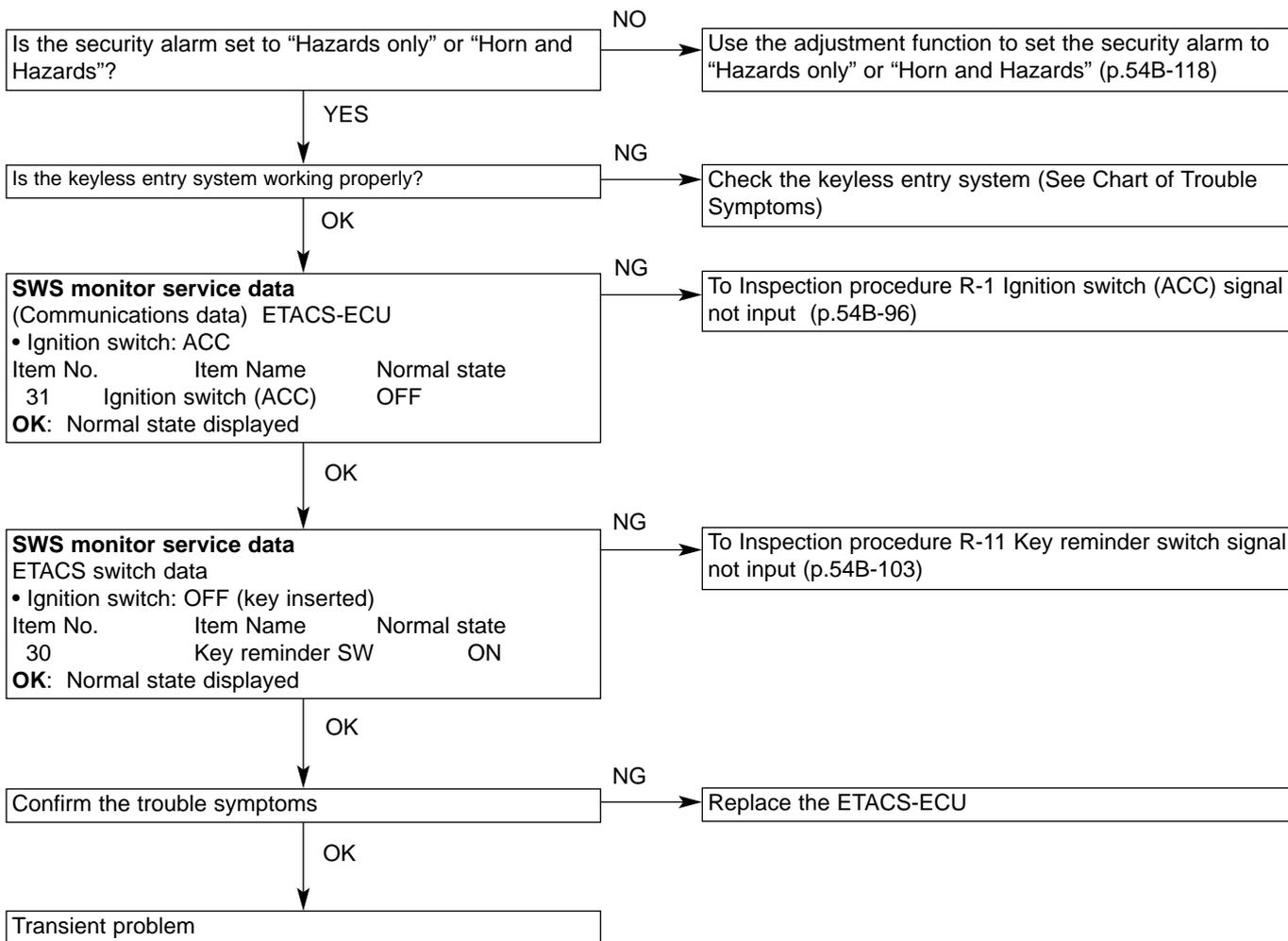
Inspection procedure O-1

Door ajar indicator light does not light up or switch off correctly	Probable Cause
<p>The door ajar indicator light is lit up by determining the following input signals in the ETACS-ECU.</p> <ul style="list-style-type: none"> • Driver's door switch • All door switch <p>If the light does not work correctly, then there is probably a problem in the input circuit system for these signals, or a fault in the ETACS-ECU.</p>	<ul style="list-style-type: none"> • Fault in all door switch • Fault in combination meter • Fault in ETACS-ECU • Fault in harness or connectors



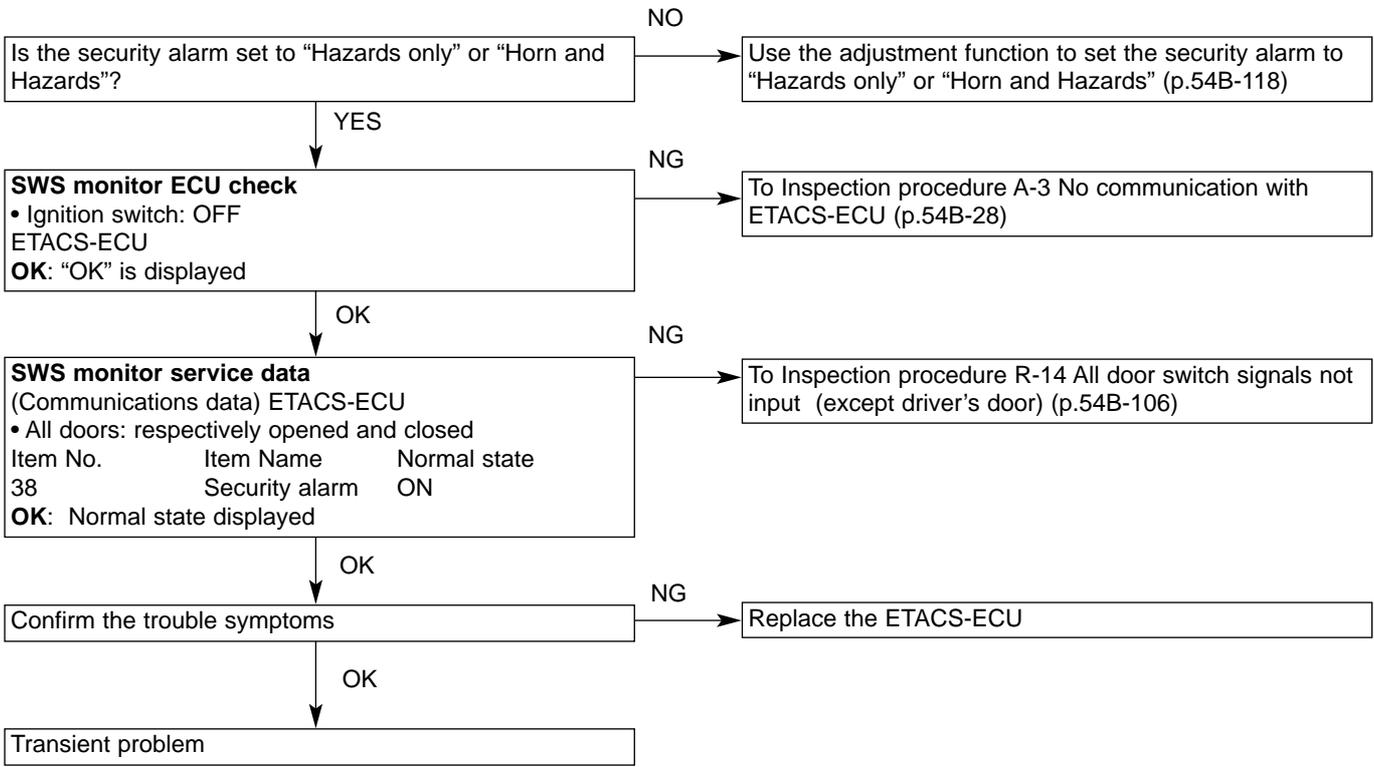
Inspection procedure P-1

Security alarm does not enter warning state	Probable Cause
<p>This function is operated by determining the following input signals in the ETACS-ECU.</p> <ul style="list-style-type: none"> • Keyless entry transmitter switch • Key reminder switch • Ignition switch (ACC) <p>If the function does not work correctly, then there is probably a problem in the input circuit system for these signals, or a fault in the ETACS-ECU.</p>	<ul style="list-style-type: none"> • Fault in keyless entry transmitter • Fault in key reminder switch • Fault in ETACS-ECU • Fault in harness or connectors



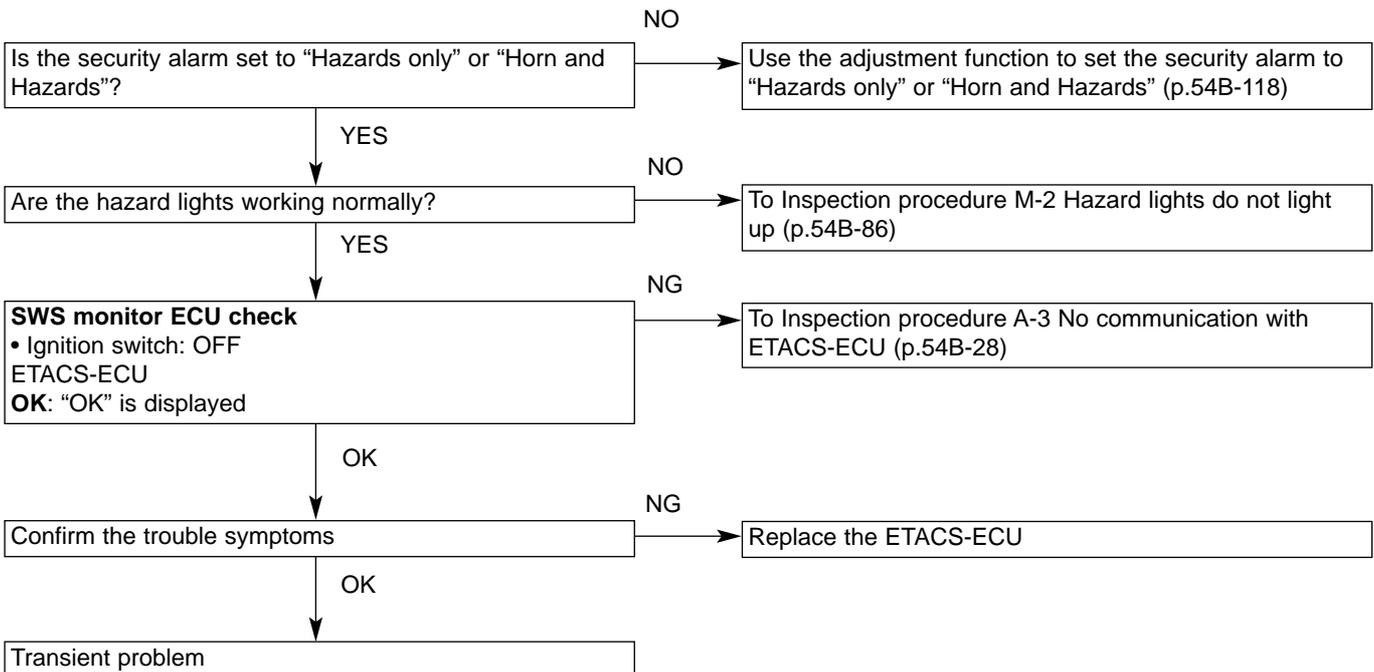
Inspection procedure P-2

Interior warning does not operate correctly when security alarm operates	Probable Cause
This function is operated by determining the all door switch input signal in the ETACS-ECU. If the function does not work correctly, then there is probably a problem in the input circuit system for this signal, or a fault in the ETACS-ECU.	<ul style="list-style-type: none"> • Fault in all door switch • Fault in ETACS-ECU • Fault in harness or connectors



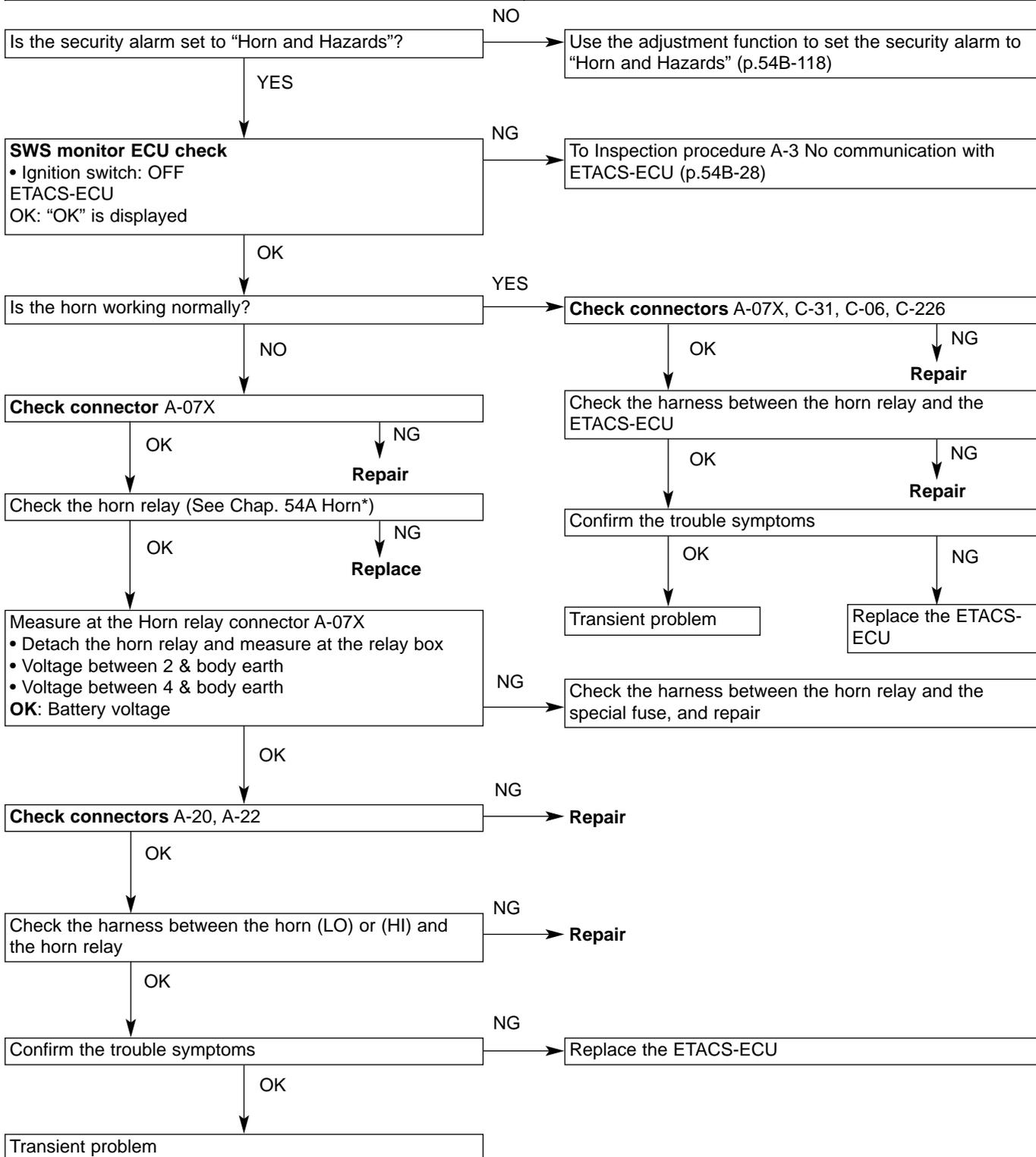
Inspection procedure P-3

Hazard lights do not flash when security alarm operates	Probable Cause
This function is operated by the ETACS-ECU. If the hazard lights do not flash properly, then there is probably a fault in the ETACS-ECU.	<ul style="list-style-type: none"> • Fault in ETACS-ECU • Fault in harness or connectors



Inspection procedure P-4

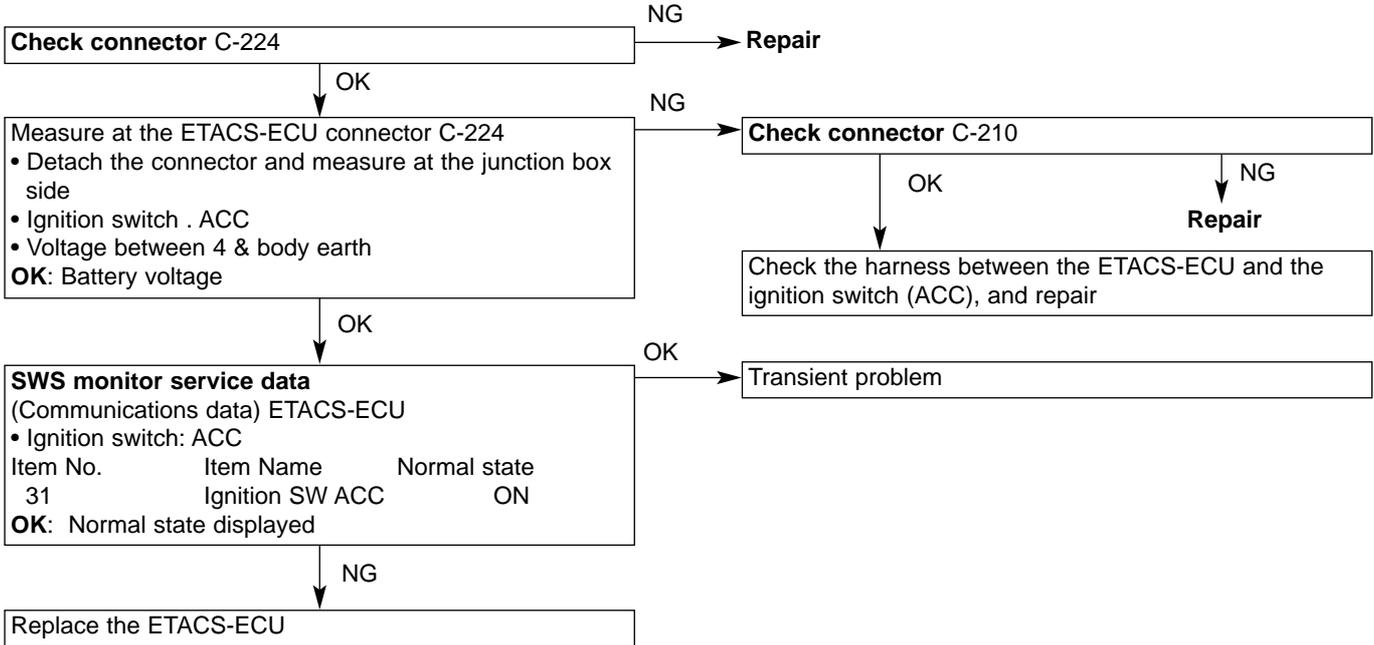
Horn does not sound when security alarm operates	Probable Cause
This function is operated by the ETACS-ECU. If the horn does not sound, then there is probably a fault in the ETACS-ECU.	<ul style="list-style-type: none"> • Fault in ETACS-ECU • Fault in harness or connectors



*: See '00-5 Lancer Sedia Servicing Manual (No. 1036K00)

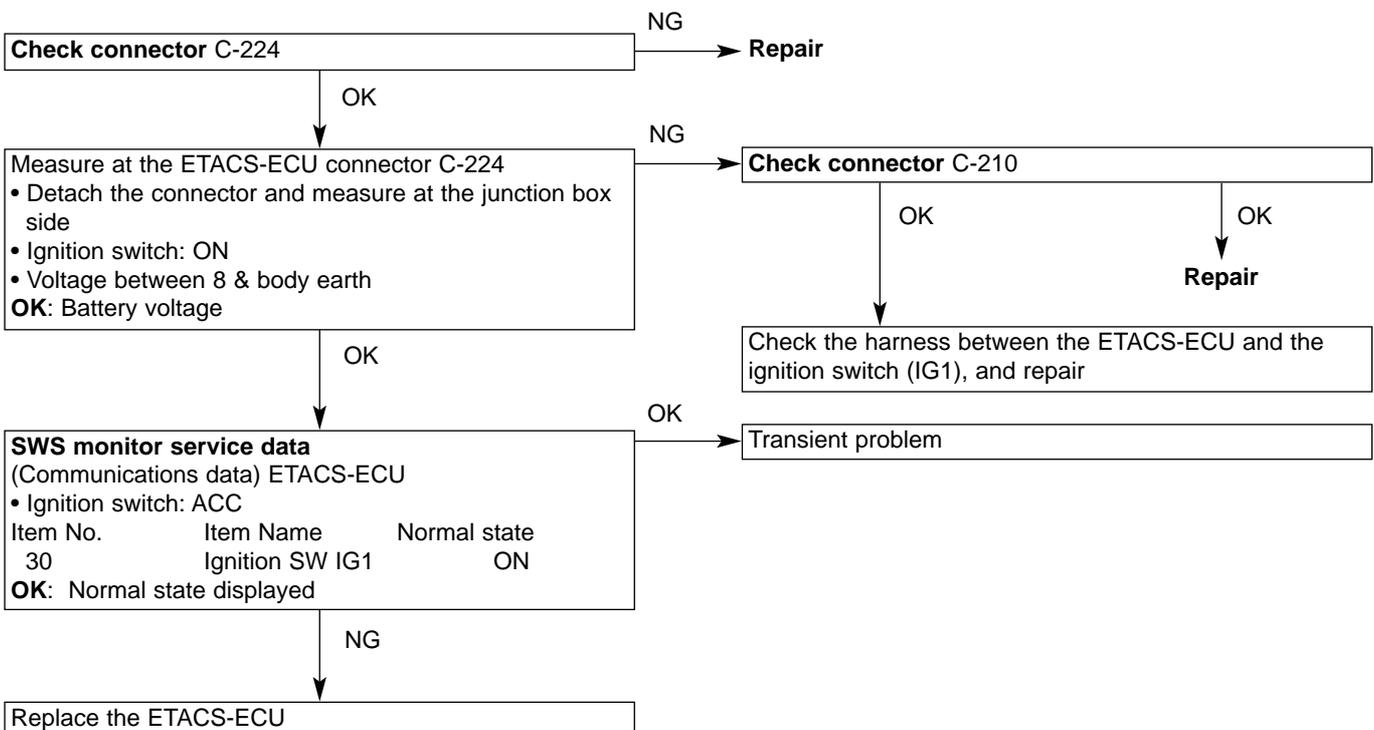
Inspection procedure R-1

Ignition switch (ACC) signal not input	Probable Cause
If there is a problem in the ignition switch (ACC) input signal, then the ignition switch (ACC) signal will cease to be output to the SWS communications line.	<ul style="list-style-type: none"> • Fault in ETACS-ECU • Fault in harness or connectors



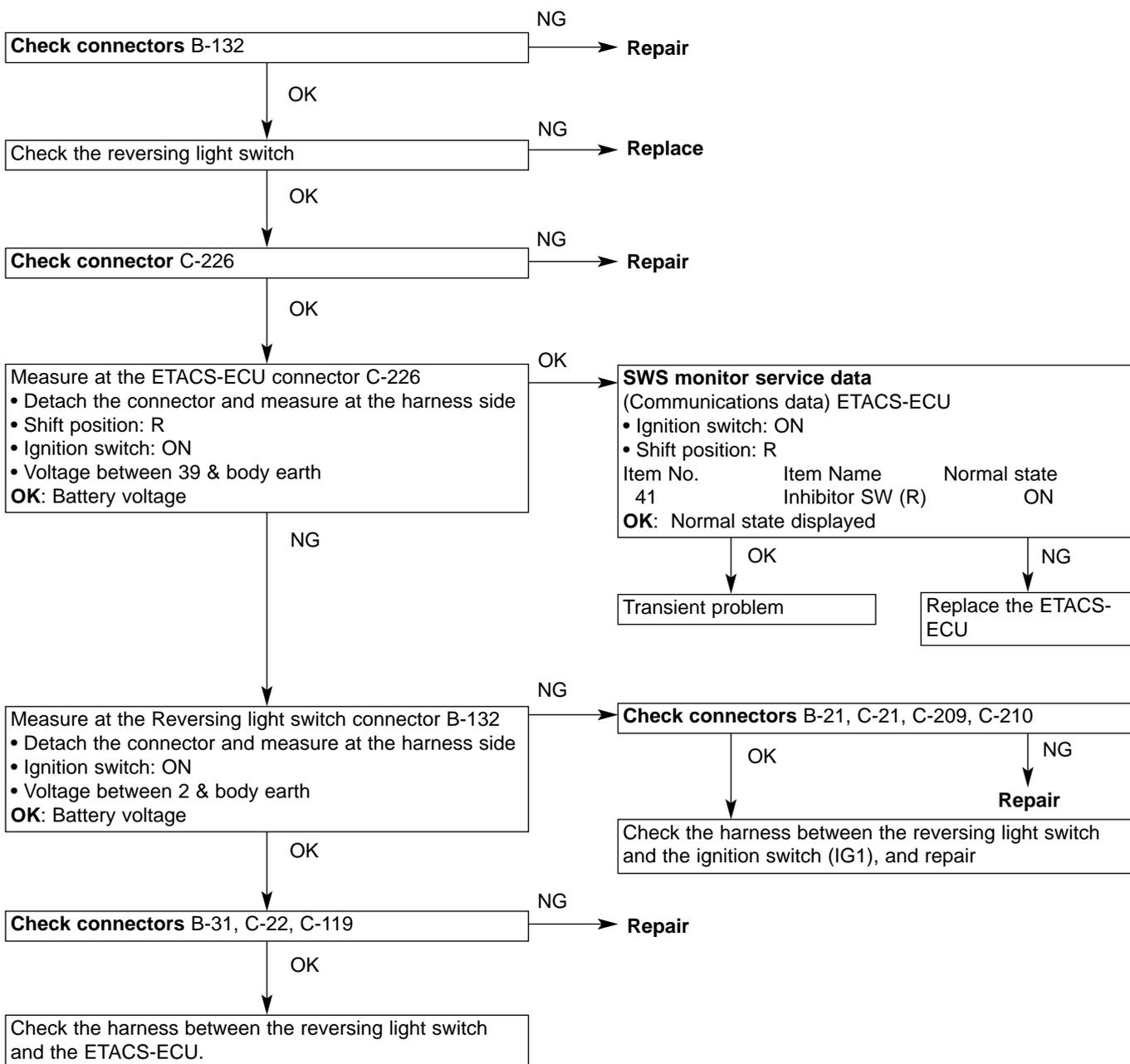
Inspection procedure R-2

Ignition switch (IG1) signal not input	Probable Cause
If there is a problem in the ignition switch (IG1) input signal, then the ignition switch (IG1) signal will cease to be output to the SWS communications line.	<ul style="list-style-type: none"> • Fault in ETACS-ECU • Fault in harness or connectors



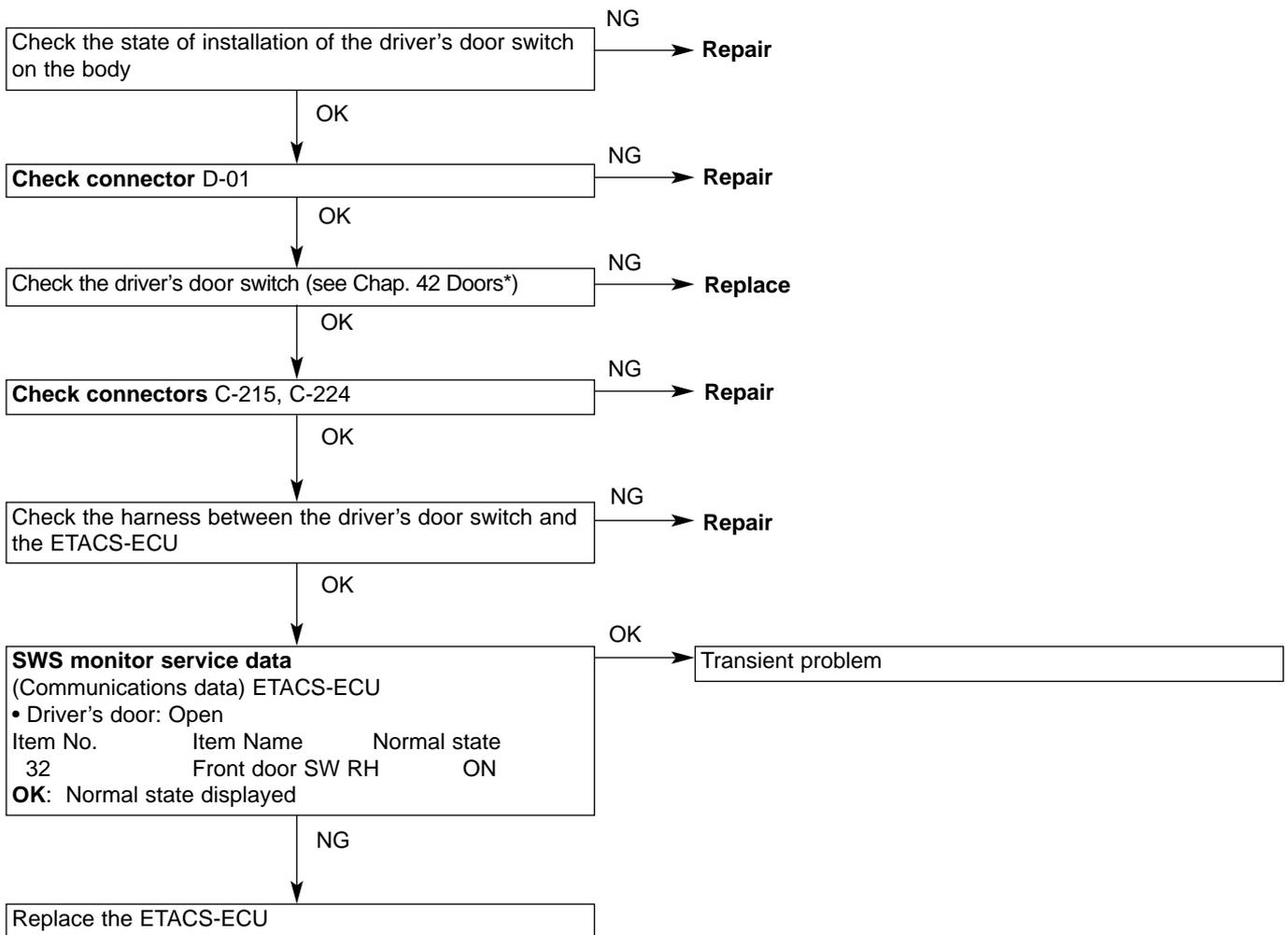
Inspection procedure R-3

Reversing light switch signal not input	Probable Cause
If there is a problem in the reversing light switch input signal, then the reversing light switch signal will cease to be output to the SWS communications line.	<ul style="list-style-type: none"> • Fault in the reversing light • Fault in ETACS-ECU • Fault in harness or connectors



Inspection procedure R-4

Driver's door switch signal not input	Probable Cause
If there is a problem in the input signal for the driver's door switch, then this driver's door switch signal will cease to be output to the SWS communications line.	<ul style="list-style-type: none"> • Fault in driver's door switch • Fault in ETACS-ECU • Fault in harness or connectors

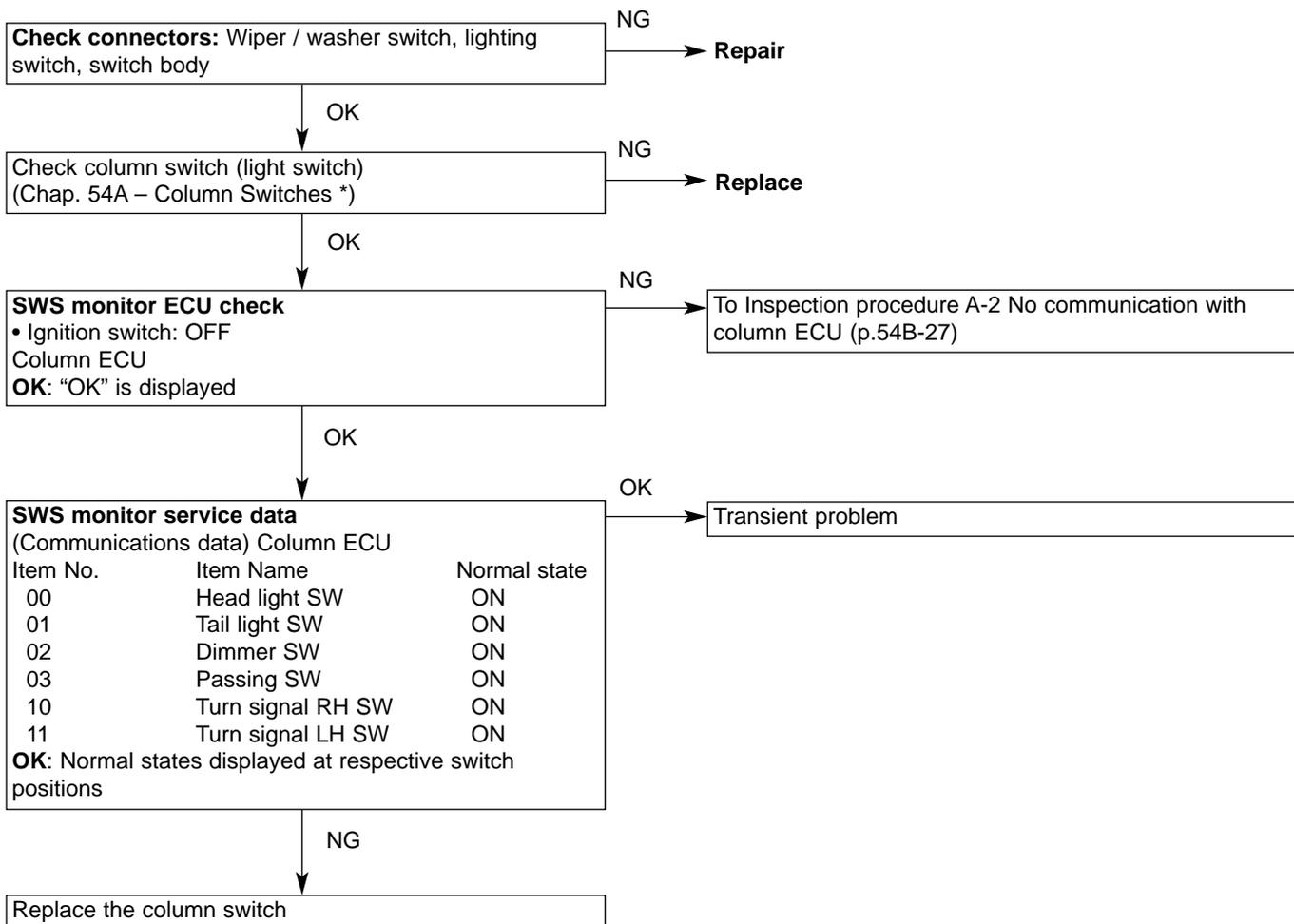


Note:

*: See '00-5 Lancer Sedia Servicing Manual (No. 1036K00)

Inspection procedure R-5

<p>Column switches</p> <ul style="list-style-type: none"> • Tail light switch signal not input • Headlight switch signal not input • Dimmer switch signal not input • Passing switch signal not input • LH turn indicator light switch signal not input • RH turn indicator light switch signal not input 	<p>Probable Cause</p>
<p>If there is a problem in the input signal of the column switch (lighting switch), then the column switch signal (light switch signal) will cease to be output to the SWS communications line.</p>	<ul style="list-style-type: none"> • Fault in column switch • Fault in harness or connectors

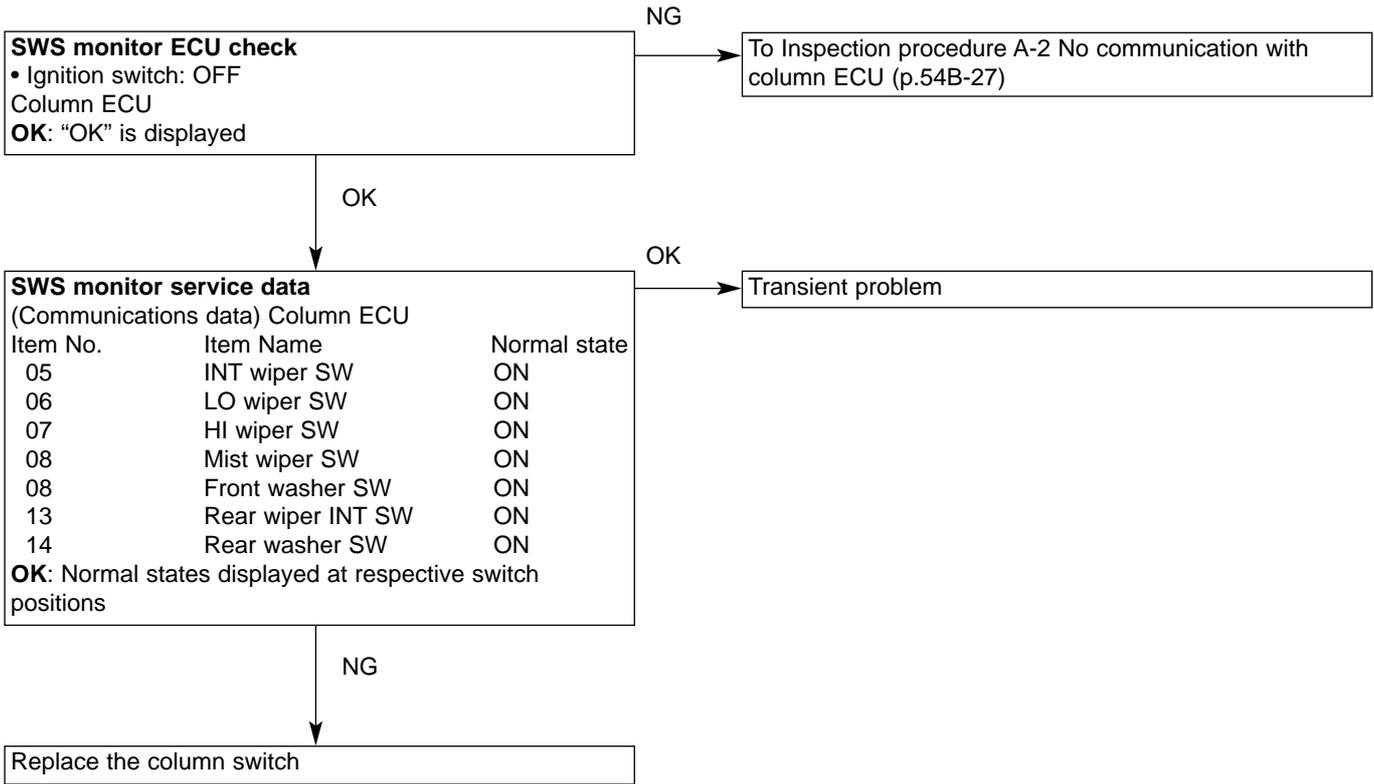


Note:

*: See '00-5 Lancer Sedia Servicing Manual (No. 1036K00)

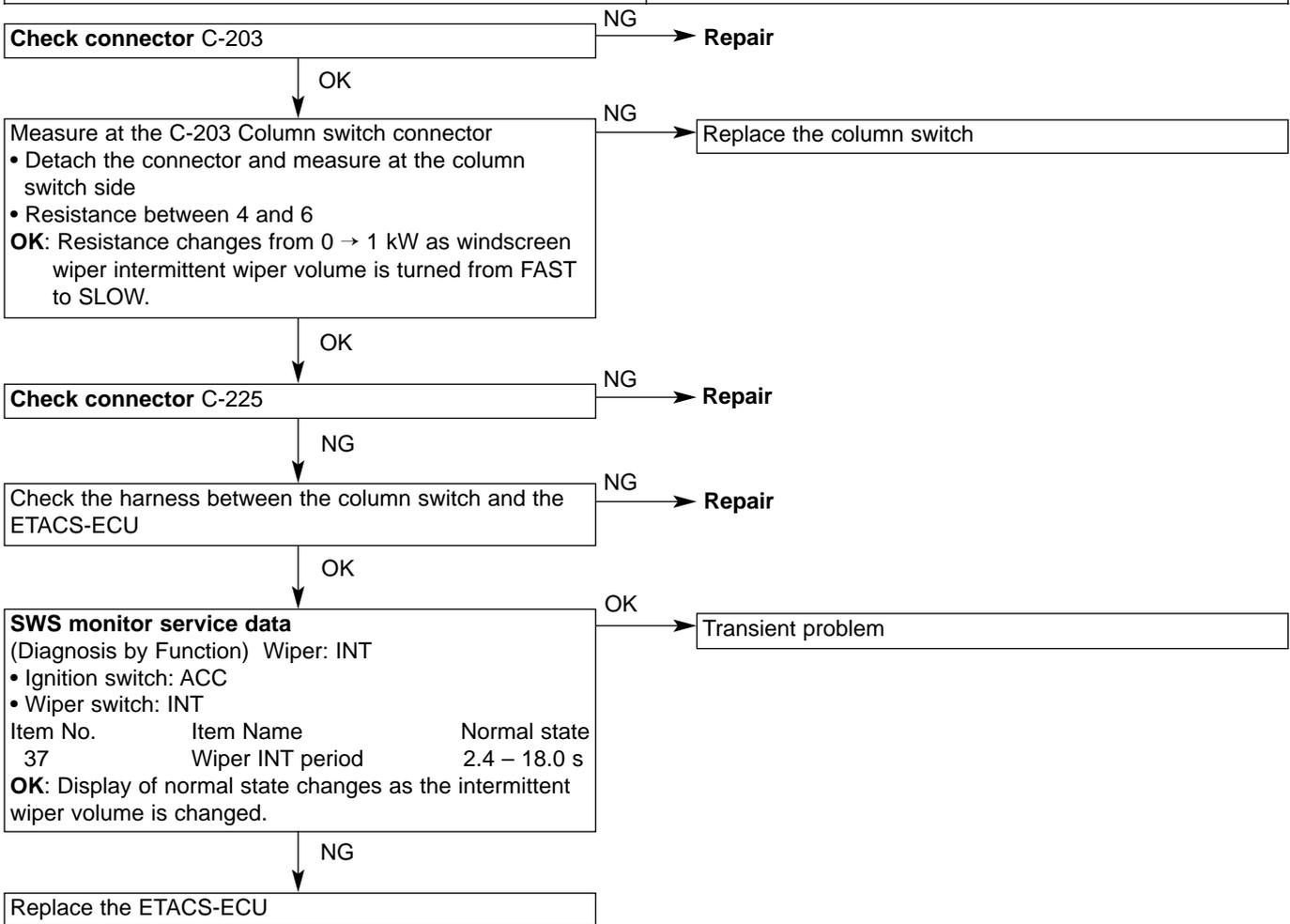
Inspection procedure R-6

<p>Column switches</p> <ul style="list-style-type: none"> • Windscreen mist wiper switch signal not input • Windscreen intermittent wiper switch signal not input • Windscreen low speed wiper switch signal not input • Windscreen high speed wiper switch signal not input • Windscreen washer switch signal not input • Rear wiper switch signal not input • Rear washer switch signal not input 	<p>Probable Cause</p>
<p>If there is a problem in the input signal of the column switches (wiper switches), then the column switch signal (wiper switch signal) will cease to be output to the SWS communications line.</p>	<ul style="list-style-type: none"> • Fault in column switch • Fault in harness or connectors



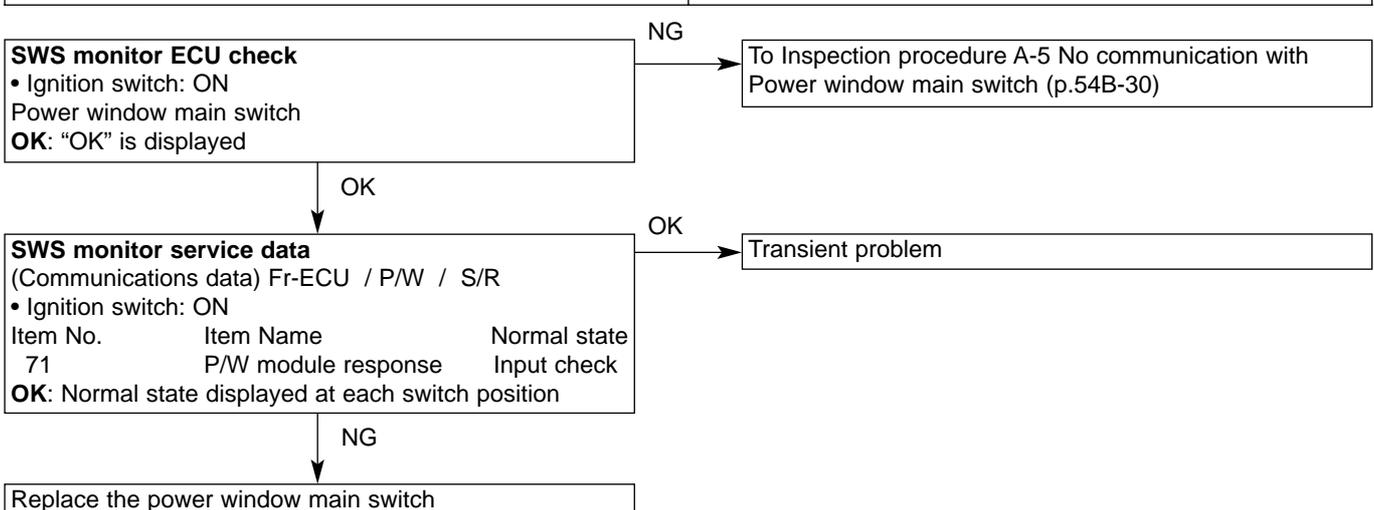
Inspection procedure R-7

Windscreen intermittent wiper volume signal not input from column switch	Probable Cause
If there is a problem in the input signal for the intermittent windscreen wiper volume, then the intermittent wiper interval output to the SWS communications line will be set constantly to 4 seconds.	<ul style="list-style-type: none"> • Fault in column switch • Fault in ETACS-ECU • Fault in harness or connectors



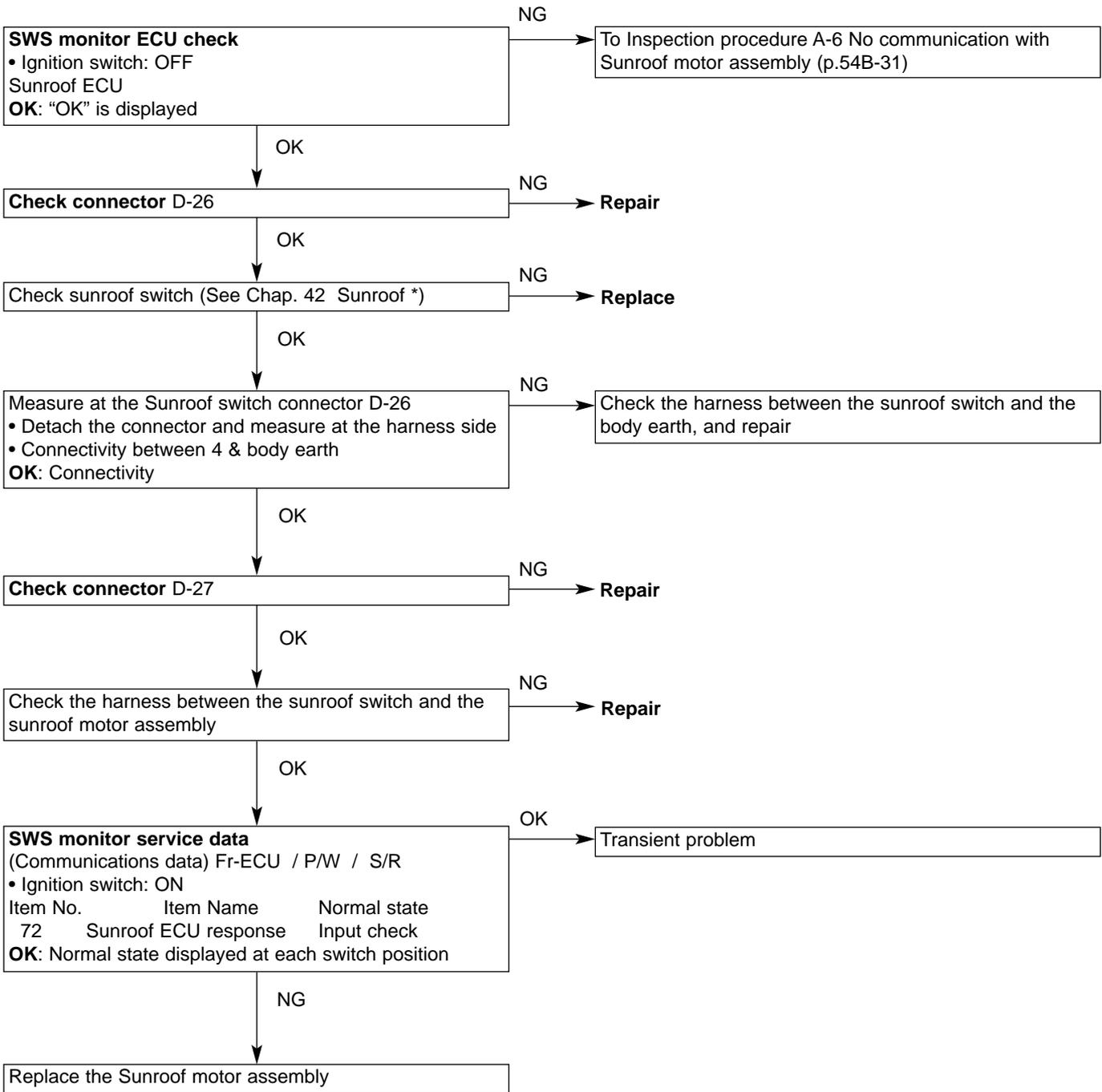
Inspection procedure R-8

Respective switch signals not input from power window main switch	Probable Cause
If there is a problem in the power window main switch, then the input check response signals will cease to be output to the SWS communications line from the power window main switch.	<ul style="list-style-type: none"> • Fault in power window main switch • Fault in harness or connectors



Inspection procedure R-9

Respective switch signals not input for sunroof	Probable Cause
If there is a problem in the sunroof switch input signal, then the sunroof input check response signal will cease to be output to the SWS communications line.	<ul style="list-style-type: none"> • Fault in sunroof motor assembly • Fault in sunroof switch • Fault in harness or connectors

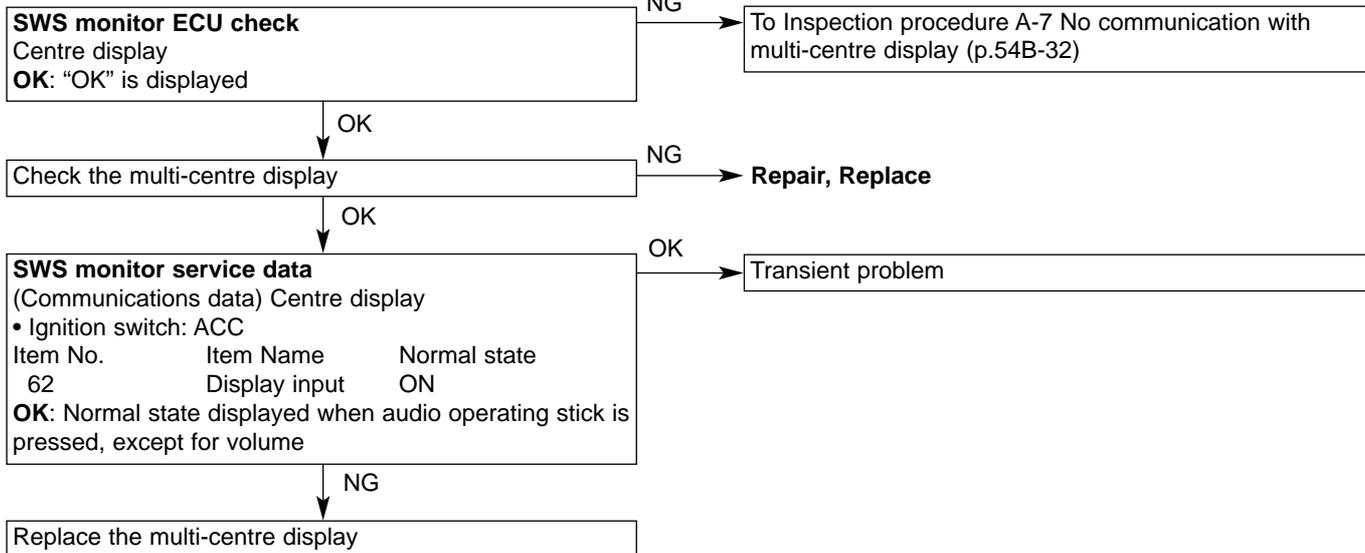


Note:

*: See '00-5 Lancer Sedia Servicing Manual (No. 1036K00)

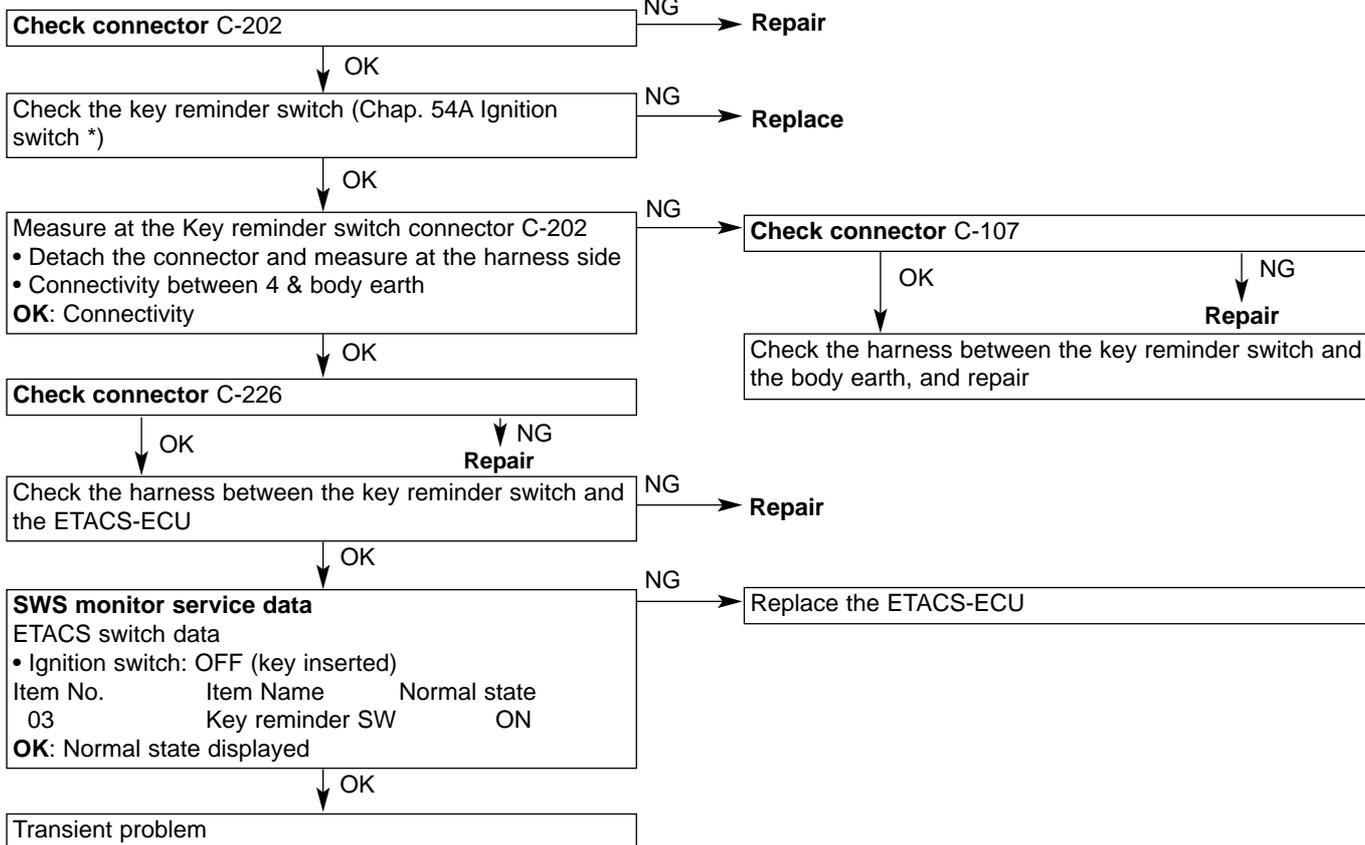
Inspection procedure R-10

Respective switch signals not input for multi-centre display	Probable Cause
If there is a problem in the multi-centre display, then the multi-centre display input check response signal will cease to be output to the SWS communications line.	<ul style="list-style-type: none"> • Fault in multi-centre display • Fault in harness or connectors



Inspection procedure R-11

Key reminder switch signal not input	Probable Cause
The input signal of the key reminder switch is used when determining the operation of the following functions. Therefore, if there is a problem in this input signal, then these functions will not operate correctly. <ul style="list-style-type: none"> • Ignition key left in warning function • Key left in warning function • Keyless entry • Ignition key cylinder illumination light • Interior lights 	<ul style="list-style-type: none"> • Fault in key reminder switch • Fault in ETACS-ECU • Fault in harness or connectors

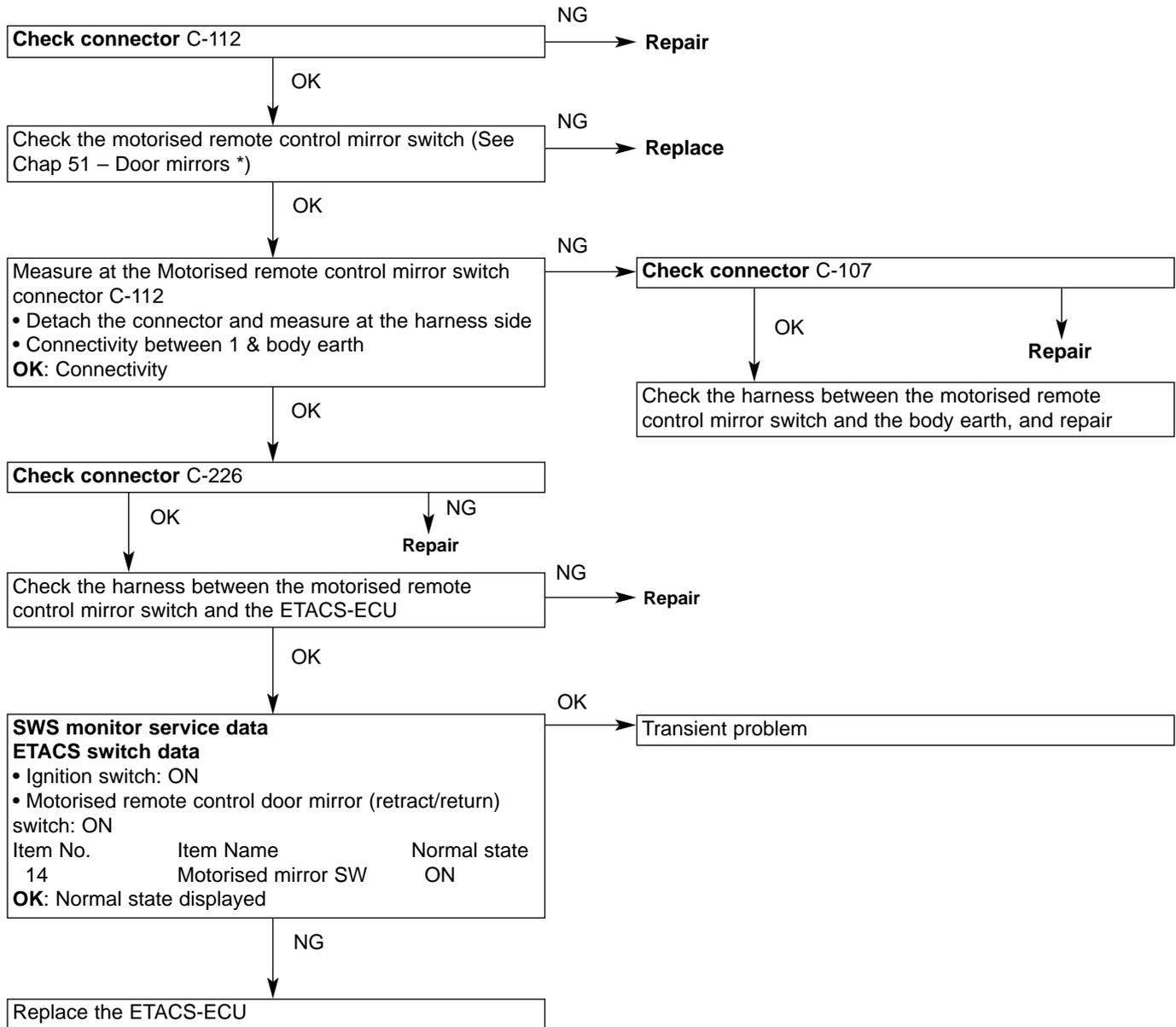


Note:

*: See '00-5 Lancer Sedia Servicing Manual (No. 1036K00)

Inspection procedure R-12

Motorised remote control mirror switch (retract / return switch) signal not input	Probable Cause
The input signal of the motorised remote control mirror switch (retract / return) switch is used to determine the operation of the motorised retractable door mirrors, and therefore, if there is a problem with this signal, the retract/return operation for the door mirrors will not be possible, even when the motorised remote control mirror switch is pressed.	Fault in motorised remote control mirror switch Fault in ETACS-ECU Fault in harness or connectors

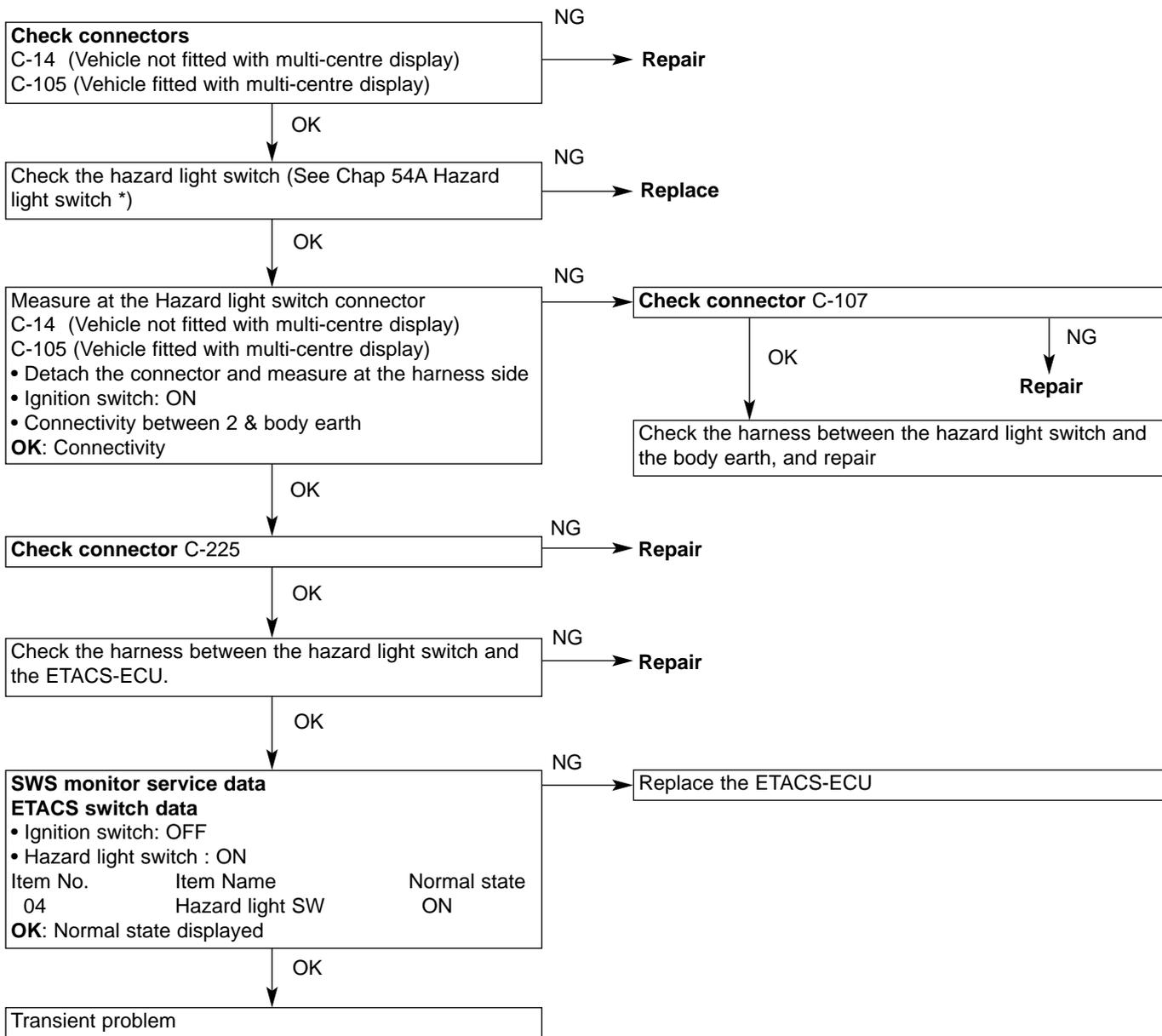


Note:

*: See '00-5 Lancer Sedia Servicing Manual (No. 1036K00)

Inspection procedure R-13

Hazard light switch signal not input	Probable Cause
The hazard light switch input signal is used to determine the operation of the hazard lights, and therefore, if there is a problem with this signal, then the hazard lights will not light up.	<ul style="list-style-type: none"> • Fault in hazard light switch • Fault in ETACS-ECU • Fault in harness or connectors

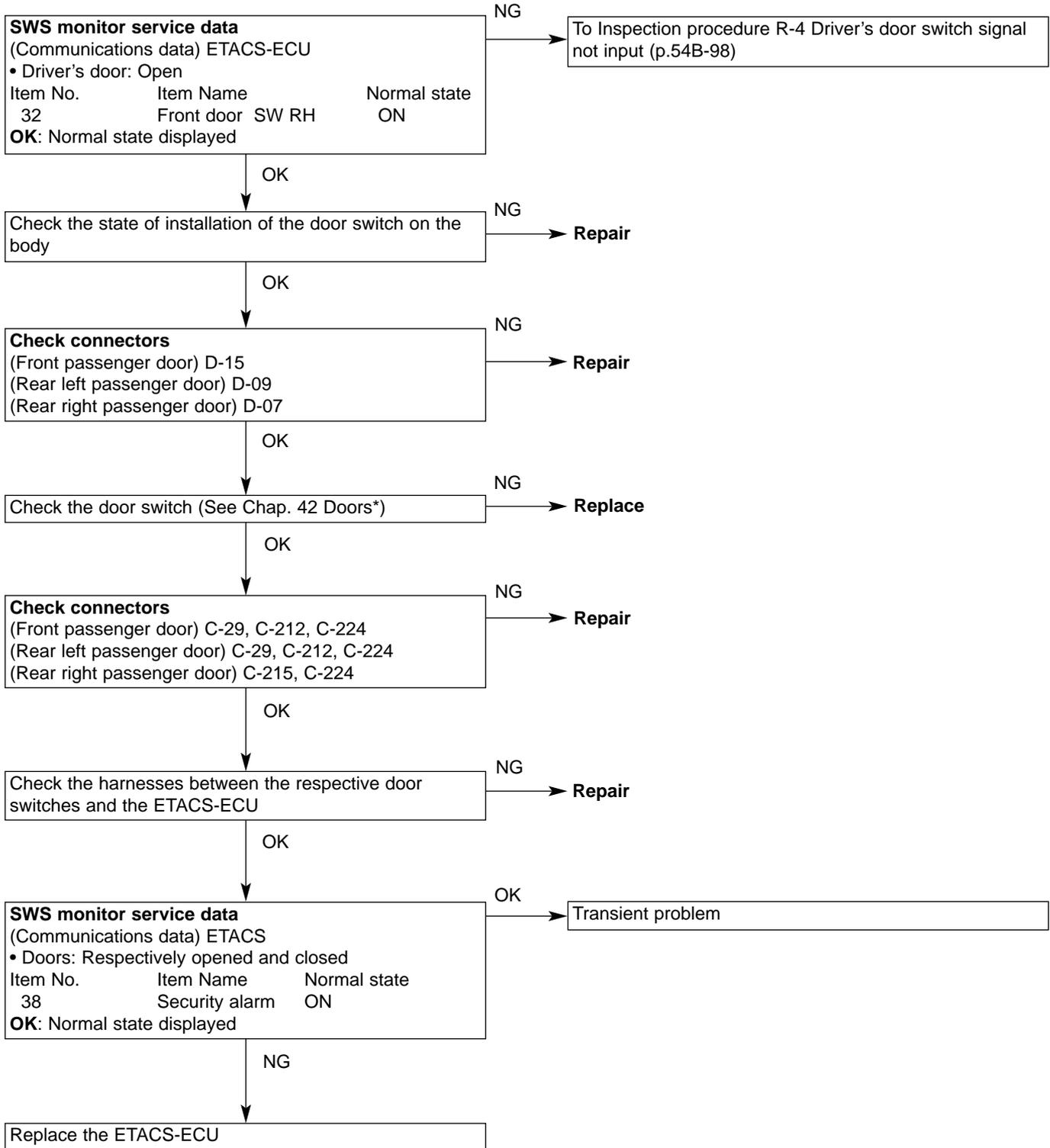


Note:

*: See '00-5 Lancer Sedia Servicing Manual (No. 1036K00)

Inspection procedure R-14

All door switch signals not input (except driver's door)	Probable Cause
Because the input signals from all the door switches are used to determine the operation of the following functions, these functions will not work correctly if there is an error in the input signals. <ul style="list-style-type: none"> • Keyless entry system • Room light The driver's door switch is connected internally via the ETACS-ECU, so it should also be checked that there is no malfunction in the driver's door switch input signal.	<ul style="list-style-type: none"> • Fault in door switch • Fault in ETACS-ECU • Fault in harness or connectors

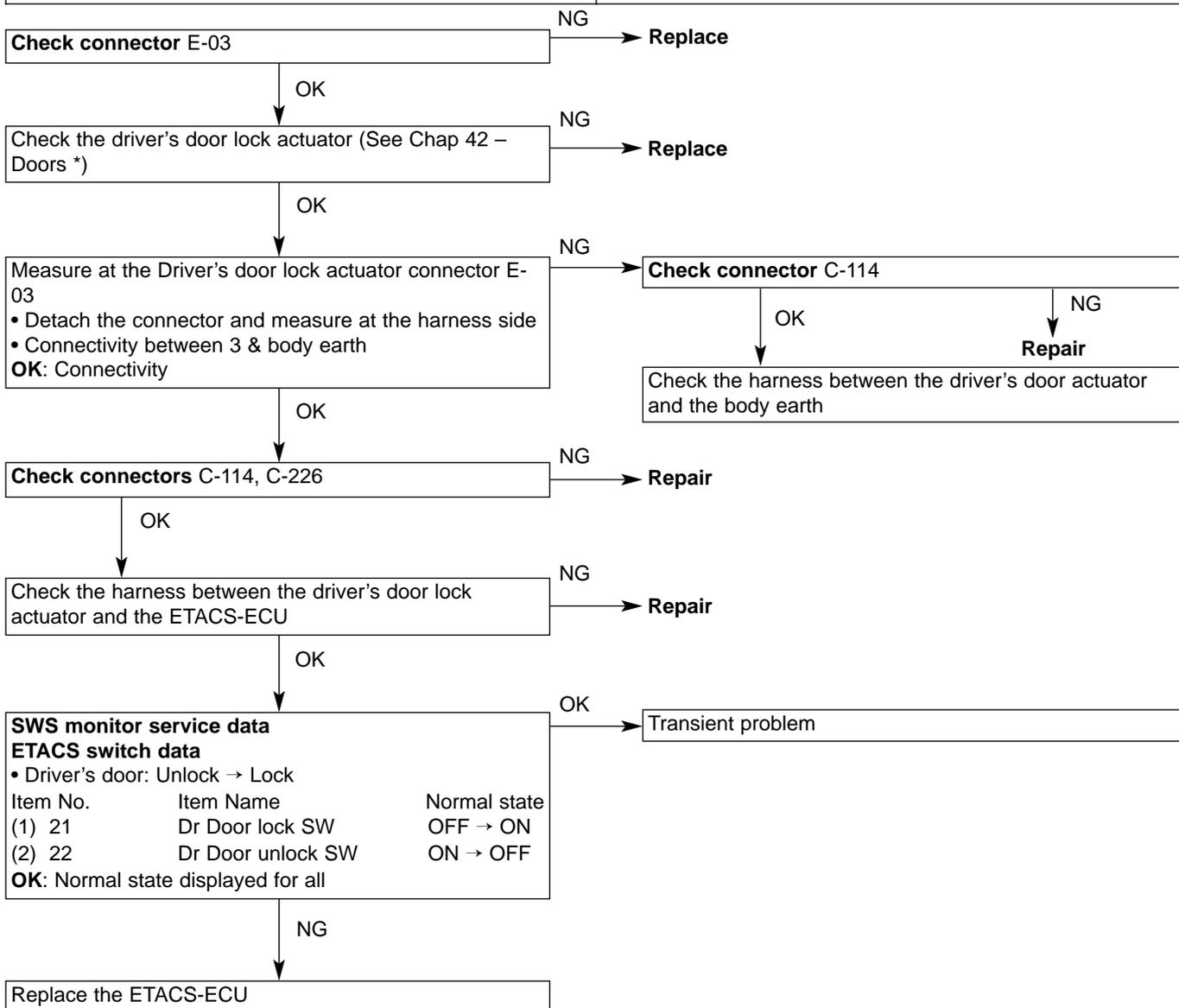


Note:

*: See '00-5 Lancer Sedia Servicing Manual (No. 1036K00)

Inspection procedure R-15

Driver's door lock actuator signal not input	Probable Cause
Because the driver's door actuator input signal is used to determine the operation of the following functions, these functions will not work correctly if there is an error in the input signal. <ul style="list-style-type: none"> • Key left in reminder function • Central door locking • Keyless entry system • Interior lights (operating keyless entry answer back) 	<ul style="list-style-type: none"> • Fault in driver's door lock actuator • Fault in ETACS-ECU • Fault in harness or connectors

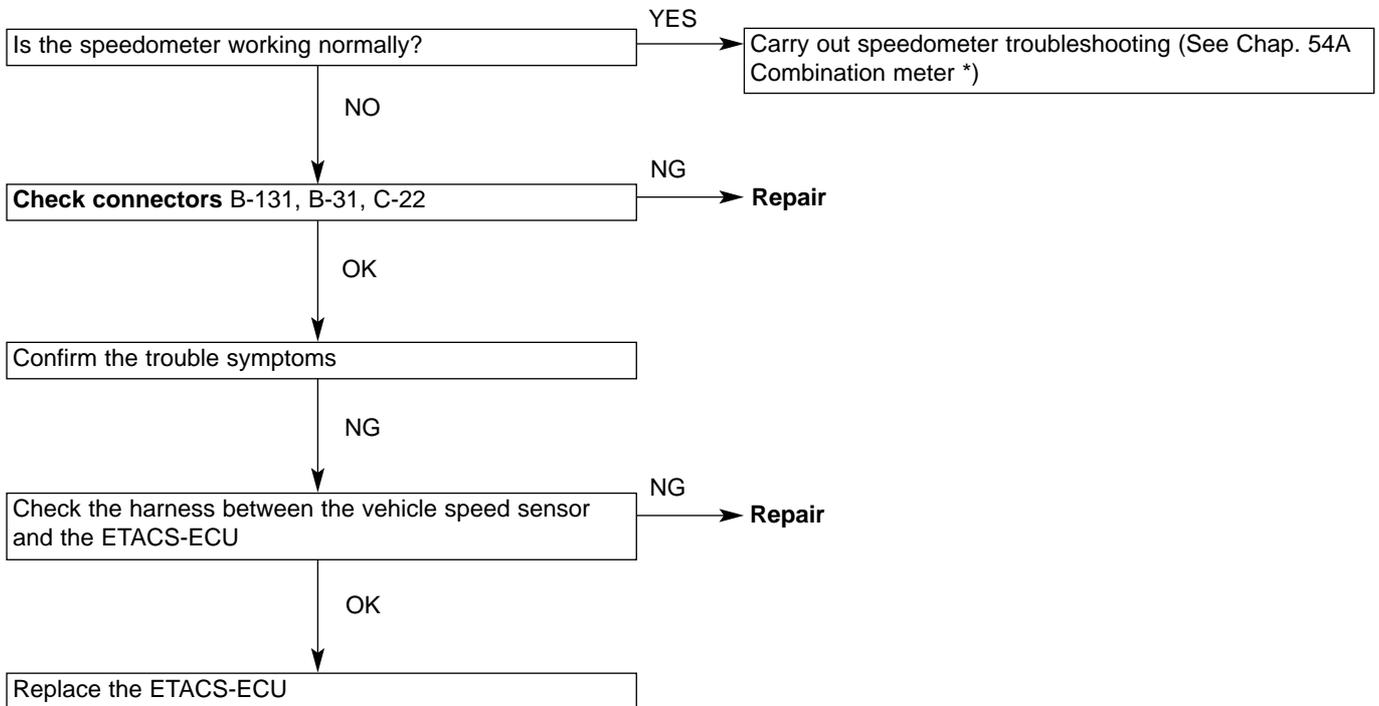


Note:

*: See '00-5 Lancer Sedia Servicing Manual (No. 1036K00)

Inspection procedure R-16

Vehicle speed signal not input	Probable Cause
Because the vehicle speed signal is used to determine the operation of the following functions, these functions will not work correctly if there is an error in the input signal. <ul style="list-style-type: none"> • Windscreen wipers/washers (speed sensitive wiper function) • Motorised retractable door mirrors (automatic return function) 	<ul style="list-style-type: none"> • Fault in vehicle speed sensor • Fault in ETACS-ECU • Fault in harness or connectors



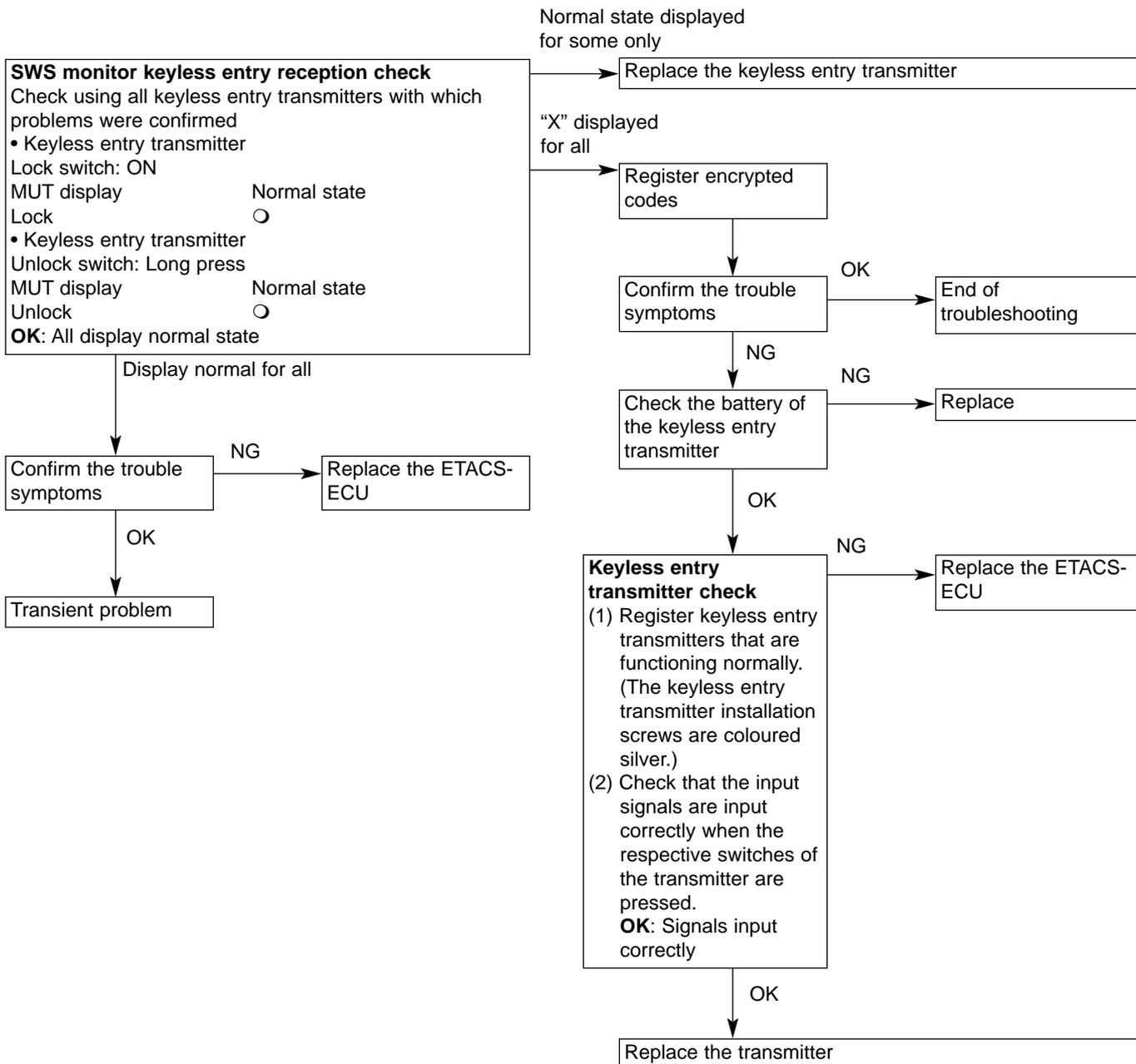
Note:

(1) The vehicle speed sensor signal input is checked during actual travel of the vehicle.

(2) *: See '00-5 Lancer Sedia Servicing Manual (No. 1036K00)

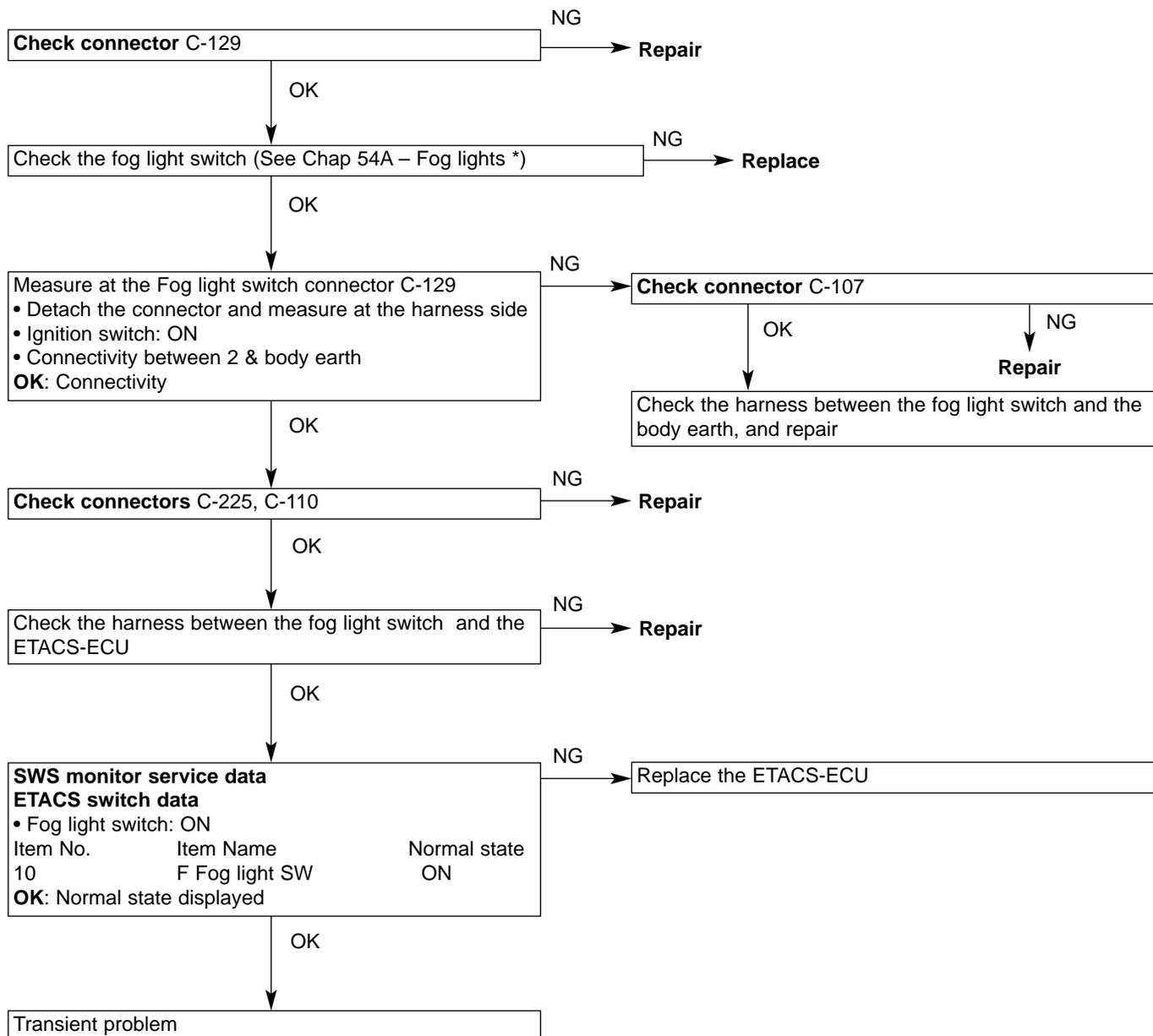
Inspection procedure R-17

Various switch signals of keyless entry transmitter not input	Probable Cause
The keyless entry transmitter input signal is used to determine the operation of the keyless entry system, and if there is a problem with this signal, then the keyless entry system will not work correctly.	<ul style="list-style-type: none"> • Fault in keyless entry transmitter • Fault in keyless entry transmitter battery • Fault in ETACS-ECU



Inspection procedure R-18

Fog light switch signal not input	Probable Cause
The fog light switch input signal is used to determine the operation of the fog lights, so any problem in this signal will prevent the fog lights from lighting up.	<ul style="list-style-type: none"> • Fault in fog light switch • Fault in ETACS-ECU • Fault in harness or connectors

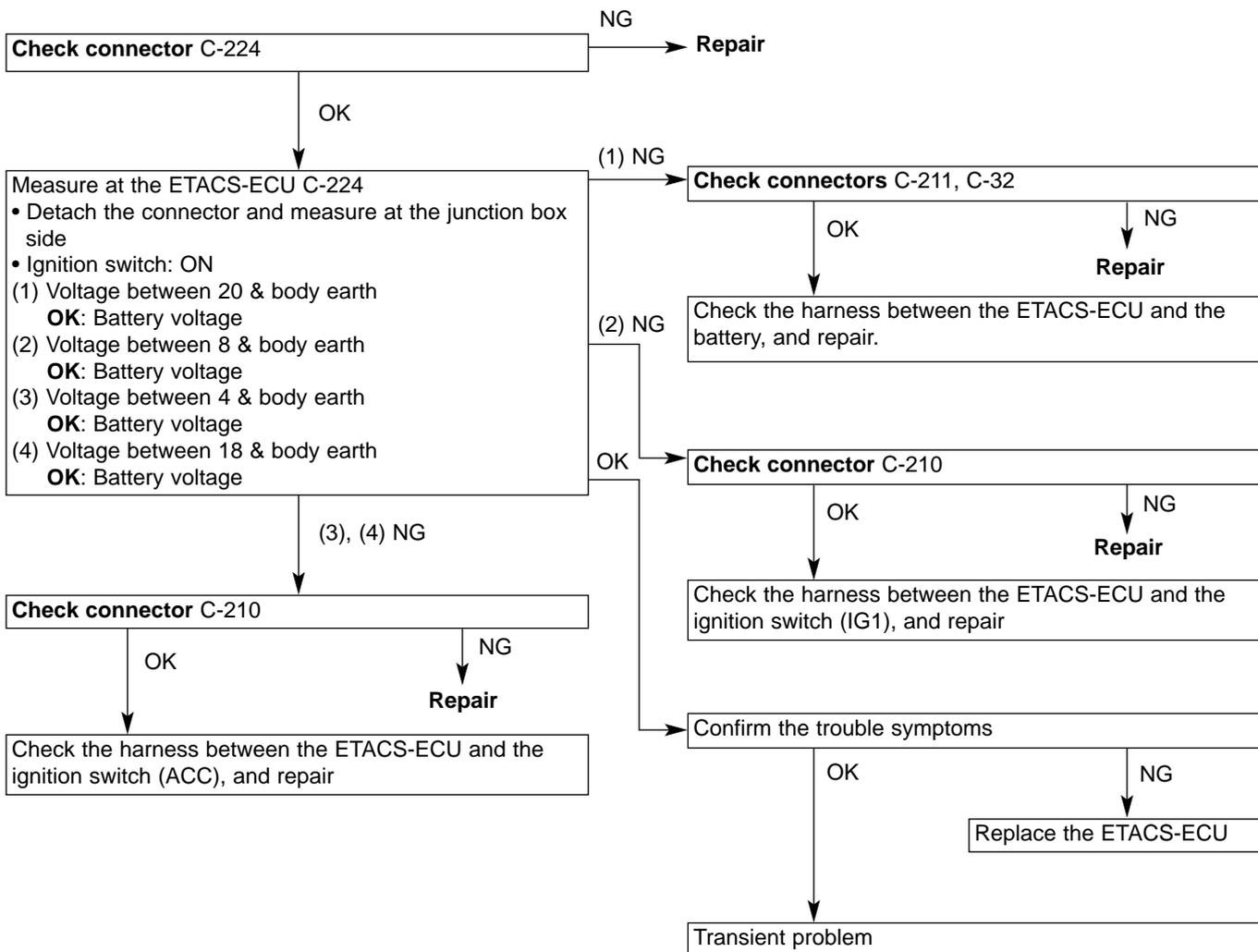


Note:

*: See '00-5 Lancer Sedia Servicing Manual (No. 1036K00)

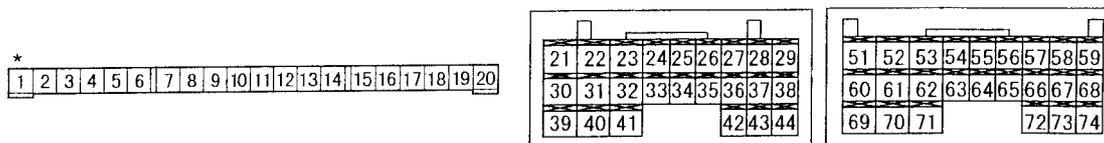
Inspection procedure R-19

Generic fuse No.17 load use signal not detected	Probable Cause
The generic fuse No.17 load signal is used to determine the interior light cut-off function, and if there is a problem in this signal, then the following functions will cease to work properly. <ul style="list-style-type: none"> • Ignition key cylinder illumination light • Interior light 	<ul style="list-style-type: none"> • Fault in ETACS-ECU • Fault in harness or connectors



11. Chart of terminal voltages

11-1 ETACS-ECU



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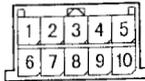
Note :

Terminals No. 1 to 20 cannot be measured as the ETACS-ECU is installed directly on the junction box, and they are listed for reference.

Terminal No.	Check Item	Check Conditions	Normal State
1	Electric window relay output	Electric windows operable	Battery voltage
2	Central door lock power supply (battery voltage)	Any	Battery voltage
3	Earth (for ECU)	Any	0V
4	Ignition switch (ACC)	Ignition switch : ACC	Battery voltage
5	Interior light output	Interior lights switched on	2V or lower
6	Interior light power supply (battery voltage)	Any (Interior light cut-off function not operating)	Battery voltage
7	All door switch input	Any door switch : ON (door open)	0V
8	Ignition switch (IG1) power supply	Ignition switch : ON	Battery voltage
9	RH Turn indicator light output	RH Turn indicator light on	Battery voltage
10	Driver's door switch input	Driver's door switch : ON (door open)	0V
11	Hazard light power supply (battery voltage)	Any	Battery voltage
12	Central door locking (lock) output	Door lock actuator operating (lock operation)	Battery voltage
13	Central door locking (unlock) output (except driver's)	Door lock actuator operating (unlock operation)	Battery voltage
14	LH Turn indicator light output	LH Turn indicator light on	Battery voltage
15			
16	Rear wiper output	Rear wiper operating	Battery voltage
17	Rear wiper automatic stop signal input	Rear wiper operating	Battery voltage
18	Ignition switch (ACC) power supply	Ignition switch : ACC	Battery voltage
19			
20	Battery voltage (for ECU)	Any	Battery voltage
21			
22	Central door locking (unlock) output (for driver's door) (Vehicle fitted with keyless entry)	Door lock actuator operating (unlock operation)	Battery voltage
23	Rear washer output	Rear washer operating	Battery voltage
24	Motorised remote control mirror switch (fold / return switch) input	Motorised remote control mirror switch (fold / return) switch : ON	0V
25 – 29			
30	Key reminder switch input	Key reminder switch : ON (Ignition key removed)	0V
31	Motorised foldable door mirror output	Motorised foldable door mirrors operating (fold operation)	Battery voltage

Terminal No.	Check Item	Check Conditions	Normal State
32 – 34			
35	Driver's door lock actuator (lock switch) input	Driver's door lock: when locked	0V
36	Driver's door lock actuator (unlock switch) input	Driver's door lock: when unlocked	0V
37, 38			
39	Reversing light switch input	Shift lever : R Ignition switch : ON	Battery voltage
40	Motorised foldable door mirror output	Motorised foldable door mirror operating (folding operation)	12V
41 – 43			
44	Horn output	Alarm operating (horn output)	0V
51	Diagnosis output or input check signal output	Diagnosis being output(MUT-II/III connection or diagnosis connector No.1 earthed to body)	0 – 12V (pulse signal)
		When input check is being output	0V, 12V (changing input signal)
52			
53	Door ajar indicator light output	Door ajar indicator light switched on	0V
54	Fog light switch input	Fog light switch : ON	0V
55	Hazard light switch input	Hazard light switch : ON	0V
56	Earth (for sensor)	Any	0V
57,58			
59	SWS communications line	Any	0 – 12V (pulse signal)
60-62			
63	Vehicle speed signal input	Vehicle travelling	0 – 12V (pulse signal)
64, 65			
66	Intermittent windscreen wiper volume input	Ignition switch : ACC Volume position : FAST → SLOW	0 → 2.5 V
67	Diagnosis control input	MUT-II/III connected	0V
68	SWS request signal output	Any	0 – 12V (pulse signal)
69	Ignition key cylinder illumination light output	Ignition key cylinder illumination switched on	2V or lower
70			
71	Interior light power supply	Any (Interior light cut-off function not operating)	Battery voltage
72-74			

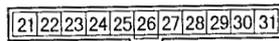
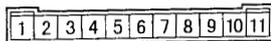
11-2 Column switch



X1209CA

Terminal No.	Check Item	Check Conditions	Normal State
1	Battery power supply	Any	Battery voltage
2	SWS request signal input	Any	0 – 12 V (pulse signal)
3	SWS communications line	Any	0 – 12 V (pulse signal)
4	Earth	Any	0V
5			
6	Intermittent windscreen wiper volume output	Ignition switch : ACC Volume position : FAST → SLOW	0 → 2.5V
7			
8	Windscreen wiper switch back-up output	Low speed windscreen wiper or High speed windscreen wiper : ON	0V
9	Ignition switch (IG1) power supply	Ignition switch : ON	Battery voltage
10	Head light switch back-up output	Head light switch : ON	0V

11-3 Front ECU



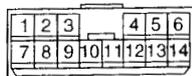
X1210CA

Note : The front ECU is installed directly on the relay box, and cannot be measured. The terminals are listed here for reference.

Terminal No.	Check Item	Check Conditions	Normal State
1	Fog light output	Fog lights switched on	
2	Head light (high beam) output	Head lights (high beam) switched on	Battery voltage
3, 4	Battery power supply (for head light)	Any	Battery voltage
5	Battery power supply (for tail light)	Any	Battery voltage
6	Head light (low beam) output	Head lights (low beam) switched on	Battery voltage
7	Battery power supply (for ECU)	Any	Battery voltage
8	Tail light output	Tail lights switched on	Battery voltage
9 – 11			
21	Windscreen washer output	Windscreen washer operating	Battery voltage
22	SWS communications line	Any	0 – 12V (pulse signal)
23	Windscreen wiper automatic stop signal input	Windscreen wiper operating	Battery voltage
24	Ignition switch (ACC) power supply	Ignition switch : ACC	Battery voltage
25	Head light switch back-up input	Head light switch : ON	0V
26	Windscreen wiper switch back-up input	Low-speed windscreen wiper switch or high-speed windscreen wiper switch : ON	0V
27	Windscreen wiper (LO speed) output	Windscreen wiper operating (Low speed operation)	Battery voltage
28	Windscreen wiper (HI speed) output	Windscreen wiper operating (High speed operation)	Battery voltage

Terminal No.	Check Item	Check Conditions	Normal State
29	Earth	Any	0V
30	Ignition switch (IG2) power supply	Ignition switch : ON	Battery voltage
31	Earth	Any	0V

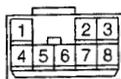
11-4 Electric window main switch



AC103264

Terminal No.	Check Item	Check Conditions	Normal State
1	Electric window motor output		
2	Earth	Any	0V
3			
4	SWS communications line (with ETACS-ECU)	Any	0 – 12V (pulse signal)
5			
6	Power supply	Electric window relay : ON	Battery voltage
7	Electric window motor output		
8	Electric window motor input (pulse sensor GND)		0V
9	Electric window motor input (pulse sensor signal)	During electric window operation	0 – 5V (pulse signal)
10	Electric window motor input (pulse sensor signal)	During electric window operation	0 – 5V (pulse signal)
11	Communications line (electric window sub switch)	Electric window relay : ON	0 – 12V (pulse signal)
12	Electric window motor input (pulse sensor power supply)	During electric window operation	5V
13, 14			

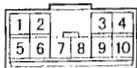
11-5 Electric window sub switch



AC103265

Terminal No.	Check Item	Check Conditions	Normal State
1	Earth	Any	0V
2	Electric window motor input		
3	Electric window motor input		
4	Power supply	Electric window relay : ON	Battery voltage
5	Electric window motor output		
6	Communications line	Electric window relay : ON	0 – 12V (pulse signal)
7	Electric window motor output		
8	Electric window motor input		

11-6 Sunroof motor assembly



X1214CA

Terminal No.	Check Item	Check Conditions	Normal State
1	Battery voltage (for motor)	Any	Battery voltage
2	Ignition switch (IG2) power supply	Ignition switch : ON	Battery voltage
3, 4			
5	Earth	Any	0V
6	Sunroof switch (close / open) input	Sunroof switch : Close / Open	0V
7	Sunroof switch (up) input	Sunroof switch : Up	0V
8	Sunroof switch (open) input	Sunroof switch : Open	0V
9			
10	SWS communications line	Any	0 – 12V (pulse signal)

On Vehicle Servicing

Adjustment function (User Mode)

By setting the various switches to match the conditions for entering adjustment mode, you can switch the security alarm function on and off, or adjust the warning output. Any adjustments made are saved, even when the battery is disconnected.

1. Entering adjustment mode

- (1) Set the following switches as indicated.
 - Driver's door switch: ON (driver's door open)
 - Key reminder switch: ON (ignition key removed)
 - Lighting switch: OFF
- (2) If the windscreen washer switch is switched on continuously for 10 seconds or more (by pulling the wiper lever towards you), then the ETACS-ECU buzzer will sound once, and the system will enter adjustment mode. In this state (and keeping the wiper lever pulled towards you) the setting can be changed each time you press the unlock switch on the transmitter.

2. Adjusting the security alarm functions

You can switch the security alarm function on and off, and change the alarm time, in the following sequence. (After option c, the sequence starts again from a.)

- a. Security alarm function OFF. (Initial state): Buzzer sounds once.
- b. Security alarm function ON. (Hazard and horn used for alarm): Buzzer sounds 3 times.
- c. Security alarm function ON. (Horn only used for alarm): Buzzer sounds 5 times.

3. Cancelling adjustment mode

The adjustment mode is cancelled when any one of the following conditions is met.

- Driver's door switch: OFF (Driver's door closed)
- Key reminder switch: OFF (ignition key inserted)
- Lighting switch: ON
- Windscreen washer switch: OFF
- If 30 seconds have elapsed without the unlock switch being pressed.

Note

1. Although the wiper washer switch and transmitter are operated during adjustment mode, the wiper/washer and keyless entry system are not activated by these operations.
2. This adjustment function is also described in the Owner's Manual, so that users are able to perform the adjustment procedure themselves.
3. The user's wishes should be confirmed fully before setting up this function. (Where possible, get users to set up the function themselves, so that they understand how it works.)

Adjustment function (Dealer mode)

The following functions can be adjusted from the MUT-II/III. Any adjustments made will be saved, even if the battery is disconnected.

- Door ajar warning.
If any one of the doors, including the boot, is open whilst the vehicle is travelling, then this function warns the driver that a door is open by sounding a buzzer and causing a door ajar indicator light to flash on the combination meter..
- Turn indicator buzzer
This function causes a buzzer to sound in synchronization with the hazard lights and turn indicator lights.
- Keyless entry system hazard light answer back function
This function allows the driver to confirm a lock/unlock operation, even when he or she is away from the car. The hazard lights flash when a lock or unlock operation is performed by the keyless entry transmitter.
- Operation of electric window and sunroof by multi-mode keyless entry system
This function causes the electric window and sunroof to close when the keyless entry transmitter is operated, even when the driver is away from the car.
- Timer lock delay after keyless entry unlock
If any door, including the boot, is not opened after the doors have been unlocked by operation of the keyless entry transmitter, then after a prescribed time delay, the doors are automatically locked again.
- Electric window and sunroof timer function.
This function allows the electric window and sunroof to be operated for a prescribed time, even after the ignition switch has been set to the LOCK (OFF) position.
- Electric window lock driver operation
This function allows electric windows other than the driver's window to be operated by the electric window main switch, when the electric window lock switch built into the electric window main switch has been pressed.
- Vehicle speed sensitive wiper function
This function changes the intermittent wiper period in accordance with the intermittent wiper adjustment knob and the vehicle speed, when the windscreen wiper switch is set to the intermittent position.
- Rear wiper intermittent period
When the rear wiper switch is on, the rear wipers work intermittently. This function sets the rear wiper to continuous operation, when the rear wiper switch is operated continuously.
- Automatic return function for motorised retractable door mirror
This function opens the door mirrors automatically if the vehicle is travelling with the door mirrors retracted. Other methods can also be used to perform the retract / return operation of the door mirrors.
- Head light automatic cut-off function
This function automatically turns off the head lights if the driver's door is opened when the lighting switch is set to the TAIL, AUTO, or HEAD position, and the ignition switch is set to LOCK (OFF).
- Interior light delayed switch off period
This function causes the interior lights to switch off automatically after a prescribed delay, when the door has been closed with the ignition switch in the LOCK (OFF) position.

- Interior light automatic cut-off function
This function automatically switches off the interior lights after a specified time delay if they have been left on with the ignition switch in the LOCK (OFF) position.
- Security alarm
Switches the security alarm function on and off.
- Adjustment during electric window key off timer
This function allows electric windows other than the driver's window to be operated during operation of the electric window timer.
- Initialise all functions (return to initial settings)
This function returns all the adjusted functions to their original factory settings.

Item No.	MUT item display	Item	MUT adjustment display	Details of adjustment
2	HD auto cut-off	Head light automatic cut-off function	Function ON (A)	Function ON: The tail lights are automatically switched off, if turned on when the ignition switch is at the LOCK (OFF) position.
			Function ON (D)	Function ON: The tail lights are not automatically switched off, if turned on when the ignition switch is at the LOCK (OFF) position. (Initial setting)
			Function OFF	Function OFF
4	Speed sensitive wiper	Vehicle speed sensitive wiper function	Function ON	Function ON (initial setting)
			Function OFF	Function OFF
5	Door mirror	Motorised retractable door mirror: automatic return function	Speed sensitive function ON	Vehicle speed sensitive deployment (initial setting)
			IG operated function ON	Linked to ignition
			Keyless operated function ON	Linked to keyless entry
			Function OFF	No function
6 ^{*1}	Keyless (horn)	Keyless entry horn answer back	Lock operated	Sounds at each lock operation
			Lock operated twice	Sounds when lock is operated twice consecutively (within 1 second)
			Function OFF	Function OFF
8 ^{*1}	Keyless (horn) night time	Keyless entry horn answerback: night time disabling	Normal	Operates according to keyless entry horn answerback adjustment function setting
			Night time operation disabled	Operates according to keyless entry horn answerback adjustment function setting, but horn sound disabled during night time
9	Keyless (hazard)	Keyless entry system: hazard answer back function	Light up on lock, unlock	Function ON for both lock and unlock (initial setting)
			Light up on lock only	Function ON for lock only
			Light up on unlock only	Function ON for unlock only
			Function OFF	Function OFF

Item No.	MUT item display	Item	MUT adjustment display	Details of adjustment
10	Keyless (P/W)	Multi-mode keyless entry system: Electric window and sunroof operation	Open and close	Both close and open operations (open operation for windows only)
			Close only	Close operation only (initial setting)
			Function OFF	Function OFF
11	Security alarm	Security alarm	Horn and hazard	Function ON: Horn & Hazard
			Hazard only	Function ON: Hazard only
			Function OFF	Function OFF (initial setting)
15	Turn indicator buzzer	Turn indicator light operating sound function	Function ON	Function ON
			Function OFF	Function OFF (initial setting)
16	Interior light response time	Interior light delayed switch off time	60 s	60 s
			30 s	30 s
			15 s	15 s
			7.5 s	7.5 s
			NO delayed switch off	0 s (no delay operation)
18	Key off timer period	Electric window & sunroof timer function period	Timer function OFF	Timer function OFF
			30 s	30 s (initial setting)
			3 min.	3 min.
			10 min.	10 min.
19	P/W key off timer	Operational adjustment during electric window key off timer *2	Normal operation	Accepts normal operation during timer period (initial setting)
			Main S/W operation prohibited	Prohibits operation of electric windows (except driver's) from electric window main switch, during timer period
24	Keyless timer lock T	Timer lock time after keyless entry unlock	30 s	30 s (initial setting)
			60 s	1 min.
			120 s	2 min.
			180 s	3 min.
26	Door ajar buzzer	Door ajar warning function	Function ON	Function ON (initial setting)
			Function OFF	Function OFF
28	Rear wiper INT period	Rear wiper intermittent period	8 s	8 s: No continuous operation (initial setting)
			4 s (continuous ON)	4 s (continuous ON)
			8 s (continuous ON)	8 s (continuous ON)
			16 s (continuous ON)	16 s (continuous ON)
			Continuous operation	Continuous operation (no intermittent operation)
30	Interior light auto cut-off	Interior light automatic cut-off function	3 min.	Automatic cut-off ON: 3 min.
			30 min.	Automatic cut-off ON: 30 min. (initial setting)
			60 min.	Automatic cut-off ON: 60 min.
			Function OFF	Automatic cut-off OFF
31	P/W lock mode	Electric window lock driver operation	All seat operation ON	Operation possible from all seats when locked (initial setting)
			Only driver's seat operation	Operation prohibited from seats other than driver's, when locked

Note

1. *¹ optional: Can only be adjusted when the smart entry system is fitted. After fitting the smart entry system, a list of adjustable functions will be displayed when the entry system is operated for the first time. If all the functions are initialised, then the adjusted items will be deleted, but by activating the smart entry system, the list of adjusted functions will be displayed again.
2. *² This adjustment item restricts the operation of the electric window timer function, and is used when performing Inspection procedure D-8 “Electric window comes down automatically”.

Initialising all functions (Returning to initial settings)

This function allows all of the adjusted functions to be returned to the original factory settings.