



ELECTRICAL SYSTEM

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SPECIFICATIONS

GENERAL SPECIFICATIONS

Starter Motor

Engine	2.6L Engine with M/T	2.6L Engine with A/T
Identification model No./part No.	M3T25882/MD027401	M2T53083/MD027382
Type	Direct drive	Reduction drive
Voltage	12V	12V
Output (nominal)	0.9 kW	1.2 kW
No. of pinion teeth	8	9
Drive	Solenoid shift overrunning clutch	Solenoid shift overrunning clutch
No-load characteristics		
Voltage	11.5V	11.5V
Amperage draw	60A	100A
Minimum speed	6,500 rpm	3,000 rpm
Magnetic switch closing voltage	8V	8V

Distributor

Engine	2.6L Engine with an intercooler	2.6L Engine without an intercooler
Identification model No./part No.	T4T63372/MD093766	T4T63371/MD061593
Type	Breaker pointless type	Breaker pointless type
Firing order	1-3-4-2	1-3-4-2
Basic timing	10° ± 2° BTDC	10° ± 2° BTDC
Curb idle speed rpm	850 ± 100	850 ± 100
Advance - Centrifugal [Crank angle at engine rpm]	0° at 1,200 rpm 10° at 2,000 rpm 33° at 6,000 rpm	0° at 1,200 rpm 13° at 2,300 rpm 25° at 5,000 rpm
Advance - Vacuum [Crank angle at mm (in.) of mercury]	0°/-80 (3.1) 6°/-150 (5.9) 23°/-280 (11.0)	0°/-80 (3.1) 6°/-150 (5.9) 23°/-280 (11.0)
Retard - Pressure [Crank angle at mm (in.) of mercury]	0°/100 (3.9) 7°/450 (17.7)	0°/100 (3.9) 7°/450 (17.7)
Signal generator coil resistance Ω	920-1,120 at 20°C (68°F)	920-1,120 at 20°C (68°F)
Signal rotor gap mm (in.)	0.2 (.008) or more	0.2 (.008) or more

Ignition Coil

Identification model No./part No.	LB-119/MD025703
Primary resistance Ω	1.04-1.27 at 20°C (68°F)
Secondary resistance kΩ	7.10-9.60 at 20°C (68°F)

SPECIFICATIONS



Detonation Sensor

Identification model No./part No.	E1T15071/MD063724
Type	Piezo-electric element

Spark Plug

Model No. NGK	BP6ES-11, BPR6ES-11 or N-9Y, RN-9Y CHAMPION
NIPPONDENSO	W20EP-U10, W20EPR-U10
Plug gap mm (in.)	1.0 – 1.1 (.039 – .043)

Alternator

Model No./part No.	A3T34572/MD086048
Output (nominal) V – A	12 – 65
Regulated voltage V	14.7 ± 0.3V at 20°C (68°F)
Temperature compensation gradient V	-0.1 at increase 10°C (18°F)
Voltage regulator	Electronic regulator built into alternator

ESC Igniter

Engine	2.6L Engine with an intercooler	2.6L Engine without an intercooler
Identification model No./part No.	E2T16571/MD093767	E2T16271/MD071942

Boost Sensor

Identification model No./part No.	E1T15271/MD070305
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Battery

Type	NX100-S6(S)-MF (Maintenance free battery)
Capacity (20HR) Ah	45
Voltage V	12
Electrolyte specific gravity [20°C (68°F)]	1.280



SPECIFICATIONS

Fuses

Fusible link

Main

Cable color		Red
Fusible link size	mm ² (in. ²)	0.85 (.0013)
Permissible continuous current	A	34
Fusing current	A	150

Sub 1

	Pop-up circuit	Headlight circuit	Rear window defogger circuit	Power window regulator circuit
Cable color	Green	Green	Green	Green
Fusible link size	mm ² (in. ²)	0.5 (.0008)	0.5 (.0008)	0.5 (.0008)
Permissible continuous current	A	27	27	27
Fusing current	A	100	100	100

Sub 2

	Battery circuit	Ignition circuit	ECI circuit
Cable color	Red	Green	Brown
Fusible link size	mm ² (in. ²)	0.85 (.0013)	0.3 (.0005)
Permissible continuous current	A	34	27
Fusing current	A	150	100

Fuse A	5	10	15	20
Color	Tan	Red	Light blue	Yellow

Ignition Switch

Ignition switch

Type

Rotary switch with steering wheel lock and key remind switch

Load capacity A

AM-ACC	15
AM-IG ₁	12
AM-IG ₂	20
AM-ST	15
AM-R	15

Key remind switch

Load capacity W	1
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Light monitor switch

Load capacity W	1
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Meters and Gauges

LIQUID CRYSTAL DISPLAY METERS

Speedometer

Display method	Digital display by liquid crystal display
Display range mph (km/h)	0—155 (0—250) (Reverse speed also displayed as positive number)
Display resolution mph (km/h)	Every 1 (1)
Display interval	Approx. 0.3 sec. (constant)

Tachometer

Display method	Bar graph display
Display range rpm	0—7,000 or more
Number of display segments	75
Display interval	Approx. 0.3 sec.

Odometer

Display method	Digital display
Display range mph (km/h)	0—299999 (0—299999)
Display unit mph (km/h)	1 (1)
Indication standard mph (km/h)	±0.2 (±0.2)

Trip odometer

Display method	Digital display
Display range mph (km/h)	0.0—9999.9 (0.0—9999.9)
Display unit mph (km/h)	0.1 (0.1)
Indication standard mph (km/h)	±0.2 (±0.2)

Pulse generator

Type	Electronic type
Generated pulse pulses/revolution	4

Fuel gauge

Display method	Bar graph display
Display range lit. (U.S.gals., Imp.gals.)	
Ordinary display	5—75 (1.3—19.8, 1.1—16.5)
Enlarged display	5—25 (1.3—6.6, 1.1—5.5)
No. of display segments	15
Fuel level warning light operating range lit. (U.S.gals., Imp.gals.)	Approx. 8.6 (2.3, 1.9) or less

Fuel gauge unit

Type	7V resistance type
Float vertical movement range mm (in.)	209.1—213.1 (8.23—8.39)

Water temperature gauge

Display method	Segment display
Display range °C (°F)	40—125 (104—257)
No. of display segments	10

Water temperature gauge unit

Type	Thermistor type
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SPECIFICATIONS

Oil pressure gauge	
Display method	Segment display
Display range kPa (psi)	39–687 (6–100)
No. of display segments	9
Oil pressure gauge unit	
Type	Bi-metal type
Voltage meter	
Display method	Segment display
Display range V	8.5–15.5
No. of display segments	9
Pressure meter	
Display method	Bar graph display
Display range	–25–78 or more (–7–23 or more)
No. of display segments	10

ANALOG METER

Speedometer	
Speed indication range mph (km/h)	0–150 (0–240)
Indication ratings (range of allowable error)	
Tachometer	
Type	Pulse type
Detection source	Ignition coil
Red zone rpm	6,000–8,000
Fuel gauge	
Type	Bi-metal type (built-in constant voltage relay)
Constant voltage relay resistance value Ω	68–72
Fuel gauge unit	
Type	7V resistance type
Float vertical movement range mm (in.)	209.1–213.1 (8.23–8.39)
Water temperature gauge	
Type	Bi-metal type
Water temperature gauge unit	
Type	Thermistor type
Oil pressure gauge	
Type	Bi-metal type
Oil pressure gauge unit	
Type	Bi-metal type
Ammeter	
Type	Moving iron type
Circuit type	Shunt type (current divider type)
Pressure meter	
Type	Moving iron type

SPECIFICATIONS



Indicator and Warning Lights

[SAE trade numbers]

Turn-signal indicator lights	W	3.4 [158], *1.4 [74]
Hatch open warning light	W	1.4 [74]
Rear brake lock-up control system failure indicator light	W	1.4 [74]
Washer fluid level warning light	W	1.4 [74]
Fuel level warning light	W	3.4 [158], *1.4 [74]
Seat belt warning light	W	1.4 [74]
Door-ajar warning light	W	1.4 [74]
Upper-beam indicator light	W	1.4 [74]
Brake system warning light	W	1.4 [74]
Overdrive indicator light	W	1.4 [74]
Washer fluid level sensor		
Amount of washer fluid remaining at indication		
lit. (U.S.qts., Imp.qts.)		
for the windshield		0.6—0.8 (0.6—0.8, 0.5—0.7)
for the headlights		0.48 (0.51, 0.42)
Hatch switch		
Rated load	W	13
Voltage drop (at 12V and the rated load)	V	0.2 or less
Parking brake switch		
Rated load	W	5
Voltage drop (at 12V and the rated load)	V	0.1 or less
Brake fluid level sensor		
Rated load	W	3.6
Voltage drop (at 12V and the rated load)	V	0.1 or less
Door switch		
Rated load	W	15
Voltage drop (at 12V and the rated load)	V	0.2 or less
Fuel warning sensor		
Level of remaining fuel at which the fuel warning		
light illuminations lit. (U.S.qts., Imp.qts.)		8.4—10.1 (8.9—10.7, 7.4—8.9)
Overdrive relay		
Type		Transistor type
Rated current	A	
Overdrive solenoid		1 or less
Overdrive indicator		0.1

* Applicable to liquid crystal display meter



SPECIFICATIONS

Lighting System

[SAE trade numbers]

Main light W

Headlight	65/55 [6052]
Front combination light	
Turn-signal	27 [1156]
Position light	5 [168]
Fog light	35
Front side marker light	3.8 [194]
Rear combination light	
Turn-signal, stop and tail light	27/8 [1157]
Rear side marker light	8 [67]
Back-up light	27 [1156]
License plate light	8 [67]
High mounted stop light	18

Sub light W

Dome light	10
Spot light	6
Door light	5
Luggage compartment light	5
Combination meter illumination light	3.4 [158]
Glove box illumination light	3.4 [158]
Accessory box illumination light	1.4 [74]
Cigarette lighter illumination light	3
Heater knob illumination light	3.8 [194]
Heater panel illumination light	1.4 [74]
Rear defogger switch illumination light	1.4 [74]
Cluster switch illumination light	1.4 [74]
Ashtray illumination light	1.4 [74]
Vanity mirror light	1.5

Turn-signal flasher unit

Type	Condenser type
Rated load W	84.4
Blinking frequency cycle/min [12.8V, 20°C (68°F)]	85 ± 10

Hazard-warning flasher unit

Type	Heat band type
Rated load W	49.4–165.4
Blinking frequency cycle/min [12.8V, 20°C (68°F)]	90 ± 20

SPECIFICATIONS



Cluster switch

Lighting switch

Rated load	A	0.3
Voltage drop (at 12.8V and the rated load)	V	0.1 or less

Pop-up switch

Rated load	A	0.6
Voltage drop (at 12V and the rated load)	V	0.1 or less

Hazard switch

Rated load	A	
FR - HZ, FL - HZ, RR - HZ, RL - HZ		4.2 - 4.8
SS - ST		8.6 - 9.4
TB - TS		6.7 - 7.3
Voltage drop (at 12V and the rated load)	V	0.1 or less

Fog light switch

Rated load	A	0.3
Voltage drop (at 12V and the rated load)	V	0.1 or less

Column switch

Turn-signal switch

Rated load	A	4.2 - 4.8
TB - FL, TB - FR		2.2 - 2.8
TB - RL, TB - RR		4.2 - 4.8
ST - RL, ST - RR		4.2 - 4.8
Voltage drop (at 12V and the rated load)	V	0.2 or less

Dimmer switch

Rated load	A	
Upper beam		14.9 - 15.7
Lower beam		7.4 - 10.2
Voltage drop (at 12V and the rated load)	V	0.2 or less

Passing switch

Rated load	A	
Upper beam		14.9 - 15.7
Lower beam		0.17 - 0.27
Voltage drop (at 12V and the rated load)	V	0.2 or less

Pop-up relay

Rated load	W	
Point of contact on make side		240
Point of contact on break side		120
Range of voltage used	V	9 - 16
Voltage drop between terminals	V	0.15 or less

Headlight relay

Rated load	W	240
Range of voltage used	V	10 - 16
Voltage drop between terminals	V	0.2 or less



SPECIFICATIONS

Passing control relay

Range of voltage used	V	9-16
Time setting of timer	sec.	1.5 ± 0.15

Fog light relay

Rated load current	A	20
Range of voltage used	V	10-16
Voltage drop between terminals	V	0.2 or less

Dimmer control

Type		Electronic type
Rated load	W	40

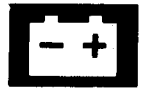
Glove box switch

Type		Push type
Rated load	W	12
Voltage drop (at 12V and the rated load)	V	0.2 or less

Stop light switch

Rated load	W	42-180
Voltage drop (at 12V and the rated load)	V	0.15 or less

SPECIFICATIONS



Windshield Wipers and Washer

Wiper motor		
Type		Permanent-magnet type
Speed control system		Third brush system
Braking system		Dynamic brake system
Rpm at load of 1 Nm (0.72 ft.lbs.)	rpm	
Low speed		47 ± 5
High speed		69 ± 7
Limited torque	Nm (ft.lbs.)	
Low speed		18 (13)
High speed		16 (12)
Wiper blade		
Wiping angle		
Driver's side		79° ± 1.5°
Passenger's side		107° ± 1.5°
Wiper blade length	mm (in.)	484 (19)
Window washer motor and pump		
Motor type		Direct current ferrite magnet type
Pump type		Centrifugal type
Power consumption	A	3.5 or less
Time of continuous use	sec.	
With washer fluid		Max. 60
Empty operation		Max. 20
Nozzle jet pressure	kPa (psi)	78 (11.3)
Tank capacity	lit. (U.S.qts., Imp.qts.)	2.5 (2.6, 2.2)
Wiper relay		
Rated load	W	240
Range of voltage used	V	10–16
Voltage drop between terminals	V	0.2 or less
Wiper switch		
Rated load	A	0.5
Voltage drop (at 12V and the rated load)	V	0.2 or less
Washer switch		
Rated load	A	3
Voltage drop (at 12V and the rated load)	V	0.5 or less



SPECIFICATIONS

Rear Window Wiper and Washer

Wiper motor

Motor type	Ferrite magnet type
Braking system	Dynamic braking system
Rpm under load [at 0.6 Nm (0.4 ft.lbs.)] rpm	43 – 53
Nominal torque Nm (ft.lbs.)	12 (9)
No-load current A	2 or less

Wiper blade

Wiping angle	107°
Length of wiper blade mm (in.)	459 (18.0)

Window washer motor and pump

Motor type	Direct current ferrite magnet type
Pump type	Centrifugal type
Power consumption A	3.5 or less
Allowable period of continuous use sec.	
With washer fluid	60
Empty operation	30
Nozzle jet-spray pressure kPa (psi)	78 (11.3)
Tank capacity lit. (U.S.qts., Imp.qts.)	1.1 (1.1, 1.0) or more

Wiper and washer switch

Rated load A	
Wiper switch	0.5
Washer switch	3
Voltage drop (at 12V and the rated load) V	0.2 or less

Horn

Type	Flat type
Effective sounding voltage V	10 – 14.5
Power consumption A	1.5 – 3.0
Sound level dB	100 – 115
Fundamental frequency Hz	
“soft” sound	335 – 365
“hard” sound	400 – 430

Clock

Type	Crystal oscillating type
Display type	Liquid crystal digital display (12-hour display)
Daily variation seconds/day [at a power supply of 9 to 16V, 20°C (68°F) ambient temperature]	±2

SPECIFICATIONS



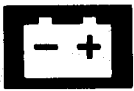
Rear Window Defogger

Rear window defogger switch		
Type		Push type (automatic return)
Rated current	A	12
Indicator light	W	1.4
Rear window defogger relay		
Rated coil current	A	Max. 0.2
Rated load current	A	20
Voltage drop between terminals	V	0.2 or less
Rear window glass with defogger		
No. of printed heater lines		16
Power consumption [20°C (68°F)]	W	200–250

Radio and Stereo

Radio

	AR-9377FY3	RX-391Y
Model	AR-9377FY3	RX-391Y
Tuning system	Auto search tuning, electronic memory tuning	Auto search tuning, electronic memory tuning
Frequency coverage		
AM kHz	530–1,620	530–1,620
FM MHz	87.9–107.9	87.9–107.9
Frequency display	Digital display by fluorescent display tubes	Digital display by fluorescent display tubes
Tape player		
Model	CX-55FY2	—
Playback system	4-track auto-reverse stereo playback	4-track auto-reverse stereo playback
Adaptable tape	Normal, metal, chrome C-90 or shorter tape	Normal, metal, chrome C-90 or shorter tape
Output		
Front W	4	15
Rear W	4	20
Tape speed cm/sec.	4.76	4.76
Graphic equalizer		
Variable frequency Hz	—	50, 150, 400, 2,000, 10,000
Variation dB	—	±10
Speaker		
Instrument panel		
Model	SR-10YQ8-UJL	SR-10YQ8-UJL
Size and number mm (in.)	φ100 (3.9) × 2	φ100 (3.9) × 2
Rated input power W	15 (Max. 20)	15 (Max. 20)
Output sound pressure level dB	87–91	87–91



SPECIFICATIONS

Door

Model		SR-13SA8-UJ	SR-13SA8-UJ
Size and number	mm (in.)	$\phi 130 (5.1) \times 2$	$\phi 130 (5.1) \times 2$
Rated input power	W	15 (Max. 30)	15 (Max. 30)
Output sound pressure level	dB	88-92	88-92

Rear shelf

Model		SR-16SA4-UJ	SR-16SA4-UJ
Size and number	mm (in.)	$\phi 160 (6.3) \times 2$	$\phi 160 (6.3) \times 2$
Rated input power	W	15 (Max. 30)	15 (Max. 30)
Output sound pressure level	dB	89-93	89-93

Antenna

Type		Telescoping power antenna	Telescoping power antenna
Motor operating time	sec.		
Extend		Max. 4	Max. 4
Retract		Max. 4	Max. 4
Antenna relay			
Range of voltage used	V	10-16	10-16
Retract delay time	sec.	0.25-0.5	0.25-0.5
	[at $25 \pm 5^\circ\text{C}$ ($77 \pm 9^\circ\text{F}$), 12V]		

Remote Control Mirror

Remote control mirror motor

Type		Ferrite magnet motor
Rated current	mA	75

Remote control mirror switch

Type		Contact type (left/right switching, ring contact type)
Rated load	mA	
Regular up-down or right-left direction		75
Intermediate directions		150

SPECIFICATIONS



Power Window

Power window motor assembly

Type

Permanent magnet type (built-in circuit breaker)

Revolutions under load rpm

At 1 Nm (0.72 ft.lbs.)

60–90

At 2 Nm (1.45 ft.lbs.)

50–80

Bound current A

34 or less

Direction of rotation

Clockwise and counterclockwise

Power window switch assembly

Type

Automatic reset type

Power window relay

Rated load current A

20

Range of voltage used V

10–16

Voltage drop between terminals V
(At 12V and the rated load current)

0.2 or less

Center Door Locking System

Door lock power relay

Range of voltage used V

10–16

Exciting coil rated current A

0.2

Steady load current capacity A

5

Voltage drop between terminals V

0.3 or less

Door lock actuator

Range of voltage used V

9–15

Locking current A

4 or less

Plunger pulling force kg (lbs.)

2 (4.4)

Plunger complete stroke mm (in.)

14–17 (.55–.67)



SPECIFICATIONS

Speed Control System

Speed control switch

Rated load A

ON

Max. 1

SET, RESUME

0.2 ± 0.1

Voltage drop V

ON

0.1

SET, RESUME

0.1

Brake switch*

Rated load A

0.1-1.5

Voltage drop V

0.15 or less

Clutch switch

Rated load W

180

Voltage drop V

0.15 or less

Speed control unit

Speed control range mph (km/h)

21.7 ± 3.1 to 127.4 ± 3.1
(35 ± 5 to 205 ± 5)

Set error mph (km/h)

$\pm 0.6 (\pm 1)$

Actuator

Servo type

Diaphragm type

Diaphragm stroke mm (in.)

36 (1.4)

Effective diameter mm (in.)

70.5 (2.8)

Effective area cm^2 (in.²)

39 (6.0)

Vacuum check valve

Type

Ball seat type

Vacuum pump

Type

Diaphragm type

Rated current A

1.6 or less

Generated negative pressure kPa (in.Hg.)

53-80 (16-24)

Vacuum switch

Cut-in negative pressure kPa (in.Hg.)

19-21 (5.6-6.2)

Cut-out negative pressure kPa (in.Hg.)

20-26 (5.9-7.6)

Vacuum pump relay

Rated coil current A

Max. 0.2

Rated load current A

22

Voltage drop between terminals V

0.2 or less

* Brake switch is stop light switch used jointly.

ETACS

Microcomputer

Information volume

4 Bit

Memory capacity

2K words



SERVICE SPECIFICATIONS

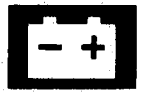
Standard value	
Basic ignition timing	10 ± 2° BTDC
Distributor pickup coil resistance Ω	920 – 1,120
Analog meter	
Speedometer indication ratings	
Meter with “mph” indication mph	
10 mph	± 1.5
25 mph	± 1.5
50 mph	± 1.5
75 mph	± 1.5
Meter with “km/h” indication km/h	
20 km/h	+4 -1
40 km/h	+4 0
80 km/h	+5 0
120 km/h	+5.5 +0.5
Tachometer indication ratings rpm	
1,000 rpm	± 100
3,000 rpm	± 150
5,000 rpm	± 250
Fuel gauge continuity test	
Resistance value Ω	
Between power source terminal (1) and ground terminal (2)	62 – 78
Between 7V terminal (3) and fuel gauge unit terminal (4)	49 – 61
Fuel gauge unit continuity test	
Resistance value Ω	
Float position “F” point	1 – 5
Float position “E” point	103 – 117
Fuel gauge unit float position dimension mm (in.)	
Float position “F” point	34.4 – 38.2 (1.35 – 1.50)
Float position “E” point	234 – 238 (9.21 – 9.37)
Water temperature gauge continuity test	
Resistance value Ω	49 – 61
Water temperature gauge unit continuity test	
When water temperature is 70°C (158°F) Ω	104
Oil pressure gauge continuity test	
Resistance value Ω	37 – 47
Ammeter indication ratings A	
30A	± 3
Ammeter continuity test [at 20°C (68°F)]	
Resistance value mΩ	143 – 203
Pressure meter continuity test	
Resistance value Ω	30 – 56



SPECIFICATIONS

Liquid crystal display meter	
Speedometer indication ratings	
Meter with "mph" indication	mph
10 mph	+2.25 -0.25
25 mph	+2.25 -0.25
50 mph	+2.5 0
75 mph	+2.5 0
Meter with "km/h" indication	km/h
20 km/h	+3 0
40 km/h	+3 0
80 km/h	+3.5 0
120 km/h	+4 +0.5
Tachometer indication ratings	rpm
1,000 rpm	±100
3,000 rpm	±200
6,000 rpm	+500 -200
Fuel gauge unit float position dimension	mm (in.)
Float position "F" point	33.1-39.1 (1.30-1.54)
Float position "E" point	235.7-241.7 (9.28-9.52)
Fuel gauge unit output voltage	V
Float position "F" point	4.35-4.70
Float position "E" point	0.3-0.5
Voltage meter indicating ratings	V
12.5V	+0.9 -1.1
Windshield wiper blade stopping position	mm (in.)
(distance between blade tip and front deck garnish)	13 (.5)
Rear wiper blade stopping position	mm (in.)
(distance between blade tip and hatch garnish)	45-55 (1.8-2.2)
Limit	
Headlight intensity	20,000 cd or more

SPECIFICATIONS



TORQUE SPECIFICATIONS

Engine

Nm (ft.lbs.)

Detonation sensor	20–24 (15–18)
-------------------	---------------

Lighting System

Ncm (in.lbs.)

Headlight housing assembly	650–750 (56–65)
----------------------------	-----------------

Windshield Wipers and Washer

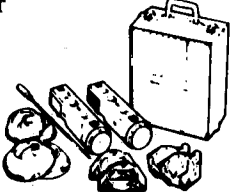
Nm (ft.lbs.)

Wiper pivot shaft installing nut	10–16 (7–12)
----------------------------------	--------------

Wiper arm locking nut	10–16 (7–12)
-----------------------	--------------



SPECIAL TOOL

Tool (Number and name)	Use
<p data-bbox="115 289 203 342">C-4466 Aimer</p> 	<p data-bbox="505 289 795 321">Aiming of the headlights</p>



BATTERY

Run-down battery

TEST 1

With the engine at curb idle, measure the voltage at the B-terminal of the alternator. Next, measure the voltage at the B-terminal when the engine speed is increased to about 2,000 rpm, and compare that measurement with the measurement during idling.
Is voltage higher at 2,000 rpm?

Not higher, or no change

Higher

Go to TEST 6

TEST 2

With the engine stopped and the ignition switch in the "ON" position, measure the voltage at the L-terminal of the alternator. In other words, check whether or not field current flows.

0 to 1V

1 to 3V

High (nearly the same as battery voltage)

Go to TEST 6

Go to TEST 5

TEST 3

Short-circuit the B-terminal and the R-terminal of the alternator with a jumper wire, and then repeat TEST 2.

0 to 1V

1 to 3V

Go to TEST 4

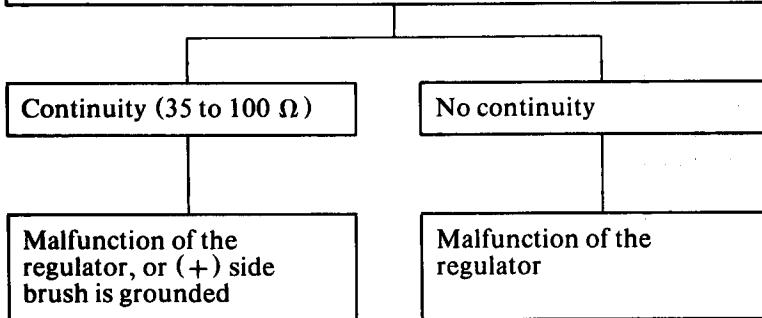
Poor ignition switch ground



TROUBLESHOOTING

TEST 4

Remove the connector from the alternator, and then check for continuity between the L- and R-terminals of the alternator.

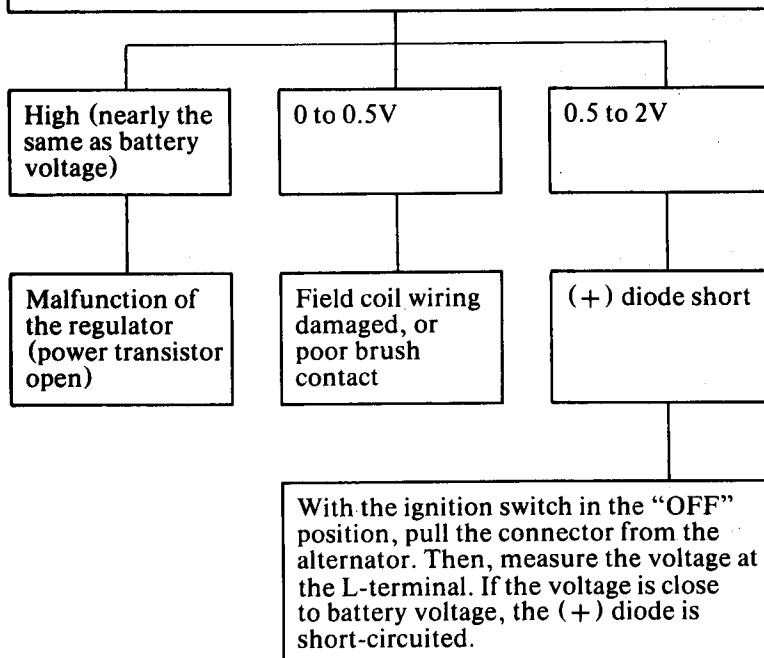


Caution

While engine is running (alternator generating power), make sure that L-terminal is not grounded. If L-terminal is grounded, auxiliary diode will be short-circuited and no voltage will be available at L-terminal, so no power will be generated. Therefore, CHARGE light will remain lit.

TEST 5

With the engine stopped and the ignition switch in the "ON" position, measure the voltage at the "F" terminal (for testing the alternator).

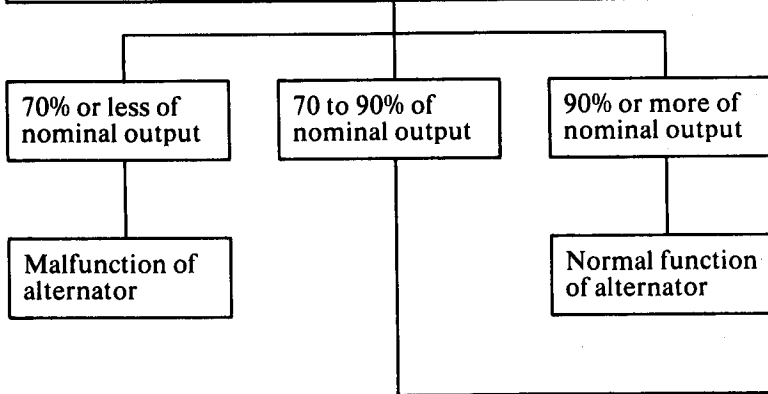


Caution

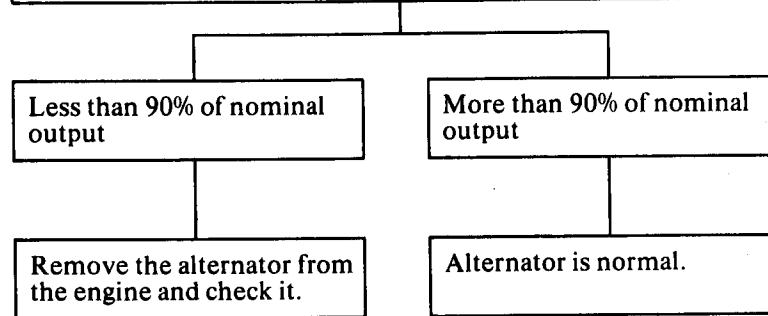
When measuring the voltage of the F-terminal (for testing), be careful not to let the voltmeter probe contact the rear bracket. If by chance it does contact it, there's no problem if it's immediately pulled away.



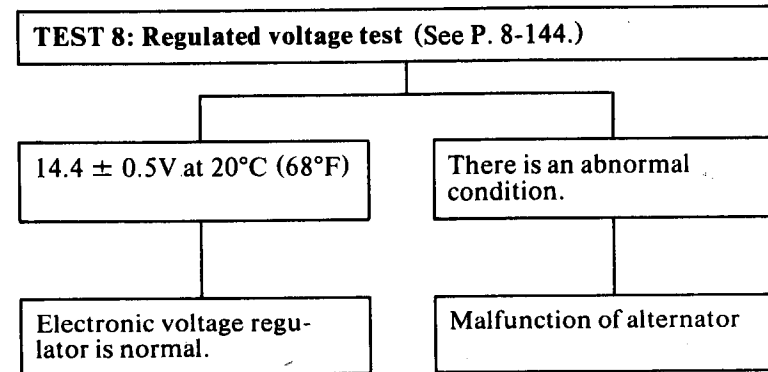
TEST 6: Output current test
 Disconnect the wiring from the B-terminal of the alternator, and connect an ammeter (60A or higher) between the wires and the terminal.
 Start the engine. Then immediately increase the engine speed to 2,500 to 3,000 rpm and quickly read the maximum value shown by the ammeter. Note that all loads on the electrical system should be "ON" when this test is made.



TEST 7: Output current test (re-check)
 Check for poor contact of the wiring between the B-terminal of the alternator and the positive (+) terminal of the battery. After slightly discharging the battery make TEST 6 once again.



NOTE
 Make TEST 8 if it is necessary after finishing TESTS 6 and 7.





TROUBLESHOOTING

Overcharge

TEST 1

While measuring the voltage at the B-terminal of the alternator, slowly increase the engine rpm from idle speed. Is the B-terminal voltage 15.5V or more?

Not 15.5V or more

15.5V or less

Malfunction of alternator
[Malfunction of electronic voltage regulator, or negative (-) brush is grounded]

TEST 2

Measure and compare the voltage of the F-terminal (for checking the alternator) at idle speed and at approx. 3,000 rpm. Is the voltage higher at 3,000 rpm?

Higher

Not higher, or no change

Malfunction of alternator
[Malfunction of electronic voltage regulator, or negative (-) brush is grounded]

NOTE
The voltage of the F-terminal may not increase if the battery is discharged.

TEST 3: Regulated voltage test (See P. 8-144.)

$14.7 \pm 0.3V$ at 20°C (68°F)

There is an abnormal condition.

Alternator normal

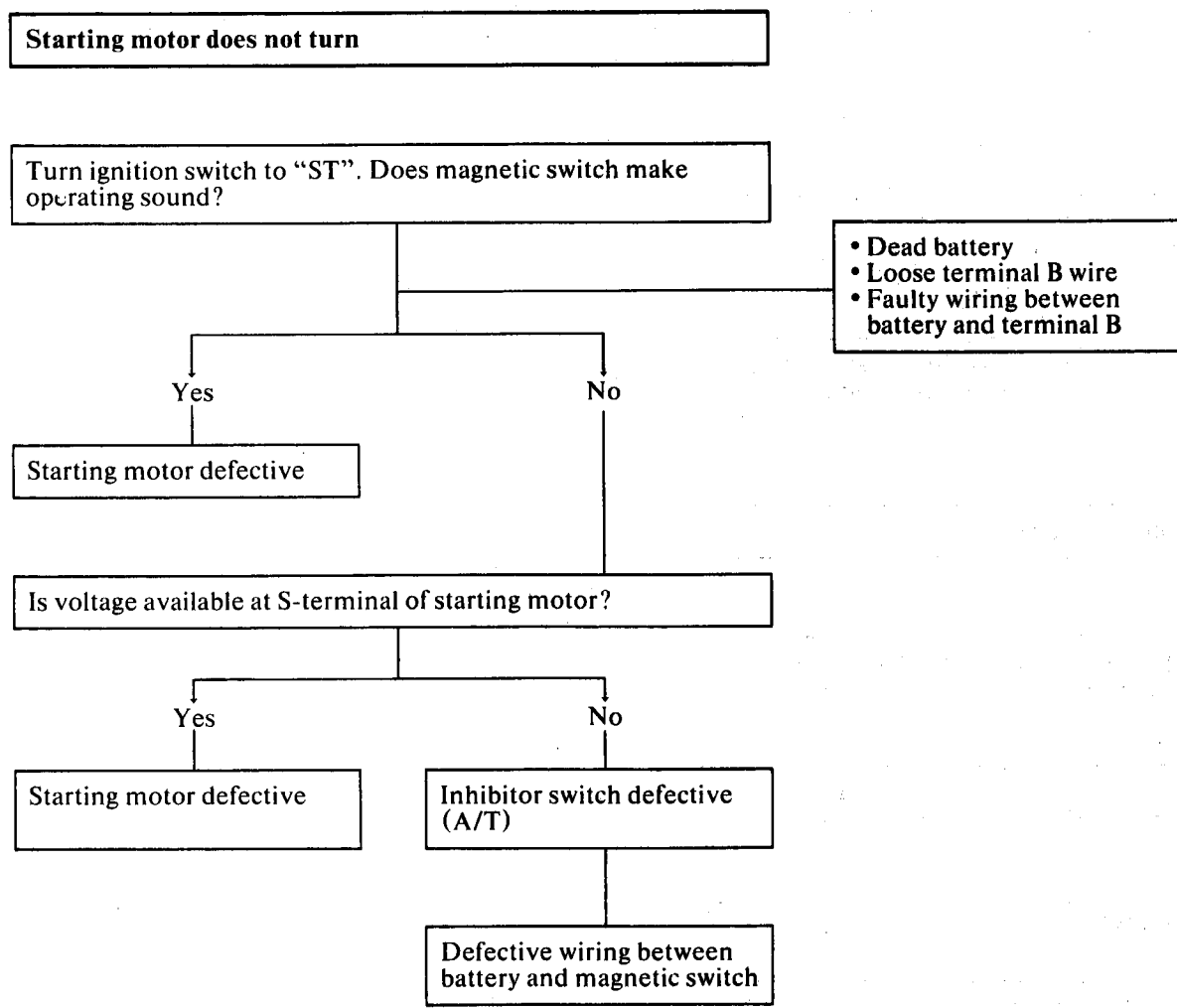
Malfunction of alternator



STARTING SYSTEM

The troubles of starting system may be divided into “Starting motor does not turn”, “Starting motor turns but engine does not start” and “It takes some time before engine starts”. When there is something wrong with starting system, therefore, it is important to determine which part of starting system is defective with starting motor attached to engine.

Generally, starting difficulty, aside from inoperative starting motor, is often attributable to defective ignition system, fuel system, battery, electrical wiring, etc. If makeshift corrective steps are taken without locating the cause, same trouble will develop again.





TROUBLESHOOTING

Starting motor turns but engine does not start

Does initial explosion occur?

Yes

No

Ignition system or fuel system defective

Is starting motor pinion moving away from flywheel teeth too early?

Yes

No

Starting motor defective

Ignition system or fuel system defective

Starting motor turning too slowly

Check battery voltage, specific gravity, fluid level, etc.

Something wrong

Nothing wrong

Recharge battery or replace

Check ignition system, fuel system

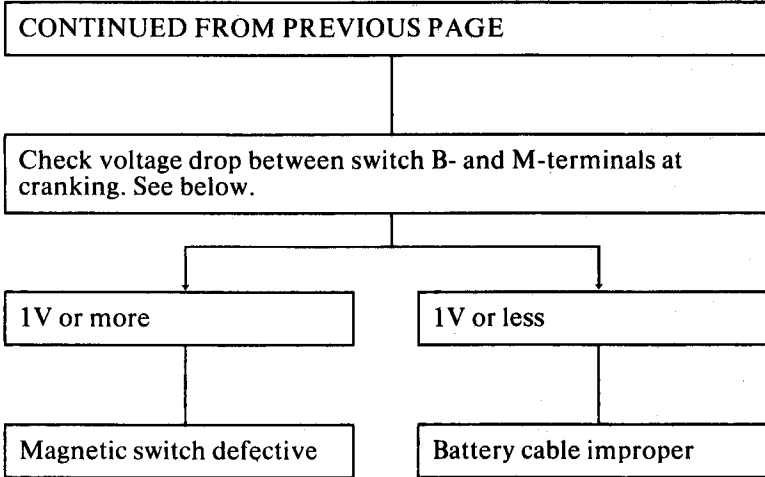
Slipping of overrunning clutch

Something wrong

Nothing wrong

Ignition system or fuel system defective

SEE NEXT PAGE

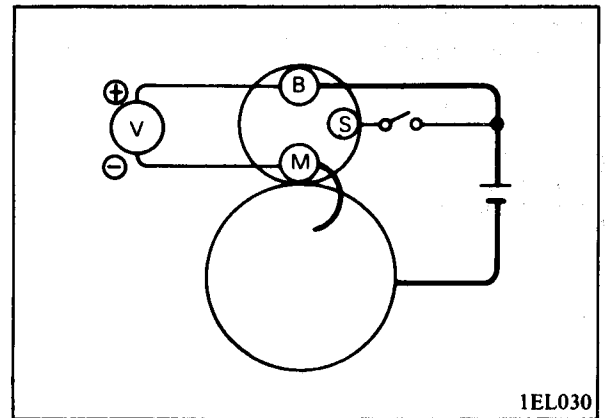


Point to Note when Checking

- To measure a voltage drop across contacts B and M, make connections as shown. (1EL030)
 If there is a voltage drop of more than 1 V, hard starting could result, when engine resistance increases as in very cold weather. In such a case, replace switch assembly.

Caution

Be sure to connect voltmeter while cranking. If the voltmeter is connected before cranking, 12 V is applied to the voltmeter, causing damage to it.



1EL030



IGNITION SYSTEM

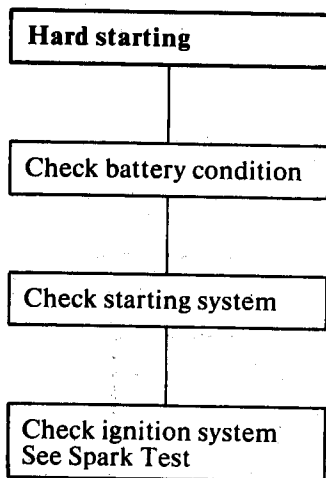
The cause for hard engine starting or malfunction is not always in ignition system. Defective parts may exist in fuel system, exhaust emission control system, starting system or the engine itself.

The role of the ignition system is to generate sufficient electric sparks at the proper time.

For on-vehicle troubleshooting of the ignition system, the short cut is to determine on the basis of symptoms which is defective, the power supply, primary low tension circuit or high tension circuit.

For example, when all spark plugs fail to produce sparks, the probable cause is in power supply or primary circuit. If misfiring occurs only at a specific spark plug, the high tension, or secondary, circuit is likely to be defective. If misfiring occurs occasionally, loose leads or spark plugs can be suspected.

If good spark is produced but the engine runs poorly, the probable cause could be incorrect timing or worn spark plugs.





Ignition System

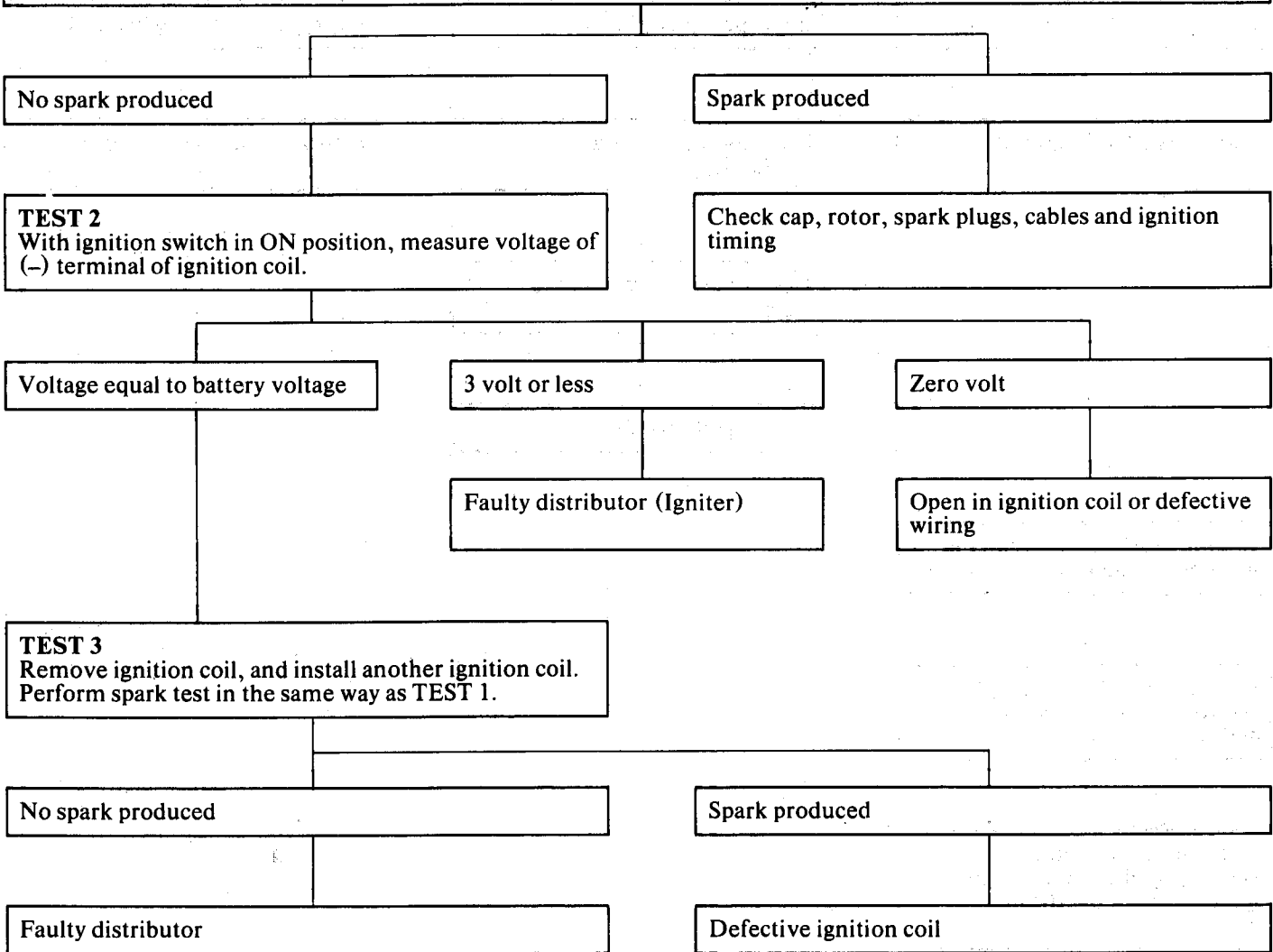
**Spark Test
(When engine can be cranked)**

TEST 1

Disconnect the high tension cable from the center tower of the distributor cap. Hold end of cable about 5 to 10 mm (.2 to .4 in.) away from cylinder block of engine. Crank engine with starter, and check spark condition.

NOTE

For spark test when engine cannot be cranked, refer to P.8-144.





TROUBLESHOOTING

**Poor Low Speed Performance
(Back firing or hard starting occurs)**

Distributor improperly installed

Improper ignition timing

Faulty distributor or igniter

**Poor Acceleration
(Poor high speed performance
Insufficient output
Engine stalls on acceleration)**

Improper spark plug heat value

Improper spark plug gap

Defective governor advance mechanism

Defective vacuum advance mechanism

Faulty ignition coil

Knocking

Improper octane value of fuel

Improper spark plug heat value

Faulty advance mechanism

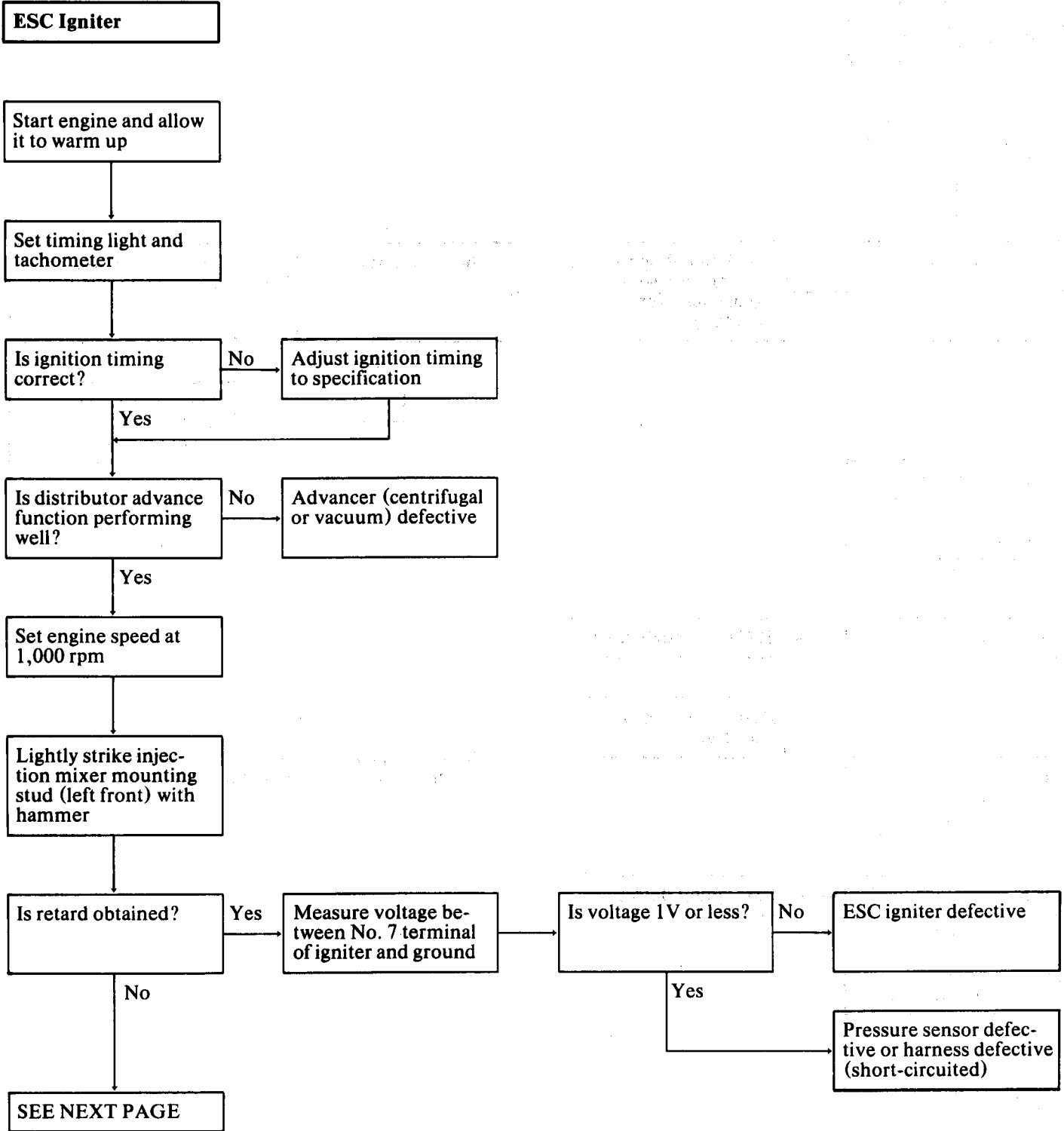
**Engine Stalls Occasionally or
Misfiring Occurs Occasionally**

Defective insulation of high tension cables, cap, rotor and/or spark plugs

Faulty primary circuit
(Damaged primary cable and ignition coil or overheated ignition coil)

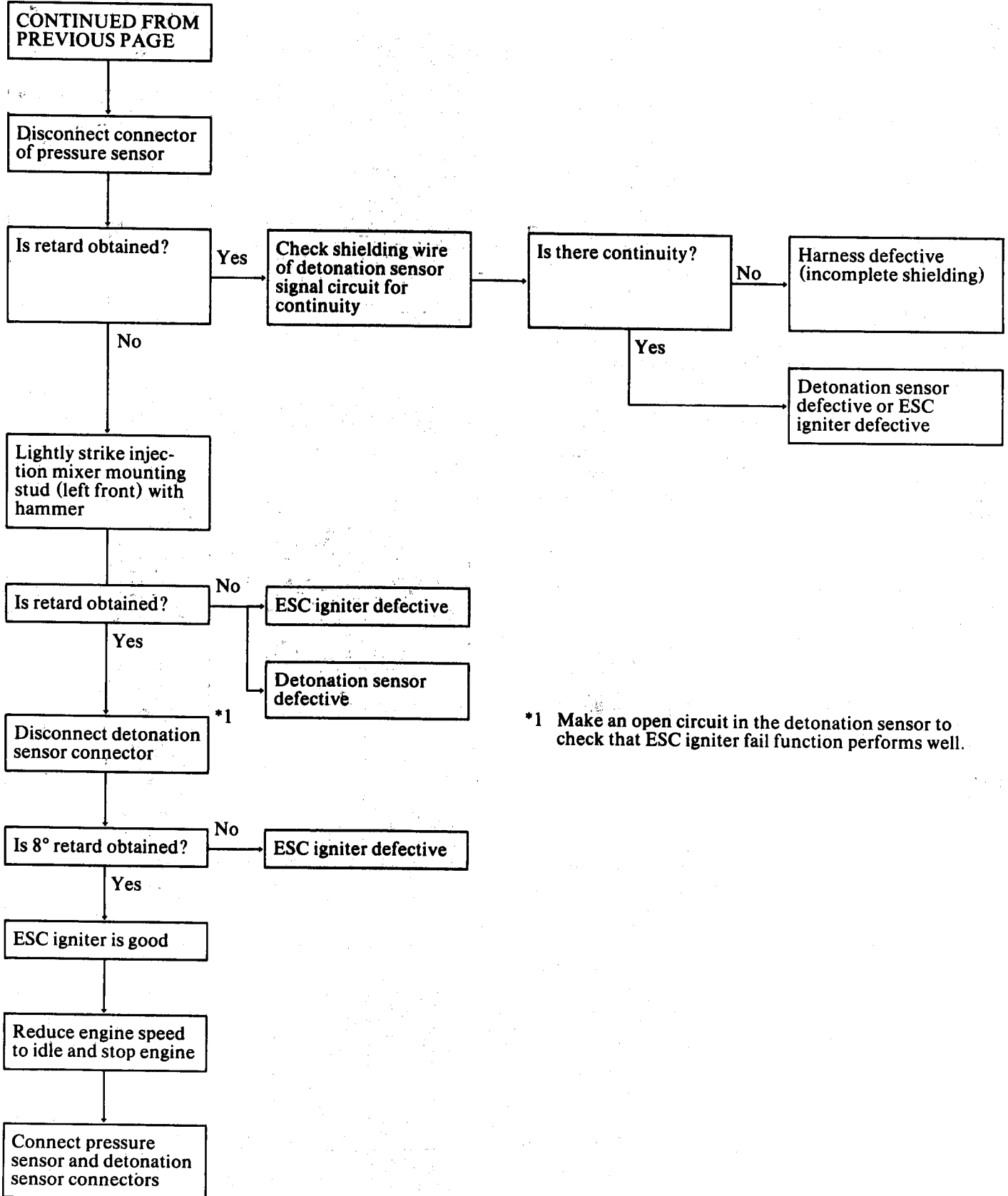


ESC Igniter





TROUBLESHOOTING



*1 Make an open circuit in the detonation sensor to check that ESC igniter fail function performs well.



METERS

Liquid Crystal Display Meter

- Faulty speedometer indication
- Faulty tachometer indication
- Faulty odometer/trip meter indication
- Faulty fuel gauge indication
- Faulty water temperature gauge indication
- Faulty pressure meter indication
- Faulty voltage meter indication
- Faulty oil pressure gauge indication

If a problem with the liquid crystal display such as those listed occurs, set the ignition key to "ON" and confirm that all of the segments light up. If there is a malfunction in the meter, replace the liquid crystal display as a unit assembly. If there is no malfunction in the meter, inspect the various sensors, harnesses, etc., and make any necessary repairs. If the problem persists, the cause is probably a malfunction in the microcomputer, so replace the case assembly.

Symptom	Probable cause	Remedy
The speedometer always indicates 0 km/h (0 mph), regardless of vehicle speed	No vehicle speed pulse	Replace the pulse generator
	Faulty connector contacts	Repair the connector
	Broken or shorted harness	Repair or replace the harness
	Malfunction in the electronic circuit	Replace the case assembly
The vehicle speed pulse is not output to other electronic components	No vehicle speed pulse	Replace the pulse generator
	Broken or shorted harness	Repair or replace the harness
The odometer and trip meter do not function	No vehicle speed pulse	Replace the pulse generator
	Broken or shorted harness	Repair or replace the harness
	Malfunction in the electronic circuit	Replace the case assembly
Switching between the odometer and trip meter is not possible	Faulty selector switch	Replace the switch board
	Malfunction in the electronic circuit	Replace the case assembly
The trip meter cannot be reset	Faulty reset switch	Replace the switch board
	Malfunction in the electronic circuit	Replace the case assembly
Switching between km/h and mph indication is not possible	Faulty selector switch	Replace the switch
	Malfunction in the electronic circuit	Replace the case assembly
No tachometer indication	No ignition pulse	Repair or replace the harness
	Malfunction in the electronic circuit	Replace the case assembly
Unstable tachometer indication	Large voltage fluctuation in the ignition pulse	Replace the ignition coil
	Malfunction in the electronic circuit	Replace the case assembly



TROUBLESHOOTING

Symptom	Probable cause	Remedy
No pressure meter display	Negative pressure signal is not being output	Replace the boost sensor
	Damaged or short-circuited harness	Repair or replace the harness
	Malfunction of the electronic circuit	Replace the case assembly
Fluctuating pressure meter indication	Large fluctuations in pressure sensor voltage	Replace the boost sensor
	Malfunction of the electronic circuit	Replace the case assembly
The fuel gauge does not function at all The fuel gauge indication remains displayed Faulty fuel gauge indication	Faulty fuel gauge unit	Replace the fuel gauge unit
	Broken or shorted harness	Repair or replace the harness
	Malfunction in the electronic circuit	Replace the case assembly
Fuel gauge will not display expanded indication	Faulty expanded indication switch	Replace the expanded indication switch
	Malfunction in the electronic circuit	Replace the case assembly
The fuel level warning light does not light up	Fuel warning light burned out	Replace the bulb
	Faulty fuel gauge unit	Replace the fuel gauge unit
	Malfunction in the electronic circuit	Replace the case assembly
The water temperature gauge does not function at all The water temperature gauge indication remains displayed Faulty water temperature gauge indication	Faulty water temperature gauge unit	Replace the water temperature gauge unit
	Broken or shorted harness	Repair or replace the harness
	Malfunction in the electronic circuit	Replace the case assembly
The voltage meter does not function at all The voltage meter indication remains displayed Faulty voltage meter indication	Broken or shorted harness	Repair or replace the harness
	Malfunction in the electronic circuit	Replace the case assembly
The oil pressure gauge does not function at all The oil pressure gauge indication remains displayed Faulty oil pressure meter indication	Faulty oil pressure gauge unit	Replace the oil pressure gauge unit
	Broken or shorted harness	Repair or replace the harness
	Malfunction in the electronic circuit	Replace the case assembly
The liquid crystal display does not dim when the lighting switch is turned on	Faulty lighting switch contacts	Repair or replace the lighting switch
	Broken or shorted harness	Repair or replace the harness
	Faulty rheostat	Replace the rheostat



Symptom	Probable cause	Remedy
Brightness adjustment using the rheostat is not possible when the lighting switch is on	Damaged rheostat power supply harness	Repair the harness
	Faulty rheostat	Replace the rheostat
The liquid crystal display becomes dark when the lighting switch is turned on and brightness adjustment is not possible	The rheostat is improperly earthed	Repair the harness
	Faulty rheostat	Replace the rheostat

Analog Meter

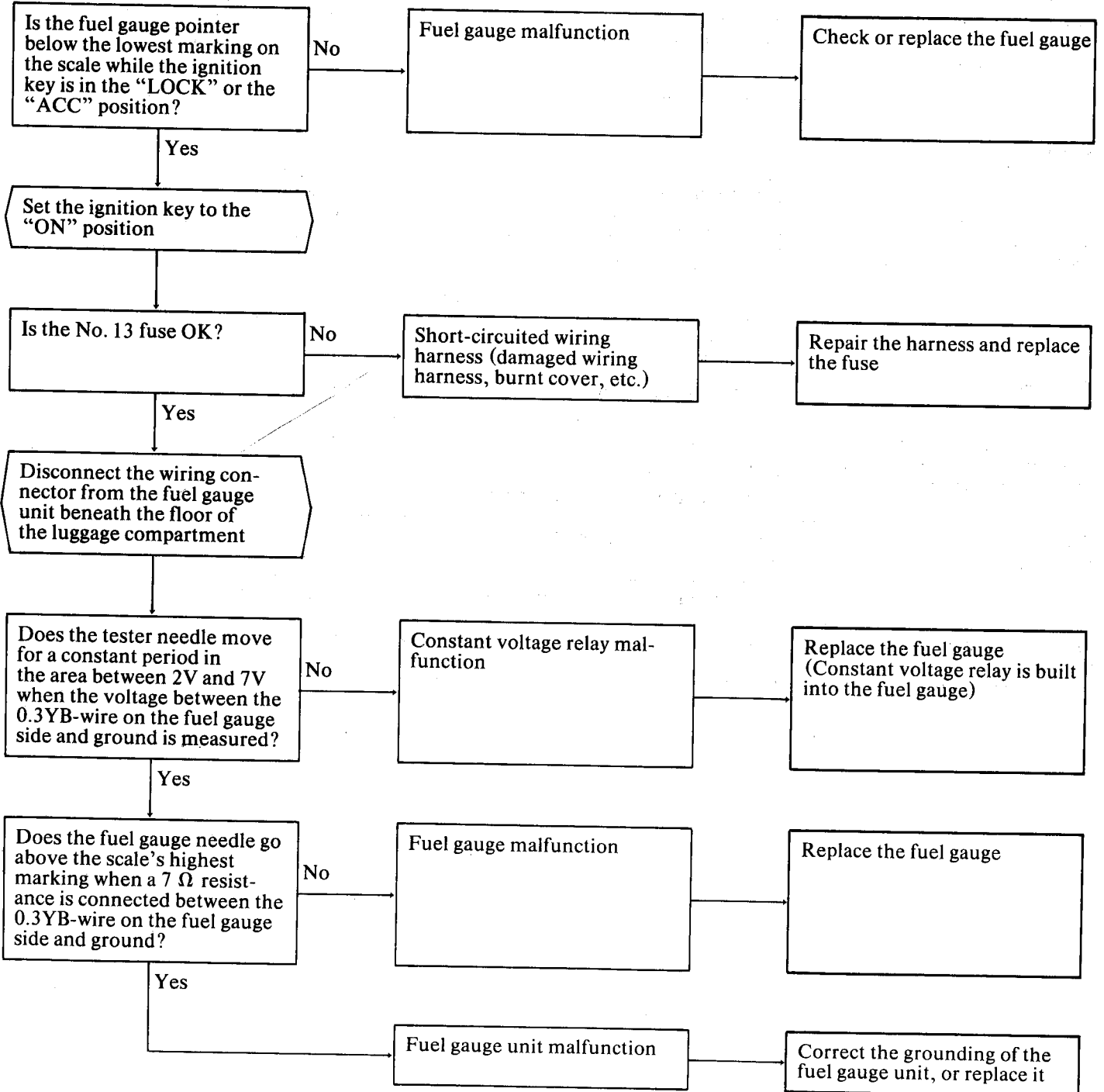
Symptom	Probable cause	Remedy
The speedometer pointer and/or the odometer do not function	Flexible shaft improperly connected Damaged flexible shaft	Repair the routing of the speedometer cable or replace the cable
	Drive gear is broken	Replace the speedometer
The speedometer pointer moves off the scale	Oil inside meter Damaged hair spring	
	The speedometer pointer will not return to "0" or will not move above a certain speed	
The speedometer pointer moves erratically		Flexible shaft improperly routed
	Worn induction panel end or bearing	Replace the speedometer
The speedometer functions but the odometer does not	Gear malfunction inside the speedometer	



GAUGES

Fuel Gauge and Unit

No pointer deflection
Incorrect indication





Water Temperature Gauge and Unit

**No pointer deflection
Incorrect indication**

Is the water temperature gauge pointer below the lowest marking while the ignition key is in the "LOCK" position or "ACC" position?

No

Water temperature gauge malfunction

Check or replace the water temperature gauge

Yes

Set the ignition key to the "ON" position

Is the No. 13 fuse OK?

No

Short-circuited wiring harness (damaged wiring harness, burnt cover, etc.)

Repair the harness and replace the fuse

Yes

Is the fuel gauge functioning correctly?

No

Constant voltage relay malfunction

Replace the fuel gauge (Constant voltage relay is built into the fuel gauge)

Yes

Disconnect the wiring connector from the water temperature gauge unit inside the engine compartment

Does the water temperature gauge pointer move to approximately the second marking from the bottom of the scale when a 100 Ω resistance is connected between the water temperature gauge unit and ground?

No

Water temperature gauge malfunction

Replace the water temperature gauge

Yes

Water temperature gauge unit malfunction

Replace the water temperature gauge unit



INDICATORS AND WARNING LIGHTS

Washer Fluid Level Warning Light

The light does not illuminate even though the washer fluid level is below the specified level

Check while the ignition key is in the "ON" position

Is fuse No. 13 OK?

No

Short-circuited wiring harness (damaged wiring harness, burnt cover, etc.)

Repair the harness and replace the fuse

Yes

Is 12V indicated between the 0.3LR-wire and ground when the combination meter is removed and a test bar is inserted from the back side of the connector?

No

A broken harness between the fuse block and the combination meter, or poor connection

Repair the harness and correct the connection

Yes

Does the light illuminate when one end of the test bar is inserted into the LW-wire from the back side of the combination meter connector and the other end of the test bar is grounded?

No

Light bulb is burnt-out or broken

Replace the light

Yes

Does the light illuminate if the connector of the washer fluid level sensor is disconnected and either the LW-wire is grounded?

No

A broken wire or a poor connection between the indicator light and the washer fluid level sensor

Repair the harness or correct the connection

Yes

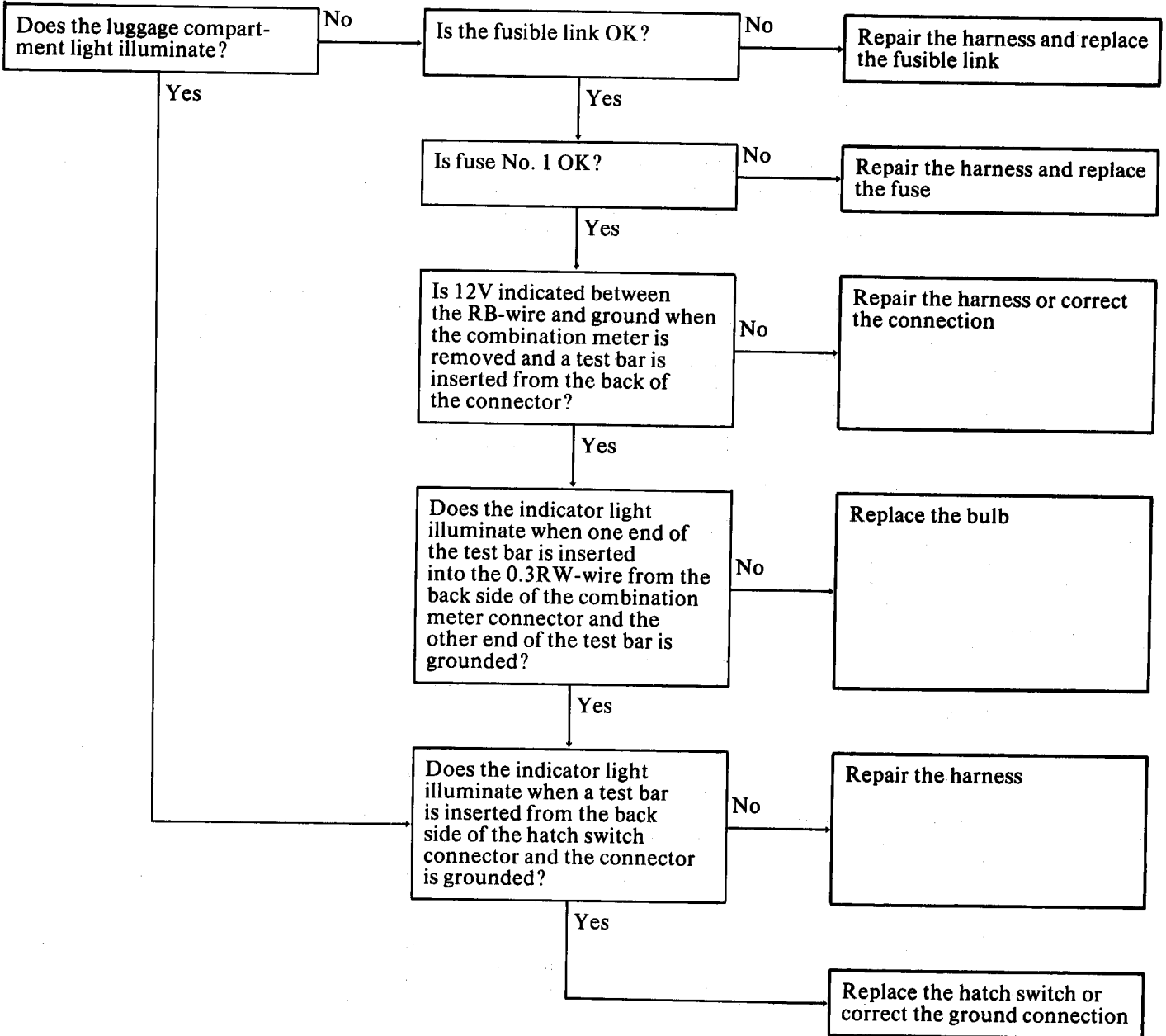
A malfunction in the washer fluid level sensor, or an improper ground connection

Replace the washer fluid level sensor or correct the ground connection



Hatch Open Warning Light

The indicator light does not illuminate when the hatch is open





TROUBLESHOOTING

Brake System Warning Light

The warning light does not illuminate when the brake fluid is below the specified level

Check while the ignition key is in the "ON" position

Is fuse No. 13 OK?

No

Short-circuited wiring harness (damaged wiring harness, burnt cover, etc.)

Repair the harness and replace the fuse

Yes

Is 12V indicated between the 0.3LR-wire and ground when the combination meter is removed and a test bar is inserted from the back of the connector?

No

A broken harness between the fuse block and combination gauge, or a poor connection

Repair the harness or correct the connection

Yes

Does the indicator light illuminate when a test bar is inserted into the 0.3LR-wire from the back of the combination gauge connector and the other end of the test bar is grounded?

No

Light bulb is burnt out or broken

Replace the light

Yes

Is 12V indicated between the BW-wire and ground when a test bar is inserted from the back of the brake fluid level sensor connector?

No

A broken harness between the combination gauge and the brake fluid level sensor, or a poor connection

Repair the harness or correct the connection

Yes

Does continuity exist in the BW-wire and the 0.3B-wire of the brake fluid level sensor connector?

No

Malfunction in the brake fluid level sensor

Replace the brake fluid level sensor

Yes

Improperly grounded

Correct the ground connection

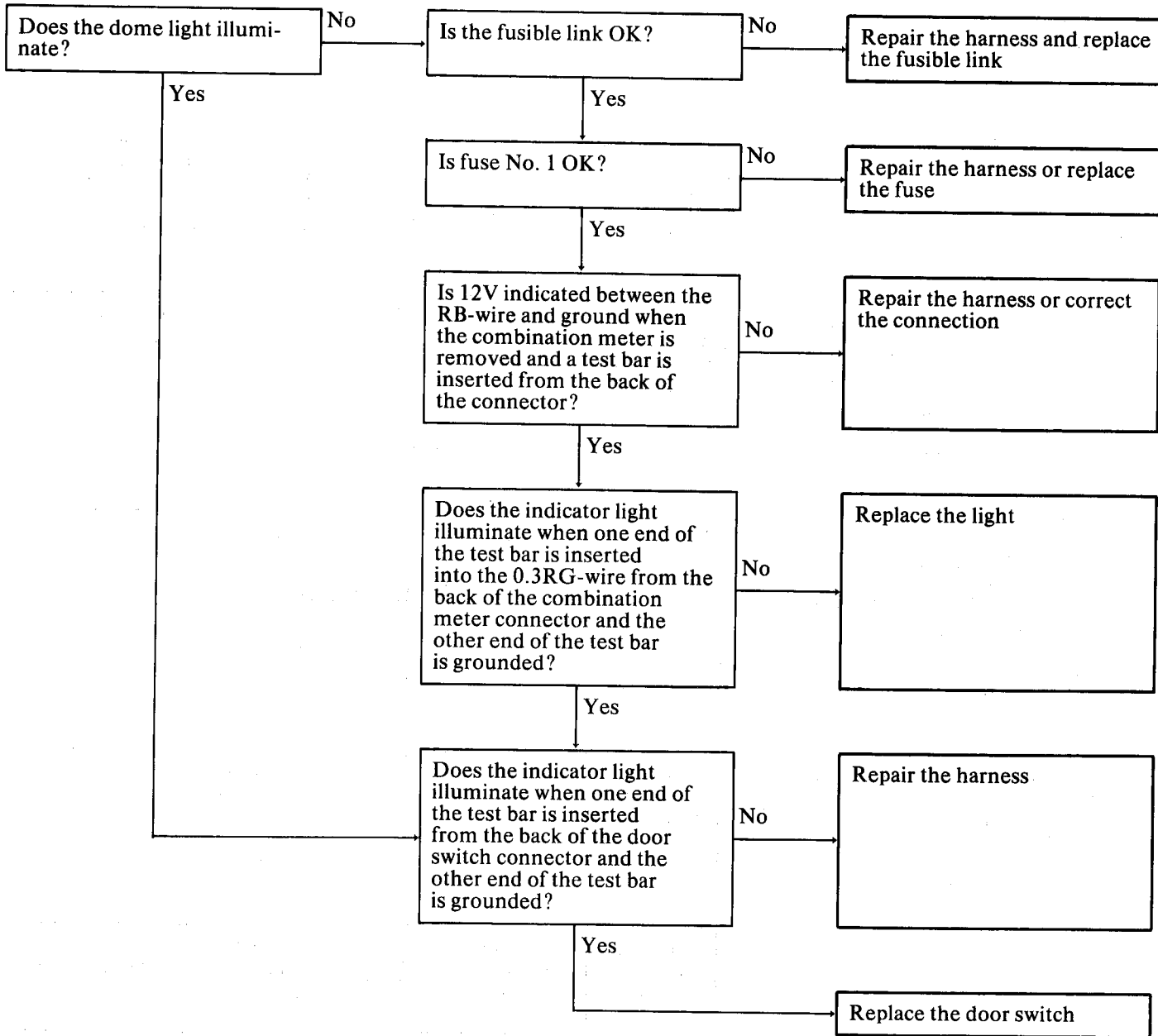
Warning light does not flash when parking brake lever is pulled

Refer to P. 8-118.



Door-ajar Warning Light

The indicator light does not illuminate when the door is open



Seat Belt Warning Light

Warning light does not light when ignition key is set to "ON"

Refer to P.8-125.



TROUBLESHOOTING

Fuel Warning Light

The warning light does not illuminate when fuel falls below the specified level

Check while the ignition key is in the "ON" position

Is fuse No. 13 OK?

No

Short-circuited wiring harness (damaged wiring harness, burnt cover, etc.)

Repair the harness and replace the fuse

Yes

Is 12V indicated between the 0.3LR-wire and ground when the combination meter is removed and a test bar is inserted from the back of the connector?

No

A broken harness between the fuse block and the combination gauge, or a poor connection

Repair the harness or correct the connection

Yes

Does the indicator light illuminate when one end of the test bar is inserted into the 0.3YL-wire from the back of the combination gauge connector and the other end of the test bar is grounded?

No

Light bulb is burnt out or broken

Replace the light

Yes

Does the indicator light illuminate when the fuel gauge unit is disconnected and the 0.3YL-wire is grounded?

No

A broken harness between the combination gauge and the fuel gauge unit, or a poor connection

Repair the harness or correct the connection

Yes

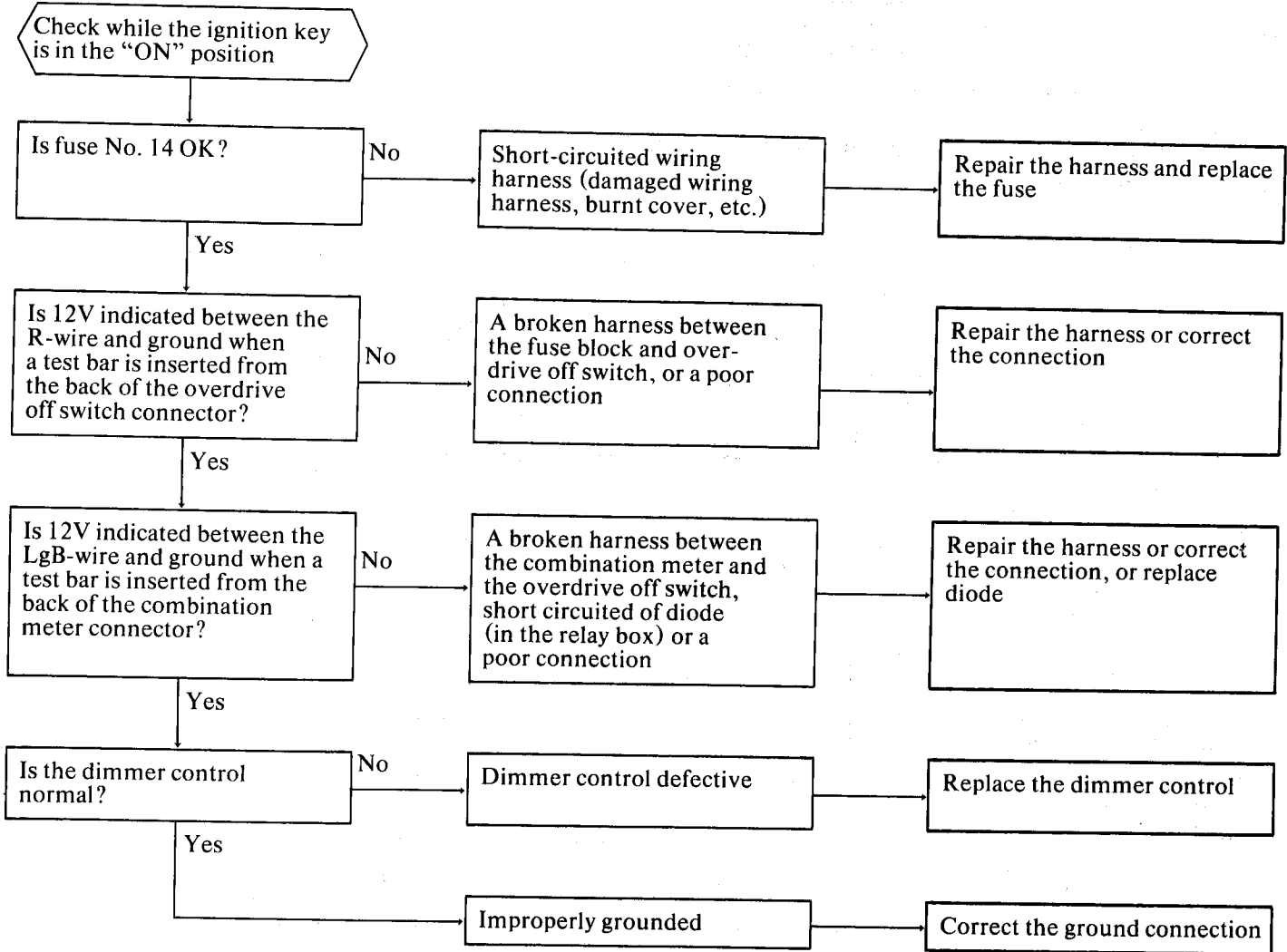
A poor connection of the fuel gauge unit connector, or a malfunction in the fuel warning sensor

Correct the connection, or replace the fuel gauge unit



Overdrive Off Indicator Light

The indicator light remains off when the overdrive off switch is on





TROUBLESHOOTING

LIGHTING SYSTEM

Headlight Pop-up Mechanism

There are two switches to raise or lower the pop-up headlights.

- To raise: 1. Headlight switch is to be switched "ON".
2. Pop-up switch is to be switched "ON".

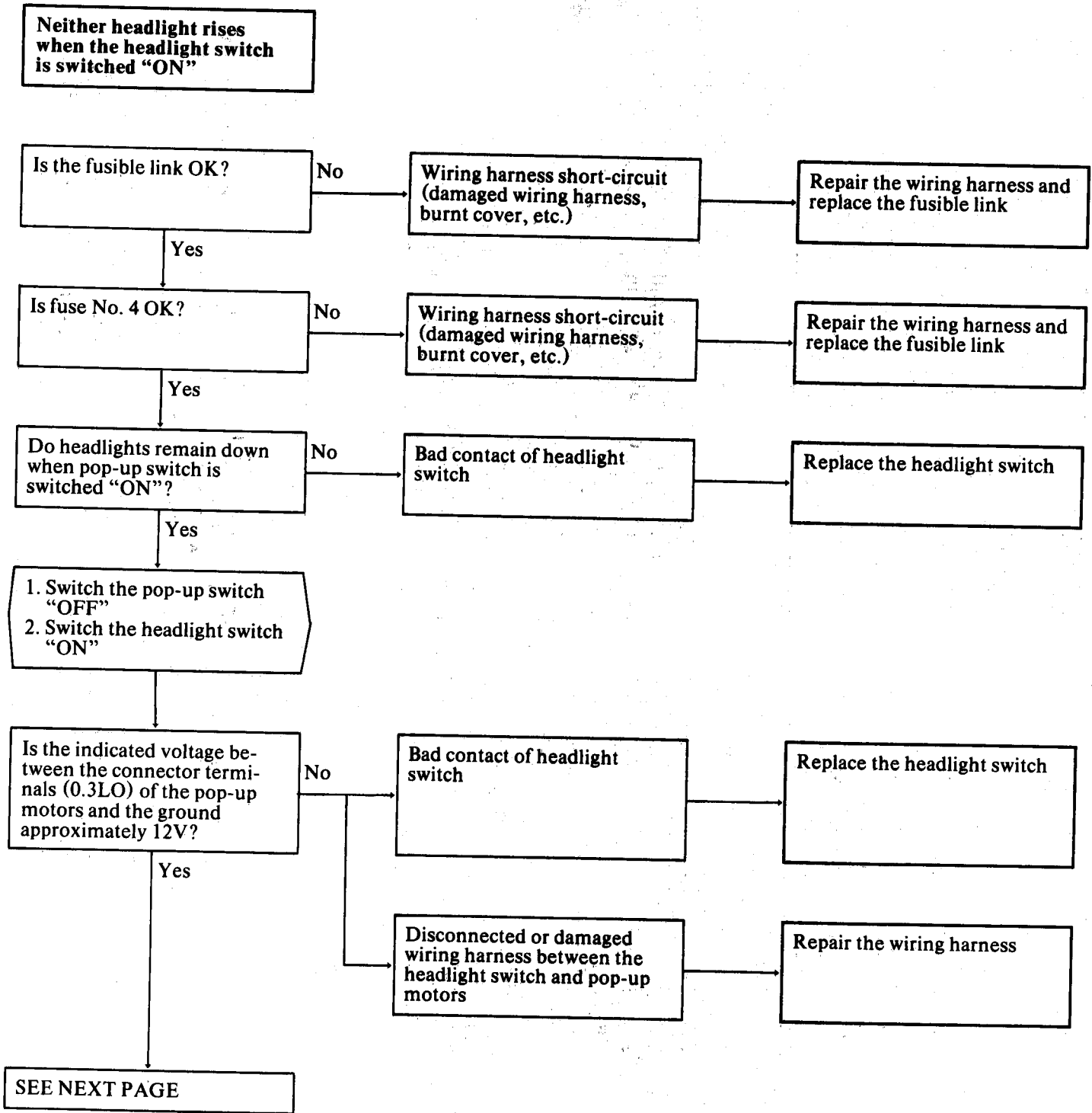
- To lower: 3. Headlight switch is to be switched "OFF".
4. Pop-up switch is to be switched "OFF".

To raise the headlights, either 1 or 2 of the "To raise" section must be selected.

To lower headlights which are up, both 3 and 4 of the "To lower" section must be selected.

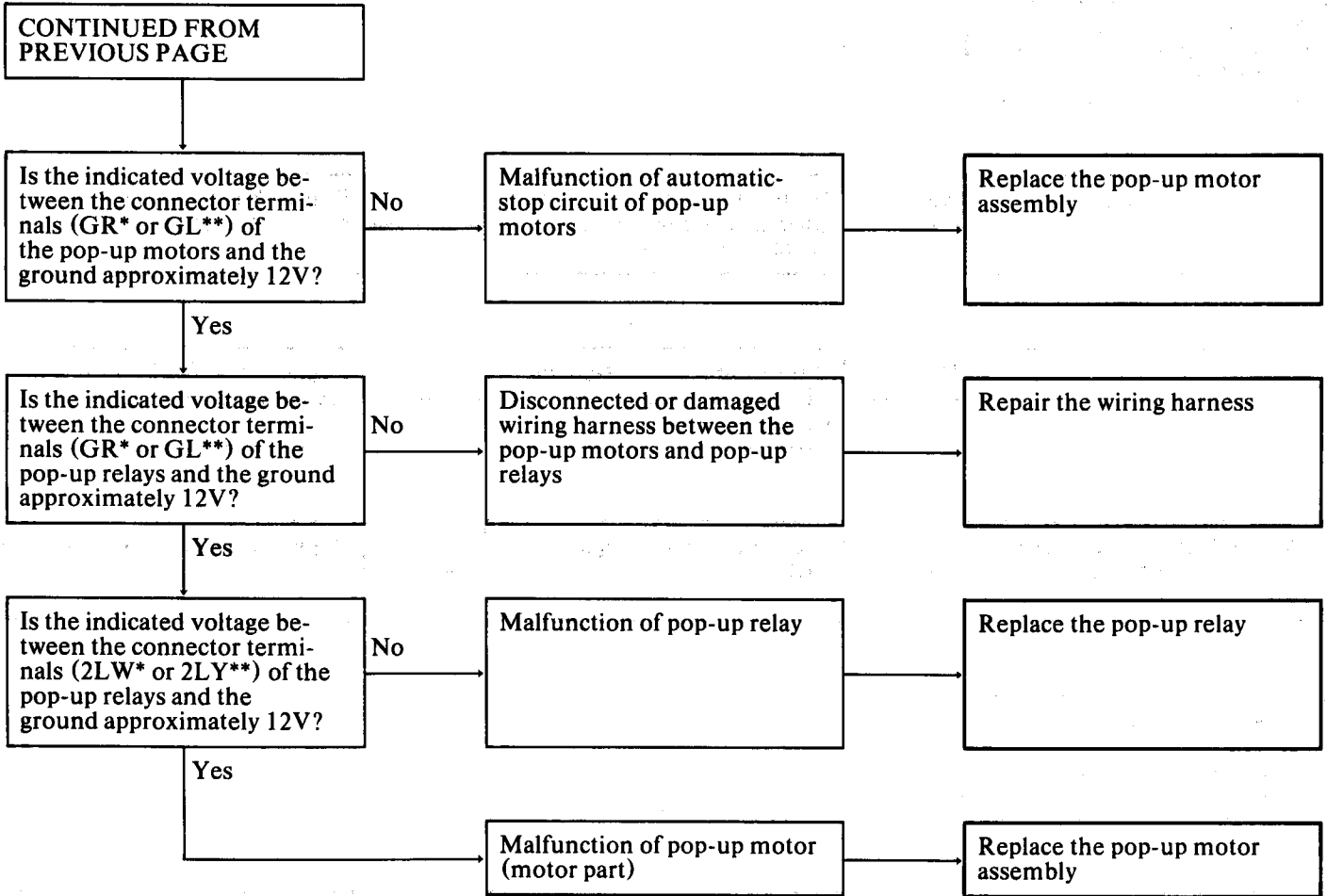
Troubleshooting Guide

Problem	Fusible link (for pop-up relay)	Fusible link Fuse No. 4 (for switch)	Fuse No. 13	Headlight switch	Pop-up switch	Pop-up relay	Pop-up motor	Wiring harness	Passing control relay
1. Neither headlight rises when the headlight switch is switched "ON"	○	○		○		○	○	○	
2. One headlight does not rise when the headlight switch is switched "ON"						○ (Left or right)	○ (Left or right)	○	
3. Neither headlight goes down when the headlight switch is switched "OFF" (pop-up switch is "OFF")	○	○		○		○	○	○	○
4. One headlight does not go down when the headlight switch is switched "OFF" (pop-up switch is "OFF")						○ (Left or right)	○ (Left or right)	○	○
5. Neither headlight rises when the pop-up switch is switched "ON"	○	○		○	○	○	○	○	○
6. One headlight does not rise when the pop-up switch is switched "ON"						○ (Left or right)	○ (Left or right)	○	
7. Neither headlight goes down when pop-up switch is switched "OFF" (headlight switch is "OFF")	○	○		○	○	○	○	○	○
8. One headlight does not go down when pop-up switch is switched "OFF" (headlight switch is "OFF")						○ (Left or right)	○ (Left or right)	○	○
9. Headlights rise when headlight switch and pop-up switch are switched "ON", but neither headlight rises when the passing switch is switched "ON" (ignition key is "ON")			○						○





TROUBLESHOOTING

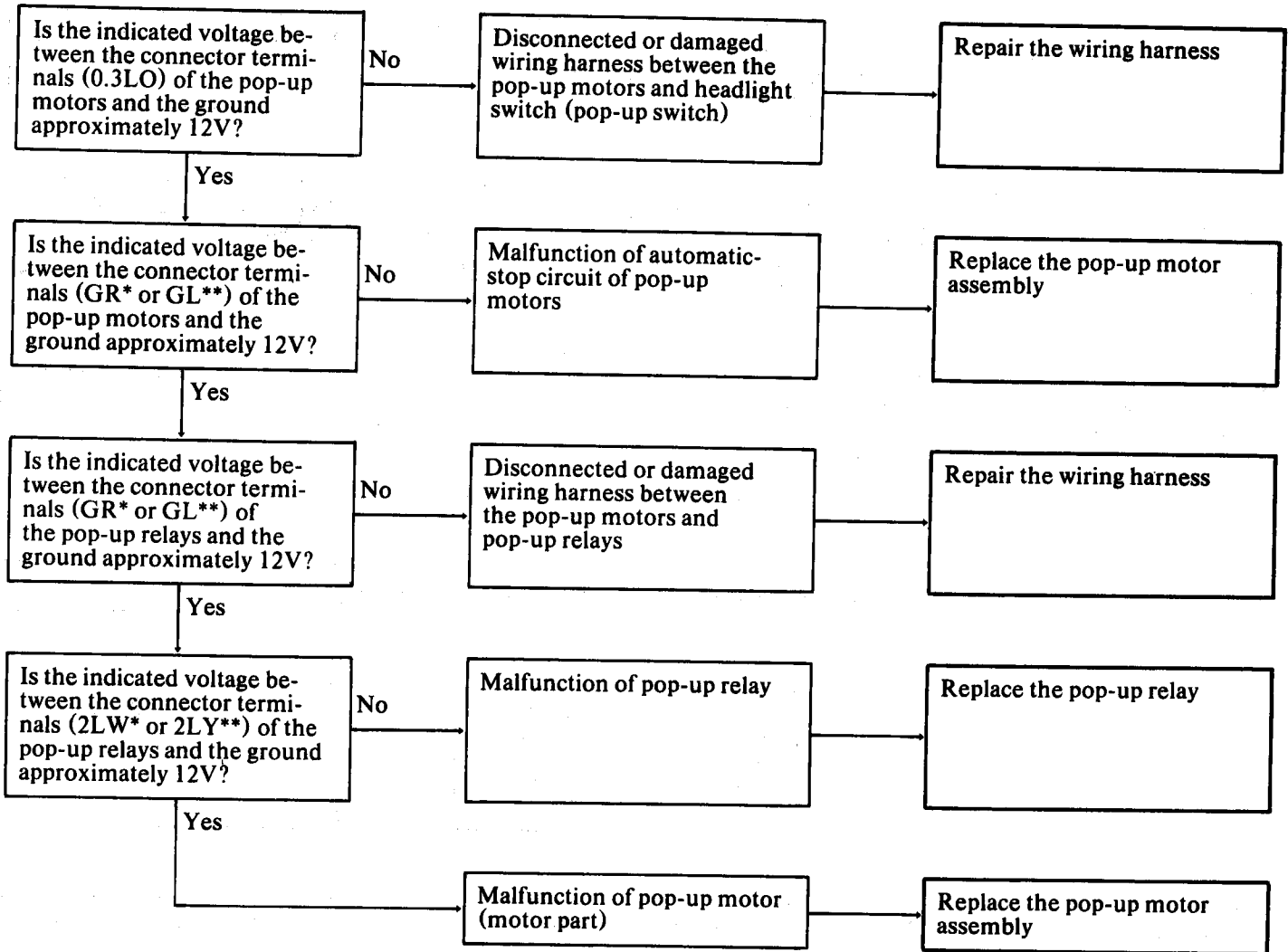


NOTES

1. The * indicates the right side.
2. The ** indicates the left side.



One headlight does not rise when the headlight switch or the pop-up switch is switched "ON"



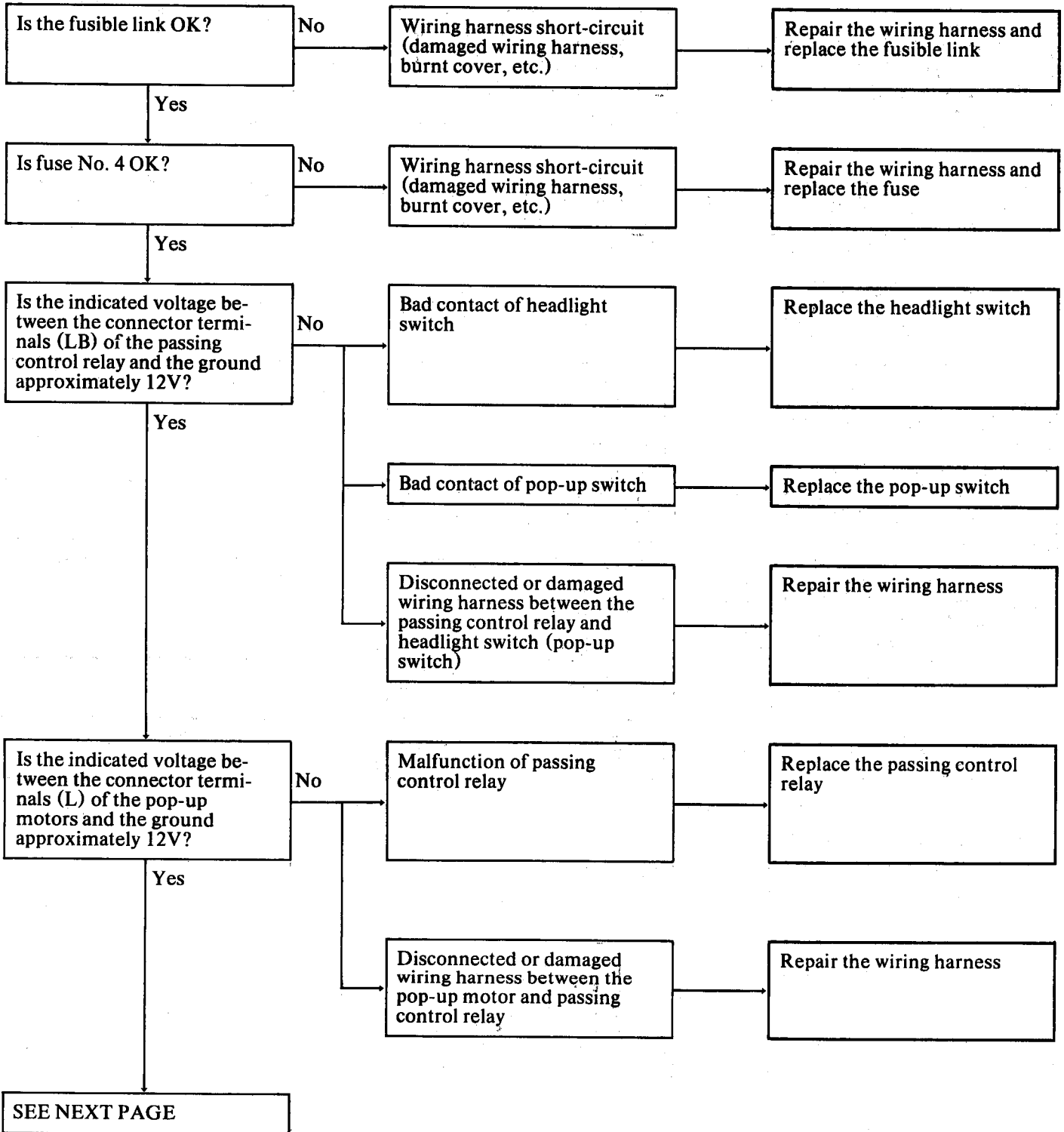
NOTES

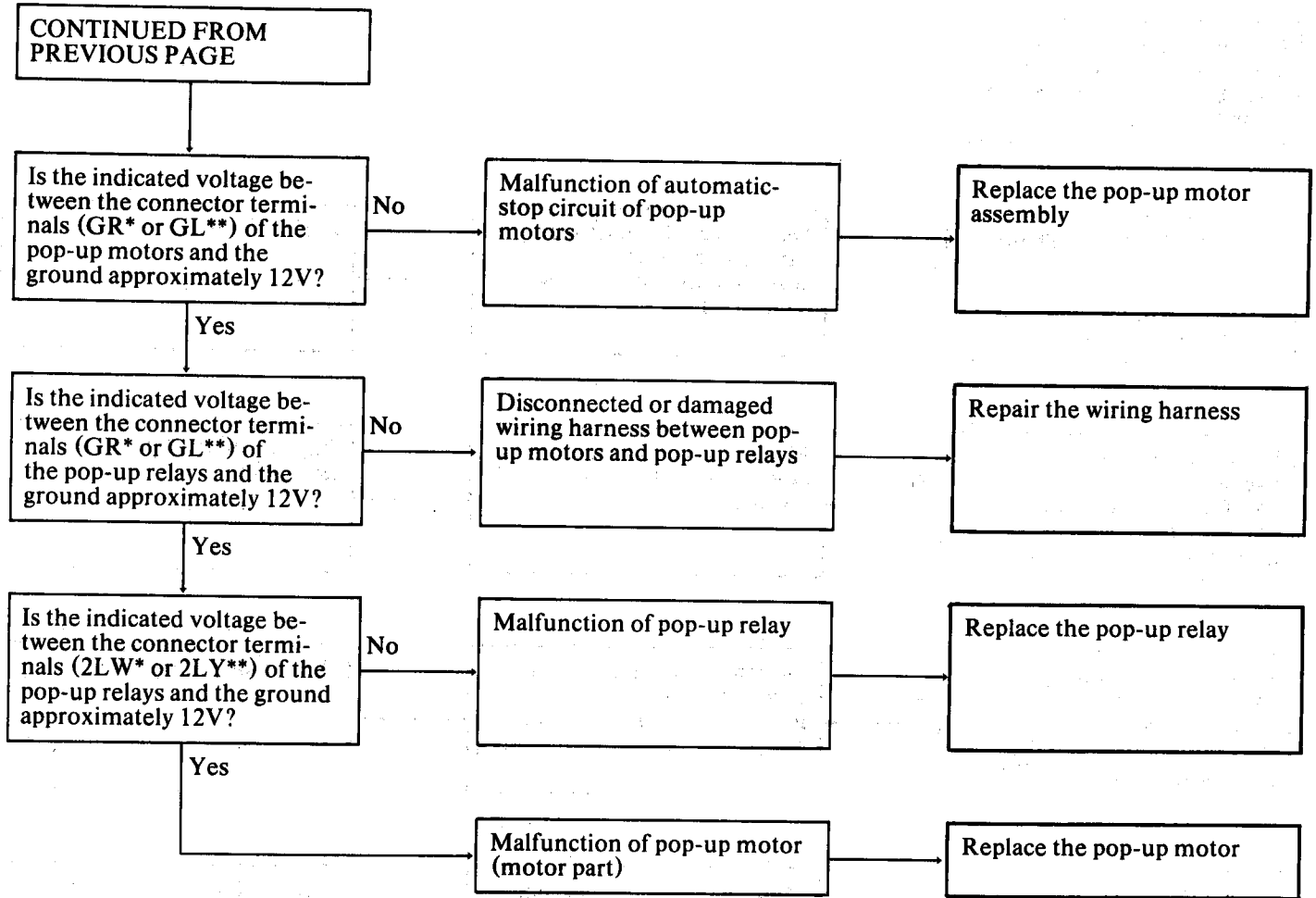
1. The * indicates the right side.
2. The ** indicates the left side.



TROUBLESHOOTING

Neither headlight goes down when the headlight switch and the pop-up switch are switched "OFF"





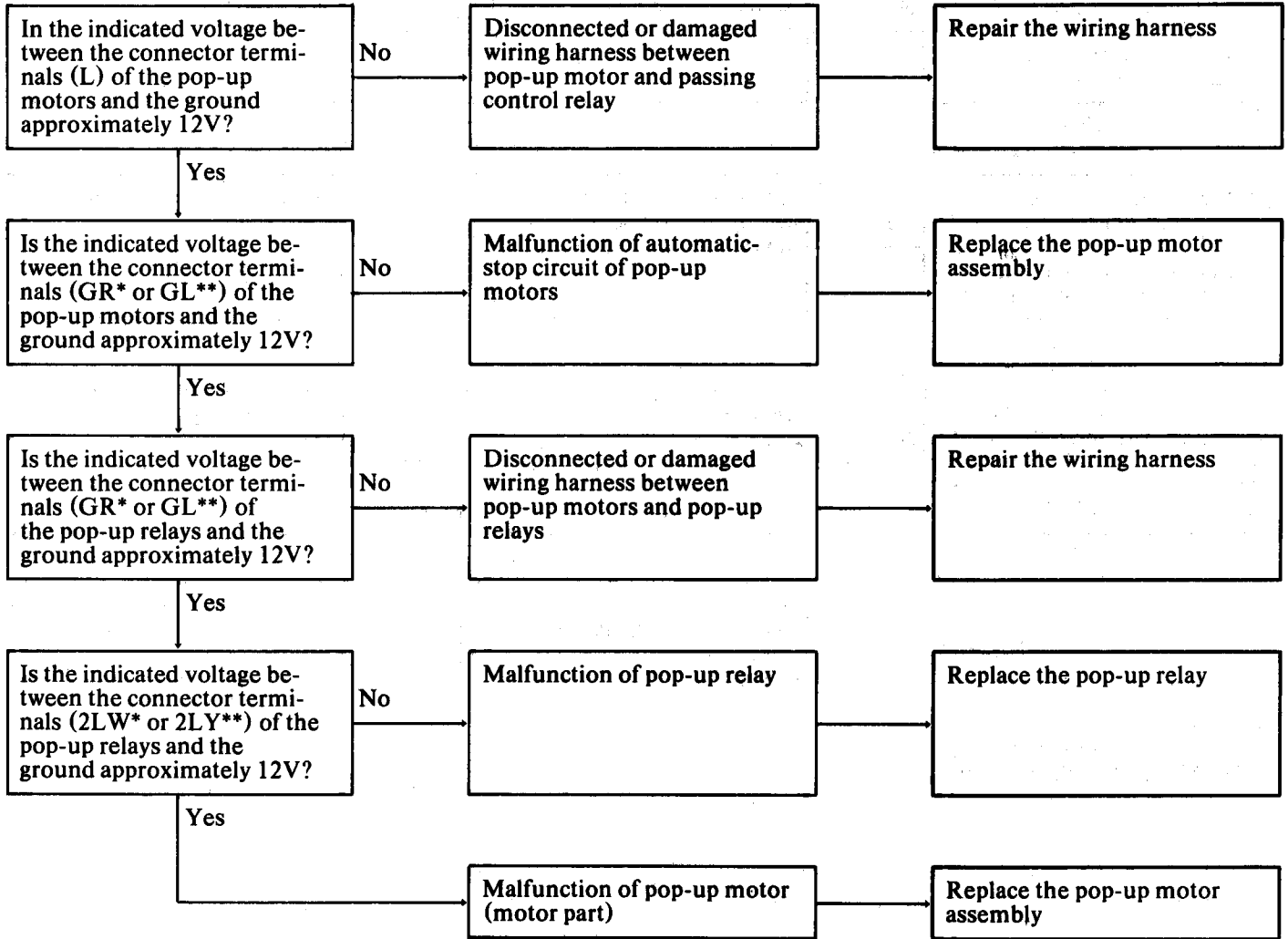
NOTES

1. The * indicates the right side.
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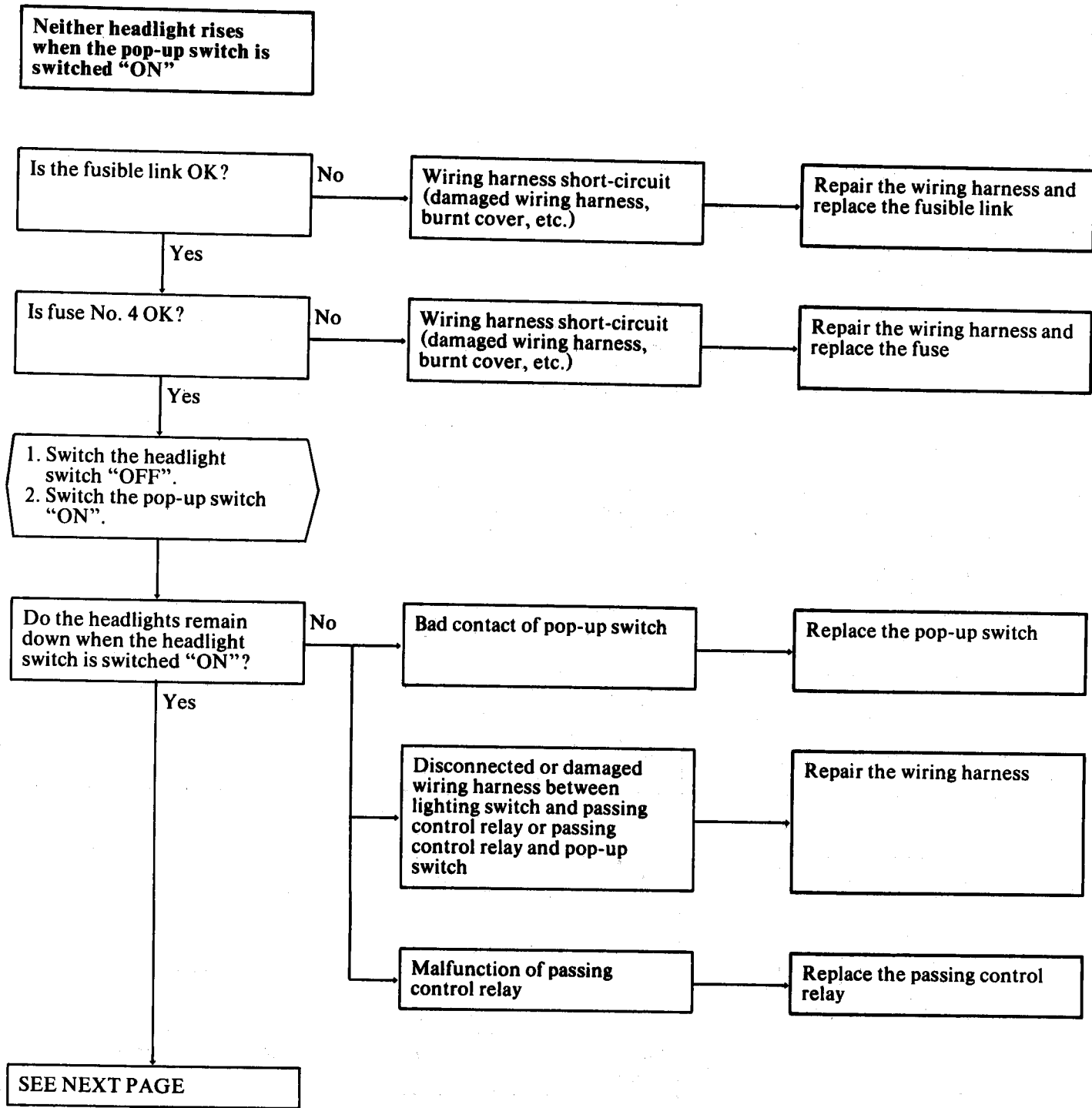
TROUBLESHOOTING

One headlight does not go down when the headlight switch or the pop-up switch is switched "OFF"



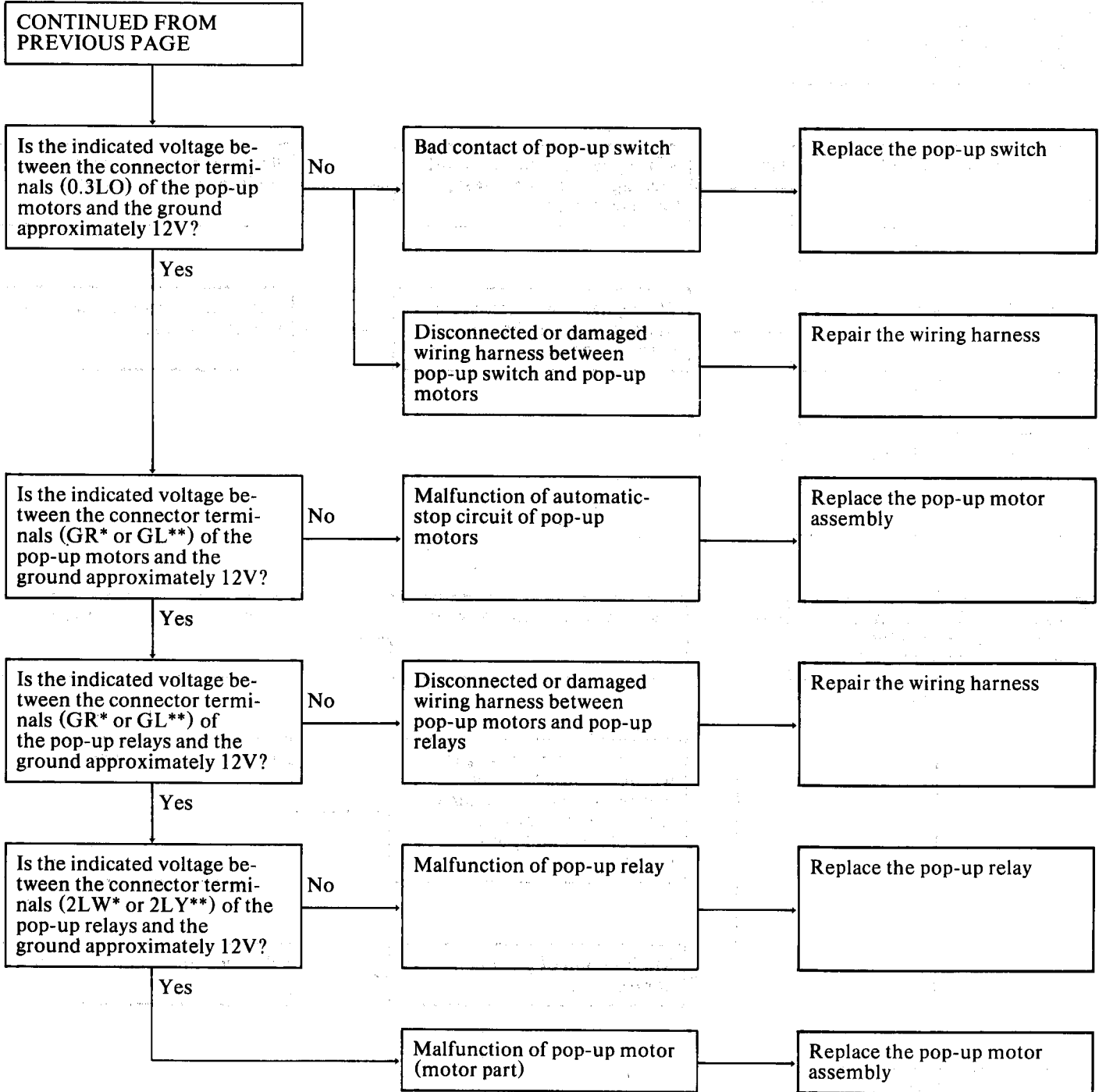
NOTES

1. The * indicates the right side.
2. The ** indicates the left side.





TROUBLESHOOTING



NOTES

1. The * indicates the right side.
2. The ** indicates the left side.



Lighting System

Check the lights for illumination to determine the reason for failure and check as applicable for each reason for failure. (For trouble symptom Nos. 3, 4, and 7 refer to the yes/no troubleshooting chart.)

Location	Trouble symptoms							
	1	2	3	4	5	6	7	8
Headlights [Both left and right lights illuminate in upper and lower beams]	×	○	×	○	△	○	△	○
Passing lights [Both left and right lights illuminate in upper beams when the passing switch is at "ON" position]	○	×	×	○	○	△	△	○
Position, Tail and License plate lights [All lights illuminate with the lighting switch in the first stage]	○	○	○	×	○	○	○	○
Fog lights [Both left and right lights illuminate with headlights in lower beam and the fog light switch at "ON" position or when the passing switch is operated with the fog light switch at "ON" position]	○	○	○	○	○	○	○	×
Probable cause	↓	↓	↓	↓	↓	↓	↓	↓
Light control relay	-	-	●	●	-	-	●	-
Passing control relay	-	●	-	-	-	-	-	-
Fog light relay	-	-	-	-	-	-	-	●
Column switch [Dimmer switch segment]	●	-	●	-	●	-	●	-
[Passing switch segment]	-	●	●	-	-	●	●	-
Lighting switch	●	-	●	●	-	-	-	-
Fog light switch	-	-	-	-	-	-	-	●
Body ground point [Instrument panel]	-	-	●	-	-	-	●	●
[Engine compartment]	-	-	-	●	-	-	-	-
[Luggage compartment]	-	-	-	●	-	-	-	-
Fuse block [No. 6 fuse]	-	-	-	●	-	-	-	-
Fog light fuse	-	-	-	-	-	-	-	●
Light bulb	●	-	●	●	●	-	●	●

Remarks

The symbols used in the table indicate the following:

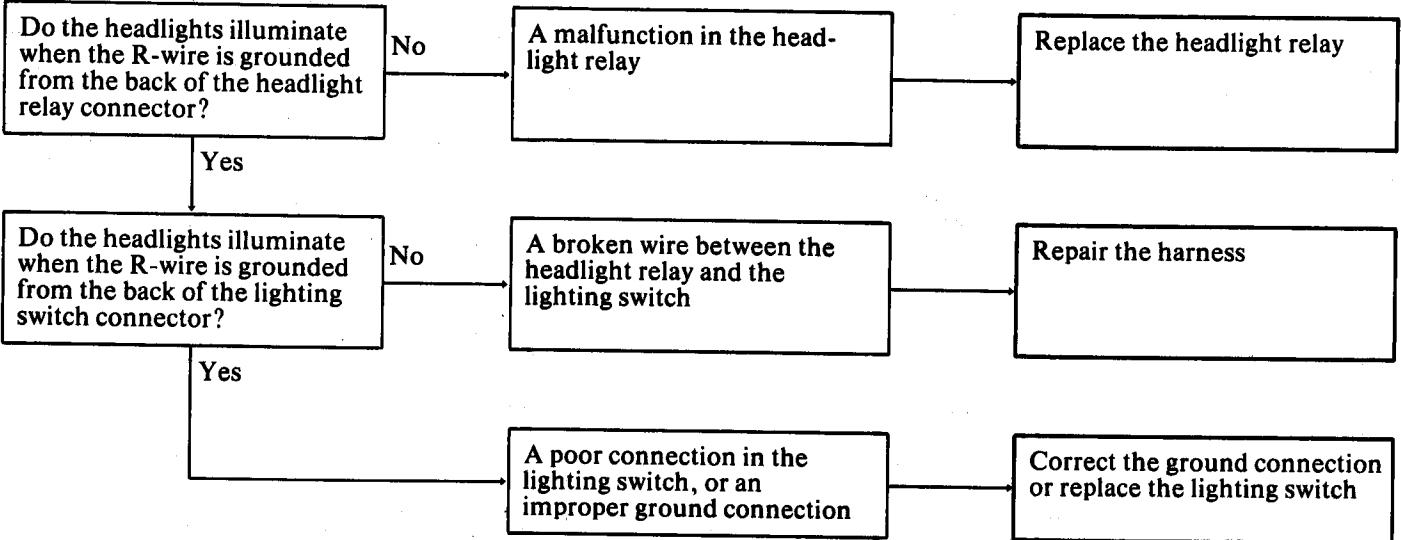
- : Normal illumination
- △ : Dim illumination
- ×
- : Parts requiring check



TROUBLE SYMPTOM 3

Headlights do not illuminate in either upper or lower beams (Passing lights do not illuminate either)

Inspect while the lighting switch is in the "ON" position (the dimmer switch may be set to either upper or lower beams)

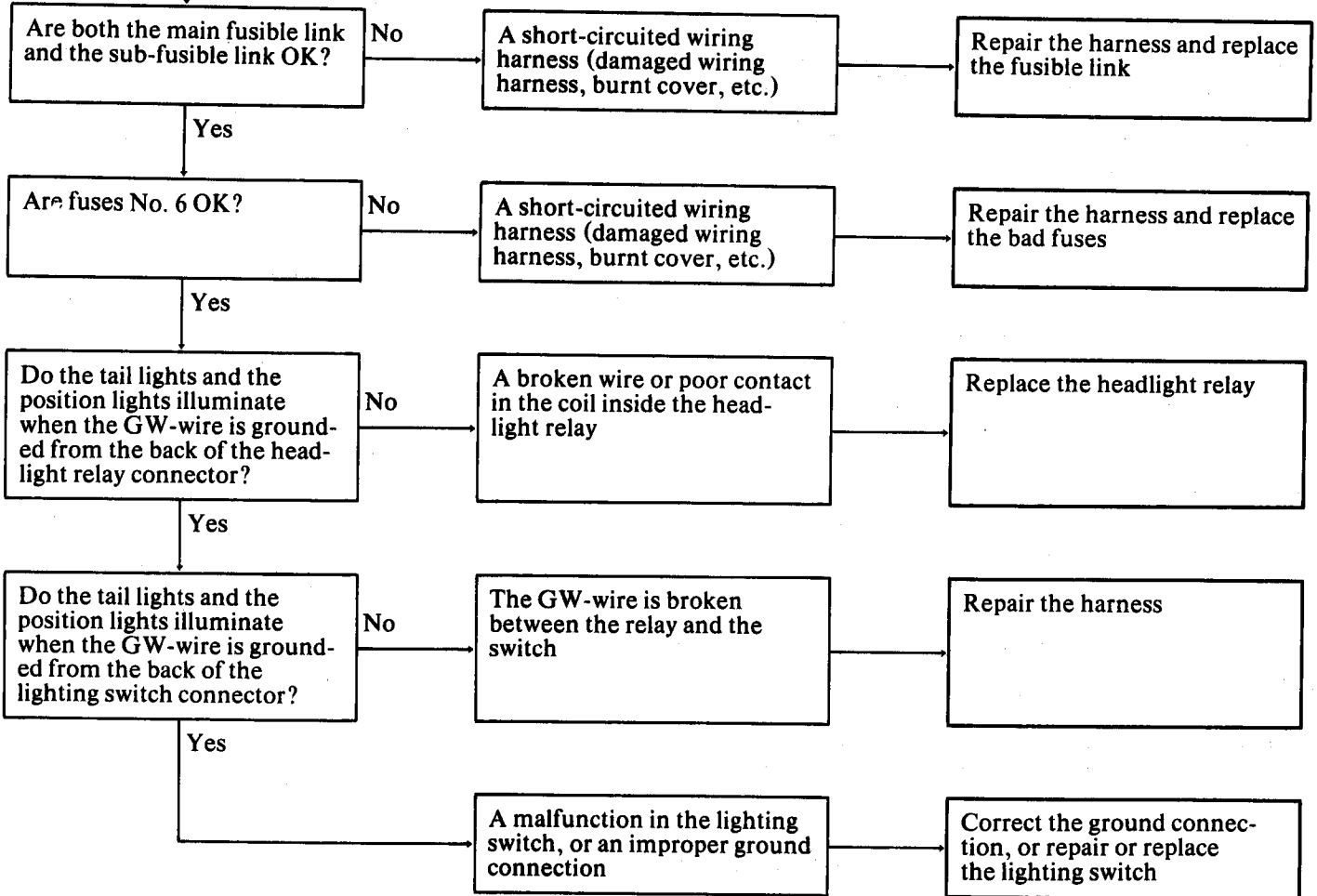




TROUBLE SYMPTOM 4

Position, tail and license plate lights do not illuminate on either side

Inspect while the lighting switch is in the "ON" position





TROUBLESHOOTING

TROUBLE SYMPTOM 7

**Headlights dim in upper and lower beams
(Passing lights also dim)**

Inspect while the lighting switch is in the "ON" position and in the upper beam position

Is 12V indicated between the 2RY-wire and ground when a test bar is inserted from the back of the headlight relay connector?

No

A poor contact of the fusible link connector, or a malfunction of the battery

Inspect the battery voltage and replace the battery if necessary, or repair the connector

Yes

Is 0.5V or less indicated on the voltmeter (use voltmeter with a range of approx. 20V) when the positive (+) test bar is inserted into the 2RY (B)-wire and the negative (-) test bar is inserted into the 2G-wire from the back of the headlight relay connector?

No

Poor contact of the headlight relay

Replace the headlight relay

Yes

Is 0.5V or less indicated between the 2B-wire connector and ground when the test bar is inserted from the back of the 2B-wire connector of the column switch connector?

No

The instrument panel is improperly grounded

Correct the ground point

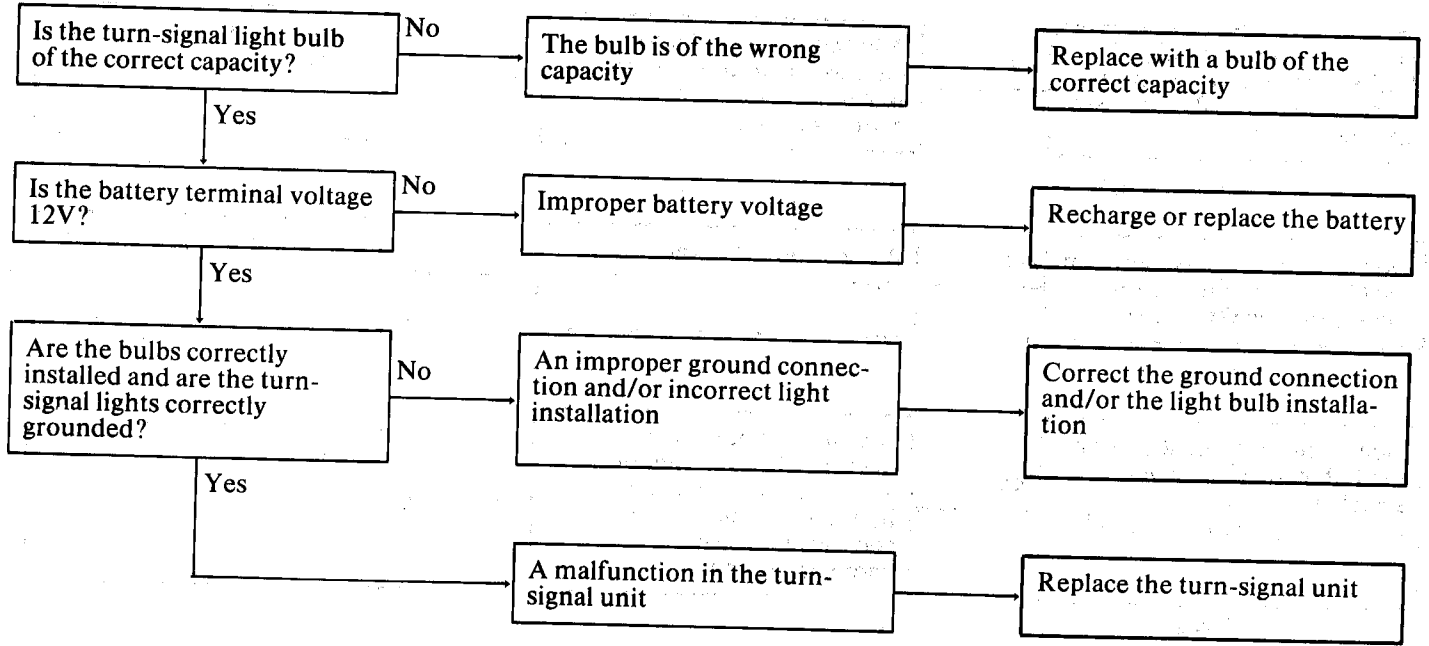
Yes

A malfunction in the column switch

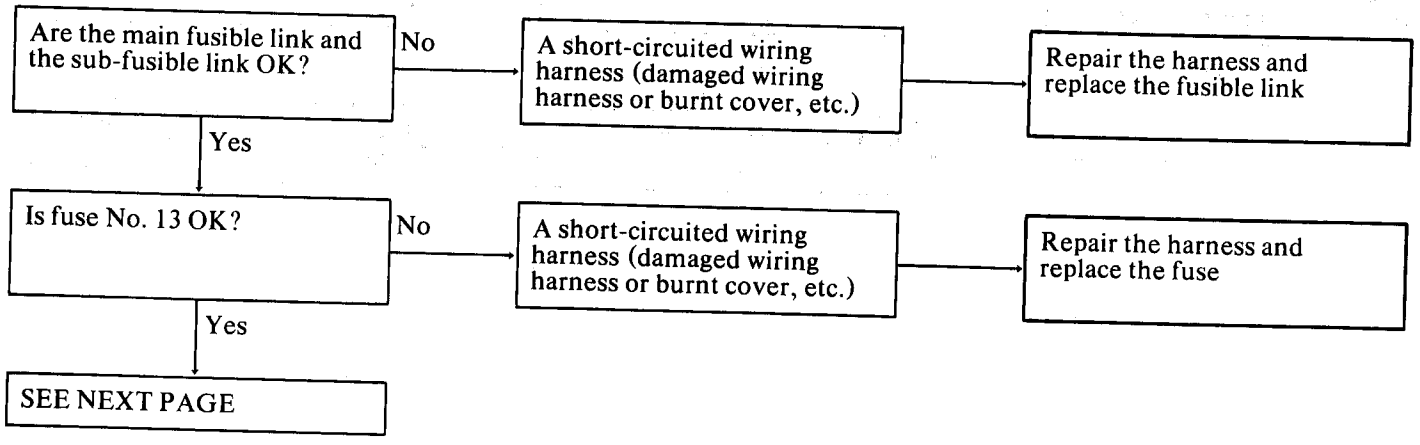
Replace the column switch



The turn-signal lights blink irregularly or do not blink

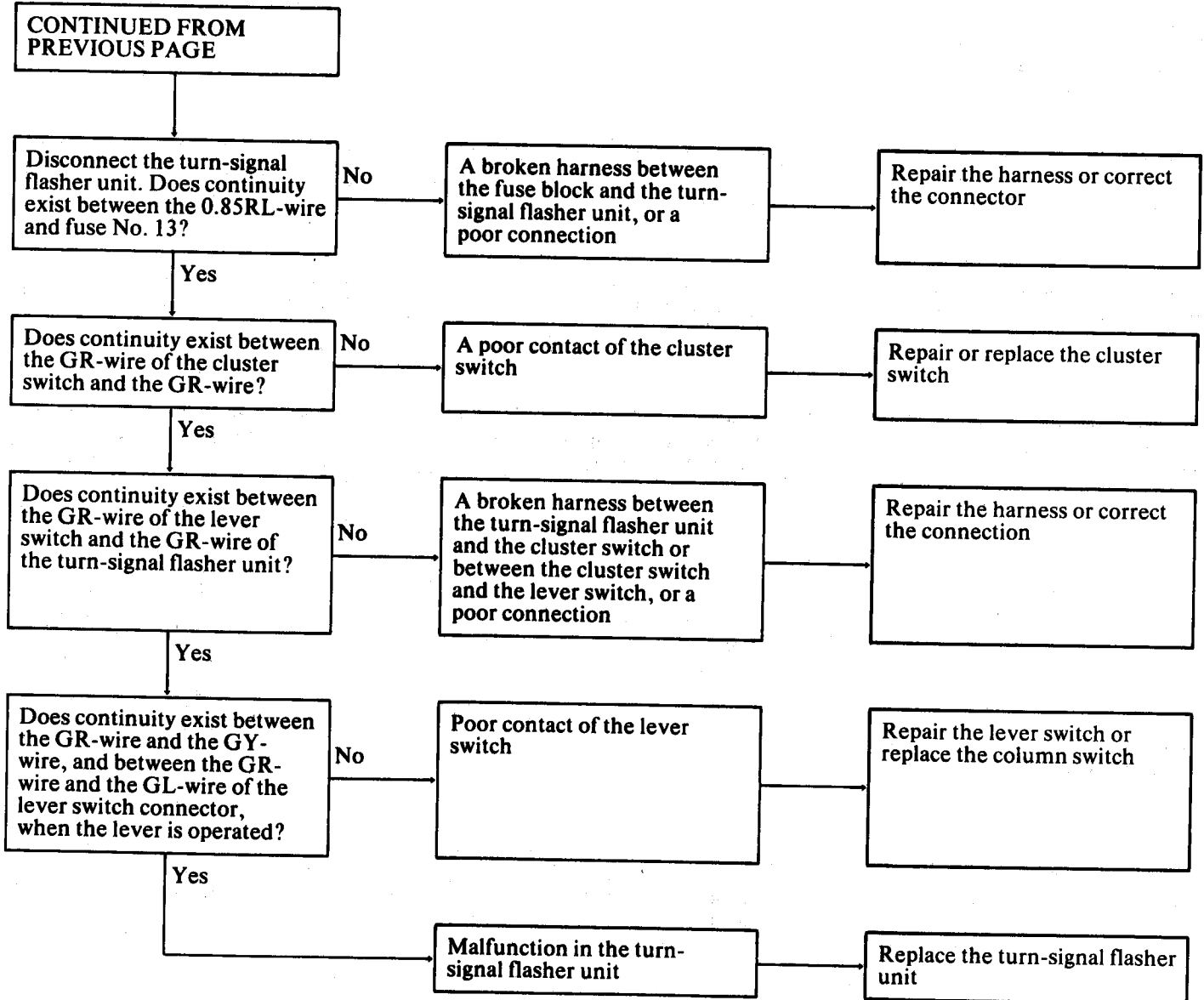


No turn-signal light blinks





TROUBLESHOOTING





WINDSHIELD WIPERS AND WASHER

Wipers do not operate

Check while the ignition key is in the "ACC" position

Are the main fusible link and the sub-fusible link OK?

No

A short-circuited wiring harness (damaged wiring harness, burnt cover, etc.)

Repair the harness and replace the fusible link

Yes

Is fuse No. 10 OK?

No

A short-circuited wiring harness (damaged wiring harness, burnt cover, etc.)

Repair the harness and replace the fuse

Yes

Is 12V indicated between each of the various wires (0.85L, LW, LR) and ground when a test bar is inserted from the back of the wiper motor connector?

No

A broken wire between the fuse block and the wiper motor, or an improperly connected connector

Correct the connector or repair the harness

Yes

A malfunction in the wiper motor brushes, or a broken wire in the coil

Replace the wiper motor

Is 12V indicated between the L-wire and ground when a test bar is inserted from the back of the wiper relay connector?

No

A broken harness between the fuse block and the wiper relay

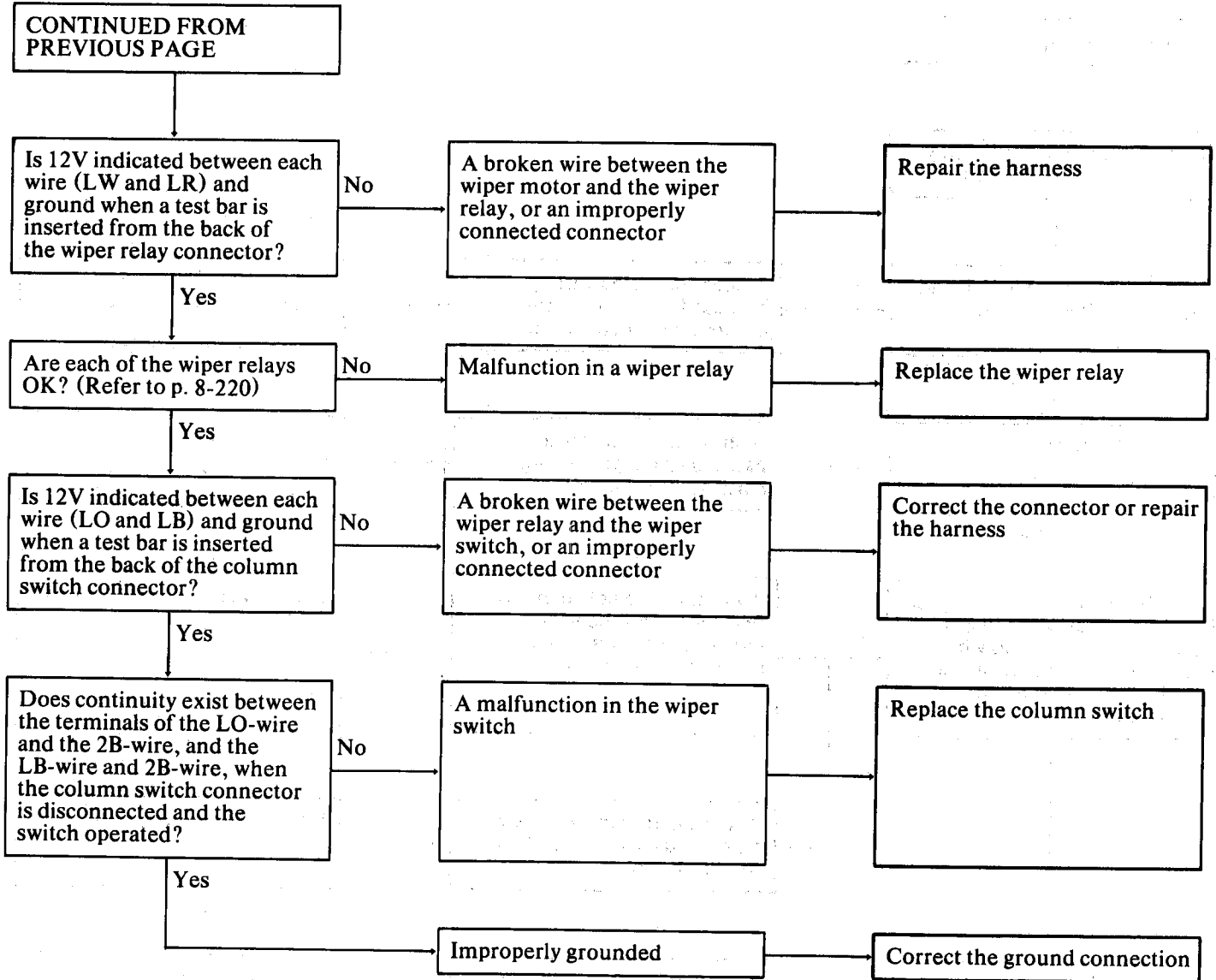
Repair the harness

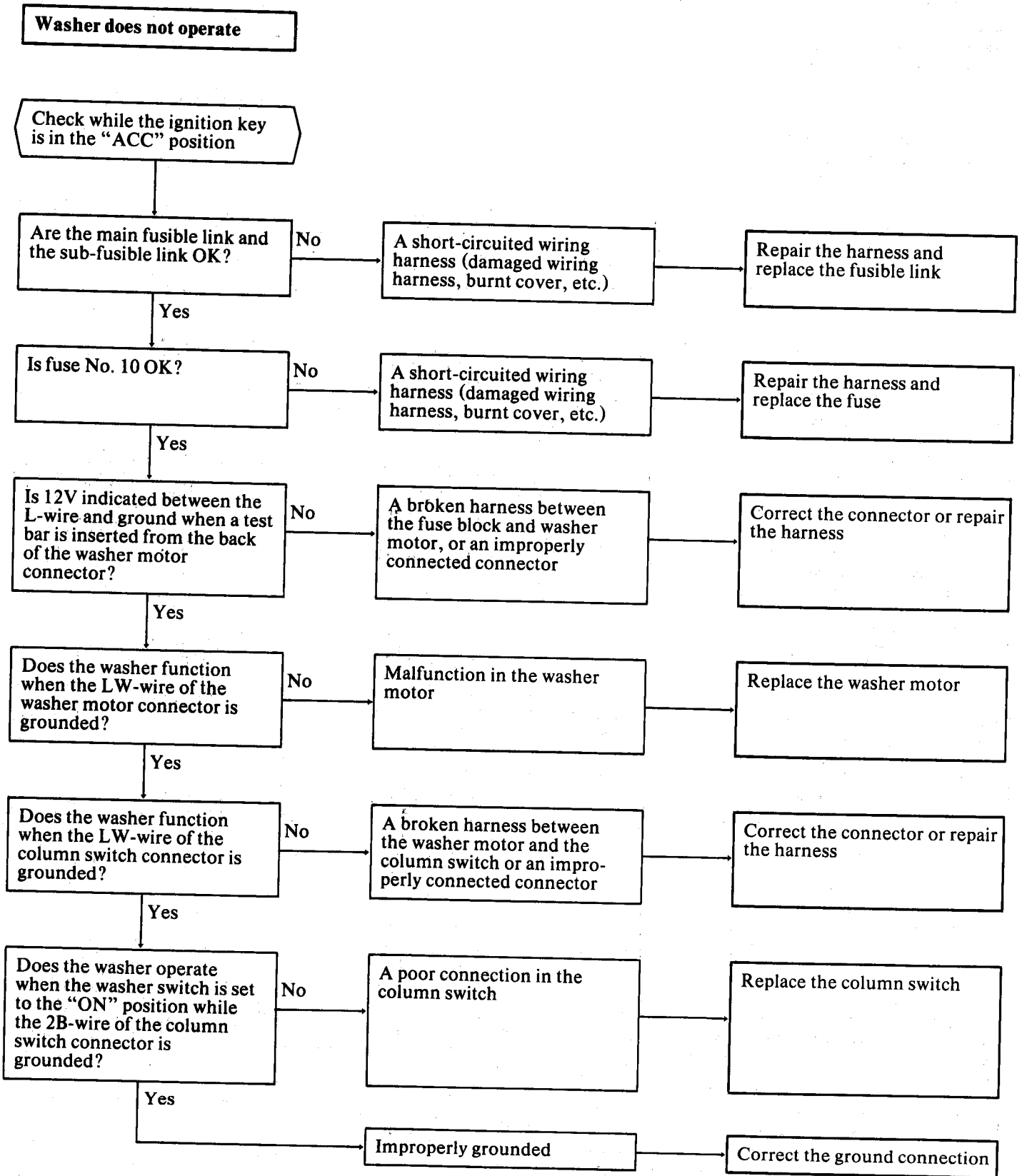
Yes

SEE NEXT PAGE



TROUBLESHOOTING

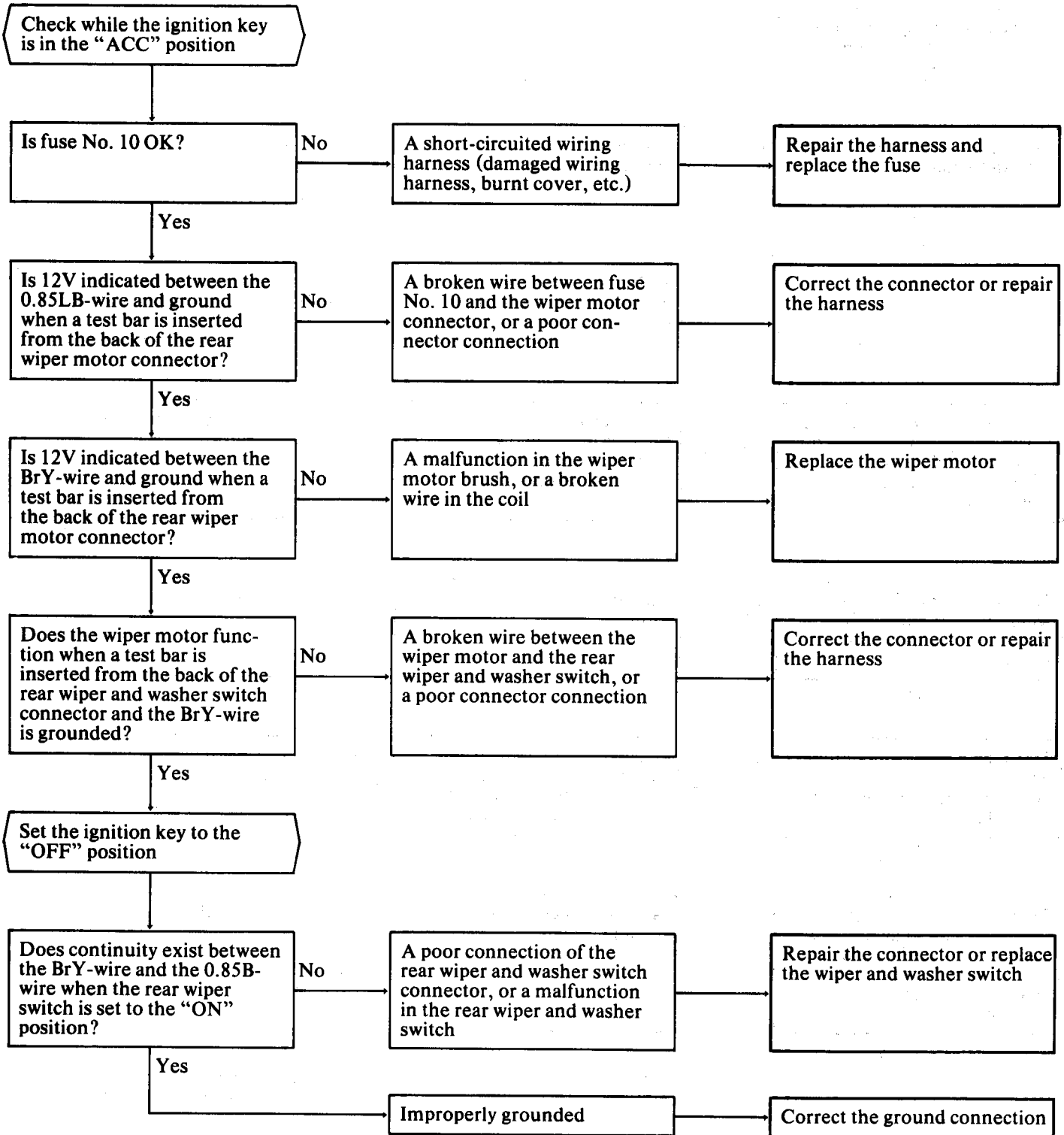


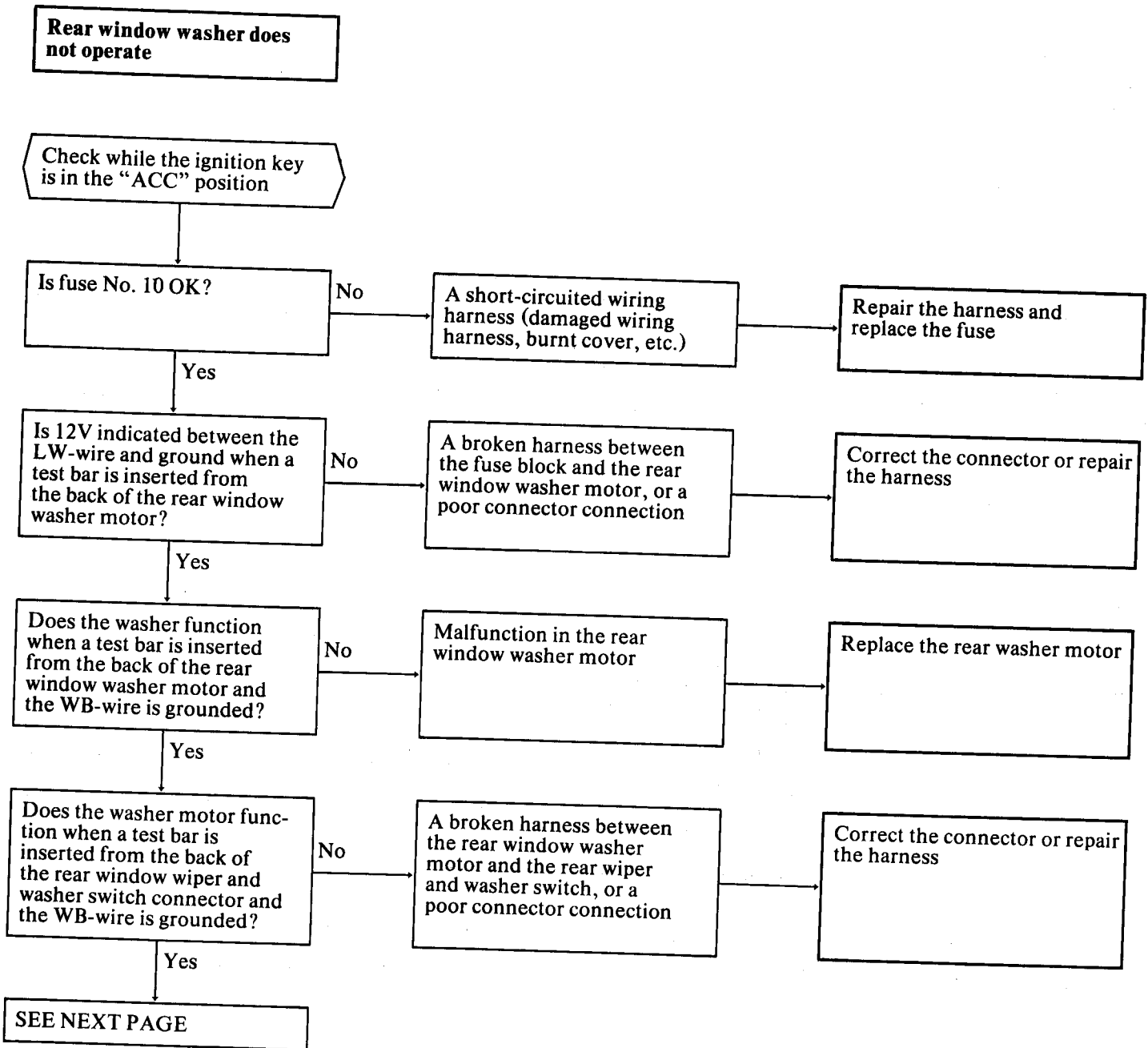




REAR WINDOW WIPER AND WASHER

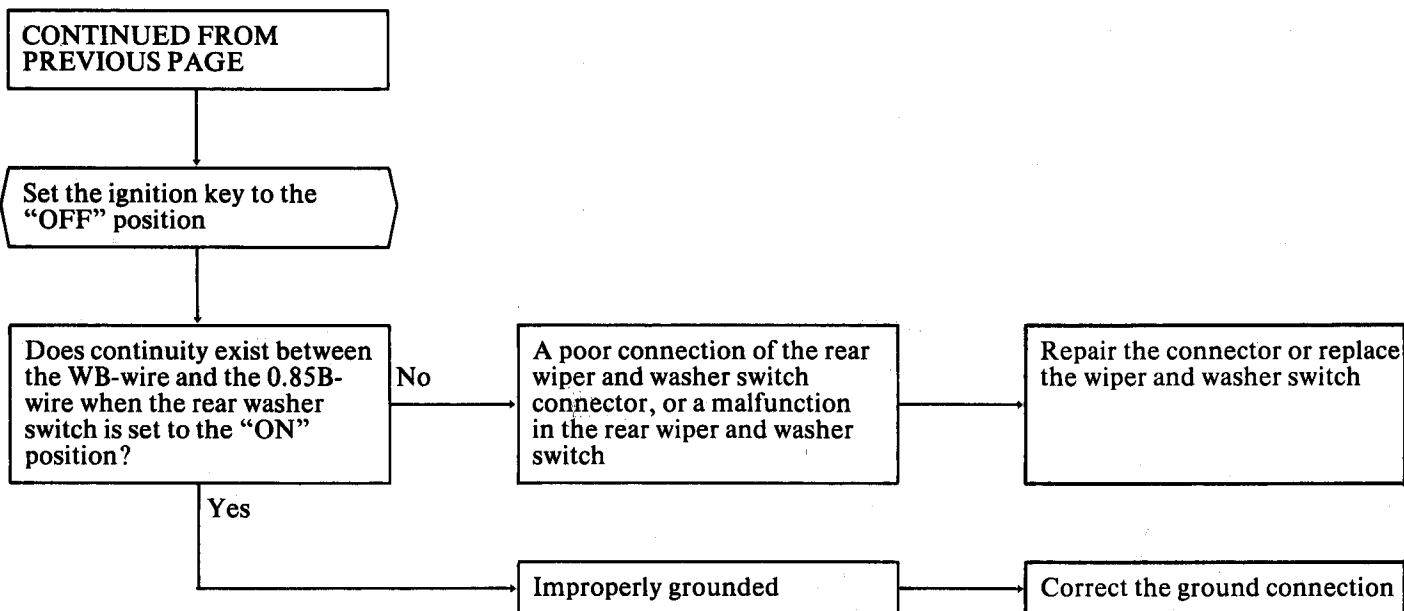
Rear wipers do not operate





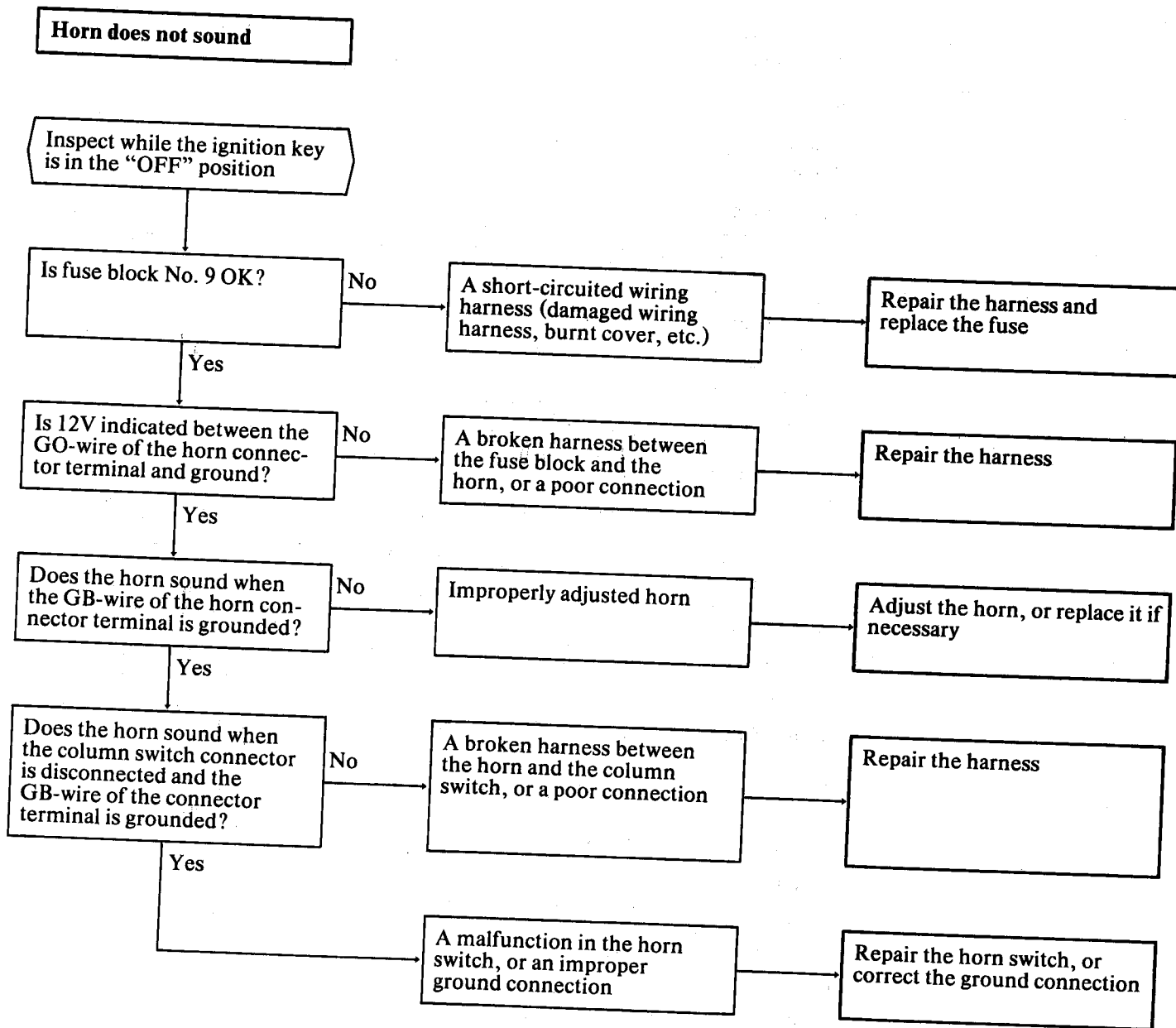


TROUBLESHOOTING



HORN

Symptom	Probable cause	Remedy
Sound volume of horn is small, or vibrates	A loose or bent adjustment screw	Adjust the horn
	Water, dirt, or other foreign matter lodged inside	Replace the horn
	A loose horn or bracket mounting bolt	Tighten the bolt
	A drop in the battery voltage	Check the battery
	A poor connection of the horn switch	Repair or replace the horn switch
	A poor connection of the horn cord terminal	Repair





TROUBLESHOOTING

RADIO AND STEREO

Symptom	Probable cause	Remedy
No sound and pilot light off	Blown-out fuse	Replace the fuse
	Power supply wire connected loosely or disconnected	Correct or repair the wiring
	Radio defective	Repair or replace the radio
Pilot light on but no sound	Antenna feeder wire connected loosely, or disconnected	Correct or repair the wiring
	Speaker wire connected loosely, or disconnected	Correct or repair the wiring
	Radio defective	Repair or replace the radio
	Speaker defective	Repair or replace the speaker
Poor sensitivity	Improperly tuned	Adjust the tuning settings
	Antenna feeder wire loose, or poorly grounded	Correct or repair the wiring or make the ground contact secure
	Radio defective	Repair or replace the radio
	Speaker defective	Repair or replace the speaker
Noise from internal source	Capacitor between alternator B terminal and ground, defective or loose (whining)	Correct or repair the wiring or make the ground contact secure
	Grounding between engine and floor-board poor	Make the ground contact secure
	Wiper capacitor defective (when wiper operate)	Replace the capacitor
	Power supply wire defective (crackling)	Correct or replace the wire
	Radio unit poorly grounded	Make the ground contact secure
	Capacitor between meter regulator and ground, defective or loose	Replace the capacitor correct or repair the wiring, make the ground contact secure
	Antenna feeder wire contacting, or too close to instrument wiring harness	Rerouting the wire
	Antenna feeder wire poorly grounded	Make the ground contact secure
"Shock" noise	Poor connection of power supply wire	Correct or repair the wiring
	Radio unit defective	Repair or replace the radio
	Antenna feeder wire shorted by shock	Rerouting the wire
Vibrating noise	Speaker cone broken	Replace the speaker
	Speaker loosely mounted	Retighten the speaker
	Speaker cone has foreign object	Remove the foreign object

TROUBLESHOOTING



Symptom	Probable cause	Remedy
Noise is caused, as not being auto tuning	Antenna is improperly installed	Adjust correctly
	A short-circuited antenna wire, or damaged wiring harness	Repair or replace the antenna wire
	Radio unit defective	Repair or replace the radio
Volume doesn't work	Failure of initialize	Disconnect battery terminal and wait for 1 min. then connect it
	Radio unit defective	Repair or replace the radio
Volume of car stereo is low, and tone quality is not good	Poor connection of harness	Correct or replace the connector
	Dirt, worn and damage of tape player head	Clean or replace the tape player head
	Malfunction of tape player head adjusting position	Replace the tape player head
	Improper contact of lead wire of tape player head, malfunction of IC or condenser etc.	Replace the malfunctioning parts
	Using monoral recorded tape	-
Auto reverse does not cause	Malfunction of pinch OFF	Correct or replace the malfunctioning parts



TROUBLESHOOTING

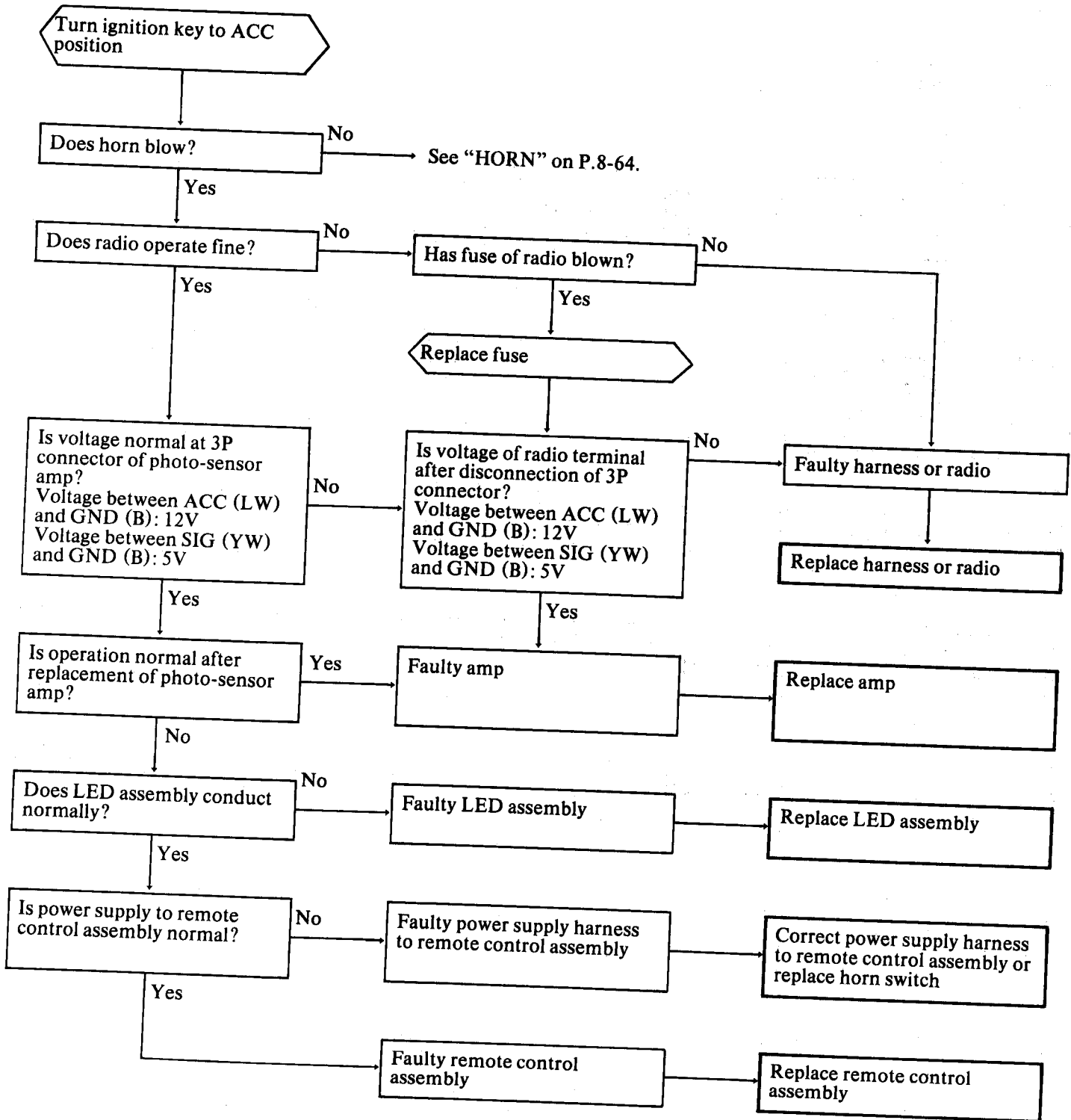
Radio Remote Control System

Condition	Probable cause	Correction	Check point and its program					
			Remote control switch	LED assembly	Amp	Harness between radio & amp	Radio	Horn
System fails to function	No power supply	See Trouble-shooting Table 1	6 ← 5 ← 4 ← 3 ← 2 ← 1					
	Poor contact of harness connector							
	Broken or short wiring harness							
	Faulty parts							
System fails to function at particular steering angle	Poor sensitivity of photo-sensor amp	See Trouble-shooting Table 2						
	LED assembly faulty							
	Faulty remote control assembly							
	Foreign substance on light emitting diode of LED assembly or photo diode of photo-sensor amp							
	Improper mounting of LED assembly or photo diode							
	Contact ring doesn't keep contact at particular steering angle							
Improper operation of particular switch	Faulty remote control assembly	Replace remote control assembly if radio unit does not operate fine. If radio unit does not operate normally, replace radio	2 ← 1					
	Faulty radio							
Misoperation	Faulty remote control assembly	Replace remote control assembly or radio	1 → 2					
	Faulty radio							



Troubleshooting Table 1

System fails to function





TROUBLESHOOTING

Troubleshooting Table 2

System fails to function at particular steering angle

Turn ignition key to ACC position

Does horn blow at particular steering angle where system fails to function?

No

Improper clearance between steering wheel and horn contact

Correct clearance between steering wheel and horn contact

Yes

Are light emitting portion and photo sensing portion free from foreign substance which prevents light from traveling? Are also light emitting diode and amp mounted normally?

No

Clean off foreign substance and correct mounting condition of LED assembly or amp

Yes

Does LED assembly conduct normally?

No

Faulty LED assembly

Replace LED assembly

Yes

Is operation normal after replacement of remote control assembly?

No

Poor sensitivity of amp

Replace amp

Yes

Faulty remote control assembly

Replace remote control assembly



POWER ANTENNA

Antenna does not extend

Inspect with ignition key ON and radio switch ON

Are fuses (Nos. 8, 11, 13) normal?

No

Harness shorted (damaged harness, burnt covering, etc.)

Correct harness or replace fuse

Yes

Is 12V present between radio connector terminal (0.3WB-wire) and GND?

No

Radio antenna switch defective

Repair or replace radio

Yes

Is 12V present between antenna relay connector terminals (0.85LO-, LW-, 0.3LR-wire) and GND?

No

Harness open between fuse block and antenna relay

Repair harness

Yes

Is 12V present between antenna relay connector terminals (WR-wire) and GND and about -1 to +1V present between BL-wire and GND?

No

Antenna relay defective

Replace antenna relay

Yes

Is there continuity between power antenna connector terminals (between BL- and B-wires, between BR- and WR-wires)?

No

Power antenna limit switch defective if there is no continuity between BL-wire and B-wire

Replace power antenna

Power antenna motor defective if there is no continuity between BR-wire and WR-wire

Yes

GND defective

Correct GND



TROUBLESHOOTING

Antenna does not retract

Inspect with ignition key ON and radio switch OFF
Inspect with radio switch ON and ignition key OFF

Are fuses (Nos. 8, 11, 13) normal?

No

Harness shorted (damaged harness, burnt covering, etc.)

Repair harness or replace fuse

Yes

Is about 0 to 1V present between radio connector terminals (between 0.3WB-wire and GND, between 0.3WR-wire and GND)?

No

Radio antenna switch defective

Correct or replace radio

Yes

Is 12V present between antenna relay connector terminals (0.85LO-, LW-, 0.3LR-wire) and GND?

No

Harness open between fuse block and antenna relay

Repair harness

Yes

Is correct voltage present between antenna relay connector terminals (12V between BR-wire and GND, about -1 to +1V between WR-wire and GND)?

No

Antenna relay defective

Replace antenna relay

Yes

Is there continuity between antenna connector terminals (between WL-wire and B-wire, between BR-wire and WR-wire)?

No

Antenna limit switch defective if there is no continuity between WL-wire and B-wire

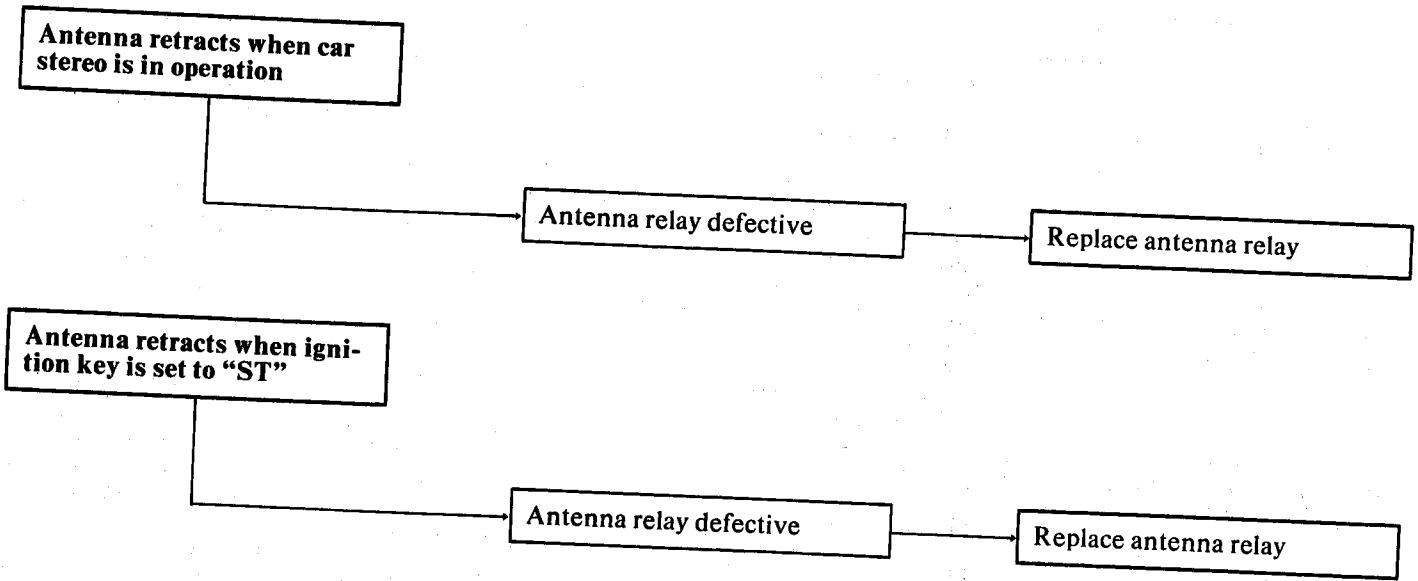
Replace power antenna

Power antenna motor defective if there is no continuity between BR-wire and WR-wire

Yes

GND defective

Correct GND





TROUBLESHOOTING

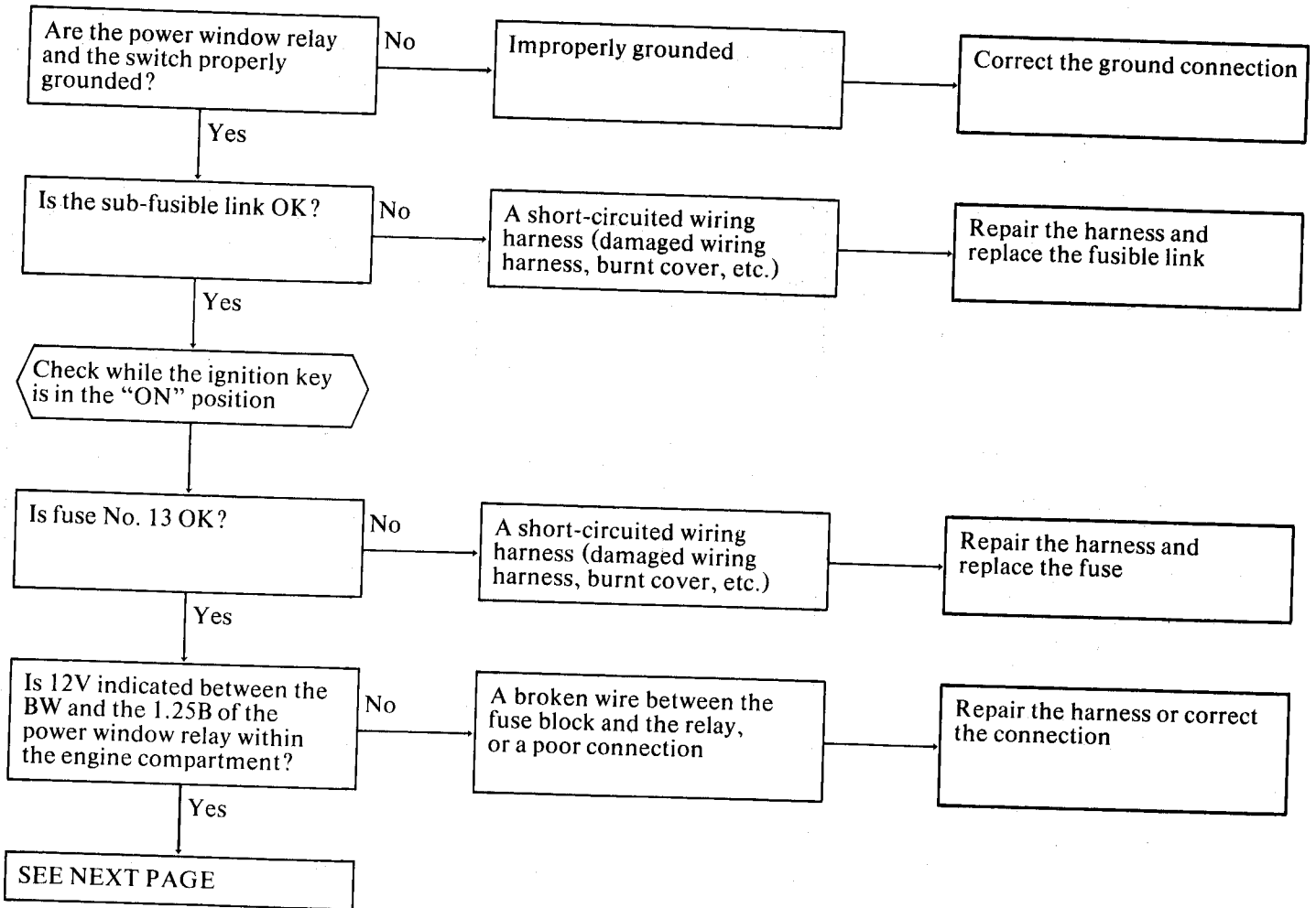
REMOTE CONTROL MIRROR

Symptom	Probable cause	Remedy
Complete failure to operate of both left mirror and right mirror	Burnt-out fuse	Replace the fuse and determine cause
	Break in harness, or poor connection	Correct or replace the harness
	Poor grounding	Correct or replace the harness
Mirror on one side (either left or right) fails to operate	Break in harness, or poor connection	Correct or replace the harness
	Malfunctioning switch	Replace the switch
	Malfunctioning motor	Replace the mirror assembly
Mirrors fail to operate in one direction (either vertically or horizontally)	Break in motor harness	Correct or replace the harness
	Break in harness, or poor connection	Correct or replace the harness
	Malfunctioning switch	Replace the switch



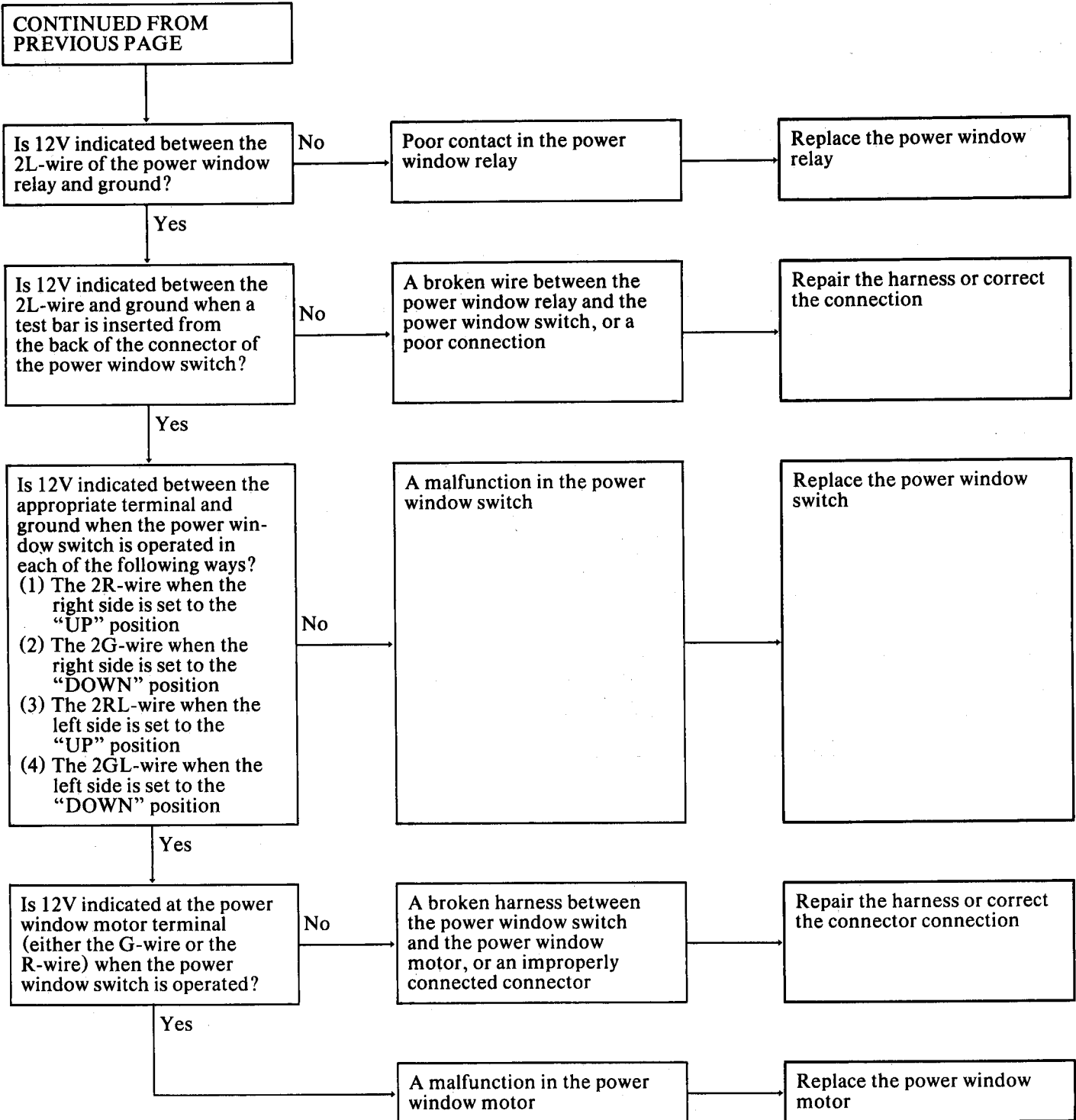
POWER WINDOW

None of the door windows will operate





TROUBLESHOOTING





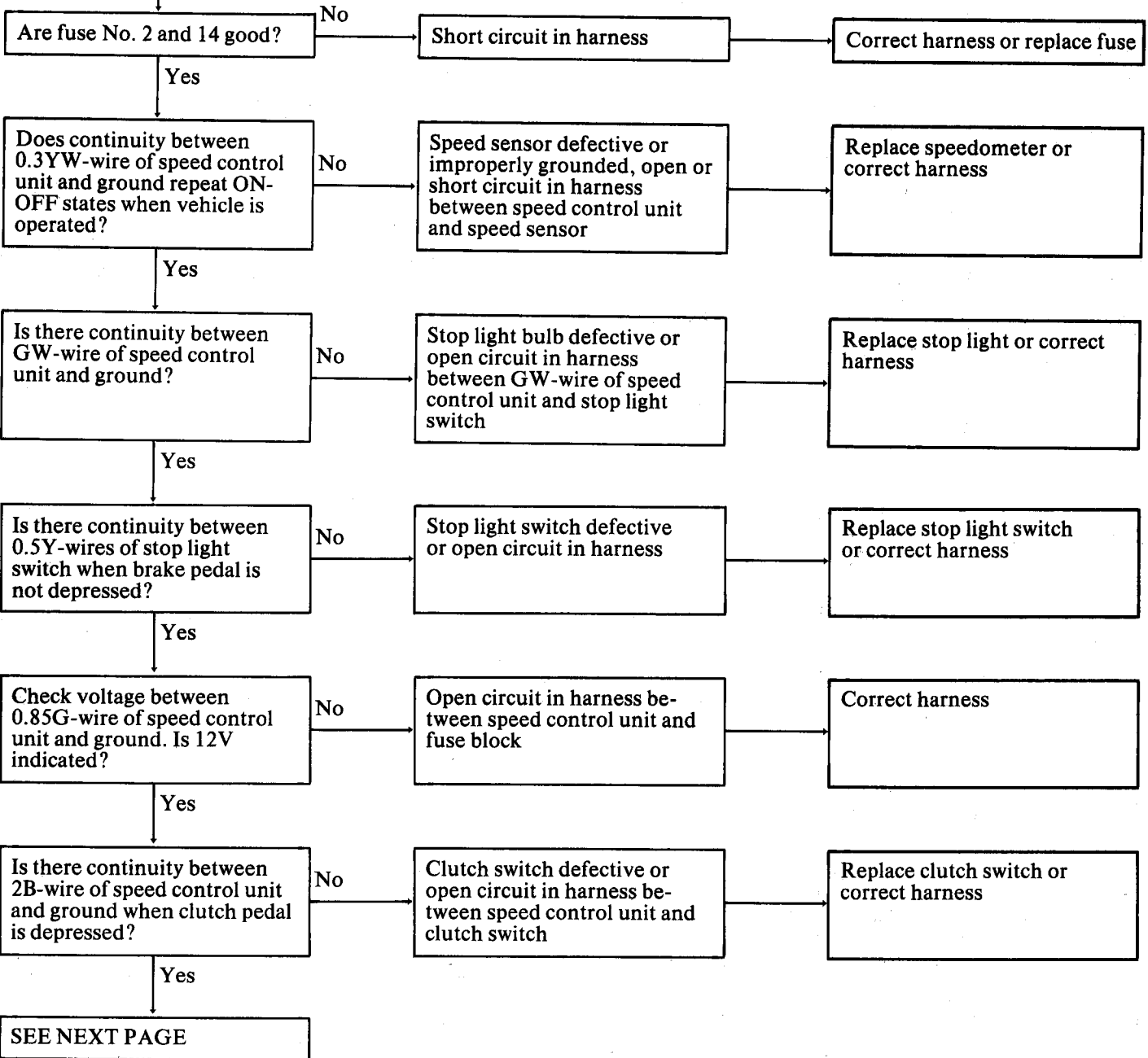
SPEED CONTROL SYSTEM

Speed control cannot be set

Perform checks with ignition key at "ON" position

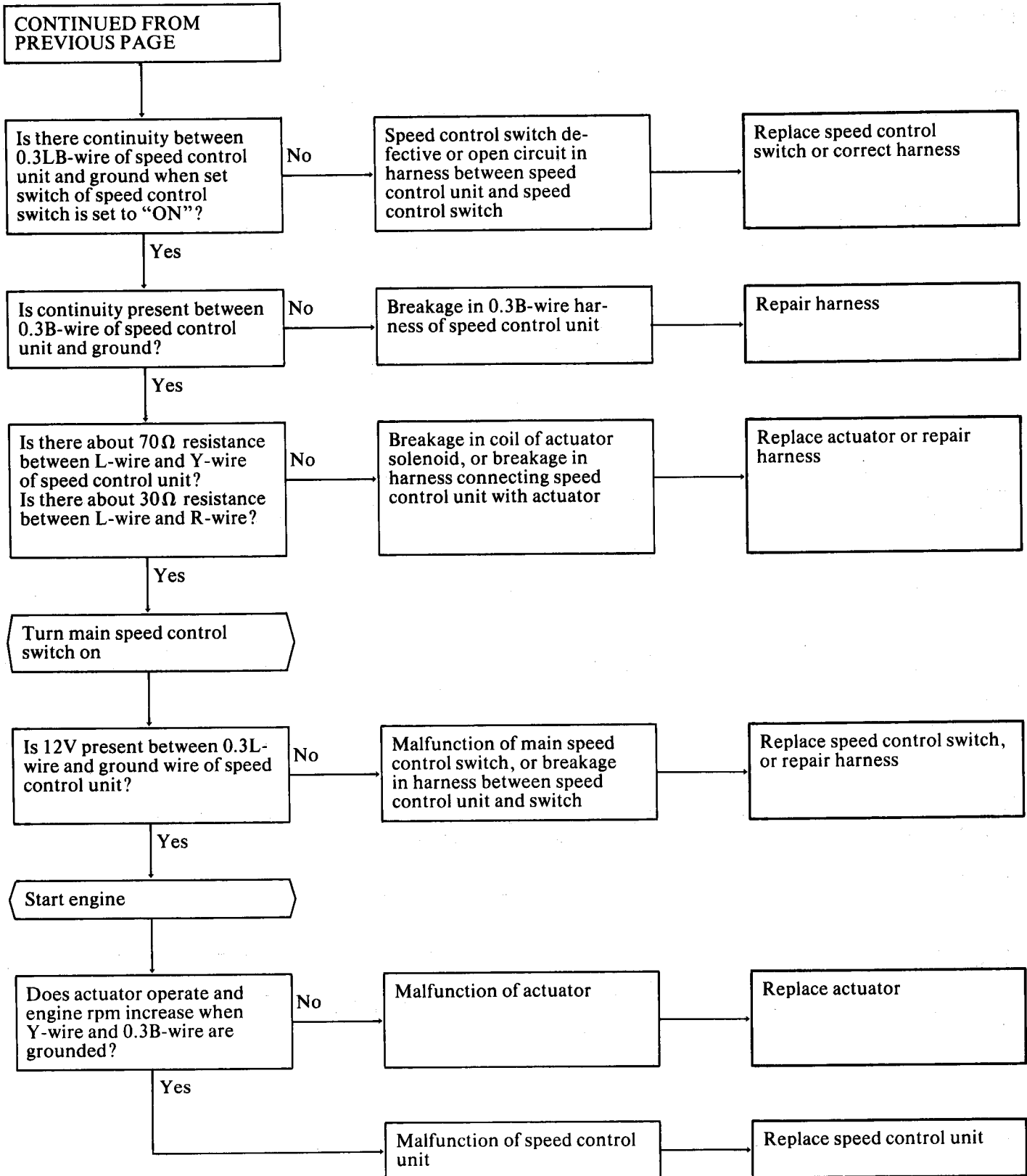
NOTE

Disconnect the connector of the speed control unit and check by inserting a test bar from the reverse side of the connector. The main switch should be kept in "OFF" position.





TROUBLESHOOTING





No cancellation can be made by performing cancelling operation

Perform checks with ignition key in "ON" position and control main switch in "ON" position

Is 12V indicated as voltage between Y- and R-wires of speed control unit and ground?

No

Open circuit in harness between speed control unit and speed control switch, open circuit in coil of actuator, short circuit in speed control resume switch

Correct harness or replace actuator and switch

Yes

Is 12V indicated as voltage between GW-wire of speed control unit and ground when brake pedal is depressed?

No

Defective stop light switch or open circuit in harness

Replace stop light switch or correct harness

Yes

Is there continuity between 0.5Y-wires of stop light switch when brake pedal is not depressed?

Yes

Stop light switch defective or open circuit in harness

Replace stop light switch or correct harness

No

Is there continuity between 2B-wire of speed control unit and ground when clutch pedal is depressed?

No

Defective clutch switch or open circuit in harness

Replace clutch switch or correct harness

Yes

Disconnect connector of actuator solenoid

SEE NEXT PAGE



TROUBLESHOOTING

CONTINUED FROM
PREVIOUS PAGE

Start engine and apply battery voltage (+) to R-wire of actuator side connector and apply battery voltage (-) to L-wire for about 1 second. Does engine speed rise and then fall back to its original idle speed?

No

Defective actuator

Replace actuator

Yes

Speed control unit defective

Replace speed control unit

Large set error for set vehicle speed [Set error of over ± 3 mph (5 km/h) produced at 50 mph (80 km/h) on flat road]

NOTE

If play is insufficient, set vehicle speed will be displaced toward higher speed.
If play is excessive, set vehicle speed will be displaced to lower speed.

Is play of actuator and speed control cable and throttle link coupling points proper?

No

Speed control cable out of adjustment

Adjust speed control cable

Yes

Actuator or speed control unit defective

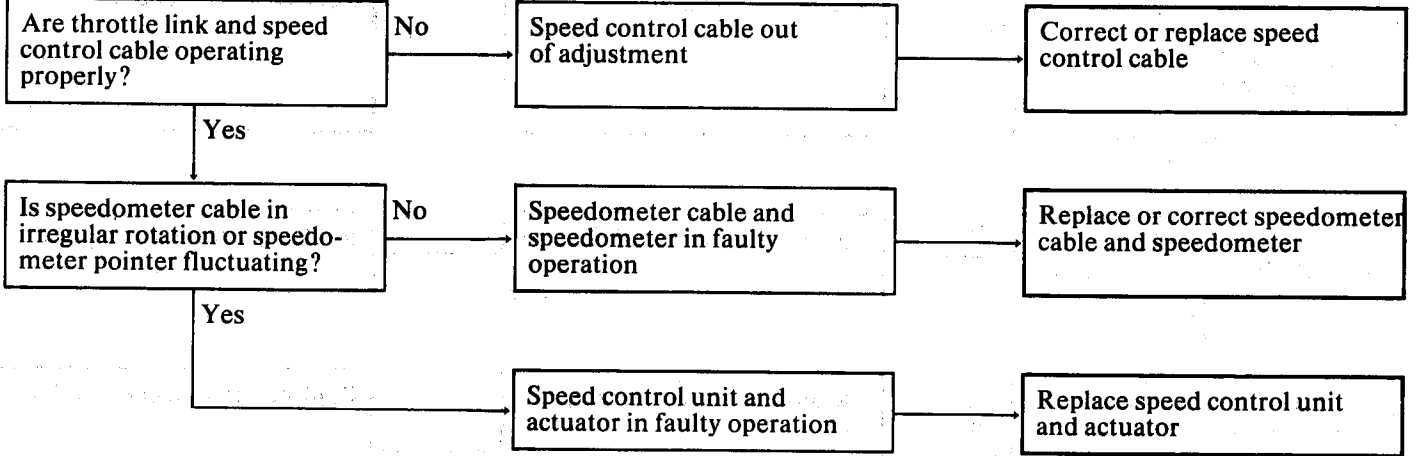
Replace actuator or speed control unit



Hunting occurs during cruising

NOTE

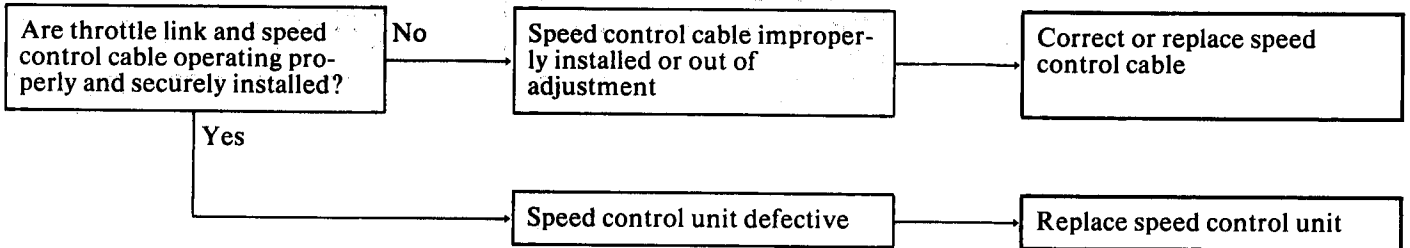
If throttle link moves too lightly or if it does not move smoothly, or if it does not too much difference in force between when it is pulled and when it is returned, hunting will readily occur.



Vehicle speed by far lower than set vehicle speed when climbing up slope [over 3 mph (5 km/h) lower on slope within ±3° than flat surface operating speed]

NOTE

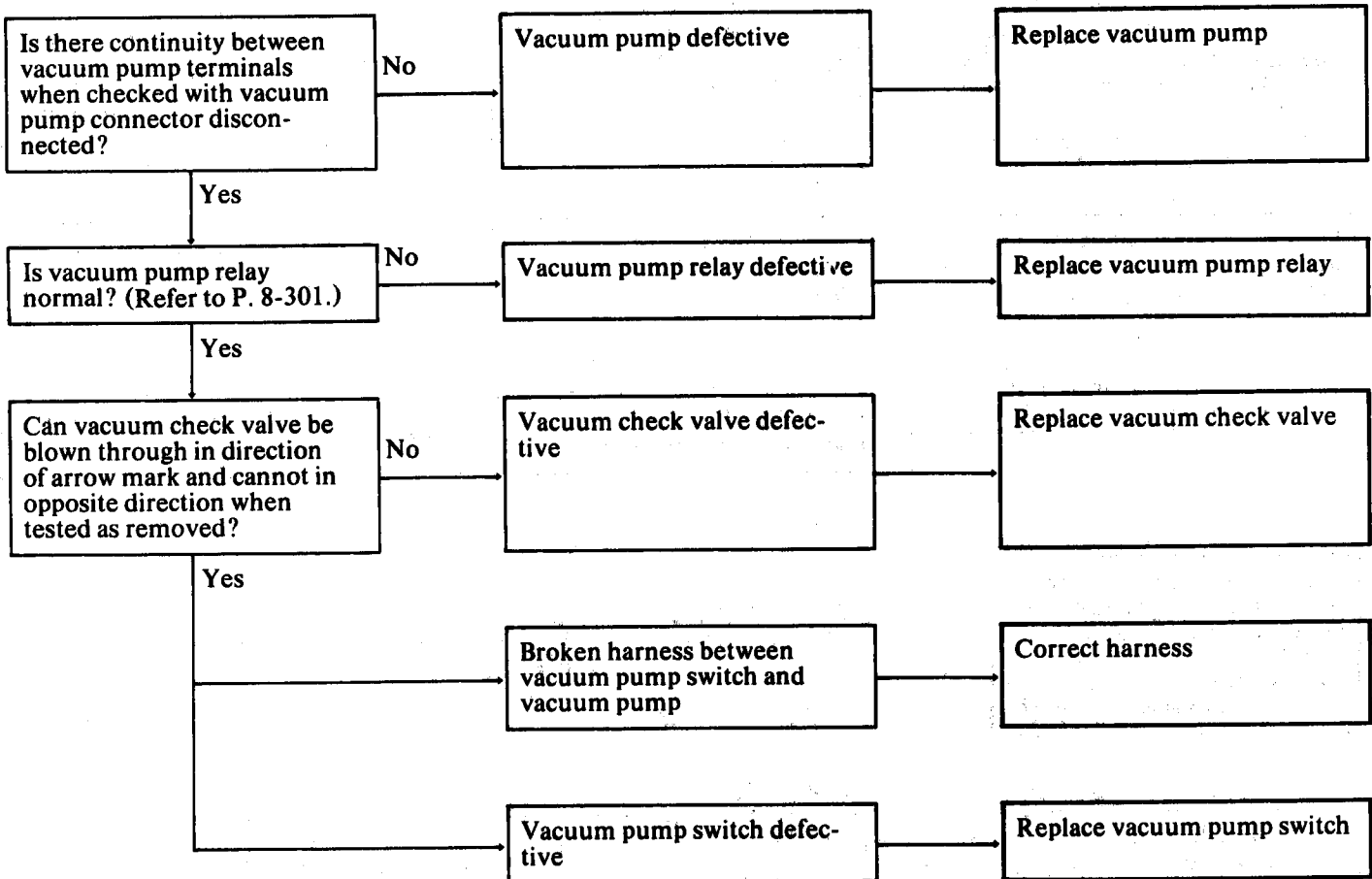
If throttle link does not move smoothly or is binding, or if throttle link and actuator cable coupling and play are excessive, this tends to occur.





TROUBLESHOOTING

Vacuum pump does not run





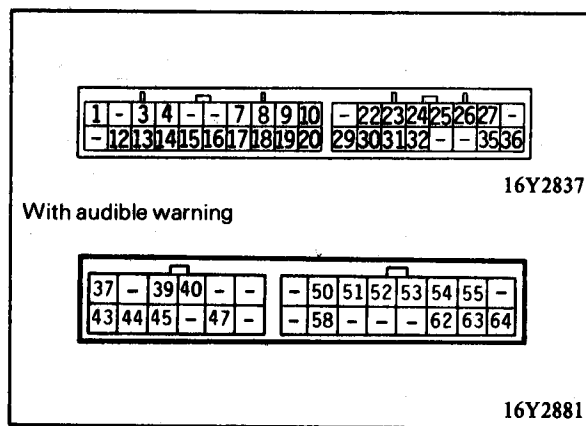
ETACS

Troubleshooting Procedures

1. For inspection of the ETACS, a circuit tester should be used, as described in the flow-chart troubleshooting guide for each individual problem, to check the voltage between terminals and the existence or non-existence of continuity. Note that the arrangement of terminals of the TAC unit is as shown in the illustration.
2. The troubleshooting procedures for the ETACS functions are given for each trouble symptom in the quick-reference troubleshooting guide and flow chart. First use the quick-reference troubleshooting guide to understand the check contents and procedures and then proceed with actual checks as instructed in the flow chart in details.
 - (1) The quick-reference troubleshooting guide gives the trouble symptoms, the TAC unit input and output voltage state and checking points and procedures.
 - (2) The troubleshooting flow chart which is a Yes or No type chart gives actual check procedures and methods in details.

ETACS Checking Notes

1. When the TAC unit connector is to be disconnected, do so only after first disconnecting the battery terminal.
2. When making an overall judgement of each system, measure the change in voltage between each terminal and ground with the connector connected to the TAC unit (for circuits in which current from the TAC unit is ground at the switch).
Be sure to observe the following.
 - (1) Check to be sure that the tester is set for voltage (V) read-out.
If it is used while set to the resistance (Ω) range, the electronic components within the TAC unit will malfunction.
 - (2) Do not short-circuit any terminal other than where the measurement is to be made.
If another terminal is short-circuited, the electronic components within the TAC unit will malfunction.
3. Also check for inadequate contact between harnesses and between equipment and connector.





TROUBLESHOOTING

TAC Unit Operation Condition

A microcomputer is used in the TAC unit. In order to maintain operation for a certain time after the ignition key is turned to the OFF position, the computer operation (power ON) and non-operation (power OFF) is controlled by the following conditions.

Computer operation conditions	Computer non-operation conditions
When ignition key at ON or ACC	Non-operation when ignition key is turned to the LOCK position. (Power window can be operated, however, for 30 seconds even after ignition key is turned off.)
When a door is ajar (door switch ON)	Non-operation when all doors closed (door switches OFF) (There is dome light output for about 5 seconds.)

NOTE

In the TAC unit, circuits are grouped into two, namely, the centralized door lock circuit and other circuits (computer control circuits) for improved reliability. Power supply other than to the centralized door lock circuit is shut off while not in operation to prevent unnecessary current flow as indicated above. To the centralized door lock circuit, a very small current keeps flowing even when the ignition key is off so that it may operate at any time.

TAC Unit Input/Output Signals

POWER SUPPLY AND GROUND CIRCUITRY

Ignition key position	Name	TAC unit terminal no.	TAC unit with audible warning terminal no.	Voltage level
—	Battery (+B)	30	64	H
ACC	ACC	10	—	H
ON	IG1	20	52	H
—	GROUND (GND)	29	47	L

NOTES
















- H and L in the voltage level column indicate the terminal voltage of each signal.
H: battery voltage
L: voltage when TAC unit operates (1.2V or less)
- The main power supply of the TAC unit is terminal No. 30 (battery power supply), but, because terminal No. 10 (ACC) and terminal No. 20 (IG1) circuits through the ignition switch serve as a back-up to the main power supply, only the functions which operate when the ignition key is at the ON or ACC position will operate normally, even if the harness for terminal No. 30 is damaged or disconnected, when the ignition key is at either of those positions.

TROUBLESHOOTING



INPUT SIGNALS

Input signals (to the TAC unit) corresponding to the ON/OFF condition of each switch and sensor are as follows.

Input name	TAC unit terminal No.	Switch operation and condition		Voltage level	Input signal waveform
ACC	10	Ignition switch	ON or ACC	H	ON OFF 
			LOCK	L	
IG1	20 and 52	Ignition switch	ON	H	ON OFF 
			ACC or LOCK	L	
Wiper switch	8	Switch at position other than A/INT	OFF	H	OFF ON 
		Switch at A/INT position	ON	L	
FAST switch	18	—	OFF	H	OFF ON 
		Press the switch	ON	L	
SLOW switch	7	—	OFF	H	OFF ON 
		Press the switch	ON	L	
CANCEL switch	17	ON/OFF alternately each time switch is pressed	OFF	H	OFF ON 
			ON	L	
Vehicle-speed sensor or pulse generator	27 and 63	ON/OFF internal time changes corresponding to vehicle speed	OFF	H	OFF ON 
			ON	L	
Washer switch	22	—	OFF	H	OFF ON 
		Press the switch	ON	L	
All door switches	31 and 54	Closing of doors	OFF	H	OFF ON 
		Opening of doors	ON	L	
Driver's seat door switch	23 and 53	Closing of door	OFF	H	OFF ON 
		Opening of door	ON	L	
Passenger's seat door switch	36	Closing of door	OFF	H	OFF ON 
		Opening of door	ON	L	
Door lock lever (driver's seat/passenger's seat)	24 (driver's seat) 26 (passenger's seat)	Lock	OFF	H	OFF ON 
		Unlock	ON	L	
Light monitor	9	Insertion of ignition key	OFF	L	ON OFF 
		Removal of ignition key	ON	H	
Defogger switch	25	ON/OFF alternately each time switch is pressed	OFF	H	ON OFF 
			ON	L	
Parking brake switch	19 and 55	Non-engagement of parking brake	OFF	H	OFF ON 
		Engagement of parking brake	ON	L	



TROUBLESHOOTING

Input name	TAC unit terminal No.	Switch operation and condition		Voltage level	Input signal waveform
Seat belt switch	39	Belt buckled	OFF	H	 OFF ON
		Belt not buckled	ON	L	
Inhibitor switch	62	"P" position	ON	L	
		Other than "P" position	OFF	H	
Key reminder switch	50	Insertion of ignition key	ON	H	 ON OFF
		Removal of ignition key	OFF	L	
Tail light relay	51	Lighting switch	ON	H	
			OFF	L	
Back-up light switch	58	"Reverse (R)" position	ON	H	
		Other than "Reverse (R)" position	OFF	L	

16R0016

16R0599



OUTPUT SIGNALS

Signals output from the TAC unit relative to changes of input signals (to the TAC unit) corresponding to the ON/OFF condition of each switch and sensor are as follows.

TAC unit terminal no.	Condition at input side		Operation activated by output signal		Voltage level	Output signal waveform	
1	Ignition key at ON or ACC	Wiper switch at A/INT		Wiper relay	OFF	<p>16R0018</p>	
					ON		L
		Washer switch	OFF	Wiper relay	OFF	H	<p>16R0020</p>
			ON		ON	L	
32	Dome light switch at position interlocked with door	Door switch	ON	Dome light	ON	<p>16R0021</p>	
			ON → OFF		Dim → off		H → L
			OFF		OFF		L
14	Driver's seat door switch at ON and key reminder switch at OFF	Driver's seat door lock lever	LOCK	Door unlock relay	OFF	<p>16R0022</p>	
			UNLOCK		ON		L
15	Driver's (passenger's) seat door switch at OFF and key reminder switch at ON	Driver's (passenger's) seat door lock lever	UNLOCK	Door lock relay	OFF	<p>16R0023</p>	
			LOCK		ON		L
16			LOCK	Door unlock relay	OFF		
			UNLOCK		ON		L
4	Ignition key at ON	Defogger switch	OFF	Defogger relay and indicator light	OFF (Indicator light off)	<p>16R0026</p>	
			ON		ON (Indicator light on)		L
12		All door switches	OFF	Door-ajar warning light	OFF	<p>16R0027</p>	
			ON		ON		L
3		Parking brake switch	OFF	Brake warning light	OFF	<p>16R0029</p>	
			ON		ON		L
35 and 40	-			Seat belt warning light	OFF		
					ON		L
35		Seat belt switch	OFF Belt buckled	Seat belt warning buzzer	OFF	<p>16R0028</p>	
			ON Belt not buckled		ON		L
13	Ignition key at ON or for 30 sec. after turned to OFF	Ignition key	OFF	Power window relay	OFF	<p>16R0977</p>	
			ON		ON		L
			ON → OFF		ON (30 sec.)		L



TROUBLESHOOTING

Vehicle-speed-sensitive Type Intermittent Wipers (with memory function)/Water-interlocked Wipers QUICK-REFERENCE TROUBLESHOOTING GUIDE

No.	Problem	TAC unit input/output terminal voltages				Main check points and steps											
						TAC unit terminal no.		Condition for voltage measurement	Terminal voltage (V)		Fuse	TAC unit terminal voltages	Wiper switch	SLOW switch	FAST switch	CANCEL switch	Washer switch
		Input	Output	When normal	When malfunction												
1	No wiper operation when wiper switch is set to A/INT position	10* ¹		Ignition switch at ON or ACC	12	0	1	2									
		8* ²		Ignition switch at ON or ACC, and wiper switch at A/INT	12 → 0	12 (no change) or 0		4	5								6
			1* ¹	Ignition switch at ON or ACC, and wiper switch at A/INT	12 → 0 (intermittent signal)	12 (no change) or 0		7							8	9	
2	Wipers do not stop when wiper switch is switched OFF		1* ¹	Ignition switch at ON or ACC, and wiper switch at OFF	12	0		1								2	3
3	No intermittent operation (continuous wiping continues) when wiper switch is set to A/INT position		1* ¹	Ignition switch at ON or ACC, and wiper switch at A/INT	12 → 0 (intermittent signal)	0 (no change)		1								2	3
		18* ²		Ignition switch at ON or ACC, and wiper switch at A/INT (FAST switch unpressed)	12	0 (Remains ON)		4		5							6
4	No change of interval time (operation at approx. 7-second intervals continues) when SLOW or FAST switch is operated	7* ²		SLOW switch at ON	12 → 0	12 (no change) or 0		1		2							3
		18* ²		FAST switch at ON	12 → 0	12 (no change) or 0		(1)		(2)							(3)
5	Intermittent operation time intervals do not correlate to vehicle speed with wiper switch at A/INT and CANCEL switch at OFF	27* ²		Vehicle-speed sensor functioning	12 → 0 (Pulse signal)	12 (no change) or 0 (no change)		1						2			3
6	Intermittent operation time interval remains correlated to vehicle speed when CANCEL switch is operated	17* ²		CANCEL switch pressed	12 → 0	12 (no change) or 0 (no change)		1				2					3

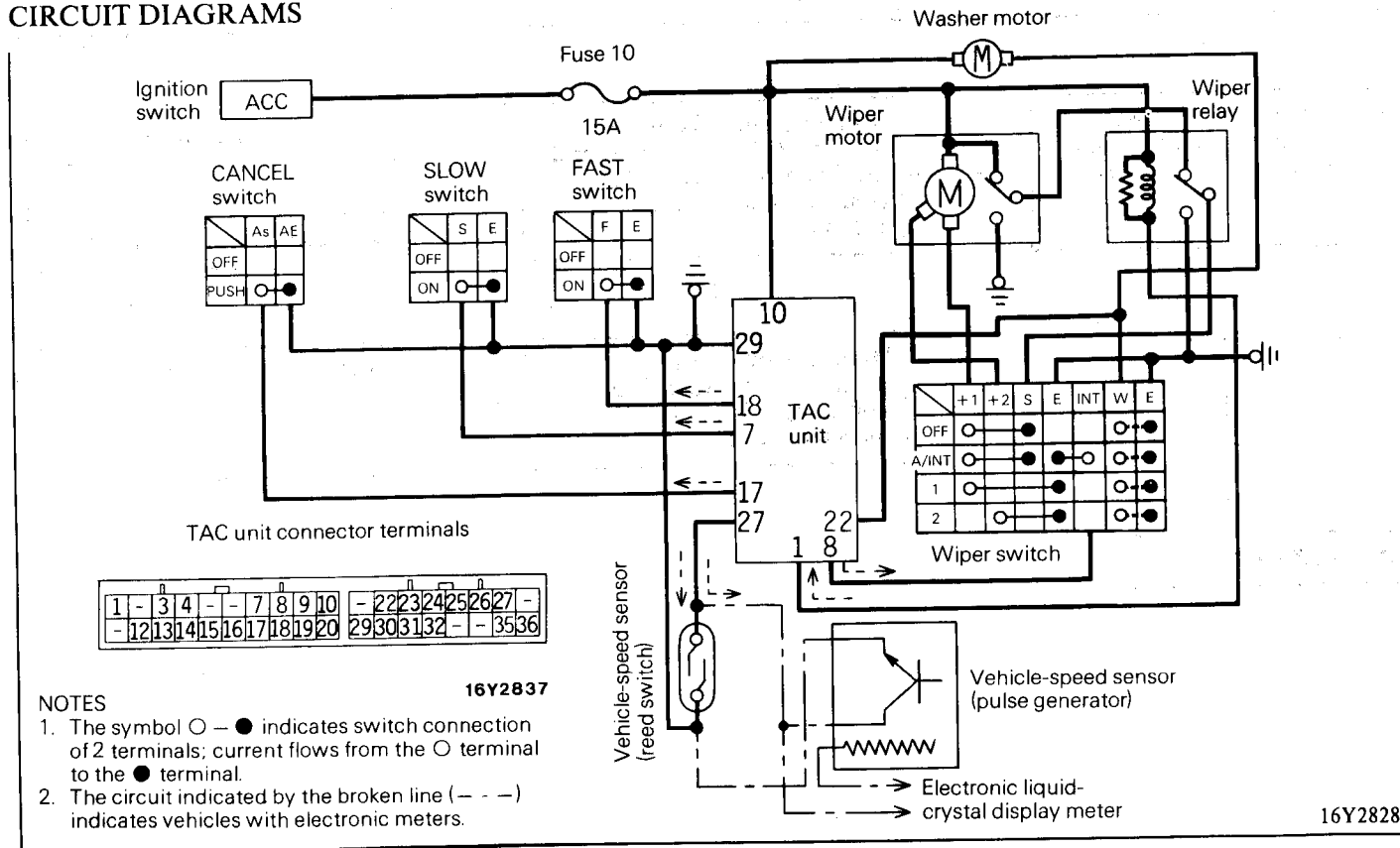


No.	Problem	TAC unit input/output terminal voltages				Main check points and steps										
		TAC unit terminal no.		Condition for voltage measurement	Terminal voltage (V)		Fuse	TAC unit terminal voltages	Wiper switch	SLOW switch	FAST switch	CANCEL switch	Washer switch	Vehicle-speed sensor	Wiper relay	Harness
		Input	Output		When normal	When malfunction										
7	Wiper operation does not interlock with washer when washer switch is switched ON (washer and wipers are OK)	22*	*	Washer switch pressed	12 → 0	12 (no change) 0 (no change)										

NOTES

1. The *1 symbol indicates that current flows to the TAC unit and is grounded at the TAC unit side.
2. The *2 symbol indicates that current flowing from the TAC unit is grounded at the switch side.
3. Terminal voltage indicates measurements made with the connector connected to the TAC unit.

CIRCUIT DIAGRAMS



NOTES

1. The symbol ○ — ● indicates switch connection of 2 terminals; current flows from the ○ terminal to the ● terminal.
2. The circuit indicated by the broken line (---) indicates vehicles with electronic meters.

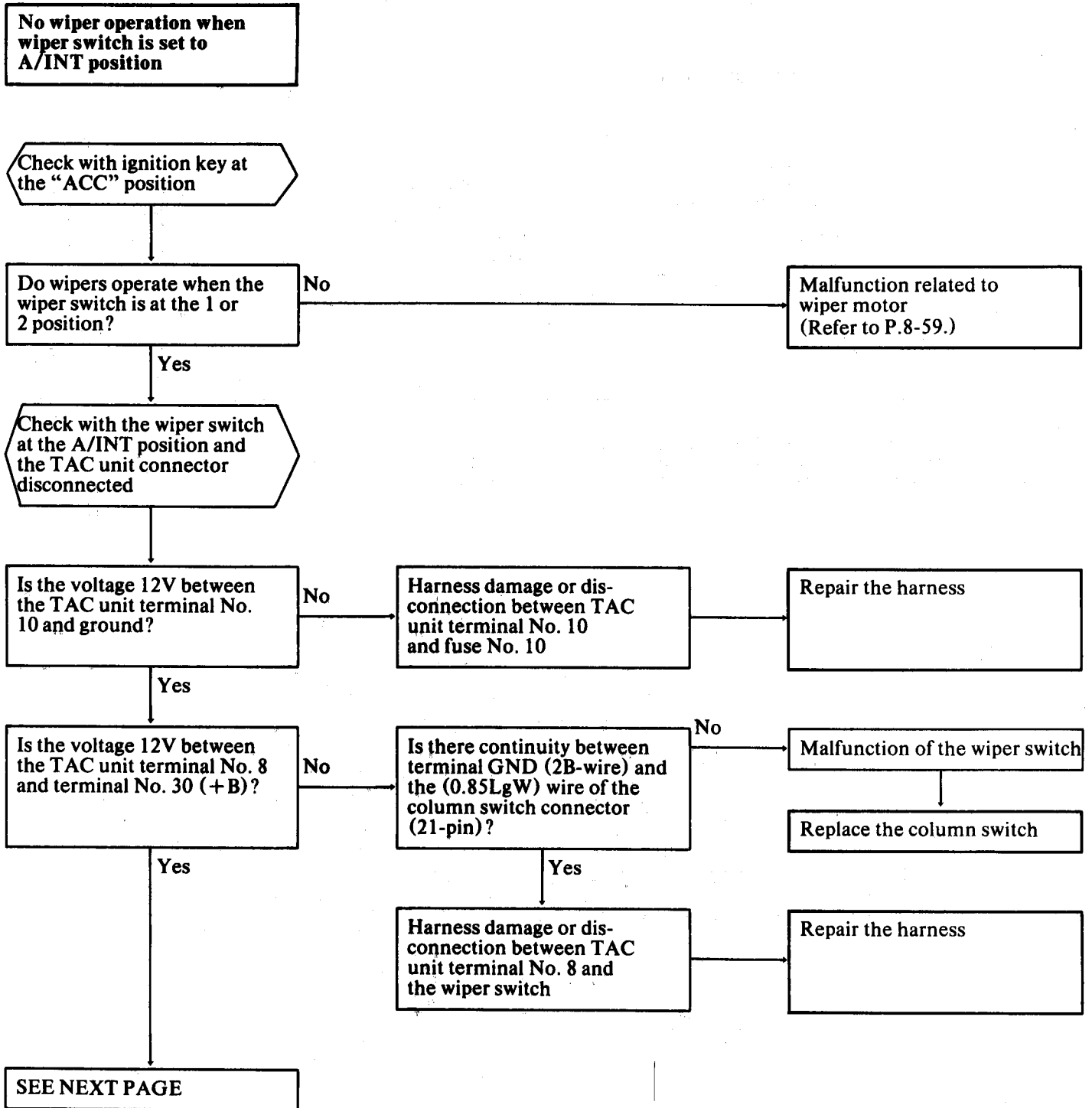
16Y2837

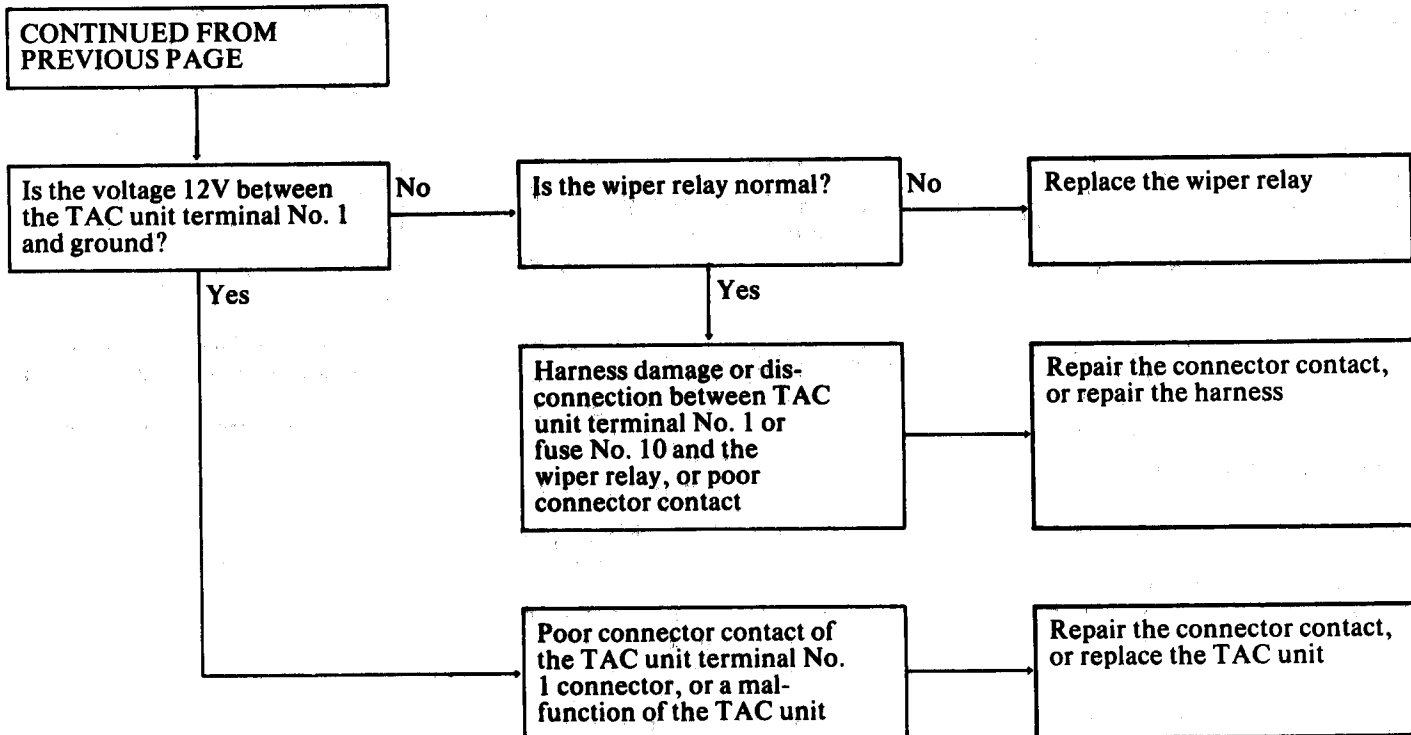
16Y2828



TROUBLESHOOTING

TROUBLE SYMPTOM 1

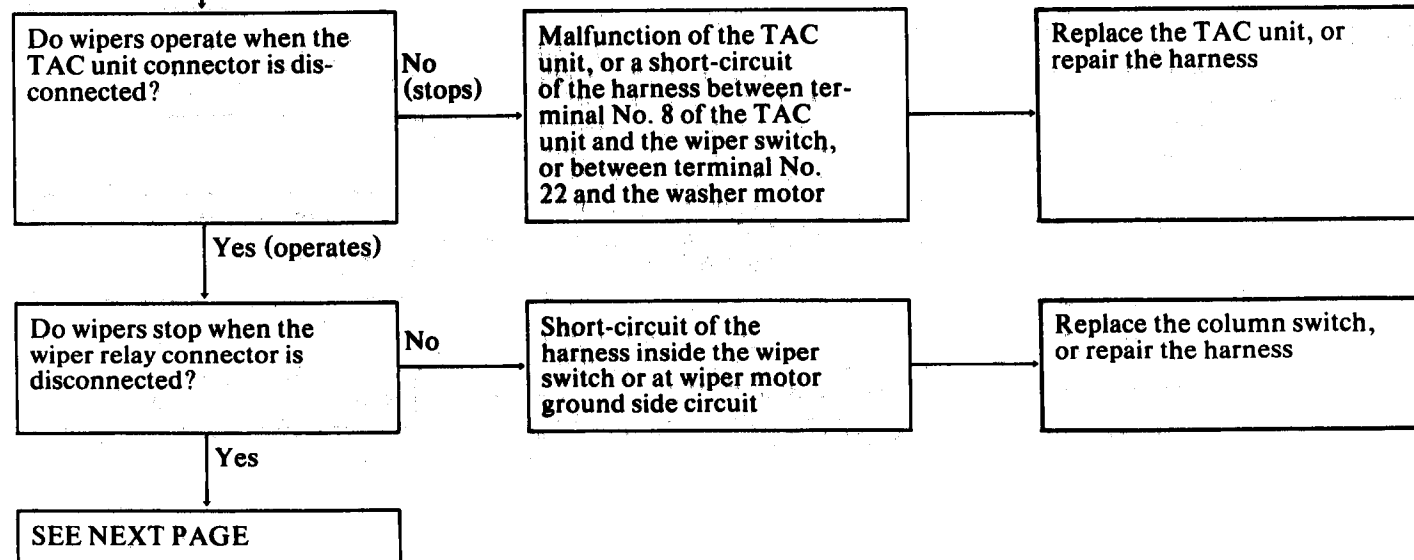




TROUBLE SYMPTOM 2

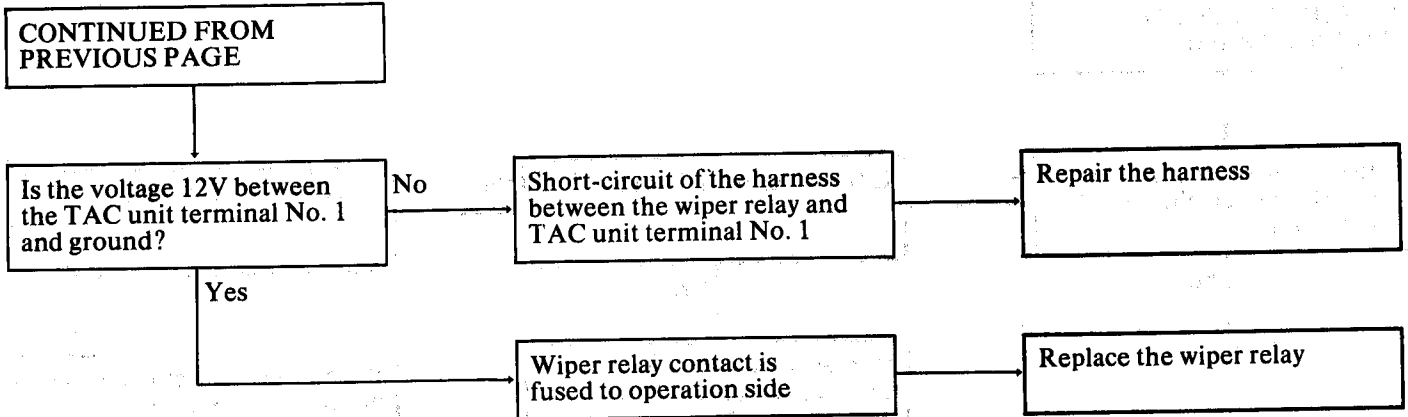
Wipers don't stop when wiper switch set to OFF

Check with the ignition key at ACC

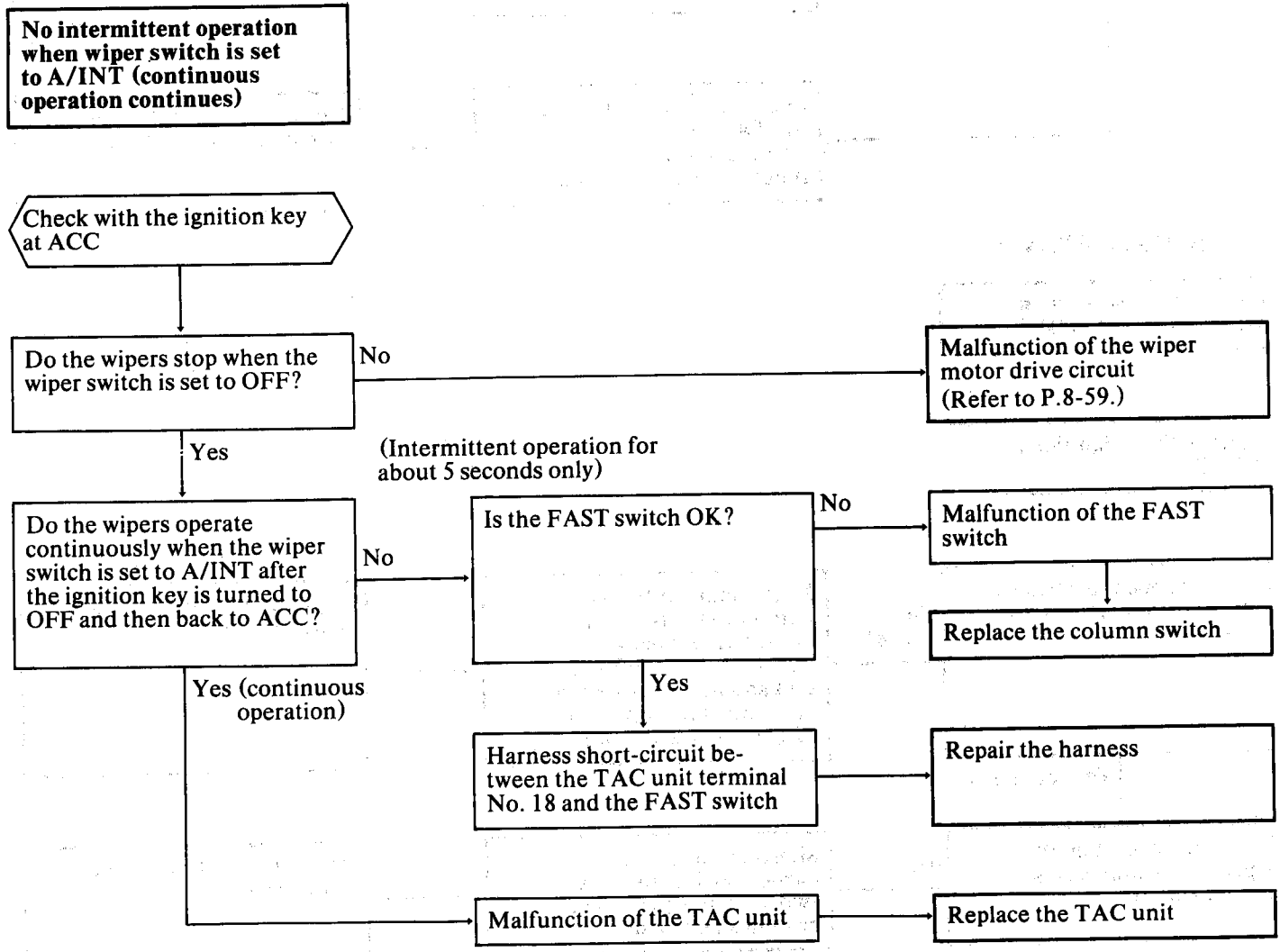




TROUBLESHOOTING



TROUBLE SYMPTOM 3





TROUBLE SYMPTOM 4

No change of intermittent operation time interval when SLOW or FAST switch is operated (time interval remains at about 7 seconds)

Check with the connector of the TAC unit disconnected and the ignition key at the ACC position

Is there continuity between ground and TAC unit terminal No. 18 (FAST) or terminal No. 7 (SLOW) when the FAST switch or SLOW switch is pressed?

No

Are the SLOW and FAST switches OK?

No

Replace the column switch

Yes

Yes

Harness damage or disconnection between TAC unit terminal No. 7 or terminal No. 18 and SLOW switch or FAST switch

Repair the harness

Poor contact at the connector of terminal No. 18 or terminal No. 7 of the TAC unit, or malfunction of the TAC unit

Repair the connector contact, or replace the TAC unit

TROUBLE SYMPTOM 5

Intermittent operation time interval do not correlate with vehicle speed when wiper switch is set to the A/INT position and the CANCEL switch is at the OFF position

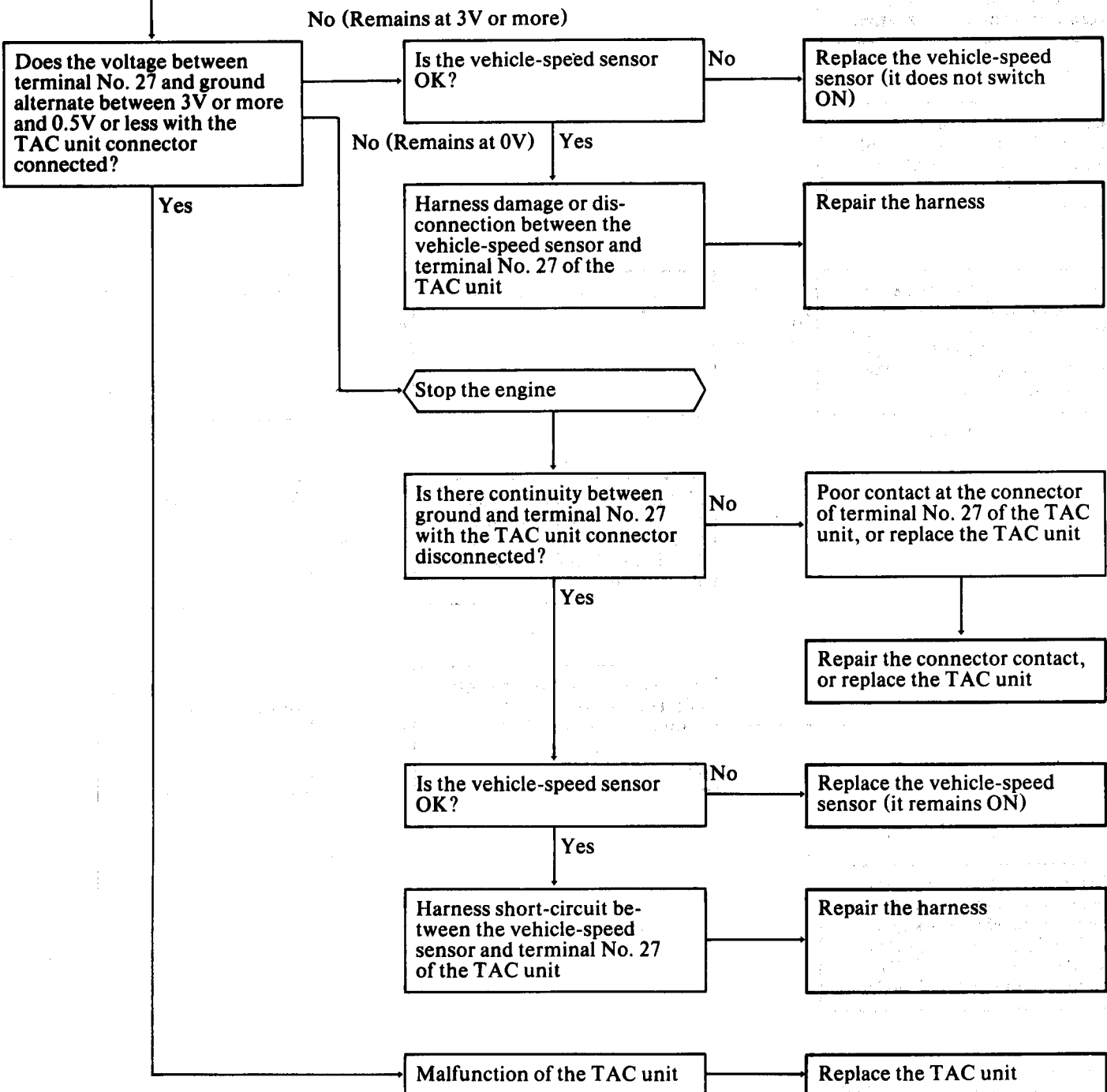
Check with the vehicle jacked up and with the vehicle-speed sensor operating

SEE NEXT PAGE



TROUBLESHOOTING

CONTINUED FROM
PREVIOUS PAGE

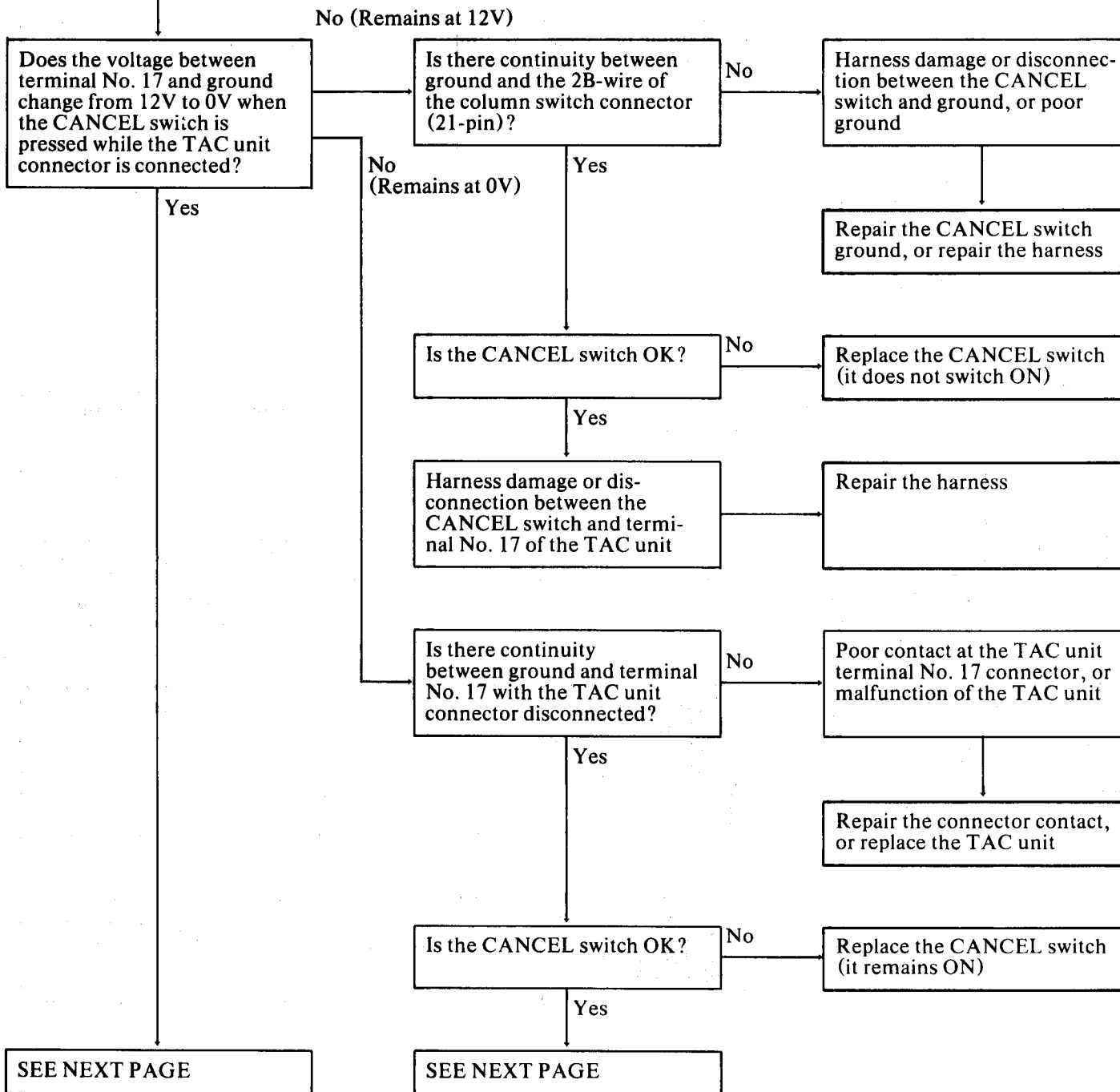




TRUBLE SYMPTOM 6

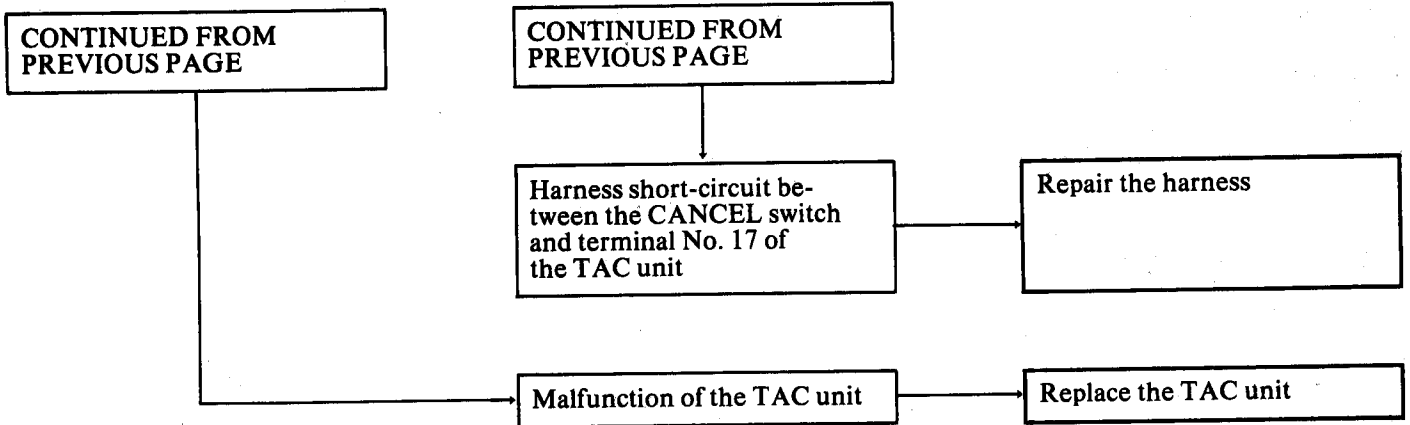
When the CANCEL switch is pressed during intermittent operation of wipers correlated to vehicle speed, correlation continues

Check with the ignition key at ACC

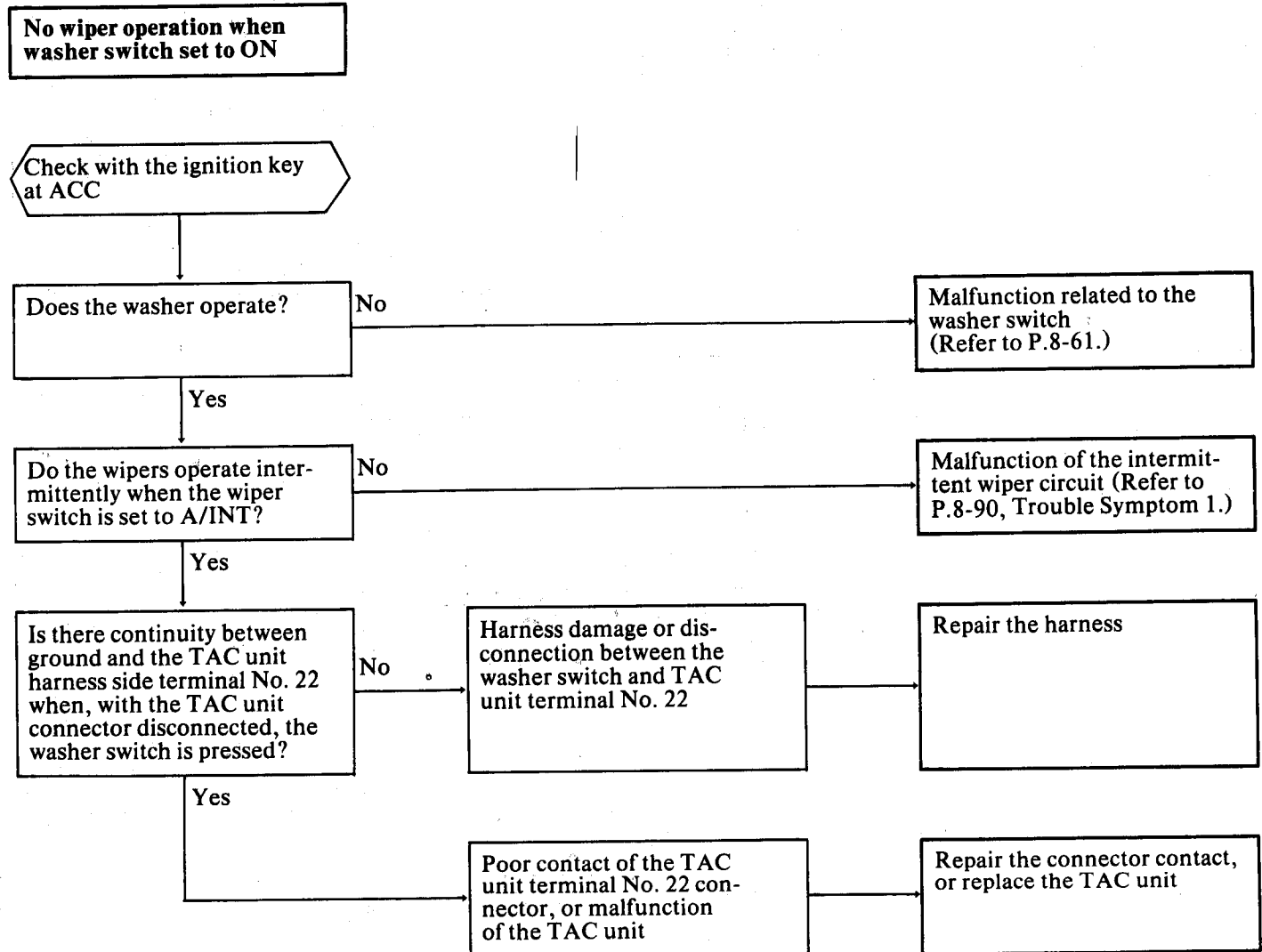




TROUBLESHOOTING



TRUBLE SYMPTOM 7





Delayed Switch-off Dome Light

QUICK-REFERENCE TROUBLESHOOTING GUIDE

No.	Problem	TAC unit input/output terminal voltages				Main check points and steps							
		TAC unit terminal no.		Condition for voltage measurement	Terminal voltage (V)		Fuse	TAC unit terminal voltages	Dome light	Keyhole illumination light	Door switch (all doors)	Driver's door switch	Harness
		Input	Output		When normal	When malfunction							
1	With the dome light switch set to the position interlocked with the doors, the light does not illuminate when any door is opened. (Dome light illuminates when switch is set to the ON position)	31* ²		Open one door after closing all doors	12 → 0	12 (no change)							
			32* ²	With the dome light switch at the door interlock position, open one door after closing all doors	12 → 0	0 (no change)		4	5				6
2	With the dome light switch set to the position interlocked with the doors, the light remains illuminated when all doors are closed. (Extinguishes when switch is set to the OFF position)	31* ²		Close all doors	12	0		1			2		3
			32* ²	With the dome light switch at the door interlock position, close all doors	12	0		4	5				6
3	With the dome light switch set to the position interlocked with the doors, the light illuminates when a door is opened, but extinguishes immediately when the door is closed (no residual illumination)	30* ¹		Activate battery voltage	12	0		1					2

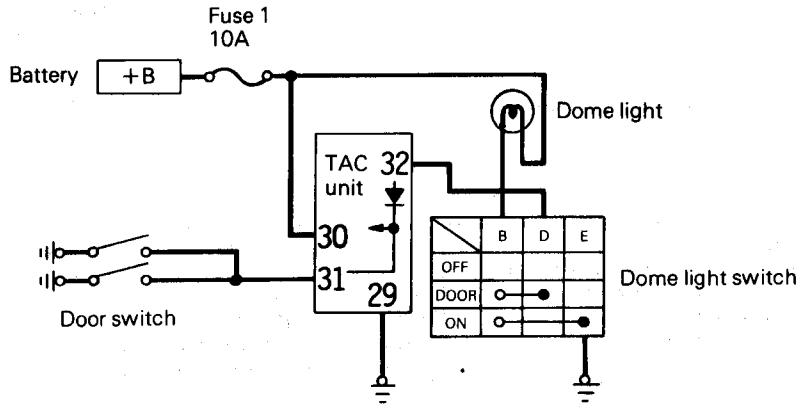
NOTES

1. The *1 symbol indicates that current flows to the TAC unit and is grounded at the TAC unit side.
2. The *2 symbol indicates that current flowing from the TAC unit is grounded at the switch side.
3. Terminal voltage indicate measurements made with the connector connected to the TAC unit.



TROUBLESHOOTING

CIRCUIT DIAGRAMS



16Y2830

TAC unit terminals

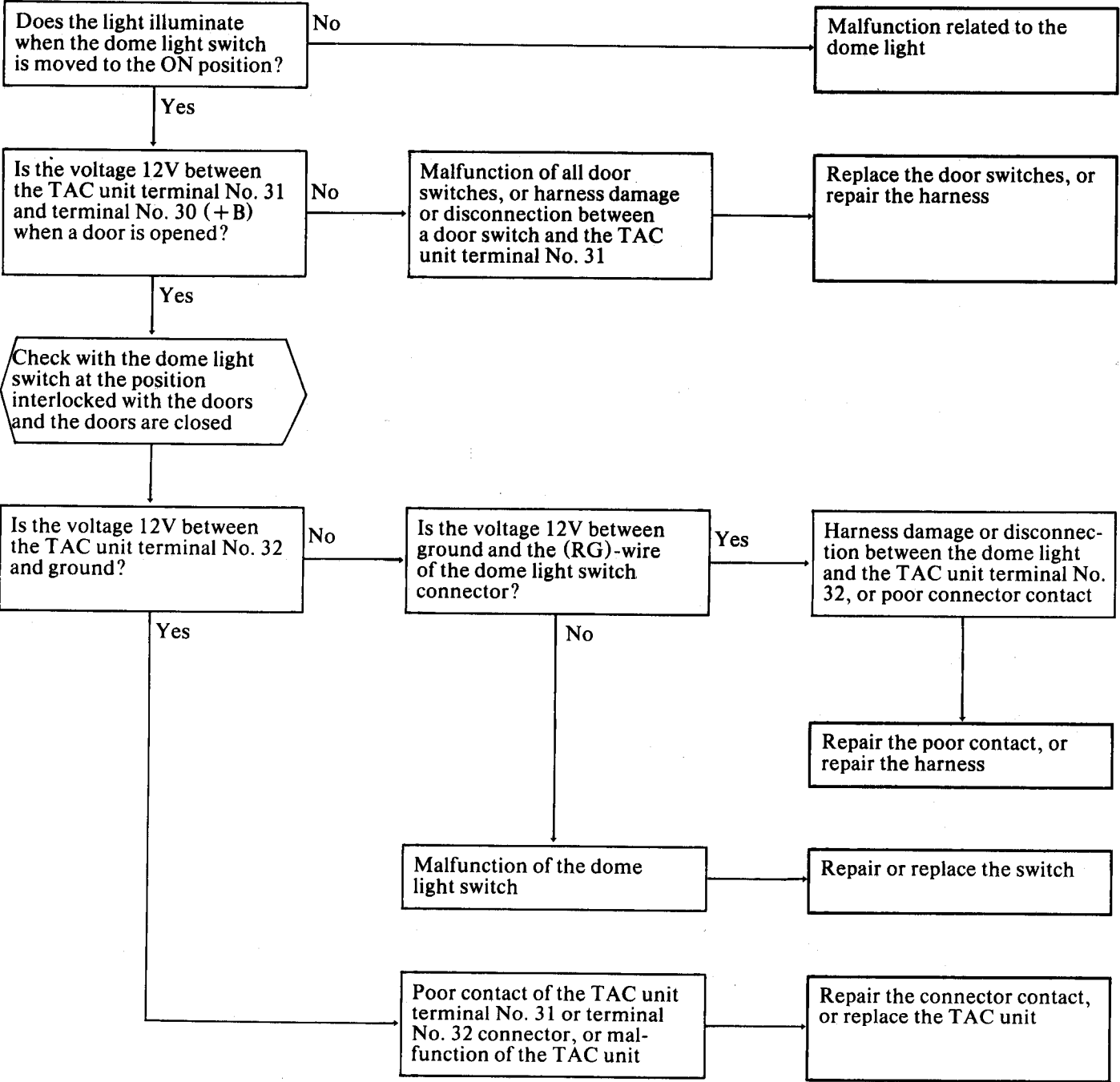
1	-	3	4	-	-	7	8	9	10	-	22	23	24	25	26	27	-
-	12	13	14	15	16	17	18	19	20	29	30	31	32	-	-	35	36

16Y2837



TROUBLE SYMPTOM 1

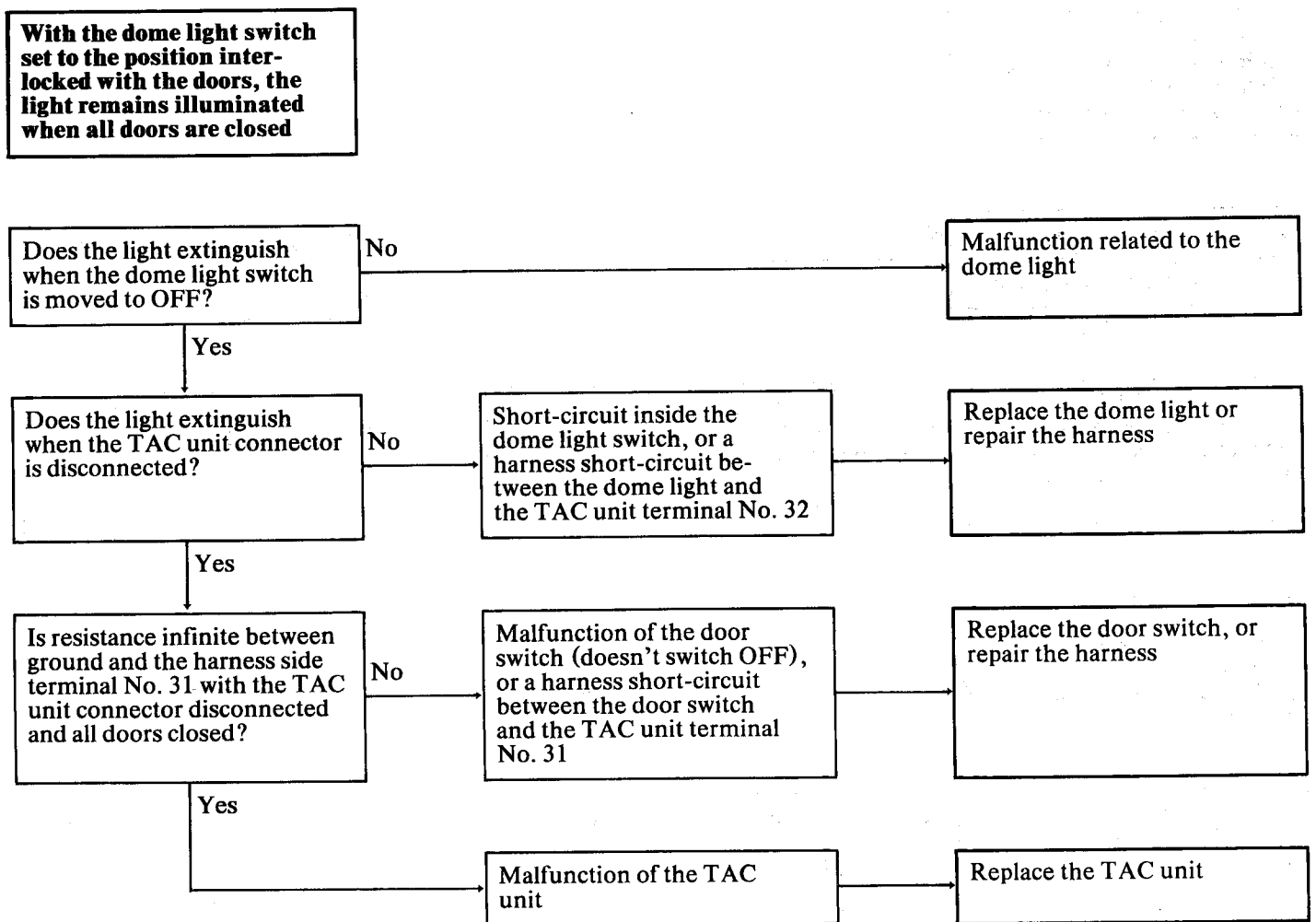
With the dome light switch set to the position interlocked with the doors, the light doesn't illuminate when any door is opened



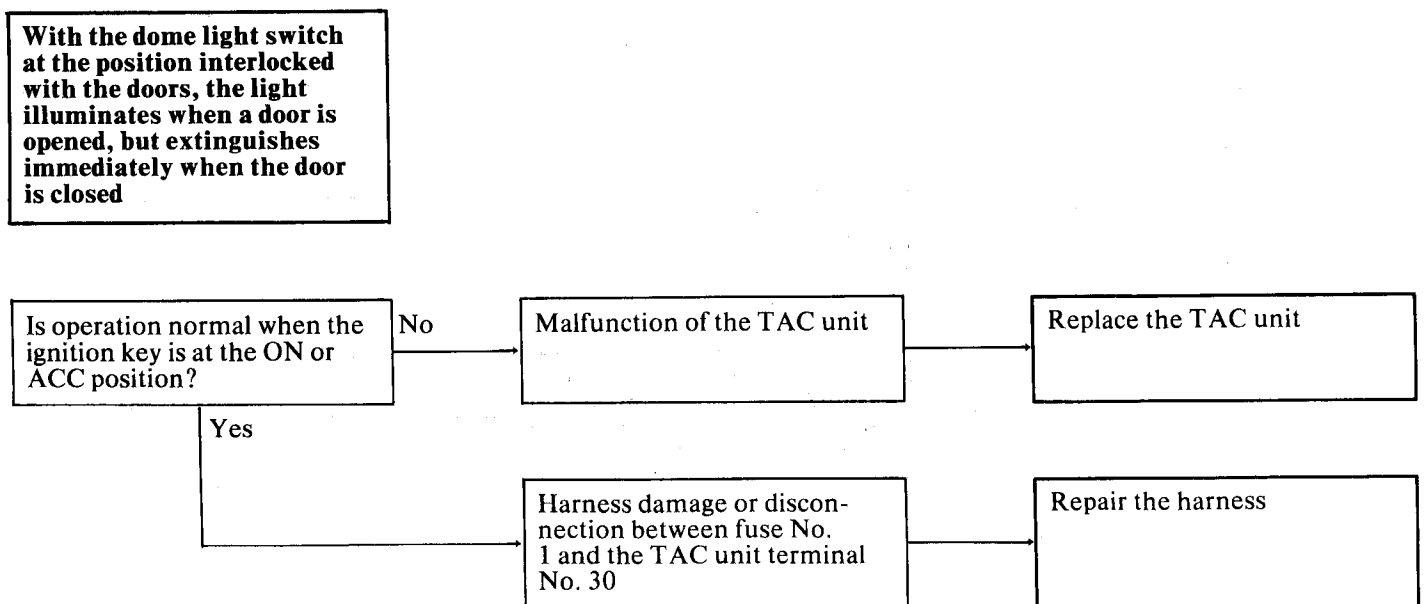


TROUBLESHOOTING

TROUBLE SYMPTOM 2



TROUBLE SYMPTOM 3





Door Lock Prevention when Ignition Key not Removed/Center Door Locking System

QUICK-REFERENCE TROUBLESHOOTING GUIDE

No.	Problem	TAC unit input/output terminal voltages					Main check points and steps									
		TAC unit terminal no.		Condition for voltage measurement	Terminal voltage (V)		Fuse	TAC unit terminal voltages	*3Door lock switch	Door switch	Key reminder switch	Harness				
		Input	Output		When normal	When malfunction										
1	Door lock does not automatically release when with the ignition key in the ignition and the driver's (or passenger's) door open, an attempt is made to lock the door. (The lock switch functions properly)	30* ¹		Activate battery voltage	12	0							1	2		
		23* ² (36)* ²		Open the driver's (or passenger's) door	12 → 0	Remains at 12		4		5		6				
		9* ¹		Insert the ignition key with the light OFF	12 → 0	Remains at 12		7			8	9				
		24* ² (26)* ²		Lock the driver's (passenger's) door	0 → 12	Remains at 0		10	11	11		12				
			14* ¹		Lock the door with the key reminder switch OFF and the driver's door switch ON	12 → 0 (5 sec.)	Remains at 12, or 0		14				15			
2	Door lock releases when, with the ignition key removed and the driver's (or passenger's) door open, an attempt is made to lock the door	9* ¹		Remove the ignition key with the door open	0 → 12	Remains at 0		1			2	3				
3	Door lock releases when, with the ignition key in the ignition and the driver's (or passenger's) door closed, an attempt is made to lock the door	23* ² (36)* ²		Close the driver's (or passenger's) door	0 → 12	Remains at 0		1		2		3				
4	Center door locking system does not function when the driver's (or passenger's) door is locked	30* ¹		Activate battery voltage	12	0	1	2				3				
		24* ² (26)* ²		Lock the driver's (or passenger's) door	0 → 12	Remains at 0		4	5			6				
			15* ¹		Lock the driver's (or passenger's) door with the ignition key removed	12 → 0 → 12 (approx. 0.5 sec.)	Remains at 12, or 0		7				8			
5	Center door locking system does not function when the driver's (or passenger's) door is unlocked. (The lock switch functions properly)	30* ¹		Activate battery voltage	12	0	1	2				3				
		24* ² (26)* ²		Unlock the driver's (passenger's) door	12 → 0	Remains at 12		4	5			6				
			16* ¹		Unlock the driver's (passenger's) door with the ignition key removed	12 → 0 → 12 (approx. 0.5 sec.)	Remains at 12, or 0		7				8			

NOTES

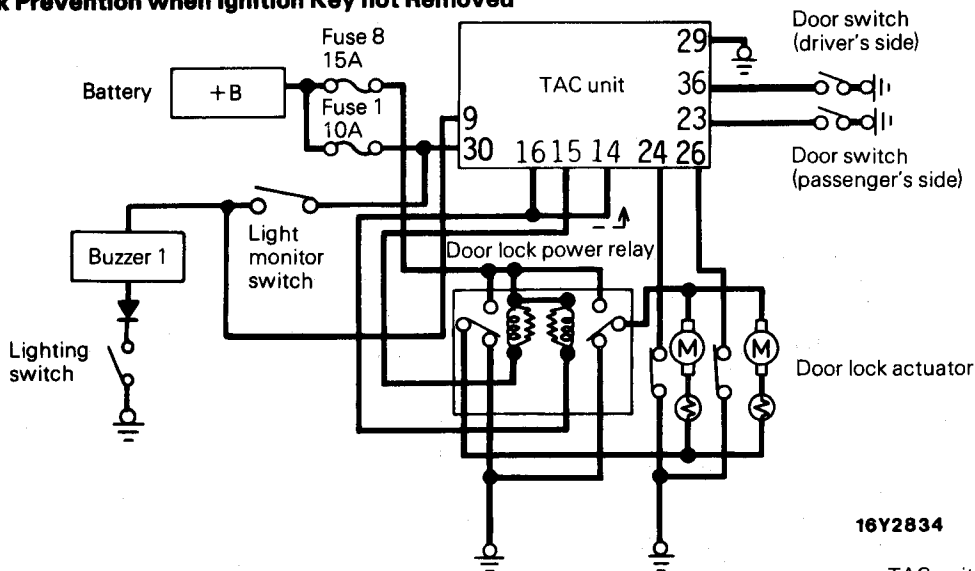
1. The *¹ symbol indicates that current flows to the TAC unit and is grounded at TAC unit side.
2. The *² symbol indicates that current flowing from the TAC unit is grounded at the switch side.
3. The *³ symbol indicates the front door lock actuator built-in.
4. Terminal voltages indicate measurements made with the connector connected to the TAC unit.



TROUBLESHOOTING

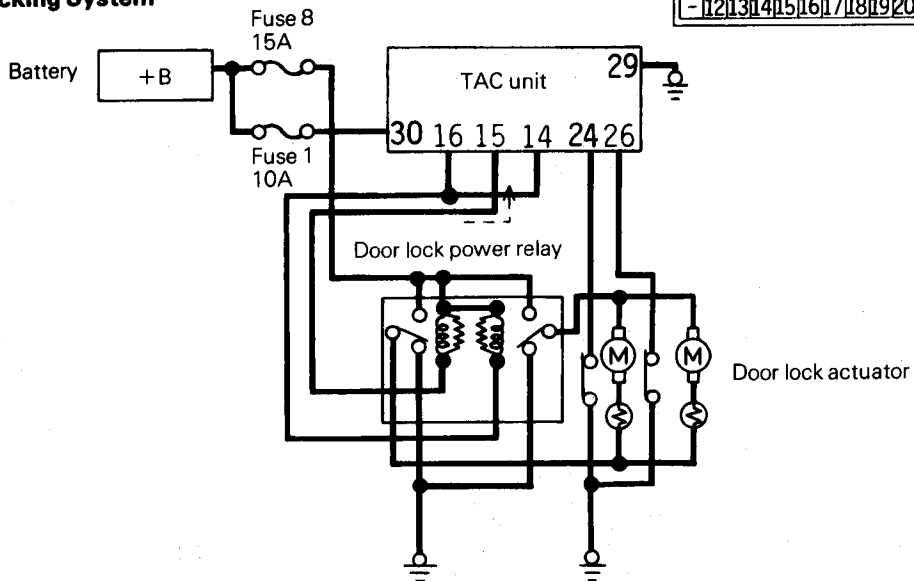
CIRCUIT DIAGRAMS

Door Lock Prevention when Ignition Key not Removed



1	-	3	4	-	7	8	9	10	-	22	23	24	25	26	27	-
-	12	13	14	15	16	17	18	19	20	29	30	31	32	-	35	36

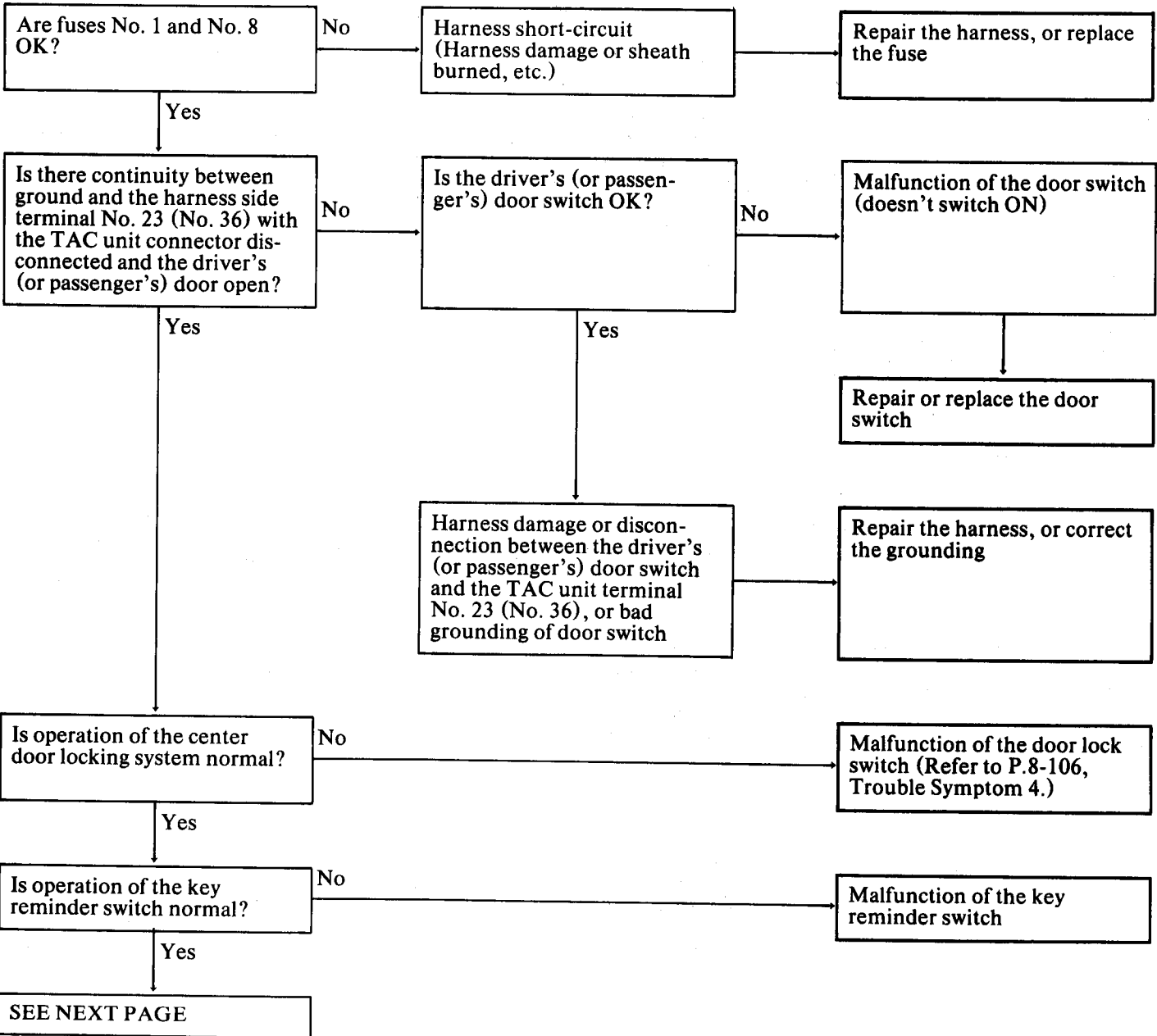
Center Door Locking System





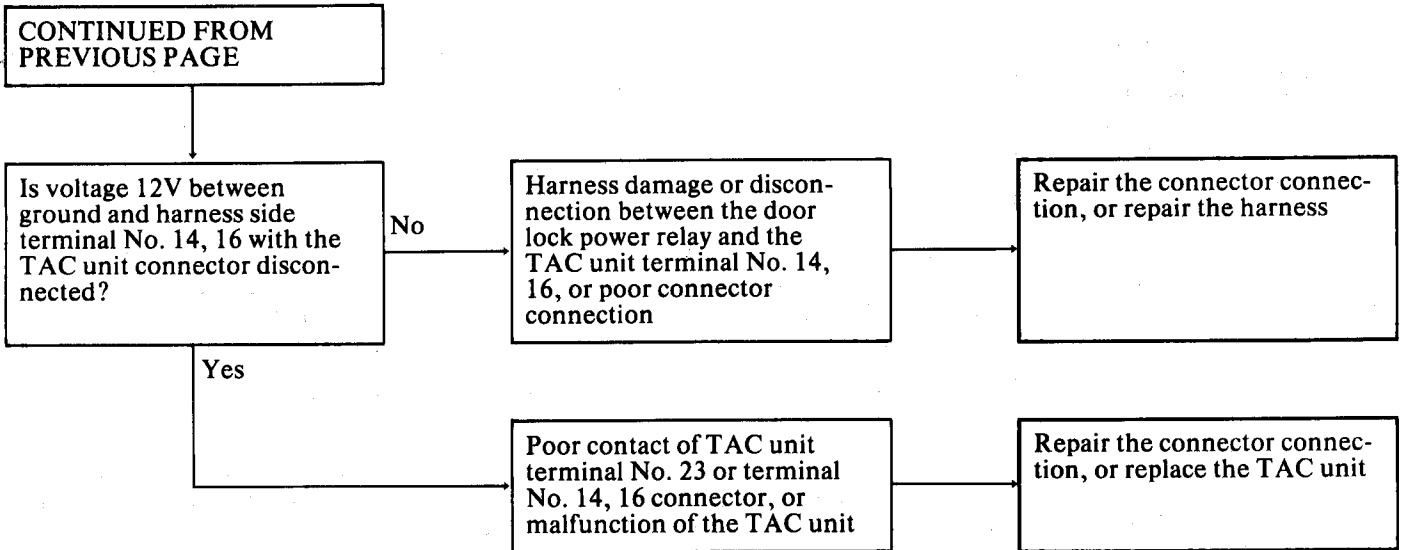
TROUBLE SYMPTOM 1

Door lock does not automatically release when, with the ignition key inserted, an attempt is made to lock the door with the driver's (or passenger's) door open

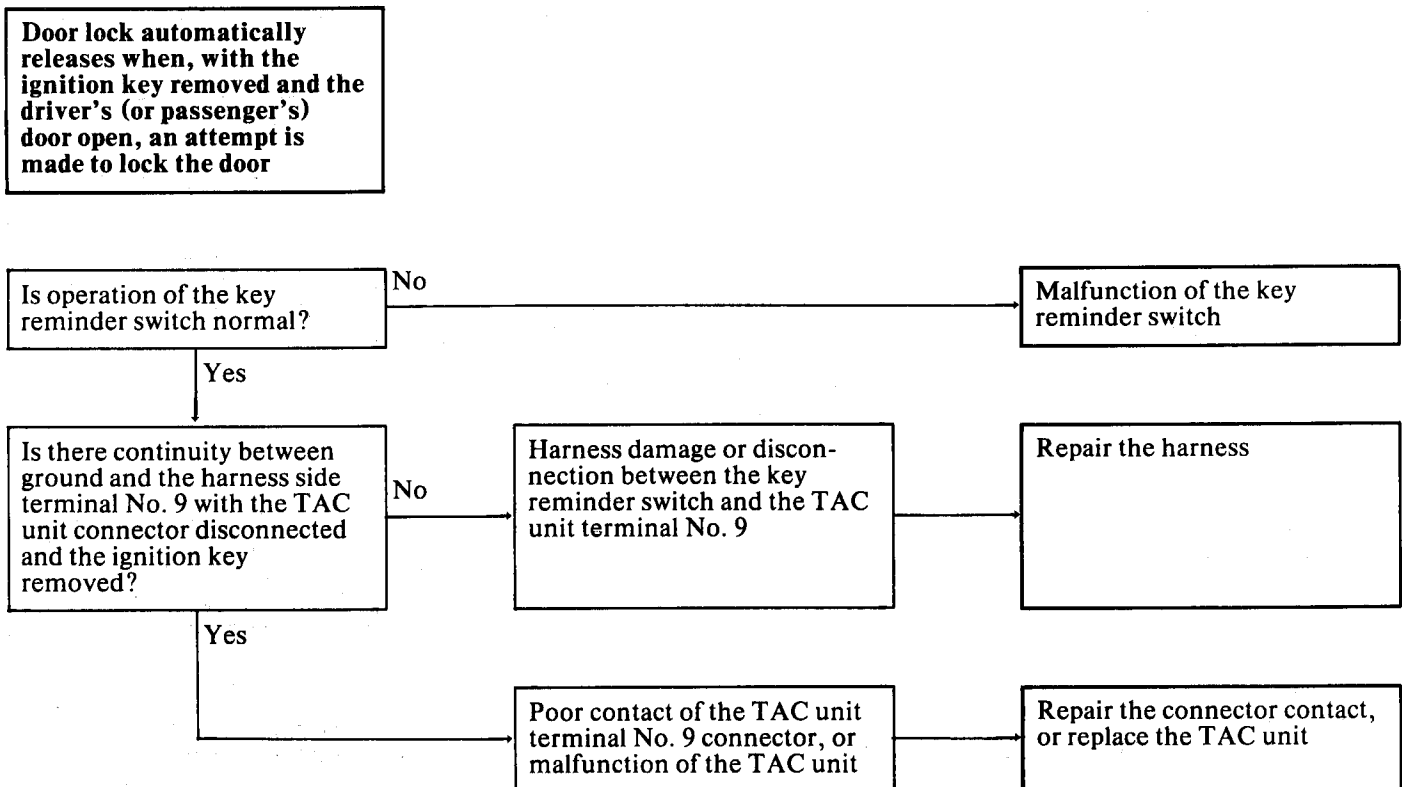




TROUBLESHOOTING



TROUBLE SYMPTOM 2





TROUBLE SYMPTOM 3

Door lock automatically releases when, with the ignition key inserted and the driver's (or passenger's) door closed, an attempt is made to lock the door

Check with the ignition key at LOCK

Is resistance infinite between ground and the harness side terminal No. 23 (No. 36) with the TAC unit connector disconnected and the driver's (or passenger's) door closed?

No

Harness short-circuit between the door switch and the TAC unit terminal No. 23 (No. 36), or malfunction of the driver's (or passenger's) door switch (remains ON)

Repair the harness, or replace the door switch

Yes

Malfunction of the TAC unit

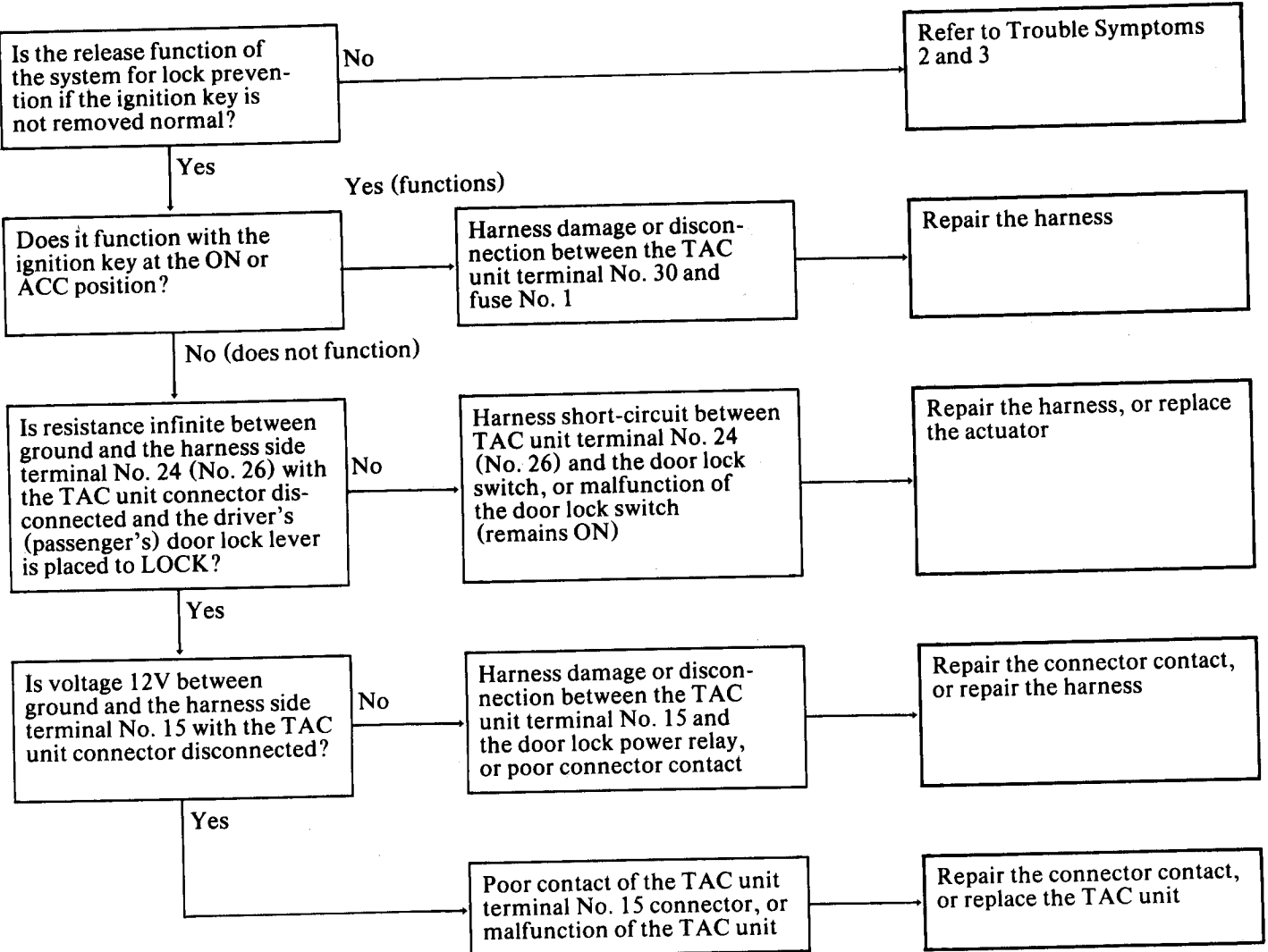
Replace the TAC unit



TROUBLESHOOTING

TROUBLE SYMPTOM 4

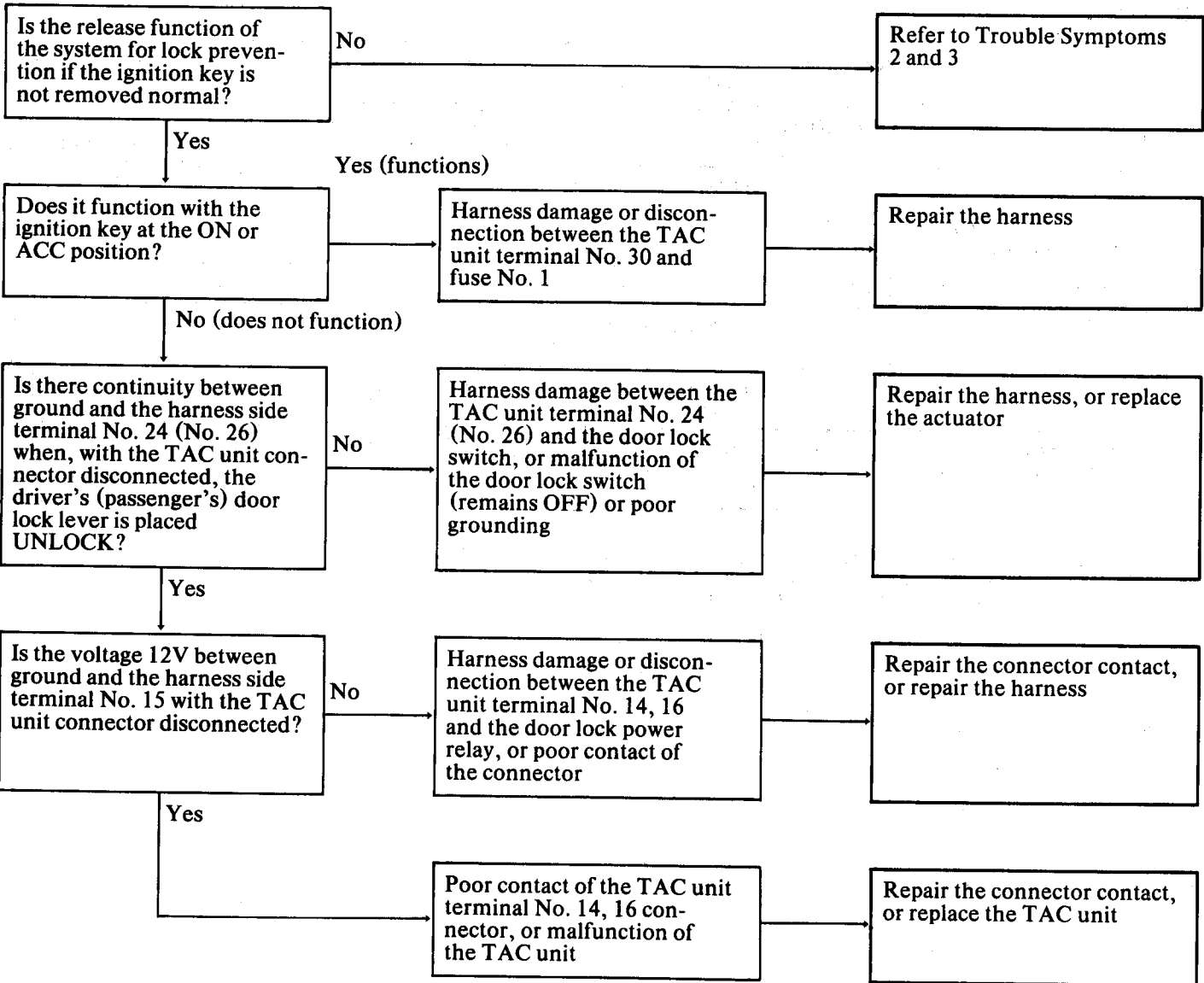
Center door locking system doesn't function when driver's (or passenger's) door lock lever is placed to LOCK





TROUBLE SYMPTOM 5

Center door locking system does not function when the driver's or passenger's door lock lever is placed to UNLOCK





TROUBLESHOOTING

Defogger Timer

QUICK-REFERENCE TROUBLESHOOTING GUIDE

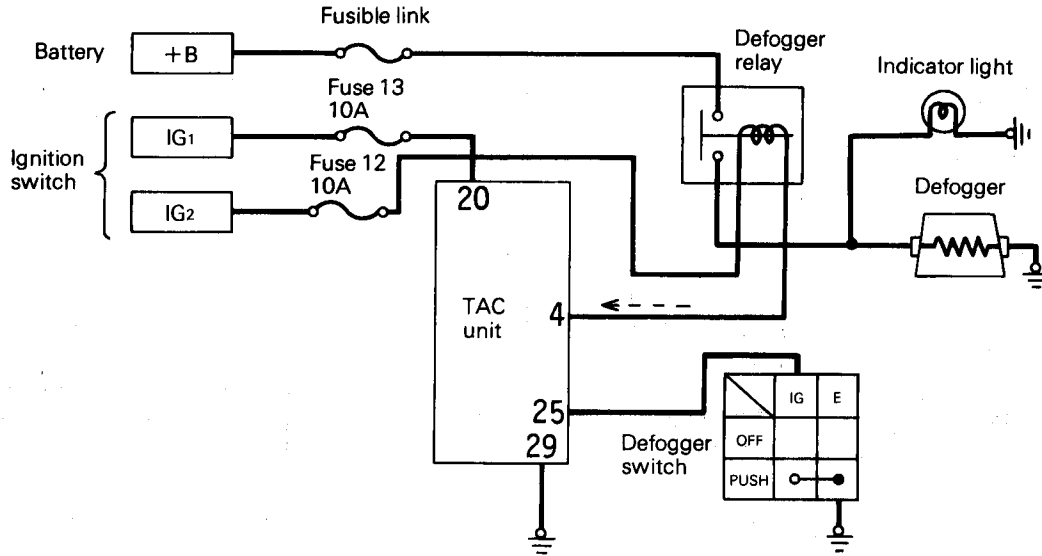
No.	Problem	TAC unit input/output terminal voltages				Main check points and steps						
		TAC unit terminal no.		Condition for voltage measurement	Terminal voltage (V)		Fuse	TAC unit terminal voltages	Defogger switch	Defogger relay	Defogger	Harness
		Input	Output		When normal	When malfunction						
1	Defogger doesn't function when the defogger switch is pressed. (Indicator light illuminates)			(TAC unit is normal)								
2	Defogger doesn't function (Indicator light doesn't illuminate)	20* ¹		With ignition key at ON	12	0	1	2				3
		25* ²		Press defogger switch with ignition key at ON	12 → 0	Remains at 12, or 0		4	5			6
			4* ¹	Press defogger switch with ignition key at ON	12 → 0	Remains at 12, or 0		7				8
3	Defogger continues to function when ignition key turned to ON		4* ¹	Press defogger switch with ignition key at ON	0 → 12	Remains at 0		1				2

NOTES

1. The *¹ symbol indicates that current flows to the TAC unit and is grounded at TAC unit side.
2. The *² symbol indicates that current flowing from the TAC unit is grounded at the switch side.
3. Terminal voltages indicate measurements made with the connector connected to the TAC unit.



CIRCUIT DIAGRAMS



16Y2832

TAC unit terminals

1	-	3	4	-	-	7	8	9	10	-	22	23	24	25	26	27	-
-	12	13	14	15	16	17	18	19	20	29	30	31	32	-	-	35	36

16Y2837



TROUBLESHOOTING

TROUBLE SYMPTOM 1

The rear window defogger does not operate, when the defogger switch is switched "ON" (The indicator light illuminates)

Inspect while the ignition key is in the "ON" position

Does continuity exist between the negative (-) terminal of the printed heater lines and the body ground?

No

The defogger is improperly grounded

Correct the ground connection

Yes

Is 12V indicated between the positive (+) terminal of the printed heater lines and the body ground?

No

A broken harness between the rear window defogger relay and the defogger

Repair the harness

Yes

A malfunction in the defogger printed heater lines

Repair the harness

TROUBLE SYMPTOM 2

Defogger doesn't function (Indicator light doesn't illuminate)

Check with the ignition key at ON

Are fuses No. 12, No. 13 and fusible link OK?

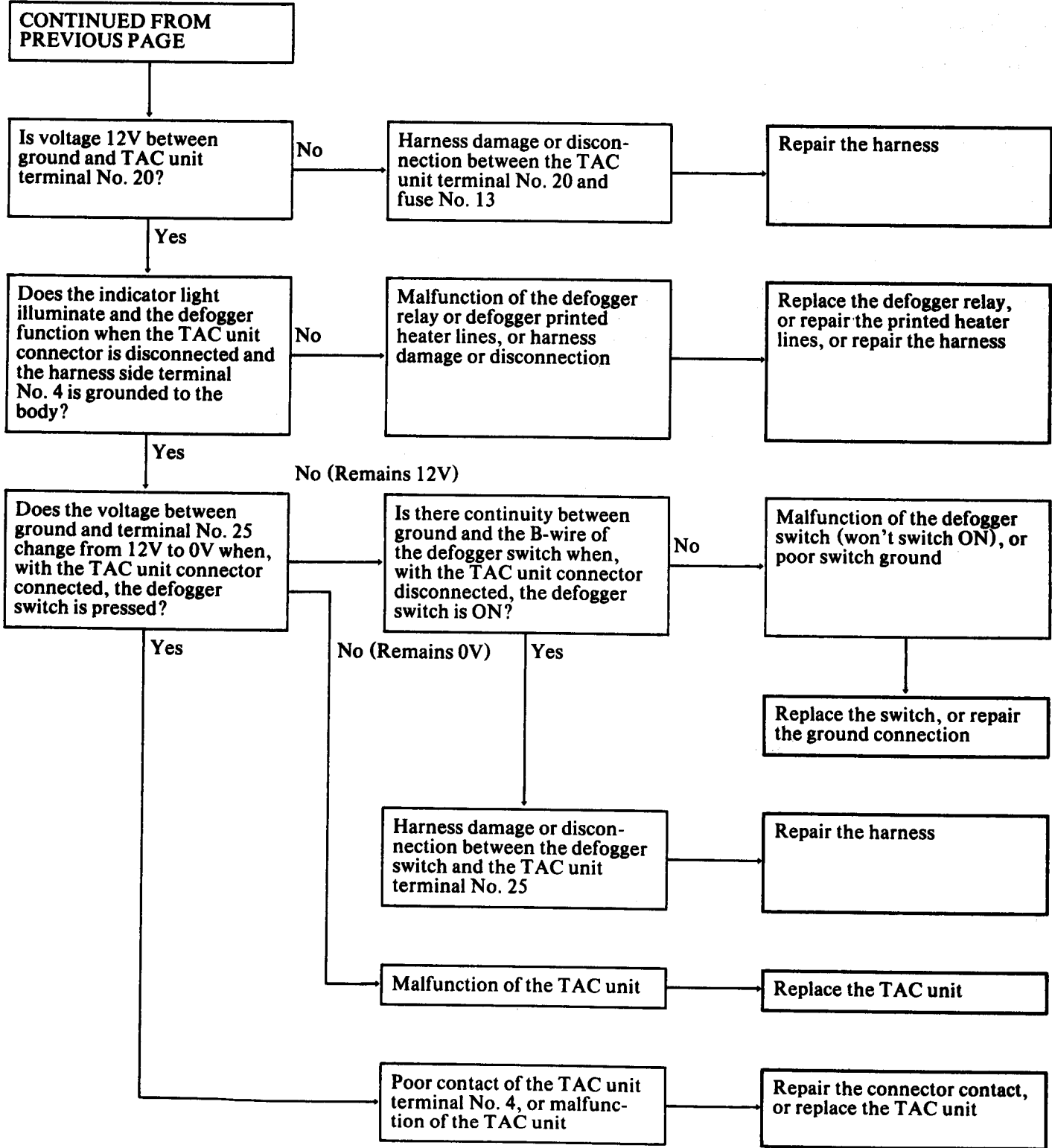
No

Harness short-circuit (Harness damage, sheath burned, etc.)

Repair the harness, and replace the fuse

Yes

SEE NEXT PAGE





TROUBLESHOOTING

TROUBLE SYMPTOM 3

Defogger continues to function when the ignition key is turned to ON

Check with the ignition key at ON

Does the defogger stop when the TAC unit connector is disconnected?

No

Harness short-circuit between the defogger relay and the TAC unit terminal No. 4

Repair the harness

Yes

Malfunction of the TAC unit

Replace the TAC unit



Power Window Timer

QUICK-REFERENCE TROUBLESHOOTING GUIDE

No.	Problem	TAC unit input/output terminal voltages				Main check points and steps							
		TAC unit terminal no.		Condition for voltage measurement	Terminal voltage (V)		Fuse	TAC unit terminal voltages	Power window relay	Door switches	Harness		
		Input	Output		When normal	When malfunction							
1	Power window doesn't function when ignition key is at ON	20* ¹		Turn ignition key to ON	12	0						1	2
			13* ¹	Turn ignition key to ON	12 → 0	Remains at 12	4	5	6		7		
2	Power window doesn't function during timer operation period after turning ignition key to OFF. (Power window functions normally when ignition key is at ON)	30* ¹		Turn ignition key to OFF	12	0		1			2		
3	Power window functions normally immediately after turning ignition key to OFF but it keeps functioning even after driver's or passenger's door is opened within 30 sec. from turning ignition key to OFF	23* ² or 36* ²		Open door (driver's or passenger's) within 30 sec. after turning ignition key to OFF	12 → 0	Remains at 12				1	2		
			13* ¹	Open door (driver's or passenger's) within 30 sec. after turning ignition key to OFF	0 → 12	Remains at 0		3					
4	Power window functions even after 30 sec. following turning ignition key to OFF	13* ¹		Turn ignition key to OFF	0 → 12 (30 sec.)	Remains at 0		1	2		3		

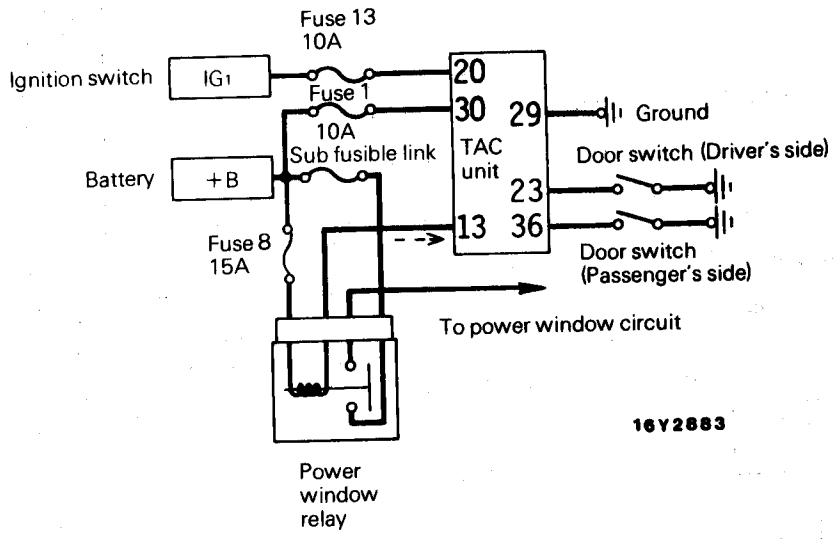
NOTES

1. The *¹ symbol indicates that current flows to the TAC unit and is grounded at the TAC unit side.
2. The *² symbol indicates that current flowing from the TAC unit is grounded at the switch side.
3. Terminal voltage indicates measurements made with the connector connected to the TAC unit.



TROUBLESHOOTING

CIRCUIT DIAGRAMS



16Y2883

TAC unit terminals

1	-	3	4	-	7	8	9	10	-	22	23	24	25	26	27	-
-	12	13	14	15	16	17	18	19	20	29	30	31	32	-	35	36

16Y2837

TROUBLE SYMPTOM 1

Power window doesn't function when ignition key is at ON

Turn ignition key to ON and check

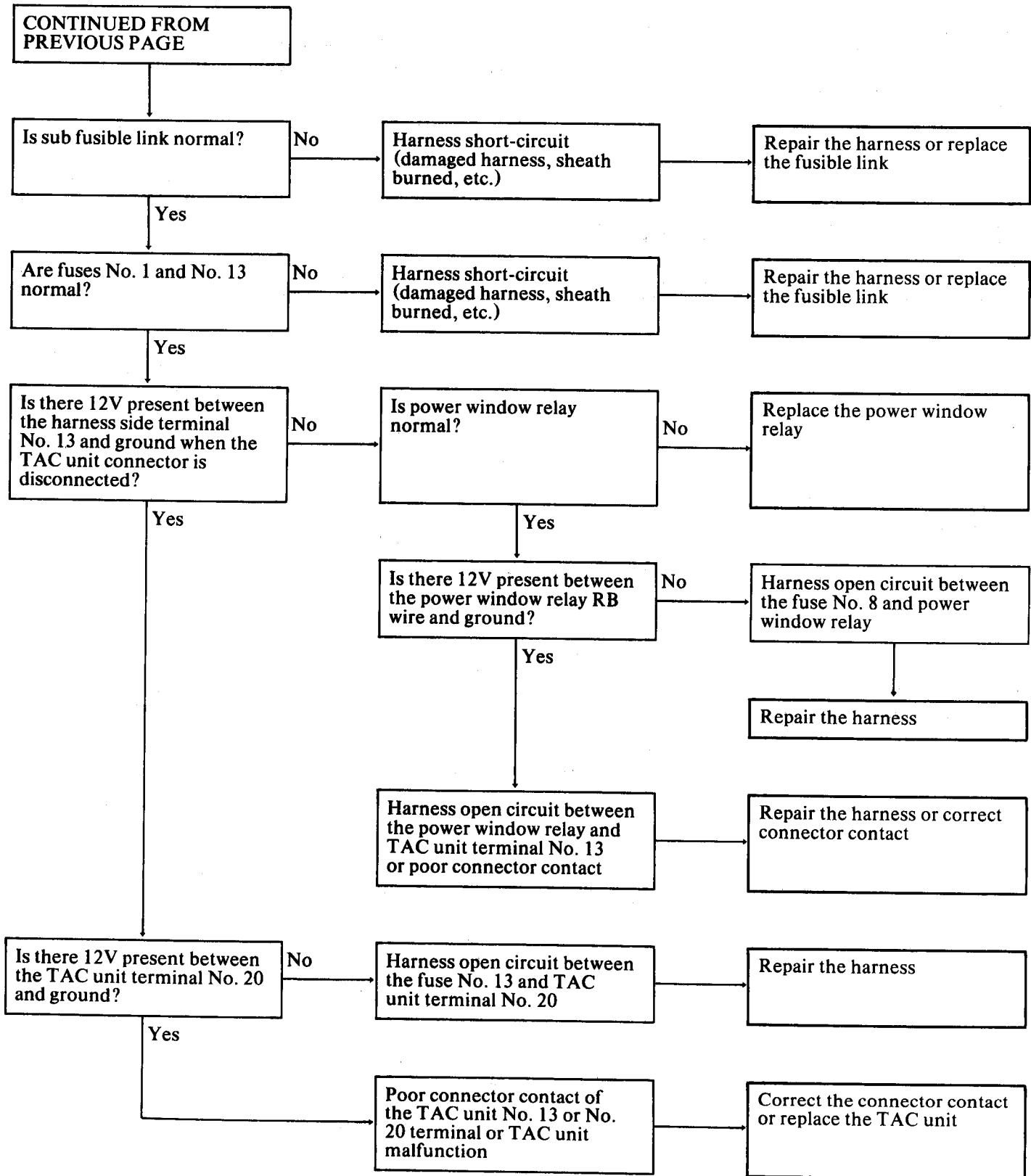
Is there no-voltage present between power window relay 2L wire and ground (when power window switch is activated)?

No (12V)

Malfunction of power window switch or motor (Refer to P.8-75.)

Yes (0V)

SEE NEXT PAGE



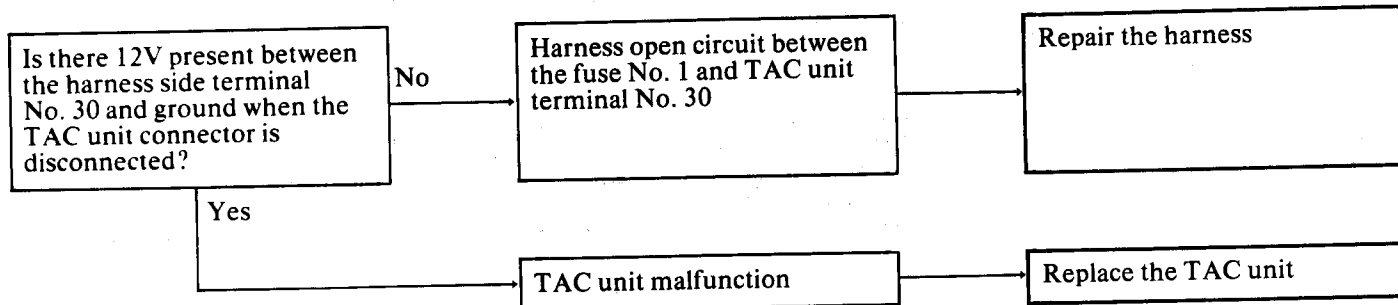


TROUBLE SYMPTOM 2

Power window doesn't function within timer operation time (30 sec. max.) after turning ignition key to OFF

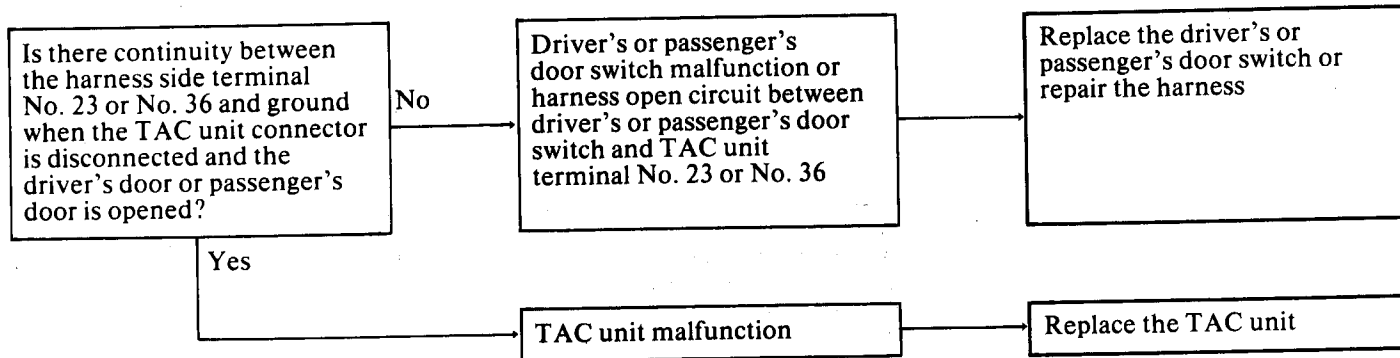
NOTES

1. Power window timer doesn't function at all.
2. Power window functions normally when ignition key is at ON.



TROUBLE SYMPTOM 3

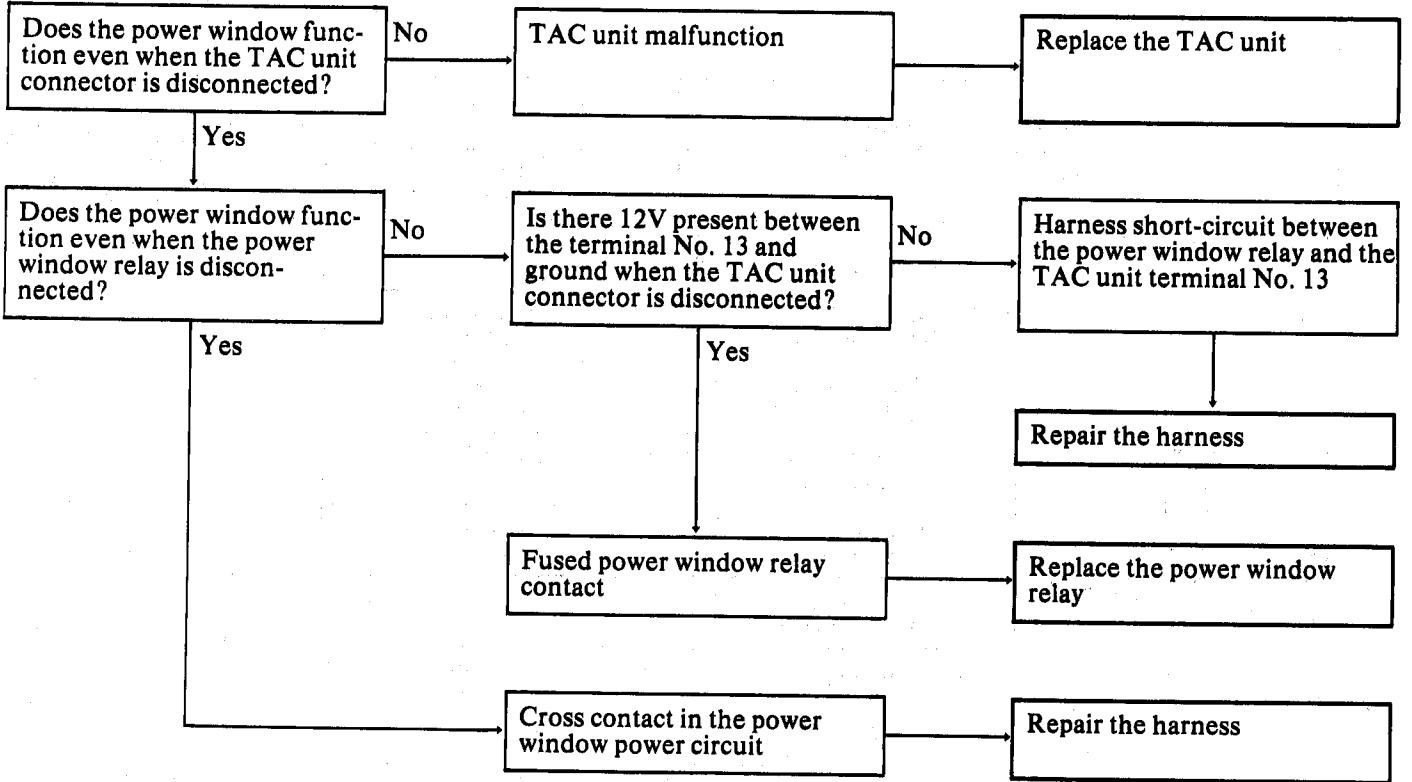
Power window functions normally immediately after turning ignition key to OFF but it keeps functioning even after driver's or passenger's door is opened within 30 sec.





TROUBLE SYMPTOM 4

Power window can function even after 30 sec. following turning ignition key to OFF





TROUBLESHOOTING

Door-ajar Warning/Brake Warning QUICK-REFERENCE TROUBLESHOOTING GUIDE

No.	Problem	TAC unit input/output terminal voltages				Main check points and steps								
		TAC unit terminal no.		Condition for voltage measurement	Terminal voltage (V)		Fuse	TAC unit terminal voltages	Door switch	Door-ajar warning light	Parking brake switch	Brake warning light	Vehicle-speed sensor	Harness
		Input	Output		When normal	When malfunction								
1	Door-ajar warning light doesn't illuminate, even with all doors open	30* ¹		With the battery voltage applied	12	0	1	2						3
			12* ¹	With all doors closed, open the doors	12 → 0	Remains at 12, or 0		4		5				6
		31* ²		With all doors closed, open the doors	12 → 0	Remains at 12, or 0		7	8					9
2	Door-ajar warning light doesn't extinguish when all doors are closed. (Remains illuminated)		12* ¹	With doors open, close all doors	0 → 12	Remains at 0		1						2
			31* ²	With doors open, close all doors	0 → 12	Remains at 0		3	4					5
3	Warning light doesn't illuminate when, with the ignition key at the ON position, the parking brake is engaged	20* ¹		With the ignition key at the ON position	12	0	1	2						3
			3* ²	With the ignition key at the ON position, engage the parking brake	12 → 0	Remains at 12, or 0		4				5		6
			19* ¹	With the ignition key at the ON position, engage the parking brake	12 → 0	Remains at 12, or 0		7			8			9
4	Warning light remains illuminated when, with the ignition key at the ON position, the parking brake is released		3* ²	With the ignition key at the ON position, release the parking brake	0 → 12	Remains at 0		1						2
			19* ¹	With the ignition key at the ON position, release the parking brake	0 → 12	Remains at 0		3			4			5
5	Door-ajar warning light or brake warning light does not flash when vehicle speed reaches or exceeds 5 km/h (3 mph)	27* ²		With the vehicle-speed sensor operating	12 ↔ 0 (Pulse signal)	Remains at 12, or 0		1						2 3

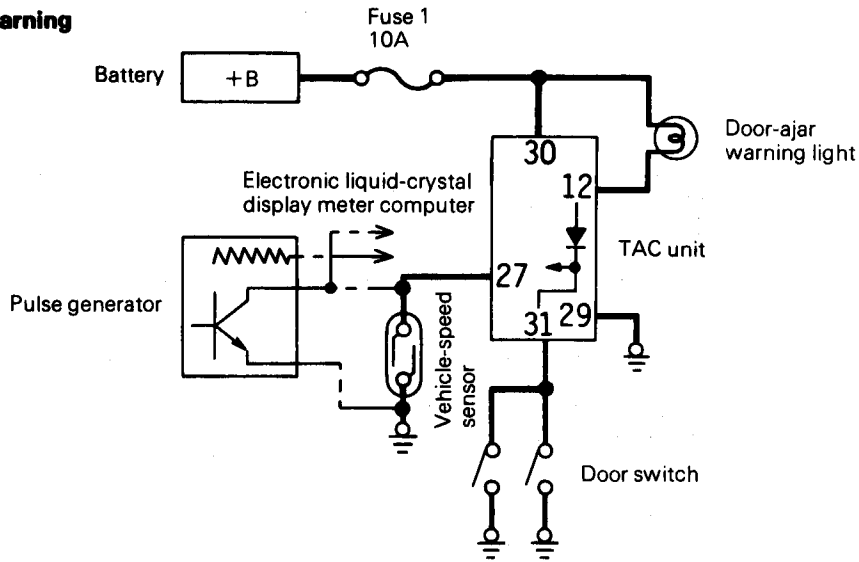
NOTES

1. The *¹ symbol indicates that current flows to the TAC unit and is grounded at TAC unit side.
2. The *² symbol indicates that current flowing from the TAC unit is grounded at the switch side.
3. Terminal voltage indicates measurements made with the connector connected to the TAC unit.



CIRCUIT DIAGRAMS

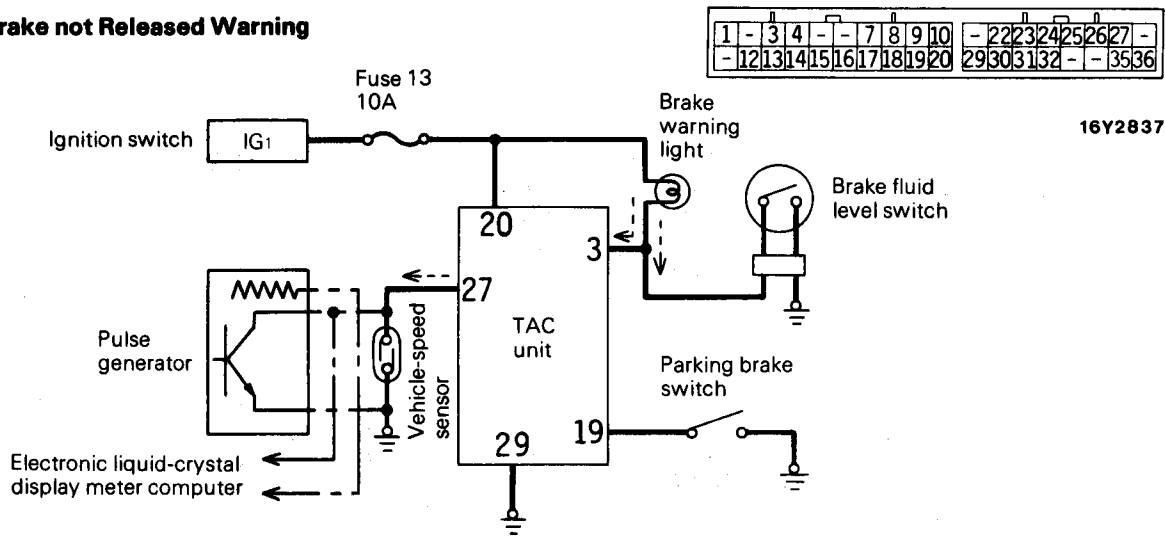
Door-ajar Warning



16Y2831

TAC unit terminals

Parking Brake not Released Warning



1	-	3	4	-	-	7	8	9	10	-	22	23	24	25	26	27	-
-	12	13	14	15	16	17	18	19	20	29	30	31	32	-	-	35	36

16Y2837

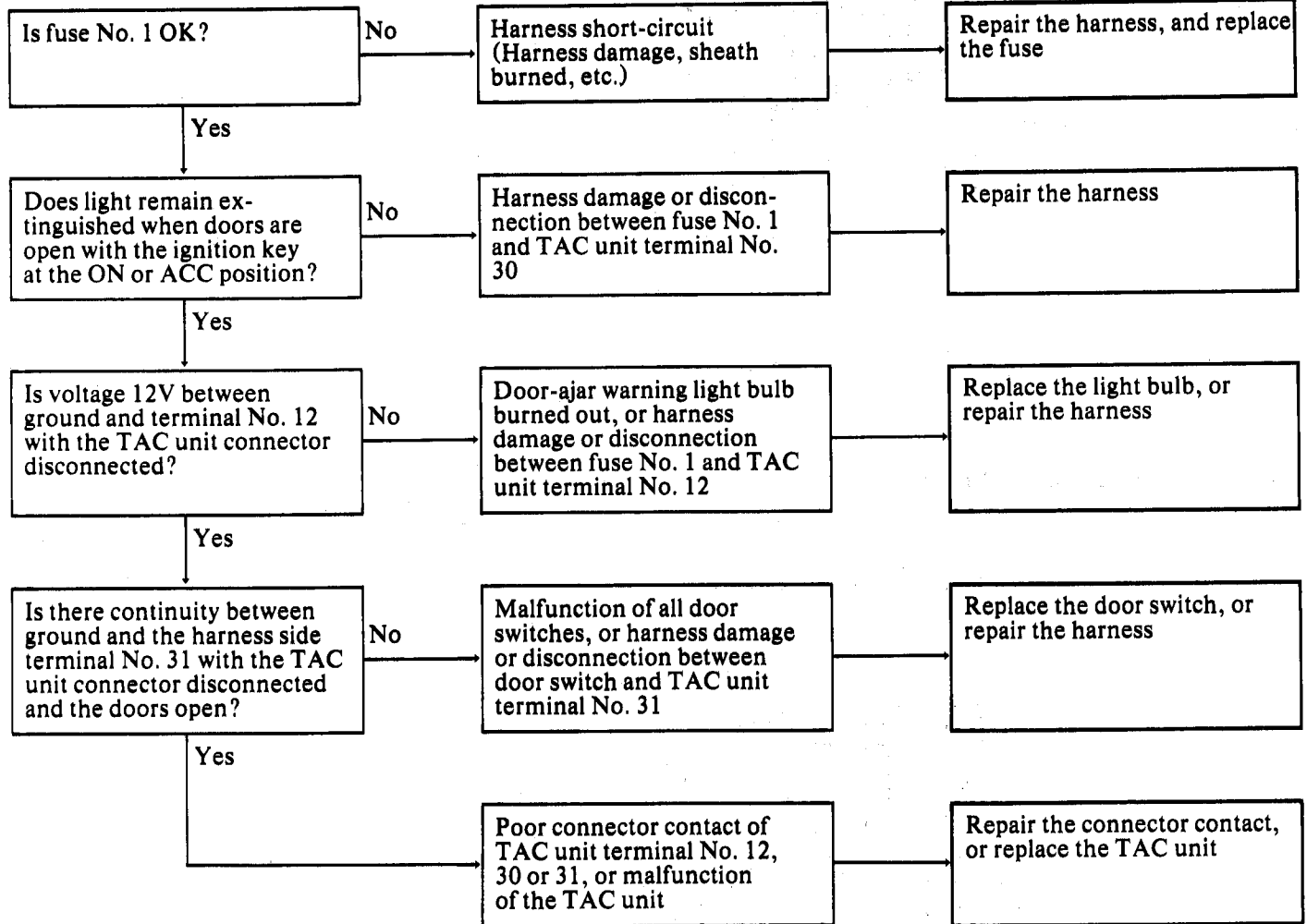
16Y2833



TROUBLESHOOTING

TROUBLE SYMPTOM 1

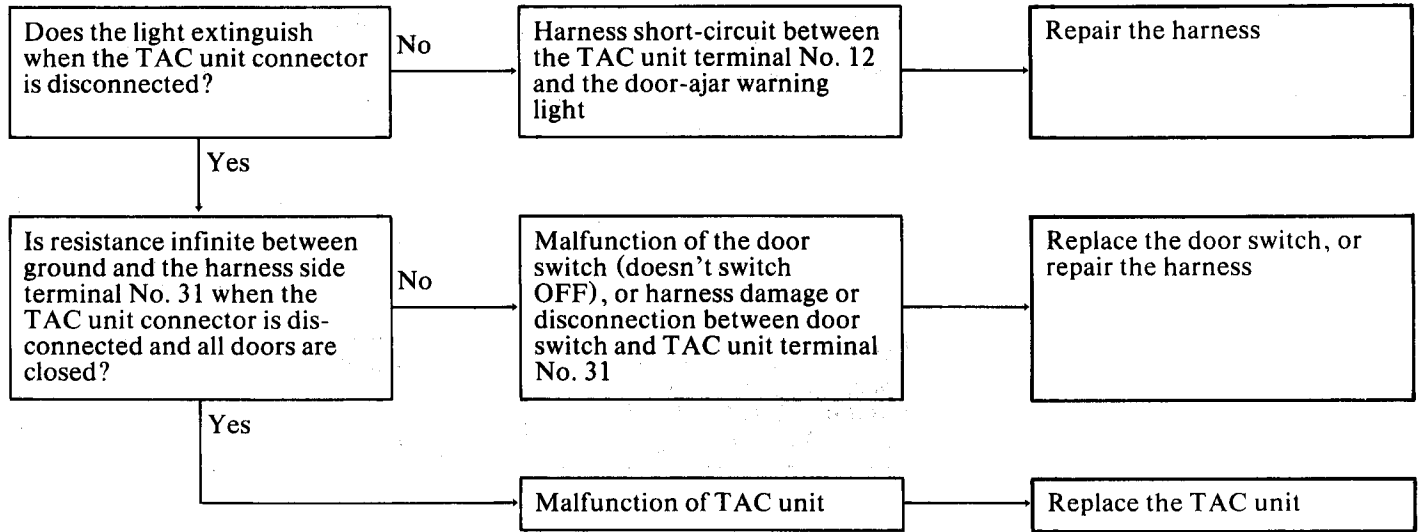
Door-ajar warning light doesn't illuminate, even with all doors open





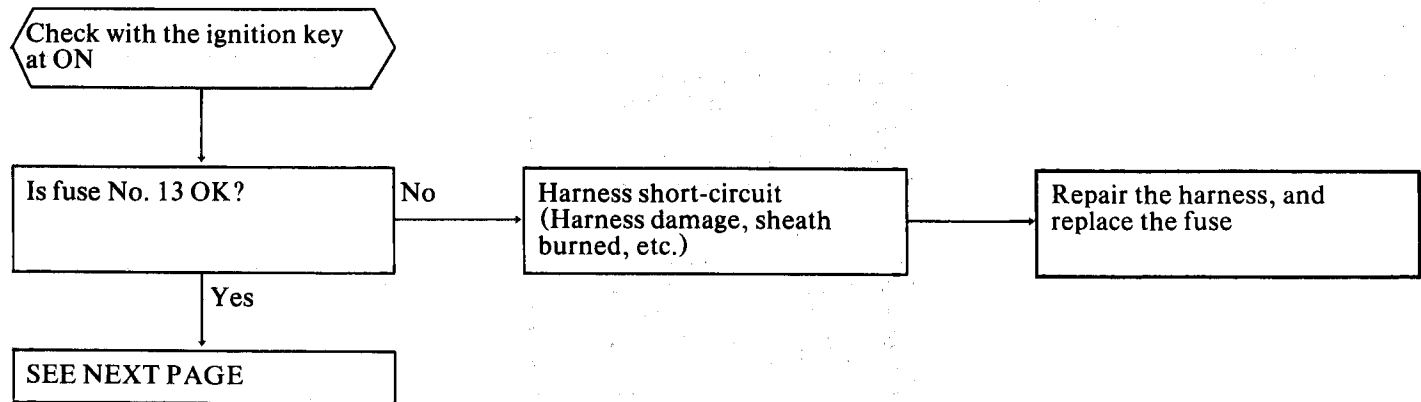
TROUBLE SYMPTOM 2

Door-ajar warning light doesn't extinguish when all doors are closed



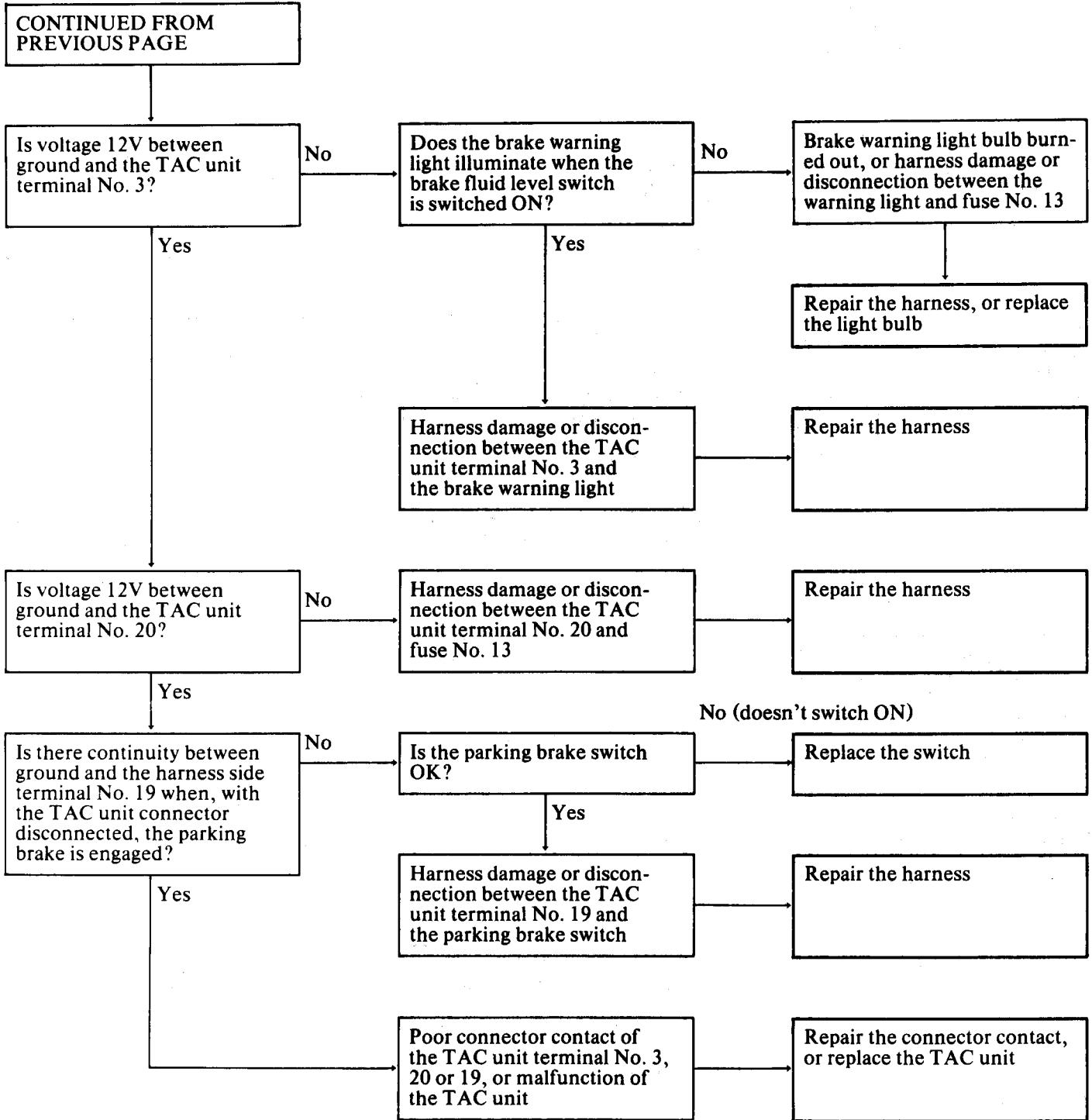
TROUBLE SYMPTOM 3

Brake warning light does not illuminate when, with the ignition key at the ON position, the parking brake is engaged





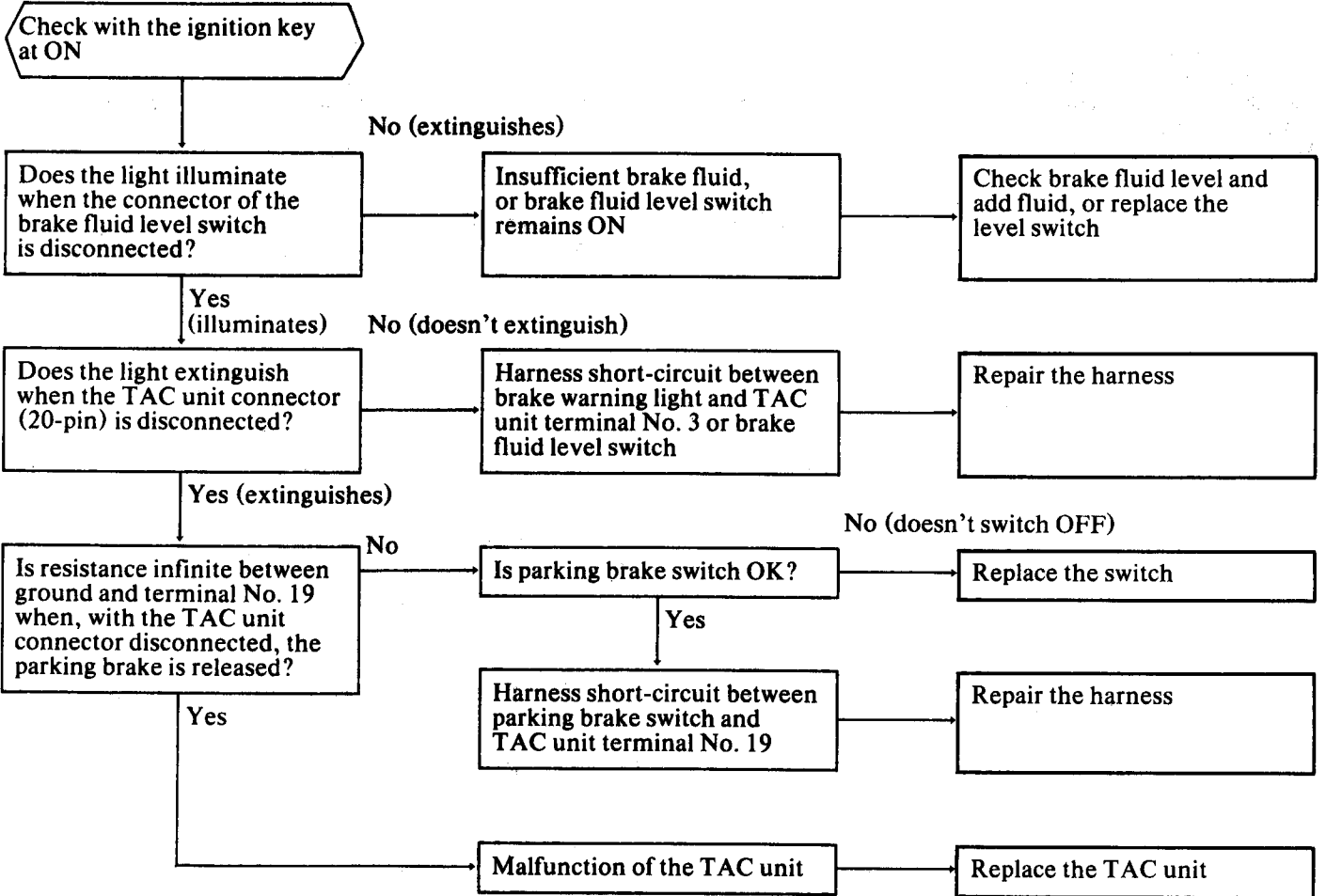
TROUBLESHOOTING





TROUBLE SYMPTOM 4

Brake warning light remains illuminated when, with the ignition key at the ON position, the parking brake is released

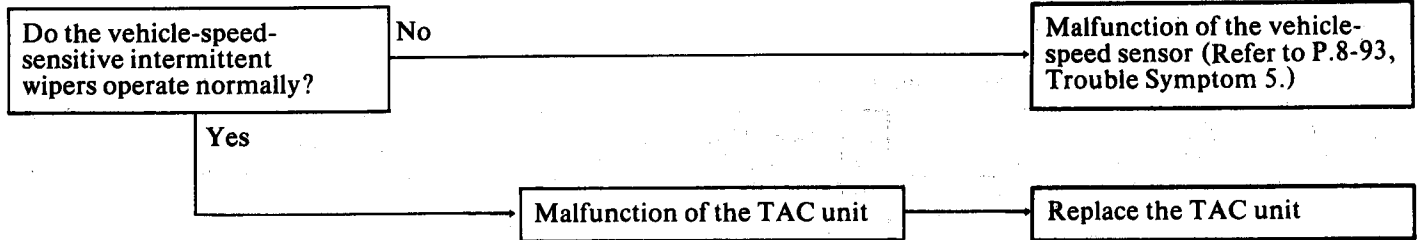




TROUBLESHOOTING

TROUBLE SYMPTOM 5

Door-ajar or brake warning light does not flash although the vehicle speed has exceeded 5 km/h (3 mph) or more with the door-ajar or the brake warning light illuminated





Seat Belt Warning

QUICK-REFERENCE TROUBLESHOOTING GUIDE

No.	Problem	TAC unit input/output terminal voltages				Main check points and steps							
						TAC unit terminal no.		Condition for voltage measurement	Terminal voltage (V)		Fuse	TAC unit terminal voltages	Seat belt switch
		Input	Output	When normal	When malfunction								
1	With the ignition key at the ON position, the warning buzzer doesn't sound (but the warning light flashes) even though the seat belts are not buckled			(TAC unit is normal)			1		2		3	4	5
2	With the ignition key at the ON position, the warning buzzer doesn't sound even though the seat belts are not buckled (The warning light doesn't flash either)	20*		Turn the ignition key to ON	12	0	1	2					
			35*	Turn the ignition key to ON	12 ↔ 0	Remains at 12, or 0		3					4
3	With the ignition key at the ON position, the warning light doesn't flash (but the warning buzzer operates normally)			(TAC unit is normal)						1			2
4	With the ignition key at the ON position, the warning light illuminates steadily (and the buzzer continues to sound)		35*	Turn the ignition key to ON	12 ↔ 0	Remains at 0		1					2

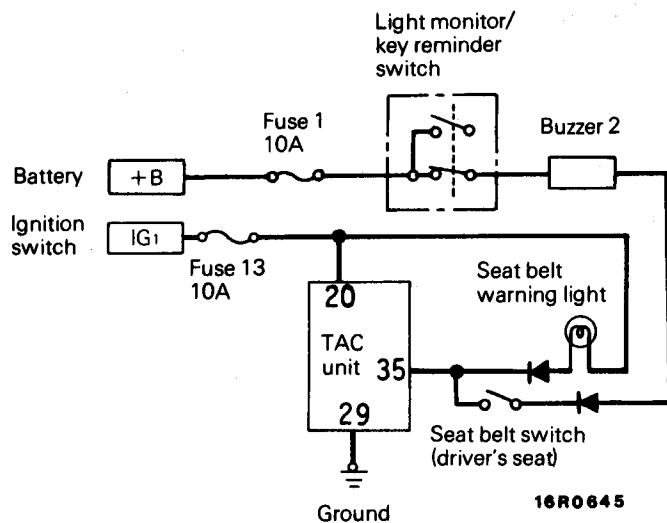
NOTES

1. The * symbol indicates that current flows to the TAC unit and is grounded at TAC unit side.
2. Terminal voltages indicate measurements made with the connector connected to the TAC unit.



TROUBLESHOOTING

CIRCUIT DIAGRAMS



TAC unit terminals

1	-	3	4	-	7	8	9	10	-	22	23	24	25	26	27	-	
-	12	13	14	15	16	17	18	19	20	29	30	31	32	-	-	35	36

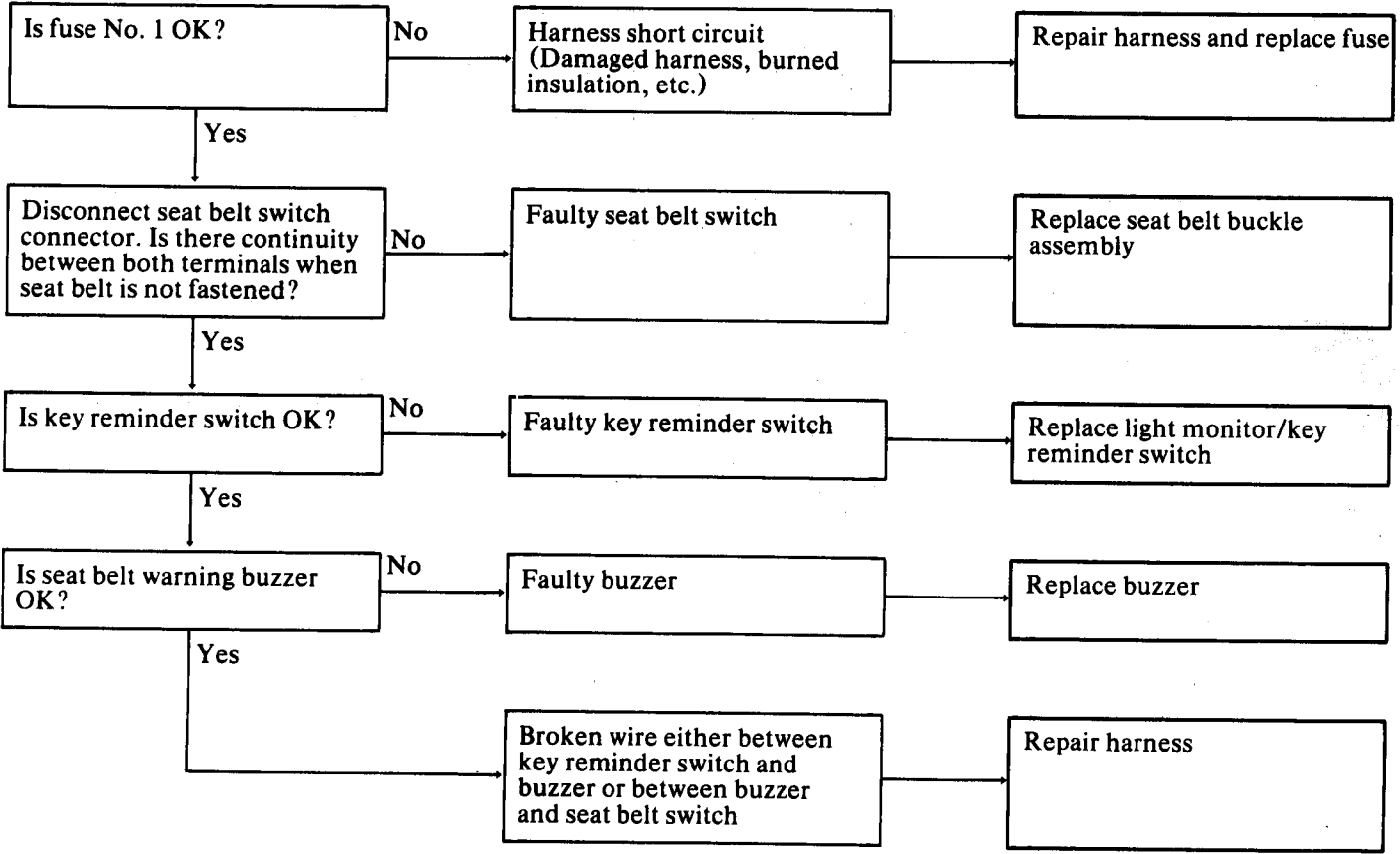
16Y2837



TRUBLE SYMPTOM 1

The seat belt warning buzzer does not sound when the seat belt is not fastened while the ignition key is at "ON". (The warning light blinks on and off.)

Check with the ignition key at "ON"

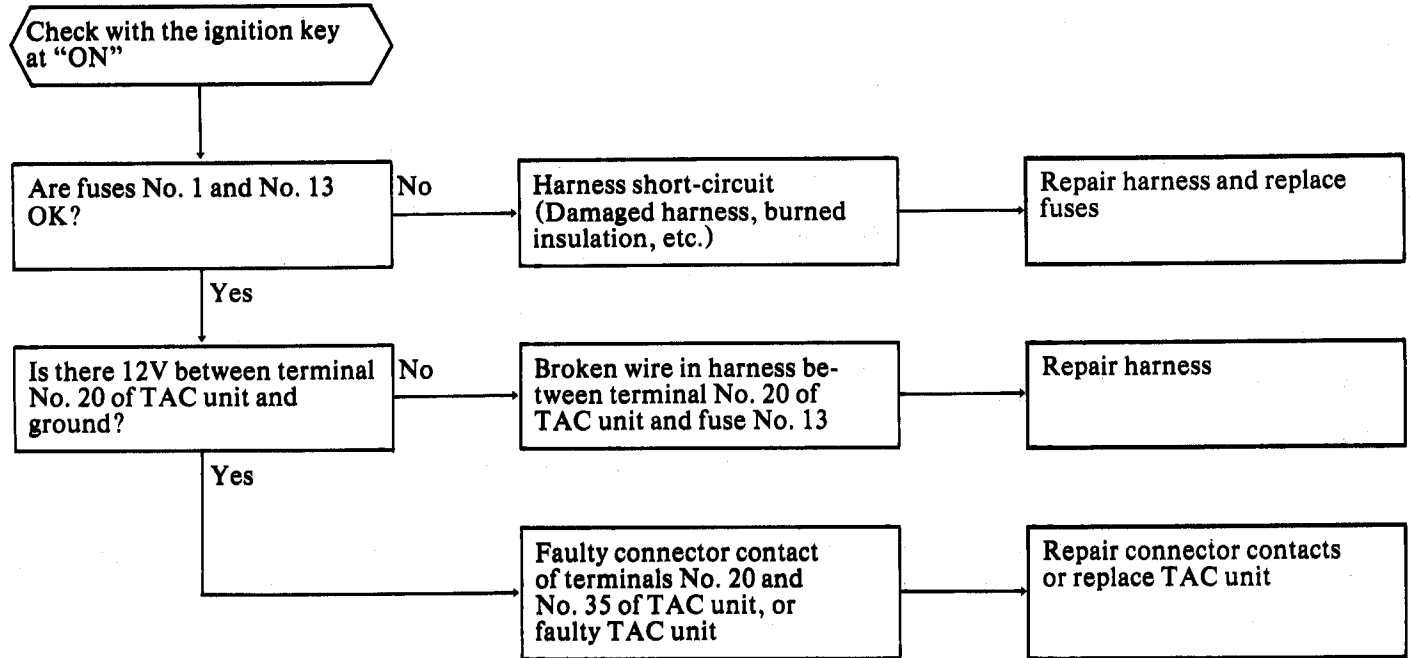




TROUBLESHOOTING

TROUBLE SYMPTOM 2

The seat belt warning buzzer does not sound and the warning light does not blink on and off when the seat belt is not fastened while the ignition key is at "ON"





Audible Warning System

QUICK-REFERENCE TROUBLESHOOTING GUIDE

No.	Problem	TAC unit input/output terminal voltages				Main check points and steps												
		TAC unit terminal no.		Condition for voltage measurement	Terminal voltage (V)		Fuse	TAC unit terminal voltages	Key reminder switch	Driver's door switch	Door switch	Seat belt switch	Inhibitor switch	Parking brake switch	Back-up light switch	Vehicle-speed sensor	Ground point	Harness
		Input	Output		When normal	When malfunction												
1	The audible warning system does not function at all	64		Activate battery voltage	12	0												
		47		—	0	12		4										5
2	The lighting monitor alarm audible warning is not given	64		Activate battery voltage	12	0	1	2										3
		50		Remove the ignition key	12 → 0	Remains at 12		4	5									6
3	The key reminder alarm audible warning is not given	64		Activate battery voltage	12	0	1	2										3
		50		Remove the ignition key	12 → 0	Remains at 12		4	5									6
		53		Open the driver's door	12 → 0	Remains at 12		7	8									9
4	The seat belt alarm audible warning is not given	64		Activate battery voltage	12	0	1	2										3
		52		Turn the ignition key at ON	12	0		4	5									6
		39		Fasten the seat belt	0 → 12	Remains at 0		7			8							9
5	The park position alarm audible warning is not given	64		Activate battery voltage	12	0	1	2										3
		62		Put the shift lever in "P" position	12 → 0	Remains at 12		4				5						6
		53		Open the driver's door	12 → 0	Remains at 12		7	8									9
		63		Vehicle-speed sensor functioning	12 ↔ 0 (Pulse signal)	12 (no change) 0 (no change)		10							11			12
6	The parking brake alarm audible warning is not given	52		Turn the ignition key at ON	12	0	1	2										3
		55		With the ignition key at the ON position, engage the parking brake	12 → 0	Remains at 12		4				5						6
		63		Vehicle-speed sensor functioning	12 ↔ 0 (Pulse signal)	12 (no change) 0 (no change)		7							8			9

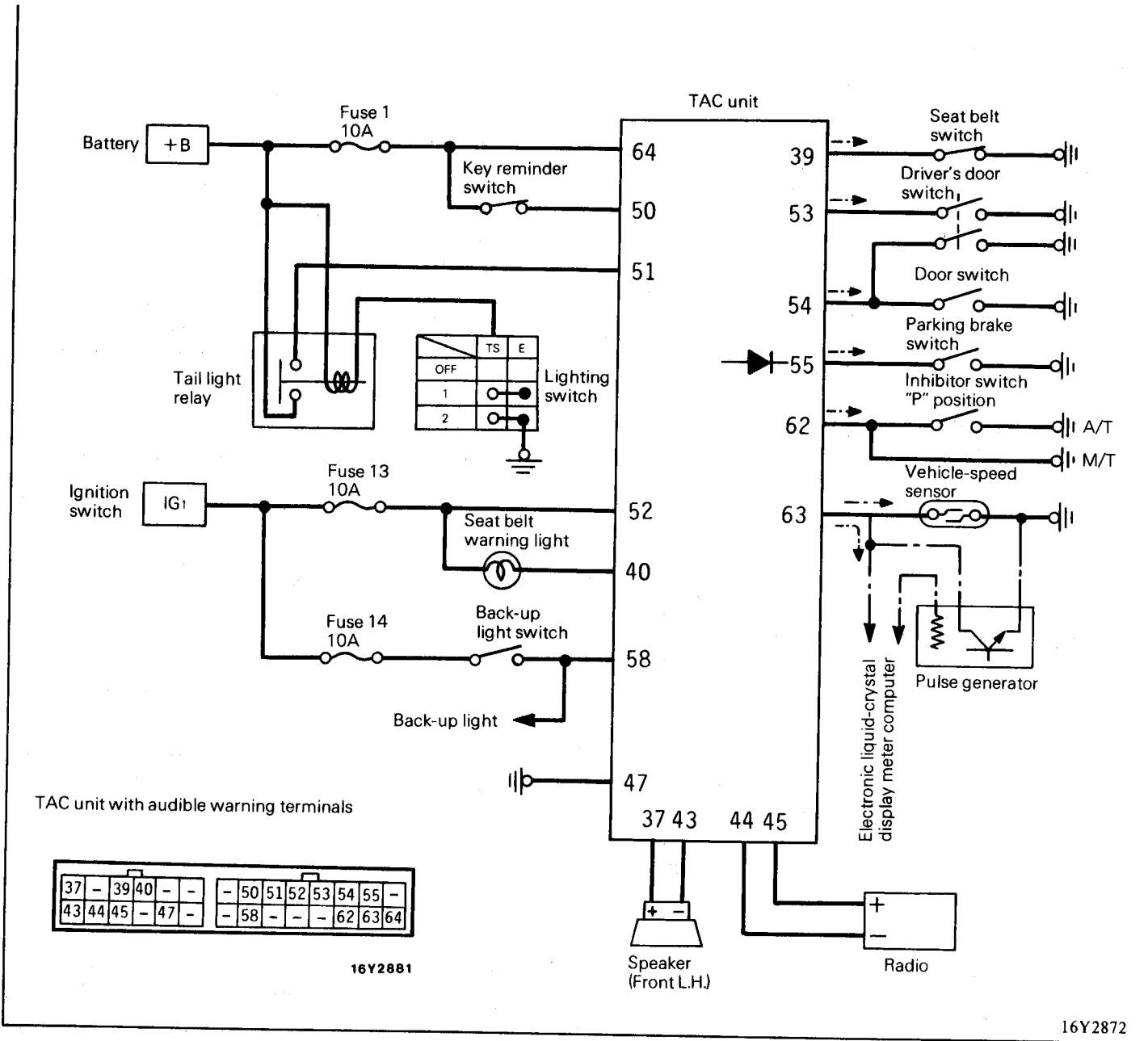


TROUBLESHOOTING

No.	Problem	TAC unit input/output terminal voltages				Main check points and steps												
						TAC unit terminal no.		Condition for voltage measurement	Terminal voltage (V)		Fuse	TAC unit terminal voltages	Key reminder switch	Driver's door switch	Door switch	Seat belt switch	Inhibitor switch	Parking brake switch
		Input	Output	When normal	When malfunction													
7	The door-ajar alarm audible warning is not given	52		Turn the ignition key at ON	12	0	1	2										
		54		Open the door	12 → 0	Remains at 12		4		5								6
		58		Put the shift lever in reverse (R) position	0 → 12	Remains at 0		7						8				9



CIRCUIT DIAGRAMS

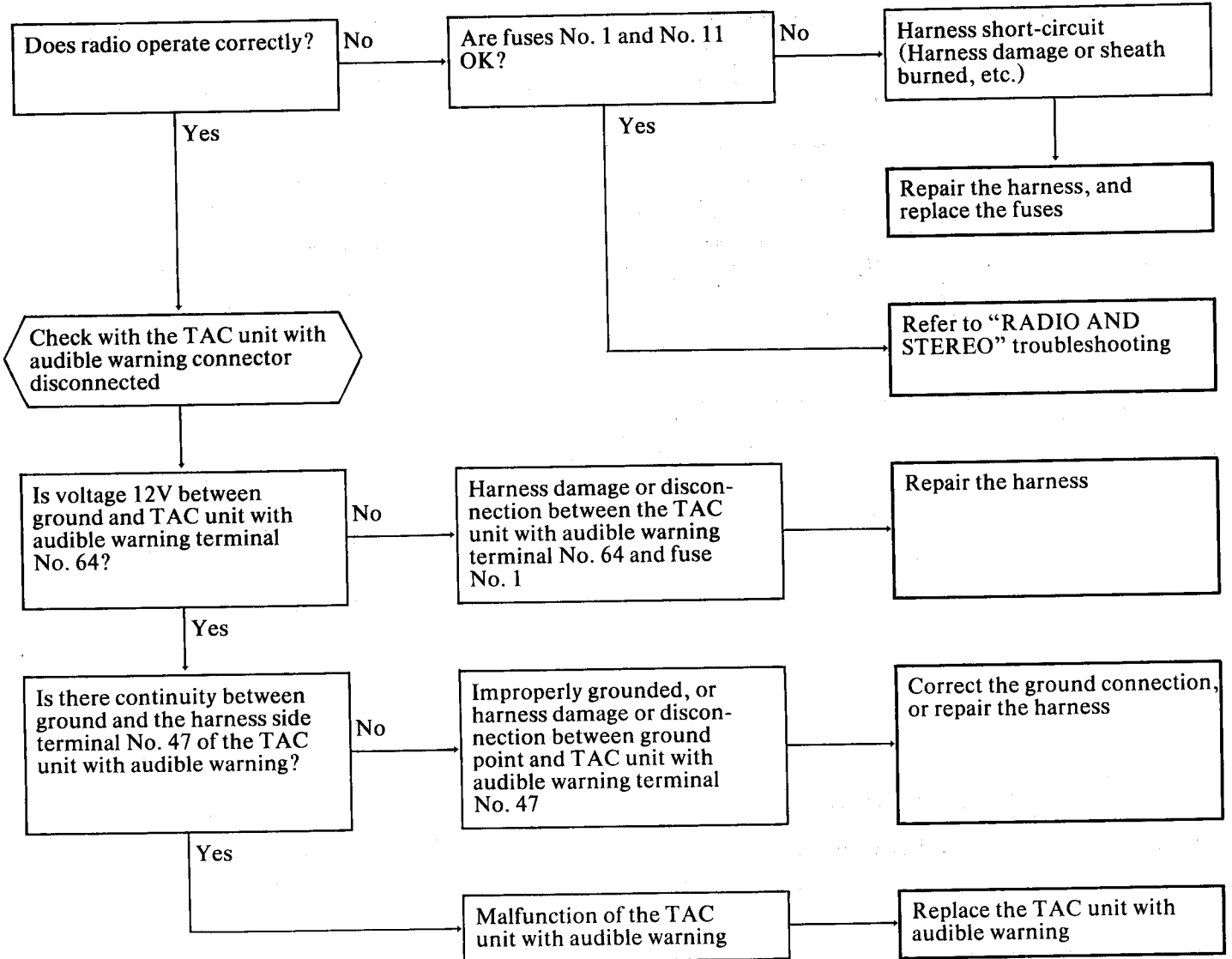




TROUBLESHOOTING

TROUBLE SYMPTOM 1

The audible warning does not function at all

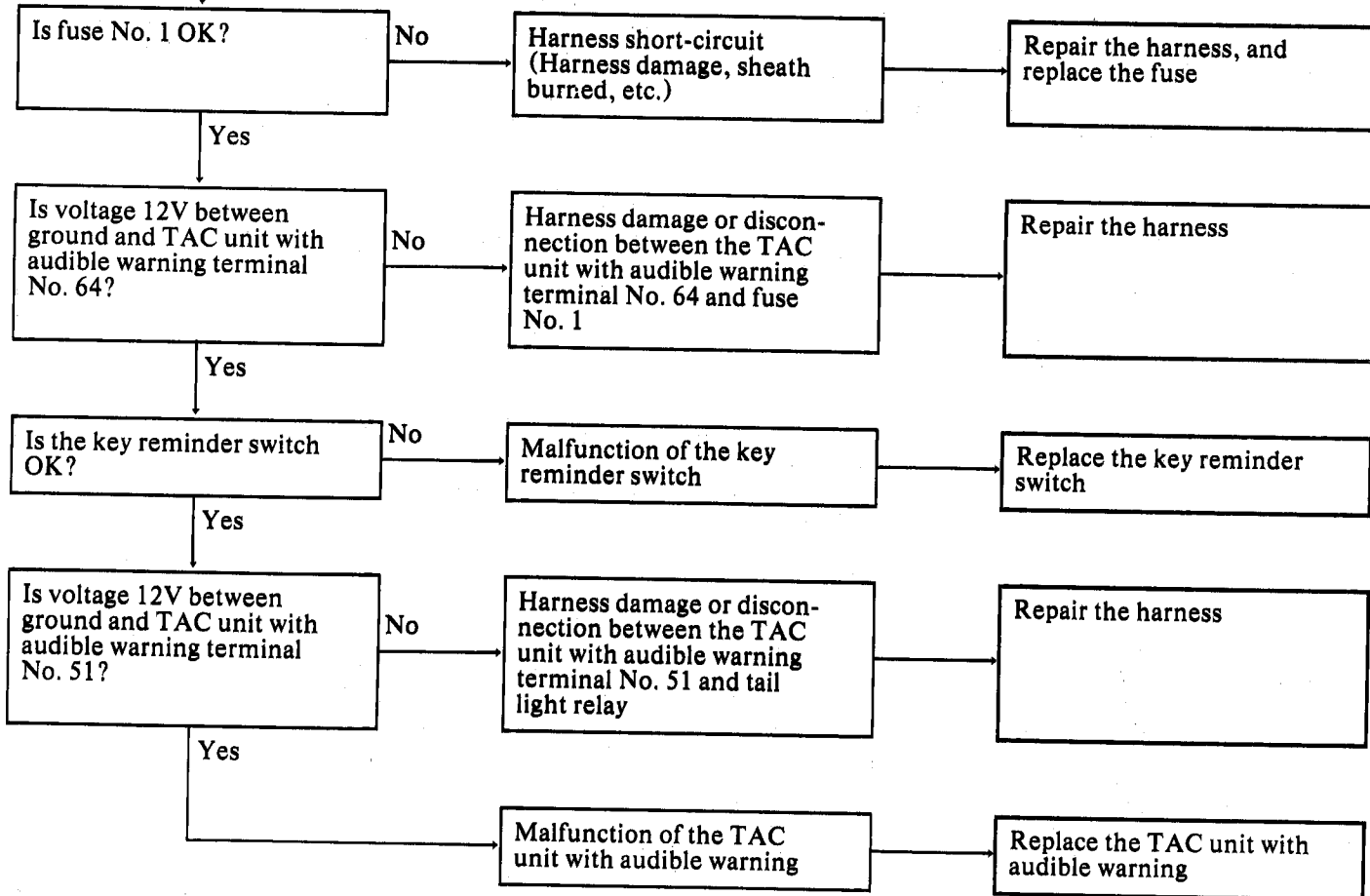




TROUBLE SYMPTOM 2

The lighting monitor alarm audible warning is not given

Check with the lighting switch at "ON" and the ignition key removed





TROUBLESHOOTING

TROUBLE SYMPTOM 3

The key reminder alarm audible warning is not given

Check with the ignition key inserted and at "OFF"

Is fuse No. 1 OK?

No

Harness short-circuit
(Harness damage, sheath
burned, etc.)

Repair the harness and
replace the fuse

Yes

Is voltage 12V between
ground and TAC unit with
audible warning terminal
No. 50?

No

Is the key reminder switch
OK?

No

Replace the key reminder
switch

Yes

Harness damage or discon-
nection between the TAC
unit with audible warning
terminal No. 50 and fuse
No. 1

Repair the harness

Yes

Is there continuity between
ground and the harness side
terminal No. 53 with the TAC
unit with audible warning
connector disconnected and
the driver's door open?

No

Malfunction of driver's
door switch, or harness
damage or disconnection
between door switch and
TAC unit with audible
warning terminal No. 53

Replace the driver's door
switch, or repair harness

Yes

Malfunction of the TAC
unit with audible warning

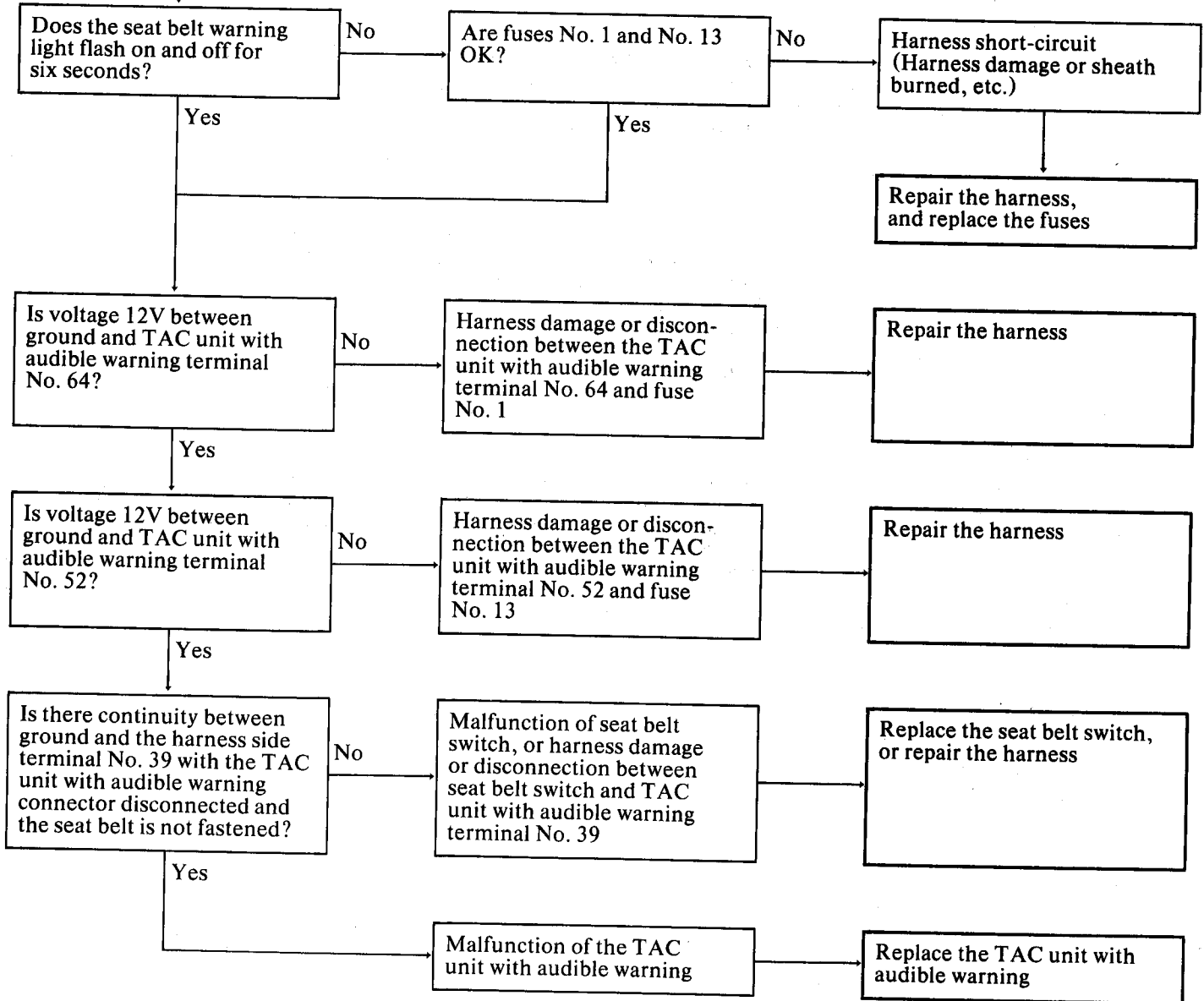
Replace the TAC unit with
audible warning



TROUBLE SYMPTOM 4

The seat belt alarm audible warning is not given

Perform checks with the ignition key at "ON" position

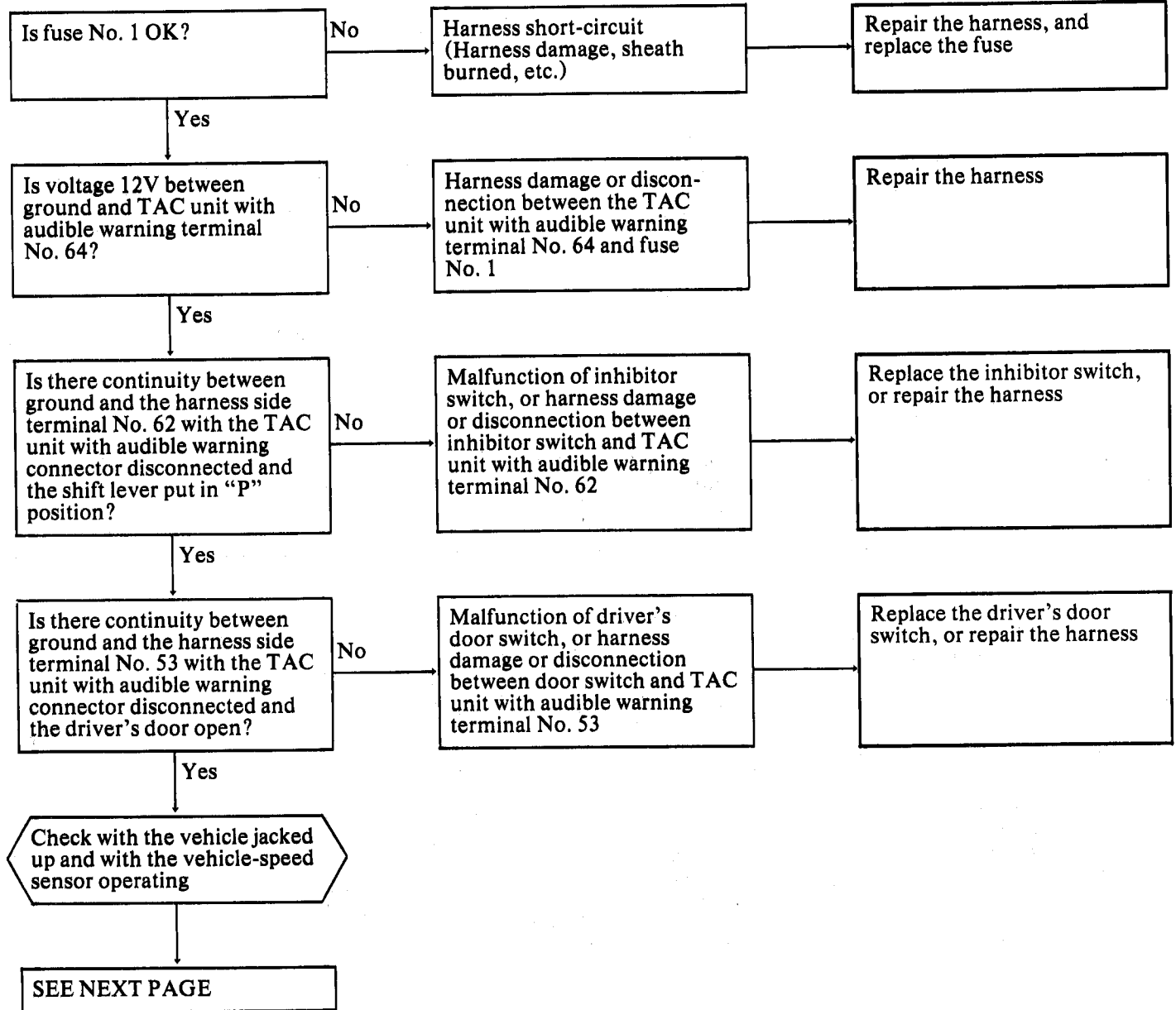


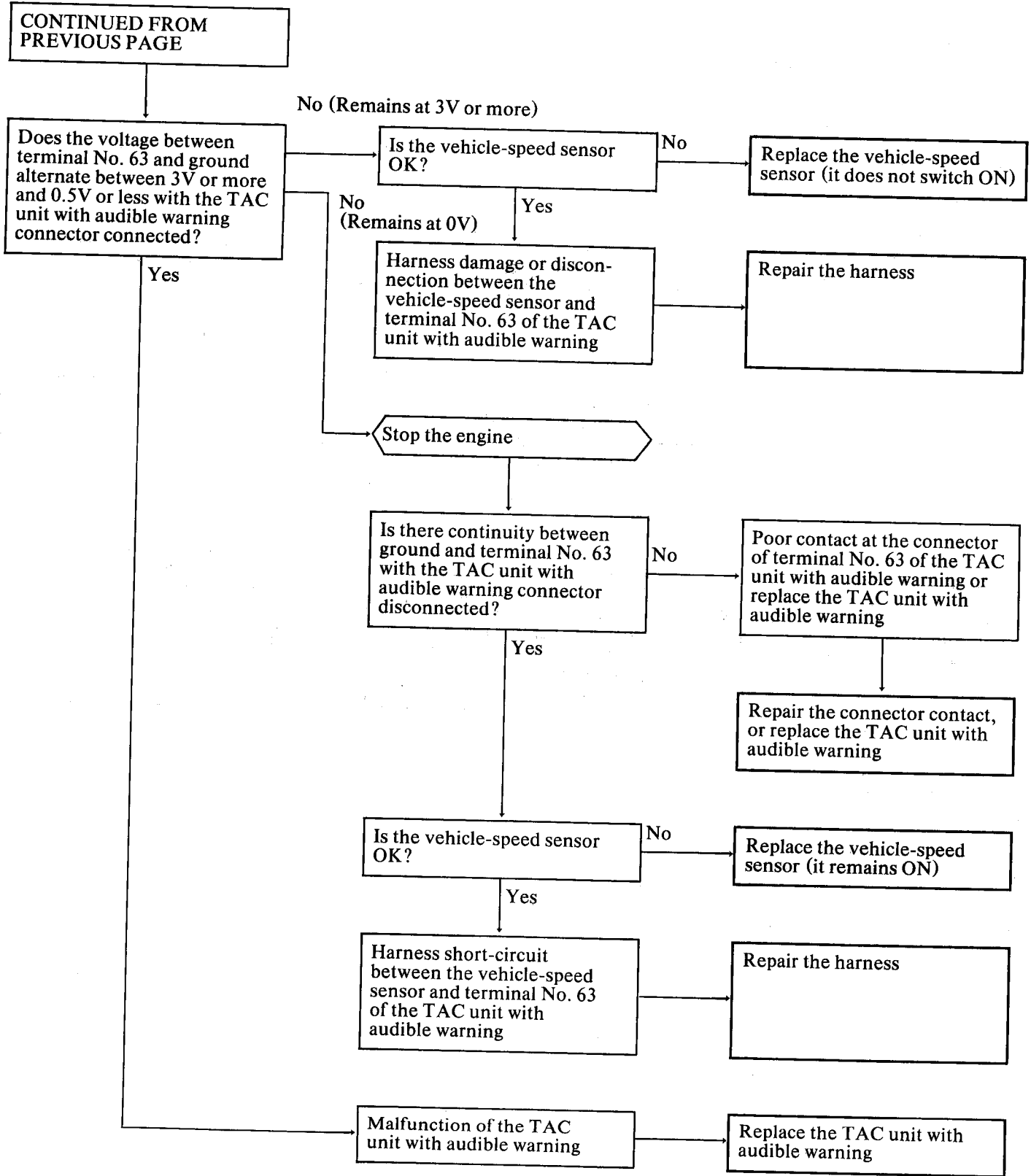


TROUBLESHOOTING

TROUBLE SYMPTOM 5

The park position alarm audible warning is not given

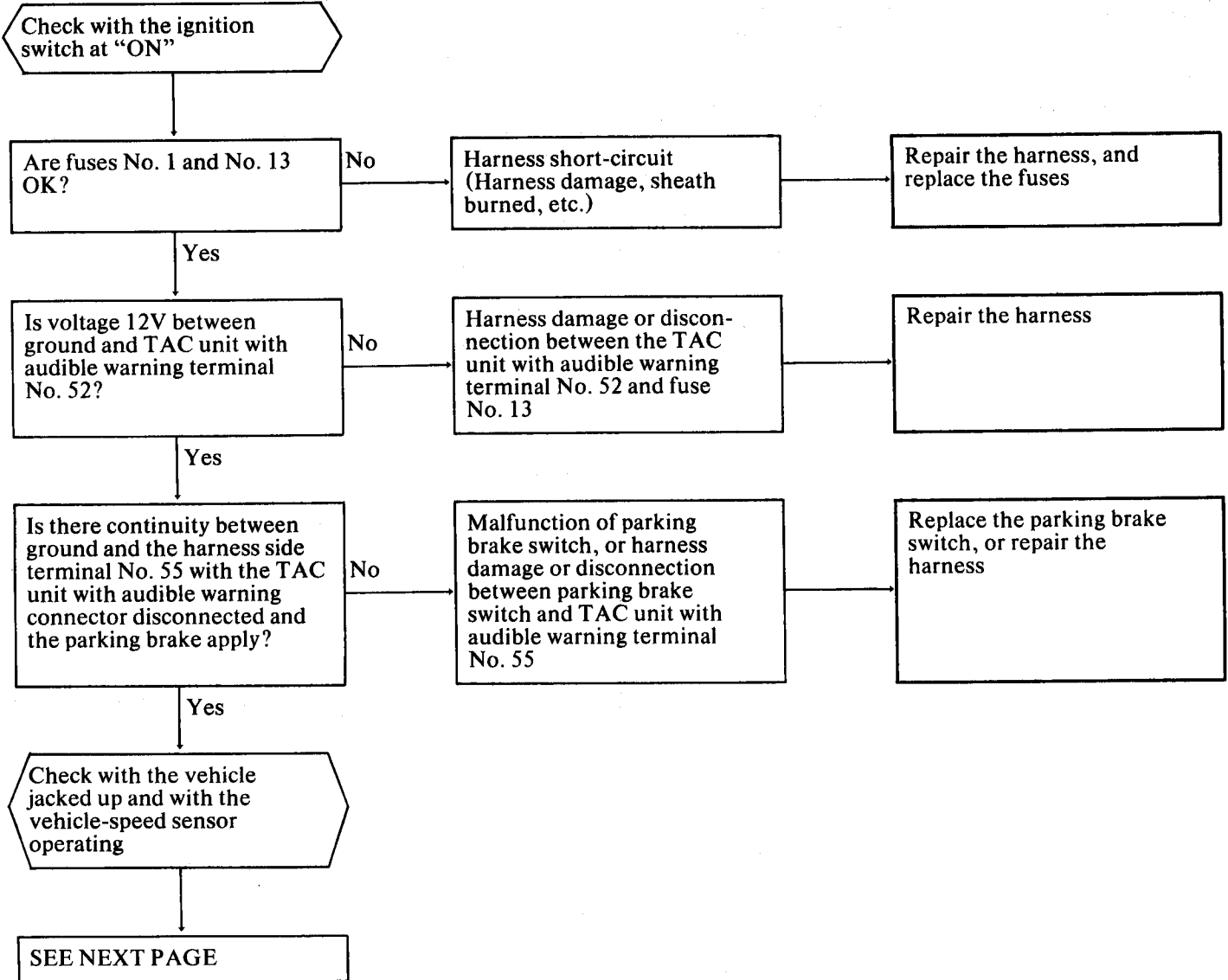


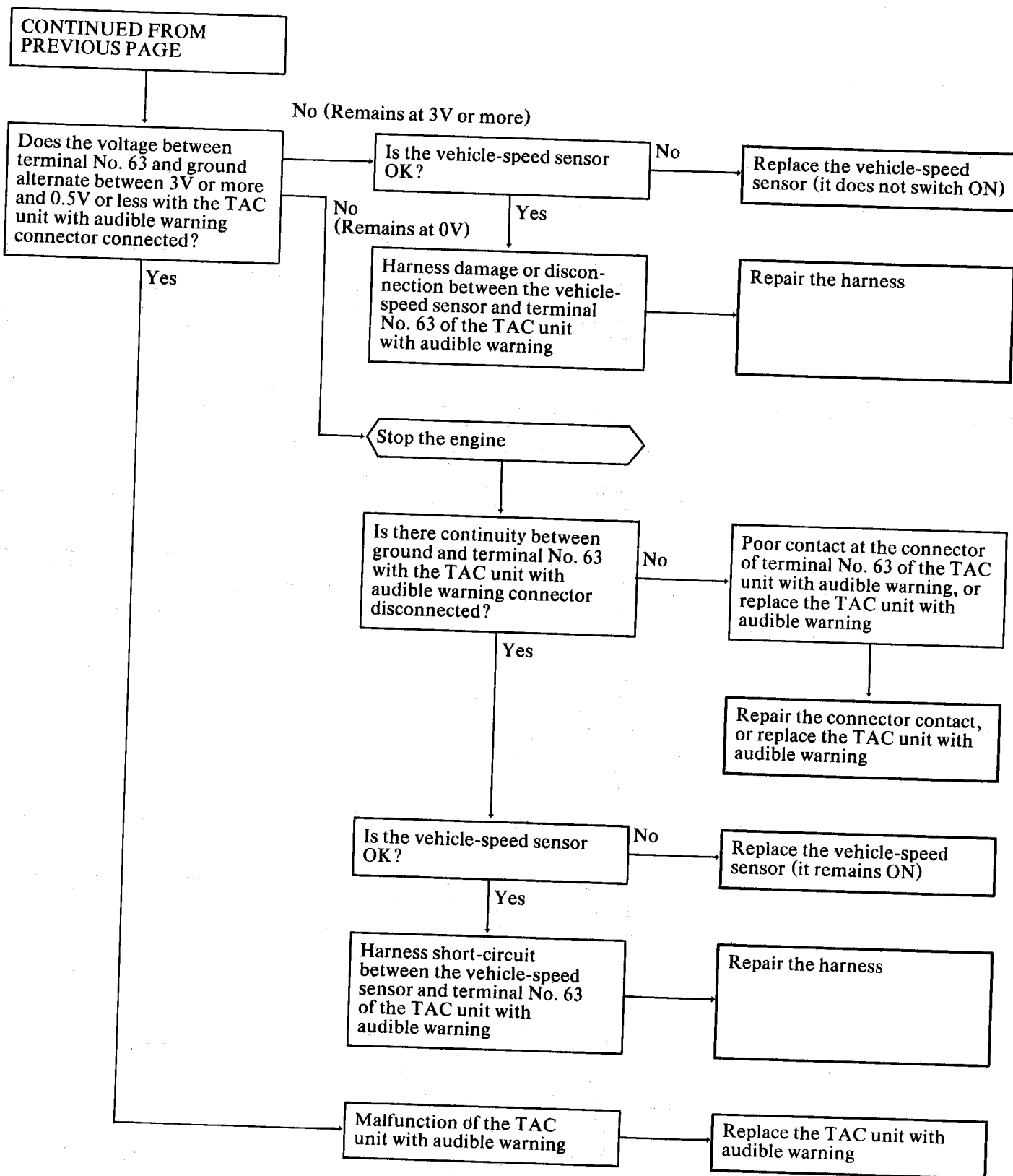




TRUBLE SYMPTOM 6

The parking brake alarm audible warning is not given



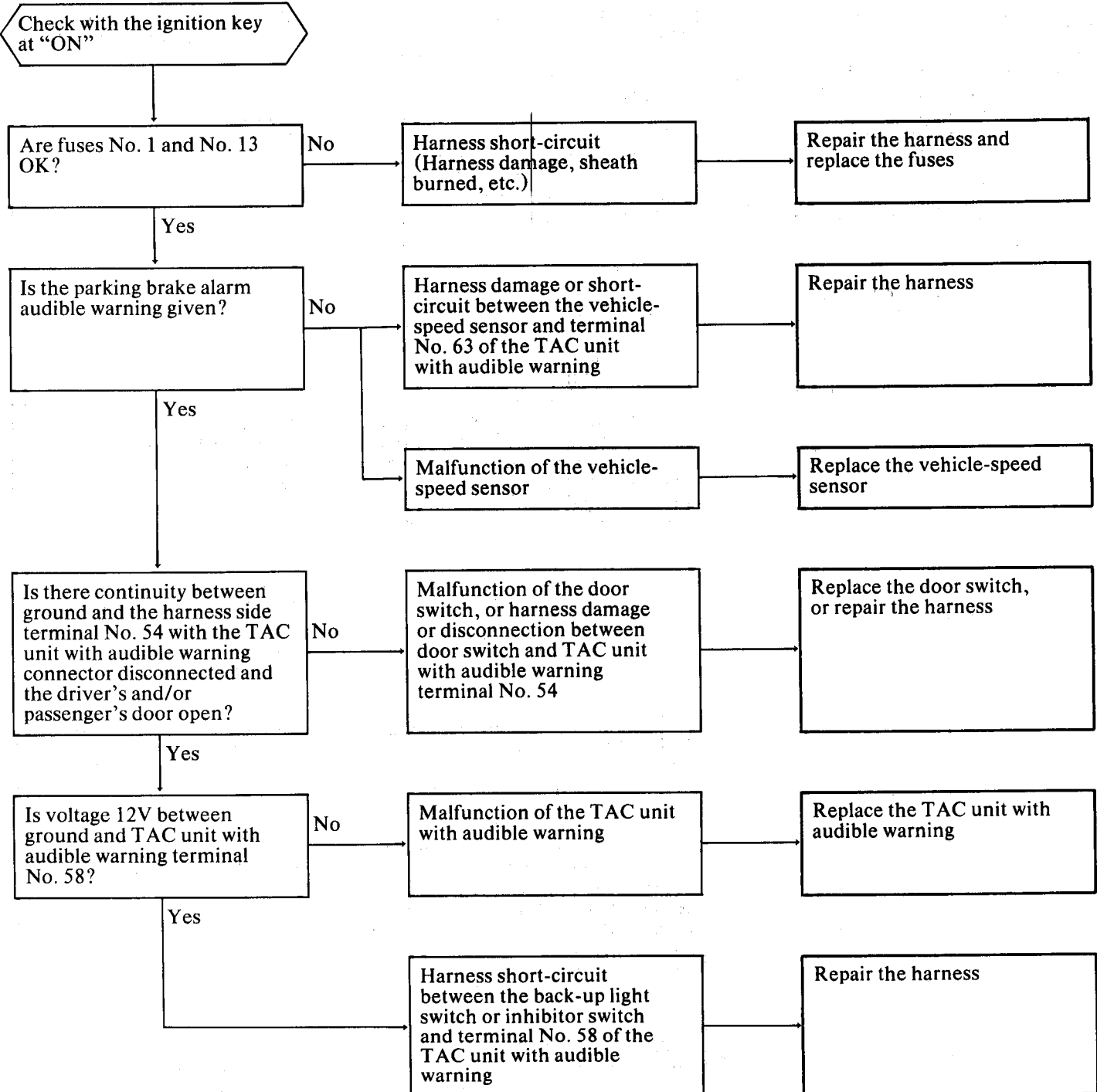




TROUBLESHOOTING

TROUBLE SYMPTOM 7

The door-ajar alarm audible warning is not given

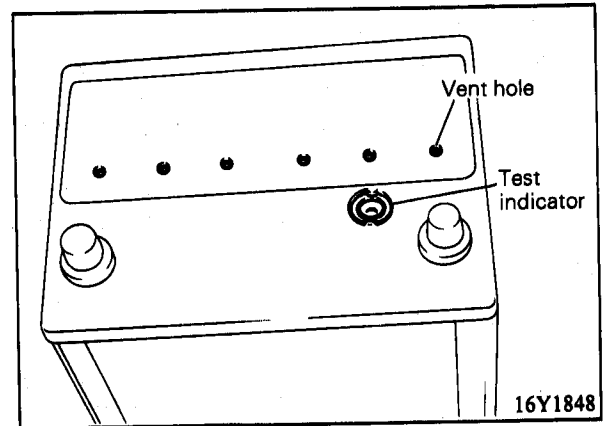




BATTERY

General Information

The maintenance-free battery is, as the name implies, totally maintenance free and has no removable battery cell caps. Water never needs to be added to the maintenance-free battery. The battery is completely sealed, except for small vent holes in the cover. These vent holes allow what small amount of gasses are produced in the battery to escape. The special chemical composition inside the battery reduces the production of gas to an extremely small amount at normal charging voltages. The battery contains a visual test indicator which identifies the condition of the battery.



Battery Visual Inspection

1. Make sure ignition switch is in OFF position and all battery feed accessories are Off.
2. Disconnect battery cables at battery (negative first).
3. Remove battery from vehicle.

Caution

Care should be taken in the event battery case is cracked or leaking to protect hands from the electrolyte. A suitable pair of rubber gloves (not the household type) should be worn when removing battery by hand.

4. Inspect battery carrier for damage caused by loss of acid from battery. If acid damage is present it will be necessary to clean area with a solution of clean warm water and baking soda. Scrub area with a stiff bristle brush and wipe off with a cloth moistened with ammonia or baking soda in water.
5. Clean top of battery with same solutions as described in Step 4.
6. Inspect battery case and cover for cracks. If cracks are present battery must be replaced.
7. Clean the battery posts with a suitable battery post cleaning tool.
8. Clean the inside surfaces of the terminal clamps with a suitable battery terminal cleaning tool. Replace damaged or frayed cables and broken terminal clamps.
9. Install the battery in vehicle.
10. Connect cable clamps to battery post making sure top of clamp is flush with top of post.
11. Tighten the clamp nut securely.
12. Coat all connections with light mineral grease after tightening.



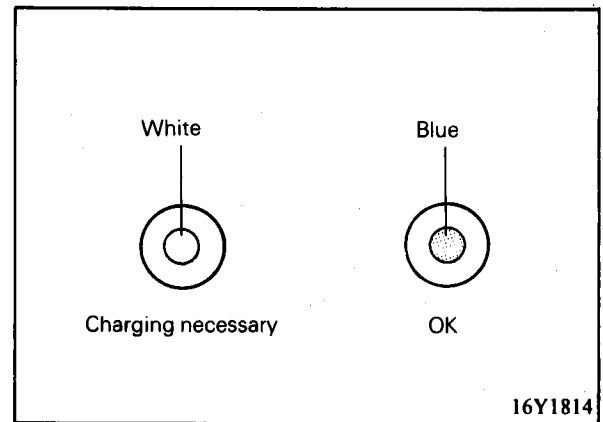
SERVICE ADJUSTMENT PROCEDURES

Charge Rate

If the test indication is white, the battery should be charged as outlined below. When the dot appears or when maximum charge shown below is reached, charging should be stopped.

Charge Rate Chart

Battery	NX100-S6(S)-MF (420 amps)	
Slow charging	5 amps 10 hrs.	10 amps 5 hrs.
Fast charging	20 amps 2.5 hrs.	30 amps 1.5 hrs.



CHARGING SYSTEM

Handling Precautions

1. Make sure that alternator, battery, etc. are connected properly. If battery is connected in reverse polarity, large current will flow from battery to alternator, and damage to diodes or wiring harness could result.
2. If checks are made with a high tension tester, damage to diodes could result.
3. Do not disconnect battery terminals while engine is running. Surge voltage will be produced which could cause deterioration of diodes or transistors.
4. When battery is to be quick-charged, be sure to disconnect battery terminals beforehand. If terminals are not disconnected, damage to diodes could result.
5. When a steam cleaner is used, make sure that alternator is not directly exposed to steam.



Troubles in charging system could be due to improper fan belt tension, wiring, connector, operating condition or battery life. A defective electronic voltage regulator is not always the cause. What is important in troubleshooting of charging system, therefore, is to determine whether trouble is due to a run-down or overcharged battery. Then check battery condition before checking alternator. In this manner, a fault in circuit other than alternator might also be detected.

This alternator has an F-terminal for checking, shown in the illustration (6EL068), which is provided in order to make troubleshooting easier. The (F) in the circuit in the illustration (1EL042) is the F-terminal for checking. The voltage of this terminal can be checked from outside the alternator through the access hole provided in the rear bracket.

The voltage readings of the F-terminal indicate as follows:

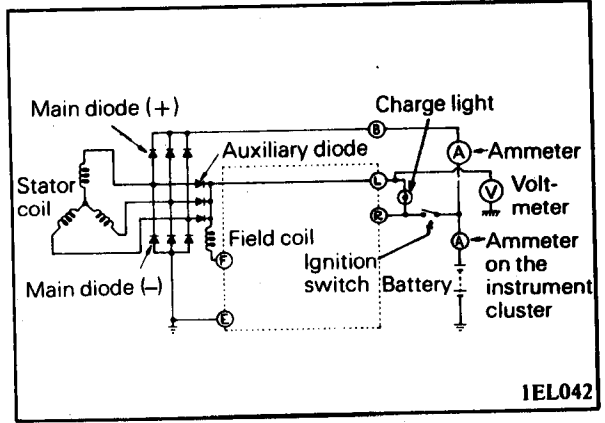
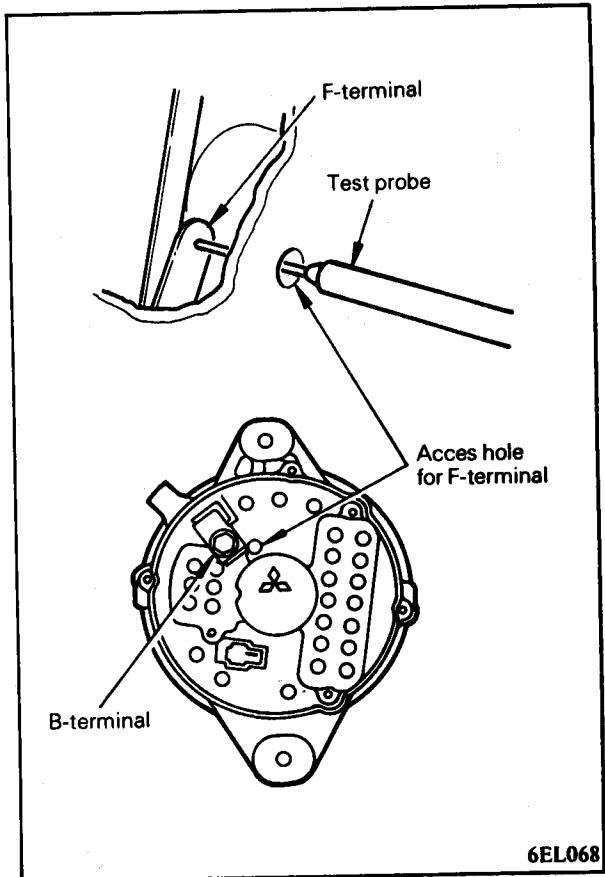
1. Ignition switch at "OFF"

Normal if voltage is 0 V. If voltage is close to battery voltage, the (+) diode is short-circuited, and, moreover, there is a malfunction of the electronic voltage regulator. If the voltage is 0.5 to 2.0 V, the (+) diode is short-circuited.
2. Ignition switch "ON"

Under normal conditions, only voltage equivalent to the voltage drop (0.5 to 2.0 V) of the power transistor within the electronic voltage regulator will appear. If a voltage close to battery voltage is noted, current is not flowing to the field coil, which means that there is a malfunction of the electronic voltage regulator. In this instance, there should be no voltage generation, so start the engine and confirm that there is none. Also check to be sure that field current flows and there is voltage generation at the instant when, with the engine running, the F-terminal for checking is grounded to the rear bracket. If the voltage reading is 0 V, the possible causes could be wiring damage of the field coil, poor contact of the brushes, a malfunction of the electronic voltage regulator, poor contact of the connector, and/or poor contact in the ignition switch. In any case, the alternator will not generate. In addition, if the negative (-) brush is grounded, or if there is a short-circuit inside the electronic voltage regulator, the voltage of the F-terminal will be 0 V, which means that there is an overcharge.

3. While engine is running

Under normal conditions, the voltage will increase as the engine rpm is increased. If, with the battery fully charged, there is no load on the alternator, voltage will be close to output voltage. If the voltage remains low even though the engine rpm is increased, the regulator has not yet reached the operating voltage, or current is continuing to flow to the regulator. If the latter, an overcharge will result.





Current Output Test

1. Place the ignition switch at OFF.
2. Disconnect the battery ground cable.
3. Disconnect the cable from B-terminal of the alternator and connect a 60A ammeter between the B-terminal and cable.
4. Connect a voltmeter between B (+) terminal and ground (-).
5. Set the engine tachometer.
6. Reconnect battery ground cable to the battery. The voltmeter should indicate the battery voltage.
7. Start the engine.
8. Turn on all electrical loads, accelerate the engine to the 2,500 to 3,000 rpm and read the output current.

Over 90% of nominal out put:	Alternator is good
70 to 90% of nominal output:	Recheck output current
Less than 70% of nominal output:	Alternator defective

NOTES

1. After the engine has been started, the ammeter indication will drop as the battery reaches the fully charged condition. Read the indication at its maximum value while increasing the engine revolution.
2. If the battery is in fully charged condition, current will not flow, resulting in no flow of the nominal output current. In this case, measure the output current after the battery has been discharged by engine cranking or increase the electrical load by adding new parallel circuits.

Regulated Voltage Test

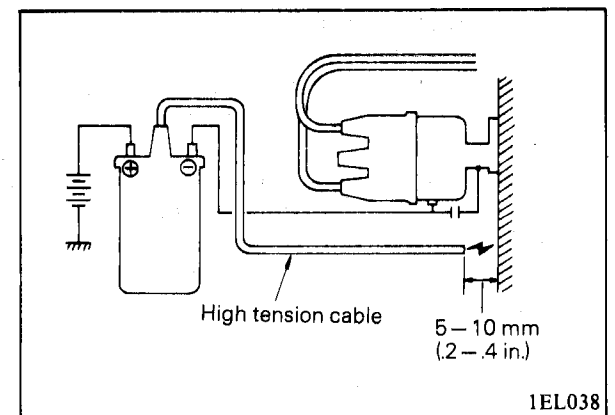
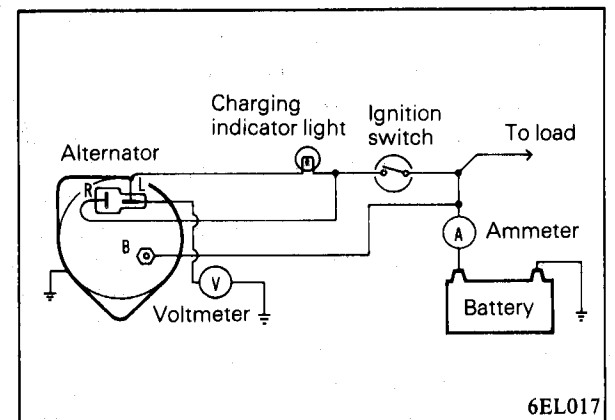
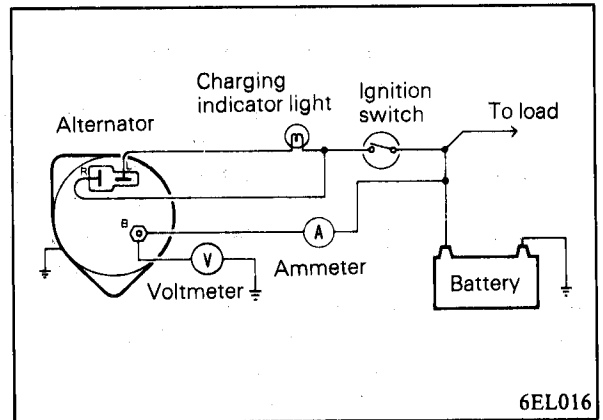
1. Turn ignition switch OFF.
2. Disconnect battery ground cable.
3. Connect a voltmeter between L-terminal of alternator and ground.
4. Set the engine tachometer.
5. Connect battery cable to battery.
6. Start the engine.
7. Increase the engine speed to the specified speed and measure the regulated voltage.

If the voltmeter indication is less than the battery voltage, the alternator can be in non-generating condition. Inspect the alternator and regulator to locate the cause.

SPARK TEST WITHOUT CRANKING

If spark test is performed by cranking while the catalyst is hot, unburned gas will be supplied to the catalyst, and this is not desirable to the catalyst.

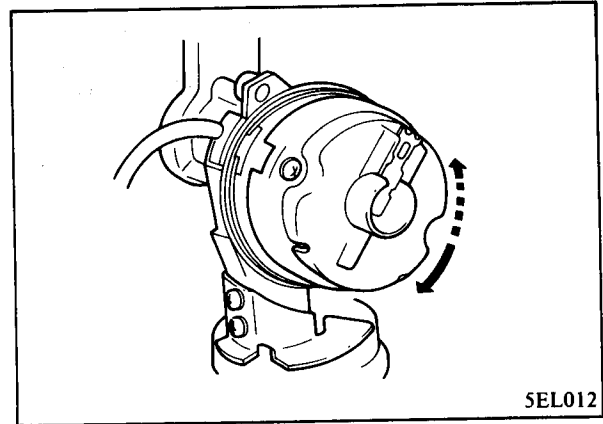
In such a case, use the following methods which allow spark test to be performed without cranking.





Method 1

Hold the high tension cable about 5 to 10 mm (.2 to .4 in.) away from cylinder block of engine. (1EL038)
 Then remove the distributor cap, turn the rotor in the normal direction (clockwise) by hand until it is blocked, and then return it to its original position. (5EL012)
 Spark can be produced by moving the projection of the signal rotor close to the stator in this manner.

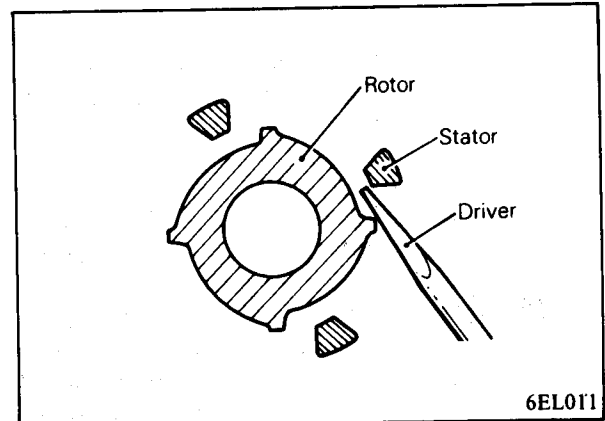


Method 2

Remove the cap and rotor, quickly move a screwdriver in and out through the gap between the governor base and housing, and spark can be produced as in Method 1. (6EL011)

Method 3

Remove the distributor from the engine (do not disconnect the primary cable). While holding the distributor housing in contact with the engine (to make a ground circuit), turn the distributor shaft, and spark can be produced as when the engine is cranked.



IGNITION TIMING ADJUSTMENT

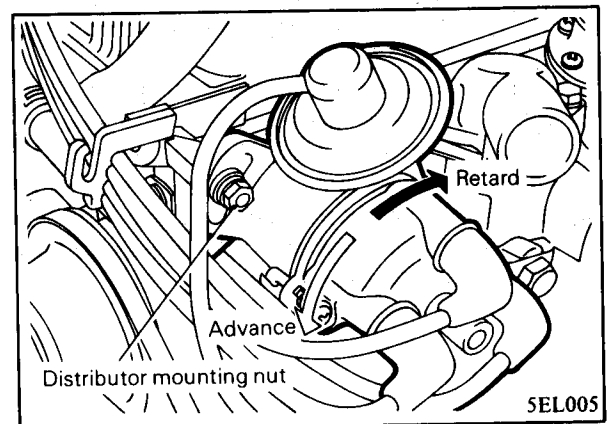
Adjustment condition

Coolant temperature: 80–90°C (170–190°F)
 Lights and all accessories: Off
 Transmission: N (Neutral)

1. Start engine and run at curb idle speed.
2. Connect tachometer and timing light.
3. Check basic ignition timing and adjust if necessary.

Ignition timing $10 \pm 2^\circ$ BTDC

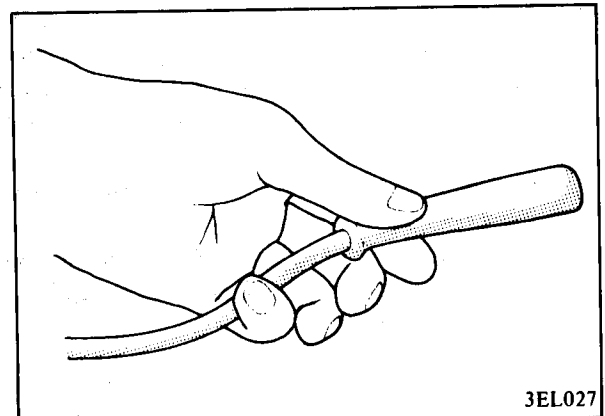
4. To adjust ignition timing, loosen distributor mounting nut and turn distributor housing.
5. After adjustment, securely tighten mounting nut.



SPARK PLUGS AND CABLES

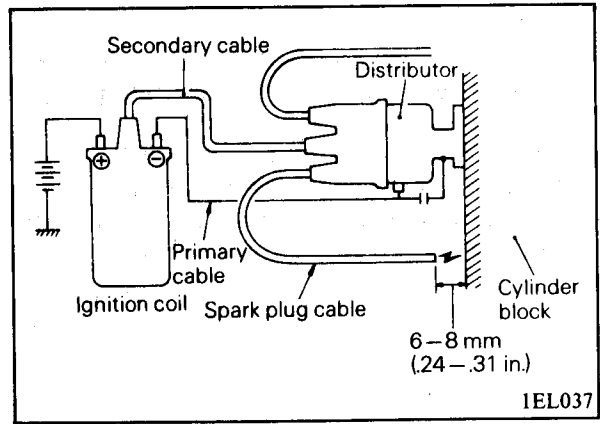
Spark Plug Cable Test

1. Disconnect spark plug cable from spark plug.
 When spark plug cable is removed, be sure to pull by the cable cap. If spark plug is removed by pulling on cable only, open circuit might result.



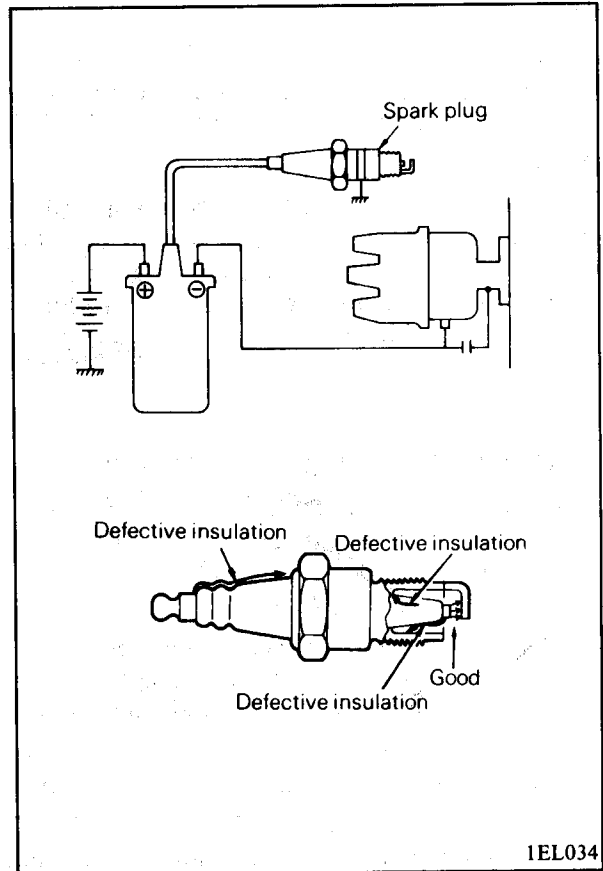


2. Hold the spark plug cable about 6–8 mm (.24–.31 in.) away from engine proper (grounding portion such as cylinder block) and crank engine to verify that sparks are produced.



Spark Plug Inspection and Test

1. Remove the spark plugs from the engine.
2. Visually check the spark plugs for the following and replace if defective.
 - (1) Broken insulator
 - (2) Worn electrode
 - (3) Deposited carbon. Use a plug cleaner for cleaning. Clean porcelain insulator above shell as well.
 - (4) Damaged or broken gasket
 - (5) Burnt condition of porcelain insulator at spark gap
If black carbon deposit is evident, probable cause is too rich a fuel mixture or extremely low air intake. Misfiring due to excessive spark gap is also suspected. If insulator is burnt white, too lean a fuel mixture, excessively advanced ignition timing, improperly tightened plug, etc. are suspected.
3. Connect the spark plug to the high tension cable, ground outer electrode (main body), and crank engine. In the atmosphere, only short sparks are produced because of small discharge gap. If the spark plug is good, however, sparks will occur in discharge gap (between electrodes). In a defective spark plug, no sparks will occur because of leak of insulation puncture.

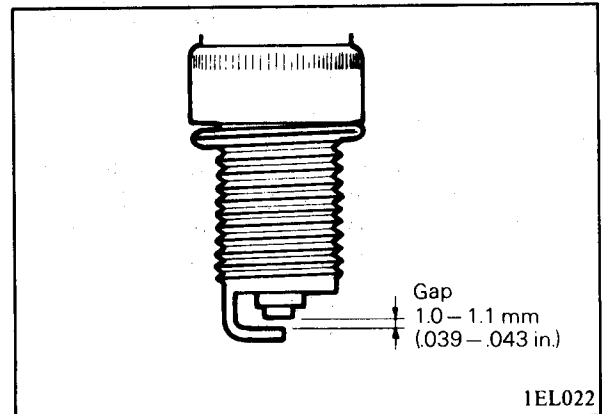


4. Check plug gap with plug gap gauge. If it is not within specified limit, adjust by bending ground electrode. Make sure that the gap of even a new spark plug is checked before spark plug is mounted to engine.

Spark plug gap 1.0–1.1 mm (.039–.043 in.)

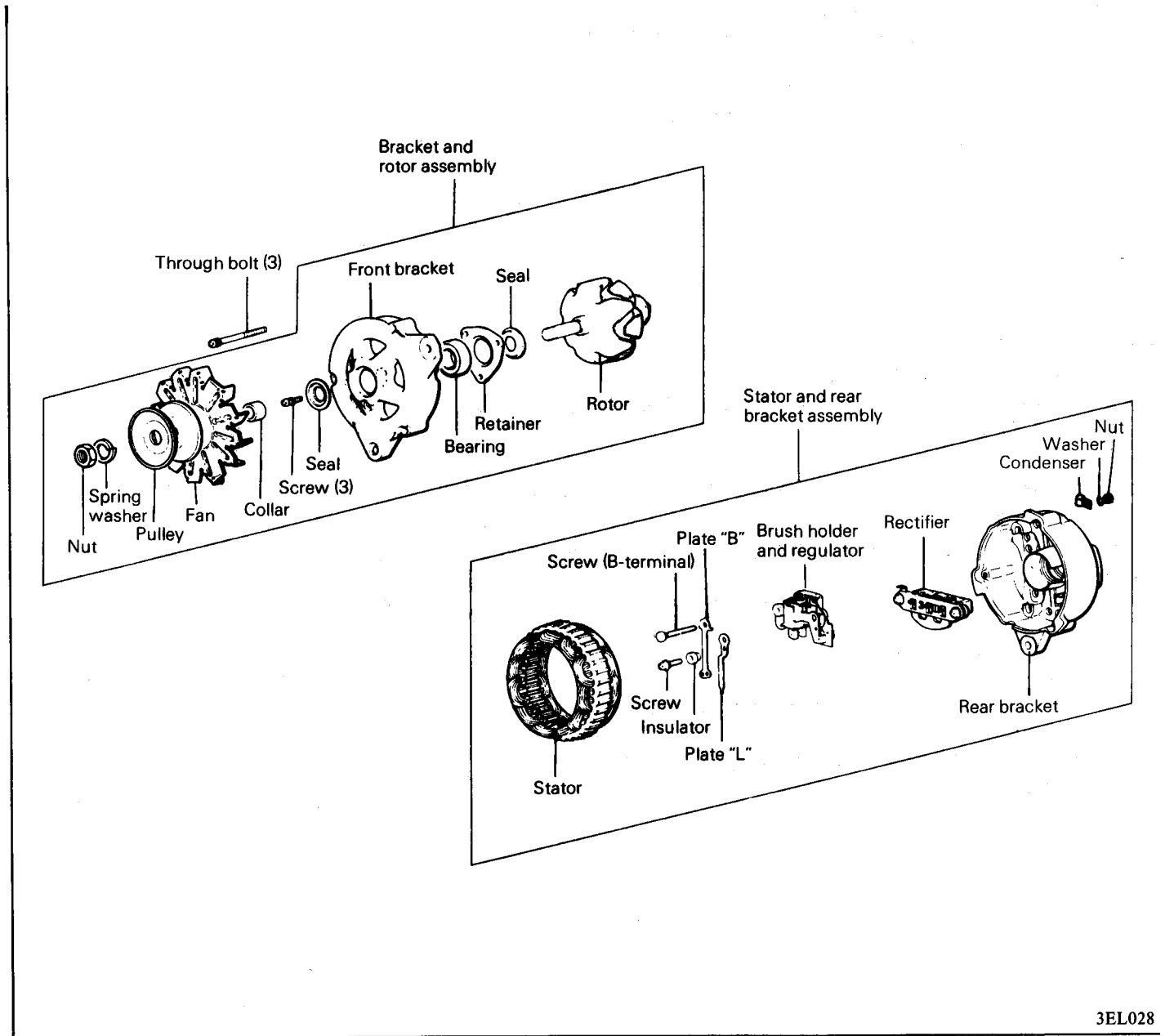
5. Install the spark plug and tighten to the specified torque. If it is overtorqued, damage to threaded portion of cylinder head might result.

Spark plug 20–29 Nm (15–21 ft.lbs.)





COMPONENTS



3EL028



REMOVAL

1. Disconnect battery ground cable.
2. Remove the drive belt. See “Cooling system”, GROUP 7, for detailed procedure.
3. Disconnect wiring and connector from the alternator.
4. Remove the brace bolt and support bolt and remove alternator from engine.

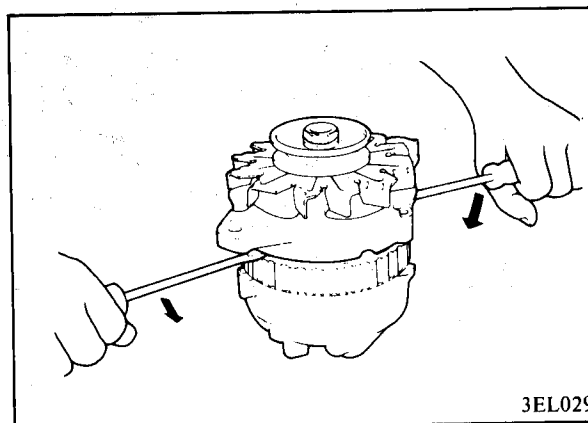
DISASSEMBLY

1. Remove three through bolts.
2. Insert plain screwdriver between front bracket and stator core and pry downward.

Caution

Do not insert screwdriver too deep, as there is danger of damage to stator coil.

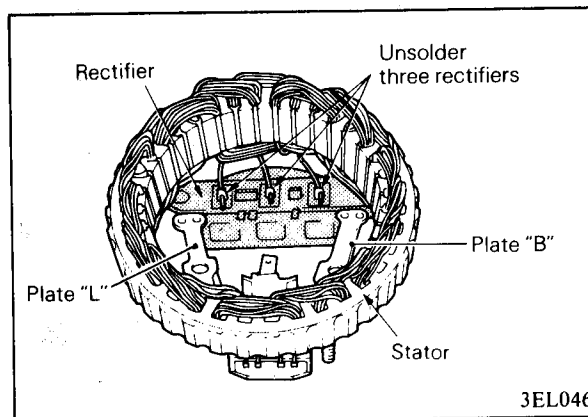
3. Clamp the rotor in a vise with pulley side up (protect rotor from vise jaws).
4. Remove pulley nut. Then remove spring washer, pulley, fan and collar.
5. Remove front bracket and two seals.
6. Remove the rotor from vise.
7. Remove the nut from B-terminal and remove the washer and condenser.
8. Remove the brush holder screw and rectifier screws.
9. Remove the stator assembly from the rear bracket.



10. When stator is to be removed, unsolder three stator leads soldered to main diodes on rectifier.

Cautions

1. When soldering or unsoldering, use care to make sure that heat of soldering iron is not transmitted to diode for a long period. Finish soldering or unsoldering in as short a time as possible.
2. Use care that no undue force is exerted to leads of diodes.
11. When separating rectifier from brush holder, unsolder two plates soldered to rectifier.





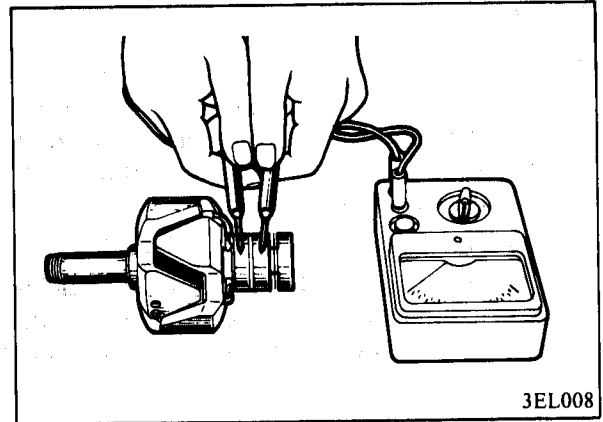
INSPECTION

Rotor

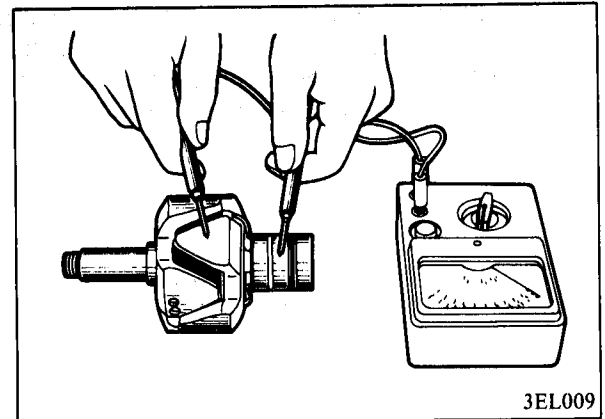
1. Check rotor coil for continuity. Check to ensure that there is continuity between slip rings.

Resistance value 2.5–4 Ω

If resistance is extremely small, it means that there is a short. If there is no continuity or if there is short circuit, replace rotor assembly.

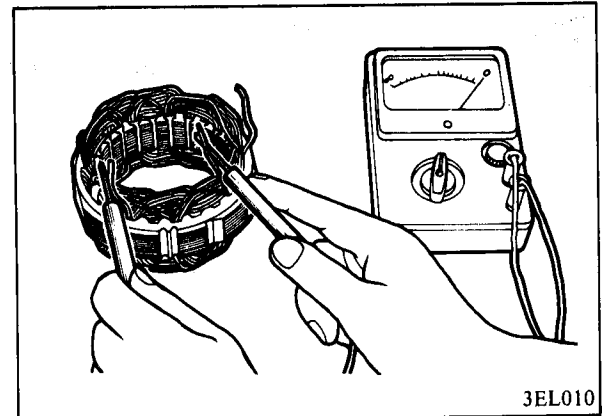


2. Check rotor coil for grounding. Check to ensure that there is no continuity between slip ring and core. If there is continuity, replace rotor assembly.

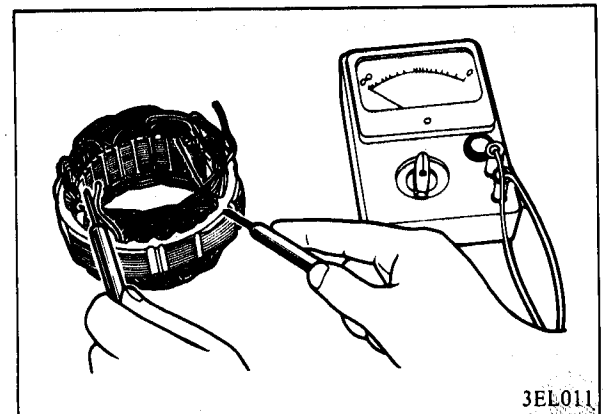


Stator

1. Make continuity test on stator coil. Check to ensure that there is continuity between coil leads.
- If there is no continuity, replace stator assembly.



2. Check coil for grounding. Check to ensure that there is no continuity between coil and core. If there is continuity, replace stator assembly.





Rectifier

1. (+) HEATSINK ASSEMBLY TEST

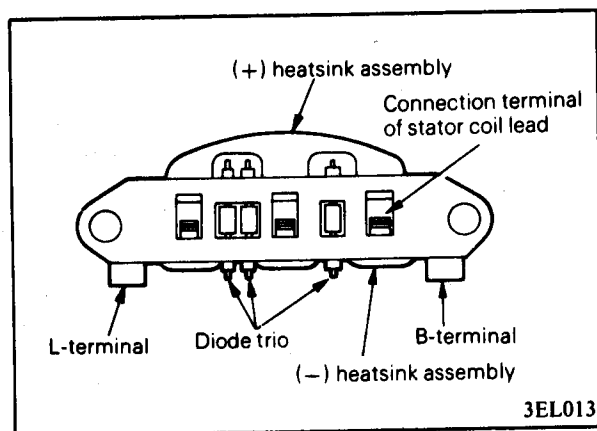
Check for continuity between (+) heatsink and stator coil lead connection terminal with a circuit tester. If there is continuity in both directions, diode is shorted. Replace rectifier assembly.

2. (-) HEATSINK ASSEMBLY TEST

Check for continuity between (-) heatsink and stator coil lead connection terminal. If there is continuity in both directions, diode is shorted, and rectifier assembly must be replaced.

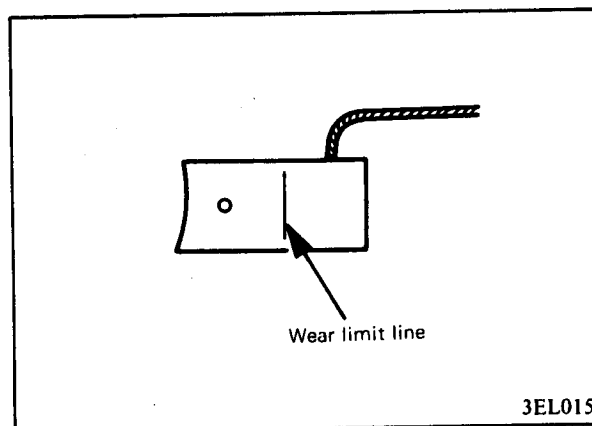
3. DIODE TRIO TEST

Check three diodes for continuity by connecting a circuit tester to both ends of each diode. If there is continuity or no continuity in both directions, diode is defective and heatsink assembly must be replaced.

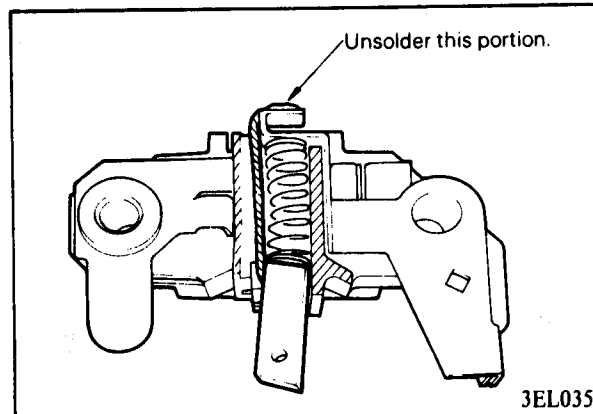


BRUSH REPLACEMENT

1. Brush worn down to wear limit line should be replaced.



2. If pigtail is unsoldered, brush and spring will come off.

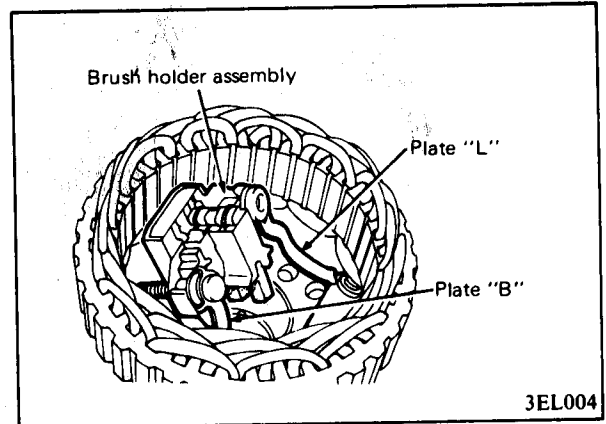




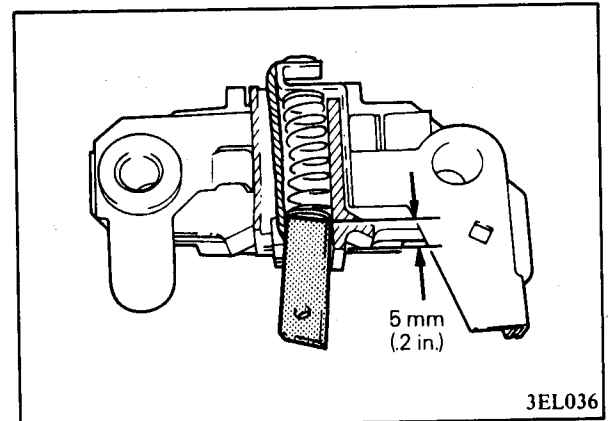
- When only a brush or brush spring is to be replaced, it can be replaced without removing stator, etc. With brush holder assembly raised as illustrated, unsolder pigtail of brush.

NOTE

If L- and B-terminals of rectifier assembly are bent, damage to rectifier moulding might result. Therefore, plates "B" and "L" should be gently bent at center.



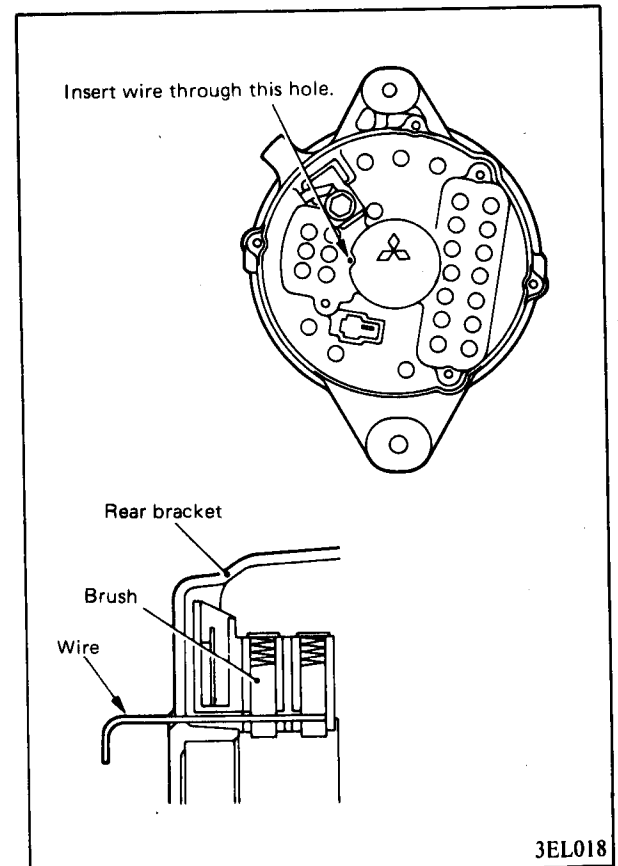
- When installing new brush, solder pigtail so that brush will be pressed into holder about 5 mm (.2 in.).



REASSEMBLY

Perform reassembly in reverse procedure of disassembly, pay attention to the following item:

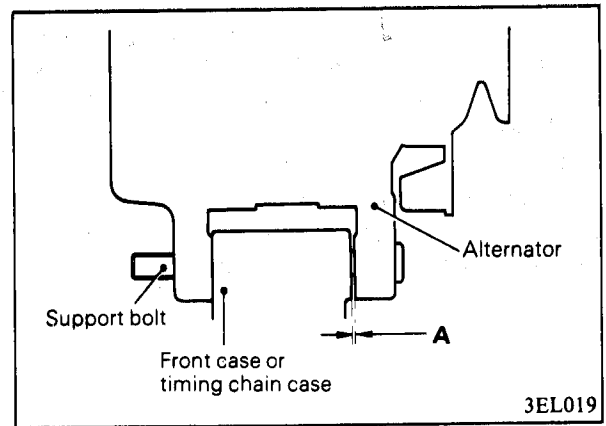
- Before rotor is attached to rear bracket, insert wire through small hole made in rear bracket to hold brush. After rotor has been installed, the wire can be removed.





INSTALLATION

1. Install the alternator to the engine front case and insert the support bolt through the alternator leg into front case. Do not install the nut.
2. Install the brace bolt but do not tighten the bolt.
3. Push alternator toward front of engine and check for clearance "A" between alternator leg and front case or timing chain case. If clearance is more than 0.2 mm (.008 in.), insert spacers [0.198 mm (.0078 in.) thick] as required. If support bolt is tightened without reducing clearance "A", alternator leg might be broken.
4. Install the washer and nut to the support bolt.
5. Install drive belt and adjust the drive belt tension.
6. Tighten first brace bolt and then tighten support bolt nut to the specified torque.



Tightening torque

Alternator brace bolt	12–14 Nm (9–10 ft.lbs.)
Alternator support bolt nut	20–24 Nm (15–18 ft.lbs.)

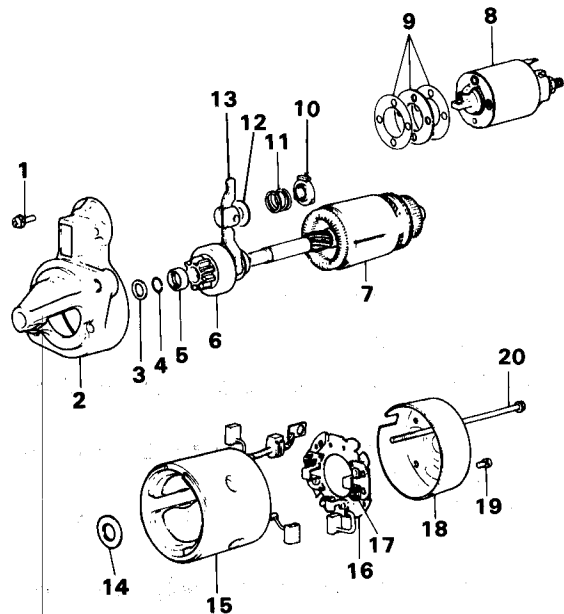
7. Connect wiring and connector to the alternator.
8. Connect the battery ground cable.



COMPONENTS – DIRECT DRIVE TYPE for M/T

1. Screw
2. Front bracket
3. Washer
4. Snap ring
5. Stop ring
6. Overrunning clutch
7. Armature
8. Magnetic switch
9. Washer
10. Spring retainer
11. Lever spring
12. Spring seat
13. Lever
14. Washer
15. Yoke assembly
16. Brush holder assembly
17. Brush spring
18. Rear bracket
19. Screw
20. Through bolt

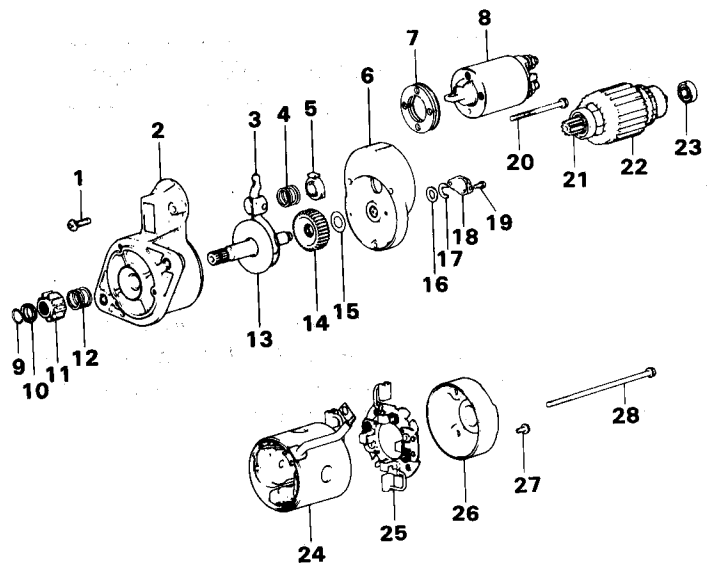
NOTE
 Numbers show order of disassembly.
 For reassembly, reverse order of disassembly.
 M/T: Manual Transmission



6EL070

COMPONENTS – REDUCTION DRIVE TYPE for A/T

1. Screw
2. Front bracket
3. Lever
4. Spring
5. Spring retainer
6. Center bracket
7. Washer set
8. Magnetic switch
9. Snap ring
10. Stop ring
11. Pinion
12. Spring
13. Overrunning clutch
14. Reduction gear
15. Adjusting washer
16. Washer
17. Retaining ring
18. Cover
19. Screw
20. Screw
21. Front bearing
22. Armature
23. Rear bearing
24. Yoke assembly
25. Brush holder assembly
26. Rear bracket
27. Screw
28. Through bolt



NOTE
 A/T: Automatic Transmission

6EL002



REMOVAL

1. Disconnect battery ground cable.
2. Disconnect starting motor harness from the starter motor.
3. Remove the two starting motor mounting bolts and remove starter motor.

INSPECTION (after removal)

Pinion Gap Adjustment

1. Disconnect field coil wire from M-terminal of magnetic switch.
2. Connect a 12V battery between S-terminal and M-terminal. (6EL050)
3. Set switch to "ON", and pinion will move out.

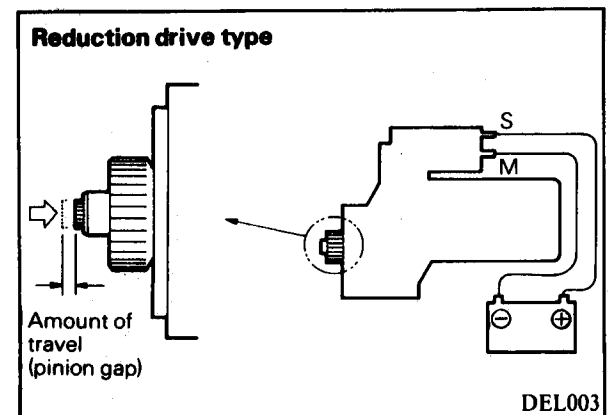
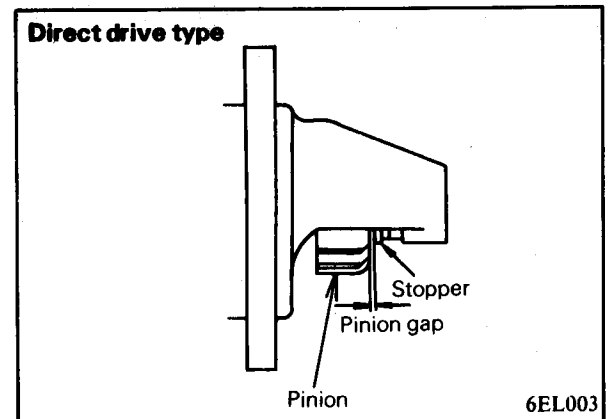
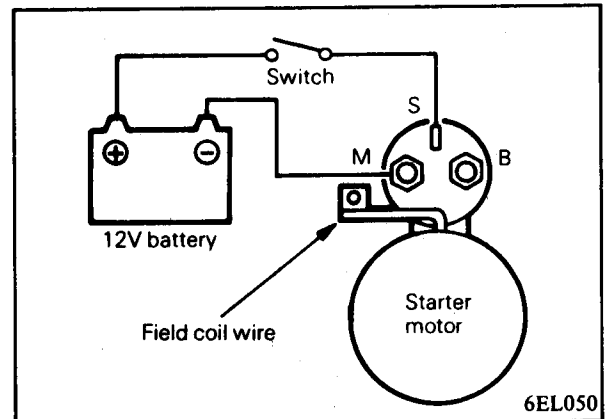
Caution

This test must be performed quickly (in less than 10 seconds) to prevent coil from burning.

4. Check pinion to stopper clearance (pinion gap) with a feeler gauge. (6EL003)
If pinion gap is out of specification, adjust by adding or removing washers between magnetic switch and front bracket.

Pinion gap 0.5 – 2.0 mm (.020 – .079 in.)

5. Lightly push back the pinion, and measure the amount of travel, which represents the pinion gap. Adjust the thickness (number) of washers at switch area so that the gap becomes 0.5 to 2.0 mm (.020 to .079 in.).





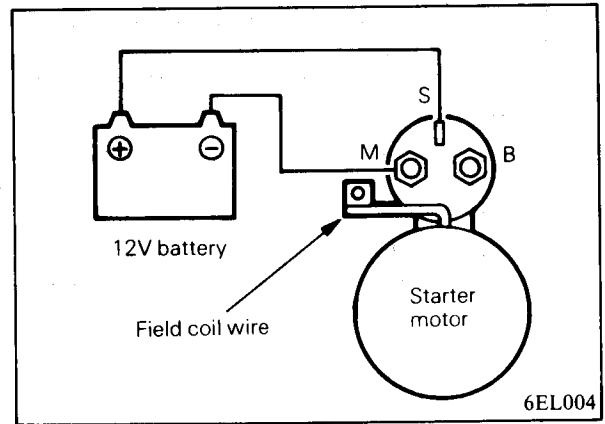
Pull-in Test of Magnetic Switch

1. Disconnect field coil wire from M-terminal of magnetic switch.
2. Connect a 12V battery between S-terminal and M-terminals. (6EL004)

Caution

This test must be performed quickly (in less than 10 seconds) to prevent coil from burning.

3. If pinion moves out, then pull-in coil is good. If it doesn't, replace magnetic switch.



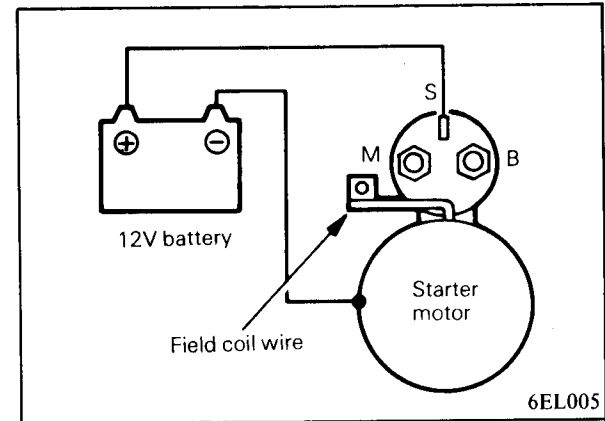
Hold-in Test of Magnetic Switch

1. Disconnect field coil wire from M-terminal of magnetic switch.
2. Connect a 12V battery between S-terminal and body. (6EL005)

Caution

This test must be performed quickly (in less than 10 seconds) to prevent coil from burning.

3. If pinion remains out, everything is in order. If pinion moves in, hold-in circuit is open. Replace magnetic switch.



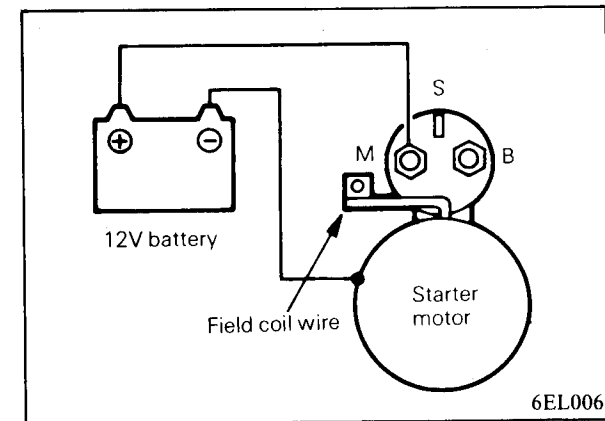
Return Test of Magnetic Switch

1. Disconnect field coil wire from M-terminal of magnetic switch.
2. Connect a 12V battery between M-terminal and body. (6EL006)

Caution

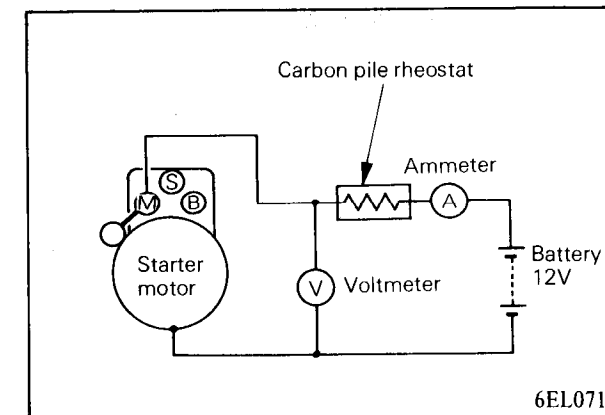
This test must be performed quickly (in less than 10 seconds) to prevent coil from burning.

3. Pull pinion out and release. If pinion quickly returns to its original position, everything is in order. If it doesn't replace magnetic switch.



Free Running Test (6EL071)

1. Place starter motor in a vise equipped with soft jaws and connect a fully charged, 12 volt battery to starter motor as follows:
2. Connect a test ammeter (100 amperes scale) and carbon pile rheostat in series with battery positive post and starter motor terminal.
3. Connect a voltmeter (15 volt scale) across starter motor.
4. Rotate carbon pile to full-resistance position.
5. Connect battery cable from battery negative post to starter motor body.





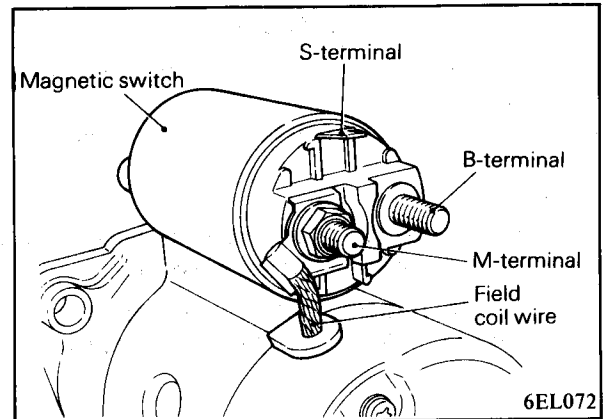
COMPONENT SERVICE – STARTING SYSTEM

- Adjust rheostat until battery voltage shown on voltmeter reads 11.5 volts.
- Check specifications for maximum amperage draw and minimum rpm.

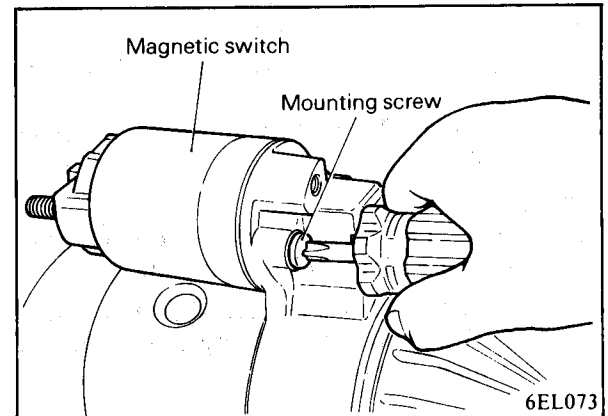
Voltage	11.5 Volts
Amperage draw	60 Amps
Minimum rpm	6,800 rpm

DISASSEMBLY – DIRECT DRIVE TYPE

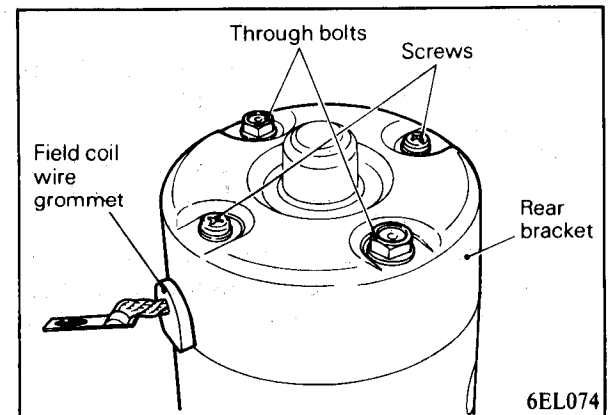
- Disconnect field coil wire from M-terminal of magnetic switch.



- Remove two magnetic switch mounting screws and remove magnetic switch.

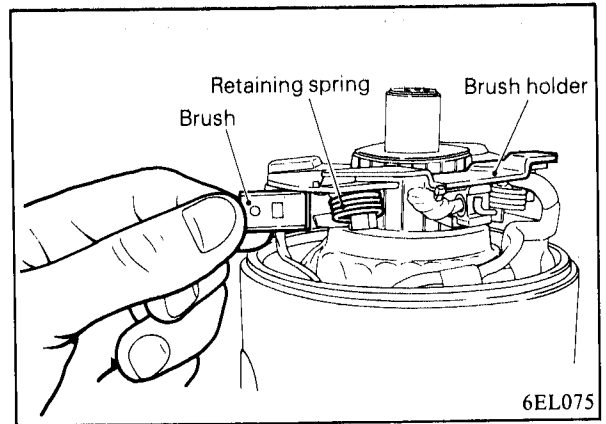


- Remove two through bolts and two screws.
- Remove rear bracket.

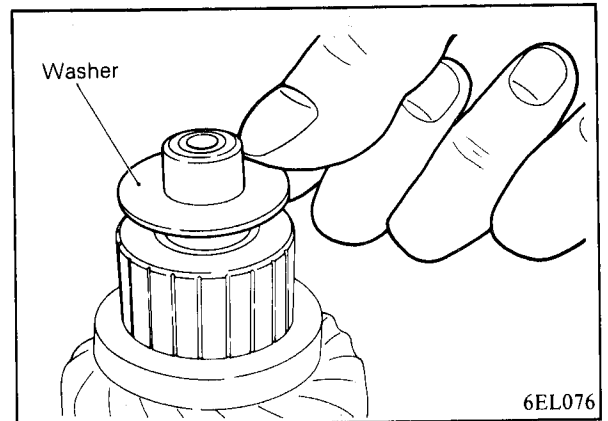




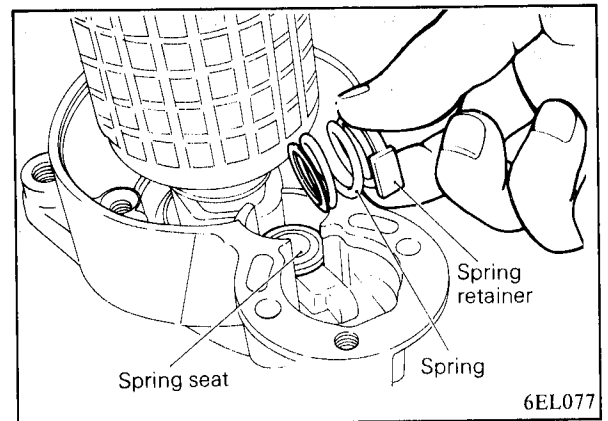
5. Slide the two brushes from brush holder by prying retaining springs back.
6. Remove brush holder.
7. Remove yoke assembly.



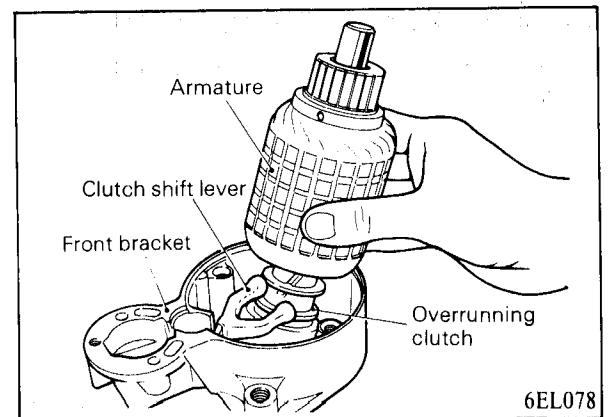
8. Remove washer from rear end of armature.



9. Remove spring retainer, spring and spring seat from front bracket.

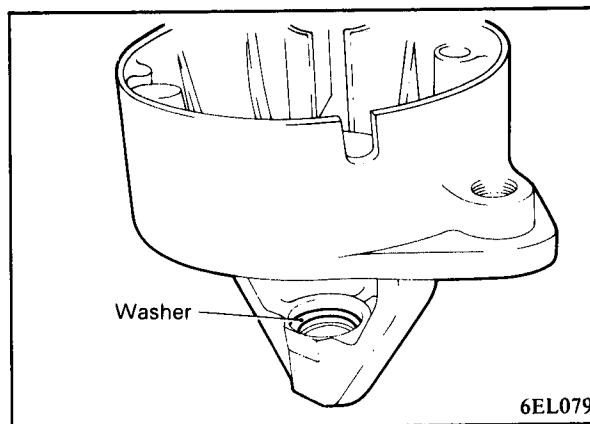


10. Remove armature assembly and lever from front bracket.

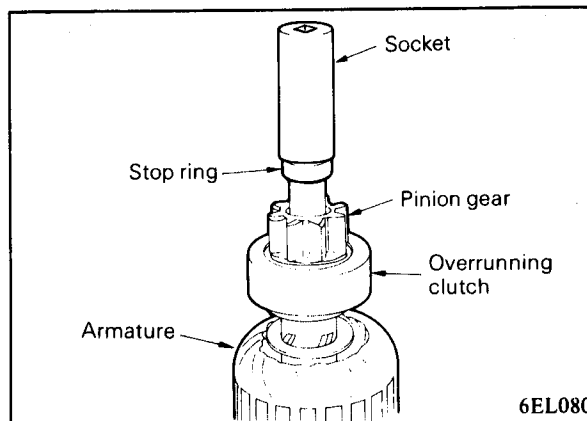




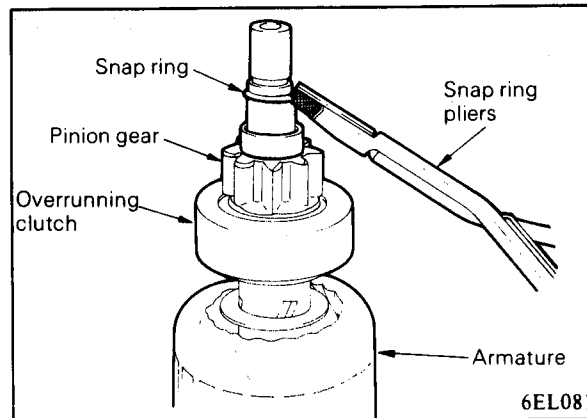
11. Remove washer from front bracket.



12. Press stop ring off snap ring with suitable socket.

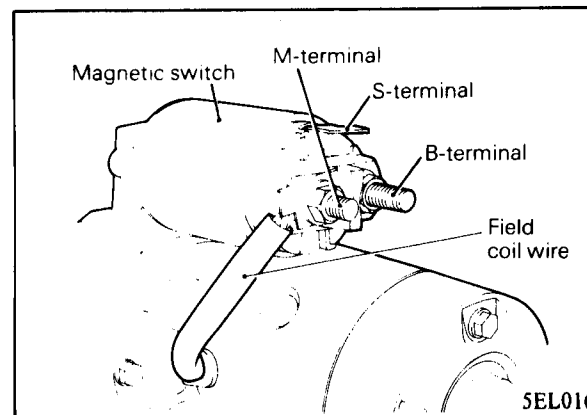


13. Remove snap ring with snap ring pliers and then remove stop ring and overrunning clutch.



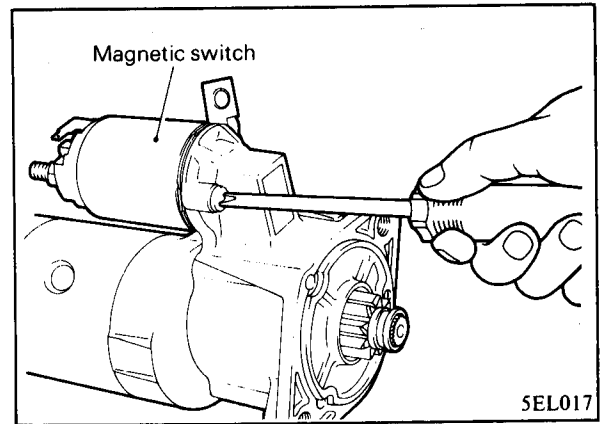
DISASSEMBLY – REDUCTION DRIVE TYPE

1. Disconnect the field coil wire from M-terminal of magnetic switch.

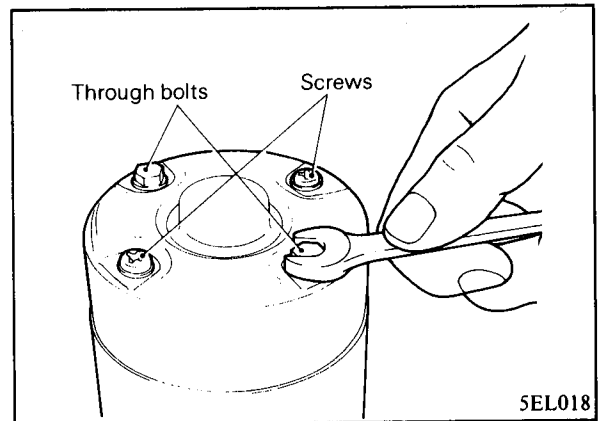




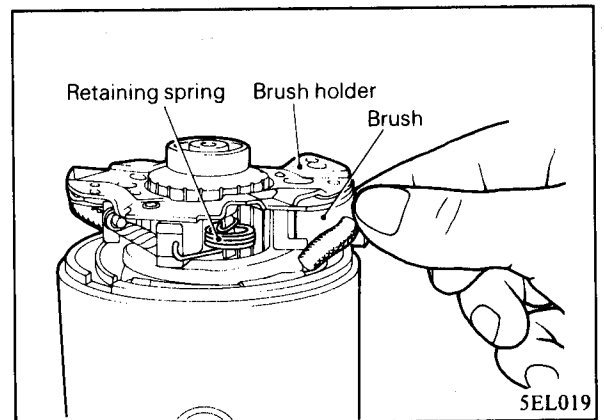
2. Remove the two magnetic switch mounting screws and remove the magnetic switch.



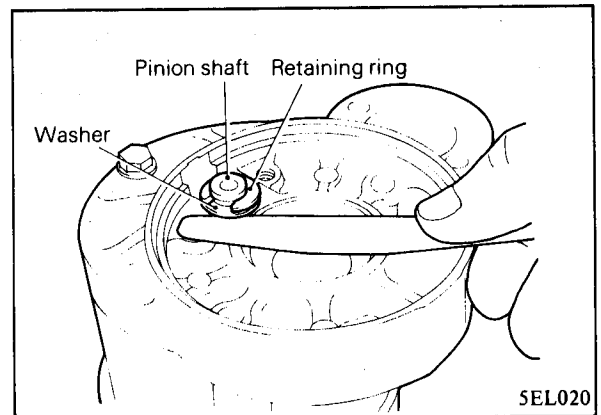
3. Remove the two through bolts and two screws, and then remove the rear bracket.



4. Slide the two brushes from brush holder by prying retaining springs back, and then remove the brush holder assembly.
5. Remove the yoke assembly.
6. Remove the armature.



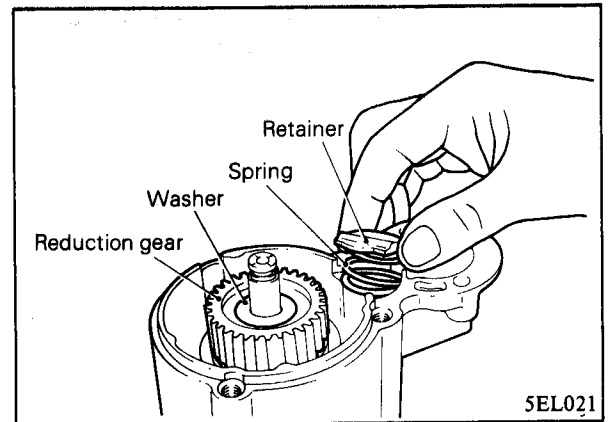
7. Remove the pinion shaft end cover from the center cover.
8. Measure the pinion shaft end play using feeler gauge for reassembly.
9. Remove the retaining ring and washer from the pinion shaft.
10. Remove the center bracket.



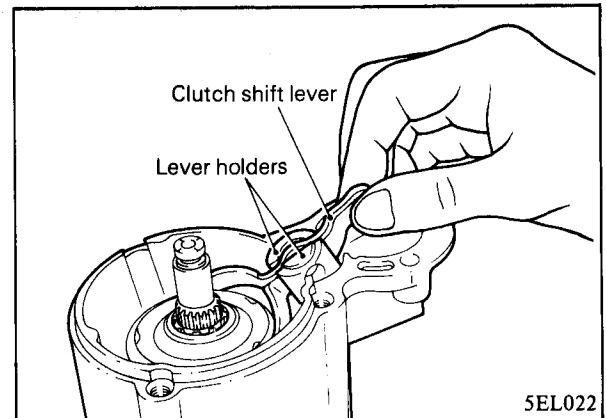


COMPONENT SERVICE – STARTING SYSTEM

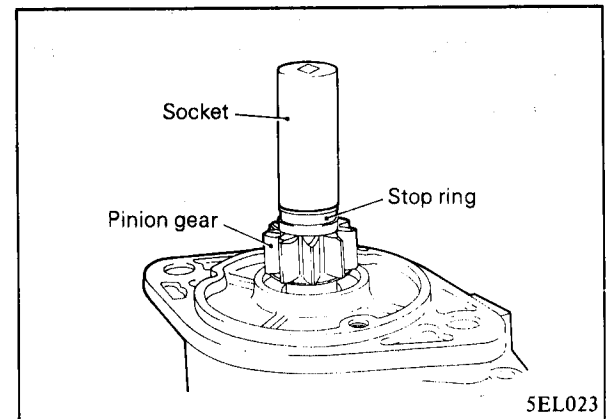
11. Remove the lever spring retainer and spring.
12. Remove the adjusting washer and reduction gear.



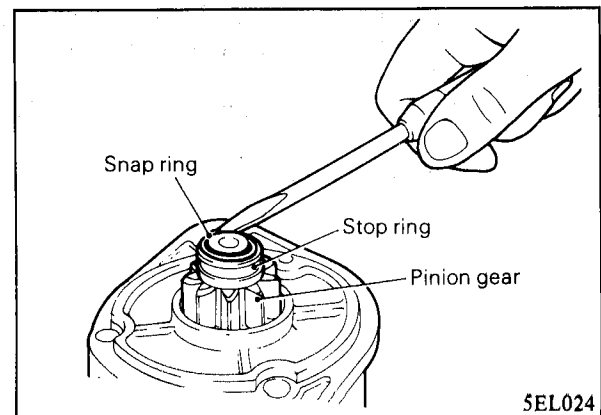
13. Remove the clutch shift lever and two lever holders.



14. Press the stop ring off the snap ring with suitable socket.

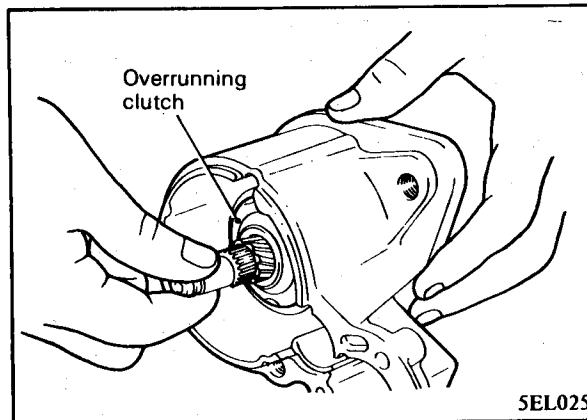


15. Remove the snap ring with screwdriver, and then remove the stop ring.
16. Remove the pinion and spring from pinion shaft.





17. Remove the overrunning clutch from the front bracket.



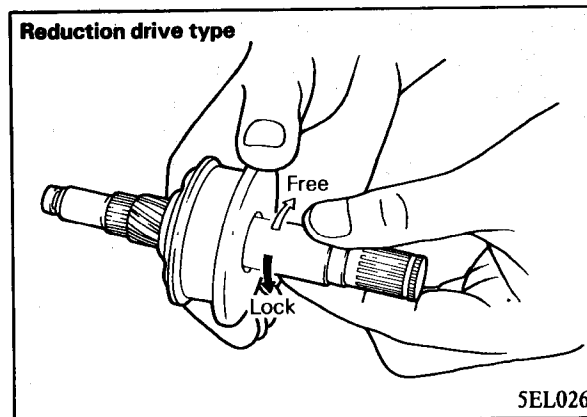
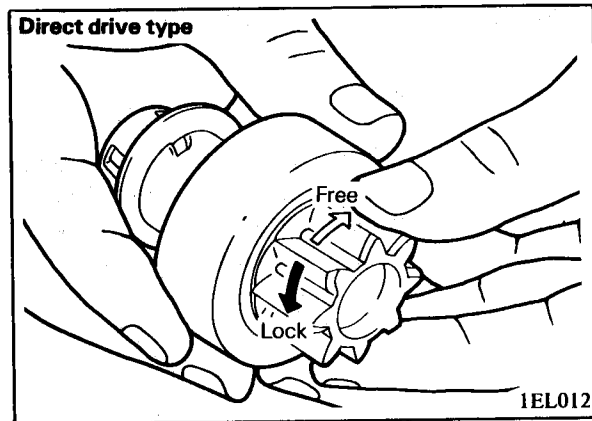
CLEANING STARTER MOTOR PARTS

1. Do not immerse parts in cleaning solvent. Immersing the yoke and field coil assembly and/or armature will damage insulation.
Wipe these parts with a cloth only.
2. Do not immerse drive unit in cleaning solvent. Overrunning clutch is pre-lubricated at the factory and solvent will wash lubrication from clutch.
3. The drive unit may be cleaned with a brush moistened with cleaning solvent and wiped dry with a cloth.

SERVICING DRIVE UNIT

Overrunning Clutch

1. While holding clutch housing, rotate the pinion. Drive pinion should rotate smoothly in one direction, but should not rotate in opposite direction. If clutch does not function properly, replace overrunning clutch assembly.
2. Inspect pinion for wear or burrs.
If pinion is worn or burred, replace overrunning clutch assembly. If pinion is damaged, also inspect ring gear for wear or burrs.

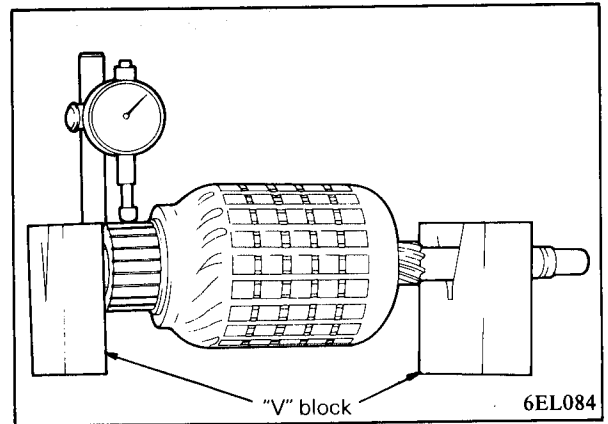




Testing Commutator Runout

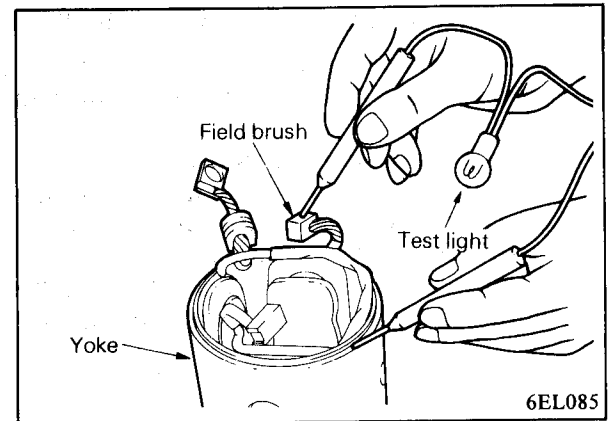
1. Place armature in a pair of “V” blocks and check runout with a dial indicator.
2. Check both shaft and commutator. A bent shaft requires replacement of armature.
3. If commutator runout exceeds 0.05 mm (.002 in.), commutator should be refaced.
Remove only enough metal to provide a smooth, even surface.

Commutator runout	Max. 0.05 mm (.002 in.)
Under cut depth	0.5 mm (.02 in.)



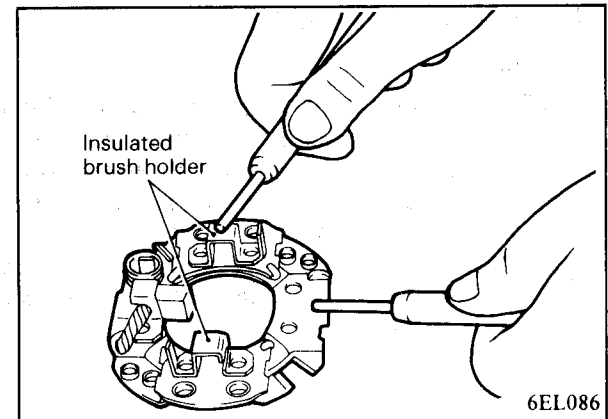
TESTING FIELD COILS FOR GROUNDING

1. Touch one probe of test light to series field coil lead and other probe to yoke. Light should not light.
If light lights, coils are grounded, if field coils are grounded, replace field coil and yoke assembly.



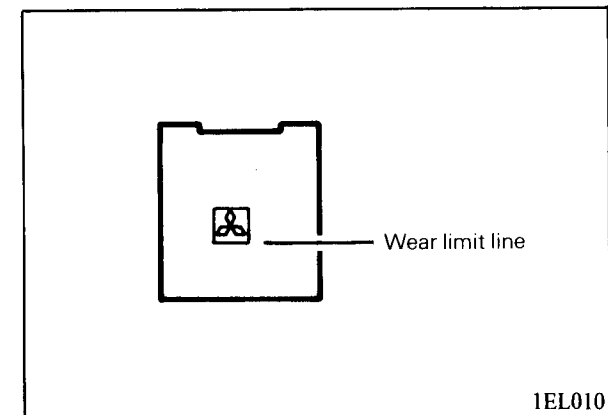
TESTING BRUSH HOLDER

1. Touch each of the insulated brush holders with one test probe, while holding other test probe against brush holder plate.
2. The lamp should not light during this test since the brush holders are insulated. If the lamp lights, brush holders on brush holder plate are grounded. Replace brush holder assembly if brush holders are grounded.



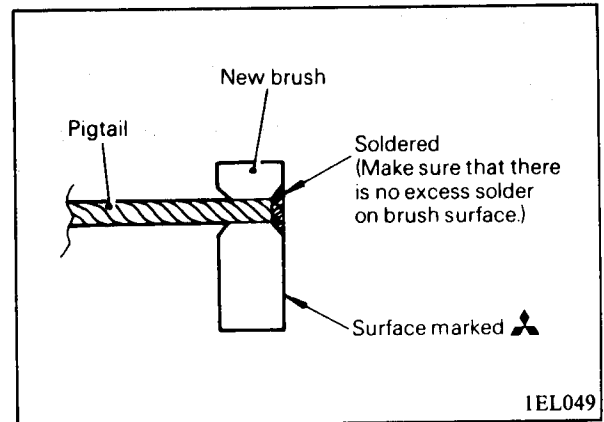
BRUSHES AND SPRINGS – REPLACEMENT

1. Brushes that are worn beyond the wear limit line, or are oil-soaked, should be replaced.
2. When replacing field coil brushes, crush worn brush with pliers, taking care not to damage pigtail.





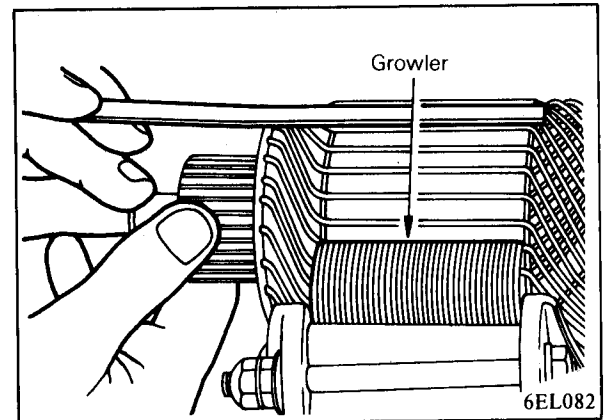
3. Grind pigtail end with sandpaper to ensure good soldering.
4. Insert pigtail into hole provided in new brush and solder it. Make sure that pigtail and excess solder do not come out onto brush surface.
5. When replacing ground brush, slide the brush from brush holder by prying retaining spring back.



TESTING ARMATURE

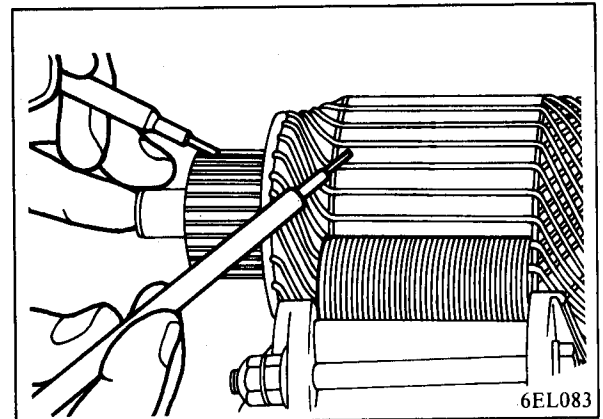
Testing Armature for Short Circuit

1. Place armature in a growler.
2. Hold a thin steel blade parallel and just above while rotating armature slowly in growler. A shorted armature will cause blade to vibrate and be attracted to the core. Replace shorted armature.



Testing Armature for Grounding

1. Touch armature coil core and the end of each commutator bar with a pair of test light prods.
2. If light lights, it indicates a grounded armature. Replace grounded armature.



FRONT AND REAR BRACKET BUSHING — DIRECT DRIVE TYPE

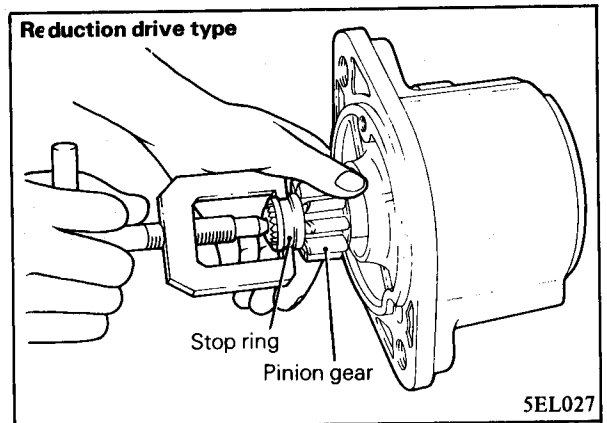
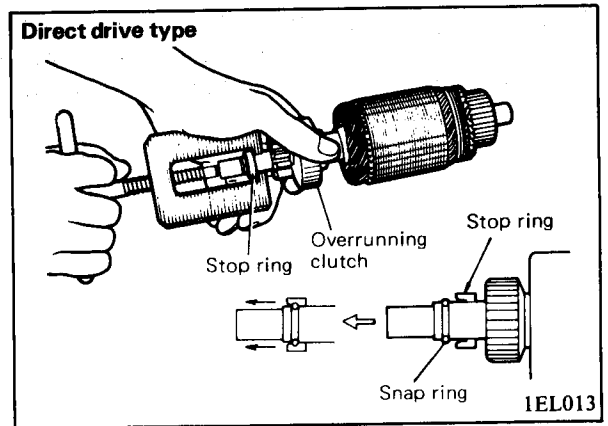
1. Inspect bushing for wear or burrs. If bushing is worn or burred, replace front bracket assembly or rear bracket assembly.



REASSEMBLY

Reassemble starter motor in the reverse order of disassembly with the following exception.

Using a suitable pulling tool, pull overrunning clutch stop ring over snap ring.



INSTALLATION

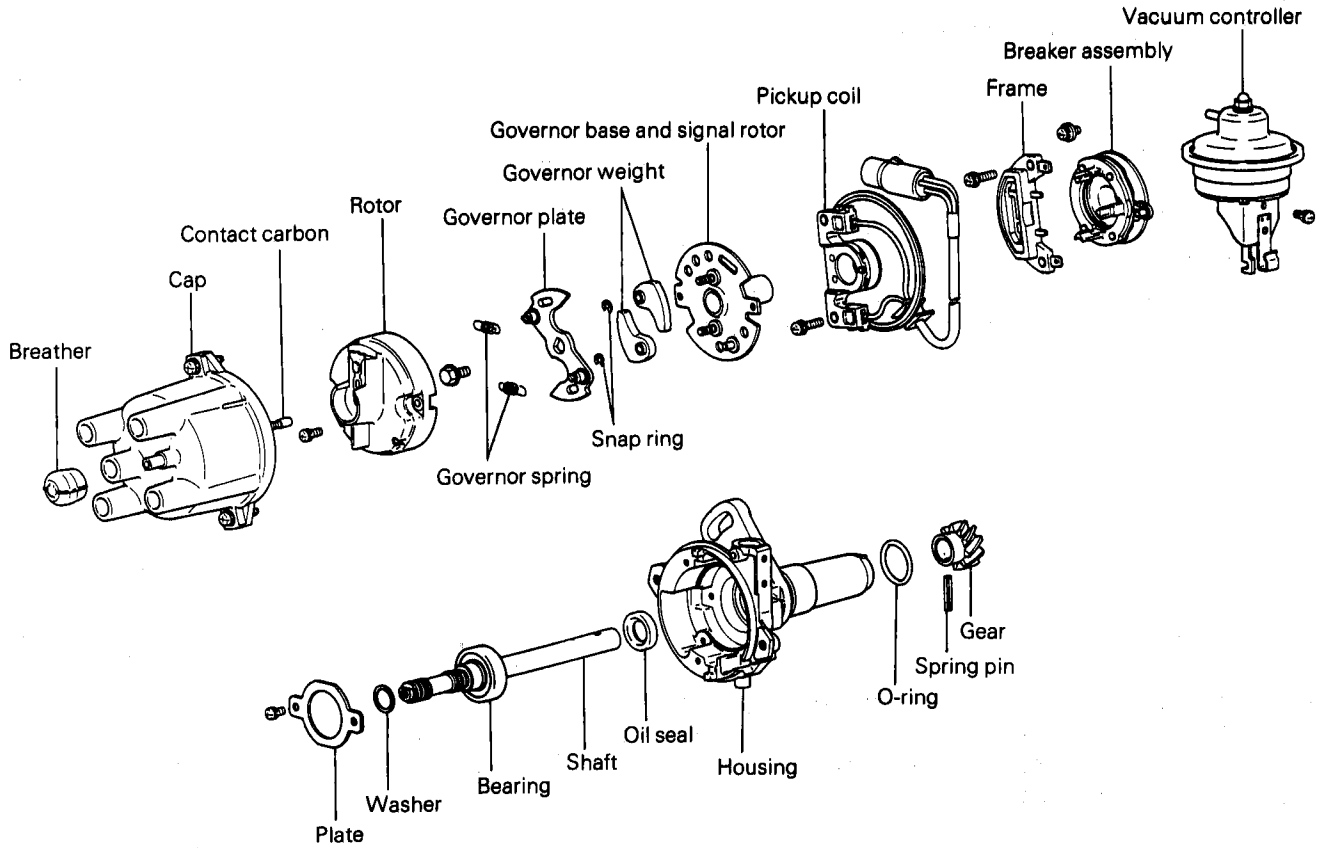
1. Clean both surfaces of starter motor flange and rear plate.
2. Install starter motor to engine and tighten two bolts to specified torque.

Starter motor mounting bolts
22–31 Nm (16–23 ft.lbs.)

3. Connect battery cable and switch wire to starter motor.
4. Connect battery ground cable.



COMPONENTS



6EL188

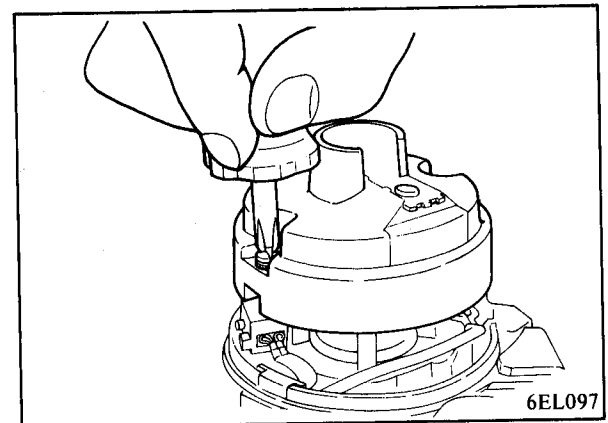


REMOVAL

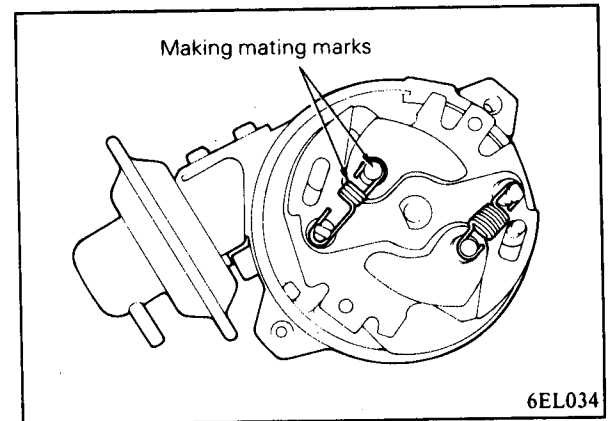
1. Disconnect battery ground cable.
2. Remove retaining screws and lift off distributor cap.
3. Disconnect the distributor primary lead wire from wiring harness.
4. Disconnect vacuum hoses from vacuum controller.
5. Remove distributor mounting nut and remove distributor assembly from engine cylinder head.

DISASSEMBLY

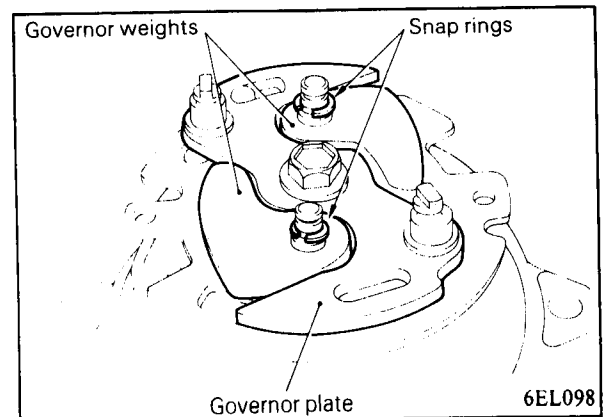
1. Lightly clamp distributor in a vise equipped with soft jaws.
2. Remove two rotor retaining screws and remove rotor.



3. Before governor weights and governor springs are removed, make marks on either one of governor pins and springs for reference at reassembly. (6EL034)
4. Remove two governor springs.



5. Remove snap rings and governor weights.



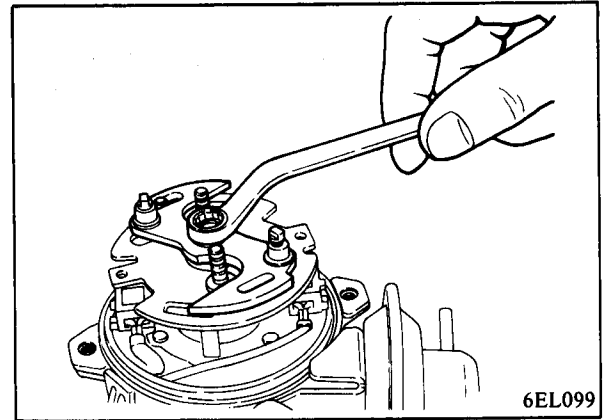


6. Remove retaining bolt, and then remove governor plate.

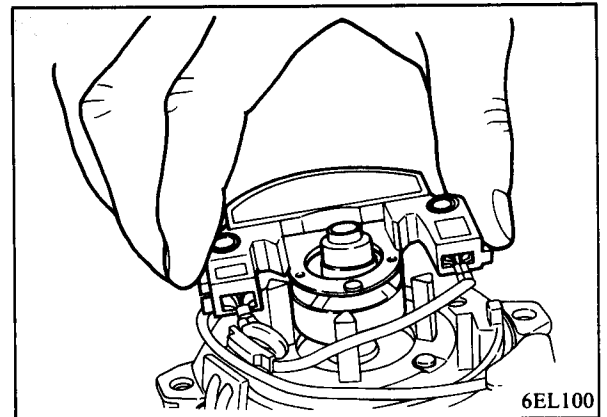
Caution

Be very careful when loosening the retaining bolt, because it is coated with screw-lock cement.

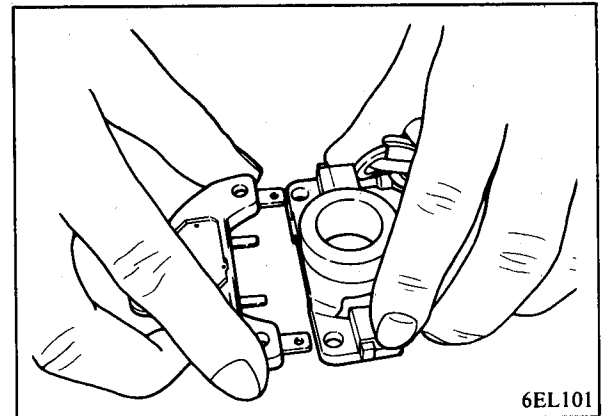
7. Remove governor base and signal rotor assembly.



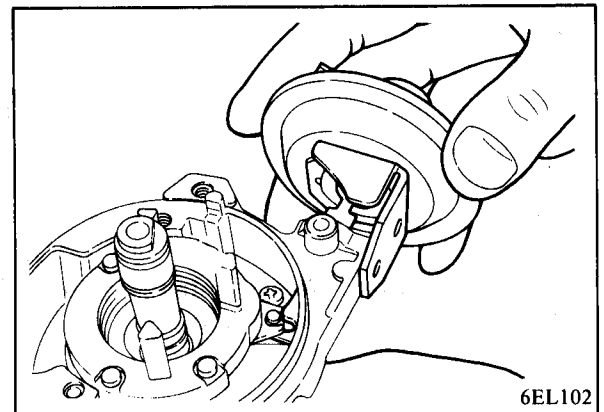
8. Remove two igniter unit retaining screws and remove igniter and pickup coil unit.



9. Disconnect igniter unit from pickup coil.



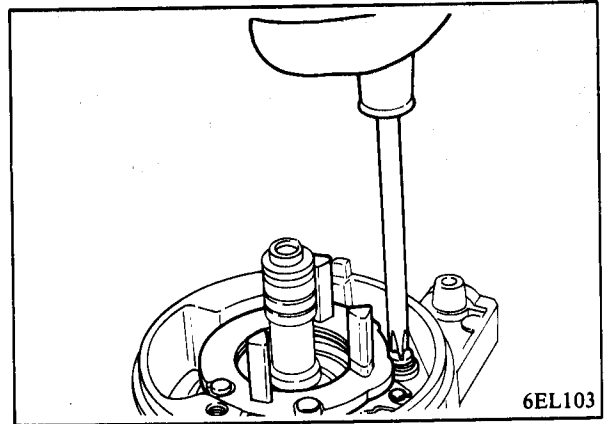
10. Remove two screws and then remove vacuum controller.



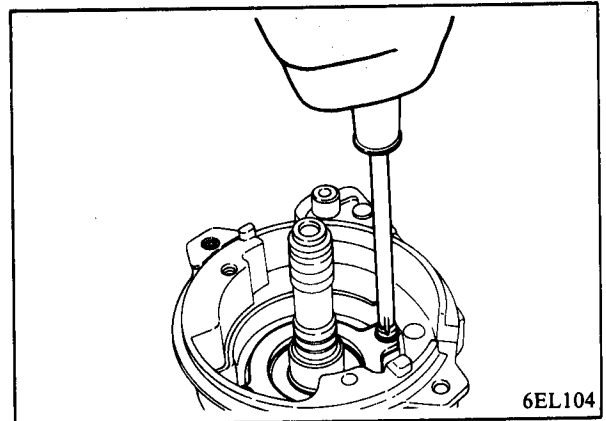


COMPONENT SERVICE — IGNITION SYSTEM

11. Remove two breaker assembly retaining screws and remove breaker assembly from housing.
When the breaker assembly has been removed, be sure that it is not placed in an area where it might attract iron filings or pieces.



12. Remove two screws and bearing retainer from housing.

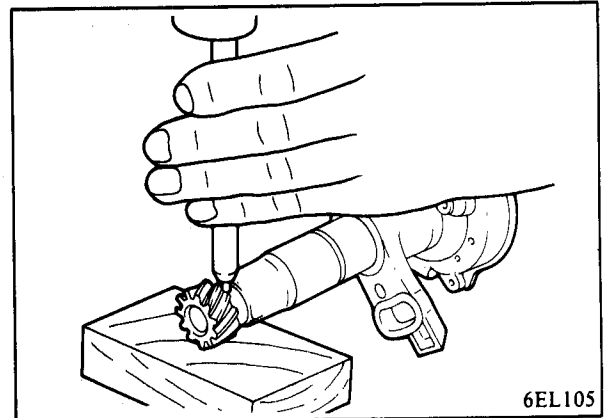


13. Mark location of drive gear on distributor shaft.
14. Place drive gear on soft vice (wood block) so that roll pin can be removed.
15. Using a pin punch, remove roll pin.

Caution

Do not reuse roll pin.

16. Remove drive gear from shaft.
17. Remove distributor shaft from housing.



INSPECTION

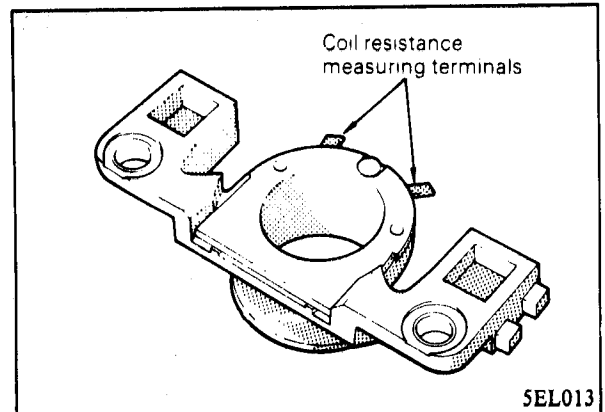
Pickup Coil

1. Using an ohmmeter, measure resistance of pickup coil.

Resistance value 920–1,120 Ω

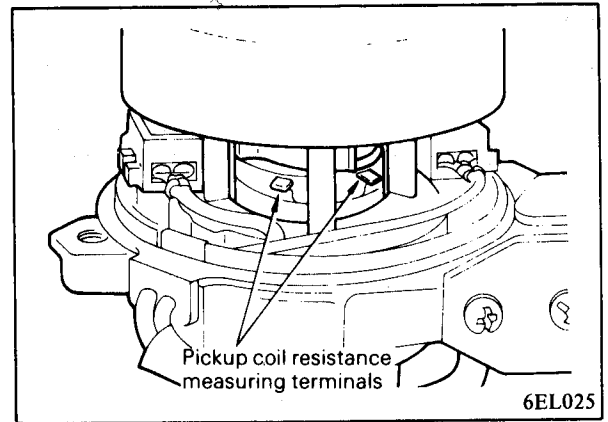
Caution

Do not insert tester probe into igniter connecting terminals, as damage to terminals could result.





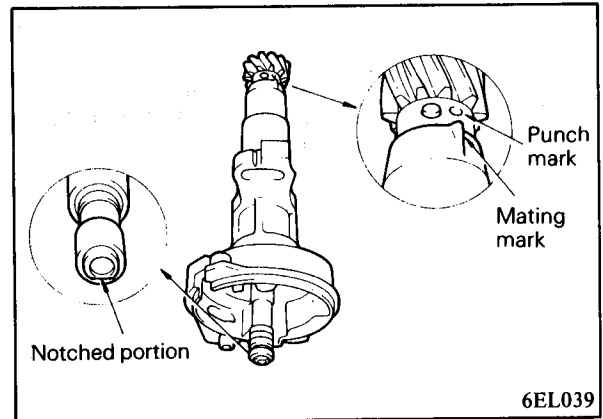
- When coil resistance is to be measured without disassembling distributor assembly, insert tester probes through portions shown in illustration.



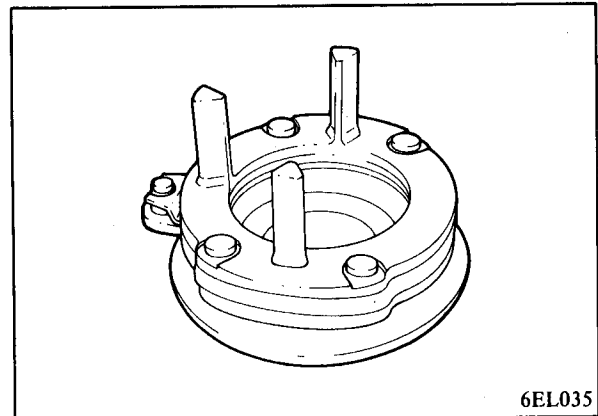
REASSEMBLY

Reassemble distributor reversing the disassembly procedure with the following exception.

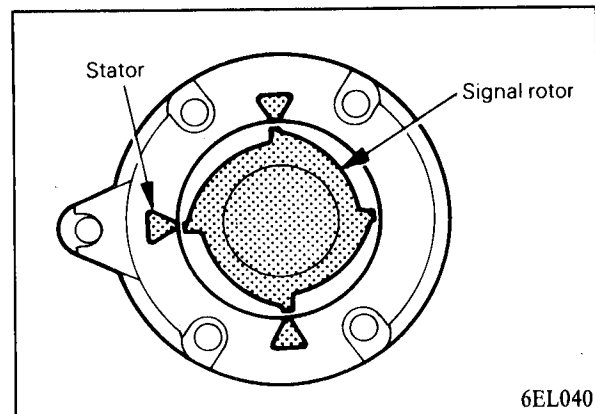
- Clean and inspect all parts.
- Install drive gear into distributor shaft at previously marked location. Then install new roll pin.
When new gear is assembled to shaft, align punch mark on gear with mating mark on housing, check to ensure that notched portion of shaft end is positioned as shown, and then install a pin to secure the gear to the shaft. (6EL039)



- Before the breaker is installed, check to ensure that there are no iron filings or iron pieces on the breaker.



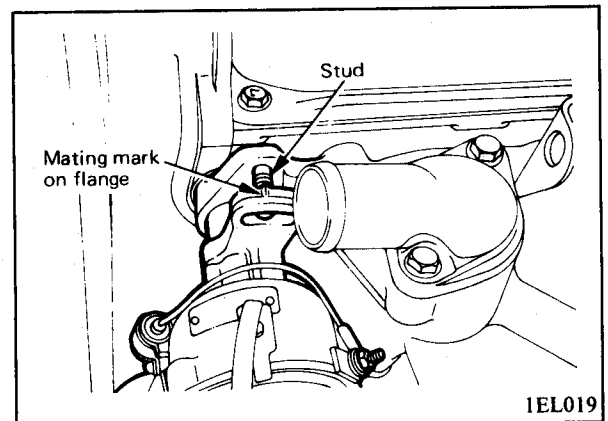
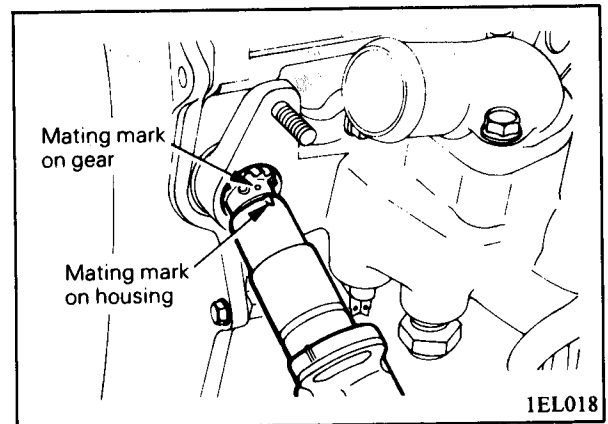
- After the governor assembly has been installed, turn the shaft to confirm that the projection of the signal rotor does not touch the stator.





INSTALLATION

1. Turn crankshaft until piston in No. 1 cylinder is at top dead center compression stroke.
2. Align mating mark on distributor housing with mating mark (punch) on distributor driven gear.
3. Install distributor to cylinder head while aligning mating mark on distributor attaching flange with center of distributor installing stud and tighten nuts. (1EL019)
4. Install the distributor cap and the two retaining screws.
5. Adjust ignition timing.





GENERAL

The detonation sensor is installed where knocking in each cylinder can be equally sensed.

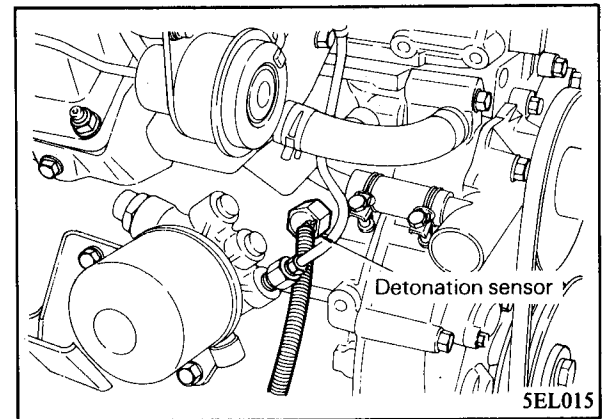
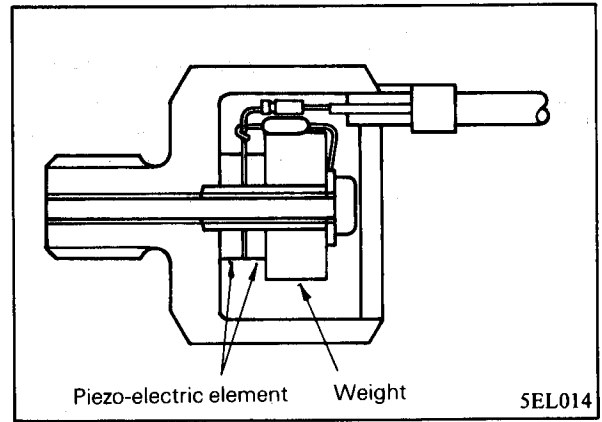
In this engine, the detonation sensor is located in the cylinder block.

The sensor uses a piezo-electric element which converts the magnitude of engine vibration into an electric signal (voltage). That is, vibration strains piezo-electric element, and the piezo-electric element then generates a voltage corresponding to the strain. The piezo-electric element is covered with resin, and the output lead connector is completely waterproofed.

Caution

The detonation sensor is strong enough to withstand engine vibration, but if it is subjected to excessive impact with a hammer, wrench, etc., the piezo-electric might be broken. When the sensor is installed, make sure that the specified tightening torque is strictly observed.

Detonation sensor tightening torque
 20–24 Nm (15–18 ft.lbs.)



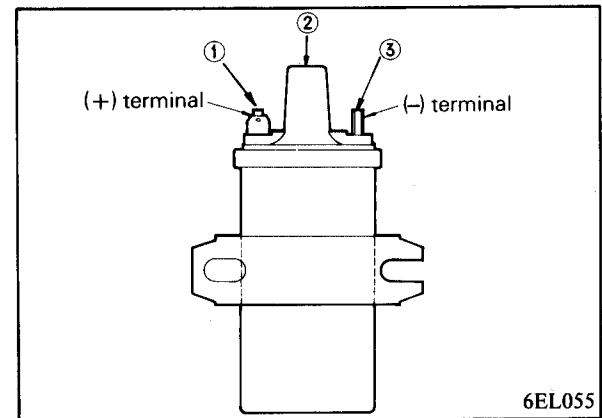
IGNITION COIL

INSPECTION

1. Using a circuit tester, measure resistance. An open- or short-circuited coil should be replaced.
2. Check resin portion for cracks. If there are cracks, replace.
3. Check for fluid (oil) leaks. If there are leaks, replace.

Primary resistance (between ① and ③)
 1.04–1.27 Ω at 20°C (68°F)

Secondary resistance (between ① and ②)
 7.10–9.60 k Ω at 20°C (68°F)

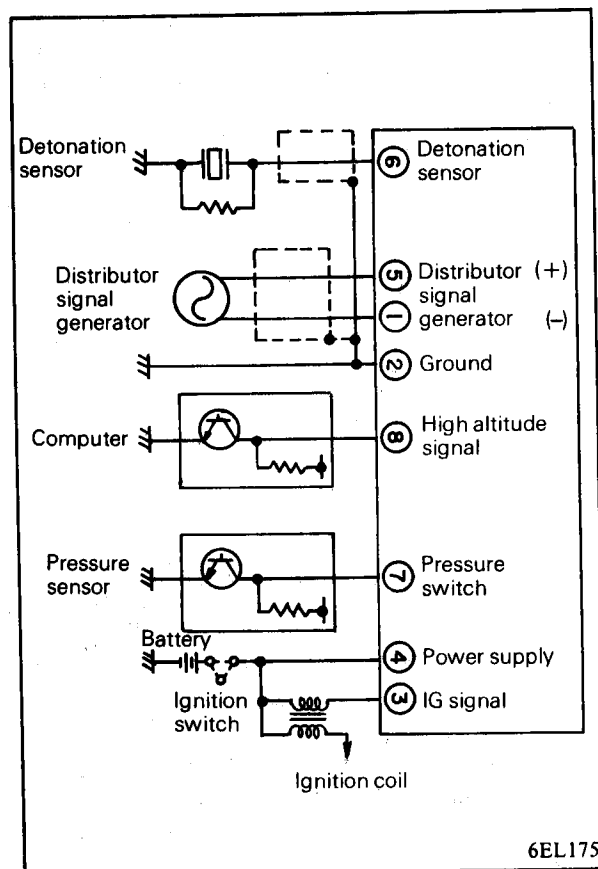
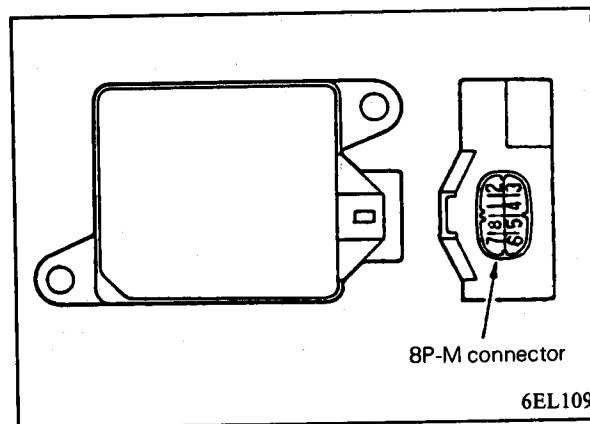




COMPONENT SERVICE — ESC IGNITER

INSPECTION

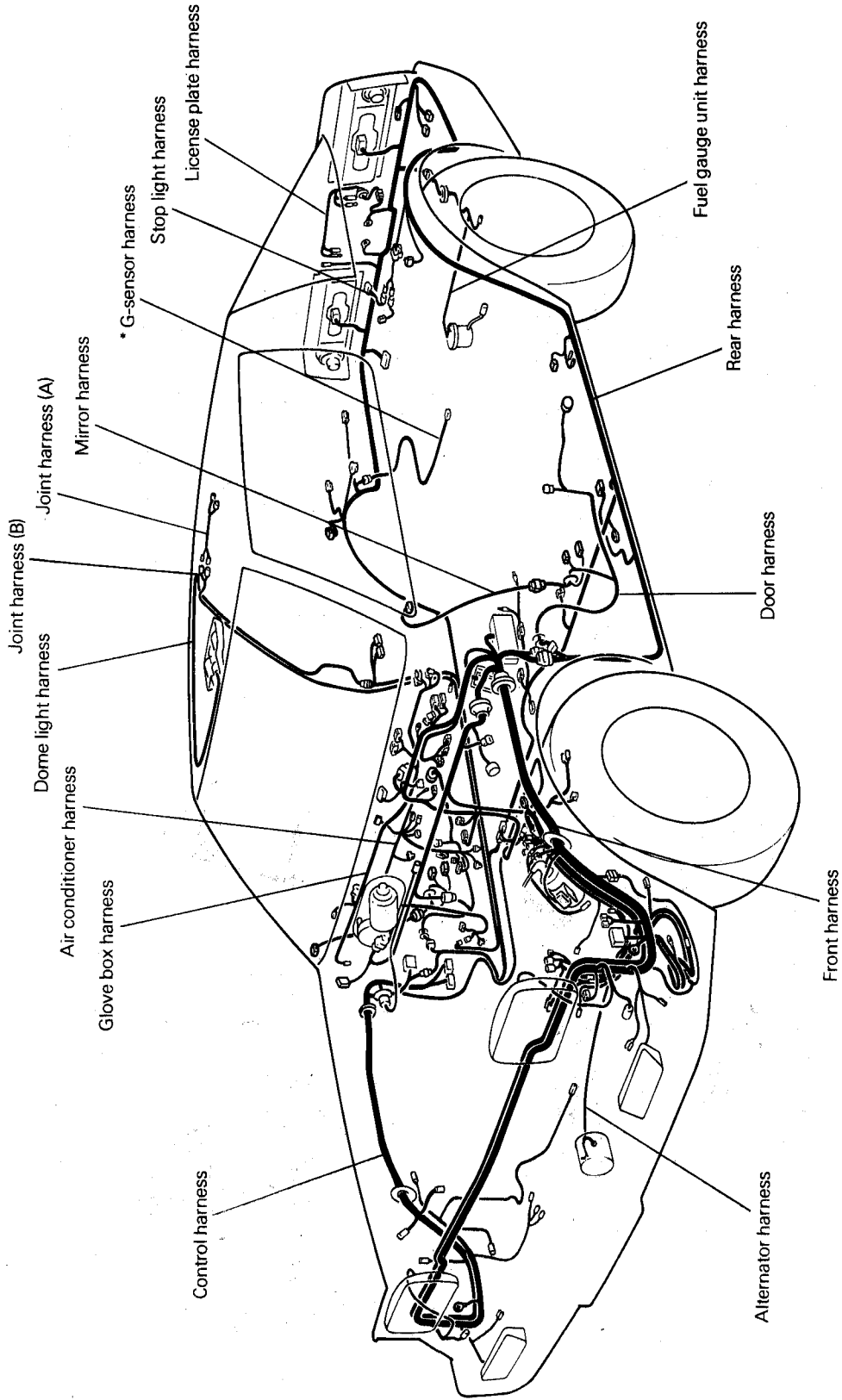
Apply voltage to input and output connector (terminals) of igniter, using dry battery (1.5V) or circuit tester. When circuit tester is used, select ohm range. When dry battery or tester is connected, its polarity may be disregarded. This igniter is set on the body side.





WIRING HARNESS

Wiring harness overview

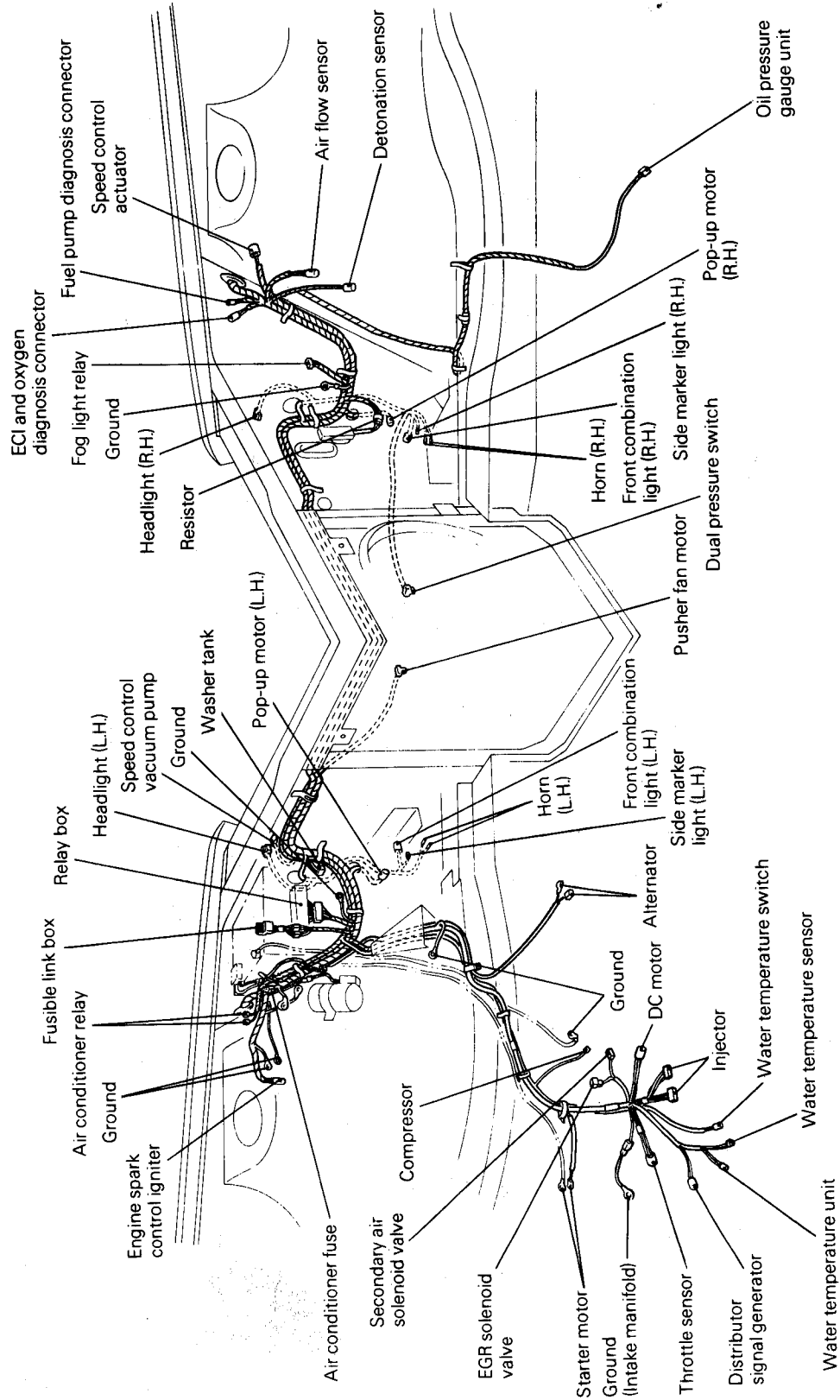


* Vehicles with an intercooler only

16Y1823



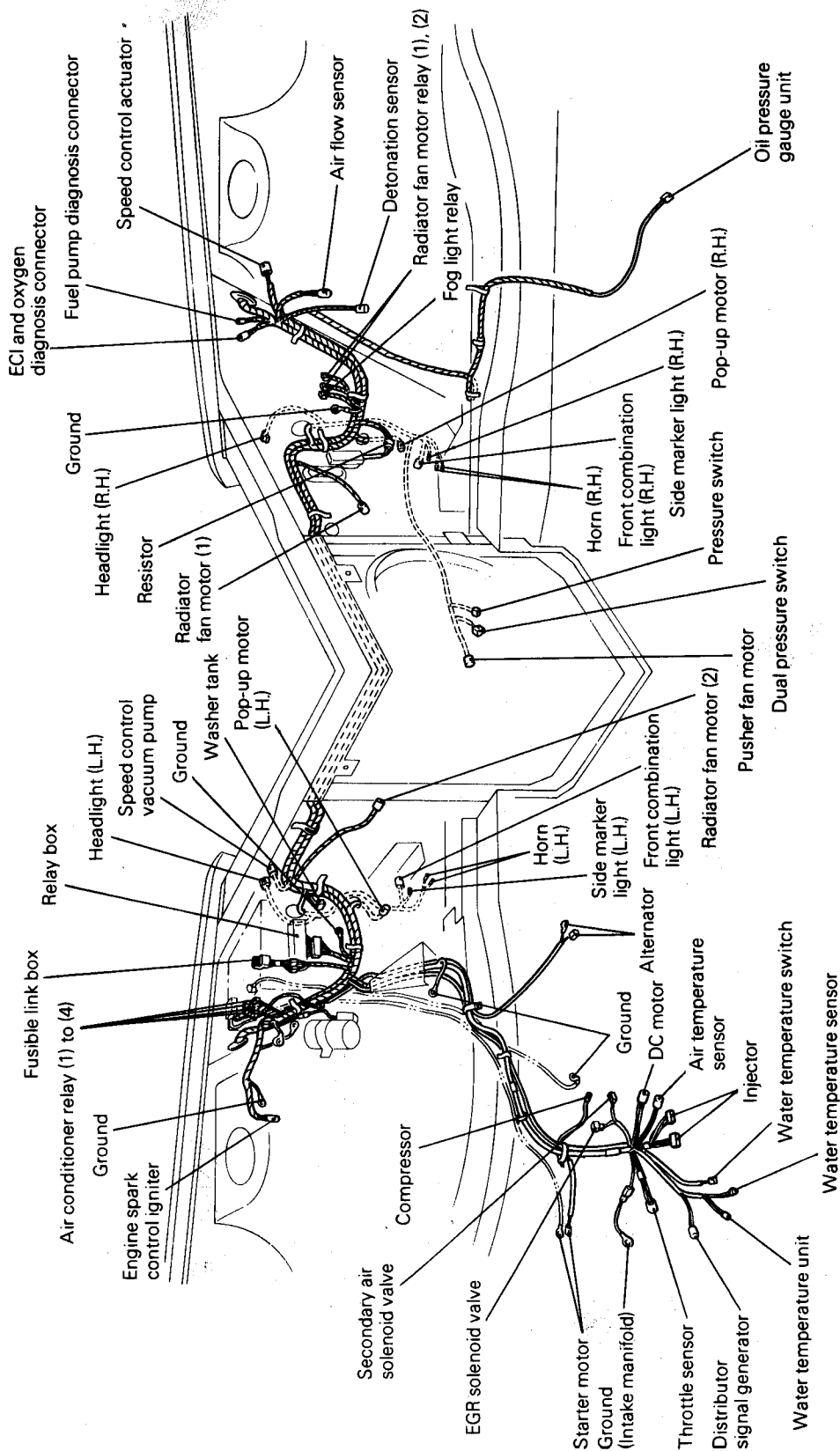
Engine compartment — Front (Vehicles without an intercooler)



16Y1812



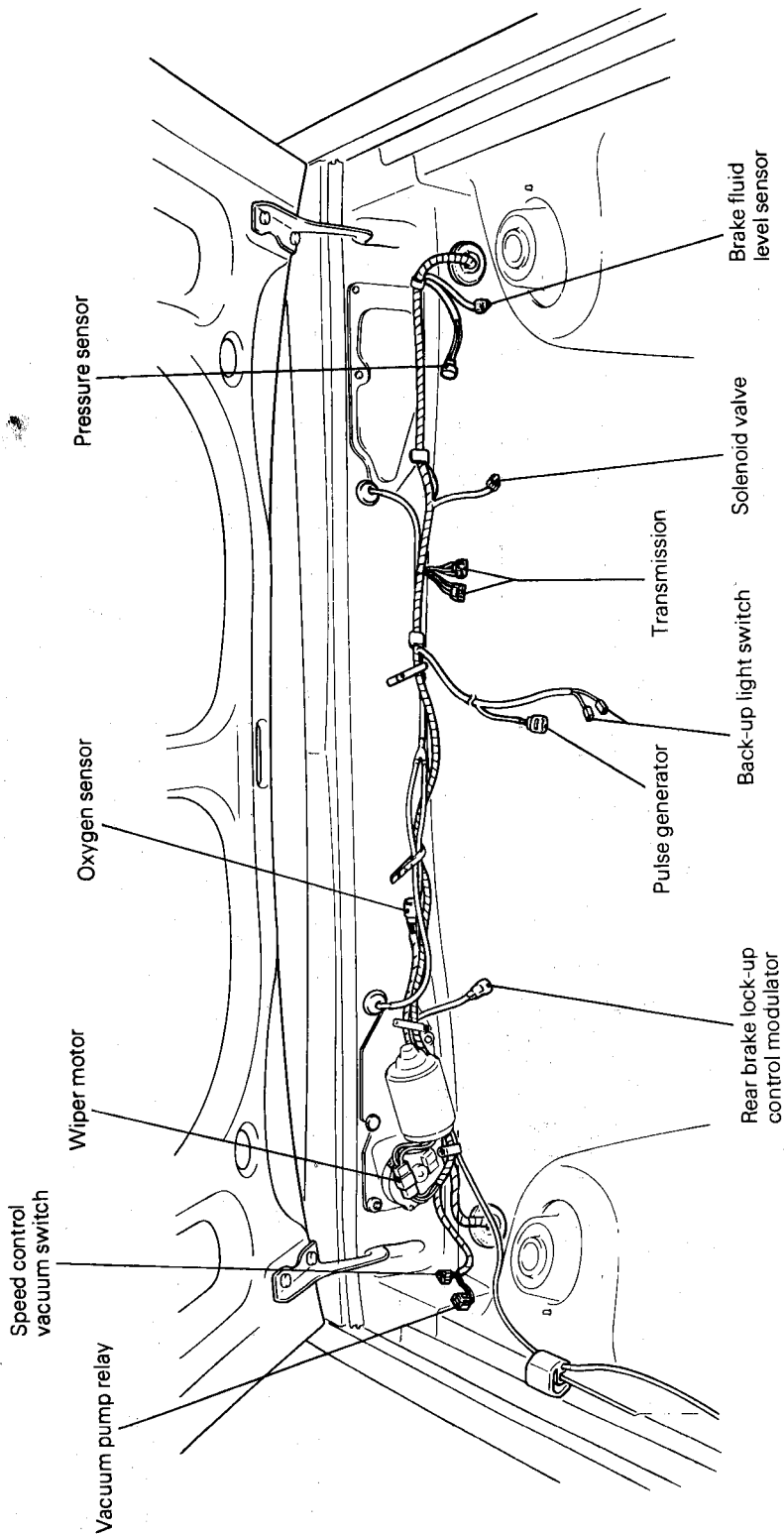
Engine compartment – Front (Vehicles with an intercooler)



16Y2794

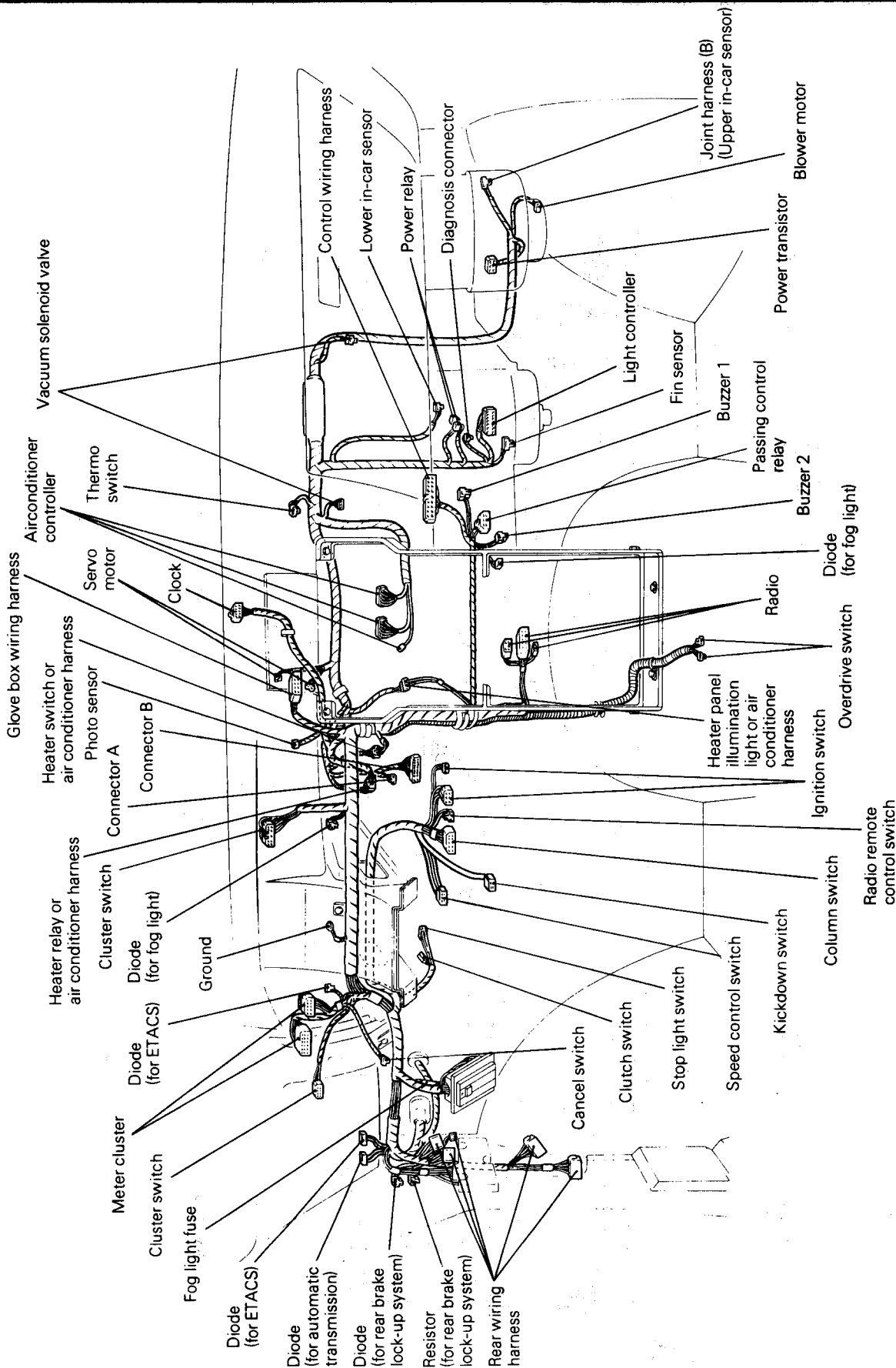


Engine compartment — Rear





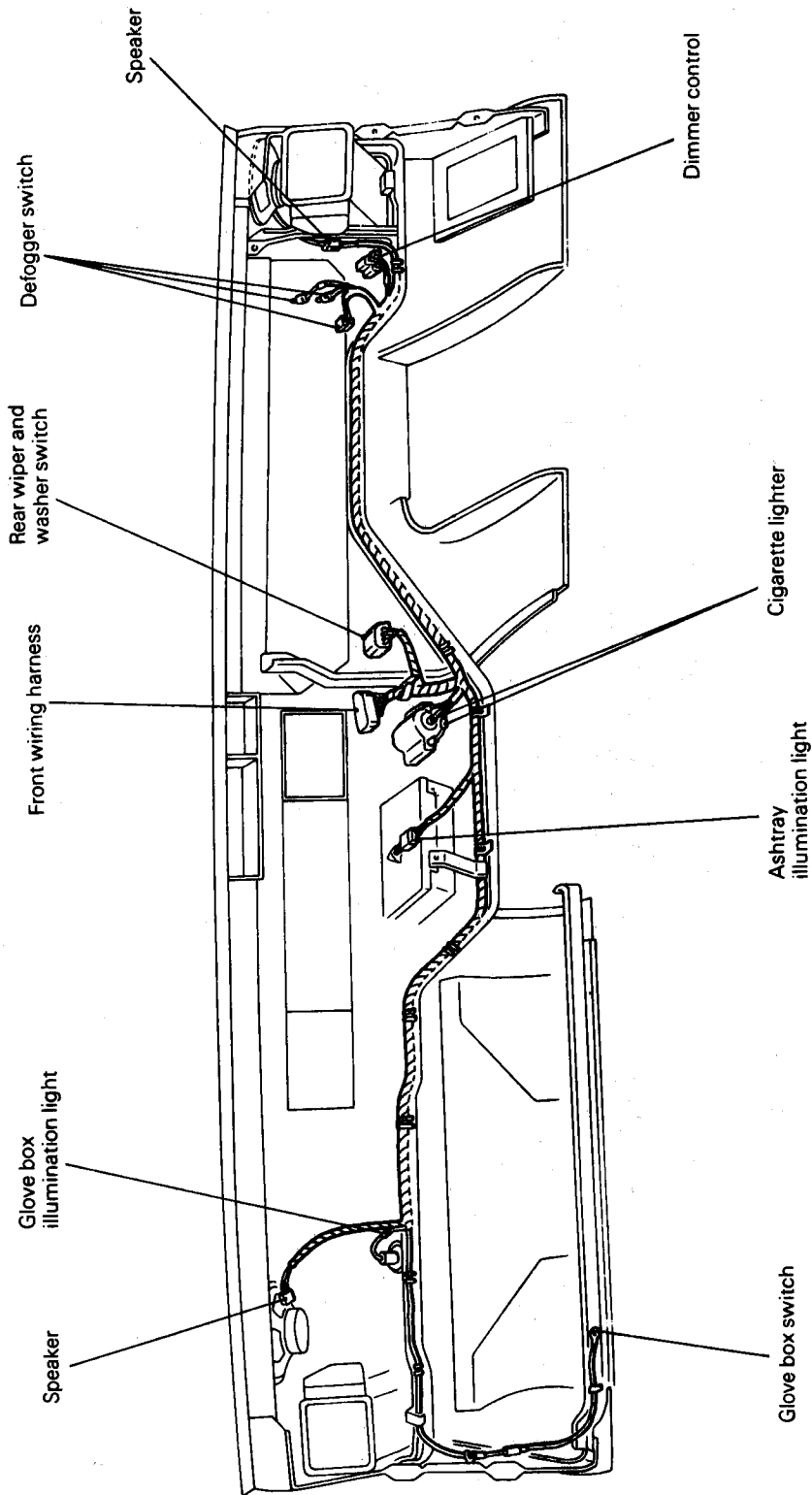
Instrument panel



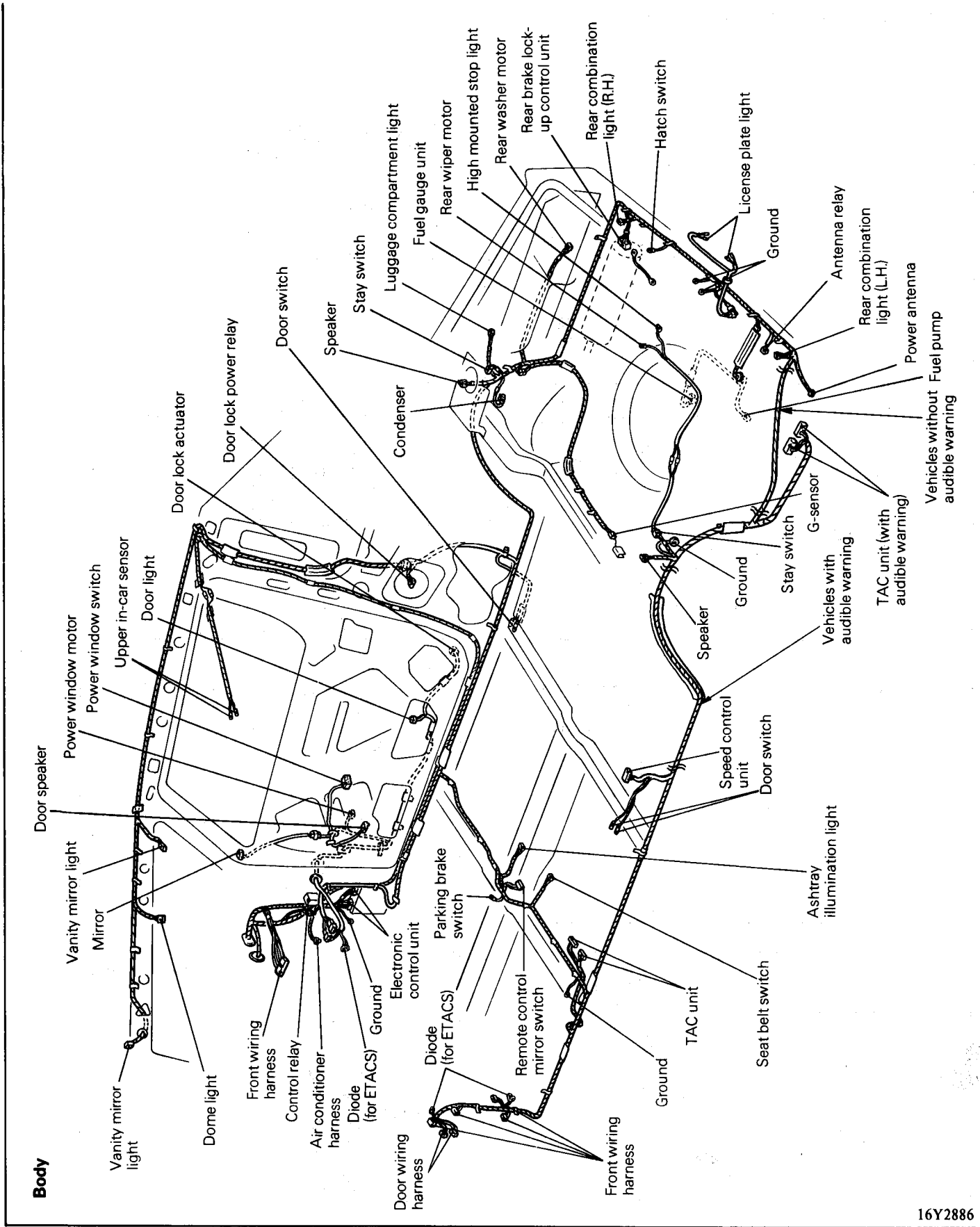
16Y2862



Instrument panel



16Y1811

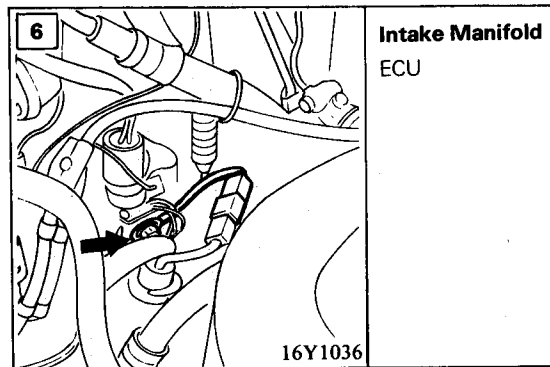
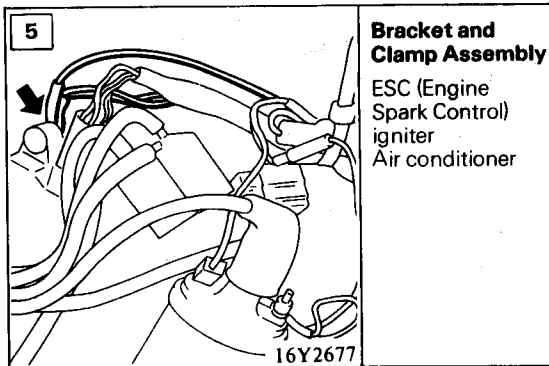
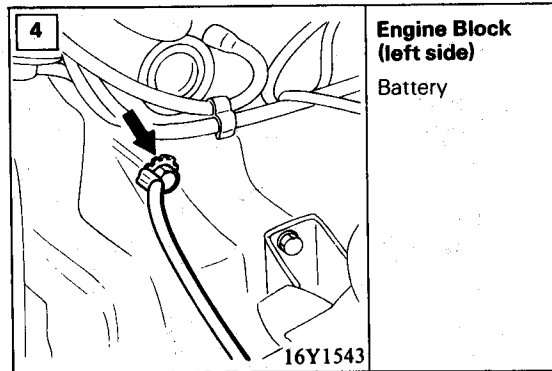
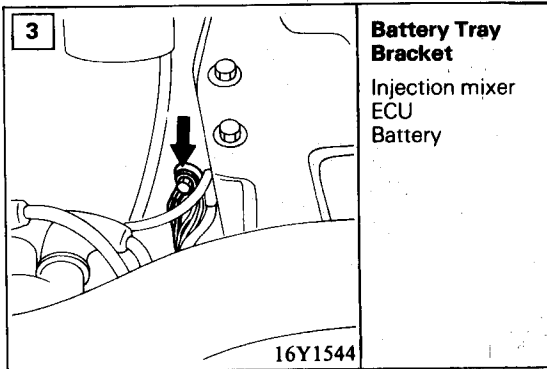
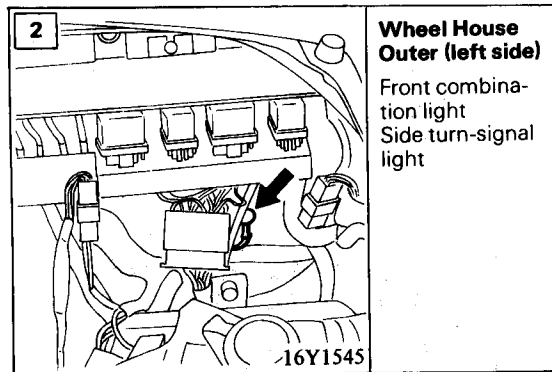
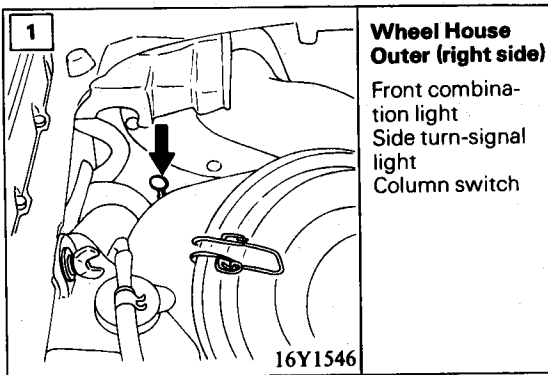
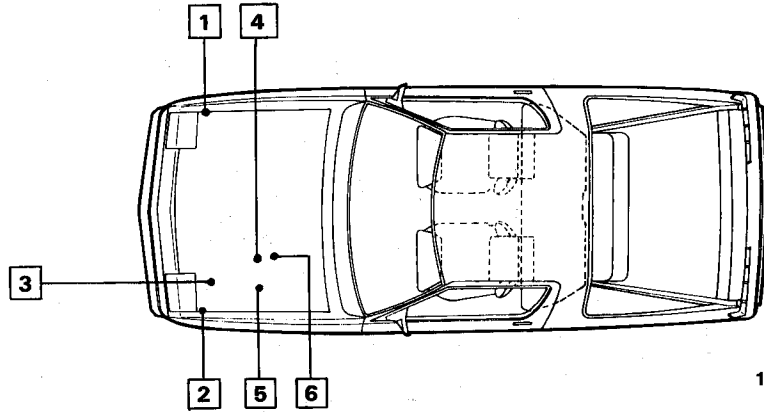


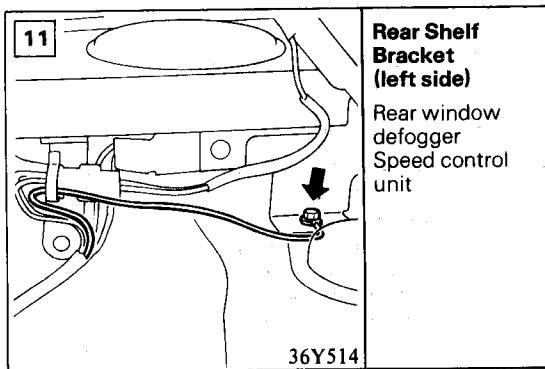
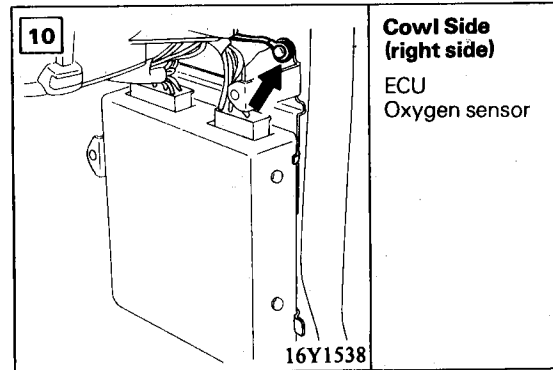
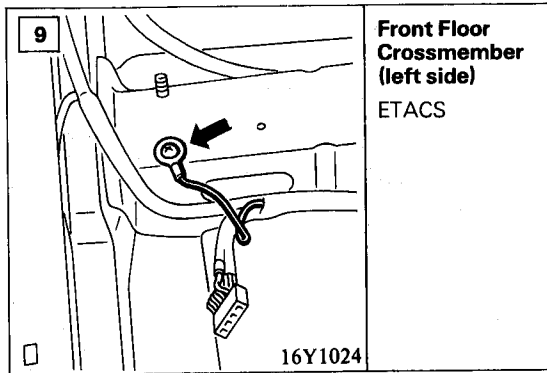
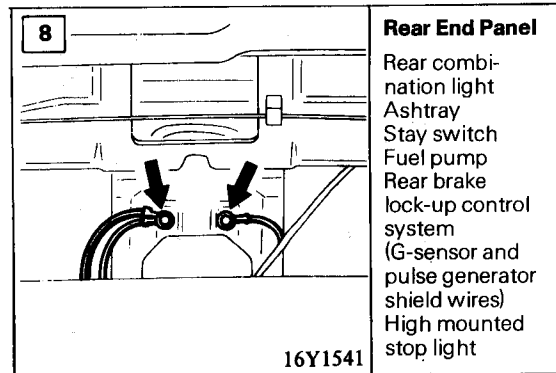
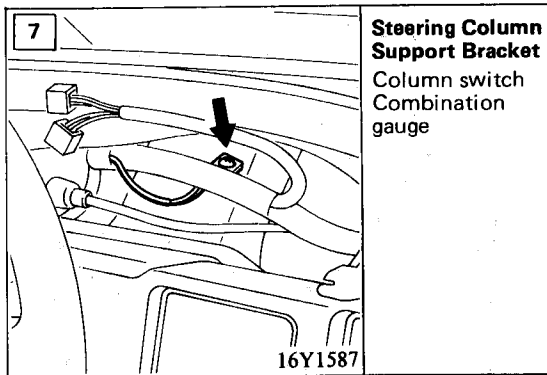
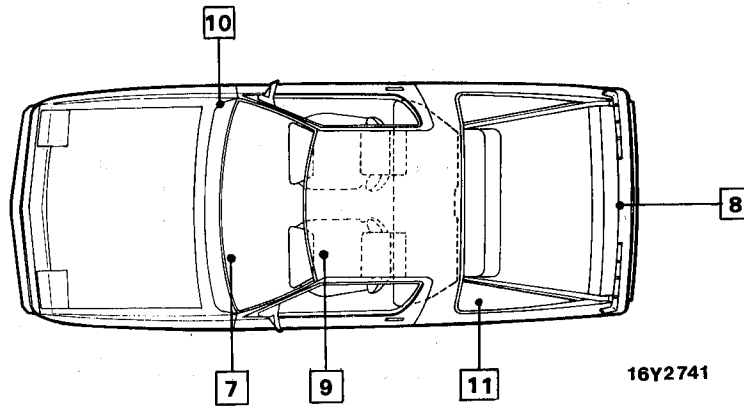
Body

16Y2886



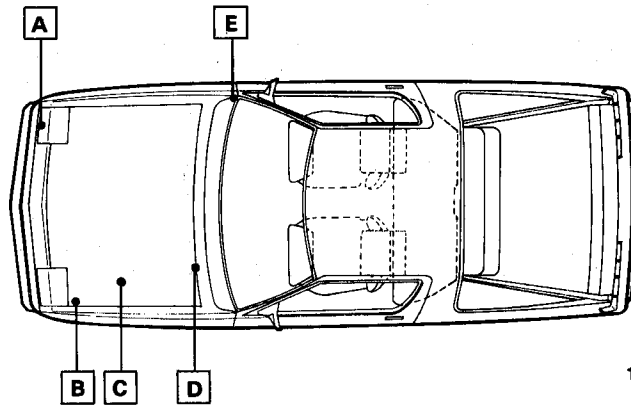
CENTRALIZED GROUND POINTS



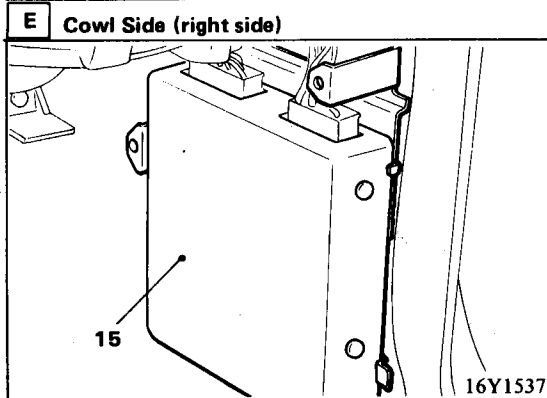
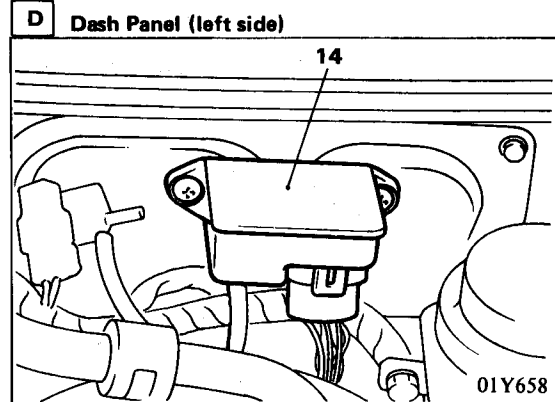
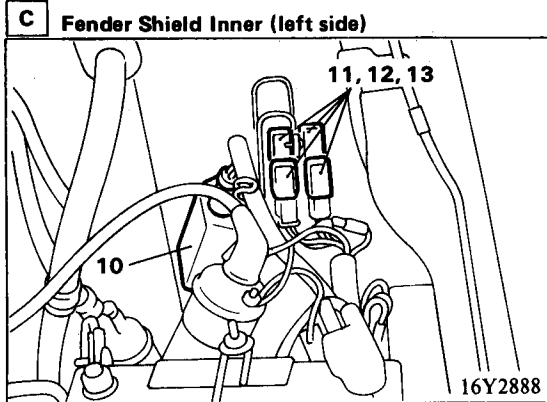
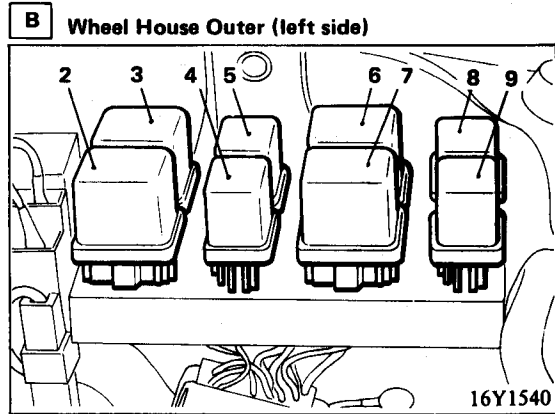
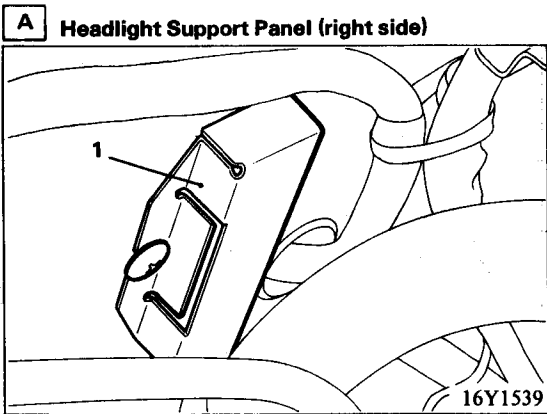




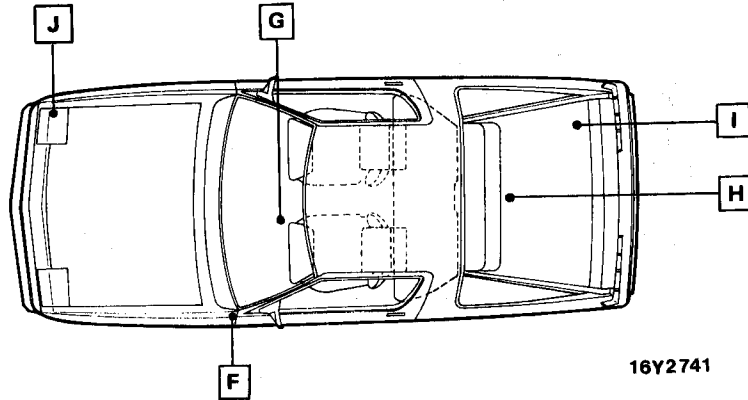
RELAY MOUNTING LOCATIONS



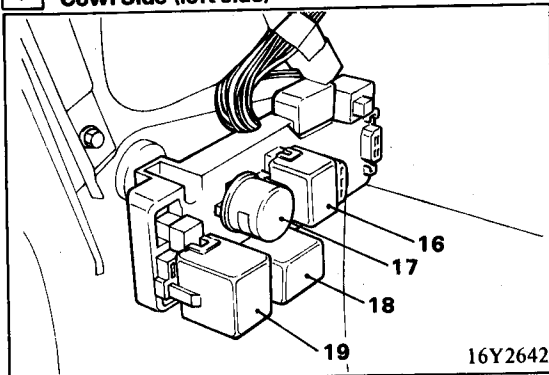
16Y2741



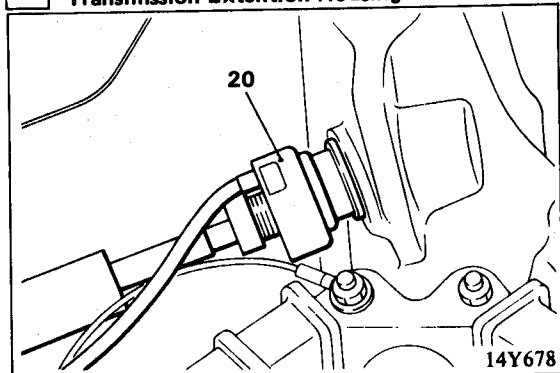
1. Resistor for ECI
2. Pop-up relay (for right headlight)
3. Pop-up relay (for left headlight)
4. Lighting relay (for headlight)
5. Lighting relay (for tail light)
6. Wiper relay (for Low and High)
7. Wiper relay (for ON)
8. Power window relay
9. Rear window defogger relay
10. ESC (Engine Spark Control) igniter
11. Air conditioner relay (for pusher fan)
12. Air conditioner relay (for compressor)
13. Air conditioner relay (for radiator fan control)
14. Pressure sensor
15. ECU (Electronic Control Unit)



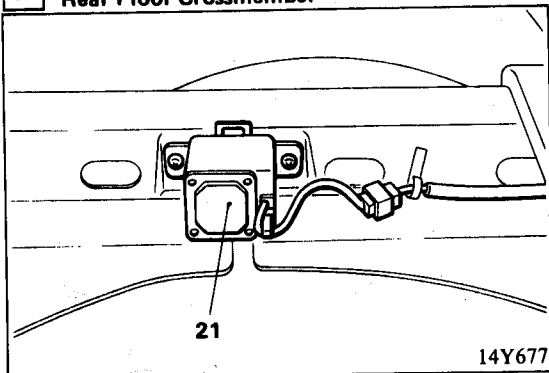
F Cowl Side (left side)



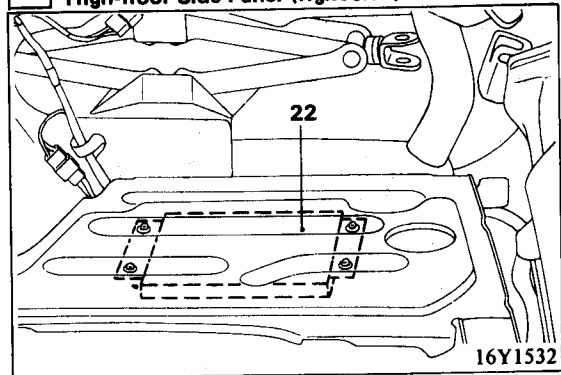
G Transmission Extension Housing



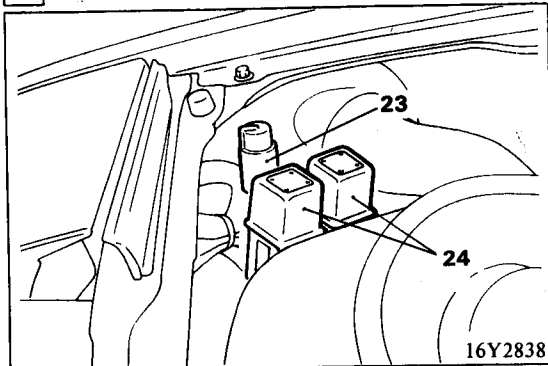
H Rear Floor Crossmember



I High-floor Side Panel (right side)



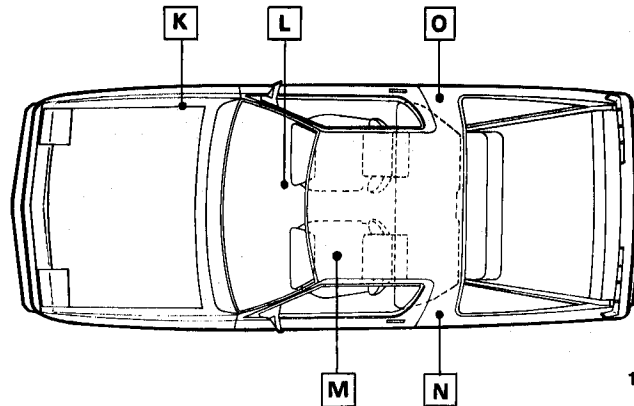
J



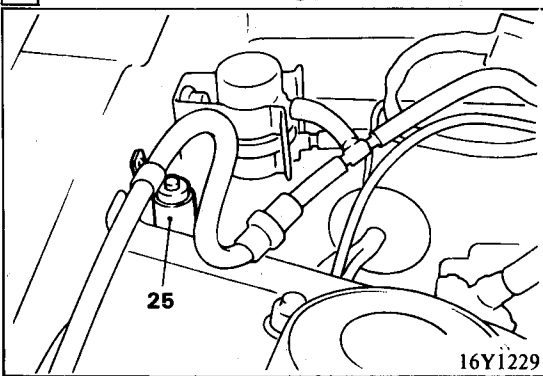
- 16. Overdrive relay
- 17. Hazard warning flasher unit
- 18. Rear brake lock-up control relay
- 19. Turn-signal light flasher unit
- 20. Pulse generator
- 21. G-sensor
- 22. Rear brake lock-up control unit
- 23. Fog light relay
- 24. Radiator fan motor relay



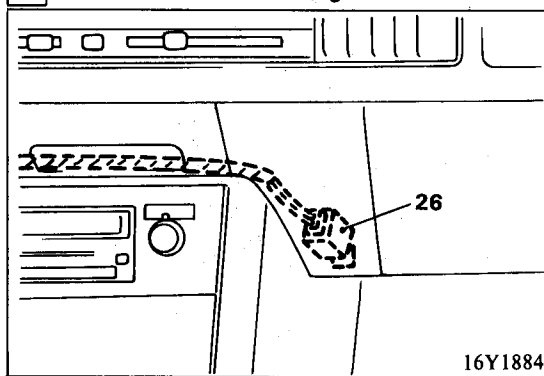
COMPONENT SERVICE – WIRING HARNESS AND FUSES



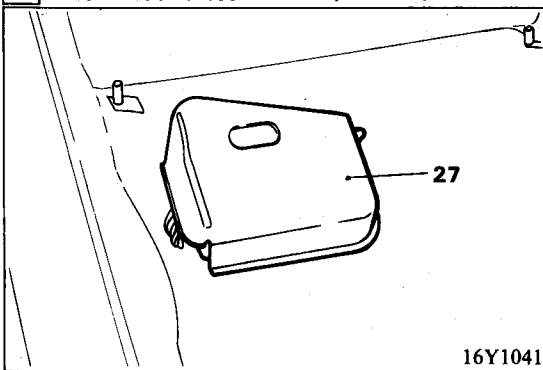
K Wheel House Outer (right side)



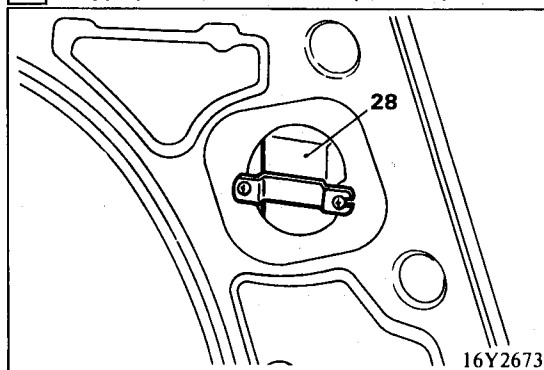
L Center Reinforcement (right side)



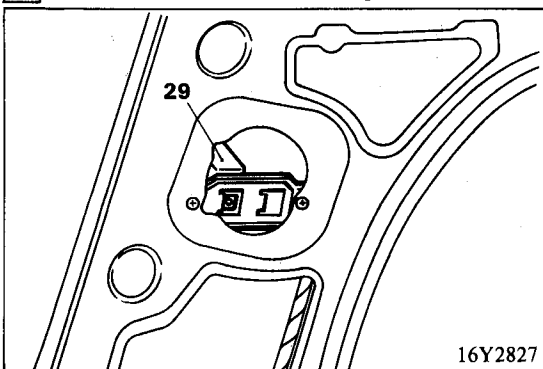
M Front Floor Crossmember (left side)



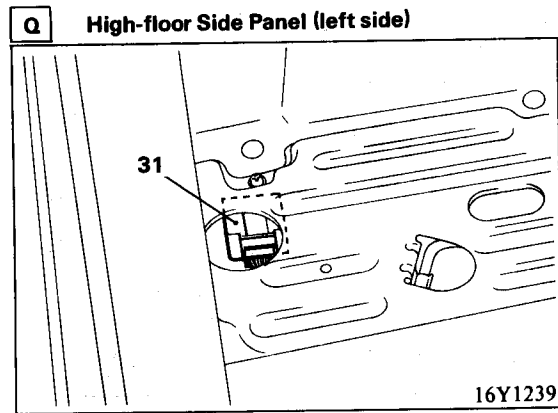
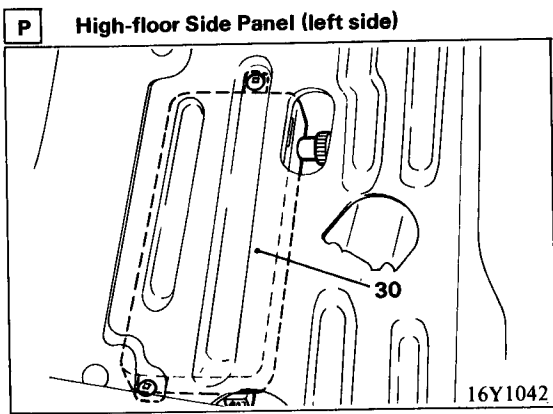
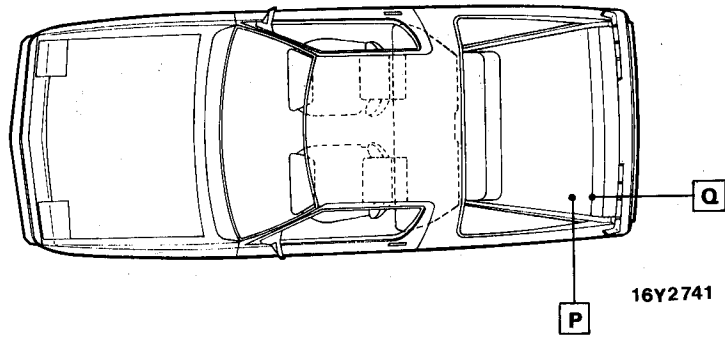
N Quarter Panel Inner Lower (left side)



O Quarter Panel Inner Lower (right side)



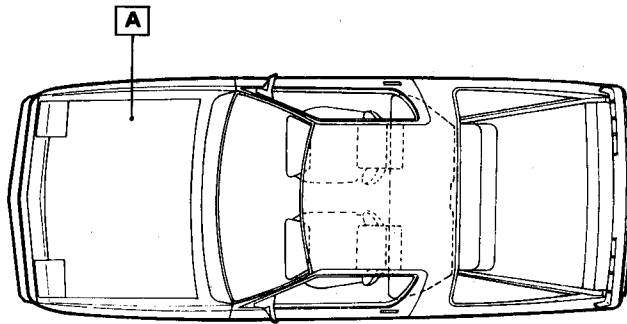
- 25. Speed control vacuum pump relay
- 26. Passing control relay
- 27. TAC unit
- 28. Speed control unit
- 29. Door lock relay



- 30. TAC unit with audible warning
- 31. Power antenna relay

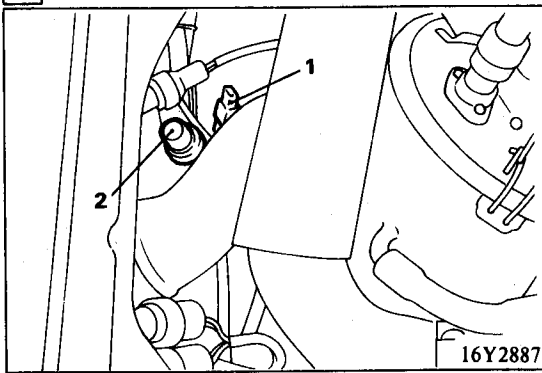


SPARE TERMINALS



16Y2782

A Wheel House Outer (right side)



1. Fuel pump diagnosis connector
2. ECI and oxygen diagnosis connector



WIRING HARNESS CONNECTION CHART

Wiring harness name	Vehicle model	A187AMNSL A187AMRSL	A187AMNFGL
	Front wiring harness		1, *12, *23, *34
Control wiring harness		6, *17	8
Rear wiring harness		9	10
Glove box wiring harness		11	11
Door wiring harness	L.H.	12	12
	R.H.	13	13
Mirror wiring harness		14	14
Fuel gauge unit wiring harness		15	15
Dome light wiring harness		16	17
License plate light wiring harness		18	18
Alternator wiring harness		19	19
G-sensor wiring harness		—	20
Air conditioner wiring harness		21	21
Joint wiring harness (A)		22	22
Joint wiring harness (B)		23	23
Stop light wiring harness		24	24

NOTES

- *1 indicates the vehicles with automatic transmission.
- *2 indicates vehicles with manual transmission and liquid crystal display meter.
- *3 indicates vehicles with automatic transmission and liquid crystal display meter.

How to Read the Chart

1. Numerals in the chart indicate those enclosed with box at left upper corner of block diagram for wiring harness.

Example:

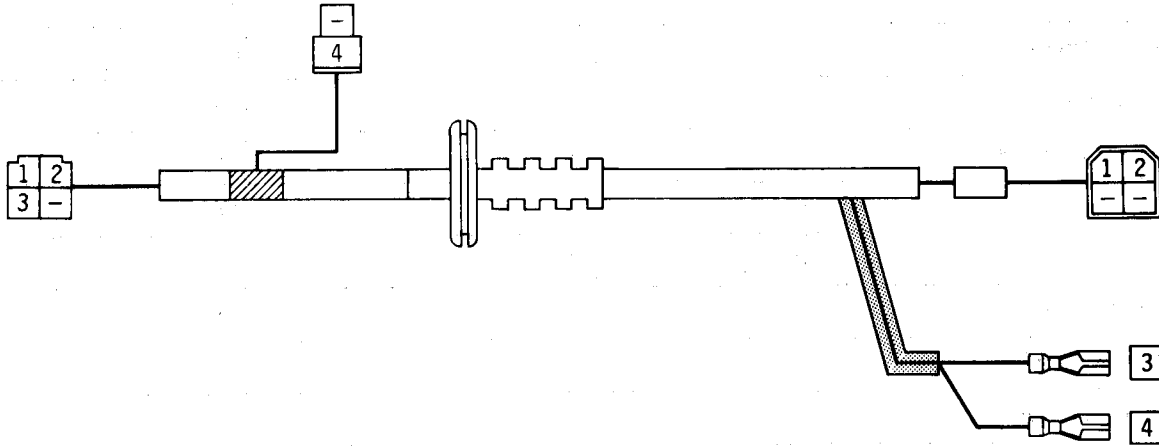
Following wiring harness is on A187AMNFGL

Front wiring harness	5
Control wiring harness	8
Rear wiring harness	10
Glove box wiring harness	11



READING THE HARNESS DIAGRAM

Harness Diagram



E16962

How to Read the Chart

① NO.	② WIRE	④ CIRCUIT	
1	2B	IGNITION SWITCH <ST>	INSTRUMENT PANEL HARNESS
2	RL	FUSE BLOCK (1)	STOP LIGHT SWITCH
3	GY	HORN <E>	
4	GL	HORN 	
5	0.85GB	-	

- ① Indicates the connection number of the connector.
- ② The numbers indicate the nominal cross-sectional area, and these are determined as shown in the table at right. If this number is not used, it indicates that the cross-sectional area of the wire is 0.5 mm².

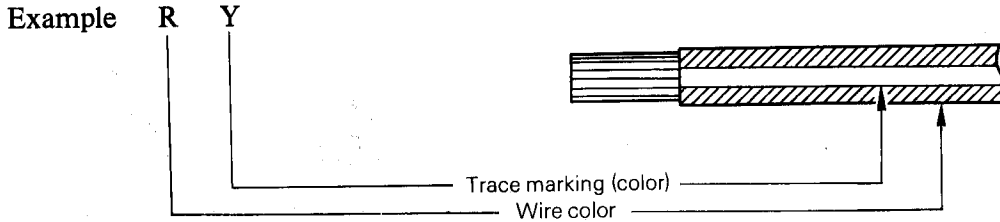
Sym- bol	Nominal size mm ²	SAE gauge No.	Permissible current	
			In engine compartment	Other areas
0.3	0.3	AWG 22	—	5A
Nil	0.5	AWG 20	7A	13A
0.85	0.85	AWG 18	9A	17A
1.25	1.25	AWG 16	12A	22A
2	2.0	AWG 14	16A	30A
3	3.0	AWG 12	21A	40A
5	5.0	AWG 10	31A	54A



③ The letters indicate the color of the wire.

Symbol	B	G	L	O	R	W	Y	Br	Gr
Color	Black	Green	Blue	Orange	Red	White	Yellow	Brown	Grey

Wires which have two-color insulation covering are indicated by using two letters. The first letter indicates the wire color and the second letter indicates the trace marking (color).



Y16B04

④ Indicates a circuit connection.

⑤ The letters in < > indicate the connector terminal symbol. ("B" indicates the circuit power source, and "E" indicates the circuit ground.)

NOTE

The meanings of the abbreviations in the angular brackets < > are shown in the following table:

Abbreviation	Meaning	Abbreviation	Meaning	Abbreviation	Meaning
A	Ammeter	FR	Front right	RG	Hatch
ACC	Accessory	FU	Turn-signal flasher unit	RL	Rear left
ALT	Alternator	FI	Fuel indicator	RR	Rear right
AS	Auto stop	H	Hard	S	Soft
ASM	Auto stop motor side	HB	Headlight battery side	S/LP	Stop light
ASS	Auto stop switch side	HL	Headlight lower beam	S/T	Seat belt
A/SK	Rear brake lock-up	HS	Headlight switch	SB	Seat belt indicator light
B	Battery	HU	Headlight upper beam	SD	Speed control digital sign
B/G	Pressure gauge	HZ	Hazard flasher unit	SET	Set switch
B/SG	Pressure signal generator	HO	Horn	SG	Signal generator
BACK	Back-up light	HI	High speed terminal	ST	Starter
BK	Brake	I/SW	Idle switch	STM	Starter motor
BS	Pressure sensor	IG	Ignition	STS	Starter switch
BU	Buzzer	ILL	Illumination	SW	Switch
C/B	Computer battery	IND	Indicator light	T	Tail light
CB	Control relay battery side	INT	Intermittent	TAC	Tachometer
CH	Charging	L	Load	TB	Turn-signal battery side
CS	Cancel switch	LO	Low speed terminal	TEMP	Water temperature
CV	Control valve	LI	License plate light	TL	Turn-signal light, left
D	Door	M	Motor	TR	Turn-signal light, right
D	Down	O	Oil pressure	TIL	Tail light, left
DEF	Rear window defogger	P	Position light	U	Up
DIS	Distributor	PB	Passing light battery side	UB	Upper beam indicator light
E	Ground	PR	Power	VS	Vacuum switch
EY	Economy	PS	Passing switch	W	Washer
F	Fuel gauge unit	R	Resistor	WA	Washer fluid level indicator light
F/C	Fuel pump control relay	R	Resume switch	WH	Wiper switch high
F/P	Fuel pump	R/B	Resistor battery	WL	Wiper switch low
FB	Flasher battery side	RACC	Radiator fan relay accessory side	+	Positive terminal
FL	Front left	RB	Radiator fan relay battery side	-	Negative terminal

⑥ The description in () indicates supplementary information, in this instance the number 1 fuse of the fuse block will be indicated.

⑦ The numbers in [] indicate the symbol of the connector terminal to which the wire is connected.

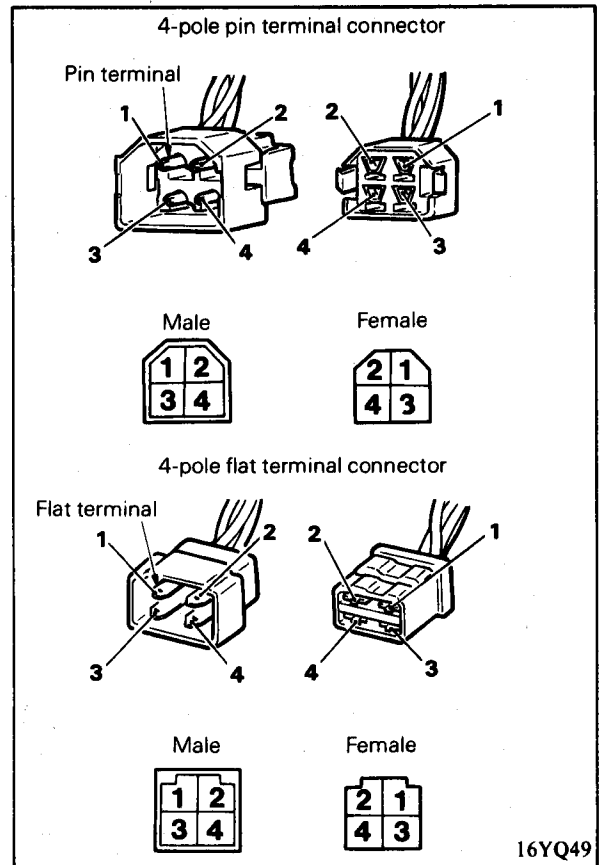
⑧ — indicates installation of only a connector or terminal, without a connecting point.



WIRING CONNECTORS

Connector Classifications

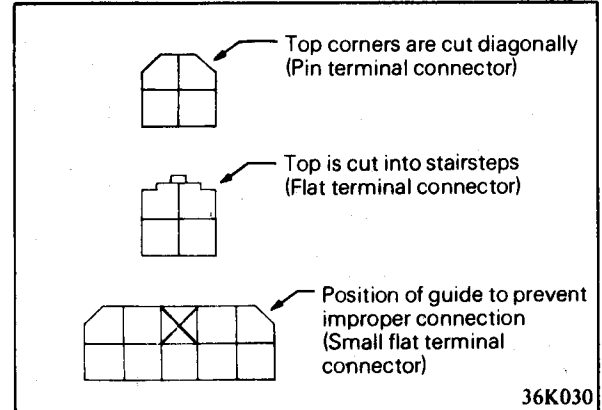
Electrical wiring connectors can be classified according to the type of terminals (such as pin terminals or flat terminals), the number of poles (terminals), whether they are male or female, whether they have a locking device or not, etc. In this Service Manual, connectors will generally be classified as follows:



1. Classification according to terminal type

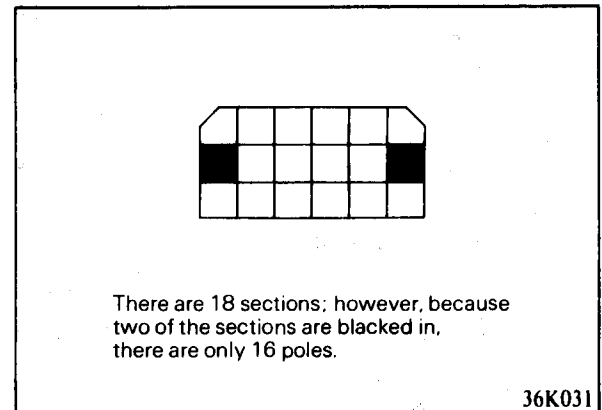
Connectors illustrated with outer lines shaped so that the top corners are cut diagonally usually have pin terminals, and those illustrated with outer lines shaped so that the top is cut into stairsteps usually have flat terminals.

Note that connectors illustrated with diagonally cut corners on which one section is marked with an "X" are small flat terminal connectors. The "X" indicates the position of a guide to prevent the connector from being improperly connected.



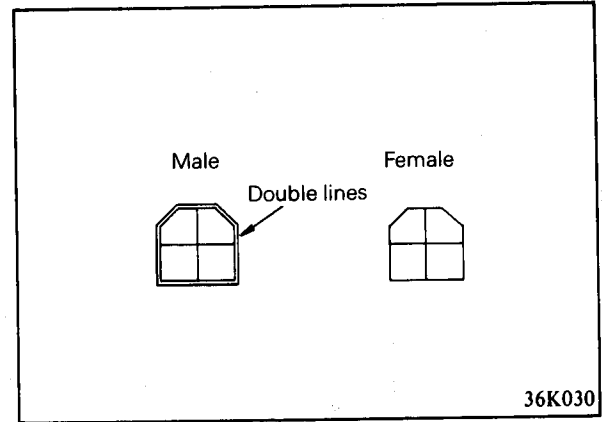
2. Classification according to number of poles.

The number of sections represents the number of poles inside the connector. However, sections in the illustration marked with an "X" or blacked in do not represent poles.





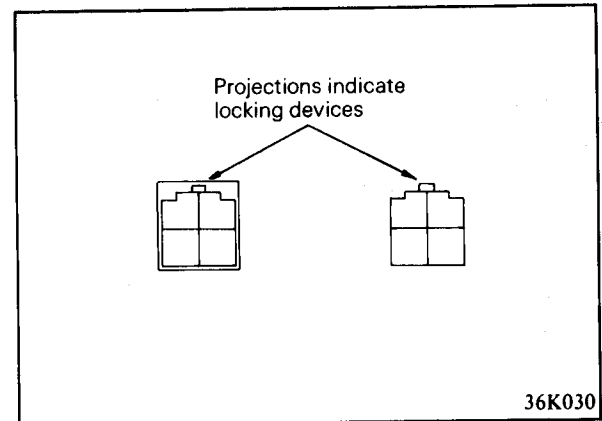
3. Classification according to male and female.
Connectors illustrated with double outer lines are male, and those with single outer lines are female.



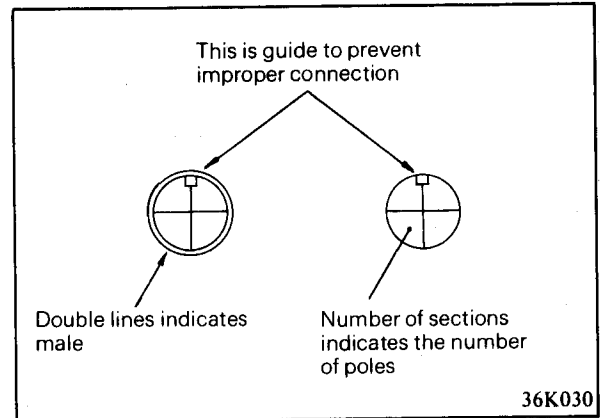
4. Classification according to the presence of a locking device.
If a flat terminal connector is illustrated with a projection at the top, it indicates that the connector is equipped with a locking device.

NOTE

Because all pin terminal connectors, small flat terminal connectors, and sealed connectors are equipped with locking devices, there are special indications in the graphic illustration.

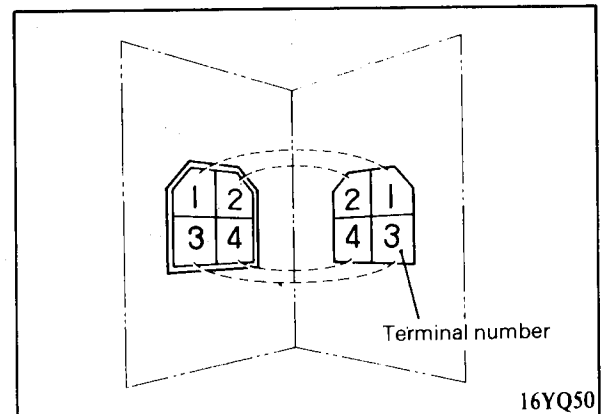


5. Classification according to sealed connector
Classification of round shape-sealed connector (pin terminal water-proofed connector) which is used for engine wiring harness is the same as above.



Terminal Number of Connector

If a pair of connectors (male and female) is observed as disconnected, terminal numbers for both male and female connectors are symmetrically (opposite in number order between male and female). Therefore when connecting a pair of connectors, same terminal numbers on male and female connectors meet as shown in the illustration.

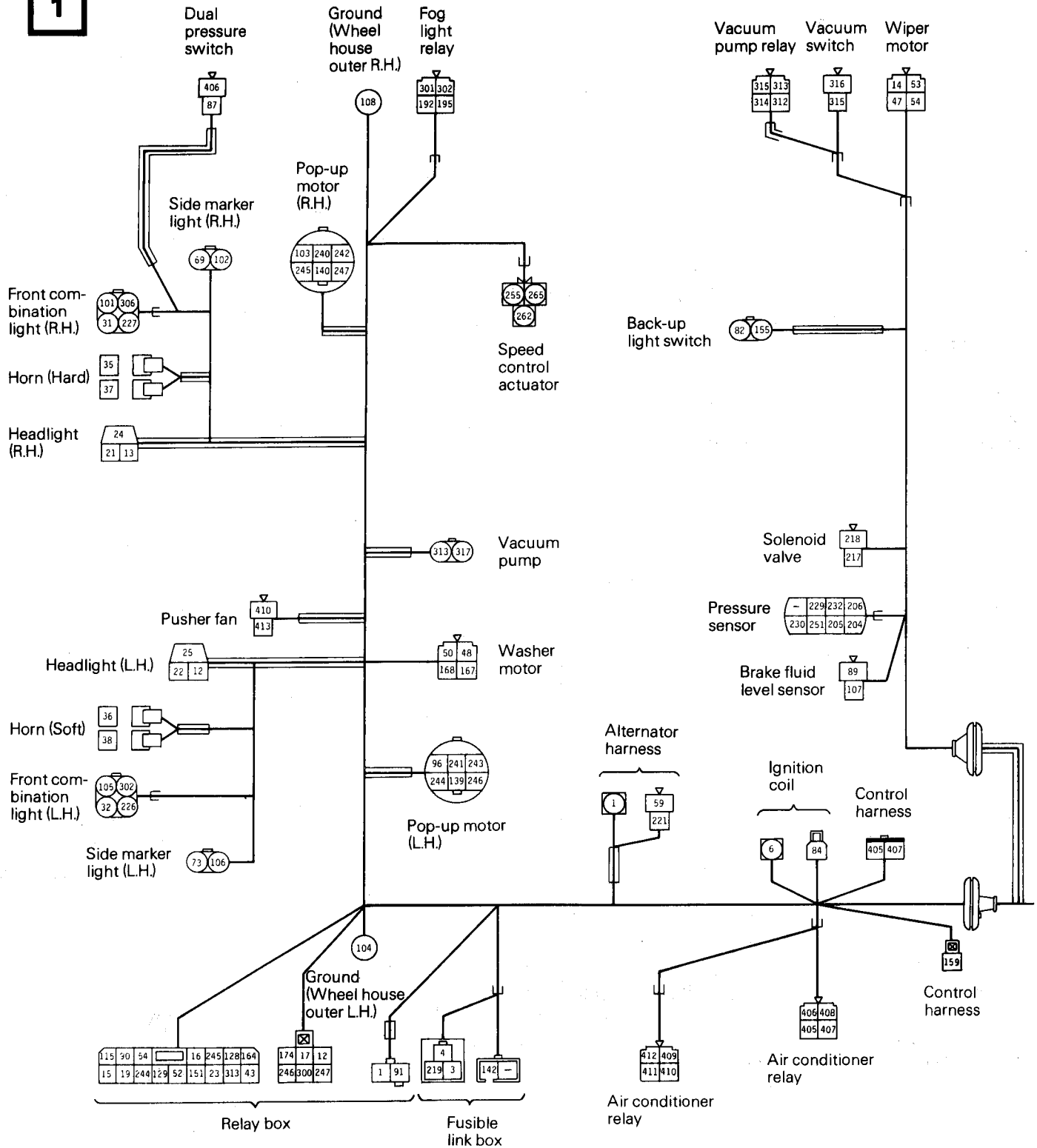


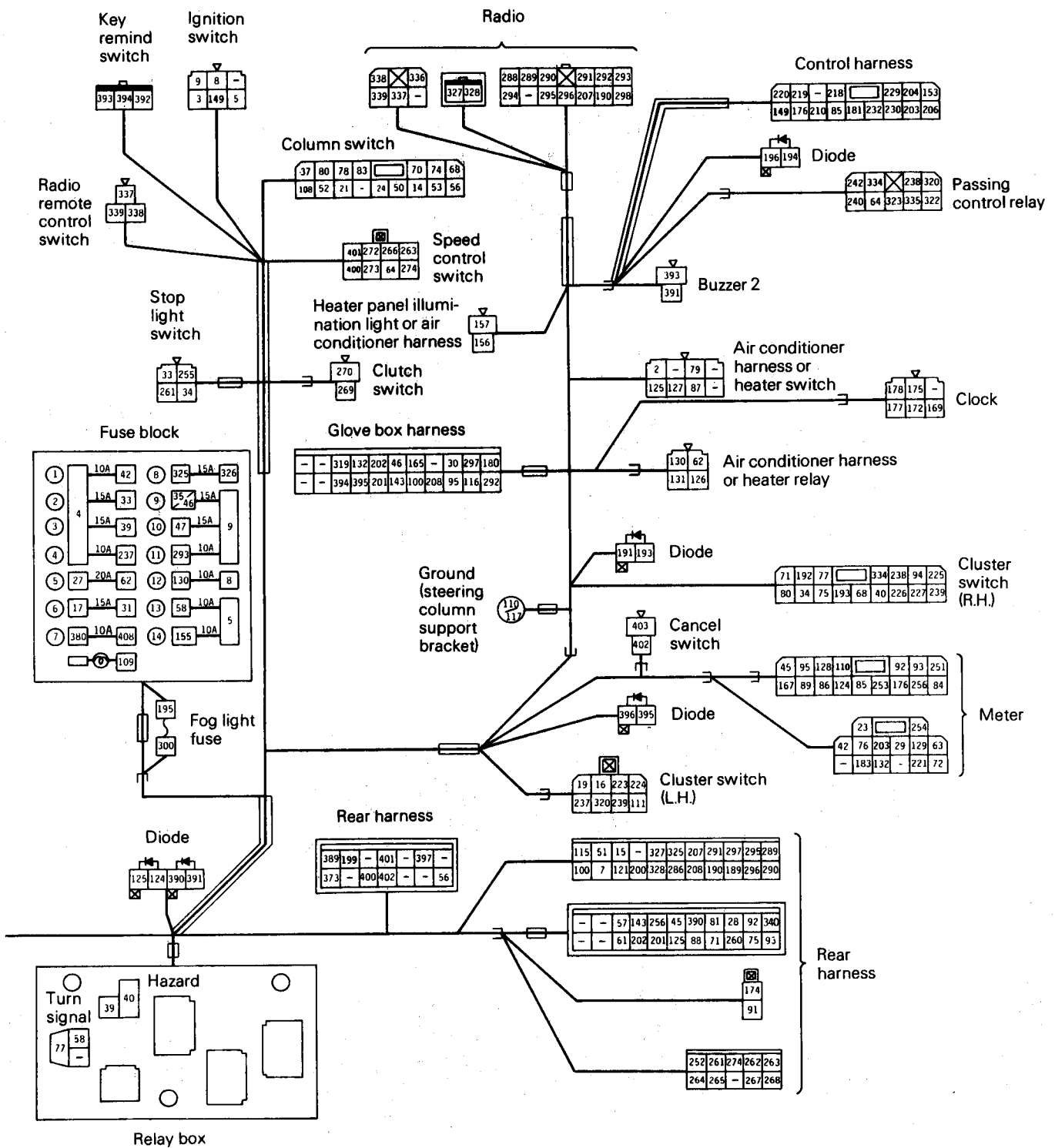


COMPONENT SERVICE – WIRING HARNESS AND FUSES

FRONT HARNESS

1







COMPONENT SERVICE - WIRING HARNESS AND FUSES

NO.		WIRE	CIRCUIT	WIRE	CIRCUIT	NO.	WIRE	CIRCUIT
1	5W	ALTERNATOR HARNESS	BATTERY	RL	BACK-UP LIGHT SWITCH <L>	82	RL	REAR HARNESS
2	3LR	HEATER SWITCH OR AIR CONDITIONER HARNESS	FUSIBLE LINK BOX <IG>	WL	COLUMN SWITCH <RL>	83	WL	IGNITION COIL
3	3WB	IGNITION SWITCH <AM>	FUSIBLE LINK BOX 	W/B	METER <IG>	84	W/B	CONTROL HARNESS
4	3W	FUSE BLOCK (1, 2, 3, 4)	FUSIBLE LINK BOX 	08BY	METER <O>	85	08BY	DUAL PRESSURE SWITCH
5	3BW	IGNITION SWITCH <IG1>	FUSE BLOCK (13, 14)	YR	METER <UB>	86	YR	REAR HARNESS
6	2BV	IGNITION COIL	FUSE BLOCK (13, 14)	GY	HEATER SWITCH OR AIR CONDITIONER HARNESS	87	GY	REAR HARNESS
7	03LR	REAR HARNESS	FUSE BLOCK (12)	03GR	REAR HARNESS	88	03GR	REAR HARNESS
8	3LB	IGNITION SWITCH <IG2>	FUSE BLOCK (9, 10, 11)	BW	BRAKE FLUID LEVEL SENSOR <IND>	89	BW	METER <PB>
9	3LV	IGNITION SWITCH <ACC>	HEADLIGHT (LH) 	L	RELAY BOX <ACC>	90	L	REAR HARNESS
12	2G	RELAY BOX <HB>	HEADLIGHT (LH) 	2BR	RELAY BOX <DEF>	91	2BR	REAR HARNESS
13	2G	HEADLIGHT (RH) 	WIPER MOTOR <HI>	03YB	METER <FG>	92	03YB	REAR HARNESS
14	085LB	COLUMN SWITCH <HI>	WIPER MOTOR <HI>	03YL	METER <FI>	93	03YL	REAR HARNESS
15	LO	RELAY BOX <E>	CLUSTER SWITCH <HI>	GW	METER <ILL>	94	GW	GLOVE BOX HARNESS <ILL>
16	R	RELAY BOX <HS>	CLUSTER SWITCH (LH) <HS>	BY	METER <ILL>	95	BY	GLOVE BOX HARNESS
17	2RW	RELAY BOX <T>	CLUSTER SWITCH (RH) <TS>	B	POP-UP MOTOR (LH) <E>	96	B	GLOVE BOX HARNESS
19	GW	RELAY BOX <TS>	COLUMN SWITCH <HU>	03LR	REAR HARNESS	100	03LR	GLOVE BOX HARNESS
21	1.25R	HEADLIGHT (RH) <HU>	COLUMN SWITCH <HU>	01	FRONT COMBINATION LIGHT (RH) <E>	101	01	GLOVE BOX HARNESS
22	1.25R	HEADLIGHT (LH) <HU>	METER <UB+>	2B	SIDE MARKER LIGHT (RH) <E>	102	2B	GLOVE BOX HARNESS
23	YR	RELAY BOX <UB>	COLUMN SWITCH <HL>	B	POP-UP MOTOR (RH) <E>	103	B	GLOVE BOX HARNESS
24	1.25RW	HEADLIGHT (RH) <HL>	COLUMN SWITCH <HL>	104	GROUND	104	104	GLOVE BOX HARNESS
25	1.25RW	HEADLIGHT (LH) <HL>	FUSE BLOCK (6)	105	FRONT COMBINATION LIGHT (LH) <E>	105	105	GLOVE BOX HARNESS
27	3W	FUSE BLOCK (9)	FUSE BLOCK (6)	106	SIDE MARKER LIGHT (LH) <E>	106	106	GLOVE BOX HARNESS
28	086GW	REAR HARNESS	FUSE BLOCK (9)	107	BRAKE FLUID LEVEL SENSOR <E>	107	107	GLOVE BOX HARNESS
29	GW	METER <ILL>	FUSE BLOCK (9)	108	COLUMN SWITCH <E>	108	108	GLOVE BOX HARNESS
30	GW	GLOVE BOX HARNESS <ILL>	FUSE BLOCK (9)	109	FUSE BLOCK	109	109	GLOVE BOX HARNESS
31	085GW	FRONT COMBINATION LIGHT (RH) <P>	FUSE BLOCK (9)	B	METER <E>	110	B	GLOVE BOX HARNESS
32	GW	FRONT COMBINATION LIGHT (LH) <P>	FUSE BLOCK (9)	111	CLUSTER SWITCH (LH) <E>	111	111	GLOVE BOX HARNESS
33	085G	FUSE BLOCK (2)	STOP LIGHT SWITCH <RB>	B	RELAY BOX <SW>	112	B	GLOVE BOX HARNESS
34	085GW	STOP LIGHT SWITCH <L>	CLUSTERS SWITCH (RH)	GY	GLOVE BOX HARNESS	116	GY	GLOVE BOX HARNESS
35	GO	HORN 	FUSE BLOCK (9)	117	GROUND	117	117	GLOVE BOX HARNESS
36	GO	HORN 	FUSE BLOCK (9)	121	REAR HARNESS	121	121	GLOVE BOX HARNESS
37	GB	HORN <E>	COLUMN SWITCH <HO>	03GO	REAR HARNESS	122	03GO	GLOVE BOX HARNESS
38	GB	HORN <E>	COLUMN SWITCH <HO>	03GB	METER <S/T>	124	03GB	GLOVE BOX HARNESS
39	1.25GY	FUSE BLOCK (9)	RELAY BOX <E>	03RY	DIODE	125	03RY	GLOVE BOX HARNESS
40	1.25GB	RELAY BOX <L>	CLUSTER SWITCH (RH) <HZ>	2L	HEATER RELAY <SW> OR AIR CONDITIONER HARNESS	126	2L	GLOVE BOX HARNESS
42	FB	METER 	FUSE BLOCK (1)	2B	HEATER SWITCH <E> OR AIR CONDITIONER HARNESS	127	2B	GLOVE BOX HARNESS
43	RB	RELAY BOX <E>	REAR HARNESS	085W	RELAY BOX	128	085W	GLOVE BOX HARNESS
45	03RG	METER <DR>	GLOVE BOX HARNESS	129	085WB	129	085WB	GLOVE BOX HARNESS
46	085LW	FUSE BLOCK (9)	WIPER MOTOR <ACC>	LR	HEATER RELAY <IG> OR AIR CONDITIONER HARNESS	130	LR	GLOVE BOX HARNESS
47	086L	WASHER MOTOR <ACC>	COLUMN SWITCH <W>	03B	HEATER RELAY <E> OR AIR CONDITIONER HARNESS	131	03B	GLOVE BOX HARNESS
48	L	WASHER MOTOR <SW>	RELAY BOX <E>	1.25B	POP-UP MOTOR (LH) <E>	138	1.25B	GLOVE BOX HARNESS
50	LW	WASHER MOTOR <SW>	RELAY BOX <E>	1.25B	POP-UP MOTOR (RH) <E>	139	1.25B	GLOVE BOX HARNESS
51	LW	REAR HARNESS	RELAY BOX <E>	1.25B	POP-UP MOTOR (RH) <E>	140	1.25B	GLOVE BOX HARNESS
52	085GW	COLUMN SWITCH <S>	COLUMN SWITCH <LO>	5W	FUSIBLE LINK BOX	142	5W	GLOVE BOX HARNESS
53	085LW	WIPER MOTOR <LO>	RELAY BOX <AS>	WB	GLOVE BOX HARNESS	143	WB	GLOVE BOX HARNESS
54	LY	WIPER MOTOR <AS>	REAR HARNESS	2BY	IGNITION SWITCH <ST>	149	2BY	GLOVE BOX HARNESS
56	085GW	COLUMN SWITCH <INT>	REAR HARNESS	1.25B	RELAY BOX <E>	151	1.25B	GLOVE BOX HARNESS
57	038Y	REAR HARNESS	RELAY BOX <IG>	R	BACK-UP LIGHT SWITCH <IG>	155	R	FUSE BLOCK (14)
58	085RL	FUSE BLOCK (13)	FUSE BLOCK (14)	GW	HEATER PANEL ILLUMINATION LIGHT <ILL> OR AIR CONDITIONER HARNESS	156	GW	FUSE BLOCK (14)
59	075L	ALTERNATOR HARNESS	HEATER RELAY OR AIR CONDITIONER HARNESS	BY	HEATER PANEL ILLUMINATION LIGHT <ILL> OR AIR CONDITIONER HARNESS	157	BY	FUSE BLOCK (14)
61	03RB	REAR HARNESS	HEATER RELAY OR AIR CONDITIONER HARNESS	2BY	CONTROL HARNESS	159	2BY	FUSE BLOCK (14)
62	3LR	FUSE BLOCK (9)	PASSING CONTROL RELAY	BW	RELAY BOX <IG>	164	BW	FUSE BLOCK (14)
63	03LR	METER	COLUMN SWITCH <TB>	2BR	GLOVE BOX HARNESS	165	2BR	FUSE BLOCK (14)
64	RB	SPEED CONTROL SWITCH <FS>	CLUSTER SWITCH (RH) <RR>	LW	WASHER MOTOR <IND>	167	LW	FUSE BLOCK (14)
68	GR	CLUSTER SWITCH (RH) <TS>	COLUMN SWITCH <TR>	B	WASHER MOTOR <E>	168	B	FUSE BLOCK (14)
69	GW	SIDE MARKER LIGHT (RH) <P>	CLUSTER SWITCH (RH) <TR>	03LW	CLOCK <ACC>	169	03LW	FUSE BLOCK (14)
70	GY	COLUMN SWITCH <FR>	CLUSTER SWITCH (RH) <TR>	GW	CLOCK <ILL>	172	GW	FUSE BLOCK (14)
71	WR	REAR HARNESS	CLUSTER SWITCH (RH) <TR>	2L	RELAY BOX <PW>	174	2L	FUSE BLOCK (14)
72	GY	METER <TR>	CLUSTER SWITCH (RH) <TR>	03BY	CLOCK	175	03BY	FUSE BLOCK (14)
73	GW	SIDE MARKER LIGHT (LH) <P>	CLUSTER SWITCH (RH) <TR>	03YG	CONTROL HARNESS	176	03YG	FUSE BLOCK (14)
74	GL	COLUMN SWITCH <EL>	CLUSTER SWITCH (RH) <TR>	177	CLOCK 	177	177	FUSE BLOCK (14)
75	WL	REAR HARNESS	CLUSTER SWITCH (RH) <TR>	03B	CLOCK <E>	178	03B	FUSE BLOCK (14)
76	GL	METER <TL>	CLUSTER SWITCH (RH) <TR>	03WR	GLOVE BOX HARNESS	180	03WR	FUSE BLOCK (14)
77	GR	RELAY BOX <L>	CLUSTER SWITCH (RH) <TR>	03BR	REAR HARNESS	189	03BR	FUSE BLOCK (14)
78	WR	COLUMN SWITCH <RR>	CLUSTER SWITCH (RH) <TR>	03WR	REAR HARNESS	190	03WR	FUSE BLOCK (14)
79	GB	HEATER SWITCH OR AIR CONDITIONER HARNESS	CLUSTER SWITCH (RH) <TR>	RY	DIODE	191	RY	FUSE BLOCK (14)
80	085WG	CLUSTER SWITCH (RH)	COLUMN SWITCH <STOP LIGHT>					FUSE BLOCK (14)

COMPONENT SERVICE — WIRING HARNESS AND FUSES



NO.	WIRE	CIRCUIT	NO.	WIRE	CIRCUIT
288	BY	RADIO < LL ->	288	BY	RADIO < LL ->
288	0.36L	RADIO < RL ->	288	0.36L	REAR HARNESS
289	0.3GR	DIODE	289	0.3GR	REAR HARNESS
291	0.3LGL	FOG LIGHT FUSE	291	0.3LGL	REAR HARNESS
292	0.3BR	FOG LIGHT RELAY	292	0.3BR	REAR HARNESS
293	LW	FOG LIGHT RELAY	293	LW	REAR HARNESS
294	0.3RB	FOG LIGHT RELAY	294	0.3RB	REAR HARNESS
295	0.3YL	FOG LIGHT RELAY	295	0.3YL	REAR HARNESS
296	0.3YR	FOG LIGHT RELAY	296	0.3YR	REAR HARNESS
297	0.3GR	FOG LIGHT RELAY	297	0.3GR	REAR HARNESS
298	GW	FOG LIGHT RELAY	298	GW	REAR HARNESS
300	2R	FOG LIGHT RELAY	300	2R	REAR HARNESS
301	2G	FOG LIGHT RELAY	301	2G	REAR HARNESS
302	2RW	FOG LIGHT RELAY	302	2RW	REAR HARNESS
304	2RW	FOG LIGHT RELAY	304	2RW	REAR HARNESS
312	2WB	FOG LIGHT RELAY	312	2WB	REAR HARNESS
313	2R	FOG LIGHT RELAY	313	2R	REAR HARNESS
314	0.3Y	FOG LIGHT RELAY	314	0.3Y	REAR HARNESS
316	L	FOG LIGHT RELAY	316	L	REAR HARNESS
317	0.86B	FOG LIGHT RELAY	317	0.86B	REAR HARNESS
320	0.3BW	FOG LIGHT RELAY	320	0.3BW	REAR HARNESS
321	0.3LY	FOG LIGHT RELAY	321	0.3LY	REAR HARNESS
322	R	FOG LIGHT RELAY	322	R	REAR HARNESS
323	0.3B	FOG LIGHT RELAY	323	0.3B	REAR HARNESS
325	0.85LO	FOG LIGHT RELAY	325	0.85LO	REAR HARNESS
326	2BW	FOG LIGHT RELAY	326	2BW	REAR HARNESS
327	0.3WB	FOG LIGHT RELAY	327	0.3WB	REAR HARNESS
328	0.3WR	FOG LIGHT RELAY	328	0.3WR	REAR HARNESS
334	LB	FOG LIGHT RELAY	334	LB	REAR HARNESS
335	0.3L	FOG LIGHT RELAY	335	0.3L	REAR HARNESS
336	GW	FOG LIGHT RELAY	336	GW	REAR HARNESS
337	LW	FOG LIGHT RELAY	337	LW	REAR HARNESS
338	BW	FOG LIGHT RELAY	338	BW	REAR HARNESS
339	YW	FOG LIGHT RELAY	339	YW	REAR HARNESS
340	0.3B	FOG LIGHT RELAY	340	0.3B	REAR HARNESS
373	0.3L9	FOG LIGHT RELAY	373	0.3L9	REAR HARNESS
380	3LR	FOG LIGHT RELAY	380	3LR	REAR HARNESS
389	0.3YG	FOG LIGHT RELAY	389	0.3YG	REAR HARNESS
390	0.3GW	FOG LIGHT RELAY	390	0.3GW	REAR HARNESS
391	0.3B	FOG LIGHT RELAY	391	0.3B	REAR HARNESS
392	0.3RB	FOG LIGHT RELAY	392	0.3RB	REAR HARNESS
393	0.3YG	FOG LIGHT RELAY	393	0.3YG	REAR HARNESS
394	0.3GW	FOG LIGHT RELAY	394	0.3GW	REAR HARNESS
396	0.3B	FOG LIGHT RELAY	396	0.3B	REAR HARNESS
397	0.3B	FOG LIGHT RELAY	397	0.3B	REAR HARNESS
400	0.3L9B	FOG LIGHT RELAY	400	0.3L9B	REAR HARNESS
401	0.3L9R	FOG LIGHT RELAY	401	0.3L9R	REAR HARNESS
402	0.3L9Y	FOG LIGHT RELAY	402	0.3L9Y	REAR HARNESS
403	0.3B	FOG LIGHT RELAY	403	0.3B	REAR HARNESS
405	YW	FOG LIGHT RELAY	405	YW	REAR HARNESS
406	GW	FOG LIGHT RELAY	406	GW	REAR HARNESS
407	0.85B6W	FOG LIGHT RELAY	407	0.85B6W	REAR HARNESS
408	0.85LR	FOG LIGHT RELAY	408	0.85LR	REAR HARNESS
408	2LR	FOG LIGHT RELAY	408	2LR	REAR HARNESS
410	2LY	FOG LIGHT RELAY	410	2LY	REAR HARNESS
411	B	FOG LIGHT RELAY	411	B	REAR HARNESS
412	GY	FOG LIGHT RELAY	412	GY	REAR HARNESS
413	1.25B	FOG LIGHT RELAY	413	1.25B	REAR HARNESS

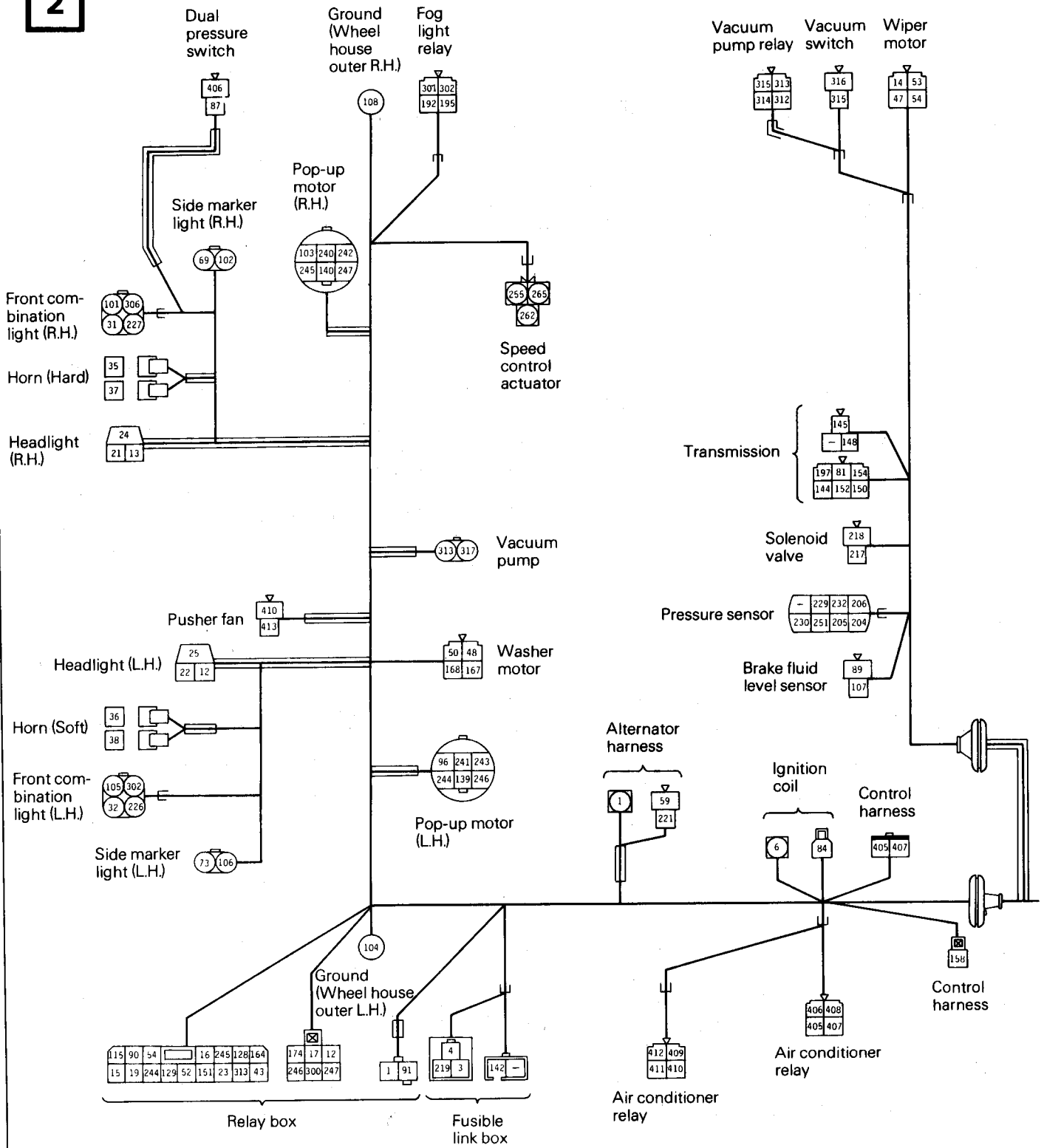
NO.	WIRE	CIRCUIT	NO.	WIRE	CIRCUIT
192	RG	FOG LIGHT RELAY	288	BY	RADIO < LL ->
193	RW	FOG LIGHT RELAY	288	0.36L	RADIO < RL ->
194	RW	DIODE	289	0.3GR	DIODE
195	2R	FOG LIGHT RELAY	291	0.3LGL	FOG LIGHT FUSE
196	RB	DIODE	292	0.3BR	FOG LIGHT RELAY
199	L9B	REAR HARNESS	293	LW	FOG LIGHT RELAY
200	0.85LB	REAR HARNESS	294	0.3RB	REAR HARNESS
201	BR	REAR HARNESS	295	0.3YL	REAR HARNESS
202	BY	REAR HARNESS	296	0.3YR	REAR HARNESS
203	0.3YW	REAR HARNESS	297	0.3GR	REAR HARNESS
204	B	REAR HARNESS	298	GW	REAR HARNESS
205	RY	REAR HARNESS	300	2R	REAR HARNESS
206	R	REAR HARNESS	301	2G	REAR HARNESS
207	BL	REAR HARNESS	302	2RW	REAR HARNESS
217	1.25R	SOLENOID VALVE	304	2RW	REAR HARNESS
218	RY	SOLENOID VALVE	312	2WB	REAR HARNESS
219	1.25B	SOLENOID VALVE	313	2R	REAR HARNESS
220	2L	SOLENOID VALVE	314	0.3Y	REAR HARNESS
221	WY	METER < CH >	316	L	REAR HARNESS
223	GW	CLUSTER SWITCH (LH) < LL >	317	0.86B	REAR HARNESS
224	BY	CLUSTER SWITCH (LH) < LL >	320	0.3BW	REAR HARNESS
225	BY	CLUSTER SWITCH (RH) < LL >	321	0.3LY	REAR HARNESS
226	GL	CLUSTER SWITCH (RH) < LL >	322	R	REAR HARNESS
227	GY	CLUSTER SWITCH (RH) < FR >	323	0.3B	REAR HARNESS
228	1.25R	PRESSURE SENSOR < B >	325	0.85LO	REAR HARNESS
230	1.25B	PRESSURE SENSOR < E >	326	2BW	REAR HARNESS
232	Y	PRESSURE SENSOR < B/S >	327	0.3WB	REAR HARNESS
236	0.3LW	PASSING CONTROL RELAY	328	0.3WR	REAR HARNESS
239	0.3LY	CLUSTER SWITCH (LH) < LL >	334	LB	REAR HARNESS
240	0.3LO	POP-UP MOTOR (RH) < U >	335	0.3L	REAR HARNESS
241	0.3LO	POP-UP MOTOR (LH) < U >	336	GW	REAR HARNESS
242	L	POP-UP MOTOR (RH) < D >	337	LW	REAR HARNESS
243	L	POP-UP MOTOR (LH) < D >	338	BW	REAR HARNESS
244	GL	POP-UP MOTOR (RH) < AS >	339	YW	REAR HARNESS
245	GR	POP-UP MOTOR (RH) < AS >	340	0.3B	REAR HARNESS
246	2LY	POP-UP MOTOR (LH) < B >	373	0.3L9	REAR HARNESS
247	2LW	POP-UP MOTOR (RH) < B >	380	3LR	REAR HARNESS
248	B	PULSE GENERATOR	389	0.3YG	REAR HARNESS
249	W	PULSE GENERATOR	390	0.3GW	REAR HARNESS
250	SHIELD	PULSE GENERATOR (SHIELD WIRES for 248, 249)	391	0.3B	DIODE
251	YG	METER HARNESS < BS >	392	0.3RB	KEY REMIND SWITCH
252	0.3R	REAR HARNESS	393	0.3YG	KEY REMIND SWITCH
253	0.3WL	METER HARNESS < AS >	394	0.3GW	KEY REMIND SWITCH
254	0.3LR	METER HARNESS < SB >	396	0.3B	GLOVE BOX HARNESS
255	Y	STOP LIGHT SWITCH	397	0.3B	DIODE
256	0.3RW	REAR HARNESS	400	0.3L9B	REAR HARNESS
257	0.85WL	REAR HARNESS	401	0.3L9R	REAR HARNESS
258	0.86B	REAR BRAKE LOCK-UP CONTROL MODULATOR < E >	402	0.3L9Y	REAR HARNESS
259	B	REAR BRAKE LOCK-UP CONTROL MODULATOR < E >	403	0.3B	CANCEL SWITCH
260	YW	REAR HARNESS	405	YW	CONTROL HARNESS
261	Y	REAR HARNESS	406	GW	DUAL PRESSURE SWITCH
262	L	REAR HARNESS	407	0.85B6W	CONTROL HARNESS
263	0.3LB	REAR HARNESS	408	0.85LR	FUSE BLOCK (7)
264	0.85GW	REAR HARNESS	408	2LR	AIR CONDITIONER RELAY < PUSHER FAN MOTOR >
265	R	REAR HARNESS	410	2LY	AIR CONDITIONER RELAY < PUSHER FAN MOTOR >
266	2B	REAR HARNESS	411	B	AIR CONDITIONER RELAY < PUSHER FAN MOTOR >
268	0.85G	REAR HARNESS	412	GY	AIR CONDITIONER RELAY < PUSHER FAN MOTOR >
269	2B	REAR HARNESS	413	1.25B	PUSHER FAN MOTOR
270	2B	CLUTCH SWITCH < E >			
272	0.3RL	SPEED CONTROL SWITCH < IG >			
273	0.3L	SPEED CONTROL SWITCH < IG >			
274	0.3YL	REAR HARNESS			
286	LW	REAR HARNESS			

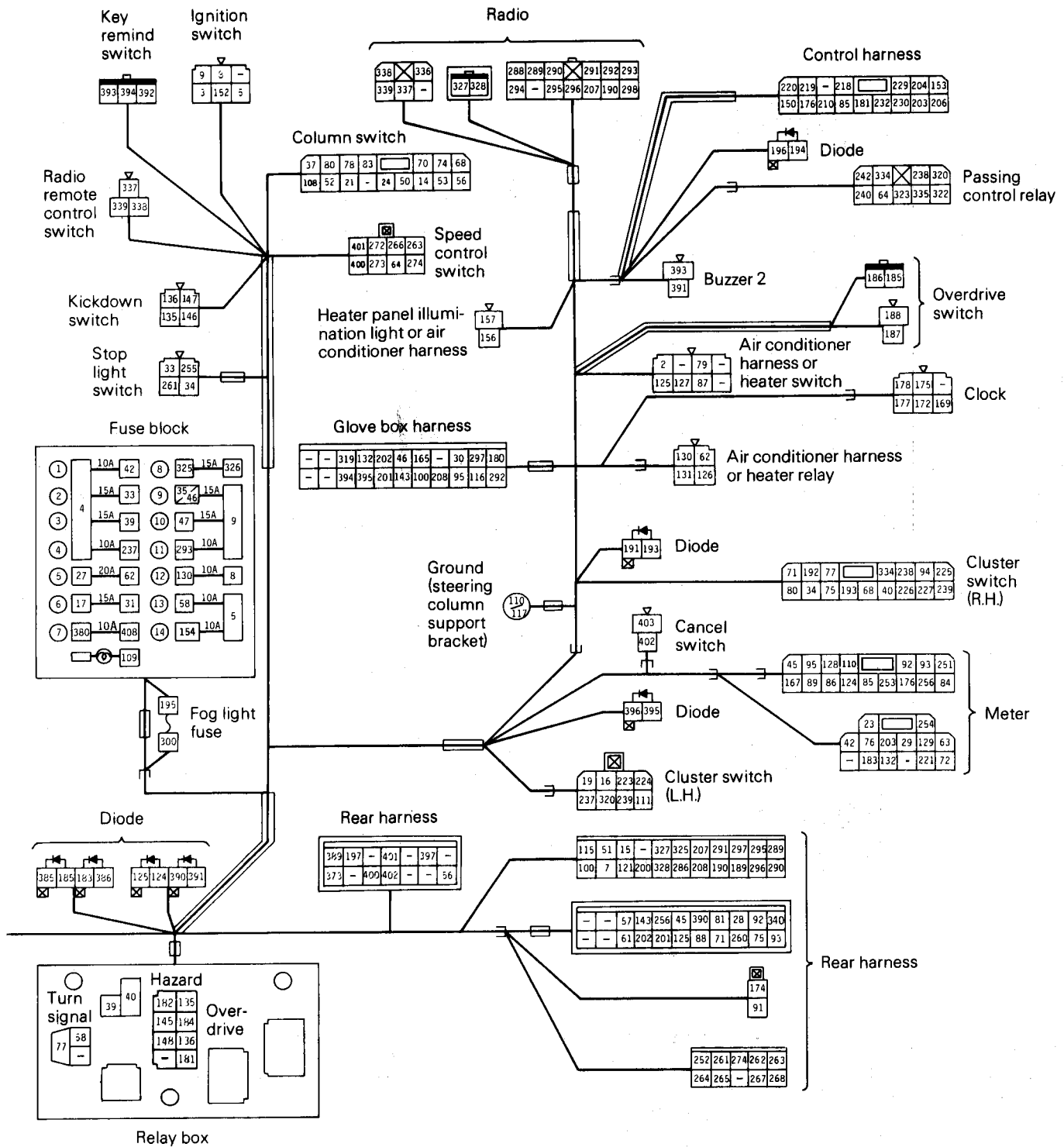


COMPONENT SERVICE — WIRING HARNESS AND FUSES

FRONT HARNESS

2







COMPONENT SERVICE — WIRING HARNESS AND FUSES

NO.		WIRE	CIRCUIT	WIRE	CIRCUIT	NO.	WIRE	CIRCUIT
1	5W	ALTERNATOR HARNESS	BATTERY	84	W/B	METER <IG>	IGNITION COIL	
2	3L	HEATER SWITCH OR AIR CONDITIONER HARNESS	FUSIBLE LINK BOX <IG>	85	085Y	METER <O>	CONTROL HARNESS	
3	3WB	IGNITION SWITCH <AM>	FUSIBLE LINK BOX 	86	YR	METER <UB>	DUAL PRESSURE SWITCH	
4	3W	FUSE BLOCK (1, 2, 3, 4)	FUSIBLE LINK BOX 	87	GY	HEATER SWITCH OR AIR CONDITIONER HARNESS		
5	3BW	IGNITION SWITCH <IG>	FUSE BLOCK (13, 14)	88	03GR	REAR HARNESS	METER <PB>	
6	2BW	IGNITION COIL		89	BW	HEATER FLUID LEVEL SENSOR <IND>		
7	03LR	REAR HARNESS		90	L	RELAY BOX <ACC>		
8	3LB	IGNITION SWITCH <IG2>		91	2BR	RELAY BOX <DEF>		
9	3LV	IGNITION SWITCH <ACC>		92	03YB	METER <FG>		
12	2G	RELAY BOX <HB>		93	03YL	METER <FI>		
13	2G	HEADLIGHT (RH) 		94	GW	CLUSTER SWITCH (RH) <ILL>		
14	08BLB	COLUMN SWITCH <HI>		95	B	METER <ILL>		
15	LC	RELAY BOX <E>		96	B	POP-UP MOTOR (LH) <E>		
16	R	RELAY BOX <HS>	CLUSTER SWITCH (LH) <HS>	97	BY	REAR HARNESS		
17	2RW	RELAY BOX <T>	FUSE BLOCK (6)	100	03LR	REAR HARNESS		
19	GW	RELAY BOX <TS>	CLUSTER SWITCH (RH) <TS>	101	2B	FRONT COMBINATION LIGHT (RH) <E>		
21	125R	HEADLIGHT (RH) <HU>	CLUSTER SWITCH <HU>	102	B	SIDE MARKER LIGHT (RH) <E>		
22	125R	HEADLIGHT (LH) <HU>		103	B	POP-UP MOTOR (RH) <E>		
23	YR	RELAY BOX <UB>		104	2B	GROUND		
24	125RW	HEADLIGHT (RH) <HL>		105	2B	FRONT COMBINATION LIGHT (LH) <E>		
25	125RW	HEADLIGHT (LH) <HL>		106	B	SIDE MARKER LIGHT (LH) <E>		
27	3W	FUSE BLOCK (5)		107	03B	BRAKE FLUID LEVEL SENSOR <E>		
28	085GW	REAR HARNESS		108	B	COLUMN SWITCH <E>		
29	GW	METER <ILL>		109	B	METER <E>		
30	GW	GLOVE BOX HARNESS <ILL>		110	B	CLUSTER SWITCH (LH) <E>		
31	085GW	FRONT COMBINATION LIGHT (RH) <P>	FUSE BLOCK (6)	111	B	RELAY BOX <SW>		
32	GW	FRONT COMBINATION LIGHT (LH) <P>		115	GY	RELAY BOX <SW>		
33	085G	FUSE BLOCK (2)	STOP LIGHT SWITCH 	116	085B	GLOVE BOX HARNESS		
34	085GW	FUSE BLOCK (1)	CLUSTER SWITCH (RH)	117	2B	GROUND		
35	GO	HORN 	FUSE BLOCK (6)	121	03GO	REAR HARNESS		
36	GO	HORN 		124	03GB	METER <S/T>		
37	GB	HORN <E>		125	03RY	DIODE		
38	GB	HORN <E>		126	2L	HEATER RELAY <SW> OR AIR CONDITIONER HARNESS		
39	125GY	FUSE BLOCK (3)	RELAY BOX 	127	2B	HEATER SWITCH <E> OR AIR CONDITIONER HARNESS		
40	125GB	RELAY BOX <L>	CLUSTER SWITCH (RH) <HZ>	128	085WB	RELAY BOX		
42	FB	METER 	FUSE BLOCK (1)	129	085WB	RELAY BOX		
43	FB	RELAY BOX <E>		130	LR	HEATER RELAY <IG> OR AIR CONDITIONER HARNESS		
45	03RG	METER <DR>	REAR HARNESS	131	03B	HEATER RELAY <E> OR AIR CONDITIONER HARNESS		
46	085LW	FUSE BLOCK (8)	GLOVE BOX HARNESS	135	03B	KICKDOWN SWITCH		
47	085L	FUSE BLOCK (10)	WIPER MOTOR <ACC>	136	03R	KICKDOWN SWITCH		
48	L	WASHER MOTOR <ACC>		139	125B	POP-UP MOTOR (LH) <E>		
49	L	WASHER MOTOR <SW>		140	125B	POP-UP MOTOR (RH) <E>		
50	LW	WASHER MOTOR <SW>	COLUMN SWITCH <W>	142	5W	FUSIBLE LINK BOX		
51	LW	REAR HARNESS		143	WB	GLOVE BOX HARNESS		
52	085LW	COLUMN SWITCH	RELAY BOX <E>	144	B	TRANSMISSION		
53	085LW	WIPER MOTOR <LO>	COLUMN SWITCH <LO>	145	RW	TRANSMISSION		
54	LY	WIPER MOTOR <AS>	RELAY BOX <AS>	146	03B	KICKDOWN SWITCH		
56	085LW	COLUMN SWITCH <INT>	REAR HARNESS	147	03B	KICKDOWN SWITCH		
57	03BY	REAR HARNESS		148	Br	RELAY BOX		
58	085RL	FUSE BLOCK (13)	RELAY BOX <IG>	150	2BY	TRANSMISSION		
59	075L	ALTERNATOR HARNESS	FUSE BLOCK (14)	151	125B	RELAY BOX <E>		
61	03RB	REAR HARNESS		152	2BR	IGNITION SWITCH <ST>		
62	3LR	FUSE BLOCK (5)		153	2BT	CONTROL HARNESS		
63	03LR	METER HARNESS	PASSING CONTROL RELAY	154	R	TRANSMISSION		
64	RB	SPEED CONTROL SWITCH <PS>	COLUMN SWITCH <TB>	156	GW	HEATER PANEL ILLUMINATION LIGHT <ILL> OR AIR CONDITIONER HARNESS		
68	GR	CLUSTER SWITCH (RH) <TS>		157	BY	HEATER PANEL ILLUMINATION LIGHT <ILL> OR AIR CONDITIONER HARNESS		
69	GW	SIDE MARKER LIGHT (RH) <P>	CLUSTER SWITCH (RH) 	158	2BY	CONTROL HARNESS		
70	GY	COLUMN SWITCH <FR>		164	BW	RELAY BOX <IG>		
71	WR	REAR HARNESS		165	2BR	GLOVE BOX HARNESS		
72	GY	METER <TR>	METER <TR>	167	LW	WASHER MOTOR <IND>		
73	GW	SIDE MARKER LIGHT (LH) <P>		168	B	WASHER MOTOR <E>		
74	GL	COLUMN SWITCH <FL>	CLUSTER SWITCH (RH) <RL>	169	03LW	CLOCK <ACC>		
75	WL	REAR HARNESS		172	GW	CLOCK <ILL>		
76	GL	METER <TL>	CLUSTER SWITCH (LH) <TB>	174	2L	RELAY BOX <PW>		
77	WR	RELAY BOX <L>		175	03BY	CLOCK		
78	WR	COLUMN SWITCH <RR>		176	03YG	CONTROL HARNESS		
79	GB	HEATER SWITCH OR AIR CONDITIONER HARNESS		177	03RB	CLOCK 		
80	085WG	CLUSTER SWITCH (RH)	COLUMN SWITCH <STOP LIGHT>					
81	RL	TRANSMISSION	REAR HARNESS					
83	WL	COLUMN SWITCH <RL>						

COMPONENT SERVICE — WIRING HARNESS AND FUSES



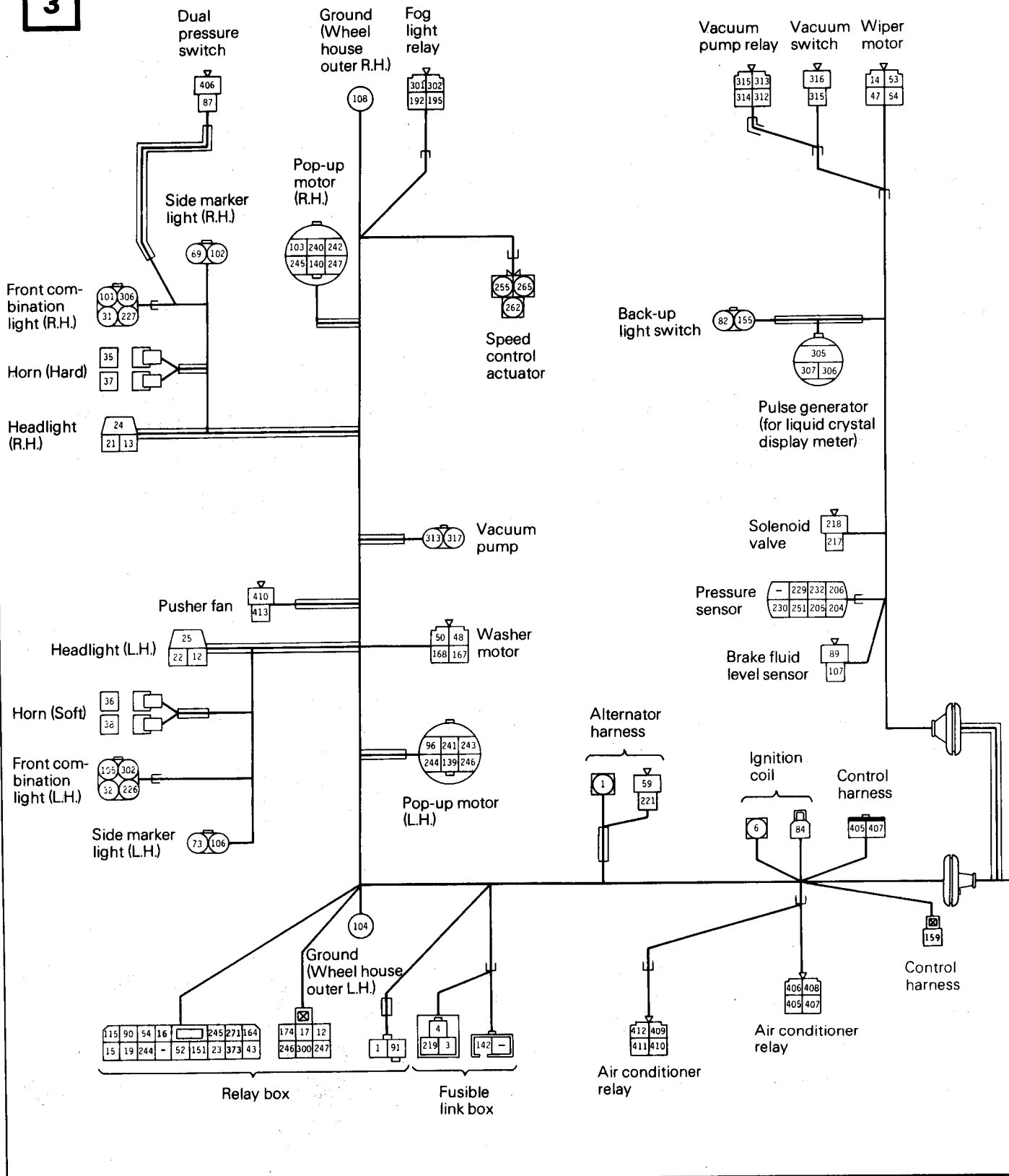
NO.		WIRE	CIRCUIT	NO.		WIRE	CIRCUIT
178	0.3B	CLOCK <E>		274	0.3YL	REAR HARNESS	SPEED CONTROL SWITCH <R>
180	0.3WR	GLOVE BOX HARNESS	127	286	LW	REAR HARNESS	283
181	YL	RELAY BOX	130	288	BY	RADIO <LL->	95
182	B	RELAY BOX	107	289	0.3GL	RADIO <RL->	
183	LgB	DIODE	154	290	0.3GR	RADIO <RR->	
184	F	OVERDRIVE SWITCH	154	291	0.3LgL	RADIO <FL+>	
185	Bf	OVERDRIVE SWITCH	286	292	0.3BR	RADIO <FR+>	
186	R	OVERDRIVE SWITCH	286	293	LW	RADIO <ACC>	42
187	GW	OVERDRIVE SWITCH	286	294	0.3RB	RADIO 	
188	BY	OVERDRIVE SWITCH	286	295	0.3YL	RADIO <RL+>	
189	0.3BR	REAR HARNESS	286	296	0.3YR	RADIO <RR+>	
190	0.3WR	REAR HARNESS	286	297	0.3Gf	REAR HARNESS <FL->	
191	RY	DIODE	24	298	GW	RADIO <LL>	30
192	RG	FOG LIGHT RELAY		300	2R	FOG LIGHT FUSE	
193	RW	CLUSTER SWITCH (RH)		301	ZG	FOG LIGHT RELAY	12
194	RW	DIODE	183	302	2RW	FOG LIGHT RELAY	302
195	2R	FOG LIGHT RELAY		304	2WB	FRONT COMBINATION LIGHT (LH)	3
196	RB	DIODE	84	312	2WB	VACUUM PUMP HARNESS	
197	LgB	REAR HARNESS	47	313	2R	VACUUM PUMP RELAY 	281
200	0.85LB	REAR HARNESS		314	0.3Y	VACUUM PUMP RELAY <E>	
201	BfR	REAR HARNESS		315	G	VACUUM PUMP RELAY <IG>	
202	BfY	REAR HARNESS		316	L	VACUUM SWITCH <E>	282
203	0.3YW	CONTROL HARNESS		317	0.85B	VACUUM PUMP <E>	108
204	Bf	CONTROL HARNESS		320	0.3BW	PASSING CONTROL RELAY	
205	R	PRESSURE SENSOR	218	321	0.3LY	PASSING CONTROL RELAY	289
206	R	CONTROL HARNESS		322	R	PASSING CONTROL RELAY	16
207	BL	RADIO <FL->		323	0.3B	PASSING CONTROL RELAY	108
208	LgL	REAR HARNESS		325	0.85LO	REAR HARNESS	
209	1.25R	SOLENOID VALVE	229	326	2WB	REAR HARNESS	4
210	RY	SOLENOID VALVE		327	0.3WR	REAR HARNESS	
211	1.25B	CONTROL HARNESS		328	0.3WR	REAR HARNESS	
212	2L	CONTROL HARNESS		334	LB	PASSING CONTROL RELAY	
213	WY	METER <CH>	6	335	0.3LR	PASSING CONTROL RELAY	
214	GW	CLUSTER SWITCH (LH) <LL>		336	GW	RADIO <LL+>	
215	BY	CLUSTER SWITCH (LH) <LL->	30	337	LW	RADIO <ACC>	63
216	BY	CLUSTER SWITCH (RH) <LL->	35	338	BW	RADIO <E>	288
217	GL	CLUSTER SWITCH (RH) <FL>	35	339	YW	RADIO <SG>	
218	GY	CLUSTER SWITCH (RH) <FR>		340	0.3B	REAR HARNESS	110
219	1.25R	PRESSURE SENSOR 		373	0.3Lg	REAR HARNESS	
220	1.25B	PRESSURE SENSOR <E>		380	3LR	FUSE BLOCK (7)	2
221	Y	PRESSURE SENSOR <B/SG>		385	O	RELAY BOX	148
222	L	CLUSTER SWITCH (LH) 		386	Bf	RELAY BOX	185
223	0.3LW	PASSING CONTROL RELAY		389	0.3YG	REAR HARNESS	385
224	0.3LY	CLUSTER SWITCH (LH) <U>		390	0.3GW	REAR HARNESS	
225	0.3LO	POP-UP MOTOR (RH) <U>	240	391	0.3B	DIODE	42
226	L	POP-UP MOTOR (RH) <D>	242	392	0.3RB	KEY REMIND SWITCH	
227	GY	POP-UP MOTOR (RH) <AS>		393	0.3YG	KEY REMIND SWITCH	
228	1.25R	PRESSURE SENSOR 	242	394	0.3GW	KEY REMIND SWITCH	
229	1.25B	PRESSURE SENSOR <E>		395	0.3B	GLOVE BOX HARNESS	
230	Y	STOP LIGHT SWITCH	230	396	0.3GW	DIODE	19
231	Y	STOP LIGHT SWITCH	136	397	0.3B	REAR HARNESS	391
232	Y	STOP LIGHT SWITCH		400	0.3LgB	REAR HARNESS	
233	Y	STOP LIGHT SWITCH		401	0.3LgR	REAR HARNESS	
234	Y	STOP LIGHT SWITCH		402	0.2LgY	REAR HARNESS	
235	0.3RW	REAR HARNESS		403	0.3B	CANCEL SWITCH	106
236	Y	REAR HARNESS		405	YW	CONTROL HARNESS	
237	Y	REAR HARNESS		406	GW	DUAL PRESSURE SWITCH	
238	Y	REAR HARNESS		407	0.85BW	CONTROL HARNESS	
239	Y	REAR HARNESS		408	0.85LR	FUSE BLOCK (7)	
240	Y	REAR HARNESS		409	2LR	AIR CONDITIONER RELAY <COMPRESSOR>	
241	Y	REAR HARNESS		410	2LY	AIR CONDITIONER RELAY <COMPRESSOR>	
242	Y	REAR HARNESS		411	B	AIR CONDITIONER RELAY <COMPRESSOR>	
243	Y	REAR HARNESS		412	GY	AIR CONDITIONER RELAY <COMPRESSOR>	
244	Y	REAR HARNESS		413	1.25B	PUSHER FAN MOTOR	413
245	Y	REAR HARNESS					
246	Y	REAR HARNESS					
247	Y	REAR HARNESS					
248	Y	REAR HARNESS					
249	Y	REAR HARNESS					
250	Y	REAR HARNESS					
251	Y	REAR HARNESS					
252	Y	REAR HARNESS					
253	Y	REAR HARNESS					
254	Y	REAR HARNESS					
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267	Y	REAR HARNESS					
268	Y	REAR HARNESS					
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273	Y	REAR HARNESS					

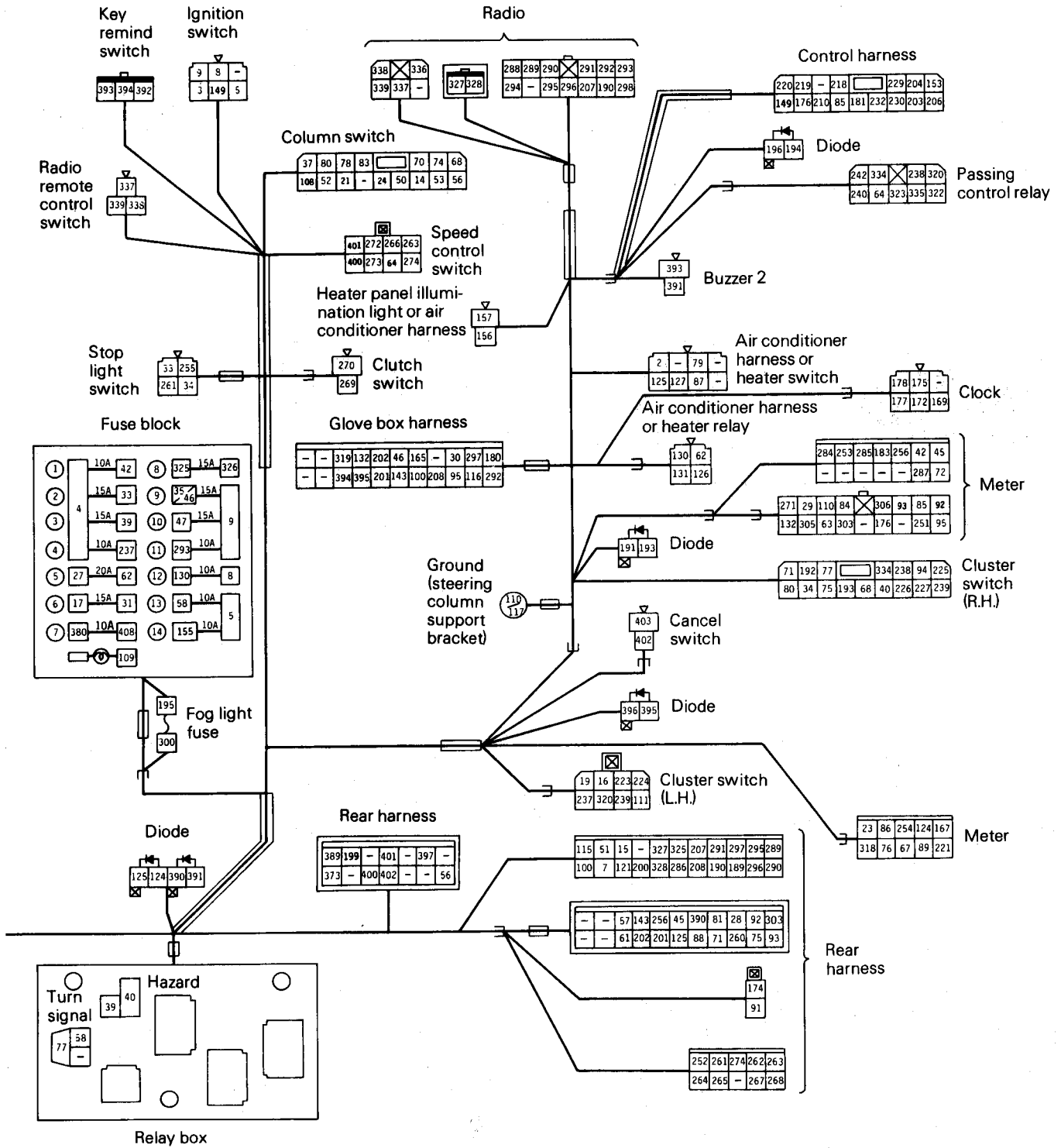


COMPONENT SERVICE – WIRING HARNESS AND FUSES

FRONT HARNESS

3







COMPONENT SERVICE — WIRING HARNESS AND FUSES

NO.	WIRE	CIRCUIT	NO.	WIRE	CIRCUIT
1	5W	ALTERNATOR HARNESS	90	085WG	CLUSTER SWITCH (RH)
2	3LR	HEATER SWITCH OR AIR CONDITIONER HARNESS	82	RL	BACK-UP LIGHT SWITCH <L>
3	3WB	IGNITION SWITCH <AM>	83	WL	COLUMN SWITCH <R>
4	3W	FUSE BLOCK (1, 2, 3, 4)	84	W/B	METER <IG>
5	3BW	FUSE BLOCK (1, 2, 3, 4)	86	08BY	METER <O>
6	2BW	IGNITION SWITCH <IG1>	86	YR	METER <UB>
7	03LR	IGNITION COIL	87	GY	HEATER SWITCH OR AIR CONDITIONER HARNESS
8	03LR	REAR HARNESS	88	03GR	REAR HARNESS
9	3LB	IGNITION SWITCH <IG2>	89	BW	BRAKE FLUID LEVEL SENSOR <IND>
12	2G	IGNITION SWITCH <ACC>	90	L	RELAY BOX <ACC>
13	2G	RELAY BOX <HB>	91	2BR	RELAY BOX <DEF>
14	085LB	HEADLIGHT (RH) 	92	03YB	METER <FG>
15	LO	HEADLIGHT (RH) <HI>	93	03YL	METER <FI>
16	R	RELAY BOX <E>	94	GW	CLUSTER SWITCH (RH) <ILL>
17	2RW	RELAY BOX <HS>	95	BY	METER <ILL>
19	GW	RELAY BOX <TS>	96	B	POP-UP MOTOR (LH) <E>
21	125R	HEADLIGHT (RH) <HU>	100	03LR	REAR HARNESS
22	125R	HEADLIGHT (LH) <HU>	101	2B	FRONT COMBINATION LIGHT (RH) <E>
23	YR	RELAY BOX <UB>	102	B	SIDE MARKER LIGHT (RH) <E>
24	125RW	HEADLIGHT (RH) <HL>	103	B	POP-UP MOTOR (RH) <E>
25	125RW	HEADLIGHT (LH) <HL>	104	2B	GROUND
27	3W	FUSE BLOCK (5)	105	2B	FRONT COMBINATION LIGHT (LH) <E>
28	085GW	REAR HARNESS	106	B	SIDE MARKER LIGHT (LH) <E>
29	GW	METER <ILL>	107	03B	BRAKE FLUID LEVEL SENSOR <E>
30	GW	GLOVE BOX HARNESS <ILL>	108	2B	COLUMN SWITCH <E>
31	085GW	FRONT COMBINATION LIGHT (RH) <P>	108	B	FUSE BLOCK
32	GW	FRONT COMBINATION LIGHT (LH) <P>	110	B	METER <E>
33	085G	FUSE BLOCK (2)	111	B	CLUSTER SWITCH (LH) <E>
34	085GW	STOP LIGHT SWITCH <L>	115	GY	RELAY BOX <SW>
35	085GW	STOP LIGHT SWITCH (RH)	116	085B	GLOVE BOX HARNESS
36	GO	HORN 	117	2B	GROUND
37	GB	HORN <E>	121	036O	REAR HARNESS
38	GB	HORN <E>	124	036B	METER <S/T>
39	125GY	FUSE BLOCK (3)	125	03RY	DIODE
40	125GB	RELAY BOX <L>	126	2L	HEATER RELAY <SW> OR AIR CONDITIONER HARNESS
42	RB	METER 	127	2B	HEATER SWITCH <E> OR AIR CONDITIONER HARNESS
43	RB	RELAY BOX <E>	130	LR	HEATER RELAY <IG> OR AIR CONDITIONER HARNESS
44	03RG	METER <DR>	131	03B	HEATER RELAY <E> OR AIR CONDITIONER HARNESS
46	086LW	FUSE BLOCK (9)	132	G	METER
47	086L	FUSE BLOCK (10)	139	125B	POP-UP MOTOR (LH) <E>
48	L	WASHER MOTOR <ACC>	140	125B	POP-UP MOTOR (RH) <E>
50	LW	WASHER MOTOR <SW>	142	5W	FUSIBLE LINK BOX
51	LW	REAR HARNESS	143	WB	GLOVE BOX HARNESS
52	086LW	COLUMN SWITCH <S>	149	2BY	IGNITION SWITCH <ST>
53	086LW	WIPER MOTOR <LO>	151	125B	RELAY BOX <E>
54	LY	WIPER MOTOR <AS>	155	R	BACK-UP LIGHT SWITCH <IG>
56	086LW	COLUMN SWITCH <INT>	156	GW	HEATER PANEL ILLUMINATION LIGHT <ILL> OR AIR CONDITIONER HARNESS
57	03BY	REAR HARNESS	157	BY	HEATER PANEL ILLUMINATION LIGHT <ILL> OR AIR CONDITIONER HARNESS
58	086RL	FUSE BLOCK (13)	159	2BY	CONTROL HARNESS
59	079L	ALTERNATOR HARNESS	164	BW	RELAY BOX <IG>
61	03RB	REAR HARNESS	165	2BR	GLOVE BOX HARNESS
62	3LR	FUSE BLOCK (6)	167	LW	WASHER MOTOR <IND>
63	03LR	METER	168	B	WASHER MOTOR <E>
64	RB	SPEED CONTROL SWITCH <PS>	169	03LW	CLOCK <ACC>
67	03LR	METER <IG>	172	GW	CLOCK <ILL>
68	GR	CLUSTER SWITCH (RH) <TS>	174	2L	RELAY BOX <PW>
69	GW	SIDE MARKER LIGHT (RH) <P>	175	03BY	CLOCK
70	GY	COLUMN SWITCH <FR>	176	03YG	CONTROL HARNESS
71	WR	REAR HARNESS	177	03RB	CLOCK
72	GY	METER <TR>	178	03B	CLOCK <E>
73	GW	SIDE MARKER LIGHT (LH) <P>	180	03WR	GLOVE BOX HARNESS
74	GL	COLUMN SWITCH <FL>	189	03BR	REAR HARNESS
75	WL	REAR HARNESS	190	03WR	REAR HARNESS
76	GL	METER <TL>	191	RY	DIODE
77	GR	RELAY BOX <L>			
78	WR	COLUMN SWITCH <RR>			
79	GB	HEATER SWITCH OR AIR CONDITIONER HARNESS			



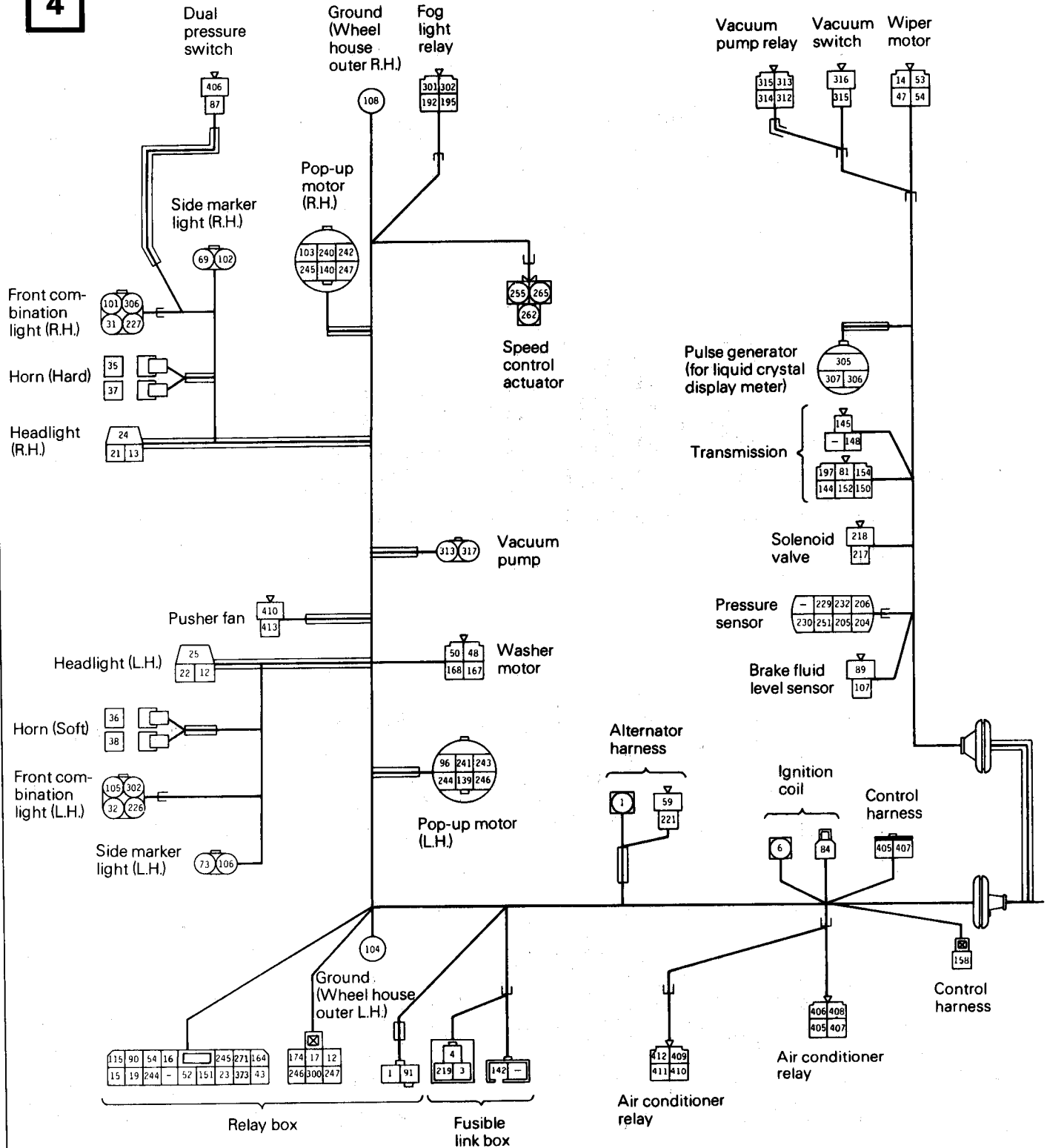
NO.	WIRE	CIRCUIT	CIRCUIT
282	0.3BR	RADIO <FL->	GLOVE BOX HARNESS
293	LW	RADIO <ACC>	FUSE BLOCK (11)
294	0.3RB	RADIO 	42
295	0.3YL	RADIO <RL+>	REAR HARNESS
296	0.3YR	RADIO <RR+>	REAR HARNESS
297	0.3GR	REAR HARNESS <FL->	GLOVE BOX HARNESS
298	GW	RADIO <LL>	30
300	ZR	FOG LIGHT FUSE	RELAY BOX
301	2G	FOG LIGHT RELAY	12
302	2RW	FOG LIGHT RELAY	FRONT COMBINATION LIGHT (LH)
303	YW	METER <FE>	REAR HARNESS
304	2RW	FRONT COMBINATION LIGHT (RH)	302
305	WL	METER	PULSE GENERATOR
306	WR	METER	PULSE GENERATOR
307	B	PULSE GENERATOR	108
312	ZWB	VACUUM PUMP RELAY 	3
313	ZR	VACUUM PUMP RELAY <L>	VACUUM PUMP
314	0.3Y	VACUUM PUMP RELAY <E>	281
315	G	VACUUM PUMP RELAY <IG>	282
316	L	VACUUM SWITCH <E>	108
317	0.85B	VACUUM PUMP <E>	110
318	B	METER <E>	127
319	B	GLOVE BOX HARNESS	289
320	0.3BW	PASSING CONTROL RELAY	16
321	0.3LY	PASSING CONTROL RELAY	108
322	R	PASSING CONTROL RELAY	240
323	0.3B	PASSING CONTROL RELAY	4
325	0.85LO	REAR HARNESS	
326	2BW	REAR HARNESS	
327	0.3WB	REAR HARNESS	
328	0.3WR	REAR HARNESS	
334	LB	PASSING CONTROL RELAY	
335	0.3LR	PASSING CONTROL RELAY	
336	GW	RADIO <LL+>	63
337	LW	RADIO <ACC>	286
338	BW	RADIO <E>	
339	YW	RADIO <SG>	
373	0.3Lg	REAR HARNESS	
380	3LR	FUSE BLOCK (7)	2
389	0.3YG	REAR HARNESS	383
390	0.3GW	REAR HARNESS	
391	0.3B	DIODE	
392	0.3RB	KEY REMIND SWITCH	42
393	0.3YG	KEY REMIND SWITCH	
394	0.3GW	KEY REMIND SWITCH	
395	0.3B	GLOVE BOX HARNESS	
396	0.36W	DIODE	19
397	0.3B	REAR HARNESS	397
400	0.3LgB	REAR HARNESS	
401	0.3LgR	REAR HARNESS	
402	0.3LgY	REAR HARNESS	
403	0.3B	CANCEL SWITCH	108
405	YW	CONTROL HARNESS	
406	GW	DUAL PRESSURE SWITCH	
407	0.85BW	CONTROL HARNESS	
408	0.85LR	FUSE BLOCK (7)	
409	2LR	AIR CONDITIONER RELAY <PUSHER FAN MOTOR>	
410	2LY	AIR CONDITIONER RELAY <PUSHER FAN MOTOR>	
411	B	AIR CONDITIONER RELAY <PUSHER FAN MOTOR>	213
412	GY	AIR CONDITIONER RELAY <PUSHER FAN MOTOR>	87
413	1.25B	PUSHER FAN MOTOR	104

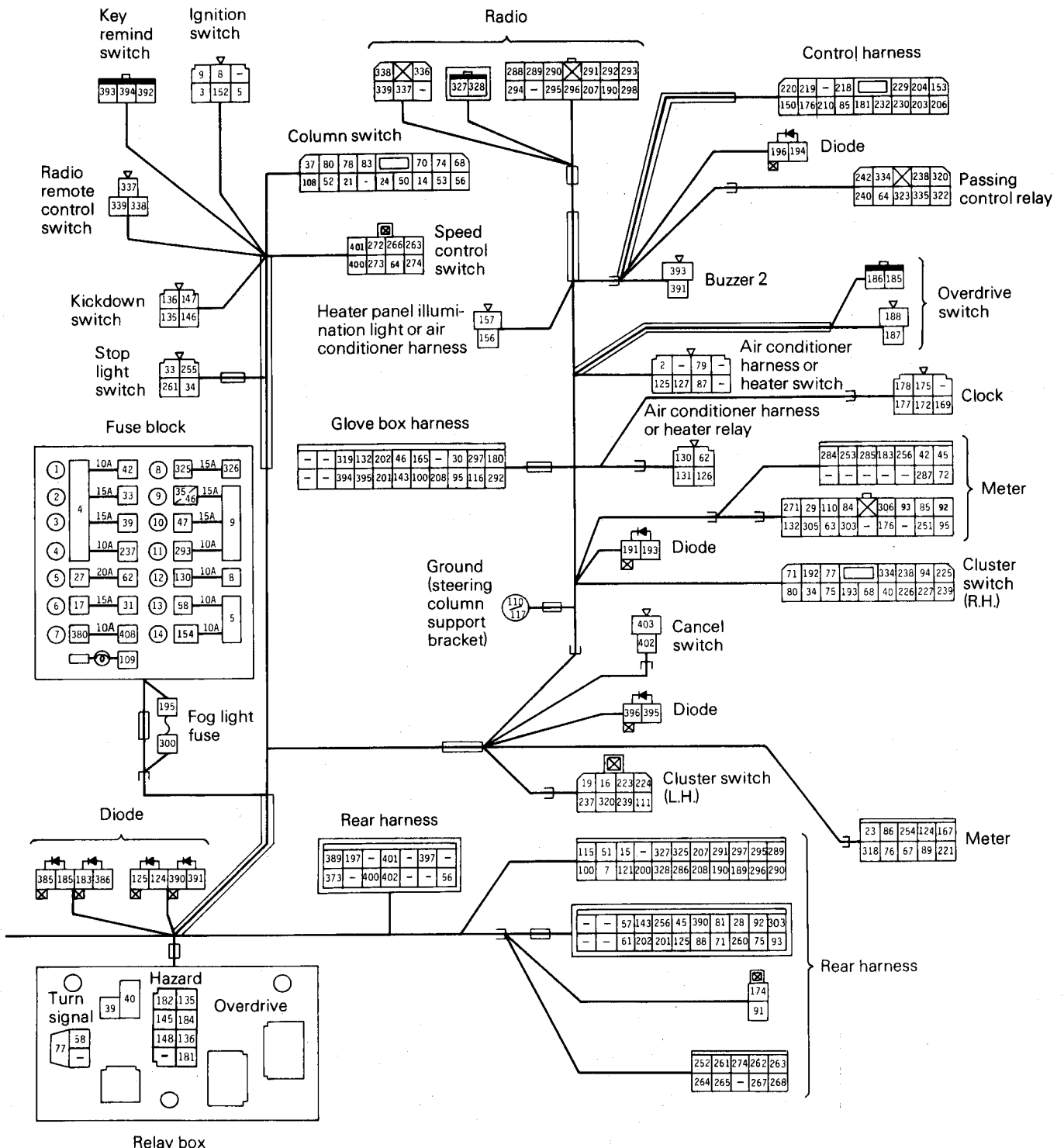
NO.	WIRE	CIRCUIT	CIRCUIT
192	RG	FOG LIGHT RELAY	CLUSTER SWITCH (RH)
193	RW	CLUSTER SWITCH (RH)	DIODE
194	RW	DIODE	193
195	2R	FOG LIGHT RELAY	FOG LIGHT FUSE
196	RB	DIODE	64
199	LgB	REAR HARNESS	110
200	0.85LB	REAR HARNESS	47
201	BR	REAR HARNESS	305
202	B-Y	REAR HARNESS	218
203	0.3YW	CONTROL HARNESS	
204	B	CONTROL HARNESS	
205	RY	PRESSURE SENSOR	
206	R	CONTROL HARNESS	
207	BL	RADIO <FL->	
208	LgL	REAR HARNESS	
217	1.25R	SOLENOID VALVE	229
218	RY	SOLENOID VALVE	30
219	1.25B	CONTROL HARNESS	95
220	2L	CONTROL HARNESS	8
221	WY	METER <CH>	
223	GW	CLUSTER SWITCH (LH) <ILL>	
224	BY	CLUSTER SWITCH (LH) <ILL->	
225	BY	CLUSTER SWITCH (RH) <ILL->	
226	GL	CLUSTER SWITCH (RH) <FL>	
227	GY	CLUSTER SWITCH (RH) <FL>	
229	1.25R	PRESSURE SENSOR 	
230	1.25B	PRESSURE SENSOR <E>	
232	Y	PRESSURE SENSOR <B/SG>	
237	L	CLUSTER SWITCH (LH) 	
238	0.3LW	PASSING CONTROL RELAY	
239	0.3LY	CLUSTER SWITCH (LH) <U>	
240	0.3LO	POP-UP MOTOR (RH) <U>	
241	0.3LO	POP-UP MOTOR (LH) <U>	
242	L	POP-UP MOTOR (RH) <D>	
243	L	POP-UP MOTOR (LH) <D>	
244	GL	POP-UP MOTOR (LH) <AS>	
245	GR	POP-UP MOTOR (RH) <AS>	
246	2LY	POP-UP MOTOR (LH) 	
247	2LW	POP-UP MOTOR (RH) 	
251	YG	METER <BS>	
252	0.3R	REAR HARNESS	
254	0.3LR	METER <SB+>	
255	Y	STOP LIGHT SWITCH	
256	0.3RW	REAR HARNESS	
260	YW	REAR HARNESS	
261	Y	REAR HARNESS	
262	L	REAR HARNESS	
263	0.3LB	REAR HARNESS	
264	0.85GW	REAR HARNESS	
265	R	REAR HARNESS	
266	2B	REAR HARNESS	108
268	0.85G	REAR HARNESS	
269	2B	REAR HARNESS	
270	2B	CLUTCH SWITCH <E>	
271	RB	METER 	
272	0.3RL	SPEED CONTROL SWITCH <IG>	
273	0.3L	SPEED CONTROL SWITCH <CB>	
274	0.3YL	REAR HARNESS	
284	0.3LR	METER <IG>	
286	BY	METER <ILL->	
286	LW	REAR HARNESS	
287	B	METER <E>	
288	BY	RADIO <ILL->	
289	0.3GL	RADIO <RL->	
290	0.3GR	RADIO <RR->	
291	0.3LgL	RADIO <FL+>	



FRONT HARNESS

4





COMPONENT SERVICE — WIRING HARNESS AND FUSES

NO.	WIRE	CIRCUIT	NO.	WIRE	CIRCUIT
1	5W	ALTERNATOR HARNESS	85	085Y	METER <O>
2	3LR	HEATER SWITCH 	86	YR	METER <UB>
3	3WB	IGNITION SWITCH <AM>	87	GY	HEATER SWITCH OR AIR CONDITIONER HARNESS
4	3W	IGNITION SWITCH <A>	88	03CR	REAR HARNESS
5	3BV	IGNITION SWITCH <G1>	89	BW	BRAKE FLUID LEVEL SENSOR <IND>
6	2BV	IGNITION COIL	90	L	RELAY BOX <ACC>
7	03LR	REAR HARNESS	91	2BR	RELAY BOX <DEF>
8	3LB	IGNITION SWITCH <G2>	92	03YB	METER <FG>
9	3LV	IGNITION SWITCH <ACC>	93	03YL	METER <FI>
10	2G	RELAY BOX <RB>	94	GW	CLUSTER SWITCH (RH) <ILL>
11	2S	HEADLIGHT (RH) 	95	BY	METER <ILL>
12	085LB	COLUMN SWITCH <HI>	96	B	POP-UP MOTOR (LH) <E>
13	LO	RELAY BOX <E>	100	03LR	FRONT COMBINATION LIGHT (RH) <E>
14	R	RELAY BOX <HS>	101	2B	FRONT COMBINATION LIGHT (LH) <E>
15	2RW	RELAY BOX <T>	102	B	SIDE MARKER LIGHT (RH) <E>
16	2G	RELAY BOX <TS>	103	B	POP-UP MOTOR (RH) <E>
17	2S	HEADLIGHT (RH) <HU>	104	2B	GROUND
18	12SR	HEADLIGHT (LH) <HU>	105	2B	FRONT COMBINATION LIGHT (LH) <E>
19	12SRW	HEADLIGHT (RH) <HL>	106	B	SIDE MARKER LIGHT (LH) <E>
20	12SRW	HEADLIGHT (LH) <HL>	107	03B	BRAKE FLUID LEVEL SENSOR <E>
21	3W	FUSE BLOCK (B)	108	2B	COLUMN SWITCH <E>
22	085GW	REAR HARNESS	109	B	FUSE BLOCK
23	GW	METER <ILL>	110	B	METER <E>
24	085GW	GLOVE BOX HARNESS <ILL>	111	B	CLUSTER SWITCH (LH) <E>
25	GW	FRONT COMBINATION LIGHT (RH) <P>	115	GY	RELAY BOX <SW>
26	GW	FRONT COMBINATION LIGHT (LH) <P>	116	086B	GLOVE BOX HARNESS
27	3W	FUSE BLOCK (Z)	117	2B	GROUND
28	085GW	REAR HARNESS	121	0360	METER <ST>
29	GW	METER <ILL>	124	036B	DIODE
30	GW	GLOVE BOX HARNESS <ILL>	125	03RY	HEATER RELAY <SW>
31	085GW	FRONT COMBINATION LIGHT (RH) <P>	126	2L	HEATER RELAY <SW>
32	GW	FRONT COMBINATION LIGHT (LH) <P>	127	2B	HEATER RELAY <E>
33	085G	FUSE BLOCK (Z)	130	LR	HEATER RELAY <IG>
34	085GW	STOP LIGHT SWITCH <L>	131	03B	HEATER RELAY <E>
35	GO	HORN 	132	G	METER
36	GO	HORN 	136	B	KICKDOWN SWITCH
37	GB	HORN <E>	136	R	KICKDOWN SWITCH
38	GB	HORN <E>	139	126B	POP-UP MOTOR (LH) <E>
39	126GY	FUSE BLOCK (B)	140	126B	POP-UP MOTOR (RH) <E>
40	126GB	RELAY BOX <L>	142	5W	FUSIBLE LINK BOX
41	RB	METER 	143	WB	GLOVE BOX HARNESS
42	RB	RELAY BOX <E>	144	B	TRANSMISSION
43	RB	METER <DR>	146	RW	KICKDOWN SWITCH
44	03RG	METER <DR>	147	03B	KICKDOWN SWITCH
45	085LW	FUSE BLOCK (B)	148	B	REAR HARNESS
46	085LW	FUSE BLOCK (B)	150	2BY	TRANSMISSION
47	085L	FUSE BLOCK (10)	151	126B	RELAY BOX <E>
48	L	WASHER MOTOR <ACC>	152	2BR	IGNITION SWITCH <ST>
49	L	WASHER MOTOR <SW>	153	2BY	CONTROL HARNESS
50	LW	WASHER MOTOR <SW>	154	R	TRANSMISSION
51	LW	REAR HARNESS	156	GW	HEATER PANEL ILLUMINATION LIGHT <ILL> OR AIR CONDITIONER HARNESS
52	085LW	COLUMN SWITCH	157	BY	HEATER PANEL ILLUMINATION LIGHT <ILL> OR AIR CONDITIONER HARNESS
53	085LW	WIPER MOTOR <LO>	158	2BY	CONTROL HARNESS
54	LY	WIPER MOTOR <AS>	164	BW	RELAY BOX <IG>
55	085LW	COLUMN SWITCH <INT>	165	2BR	GLOVE BOX HARNESS
56	085LW	COLUMN SWITCH <INT>	167	LW	WASHER MOTOR <IND>
57	085Y	REAR HARNESS	168	B	WASHER MOTOR <E>
58	085RL	FUSE BLOCK (13)	169	03LW	CLOCK <ACC>
59	075L	ALTERNATOR HARNESS	172	GW	CLOCK <ILL>
60	03RB	REAR HARNESS	174	2L	RELAY BOX <PW>
61	03RB	REAR HARNESS	175	03BY	CLOCK
62	3LR	FUSE BLOCK (B)	176	03YG	CONTROL HARNESS
63	03LR	METER HARNESS	177	03BR	CLOCK
64	03LR	METER <G>	178	03B	CLOCK <E>
65	GR	CLUSTER SWITCH (RH) <TS>	180	03WR	GLOVE BOX HARNESS
66	GY	CLUSTER SWITCH <FR>	181	YL	RELAY BOX
67	WR	REAR HARNESS	182	B	RELAY BOX
68	GY	METER <TB>			
69	GW	SIDE MARKER LIGHT (LH) <P>			
70	GL	METER <TL>			
71	WR	REAR HARNESS			
72	GY	METER <TB>			
73	GW	SIDE MARKER LIGHT (LH) <P>			
74	GL	METER <TL>			
75	WL	REAR HARNESS			
76	GL	METER <TL>			
77	GR	RELAY BOX <L>			
78	WR	COLUMN SWITCH <RR>			
79	GB	HEATER SWITCH OR AIR CONDITIONER HARNESS			
80	085WG	CLUSTER SWITCH (RH)			
81	RL	TRANSMISSION			
82	WL	COLUMN SWITCH <RL>			
83	WB	METER <IG>			
84	WB	METER <IG>			
85	085Y	METER <O>			
86	YR	METER <UB>			
87	GY	HEATER SWITCH OR AIR CONDITIONER HARNESS			
88	03CR	REAR HARNESS			
89	BW	BRAKE FLUID LEVEL SENSOR <IND>			
90	L	RELAY BOX <ACC>			
91	2BR	RELAY BOX <DEF>			
92	03YB	METER <FG>			
93	03YL	METER <FI>			
94	GW	CLUSTER SWITCH (RH) <ILL>			
95	BY	METER <ILL>			
96	B	POP-UP MOTOR (LH) <E>			
97	03LR	FRONT COMBINATION LIGHT (RH) <E>			
98	2B	FRONT COMBINATION LIGHT (LH) <E>			
99	B	SIDE MARKER LIGHT (RH) <E>			
100	03LR	FRONT COMBINATION LIGHT (RH) <E>			
101	2B	FRONT COMBINATION LIGHT (LH) <E>			
102	B	SIDE MARKER LIGHT (RH) <E>			
103	B	POP-UP MOTOR (RH) <E>			
104	2B	GROUND			
105	2B	FRONT COMBINATION LIGHT (LH) <E>			
106	B	SIDE MARKER LIGHT (LH) <E>			
107	03B	BRAKE FLUID LEVEL SENSOR <E>			
108	2B	COLUMN SWITCH <E>			
109	B	FUSE BLOCK			
110	B	METER <E>			
111	B	CLUSTER SWITCH (LH) <E>			
115	GY	RELAY BOX <SW>			
116	086B	GLOVE BOX HARNESS			
117	2B	GROUND			
121	0360	METER <ST>			
124	036B	DIODE			
125	03RY	HEATER RELAY <SW>			
126	2L	HEATER RELAY <SW>			
127	2B	HEATER RELAY <E>			
130	LR	HEATER RELAY <IG>			
131	03B	HEATER RELAY <E>			
132	G	METER			
136	B	KICKDOWN SWITCH			
136	R	KICKDOWN SWITCH			
139	126B	POP-UP MOTOR (LH) <E>			
140	126B	POP-UP MOTOR (RH) <E>			
142	5W	FUSIBLE LINK BOX			
143	WB	GLOVE BOX HARNESS			
144	B	TRANSMISSION			
146	RW	KICKDOWN SWITCH			
147	03B	KICKDOWN SWITCH			
148	B	REAR HARNESS			
150	2BY	TRANSMISSION			
151	126B	RELAY BOX <E>			
152	2BR	IGNITION SWITCH <ST>			
153	2BY	CONTROL HARNESS			
154	R	TRANSMISSION			
156	GW	HEATER PANEL ILLUMINATION LIGHT <ILL> OR AIR CONDITIONER HARNESS			
157	BY	HEATER PANEL ILLUMINATION LIGHT <ILL> OR AIR CONDITIONER HARNESS			
158	2BY	CONTROL HARNESS			
164	BW	RELAY BOX <IG>			
165	2BR	GLOVE BOX HARNESS			
167	LW	WASHER MOTOR <IND>			
168	B	WASHER MOTOR <E>			
169	03LW	CLOCK <ACC>			
172	GW	CLOCK <ILL>			
174	2L	RELAY BOX <PW>			
175	03BY	CLOCK			
176	03YG	CONTROL HARNESS			
177	03BR	CLOCK 			
178	03B	CLOCK <E>			
180	03WR	GLOVE BOX HARNESS			
181	YL	RELAY BOX			
182	B	RELAY BOX			

COMPONENT SERVICE — WIRING HARNESS AND FUSES



NO	WIRE	CIRCUIT	NO	WIRE	CIRCUIT
289	0.3GL	RADIO <RL->	289	0.3GL	REAR HARNESS
290	0.3GR	RADIO <RR->	290	0.3GR	REAR HARNESS
291	0.3JL	RADIO <FL+>	291	0.3JL	REAR HARNESS
292	0.3BR	RADIO <FR->	292	0.3BR	GLOVE BOX HARNESS
293	LW	RADIO <ACC->	293	LW	FUSE BLOCK (1)
294	0.3BR	RADIO <B->	294	0.3BR	REAR HARNESS
295	0.3YL	RADIO <RL+>	295	0.3YL	REAR HARNESS
296	0.3YR	RADIO <RR+>	296	0.3YR	REAR HARNESS
297	0.3GF	REAR HARNESS <FL->	297	0.3GF	GLOVE BOX HARNESS
298	GW	RADIO <LL->	298	GW	REAR HARNESS
299	0.3WB	RADIO <FL->	299	0.3WB	REAR HARNESS
300	2R	FOG LIGHT FUSE	300	2R	REAR BOX
301	2G	FOG LIGHT RELAY	301	2G	FRONT COMBINATION LIGHT (LH)
302	2RW	FOG LIGHT RELAY	302	2RW	REAR HARNESS
303	YW	METER <F/E->	303	YW	REAR HARNESS
304	2RW	FRONT COMBINATION LIGHT (RH)	304	2RW	PULSE GENERATOR
305	WL	METER	305	WL	PULSE GENERATOR
306	WR	METER	306	WR	PULSE GENERATOR
307	B	PULSE GENERATOR	307	B	VACUUM PUMP <B->
312	2WB	VACUUM PUMP RELAY <B->	312	2WB	VACUUM PUMP <B->
313	2R	VACUUM PUMP RELAY <L->	313	2R	VACUUM PUMP RELAY <L->
314	0.3Y	VACUUM PUMP RELAY <E->	314	0.3Y	VACUUM PUMP RELAY <E->
315	G	VACUUM PUMP RELAY <G->	315	G	VACUUM SWITCH <B->
316	L	VACUUM SWITCH <E->	316	L	VACUUM PUMP <E->
317	0.85B	VACUUM PUMP <E->	317	0.85B	VACUUM PUMP <E->
318	B	METER <E->	318	B	METER <E->
319	B	GLOVE BOX HARNESS	319	B	GLOVE BOX HARNESS
320	0.3BW	PASSING CONTROL RELAY	320	0.3BW	PASSING CONTROL RELAY
321	0.3LY	PASSING CONTROL RELAY	321	0.3LY	PASSING CONTROL RELAY
322	R	PASSING CONTROL RELAY	322	R	PASSING CONTROL RELAY
323	0.3B	PASSING CONTROL RELAY	323	0.3B	PASSING CONTROL RELAY
325	0.85LO	REAR HARNESS	325	0.85LO	REAR HARNESS
326	2BW	REAR HARNESS	326	2BW	REAR HARNESS
327	0.3WB	REAR HARNESS	327	0.3WB	REAR HARNESS
328	0.3WR	REAR HARNESS	328	0.3WR	REAR HARNESS
334	LB	PASSING CONTROL RELAY	334	LB	PASSING CONTROL RELAY
335	0.3LR	PASSING CONTROL RELAY	335	0.3LR	PASSING CONTROL RELAY
336	GW	RADIO <LL+>	336	GW	RADIO <LL+>
337	LW	RADIO <ACC->	337	LW	RADIO <ACC->
338	BW	RADIO <E->	338	BW	RADIO <E->
339	YW	RADIO <SG->	339	YW	RADIO <SG->
373	0.3Lg	REAR HARNESS	373	0.3Lg	REAR HARNESS
380	3LR	FUSE BLOCK (7)	380	3LR	FUSE BLOCK (7)
385	O	RELAY BOX	385	O	RELAY BOX
386	B	RELAY BOX	386	B	RELAY BOX
388	0.3YV	REAR HARNESS	388	0.3YV	REAR HARNESS
390	0.3GV	REAR HARNESS	390	0.3GV	REAR HARNESS
391	0.3B	DIODE	391	0.3B	DIODE
392	0.3RB	KEY REMIND SWITCH	392	0.3RB	KEY REMIND SWITCH
393	0.3TV	KEY REMIND SWITCH	393	0.3TV	KEY REMIND SWITCH
394	0.3GV	KEY REMIND SWITCH	394	0.3GV	KEY REMIND SWITCH
395	0.3B	GLOVE BOX HARNESS	395	0.3B	GLOVE BOX HARNESS
396	0.3GV	DIODE	396	0.3GV	DIODE
397	0.3B	REAR HARNESS	397	0.3B	REAR HARNESS
400	0.3LB	REAR HARNESS	400	0.3LB	REAR HARNESS
401	0.3LgR	REAR HARNESS	401	0.3LgR	REAR HARNESS
402	0.3LgY	REAR HARNESS	402	0.3LgY	REAR HARNESS
403	0.3B	CANCEL SWITCH	403	0.3B	CANCEL SWITCH
405	YW	CONTROL HARNESS	405	YW	CONTROL HARNESS
406	GW	DUAL PRESSURE SWITCH	406	GW	DUAL PRESSURE SWITCH
407	0.85BW	CONTROL HARNESS	407	0.85BW	CONTROL HARNESS
408	0.85LR	FUSE BLOCK (7)	408	0.85LR	FUSE BLOCK (7)
409	2LR	AIR CONDITIONER RELAY <PUSHER FAN MOTOR>	409	2LR	AIR CONDITIONER RELAY <PUSHER FAN MOTOR>
410	2LY	AIR CONDITIONER RELAY <PUSHER FAN MOTOR>	410	2LY	AIR CONDITIONER RELAY <PUSHER FAN MOTOR>
411	B	AIR CONDITIONER RELAY <PUSHER FAN MOTOR>	411	B	AIR CONDITIONER RELAY <PUSHER FAN MOTOR>
412	GY	AIR CONDITIONER RELAY <PUSHER FAN MOTOR>	412	GY	AIR CONDITIONER RELAY <PUSHER FAN MOTOR>
413	1.28B	PUSHER FAN MOTOR	413	1.28B	PUSHER FAN MOTOR

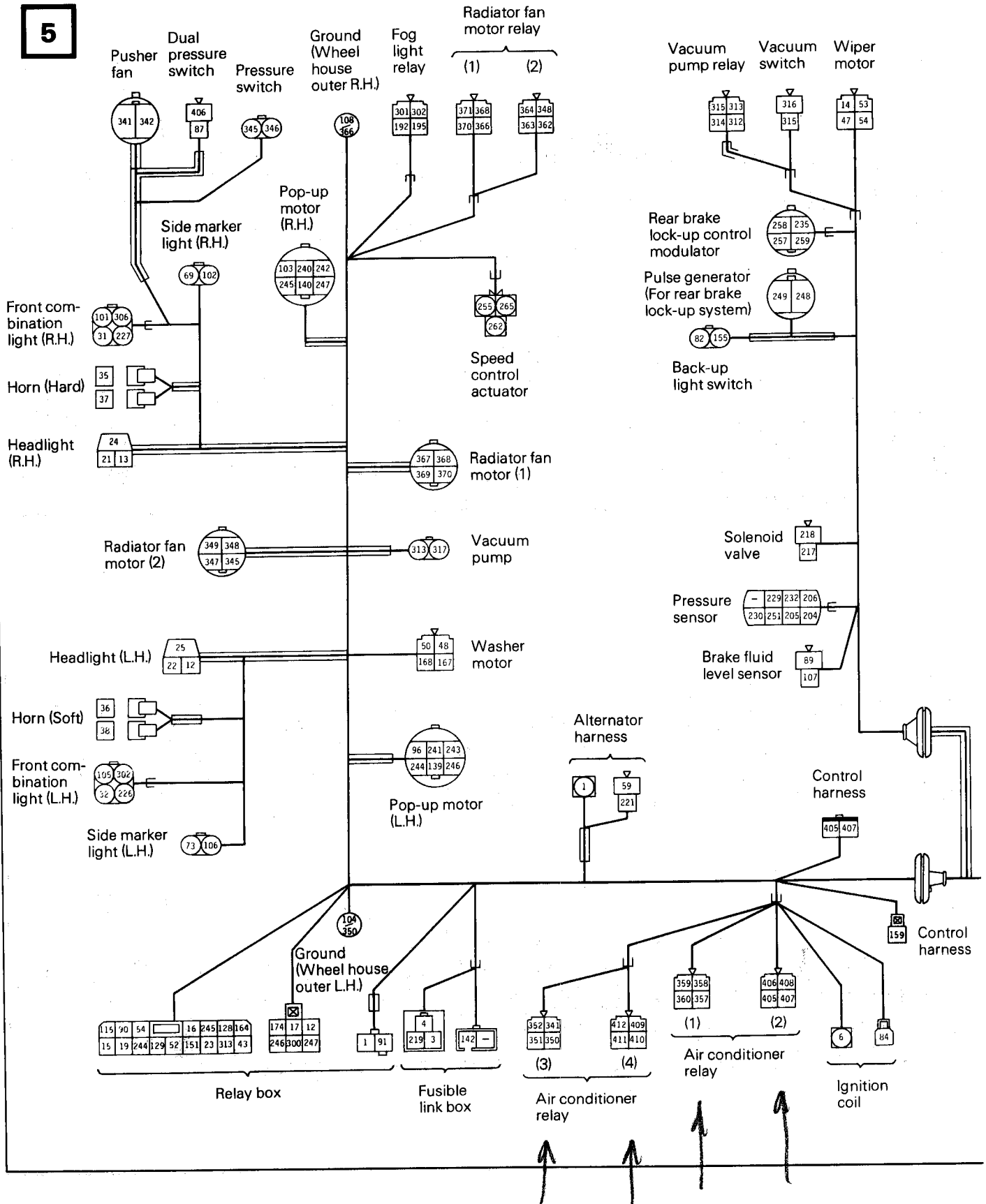
NO	WIRE	CIRCUIT	NO	WIRE	CIRCUIT
185	LgB	DIODE	185	LgB	METER
184	R	OVERDRIVE SWITCH	184	R	RELAY BOX
186	B	OVERDRIVE SWITCH	186	B	RELAY BOX
187	GW	OVERDRIVE SWITCH	187	GW	RELAY BOX
188	BY	OVERDRIVE SWITCH	188	BY	RELAY BOX
189	0.3BR	REAR HARNESS	189	0.3BR	REAR HARNESS
190	0.3WR	REAR HARNESS	190	0.3WR	REAR HARNESS
191	RY	DIODE	191	RY	DIODE
192	RG	FOG LIGHT RELAY	192	RG	FOG LIGHT RELAY
193	RW	CLUSTER SWITCH (RH)	193	RW	CLUSTER SWITCH (RH)
194	RW	DIODE	194	RW	DIODE
195	2R	FOG LIGHT RELAY	195	2R	FOG LIGHT RELAY
196	RB	DIODE	196	RB	DIODE
197	LgB	REAR HARNESS	197	LgB	REAR HARNESS
200	0.85LB	REAR HARNESS	200	0.85LB	REAR HARNESS
201	8R	REAR HARNESS	201	8R	REAR HARNESS
202	BY	REAR HARNESS	202	BY	REAR HARNESS
203	0.3YW	CONTROL HARNESS	203	0.3YW	CONTROL HARNESS
204	B	CONTROL HARNESS	204	B	CONTROL HARNESS
205	R	PRESSURE SENSOR	205	R	PRESSURE SENSOR
206	R	CONTROL HARNESS	206	R	CONTROL HARNESS
207	BL	RADIO <FL->	207	BL	RADIO <FL->
208	LgB	REAR HARNESS	208	LgB	REAR HARNESS
217	1.25R	SOLENOID VALVE	217	1.25R	SOLENOID VALVE
218	RY	SOLENOID VALVE	218	RY	SOLENOID VALVE
219	1.25B	CONTROL HARNESS	219	1.25B	CONTROL HARNESS
220	2L	CONTROL HARNESS	220	2L	CONTROL HARNESS
221	WY	METER <CH->	221	WY	METER <CH->
223	GW	CLUSTER SWITCH (LH) <LL->	223	GW	CLUSTER SWITCH (LH) <LL->
224	BY	CLUSTER SWITCH (LH) <LL->	224	BY	CLUSTER SWITCH (LH) <LL->
225	BY	CLUSTER SWITCH (RH) <LL->	225	BY	CLUSTER SWITCH (RH) <LL->
226	GL	CLUSTER SWITCH (RH) <FR->	226	GL	CLUSTER SWITCH (RH) <FR->
227	GY	CLUSTER SWITCH (RH) <FR->	227	GY	CLUSTER SWITCH (RH) <FR->
229	1.25R	PRESSURE SENSOR <B->	229	1.25R	PRESSURE SENSOR <B->
230	1.25B	PRESSURE SENSOR <E->	230	1.25B	PRESSURE SENSOR <E->
232	Y	PRESSURE SENSOR <B/SG->	232	Y	PRESSURE SENSOR <B/SG->
237	L	CLUSTER SWITCH (LH) <B->	237	L	CLUSTER SWITCH (LH) <B->
238	0.3LV	PASSING CONTROL RELAY	238	0.3LV	PASSING CONTROL RELAY
239	0.3LY	POP-UP MOTOR (RH) <L>	239	0.3LY	POP-UP MOTOR (RH) <L>
240	0.3LO	POP-UP MOTOR (RH) <L>	240	0.3LO	POP-UP MOTOR (RH) <L>
241	0.3LO	POP-UP MOTOR (RH) <L>	241	0.3LO	POP-UP MOTOR (RH) <L>
242	L	POP-UP MOTOR (RH) <D>	242	L	POP-UP MOTOR (RH) <D>
243	L	POP-UP MOTOR (RH) <D>	243	L	POP-UP MOTOR (RH) <D>
244	GL	POP-UP MOTOR (LH) <AS>	244	GL	POP-UP MOTOR (LH) <AS>
246	GR	POP-UP MOTOR (LH) <AS>	246	GR	POP-UP MOTOR (LH) <AS>
248	2LY	POP-UP MOTOR (LH) 	248	2LY	POP-UP MOTOR (LH)
247	2LW	POP-UP MOTOR (RH) 	247	2LW	POP-UP MOTOR (RH)
251	YG	METER <BS->	251	YG	METER <BS->
252	0.3R	REAR HARNESS	252	0.3R	REAR HARNESS
254	0.3LR	METER <SB+>	254	0.3LR	METER <SB+>
255	Y	STOP LIGHT SWITCH	255	Y	STOP LIGHT SWITCH
256	0.3RW	REAR HARNESS	256	0.3RW	REAR HARNESS
260	YW	REAR HARNESS	260	YW	REAR HARNESS
261	Y	REAR HARNESS	261	Y	REAR HARNESS
262	L	REAR HARNESS	262	L	REAR HARNESS
263	0.3LB	REAR HARNESS	263	0.3LB	REAR HARNESS
264	0.85GW	REAR HARNESS	264	0.85GW	REAR HARNESS
265	R	REAR HARNESS	265	R	REAR HARNESS
266	2B	REAR HARNESS	266	2B	REAR HARNESS
267	2BR	REAR HARNESS	267	2BR	REAR HARNESS
268	0.85G	REAR HARNESS	268	0.85G	REAR HARNESS
271	RB	METER <B->	271	RB	METER <B->
272	0.3RL	SPEED CONTROL SWITCH <IG>	272	0.3RL	SPEED CONTROL SWITCH <IG>
273	0.3L	SPEED CONTROL SWITCH <CR>	273	0.3L	SPEED CONTROL SWITCH <CR>
274	0.3YL	REAR HARNESS	274	0.3YL	REAR HARNESS
284	0.3LR	METER <IG>	284	0.3LR	METER <IG>
285	BY	METER <LL->	285	BY	METER <LL->
286	LW	REAR HARNESS	286	LW	REAR HARNESS
287	B	METER <E->	287	B	METER <E->
288	BY	RADIO <LL->	288	BY	RADIO <LL->

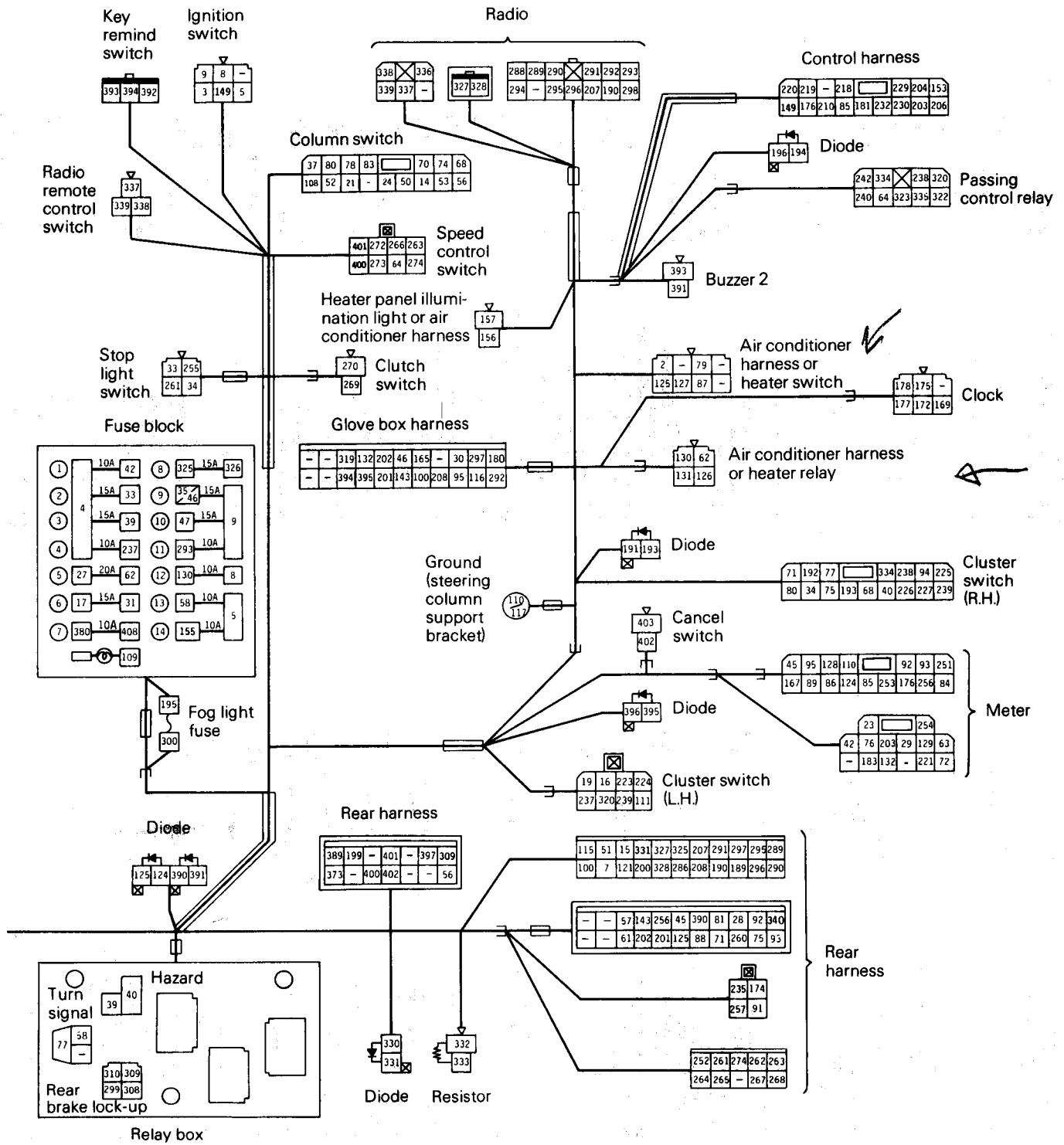


COMPONENT SERVICE - WIRING HARNESS AND FUSES

FRONT HARNESS

5







COMPONENT SERVICE — WIRING HARNESS AND FUSES

NO.	WIRE	CIRCUIT	WIRE	CIRCUIT
91	ZBR	REAR HARNES	REAR HARNES	
92	0.3YB	METER <FR>	METER <FR>	
93	0.3YL	METER <FR>	METER <FR>	
94	GW	CLUSTER SWITCH (RH) <ILL>	CLUSTER SWITCH (RH) <ILL>	30
95	BY	POP-UP MOTOR (LH) <E>	POP-UP MOTOR (LH) <E>	139
96	B	POP-UP MOTOR (RH) <E>	POP-UP MOTOR (RH) <E>	106
100	0.3LR	REAR HARNES	REAR HARNES	101
102	B	FRONT COMBINATION LIGHT (RH) <E>	FRONT COMBINATION LIGHT (RH) <E>	100
103	B	FRONT COMBINATION LIGHT (LH) <E>	FRONT COMBINATION LIGHT (LH) <E>	100
104	B	FRONT COMBINATION LIGHT (LH) <E>	FRONT COMBINATION LIGHT (LH) <E>	106
105	B	FRONT COMBINATION LIGHT (LH) <E>	FRONT COMBINATION LIGHT (LH) <E>	106
106	B	FRONT COMBINATION LIGHT (LH) <E>	FRONT COMBINATION LIGHT (LH) <E>	106
107	0.3B	SIDE MARKER LIGHT (LH) <E>	SIDE MARKER LIGHT (LH) <E>	
108	B	BRAKE FLUID LEVEL SENSOR <E>	BRAKE FLUID LEVEL SENSOR <E>	
109	B	COLUMN SWITCH <E>	COLUMN SWITCH <E>	
110	B	METER <E>	METER <E>	106
111	B	CLUSTER SWITCH (LH) <E>	CLUSTER SWITCH (LH) <E>	117
115	GY	RELAY BOX <SW>	RELAY BOX <SW>	
116	0.65B	GLOVE BOX HARNES	GLOVE BOX HARNES	117
117	B	GROUND	GROUND	104
121	0.3GO	REAR HARNES	REAR HARNES	108
124	0.3GB	METER <ST>	METER <ST>	304
125	0.3RY	DIODE	DIODE	
126	0.85W	RELAY BOX	RELAY BOX	
128	0.85WB	RELAY BOX	RELAY BOX	
130	LR	HEATER REALY <E>	HEATER REALY <E>	
131	0.3B	HEATER REALY <E>	HEATER REALY <E>	117
138	1.25B	POP-UP MOTOR (RH) <E>	POP-UP MOTOR (RH) <E>	104
140	1.25B	FUSIBLE LINK BOX	FUSIBLE LINK BOX	108
142	5W	FUSIBLE LINK BOX	FUSIBLE LINK BOX	1
143	WB	GLOVE BOX HARNES	GLOVE BOX HARNES	
149	2BY	IGNITION SWITCH <ST>	IGNITION SWITCH <ST>	
151	1.25B	RELAY BOX <E>	RELAY BOX <E>	104
155	R	BACK-UP LIGHT SWITCH <IG>	BACK-UP LIGHT SWITCH <IG>	30
156	GW	HEATER PANEL ILLUMINATION LIGHT <ILL> OR AIR CONDITIONER HARNES	HEATER PANEL ILLUMINATION LIGHT <ILL> OR AIR CONDITIONER HARNES	95
157	BY	HEATER PANEL ILLUMINATION LIGHT <ILL> OR AIR CONDITIONER HARNES	HEATER PANEL ILLUMINATION LIGHT <ILL> OR AIR CONDITIONER HARNES	149
159	2BY	CONTROL HARNES	CONTROL HARNES	130
164	BV	RELAY BOX <IG>	RELAY BOX <IG>	91
165	2BR	GLOVE BOX HARNES	GLOVE BOX HARNES	108
167	LW	WASHER MOTOR <IND>	WASHER MOTOR <IND>	293
168	B	WASHER MOTOR <E>	WASHER MOTOR <E>	30
169	0.3LV	CLOCK <ACC>	CLOCK <ACC>	35
172	GW	CLOCK <ILL+>	CLOCK <ILL+>	42
174	2L	RELAY BOX <PW>	RELAY BOX <PW>	127
175	0.3BY	CLOCK <LL->	CLOCK <LL->	190
176	0.3YG	CONTROL HARNES	CONTROL HARNES	292
177	0.3RB	CLOCK 	CLOCK 	
178	0.3B	CLOCK <E>	CLOCK <E>	
180	0.3WR	GLOVE BOX HARNES	GLOVE BOX HARNES	
189	0.3BR	REAR HARNES	REAR HARNES	
190	0.3WR	REAR HARNES	REAR HARNES	
191	RY	DIODE	DIODE	24
192	RG	FOG LIGHT RELAY	FOG LIGHT RELAY	193
193	RW	CLUSTER SWITCH (RH)	CLUSTER SWITCH (RH)	84
194	RW	DIODE	DIODE	47
196	2R	FOG LIGHT RELAY	FOG LIGHT RELAY	
198	RB	DIODE	DIODE	
200	0.65LB	REAR HARNES	REAR HARNES	
201	BR	REAR HARNES	REAR HARNES	
202	BY	REAR HARNES	REAR HARNES	
203	0.3YW	CONTROL HARNES	CONTROL HARNES	
204	B	PRESSURE SENSOR	PRESSURE SENSOR	218
206	RY	CONTROL HARNES	CONTROL HARNES	
208	R	CONTROL HARNES	CONTROL HARNES	
209	BL	RADIO <FL->	RADIO <FL->	
208	LJL	SOLENOID VALVE	SOLENOID VALVE	229
217	1.25R	SOLENOID VALVE	SOLENOID VALVE	
218	RY	CONTROL HARNES	CONTROL HARNES	
219	1.25B	CONTROL HARNES	CONTROL HARNES	
220	2L	CONTROL HARNES	CONTROL HARNES	8

NO.	WIRE	CIRCUIT	WIRE	CIRCUIT
1	5W	ALTERNATOR HARNES	BATTERY	4
2	3LR	HEATER SWITCH 	FUSIBLE LINK BOX <IG>	
3	3WB	IGNITION SWITCH <AM>	FUSIBLE LINK BOX 	
4	3W	FUSE BLOCK (1, 2, 3, 4)	FUSE BLOCK (1, 3, 14)	
5	3BW	IGNITION SWITCH <IG1>		5
6	2BW	IGNITION COIL		93
7	0.3LR	REAR HARNES		
8	3LB	IGNITION SWITCH <IG2>		12
9	3LV	IGNITION SWITCH <ACC>		
12	2G	RELAY BOX <HB>		
13	2G	HEADLIGHT (RH) 		
14	0.65LB	COLUMN SWITCH <HI>		
15	LO	RELAY BOX <E>		
16	R	RELAY BOX <HS>		
17	2RW	RELAY BOX <TS>		
19	GW	RELAY BOX <TS>		
21	1.25R	HEADLIGHT (RH) <HU>		
22	1.25R	HEADLIGHT (LH) <HU>		
23	YR	RELAY BOX <UB>		
24	1.25RW	HEADLIGHT (RH) <HL>		
25	1.25RW	HEADLIGHT (LH) <HL>		
27	3W	FUSE BLOCK (B)		23
28	0.85GW	REAR HARNES		
29	GW	METER <ILL>		
30	GW	GLOVE BOX HARNES <ILL>		
31	0.85GW	FRONT COMBINATION LIGHT (RH) <FP>		
32	GW	FRONT COMBINATION LIGHT (LH) <FP>		
33	0.86G	FUSE BLOCK (2)		31
34	0.86GW	STOP LIGHT SWITCH <L>		
35	GO	HORN 		35
36	GO	HORN 		
37	GB	HORN <E>		37
38	GB	HORN <E>		
39	1.25GY	FUSE BLOCK (3)		
40	1.25GB	RELAY BOX <L>		
42	RB	METER 		325
43	RB	RELAY BOX <E>		
45	0.3RG	METER <DR>		
46	0.85LV	FUSE BLOCK (B)		
47	0.85L	FUSE BLOCK (10)		
48	L	WASHER MOTOR <ACC>		47
50	LW	WASHER MOTOR <SW>		
51	LW	REAR HARNES		
53	0.85LV	WIPER MOTOR <LO>		50
54	LY	WIPER MOTOR <AS>		
56	0.85LV	COLUMN SWITCH <INT>		
57	0.3BY	REAR HARNES		
58	0.85RL	FUSE BLOCK (13)		95
59	0.75L	ALTERNATOR HARNES		
61	0.3RB	REAR HARNES		
62	2LR	FUSE BLOCK (B)		42
63	0.3LR	METER		
64	RB	SPEED CONTROL SWITCH <PS>		
68	GR	CLUSTER SWITCH (RH) <TS>		31
68	GW	SIDE MARKER LIGHT (RH) <P>		227
70	GY	COLUMN SWITCH <FR>		
71	WR	REAR HARNES		
72	GY	METER <TR>		223
73	GW	SIDE MARKER LIGHT (LH) <P>		226
74	GL	COLUMN SWITCH <FL>		
75	WL	REAR HARNES		
76	GL	METER <TL>		228
77	GR	RELAY BOX <L>		
78	WR	COLUMN SWITCH <RR>		
80	0.85WG	CLUSTER SWITCH (RH)		
82	RL	BACK-UP LIGHT SWITCH <L>		
83	WL	COLUMN SWITCH <RL>		
84	W/B	METER <IG->		75
86	0.85Y	METER <UP>		
88	0.3GR	REAR HARNES		
89	BW	BRAKE FLUID LEVEL SENSOR <IND>		
90	L	RELAY BOX <ACC>		47

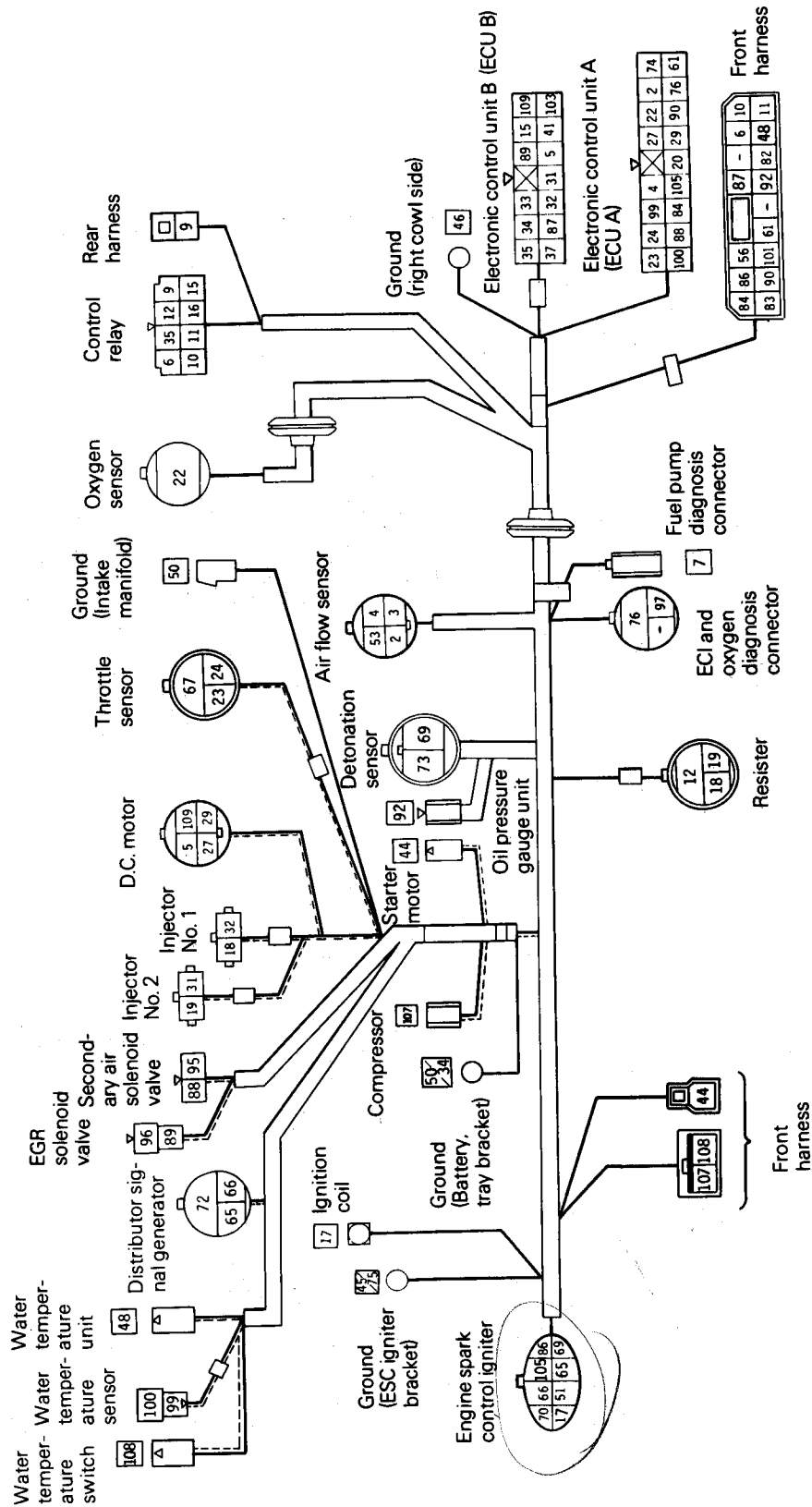


NO.	WIRE	CIRCUIT	NO.	WIRE	CIRCUIT
221	WY	METER <CH>	315	G	VACUUM SWITCH
222	GW	CLUSTER SWITCH (LH) <LL>	316	L	VACUUM SWITCH <E>
224	BY	CLUSTER SWITCH (LH) <LL>	317	0.3BW	VACUUM PUMP <E>
225	BY	CLUSTER SWITCH (RH) <LL>	320	0.3RW	PASSING CONTROL RELAY
226	GL	CLUSTER SWITCH (RH) <LL>	321	0.3LY	PASSING CONTROL RELAY
227	GY	CLUSTER SWITCH (RH) <FL>	322	R	PASSING CONTROL RELAY
229	1.25R	CLUSTER SWITCH (RH) <FR>	323	0.3B	PASSING CONTROL RELAY
230	1.25B	PRESSURE SENSOR 	325	0.85L0	REAR HARNESS
232	Y	PRESSURE SENSOR <B/S>	326	2BW	REAR HARNESS
235	0.85WG	REAR HARNESS	327	0.3WB	REAR HARNESS
237	L	CLUSTER SWITCH (LH) 	328	0.3WR	REAR HARNESS
238	0.3LW	PASSING CONTROL RELAY	330	GW	DIODE
239	0.3LY	CLUSTER SWITCH (LH) <U>	331	G	DIODE
240	0.3LO	POP-UP MOTOR (RH) <U>	332	WG	RESISTOR
241	0.3LO	POP-UP MOTOR (RH) <U>	333	G	RESISTOR
242	L	POP-UP MOTOR (RH) <D>	334	LB	PASSING CONTROL RELAY
243	L	POP-UP MOTOR (LH) <D>	335	0.3LR	PASSING CONTROL RELAY
244	GL	POP-UP MOTOR (LH) <AS>	336	GW	PASSING CONTROL RELAY
245	GR	POP-UP MOTOR (RH) <AS>	337	LW	RADIO <ILL+>
246	2LY	POP-UP MOTOR (LH) 	338	RW	RADIO <E>
247	2LW	POP-UP MOTOR (RH) 	339	YW	RADIO <SG>
248	B	PULSE GENERATOR	340	0.3B	REAR HARNESS
249	W	PULSE GENERATOR	341	1.25LY	PUSHER FAN
250	SHIELD	PULSE GENERATOR (SHIELD WIRES for 248, 249)	342	2LR	PUSHER FAN
251	YG	METER <BS>	343	GW	DUAL PRESSURE SWITCH
252	0.3R	REAR HARNESS	344	GY	DUAL PRESSURE SWITCH
253	0.3WL	METER HARNESS <AS>	345	BY	PRESSURE SWITCH
254	0.3LR	METER <SB+>	346	B	PRESSURE SWITCH
255	Y	STOP LIGHT SWITCH	347	2L	RADIATOR FAN MOTOR (2)
256	0.3RW	REAR HARNESS	348	1.25LW	RADIATOR FAN MOTOR (2)
257	0.85WL	REAR HARNESS	349	B	RADIATOR FAN MOTOR (2)
258	0.85B	REAR BRAKE LOCK-UP CONTROL MODULATOR <E>	350	2B	AIR CONDITIONER RELAY (3)
259	0.85B	REAR BRAKE LOCK-UP CONTROL MODULATOR <E>	351	BY	AIR CONDITIONER RELAY (3)
260	YW	REAR HARNESS	352	2LB	AIR CONDITIONER RELAY (3)
261	Y	REAR HARNESS	353	1.25B	AIR CONDITIONER RELAY (4)
262	L	REAR HARNESS	354	1.25LW	AIR CONDITIONER RELAY (4)
263	0.3LB	REAR HARNESS	355	GW	AIR CONDITIONER RELAY (4)
264	0.85GW	REAR HARNESS	356	B	AIR CONDITIONER RELAY (4)
265	F	REAR HARNESS	357	1.25B	AIR CONDITIONER RELAY (1)
266	2B	REAR HARNESS	358	1.25BW	AIR CONDITIONER RELAY (1)
268	0.85G	REAR HARNESS	359	GW	AIR CONDITIONER RELAY (1)
269	2B	REAR HARNESS	360	B	AIR CONDITIONER RELAY (1)
270	2B	CLUTCH SWITCH <ST>	362	1.25B	RADIATOR FAN RELAY (2)
272	0.3RL	SPEED CONTROL SWITCH <E>	363	BY	RADIATOR FAN RELAY (2)
273	0.3L	SPEED CONTROL SWITCH <S>	364	2LB	RADIATOR FAN RELAY (2)
274	0.3YL	REAR HARNESS	365	B	HEATER SWITCH
286	LW	REAR HARNESS	366	1.25B	RADIATOR FAN RELAY (2)
288	BY	RADIO <LL>	367	B	RADIATOR FAN MOTOR RELAY (1)
289	0.36L	RADIO <RL>	368	1.25BW	RADIATOR FAN MOTOR (1)
290	0.36R	RADIO <RR>	369	2L	RADIATOR FAN MOTOR (1)
291	0.36L	RADIO <FL>	370	G	RADIATOR FAN MOTOR (1)
292	0.36R	RADIO <FR>	371	2LB	RADIATOR FAN MOTOR (1)
293	LW	RADIO <ACC>	372	0.3L9	RADIATOR FAN MOTOR RELAY (1)
294	0.36B	RADIO 	373	0.3L9	REAR HARNESS
295	0.3YL	RADIO <R+>	377	0.85BW	CONTROL HARNESS
296	0.36R	RADIO <RR+>	378	YW	CONTROL HARNESS
297	0.36L	REAR HARNESS <FL>	379	2L	AIR CONDITIONER HARNESS
298	GW	RADIO <LL>	380	3LR	FUSE BLOCK (7)
299	LW	REAR HARNESS	381	0.85L1	FUSE BLOCK (7)
300	2R	RELAY BOX	380	0.3GW	REAR HARNESS
301	2S	FOG LIGHT FUSE	391	0.3B	DIODE
302	2RW	FOG LIGHT RELAY	392	0.36B	KEY REMIND SWITCH
304	2RW	FRONT COMBINATION LIGHT (LH)	393	0.3YG	KEY REMIND SWITCH
312	2WB	VACUUM PUMP RELAY 	394	0.3GW	KEY REMIND SWITCH
313	2R	VACUUM PUMP RELAY <L>	395	0.3B	GLOVE BOX HARNESS
314	0.3Y	VACUUM PUMP RELAY <E>	396	0.3GW	DIODE
			397	0.3B	DIODE
			400	0.3LB	REAR HARNESS
			401	0.3LR	REAR HARNESS
			402	0.3LY	REAR HARNESS
			403	0.3B	CANCEL SWITCH



CONTROL HARNESS

6



COMPONENT SERVICE – WIRING HARNESS AND FUSES

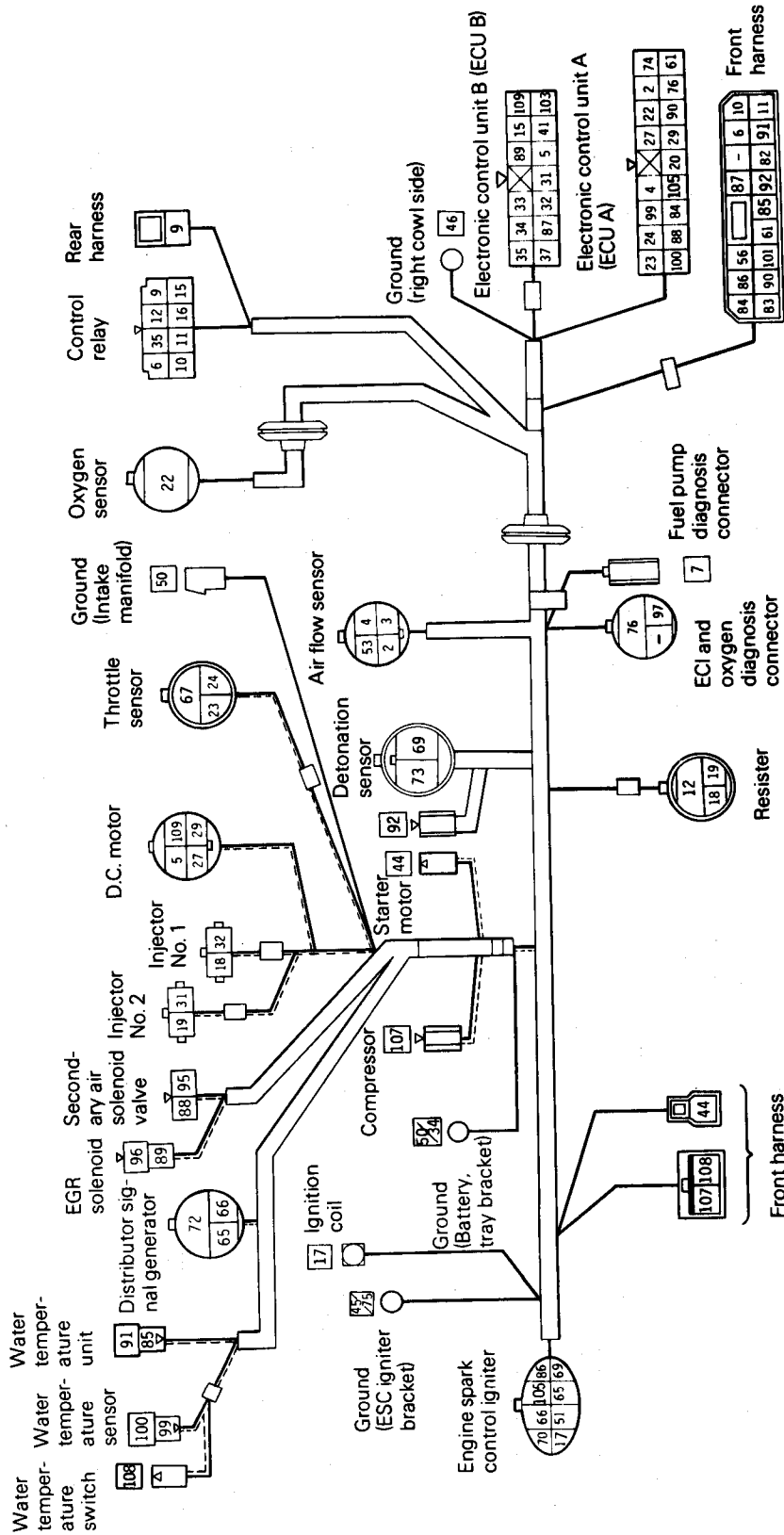


NO.	WIRE	CIRCUIT	NO.	WIRE	CIRCUIT
2	WB	AIR FLOW SENSOR <SG>	56	1.25R	FRONT HARNESS
3	1.25R	AIR FLOW SENSOR 	61	Y	FRONT HARNESS
4	GR	AIR FLOW SENSOR <SG>	64	BY	FRONT HARNESS
5	BW	D.C. MOTOR	65	W	ENGINE SPARK CONTROL IGNITER
6	1.25B	FRONT HARNESS	66	B	ENGINE SPARK CONTROL IGNITER
7	2BW	FUEL PUMP DIAGNOSIS CONNECTOR	67	B	THROTTLE SENSOR
9	2BW	CONTROL RELAY <F/P>	68	BW	FRONT HARNESS
10	2L	CONTROL RELAY <IG>	69	W	ENGINE SPARK CONTROL IGNITER
11	2BY	CONTROL RELAY <ST>	70	0.85B	ENGINE SPARK CONTROL IGNITER
12	1.25BR	CONTROL RELAY <R/B>	72	BY	DISTRIBUTOR SIGNAL GENERATOR
15	WR	CONTROL RELAY <F/C>	73	BW	DETONATION SENSOR
16	B	CONTROL RELAY <E>	74	W	ECU A – IGNITION COIL <->
17	LW	ENGINE SPARK CONTROL IGNITER <->	75	B	GROUND
18	0.85YW	RESISTOR	76	LY	ECU A – DIAGNOSIS
19	0.85YG	RESISTOR	82	0.85YL	FRONT HARNESS
20	2BY	ECU A – IG. SWITCH <ST>	83	R	FRONT HARNESS
22	W	ECU A – OXYGEN SENSOR	84	2BY	FRONT HARNESS
23	GW	ECU A – THROTTLE SENSOR	86	Br	FRONT HARNESS
24	GR	ECU A – SENSOR 	87	RY	FRONT HARNESS
27	YR	ECU A – IDLE SWITCH <+>	88	RG	FRONT HARNESS
29	GB	ECU A – MOTOR POSITIONING SWITCH	89	RW	ECU A – SECONDARY AIR SOLENOID VALVE
31	0.85YL	ECU B – INJECTOR NO. 2 <->	90	0.3Lg	ECU B – EGR SOLENOID VALVE
32	0.85YB	ECU B – INJECTOR NO. 1 <->	92	0.7BY	ECU A – SPEED SENSOR
33	0.85B	ECU B – GROUND	95	1.25R	SECONDARY AIR SOLENOID VALVE
34	1.25B	ECU B – GROUND	96	1.25R	SECONDARY AIR SOLENOID VALVE
36	1.25R	ECU B – BATTERY	97	B	EGR SOLENOID VALVE
37	1.25R	ECU B – BATTERY	99	YG	ECI AND OXYGEN DIAGNOSIS CONNECTOR
43	BW	ECU B – COMPRESSOR	100	B	WATER TEMPERATURE SENSOR
44	2BY	STARTER MOTOR	101	B	WATER TEMPERATURE SENSOR
45	1.25B		103	1.25BR	FRONT HARNESS
46	B		105	YB	ECU B – BATTERY BACK UP
48	YG	FRONT HARNESS	107	0.85BW	ECU A – ENGINE SPARK CONTROL IGNITER
50	5B	GROUND	108	YW	FRONT HARNESS
51	1.25R	ENGINE SPARK CONTROL IGNITER	109	GW	D.C. MOTOR
53	1.25B	AIR FLOW SENSOR			



CONTROL HARNESS

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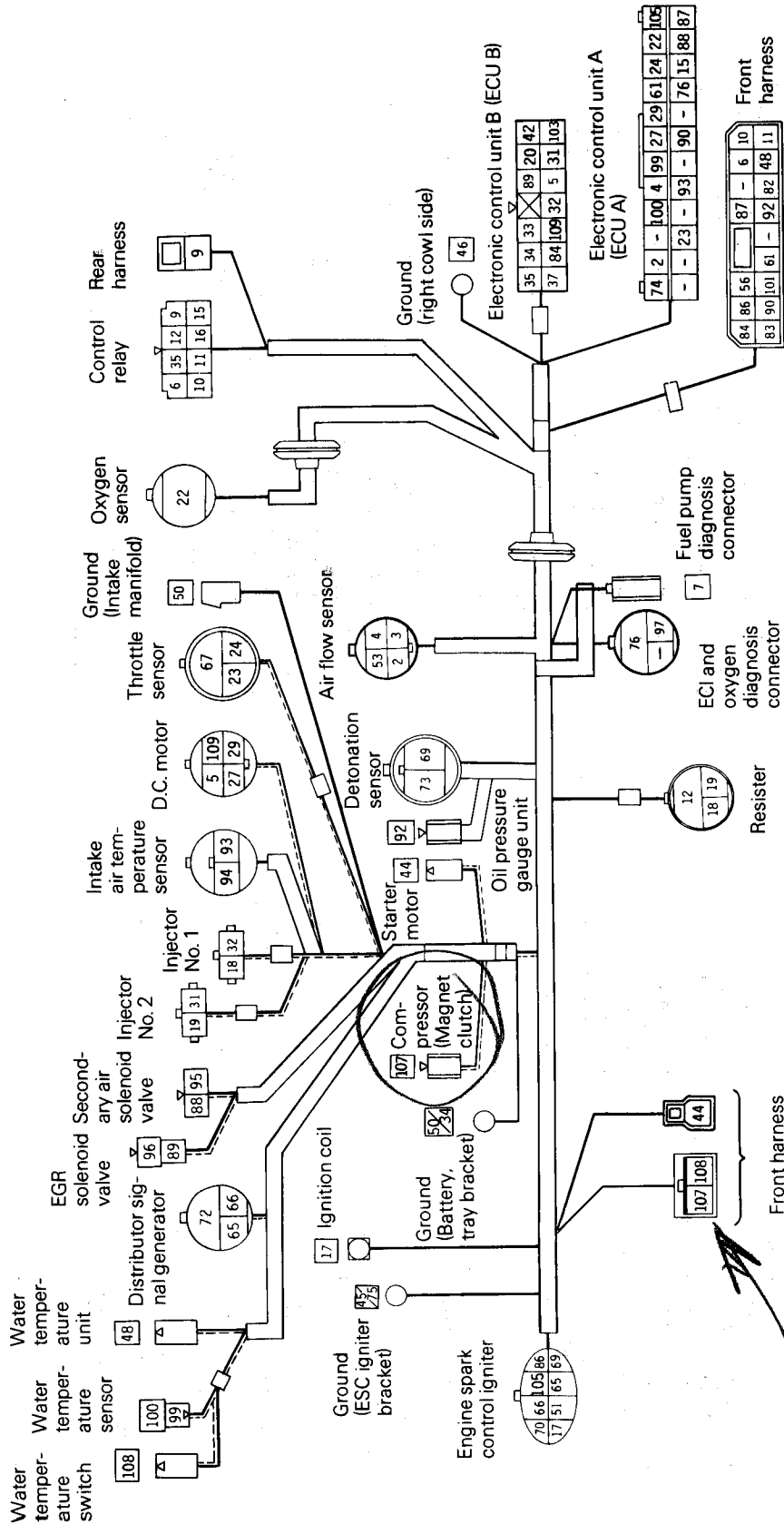


NO.	WIRE	CIRCUIT	WIRE	CIRCUIT	NO.	WIRE	CIRCUIT
2	WB	AIR FLOW SENSOR <SG>	Y	FRONT HARNESS	61	Y	FRONT HARNESS
3	1.25R	AIR FLOW SENSOR 	BY	ENGINE SPARK CONTROL IGNITER	64	BY	ENGINE SPARK CONTROL IGNITER
4	GR	AIR FLOW SENSOR <SG>	W	ENGINE SPARK CONTROL IGNITER	65	W	ENGINE SPARK CONTROL IGNITER
5	BW	D.C. MOTOR	B	THROTTLE SENSOR	66	B	THROTTLE SENSOR
6	1.25B	FRONT HARNESS	BW	ENGINE SPARK CONTROL IGNITER	68	BW	ENGINE SPARK CONTROL IGNITER
7	2BW	FUEL PUMP DIAGNOSIS CONNECTOR	W	ENGINE SPARK CONTROL IGNITER	69	W	ENGINE SPARK CONTROL IGNITER
9	2BW	CONTROL RELAY <F/P>	0.85B	DISTRIBUTOR SIGNAL GENERATOR	70	0.85B	DISTRIBUTOR SIGNAL GENERATOR
10	2L	CONTROL RELAY <IG>	BY	DISTRIBUTOR SIGNAL GENERATOR	72	BY	DISTRIBUTOR SIGNAL GENERATOR
11	2BY	CONTROL RELAY <ST>	BW	DETONATION SENSOR	73	BW	DETONATION SENSOR
12	1.25BR	CONTROL RELAY <R/B>	W	ECU A — IGNITION COIL <->	74	W	ECU A — IGNITION COIL <->
15	WR	CONTROL RELAY <F/C>	B	GROUND	75	B	GROUND
16	B	CONTROL RELAY <E>	LY	ECU A — DIAGNOSIS	76	LY	ECU A — DIAGNOSIS
17	LW	ENGINE SPARK CONTROL IGNITER <->	0.85YL	FRONT HARNESS	82	0.85YL	FRONT HARNESS
18	0.85YW	RESISTOR	R	FRONT HARNESS	83	R	FRONT HARNESS
19	0.85YG	RESISTOR	2BY	FRONT HARNESS	84	2BY	FRONT HARNESS
20	2BY	ECU A — IG. SWITCH <ST>	YL	FRONT HARNESS	85	YL	FRONT HARNESS
22	W	ECU A — OXYGEN SENSOR	Br	FRONT HARNESS	86	Br	FRONT HARNESS
23	GW	ECU A — THROTTLE SENSOR	RY	FRONT HARNESS	87	RY	FRONT HARNESS
24	GR	ECU A — SENSOR 	RG	ECU B — PRESSURE EXCHANGE SOLENOID VALVE	88	RG	ECU B — PRESSURE EXCHANGE SOLENOID VALVE
27	YR	ECU A — IDLE SWITCH <+>	RW	ECU A — SECONDARY AIR SOLENOID VALVE	89	RW	ECU A — SECONDARY AIR SOLENOID VALVE
29	GB	ECU A — MOTOR POSITIONING SWITCH	0.3Lg	ECU A — SPEED SENSOR	90	0.3Lg	ECU A — SPEED SENSOR
31	0.85YL	ECU B — INJECTOR NO. 2 <->	YG	WATER TEMPERATURE UNIT	91	YG	WATER TEMPERATURE UNIT
32	0.85YB	ECU B — INJECTOR NO. 1 <->	1.25R	OIL PRESSURE GAUGE UNIT	92	1.25R	OIL PRESSURE GAUGE UNIT
33	0.85B	ECU B — GROUND	1.25R	SECONDARY AIR SOLENOID VALVE	95	1.25R	SECONDARY AIR SOLENOID VALVE
34	1.25B	ECU B — GROUND	1.25R	EGR SOLENOID VALVE	96	1.25R	EGR SOLENOID VALVE
35	1.25R	ECU B — BATTERY	B	ECI AND OXYGEN DIAGNOSIS CONNECTOR	97	B	ECI AND OXYGEN DIAGNOSIS CONNECTOR
37	1.25R	ECU B — BATTERY	YG	WATER TEMPERATURE SENSOR	99	YG	WATER TEMPERATURE SENSOR
43	BW	ECU B — COMPRESSOR	B	FRONT HARNESS	100	B	FRONT HARNESS
44	2BY	STARTER MOTOR	B	ECU B — BATTERY BACK UP	101	B	ECU B — BATTERY BACK UP
45	1.25B		1.25BR	FRONT HARNESS	103	1.25BR	FRONT HARNESS
46	B		YB	ECU A — ENGINE SPARK CONTROL IGNITER	105	YB	ECU A — ENGINE SPARK CONTROL IGNITER
50	5B	GROUND.	0.85BW	FRONT HARNESS	107	0.85BW	FRONT HARNESS
51	1.25R	ENGINE SPARK CONTROL IGNITER	YW	FRONT HARNESS	108	YW	FRONT HARNESS
53	1.25B	AIR FLOW SENSOR	GW	D.C. MOTOR	109	GW	D.C. MOTOR
56	1.25R	FRONT HARNESS					



CONTROL HARNESS

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NO.		WIRE	CIRCUIT	NO.	WIRE	CIRCUIT
2	WB	AIR FLOW SENSOR <SG>	AIR FLOW SENSOR	61	Y	FRONT HARNESS
3	1.25R	AIR FLOW SENSOR 	ECU A – AIR FLOW SENSOR	64	BY	ENGINE SPARK CONTROL IGNITER
4	GR	AIR FLOW SENSOR <SG>	ECU A – AIR TEMP. SENSOR <+>	65	W	ENGINE SPARK CONTROL IGNITER
5	BW	D.C. MOTOR	ECU B – D.C. MOTOR <+>	66	B	THROTTLE SENSOR
6	1.25B	FRONT HARNESS	CONTROL RELAY	67	B	64
7	2BW	FUEL PUMP DIAGNOSIS CONNECTOR	REAR HARNESS	68	BW	ENGINE SPARK CONTROL IGNITER
9	2BW	CONTROL RELAY <F/R>	FRONT HARNESS	69	W	ENGINE SPARK CONTROL IGNITER
10	2L	CONTROL RELAY <IG>	FRONT HARNESS	70	0.85B	DISTRIBUTOR SIGNAL GENERATOR
11	2BY	CONTROL RELAY <ST>	FRONT HARNESS	72	BY	DISTRIBUTOR SIGNAL GENERATOR
12	1.25BR	CONTROL RELAY <R/B>	RESISTOR	73	BW	DETONATION SENSOR
15	WR	CONTROL RELAY <F/C>	ECU A – CONTROL RELAY	74	W	ECU A – IGNITION COIL <->
16	B	CONTROL RELAY <E>	IGNITION COIL	75	B	GROUND
17	LW	ENGINE SPARK CONTROL IGNITER <->	IGNITION COIL	76	LY	ECU A – DIAGNOSIS
18	0.85YW	RESISTOR	INJECTOR	82	0.85YL	FRONT HARNESS
19	0.85YG	RESISTOR	INJECTOR	83	R	FRONT HARNESS
20	2BY	ECU B – IG. SWITCH <ST>	OXYGEN SENSOR <SG>	84	2BY	FRONT HARNESS
22	W	ECU A – OXYGEN SENSOR	THROTTLE SENSOR	86	Br	FRONT HARNESS
23	GW	ECU A – THROTTLE SENSOR	THROTTLE SENSOR	87	RY	ECU A – PRESSURE EXCHANGE SOLENOID VALVE
24	GR	ECU A – SENSOR 	THROTTLE SENSOR	88	RG	ECU A – SECONDARY AIR SOLENOID VALVE
27	YR	ECU A – IDLE SWITCH <+>	IDLE SWITCH	89	RW	ECU B – EGR SOLENOID VALVE
29	GB	ECU B – MOTOR POSITIONING SWITCH	D.C. MOTOR	90	0.3Lg	ECU A – SPEED SENSOR
31	0.85YL	ECU B – INJECTOR NO. 2 <->	INJECTOR NO. 2	92	0.75Y	OIL PRESSURE GAUGE UNIT
32	0.85YB	ECU B – INJECTOR NO. 1 <->	INJECTOR NO. 1	93	LgB	INTAKE AIR TEMPERATURE SENSOR
33	0.85B	ECU B – GROUND	GROUND	94	B	INTAKE AIR TEMPERATURE SENSOR
34	1.25B	ECU B – GROUND	GROUND	95	1.25R	SECONDARY AIR SOLENOID VALVE
35	1.25R	ECU B – BATTERY	CONTROL RELAY <C/B>	96	1.25R	EGR SOLENOID VALVE
37	1.25R	ECU B – BATTERY	CONTROL RELAY <C/B>	97	B	ECU A AND OXYGEN DIAGNOSIS CONNECTOR
42	BW	ECU A – COMPRESSOR	FRONT HARNESS	99	YG	WATER TEMPERATURE SENSOR
44	2BY	STARTER MOTOR	FRONT HARNESS	100	B	WATER TEMPERATURE SENSOR
45	1.25B		GROUND	101	B	FRONT HARNESS
46	B		GROUND	103	1.25BR	ECU B – BATTERY BACK UP
48	YG	FRONT HARNESS	WATER TEMPERATURE UNIT	105	YB	ECU A – ENGINE SPARK CONTROL IGNITER
50	5B	GROUND	GROUND	106	0.85BW	FRONT HARNESS
51	1.25R	ENGINE SPARK CONTROL IGNITER	GROUND	107	0.85BW	FRONT HARNESS
53	1.25B	AIR FLOW SENSOR	GROUND	108	YW	FRONT HARNESS
56	1.25R	FRONT HARNESS	GROUND	109	GW	D.C. MOTOR

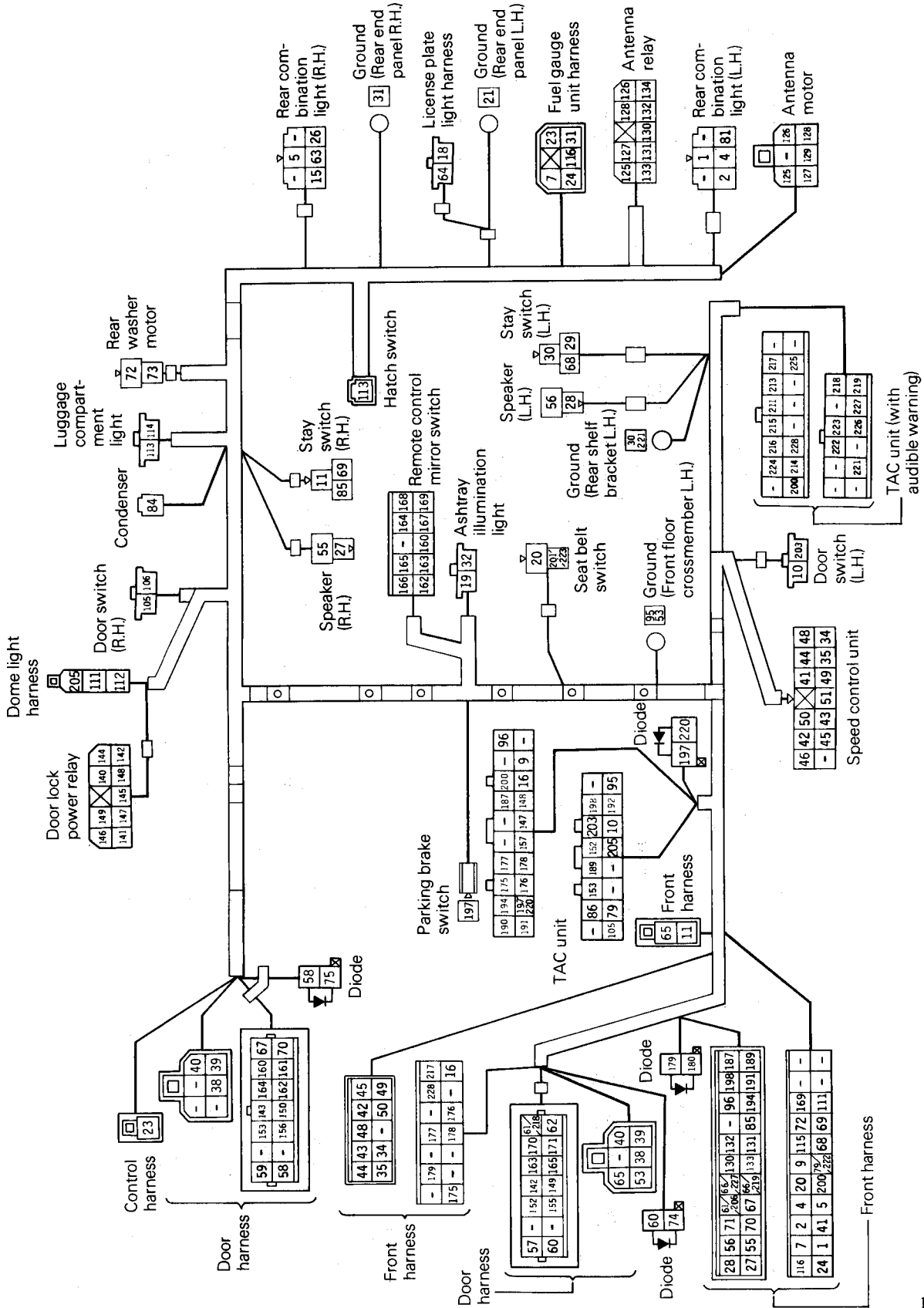
NO.		WIRE	CIRCUIT	NO.	WIRE	CIRCUIT
61	Y	FRONT HARNESS	ECU A – PRESSURE SENSOR	65	65	66
64	BY	ENGINE SPARK CONTROL IGNITER	DISTRIBUTOR SIGNAL GENERATOR	66	100	
65	W	ENGINE SPARK CONTROL IGNITER	DISTRIBUTOR SIGNAL GENERATOR	67	69	
66	B	ENGINE SPARK CONTROL IGNITER	DETONATION SENSOR	68	45	
67	B	THROTTLE SENSOR	DETONATION SENSOR	69	65	66
68	BW	ENGINE SPARK CONTROL IGNITER	ECU A – IGNITION COIL <->	70	65	66
69	W	ENGINE SPARK CONTROL IGNITER	ECU A – IGNITION COIL <->	72	69	
70	0.85B	DISTRIBUTOR SIGNAL GENERATOR	ECU A – IGNITION COIL <->	73	17	
72	BY	DISTRIBUTOR SIGNAL GENERATOR	ECU A – IGNITION COIL <->	74	74	
73	BW	DETONATION SENSOR	ECU A – IGNITION COIL <->	75	31	
74	W	DETONATION SENSOR	ECU A – IGNITION COIL <->	76	24	
75	B	GROUND	ECU A – IGNITION COIL <->	82	31	
76	LY	ECU A – DIAGNOSIS	ECU A – IGNITION COIL <->	83	24	
82	0.85YL	FRONT HARNESS	ECU A – IGNITION COIL <->	84	31	
83	R	FRONT HARNESS	ECU A – IGNITION COIL <->	86	24	
84	2BY	FRONT HARNESS	ECU A – IGNITION COIL <->	87	31	
86	Br	FRONT HARNESS	ECU A – IGNITION COIL <->	88	24	
87	RY	ECU A – PRESSURE EXCHANGE SOLENOID VALVE	ECU A – IGNITION COIL <->	89	31	
88	RG	ECU A – SECONDARY AIR SOLENOID VALVE	ECU A – IGNITION COIL <->	90	24	
89	RW	ECU B – EGR SOLENOID VALVE	ECU A – IGNITION COIL <->	92	31	
90	0.3Lg	ECU A – SPEED SENSOR	ECU A – IGNITION COIL <->	93	24	
92	0.75Y	OIL PRESSURE GAUGE UNIT	ECU A – IGNITION COIL <->	94	31	
93	LgB	INTAKE AIR TEMPERATURE SENSOR	ECU A – IGNITION COIL <->	95	24	
94	B	INTAKE AIR TEMPERATURE SENSOR	ECU A – IGNITION COIL <->	96	31	
95	1.25R	SECONDARY AIR SOLENOID VALVE	ECU A – IGNITION COIL <->	97	24	
96	1.25R	EGR SOLENOID VALVE	ECU A – IGNITION COIL <->	99	31	
97	B	ECU A AND OXYGEN DIAGNOSIS CONNECTOR	ECU A – IGNITION COIL <->	100	24	
99	YG	WATER TEMPERATURE SENSOR	ECU A – IGNITION COIL <->	101	31	
100	B	WATER TEMPERATURE SENSOR	ECU A – IGNITION COIL <->	103	24	
101	B	FRONT HARNESS	ECU A – IGNITION COIL <->	105	31	
103	1.25BR	ECU B – BATTERY BACK UP	ECU A – IGNITION COIL <->	106	24	
105	YB	ECU A – ENGINE SPARK CONTROL IGNITER	ECU A – IGNITION COIL <->	107	31	
106	0.85BW	FRONT HARNESS	ECU A – IGNITION COIL <->	108	24	
107	0.85BW	FRONT HARNESS	ECU A – IGNITION COIL <->	109	31	
108	YW	FRONT HARNESS	ECU A – IGNITION COIL <->			
109	GW	D.C. MOTOR	ECU A – IGNITION COIL <->			



COMPONENT SERVICE – WIRING HARNESS AND FUSES

REAR HARNESS

9



COMPONENT SERVICE - WIRING HARNESS AND FUSES



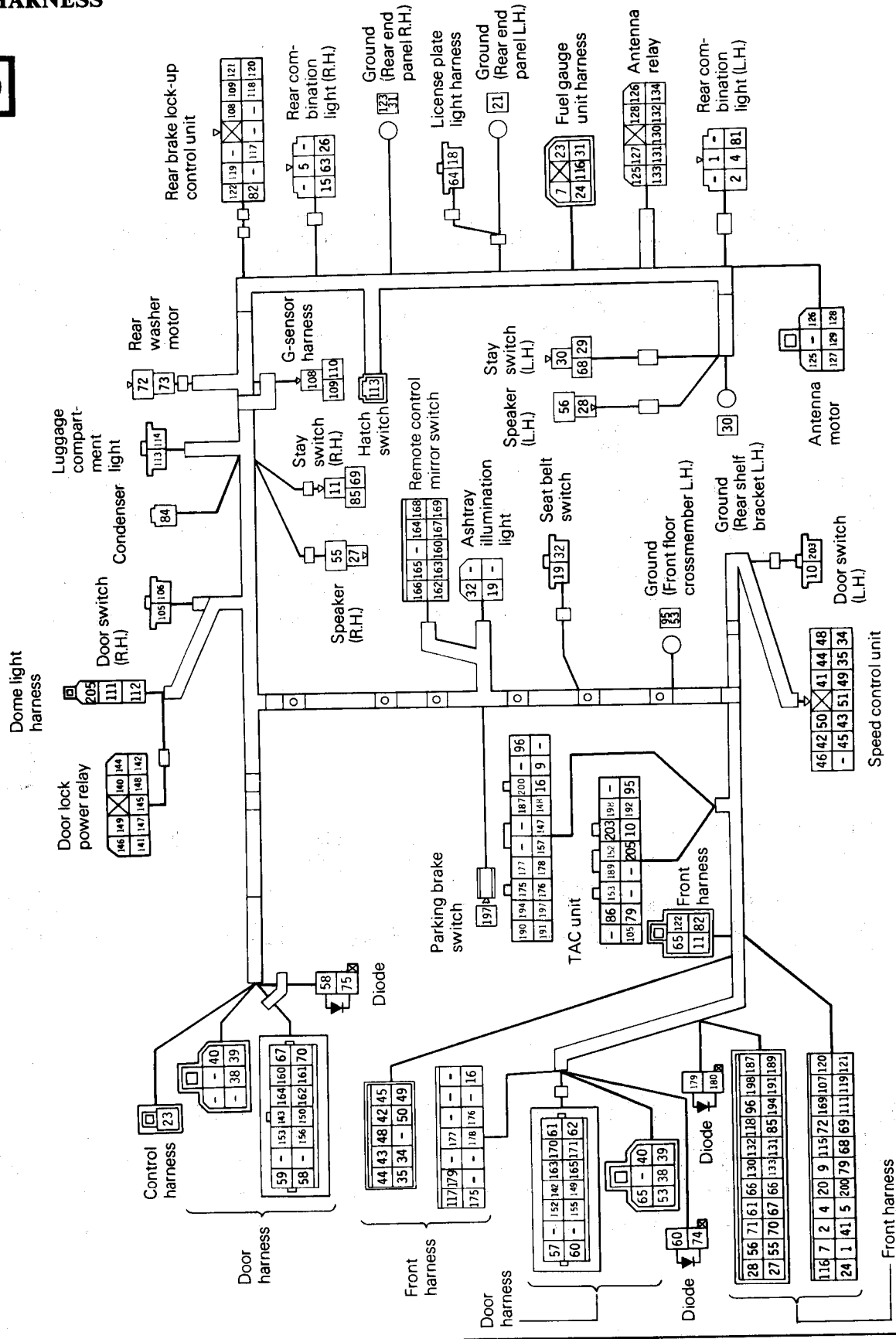
NO.	WIRE	CIRCUIT	NO.	WIRE	CIRCUIT
1	GL	FRONT HARNESS	125	WR	ANTENNA RELAY
2	GW	FRONT HARNESS	126	BR	ANTENNA RELAY
3	RL	FRONT HARNESS	127	WL	ANTENNA RELAY
4	RY	FRONT HARNESS	128	BL	ANTENNA RELAY
5	GY	FRONT HARNESS	129	B	ANTENNA RELAY
6	RY	FRONT HARNESS	130	066LO	ANTENNA RELAY
7	03YB	FRONT HARNESS	131	03WR	ANTENNA RELAY
8	03RG	FRONT HARNESS	132	03WB	ANTENNA RELAY
9	03RG	FRONT HARNESS	133	LW	ANTENNA RELAY
10	RG	TAC UNIT	134	03LR	ANTENNA RELAY
11	2BR	FRONT HARNESS	140	LR	DOOR LOCK RELAY
12	GW	REAR COMBINATION LIGHT (RH)	141	LR	DOOR LOCK RELAY
13	GW	REAR COMBINATION LIGHT (RH)	142	YG	DOOR LOCK RELAY
14	03G	TAC UNIT	143	YG	DOOR LOCK RELAY
15	03G	TAC UNIT	144	B	DOOR LOCK RELAY
16	03G	TAC UNIT	145	LR	DOOR LOCK RELAY
17	03G	TAC UNIT	146	B	DOOR LOCK RELAY
18	03G	TAC UNIT	147	03GL	DOOR LOCK RELAY
19	03G	TAC UNIT	148	03RL	DOOR LOCK RELAY
20	03GW	SEAT BELT SWITCH	149	WR	DOOR LOCK RELAY
21	2B	GROUND	150	WR	DOOR LOCK RELAY
22	2B	GROUND	151	WR	DOOR LOCK RELAY
23	2BW	CONTROL HARNESS	152	03YV	TAC UNIT
24	03YL	FRONT HARNESS	153	03BW	TAC UNIT
25	03BB	REAR COMBINATION LIGHT (RH)	155	03B	DOOR HARNESS (LH)
26	03BB	REAR COMBINATION LIGHT (RH)	156	03B	DOOR HARNESS (RH)
27	03B	SPEAKER (RH)	157	RL	TAC UNIT
28	03B	SPEAKER (LH)	160	03YR	REMOTE CONTROL MIRROR SWITCH
29	B	STAY SWITCH (LH)	161	03YR	REMOTE CONTROL MIRROR SWITCH
30	2B	STAY SWITCH (LH)	162	03LW	REMOTE CONTROL MIRROR SWITCH
31	125B	FUEL PUMP	163	03YV	REMOTE CONTROL MIRROR SWITCH
32	GW	ASHTRAY	164	03LY	REMOTE CONTROL MIRROR SWITCH
33	GW	FRONT HARNESS	166	03LB	REMOTE CONTROL MIRROR SWITCH
34	2B	FRONT HARNESS	167	03B	REMOTE CONTROL MIRROR SWITCH
35	03BG	FRONT HARNESS	168	03GW	REMOTE CONTROL MIRROR SWITCH
36	03BG	FRONT HARNESS	169	03BY	REMOTE CONTROL MIRROR SWITCH
37	2LB	DOOR HARNESS (RH)	170	03YR	DOOR HARNESS (LH)
38	2LB	DOOR HARNESS (RH)	171	03YR	DOOR HARNESS (LH)
39	25L	DOOR HARNESS (RH)	175	03LW	TAC UNIT
40	2RL	DOOR HARNESS (RH)	176	03LB	TAC UNIT
41	03YV	FRONT HARNESS	177	03LR	TAC UNIT
42	Y	FRONT HARNESS	178	03LY	TAC UNIT
43	L	FRONT HARNESS	179	03B	DIODE
44	03LB	FRONT HARNESS	180	03G	DIODE
45	03R	FRONT HARNESS	181	03Y	TAC UNIT
46	03B	FRONT HARNESS	182	03R	TAC UNIT
47	03YV	FRONT HARNESS	183	03R	TAC UNIT
48	03YL	FRONT HARNESS	184	03G	TAC UNIT
49	03GW	FRONT HARNESS	187	YG	TAC UNIT
50	R	FRONT HARNESS	188	LW	TAC UNIT
51	03B	DOOR HARNESS (LH)	189	LW	TAC UNIT
52	03B	DOOR HARNESS (LH)	200	03GR	TAC UNIT
53	03BG	FRONT HARNESS	201	03RY	TAC UNIT
54	03BL	FRONT HARNESS	203	YB	TAC UNIT
55	03BL	FRONT HARNESS	205	03G	TAC UNIT
56	03BL	FRONT HARNESS	210	03RB	TAC UNIT WITH AUDIBLE WARNING
57	03RB	FRONT HARNESS	211	03L	TAC UNIT WITH AUDIBLE WARNING
58	03YV	FRONT HARNESS	213	03GW	TAC UNIT WITH AUDIBLE WARNING
59	03YV	FRONT HARNESS	214	03YV	TAC UNIT WITH AUDIBLE WARNING
60	03YV	FRONT HARNESS	215	03YB	TAC UNIT WITH AUDIBLE WARNING
61	03BL	DOOR HARNESS (LH)	216	03RG	TAC UNIT WITH AUDIBLE WARNING
62	BL	DOOR HARNESS (LH)	217	03YV	TAC UNIT WITH AUDIBLE WARNING
63	03RL	REAR COMBINATION LIGHT (RH)	218	03G	TAC UNIT WITH AUDIBLE WARNING
64	B	LICENSE PLATE LIGHT HARNESS	219	03GL	TAC UNIT WITH AUDIBLE WARNING
65	2L	FRONT HARNESS	220	03WY	TAC UNIT WITH AUDIBLE WARNING
66	BL	FRONT HARNESS	221	B	TAC UNIT WITH AUDIBLE WARNING
67	03L	FRONT HARNESS	222	03GR	TAC UNIT WITH AUDIBLE WARNING
68	BR	FRONT HARNESS	223	03RY	TAC UNIT WITH AUDIBLE WARNING
69	BY	FRONT HARNESS	224	03YV	TAC UNIT WITH AUDIBLE WARNING
70	03LB	DOOR HARNESS	225	RL	TAC UNIT WITH AUDIBLE WARNING
71	03WR	FRONT HARNESS	226	03WY	TAC UNIT WITH AUDIBLE WARNING
72	WB	REAR WASH MOTOR	227	03BL	TAC UNIT WITH AUDIBLE WARNING
73	LW	REAR WASH MOTOR	228	03LB	TAC UNIT WITH AUDIBLE WARNING
74	03YB	DIODE			
75	03YB	DIODE			
76	03YB	DIODE			
77	03RY	FRONT HARNESS			
78	03RY	FRONT HARNESS			
79	03RY	FRONT HARNESS			
80	03BB	REAR COMBINATION LIGHT (LH)			
81	03BB	REAR COMBINATION LIGHT (LH)			
82	03BB	REAR COMBINATION LIGHT (LH)			
83	03BB	REAR COMBINATION LIGHT (LH)			
84	03BB	REAR COMBINATION LIGHT (LH)			
85	03BB	REAR COMBINATION LIGHT (LH)			
86	03BB	REAR COMBINATION LIGHT (LH)			
87	03BB	REAR COMBINATION LIGHT (LH)			
88	03BB	REAR COMBINATION LIGHT (LH)			
89	03BB	REAR COMBINATION LIGHT (LH)			
90	03BB	REAR COMBINATION LIGHT (LH)			
91	03BB	REAR COMBINATION LIGHT (LH)			
92	03BB	REAR COMBINATION LIGHT (LH)			
93	03BB	REAR COMBINATION LIGHT (LH)			
94	03BB	REAR COMBINATION LIGHT (LH)			
95	03BB	REAR COMBINATION LIGHT (LH)			
96	03BB	REAR COMBINATION LIGHT (LH)			
97	03BB	REAR COMBINATION LIGHT (LH)			
98	03BB	REAR COMBINATION LIGHT (LH)			
99	03BB	REAR COMBINATION LIGHT (LH)			
100	03BB	REAR COMBINATION LIGHT (LH)			
101	03BB	REAR COMBINATION LIGHT (LH)			
102	03BB	REAR COMBINATION LIGHT (LH)			
103	03BB	REAR COMBINATION LIGHT (LH)			
104	03BB	REAR COMBINATION LIGHT (LH)			
105	03BB	REAR COMBINATION LIGHT (LH)			
106	03BB	REAR COMBINATION LIGHT (LH)			
107	03BB	REAR COMBINATION LIGHT (LH)			
108	03BB	REAR COMBINATION LIGHT (LH)			
109	03BB	REAR COMBINATION LIGHT (LH)			
110	03BB	REAR COMBINATION LIGHT (LH)			
111	03BB	REAR COMBINATION LIGHT (LH)			
112	03BB	REAR COMBINATION LIGHT (LH)			
113	03BB	REAR COMBINATION LIGHT (LH)			
114	03BB	REAR COMBINATION LIGHT (LH)			
115	03BB	REAR COMBINATION LIGHT (LH)			

* indicates vehicles with TAC unit with audible warning.



REAR HARNESS

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16Y2853

COMPONENT SERVICE - WIRING HARNESS AND FUSES



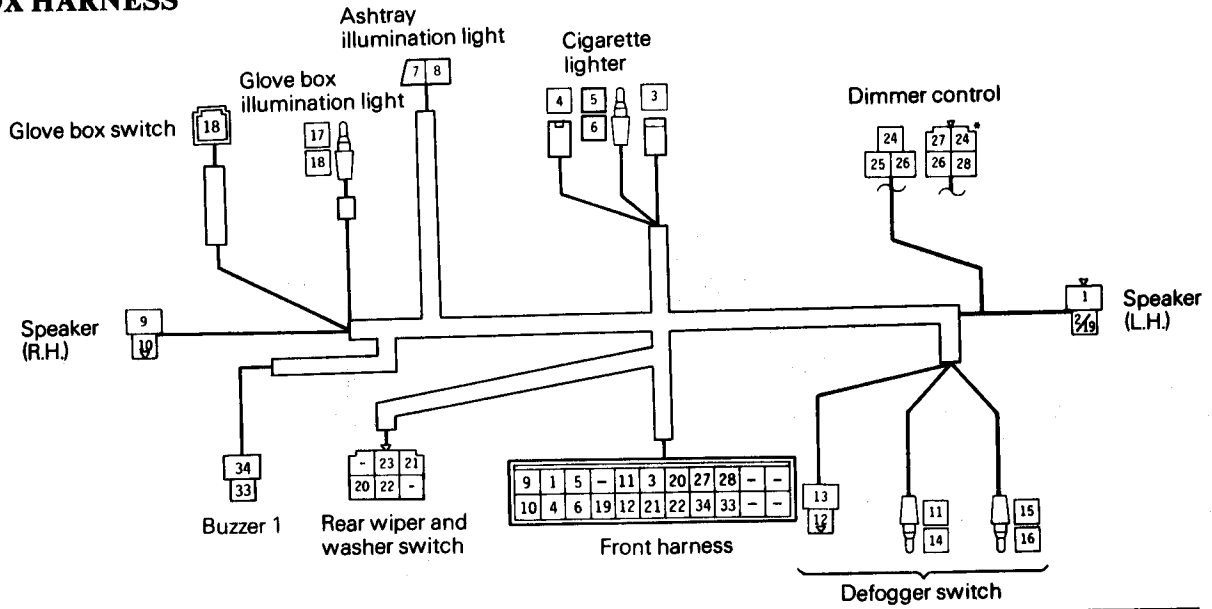
NO.	WIRE	CIRCUIT	NO.	WIRE	CIRCUIT
1	GL	FRONT HARNESS	108	B	REAR BRAKE LOCK-UP CONTROL UNIT
2	GW	FRONT HARNESS	109	W	REAR BRAKE LOCK-UP CONTROL UNIT
4	RL	FRONT HARNESS	110	SHIELD	SHIELD [123]
5	GY	FRONT HARNESS	111	RB	DOME LIGHT
7	03YB	FRONT HARNESS	112	GW	DOME LIGHT HARNESS
9	03RG	FRONT HARNESS	113	RW	LUGGAGE COMPARTMENT LIGHT
10	RG	TAC UNIT	114	03RB	LUGGAGE COMPARTMENT LIGHT
11	2BR	FRONT HARNESS	115	03RW	FRONT HARNESS
15	GW	REAR COMBINATION LIGHT (RH)	117	2LB	FRONT HARNESS
16	03LQ	TAC UNIT	118	G	REAR BRAKE LOCK-UP CONTROL UNIT
18	GW	LICENSE PLATE LIGHT HARNESS	119	03WL	REAR BRAKE LOCK-UP CONTROL UNIT
19	B	SEAT BELT SWITCH	120	B	REAR BRAKE LOCK-UP CONTROL UNIT
20	03GW	GROUND	121	W	REAR BRAKE LOCK-UP CONTROL UNIT
21	2B	GROUND	122	08BWG	REAR BRAKE LOCK-UP CONTROL UNIT
23	2BW	CONTROL HARNESS	123	B	GROUND
24	03YL	FRONT HARNESS	125	WR	ANTENNA RELAY
26	08BB	REAR COMBINATION LIGHT (RH)	126	BR	ANTENNA RELAY
27	03B	SPEAKER (RH)	127	WL	ANTENNA RELAY
28	03B	SPEAKER (LH)	128	BL	ANTENNA RELAY
29	B	STAY SWITCH (LH)	129	B	ANTENNA RELAY
30	2B	STAY SWITCH (LH)	130	08BL	ANTENNA RELAY
31	125B	FUEL PUMP	131	03WR	ANTENNA RELAY
32	GW	ASSTRAY	132	03WB	ANTENNA RELAY
34	2B	FRONT HARNESS	133	LW	ANTENNA RELAY
35	08BG	FRONT HARNESS	134	03LR	ANTENNA RELAY
38	2LB	DOOR HARNESS (RH)	140	LR	DOOR LOCK RELAY
39	2GL	DOOR HARNESS (RH)	141	LR	DOOR LOCK RELAY
40	2RL	DOOR HARNESS (RH)	142	YG	DOOR LOCK RELAY
41	03YW	FRONT HARNESS	143	YG	DOOR HARNESS (RH)
42	Y	FRONT HARNESS	144	B	DOOR LOCK RELAY
43	L	FRONT HARNESS	145	LR	DOOR LOCK RELAY
44	03LB	FRONT HARNESS	146	B	DOOR LOCK RELAY
45	03R	FRONT HARNESS	147	03SL	DOOR LOCK RELAY
46	03B	FRONT HARNESS	148	03RL	DOOR LOCK RELAY
48	03YL	FRONT HARNESS	149	WR	DOOR LOCK RELAY
49	08CGW	FRONT HARNESS	150	WR	DOOR HARNESS (RH)
50	R	FRONT HARNESS	152	03YG	TAC UNIT
51	03B	DOOR HARNESS (LH)	153	03RW	TAC UNIT
53	2B	FRONT HARNESS	155	03B	DOOR HARNESS (LH)
55	03BG	FRONT HARNESS	156	03B	DOOR HARNESS (RH)
56	03BL	FRONT HARNESS	157	RL	TAC UNIT
57	03RB	DOOR HARNESS	160	03YR	REMOTE CONTROL MIRROR SWITCH
58	03YW	DOOR HARNESS	161	03YR	REMOTE CONTROL MIRROR SWITCH
59	03RB	DOOR HARNESS	162	03LW	REMOTE CONTROL MIRROR SWITCH
60	03YW	DOOR HARNESS	163	03YG	REMOTE CONTROL MIRROR SWITCH
61	03BL	DOOR HARNESS (LH)	164	03LY	REMOTE CONTROL MIRROR SWITCH
62	03BL	DOOR HARNESS	166	03LB	REMOTE CONTROL MIRROR SWITCH
63	03RL	REAR COMBINATION LIGHT (RH)	167	03B	REMOTE CONTROL MIRROR SWITCH
64	B	LICENSE PLATE LIGHT HARNESS	168	03GW	REMOTE CONTROL MIRROR SWITCH
66	2L	FRONT HARNESS	169	03BY	REMOTE CONTROL MIRROR SWITCH
67	03L	FRONT HARNESS	170	03YR	DOOR HARNESS (LH)
68	BR	FRONT HARNESS	171	03YR	DOOR HARNESS (LH)
68	BY	FRONT HARNESS	175	03LW	TAC UNIT
70	03LB	DOOR HARNESS	176	03LB	TAC UNIT
71	03YR	FRONT HARNESS	177	03LR	TAC UNIT
72	WB	REAR WASHER MOTOR	178	03LY	TAC UNIT
73	LW	REAR WASHER MOTOR	179	03B	DIODE
74	03YB	DIODE	180	03RG	DIODE
75	03YB	DIODE	181	03Y	TAC UNIT
79	03RY	FRONT HARNESS	187	03L	TAC UNIT
81	08BB	REAR COMBINATION LIGHT (LH)	189	03LB	TAC UNIT
82	08VL	REAR BRAKE LOCK-UP CONTROL UNIT	190	LB	TAC UNIT
84	08BBR	CONDENSER	191	03LR	TAC UNIT
85	LB	STAY SWITCH (RH)	192	03RB	TAC UNIT
86	03YW	TAC UNIT	194	03GO	TAC UNIT
95	B	TAC UNIT	197	YG	TAC UNIT
96	03LO	TAC UNIT	198	LW	TAC UNIT
105	YL	TAC UNIT	200	03GR	TAC UNIT
106	RG	TAC UNIT	201	03RY	TAC UNIT
107	SHIELD	SHIELD [10] [123]	203	YB	TAC UNIT
			205	03G	TAC UNIT



COMPONENT SERVICE — WIRING HARNESS AND FUSES

GLOVE BOX HARNESS

11



NO.	WIRE	CIRCUIT
1	0.3BR	FRONT HARNESS
3	0.85LW	FRONT HARNESS
4	0.85B	FRONT HARNESS
5	GW	FRONT HARNESS
6	BY	FRONT HARNESS
7	B	ASHTRAY ILLUMINATION LIGHT
8	GW	ASHTRAY ILLUMINATION LIGHT
9	L	SPEAKER
10	Gr	SPEAKER
11	2BR	DEFOGGER SWITCH
12	LR	DEFOGGER SWITCH
13	B	DEFOGGER SWITCH
14	B	DEFOGGER SWITCH
15	GW	DEFOGGER SWITCH <ILL>
16	BY	DEFOGGER SWITCH
17	GW	GLOVE BOX ILLUMINATION LIGHT
18	GR	GLOVE BOX ILLUMINATION LIGHT
19	Lg	SPEAKER
20	BrY	REAR WIPER SWITCH <L>
21	WB	REAR WIPER SWITCH <W>
22	BrR	REAR WIPER SWITCH <AS>
23	B	REAR WIPER SWITCH <E>
24	BY	DIMMER CONTROL <ILL>
25	B	DIMMER CONTROL <E>
26	GW	DIMMER CONTROL <T>
*27	G	DIMMER CONTROL <TC>
*28	B	DIMMER CONTROL <E>
33	0.3GW	BUZZER 1
34	0.3B	BUZZER 1

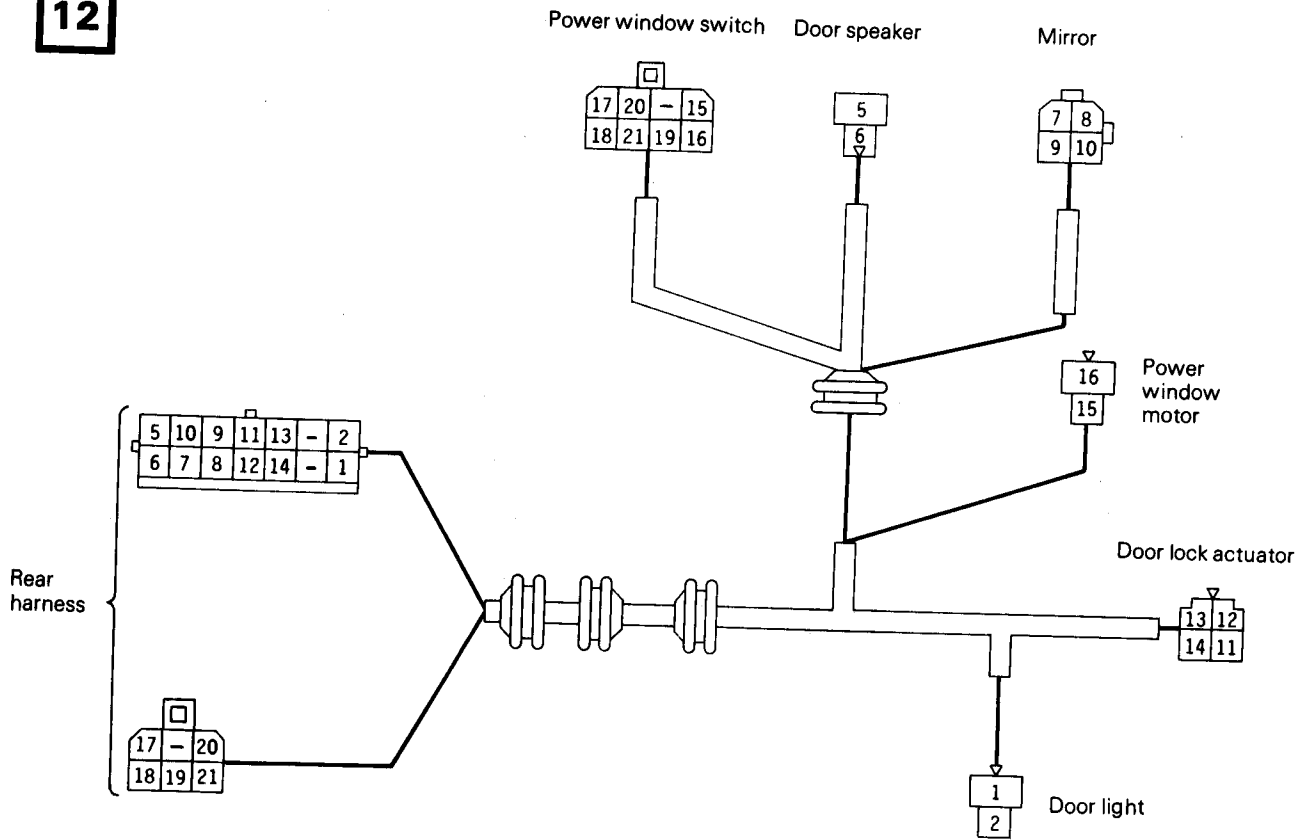
CIRCUIT	WIRE
SPEAKER	
CIGARETTE LIGHTER	
CIGARETTE LIGHTER	
CIGARETTE LIGHTER	
CIGARETTE LIGHTER	
FRONT HARNESS	4
FRONT HARNESS	5
FRONT HARNESS	
FRONT HARNESS	
FRONT HARNESS	
FRONT HARNESS	4
FRONT HARNESS	4
FRONT HARNESS	5
FRONT HARNESS	6
FRONT HARNESS	6
FRONT HARNESS	4
FRONT HARNESS	5
GLOVE BOX SWITCH	
FRONT HARNESS	
FRONT HARNESS	
FRONT HARNESS	
FRONT HARNESS	
FRONT HARNESS	4
FRONT HARNESS	6
FRONT HARNESS	4
FRONT HARNESS	5
FRONT HARNESS	
FRONT HARNESS	
FRONT HARNESS	
FRONT HARNESS	

* indicates A187AMNS, A187AMRS model.



DOOR HARNESS

12



NO.	WIRE	CIRCUIT	
1	Y	REAR HARNESS	DOOR LIGHT <SW>
2	R	REAR HARNESS	DOOR LIGHT
5	L	REAR HARNESS	DOOR SPEAKER <+>
6	Gr	REAR HARNESS	DOOR SPEAKER <->
7	YB	REAR HARNESS	MIRROR
8	LW	REAR HARNESS	MIRROR
9	LY	REAR HARNESS	MIRROR
10	Y	REAR HARNESS	MIRROR
11	YG	REAR HARNESS	DOOR LOCK ACTUATOR
12	WR	REAR HARNESS	DOOR LOCK ACTUATOR
13	RW	REAR HARNESS	DOOR LOCK ACTUATOR
14	B	REAR HARNESS	DOOR LOCK ACTUATOR
15	2RL	POWER WINDOW MOTOR <U>	POWER WINDOW SWITCH <U>
16	2GL	POWER WINDOW MOTOR <D>	POWER WINDOW SWITCH <D>
17	2R	REAR HARNESS	POWER WINDOW SWITCH
18	2G	REAR HARNESS	POWER WINDOW SWITCH <E>
19	2W	REAR HARNESS	POWER WINDOW SWITCH <L>
20	2L	REAR HARNESS	POWER WINDOW SWITCH <U>
21	2B	REAR HARNESS	POWER WINDOW SWITCH <D>

16Y2710

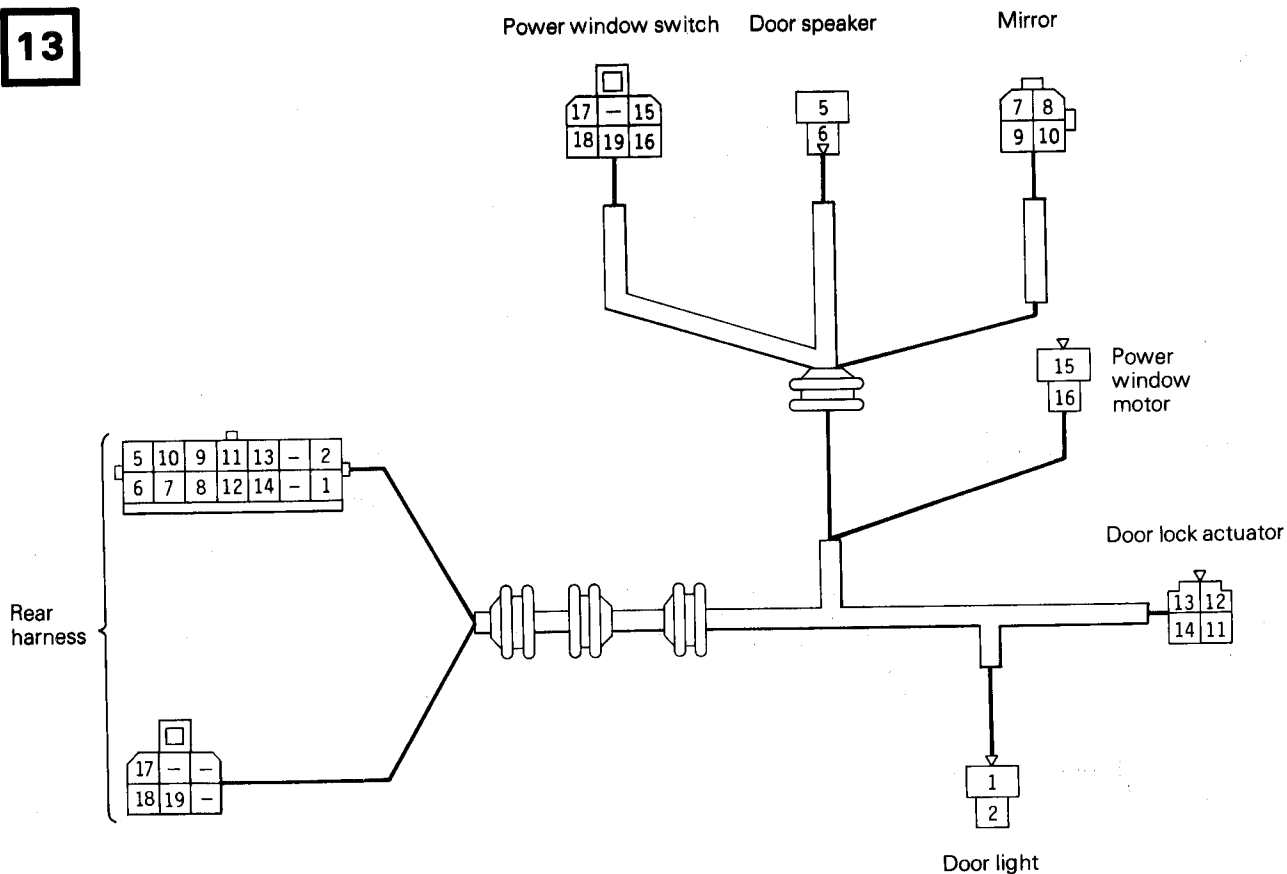
8-223



COMPONENT SERVICE — WIRING HARNESS AND FUSES

DOOR HARNESS

13



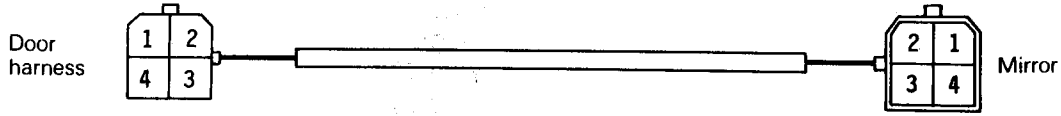
NO.	WIRE	CIRCUIT	
1	Y	REAR HARNESS	DOOR LIGHT <SW>
2	R	REAR HARNESS	DOOR LIGHT
5	L	REAR HARNESS	DOOR SPEAKER <+>
6	Gr	REAR HARNESS	DOOR SPEAKER <->
7	YB	REAR HARNESS	MIRROR
8	LW	REAR HARNESS	MIRROR
9	LY	REAR HARNESS	MIRROR
10	Y	REAR HARNESS	MIRROR
11	YG	REAR HARNESS	DOOR LOCK ACTUATOR
12	WR	REAR HARNESS	DOOR LOCK ACTUATOR
13	RW	REAR HARNESS	DOOR LOCK ACTUATOR
14	B	REAR HARNESS	DOOR LOCK ACTUATOR
15	2RL	POWER WINDOW MOTOR <U>	POWER WINDOW SWITCH <U>
16	2GL	POWER WINDOW MOTOR <D>	POWER WINDOW SWITCH <D>
17	2R	POWER WINDOW MOTOR	POWER WINDOW SWITCH <U>
18	2G	REAR HARNESS	POWER WINDOW SWITCH <D>
19	2W	POWER WINDOW MOTOR	POWER WINDOW SWITCH <L>

16Y2713



MIRROR HARNESS

14



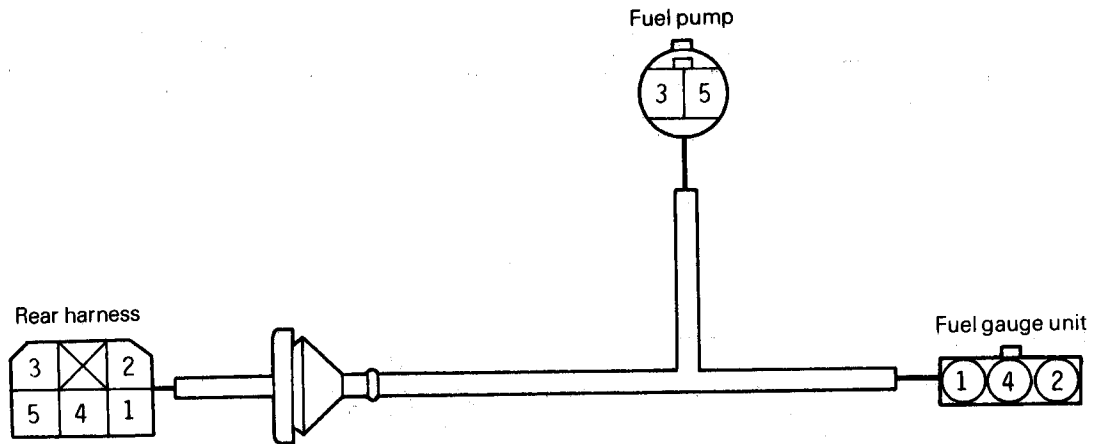
NO.	WIRE	CIRCUIT	
		DOOR HARNESS	MIRROR
1	0.3YR	DOOR HARNESS	MIRROR
2	0.3YB	DOOR HARNESS	MIRROR
3	0.3LW	DOOR HARNESS	MIRROR
4	0.3LY	DOOR HARNESS	MIRROR

16Y2657



FUEL GAUGE UNIT HARNESS

15



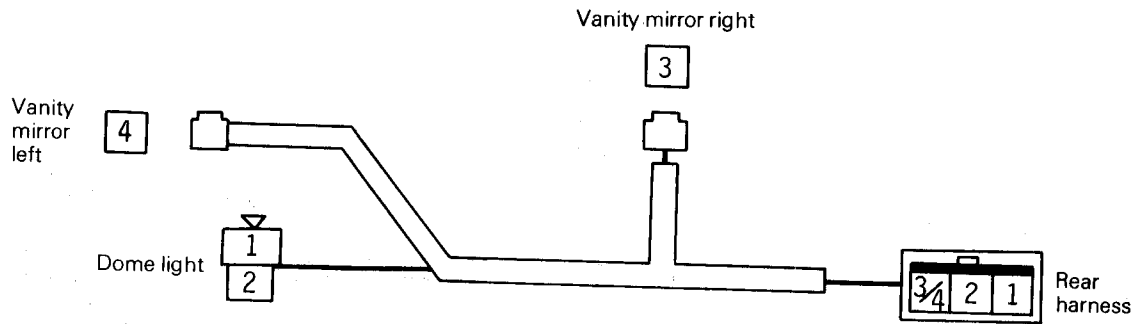
NO.	WIRE	CIRCUIT	
1	YB	REAR HARNESS	FUEL GAUGE UNIT
2	YL	REAR HARNESS	FUEL GAUGE UNIT
3	2BY	REAR HARNESS	FUEL PUMP
4	B	REAR HARNESS	FUEL GAUGE UNIT
5	1.25B	REAR HARNESS	FUEL PUMP

16Y2882



DOMELIGHT HARNESS

16

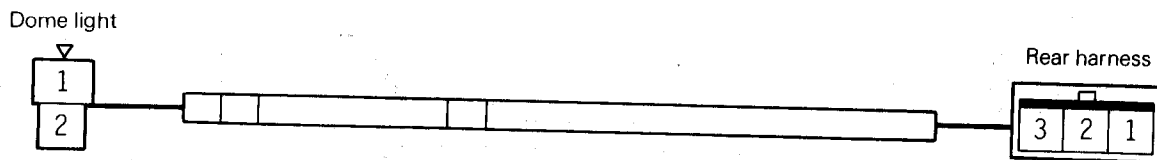


NO.	WIRE	CIRCUIT	
1	0.3RG	REAR HARNESS	DOMELIGHT
2	0.3RB	REAR HARNESS	DOMELIGHT
3	GW	REAR HARNESS	VANITY MIRROR RIGHT
4	GW	VANITY MIRROR LEFT	REAR HARNESS OR 3 (JOINT)

16Y2855

DOMELIGHT HARNESS

17



NO.	WIRE	CIRCUIT	
1	0.3RG	REAR HARNESS	DOMELIGHT
2	0.3RB	REAR HARNESS	DOMELIGHT

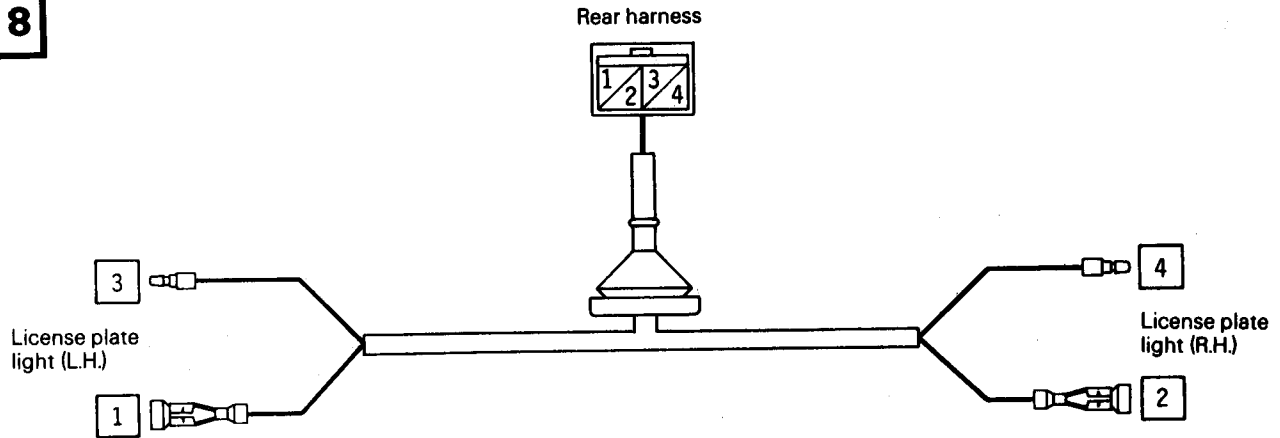
16Y2738

8-227



LICENSE PLATE LIGHT HARNESS

18

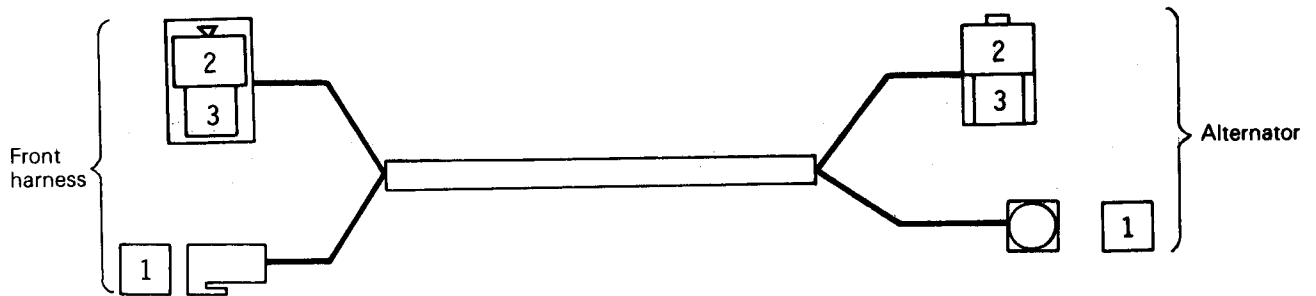


NO.	WIRE	CIRCUIT	
1	GW	REAR HARNESS	LICENSE PLATE LIGHT (L.H.)
2	GW	LICENSE PLATE LIGHT (L.H.)	LICENSE PLATE LIGHT (R.H.)
3	B	REAR HARNESS	LICENSE PLATE LIGHT (L.H.)
4	B	LICENSE PLATE LIGHT (L.H.)	LICENSE PLATE LIGHT (R.H.)

16Y1701

ALTERNATOR HARNESS

19



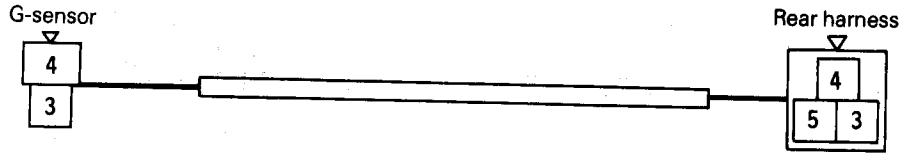
NO.	WIRE	CIRCUIT	
1	5W	FRONT HARNESS	ALTERNATOR
2	0.85L	FRONT HARNESS	ALTERNATOR
3	0.85W	FRONT HARNESS	ALTERNATOR

16Y1816



G-SENSOR HARNESS

20



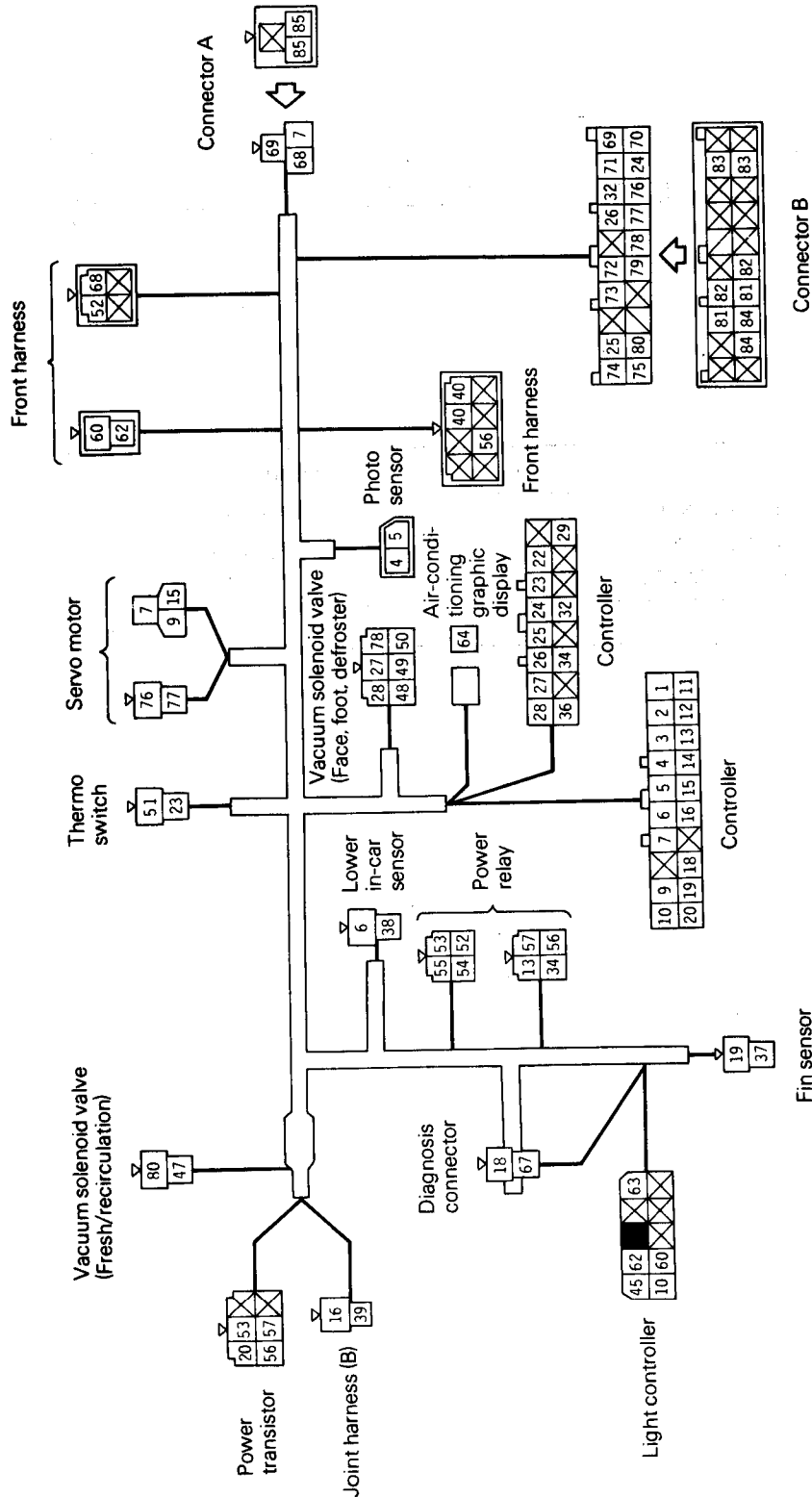
NO.	WIRE	CIRCUIT	
3	W	REAR HARNESS	G-SENSOR
4	B	REAR HARNESS	G-SENSOR
5	SHIELD	REAR HARNESS	G-SENSOR (SHIELD WIRES for 3, 4)

16Y2658

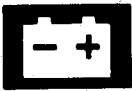


AIR CONDITIONER HARNESS

21

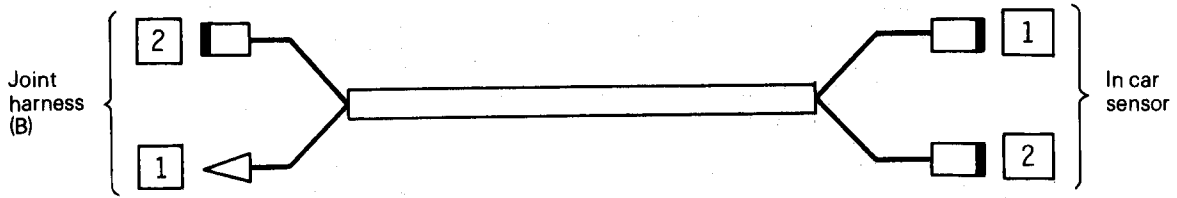


16Y2860



JOINT HARNESS (A)

22

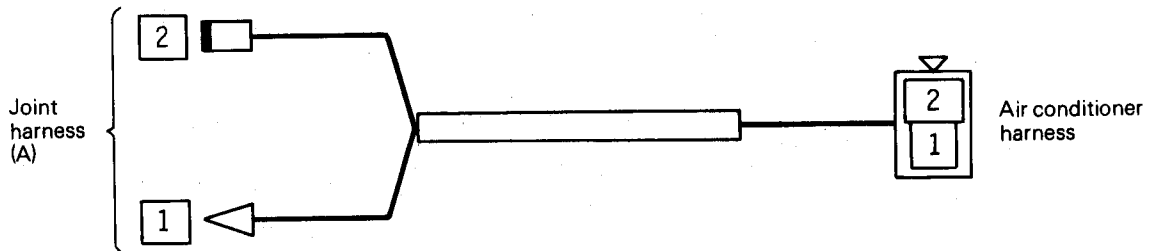


NO.	WIRE	CIRCUIT	
1	YG	JOINT HARNESS (B)	IN CAR SENSOR
2	RG	JOINT HARNESS (B)	IN CAR SENSOR

16Y2857

JOINT HARNESS (B)

23



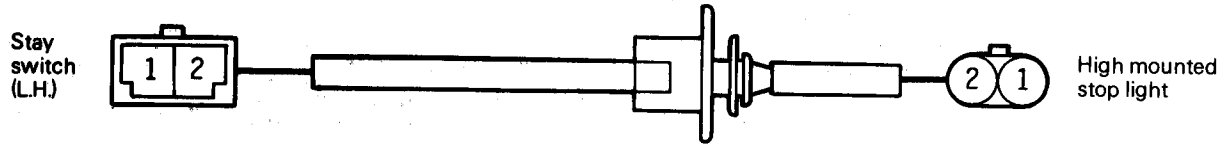
NO.	WIRE	CIRCUIT	
1	RG	JOINT HARNESS (A)	AIR CONDITIONER HARNESS
2	YG	JOINT HARNESS (A)	AIR CONDITIONER HARNESS

16Y2856



STOP LIGHT HARNESS

24

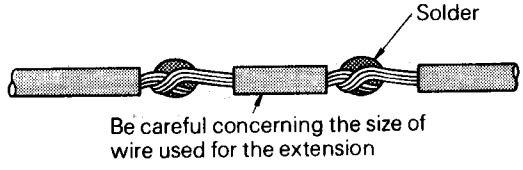
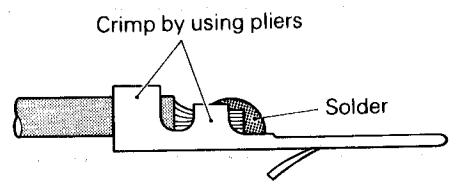


NO.	WIRE	CIRCUIT	
1	GW	STAY SWITCH (L.H.)	HIGH MOUNTED STOP LIGHT
2	B	STAY SWITCH (L.H.)	HIGH MOUNTED STOP LIGHT

16Y2873



HARNESS CORRECTION AND REPAIR METHODS

Problem	Test method	Correction or repair method
Non-continuity	Using the electric wiring diagram and the wiring harness diagram as a guideline, check the continuity of the circuit in question by using a tester, and check for breaks, loose connector couplings, or loose terminal crimp contacts.	<ul style="list-style-type: none"> • Breaks — Reconnect the point of the break by using solder. If the wire is too short and the connection is impossible, extend it by using a wire of the same or larger size.  <p>NOTE There is the danger of short-circuits being caused by the damage of wire insulation at soldered points, therefore be sure to wrap five layers of tape around such points.</p> <ul style="list-style-type: none"> • Loose couplings — Hold the connector securely, and insert it until there is a definite joining of the coupling. If the connector is equipped with a locking mechanism, insert the connector until it is locked securely. • Loose terminal crimp contacts — Remove approximately 5 mm (.2 in.) of the insulation covering from the end of the wire, crimp the terminal contact by using a pair of pliers, and then, in addition, complete the repair by soldering. 
Short-circuit	Using the electric wiring diagram and the wiring harness diagram as a guideline, check the entire circuit for pinched wires.	Remove the pinched portion, and then repair any breaks in the insulation covering with tape. Repair breaks of the wire by soldering.
Loose terminal	Pull the wiring lightly from the connector.	Raise the terminal catch pin, and then insert it until a definite clicking sound is heard.

16Y825



NOTE

1. The harness should be clamped securely at specified locations. In addition, at positions where harness insulating coating is liable to be damaged due to contact with moving parts, vibration, sliding, sag etc., provide clips as required and clamp the harness.
2. The harness should be wired in an orderly manner to prevent scattering of wires. Pay attention to the appearance of wiring.
3. In areas where the harness may come into contact with the sheet metal flanges of screw top, apply cloth tape or the like.
4. During harness installation, pay special attention to the following points:
 - (1) Wiring in the engine compartment.
 - (2) Wiring on instrument panel.
 - (3) Wiring at and around the steering wheel shaft in the column cover.
 - (4) Wiring on the back side of the instrument cluster.
 - (5) Wiring around the top of the side shell.
5. When connecting cables, hold the connector or terminal, and insert the cable until firmly connected.

Caution

When disconnecting cables, be sure to hold the connector.

Do not pull the cable directly.

6. When an optional part is mounted later, pay attention to the following points as well as the mounting instructions:
 - (1) After taking into consideration the electrical load of the optional equipment, determine the correct cable size required, taking care to be sure that the electric current is not excessively large for the cable size used.
 - (2) It is preferable to route the cable along the existing harnesses, taking cautions described in items 1, 2 and 3 above.
 - (3) Be sure to provide fuse protection for the optional part.



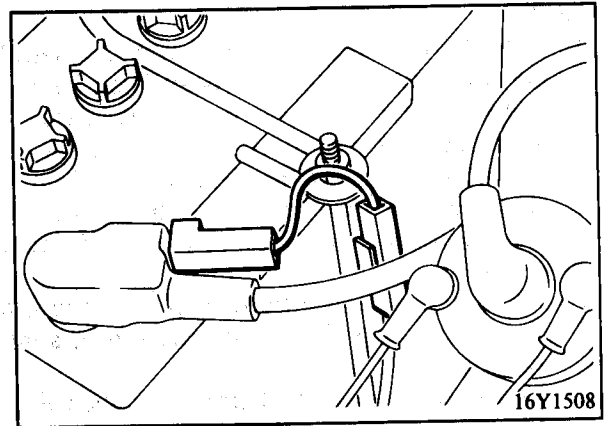
FUSES

Fusible Links

The fusible links consist of main link and sub links. Every circuit except the starter motor uses fusible links.

MAIN FUSIBLE LINK

Connected to the positive (+) terminal of the battery.

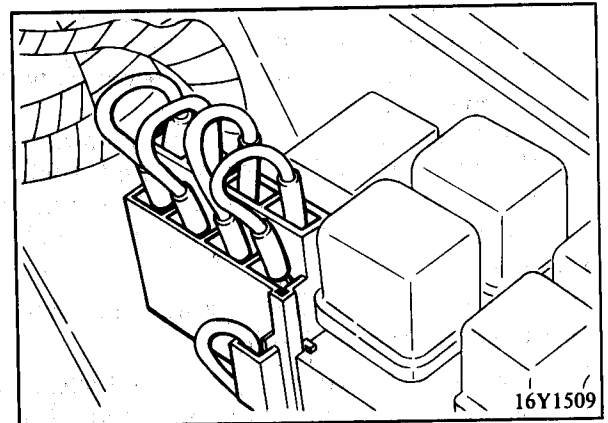


SUB 1 FUSIBLE LINKS

Located in the relay box on the left fender.

SUB 2 FUSIBLE LINKS

Located in the relay box on the left fender.

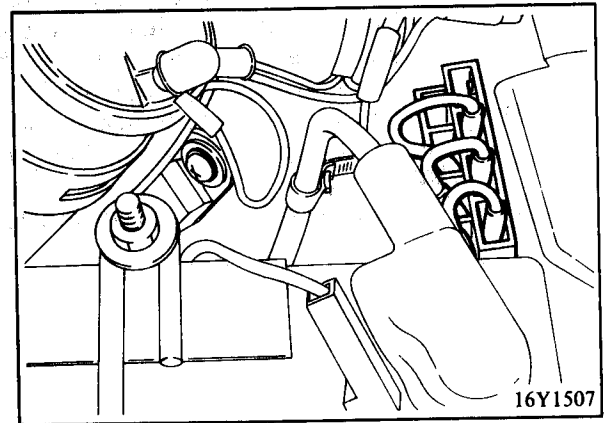


INSPECTION

Check for a burnt fusible link with a circuit tester, since visual diagnosis may be difficult.

If a fusible link burns out, there is a short or some other problem in the circuit. Carefully determine the cause and correct it before replacing the fusible link.

When replacing fusible links, be sure to use a fusible link of the specified capacity.



Fuse Block

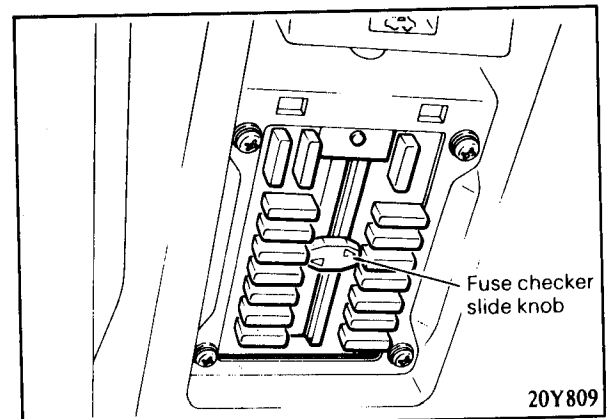
The fuse block is installed under the instrument panel, on the driver's side above the cowl side trim.

INSPECTION

Turn the ignition key and lighting switch to the "ON" position. Move the fuse checker slide knob to each position. If the check light illuminates, it indicates that the fuse is functioning properly.

NOTES

1. If any of the fuses are to be replaced, be sure to replace with the specified capacity.
2. If a fuse has failed, locate the cause and eliminate the problem before installing a new fuse.



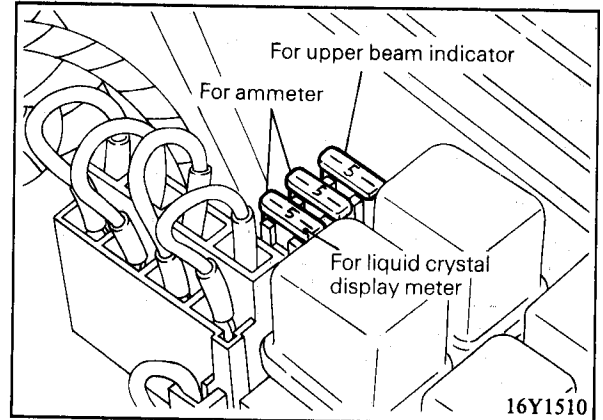


Fuse Capacity Table

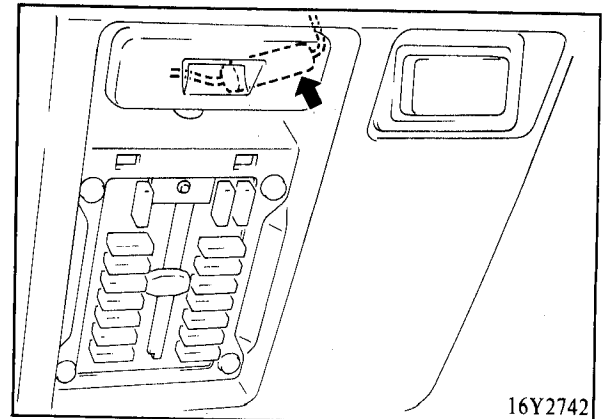
Power supply circuit	Fuse No.	Rated capacity	Load circuit
Battery	1	10A	Dome light, Luggage compartment light, Clock, Radio, Door light, ETACS
	2	15A	Stop light
	3	15A	Hazard
	4	10A	Pop-up motor
Battery	5	20A	Heater
Headlight relay	6	15A	Position light, Illumination light, Tail light
Battery	7	10A	Air conditioner
Battery	8	15A	Power antenna, Center door lock
Ignition switch (ACC)	9	15A	Horn, Cigarette lighter
	10	15A	Wiper motor, Washer motor, ETACS
	11	10A	Radio, Clock, Power antenna
Ignition switch (IG ₂)	12	10A	Heater relay, Defogger relay
Ignition switch (IG ₁)	13	10A	Turn-signal light, Combination gauge, Remote control mirror, Power antenna, ETACS
	14	10A	Alternator, Back-up light, Overdrive relay

Independent Fuse

A fuse for use with the upper beam indicator of the headlights and the ammeter or liquid crystal display meter is located in the relay box mounted on the left fender.



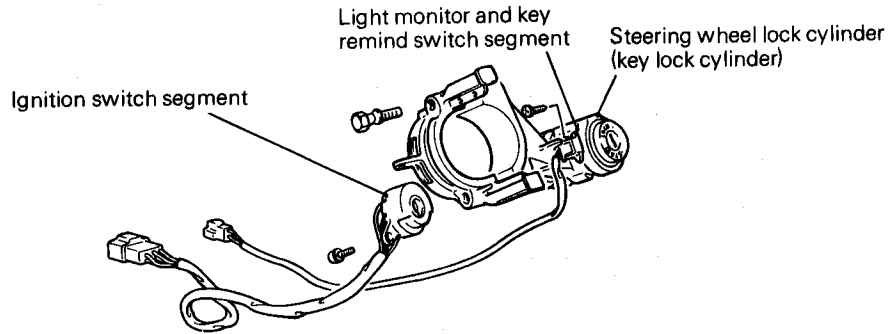
A fog light fuse (15A) is located near the fuse block mounted inside the cab.





IGNITION SWITCH

Components



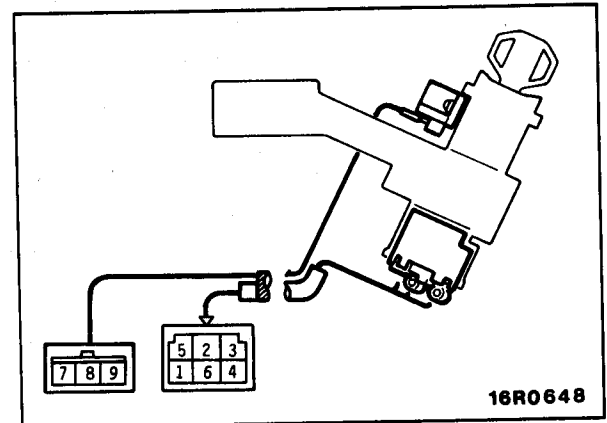
16Y510

Inspection

Operate the switch, and check the continuity between the terminals.

Ignition switch

Terminal / Key position	1	2	3	4	5	6
LOCK						
ACC			○	○		
ON	○	○	○	○		
START	○			○	○	○



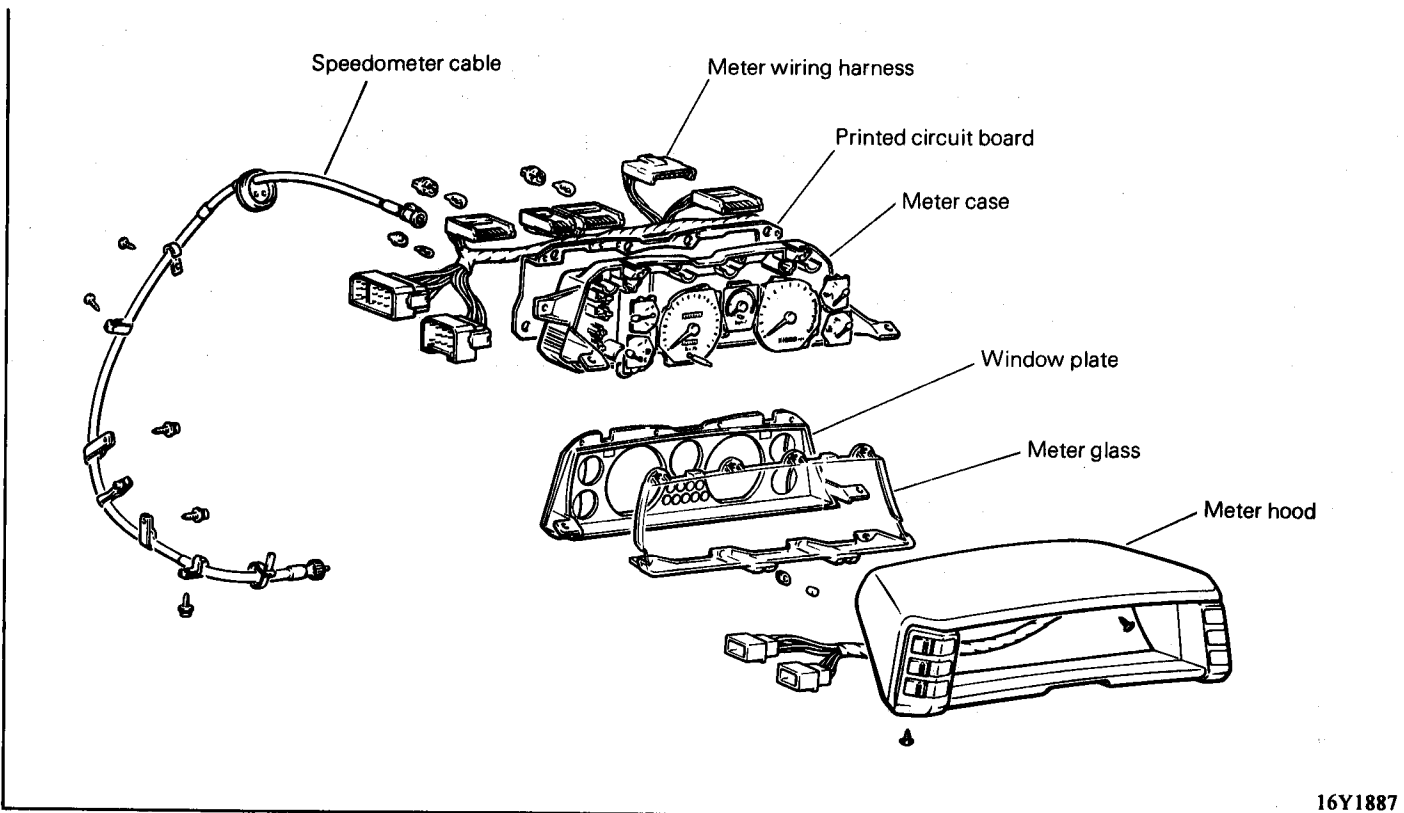
16R0648

Light monitor and key remind switch

Terminal / Key position	7	8	9
When the key is removed Light monitor switch	○	○	
When the key is inserted Key remind switch	○		○

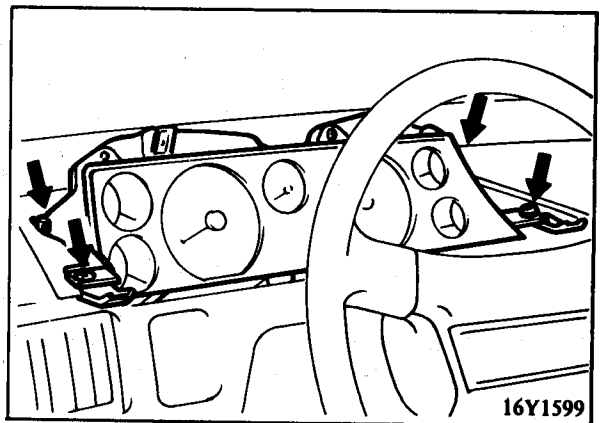
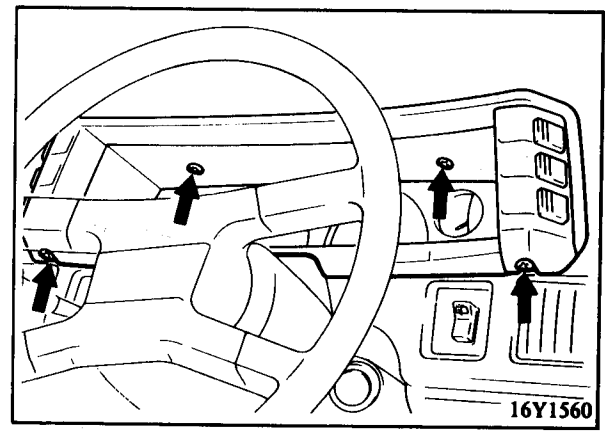


COMPONENTS (NEEDLE POINT TYPE)



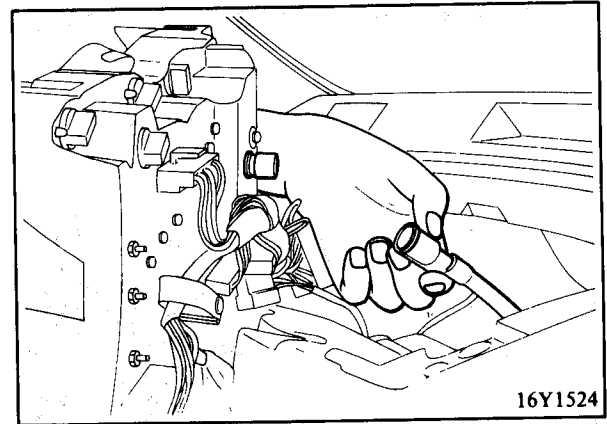
REMOVAL

1. Remove the meter hood mounting screws. (16Y1560)
2. Pull out both edges of the bottom side of the hood, and then, while still holding it in this position, pull it upward and out.
3. Disconnect the cluster switch connectors on both sides of the meter hood.
4. Remove the screws on the bottom of the case.
5. Remove the nuts on the upper part of the case.





- Pull both sides of the lower part of the case up and to the rear.
- Disconnect the speedometer cable from the meter case by pressing the stopper of the plug on the speedometer cable side of the connection. (16Y1524)
- Disconnect the connectors of the meter harness located behind the meter case and the harness on the body side, and then remove the meter case.



INSTALLATION

When installing the meter hood, first fit the connector in between the meter case and the meter hood, and then position the hood.

SPEEDOMETER

Speedometer Indication Error

- Adjust tire inflation pressure to the standard value. (Refer to Group 22.)
- Use speedometer tester to make sure that the speedometer indication error is in the standard range.

Permissible Speedometer Indication Error

[Standard value]

Meter with "km/h" indication km/h

20 km/h	+4 -1
40 km/h	+4 0
80 km/h	+5 0
120 km/h	+5.5 +0.5

Meter with "mph" indication mph

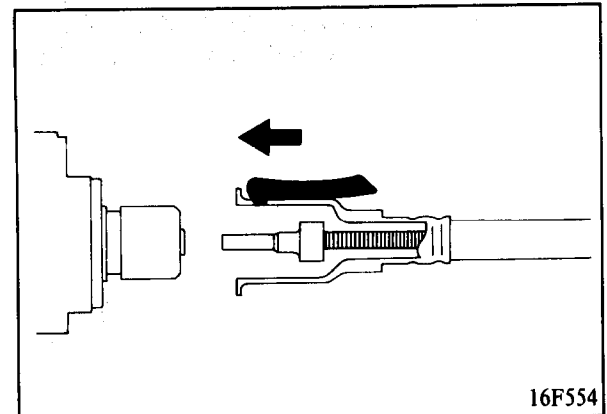
10 mph	± 1.5
25 mph	± 1.5
50 mph	± 1.5
75 mph	± 1.5

Caution

- When speedometer indication error is checked with a speedometer tester, apply chocks to the driven wheels to prevent the car from running away.
- If there is a special regulation for speedometer indication error in the area where the car is operated, be sure to meet the requirement of the regulation.

Replacement of the Speedometer Cable

- Replace the cable assembly if there is a malfunction.
- When connecting the cable to the speedometer, insert the cable until its stopper properly fits to the speedometer groove.

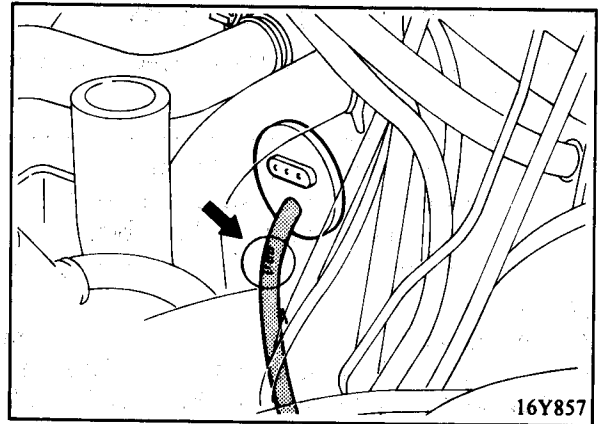




- After installing the speedometer, pull the speedometer cable through the grommet in the toe-board until the cable marking is visible from the engine compartment side.

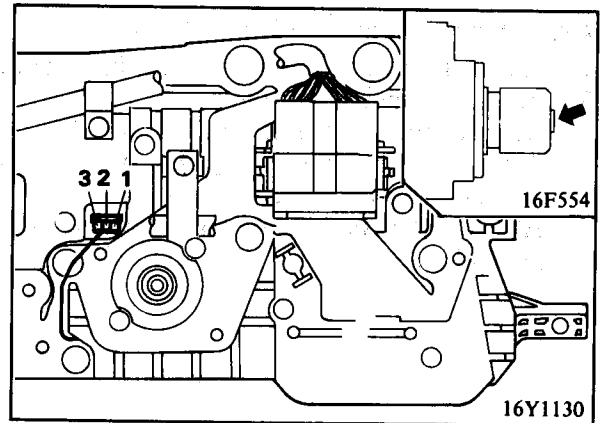
Caution

Poor installation of the cable may cause a fluctuating meter pointer, or noise and a damaged harness inside the instrument panel.



Inspection of Speed Sensor

- Disconnect the speedometer cable.
- Turn the speedometer cable connection of the combination meter by hand.
- Measure the voltage between terminals (1) and (3) on the reverse side of the speedometer. The measured voltage should be 4.7 to 5.3V.
- Check the variation in the voltage between terminals (2) and (3) on the reverse side of the speedometer. Variation should be between 0.5 and 5V.



TACHOMETER

Inspection

Connect a Tach-dwell meter, and then compare the meter readings at various engine speeds with the values indicated on the tach-dwell meter. If there is a large error, replace the tachometer.

Permissible indication error [Standard value]

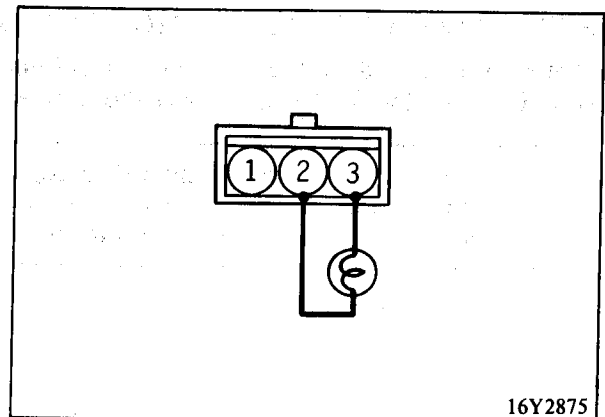
1,000 rpm	± 100 rpm
3,000 rpm	± 150 rpm
6,000 rpm	± 250 rpm

FUEL GAUGE AND UNIT

Inspection

SIMPLE FUEL GAUGE CHECK

- Disconnect the wiring connector from the fuel gauge unit inside the luggage compartment.
- Connect a 12V, 3.4W bulb to the harness side connector as illustrated.
- Turn on the ignition key.
- Check that the test bulb flashes and the gauge pointer deflects.





FUEL GAUGE CONTINUITY TEST

Measure the resistance value between the terminals by using an ohmmeter.

Resistance value [Standard value]

- Between terminals No. 1 and No. 2 62–78 Ω
- Between terminals No. 3 and No. 4 49–61 Ω

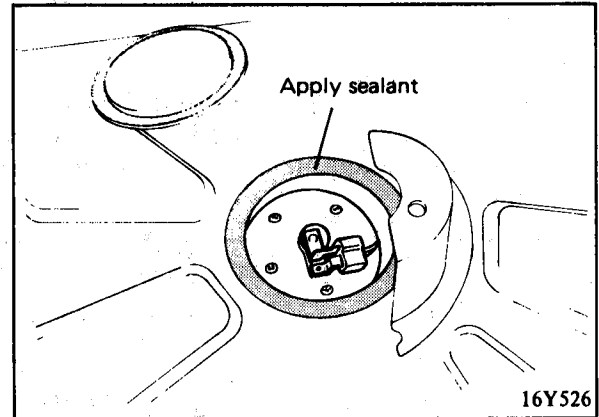
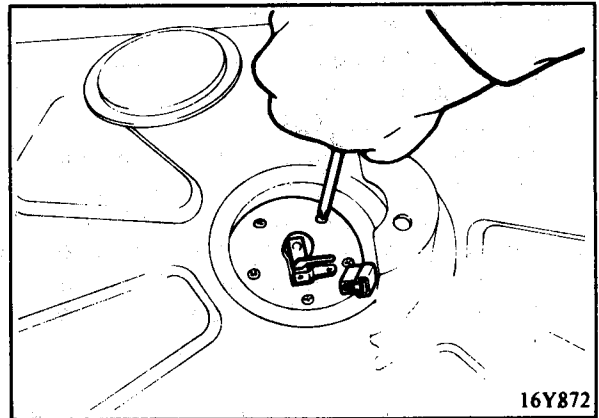
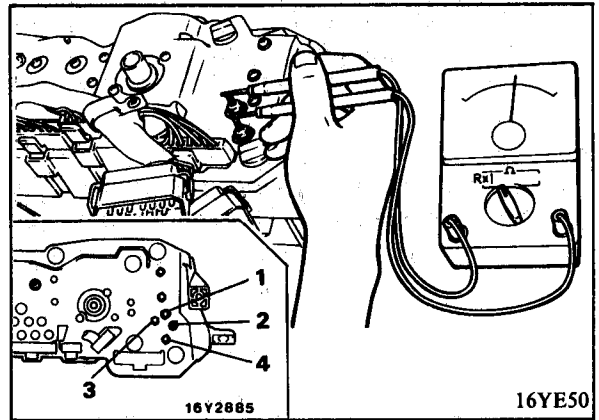
NOTE

If the resistance value is extremely small, there may be a short in the coil; If it is extremely large, there may be a broken wire or some other problem in the coil. In either case, replace the gauge.

Replacement of the Fuel Gauge Unit

1. Pry up the plug on the floor of the luggage compartment.
2. Remove 5 screws from unit.
3. Remove the fuel gauge unit. (16Y872)
4. When installing the fuel gauge unit, be careful that the float arm does not become bent.
5. After installation, confirm that the unit is securely grounded.

6. Apply a drying sealant around the circumference of the plug mounting surface.

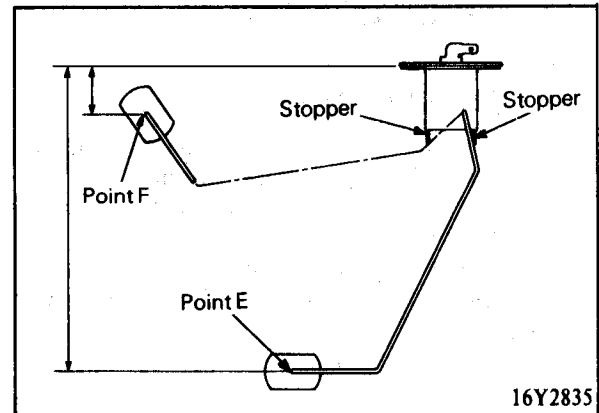


FUEL GAUGE UNIT FLOAT POSITION CHECK

Move the float and measure the float positions at points “F” and “E” when the float arm contacts the stopper.

Float position dimension [Standard value]

- Point F 34.4–38.2 mm (1.35–1.50 in.)
- Point E 234–238 mm (9.21–9.37 in.)

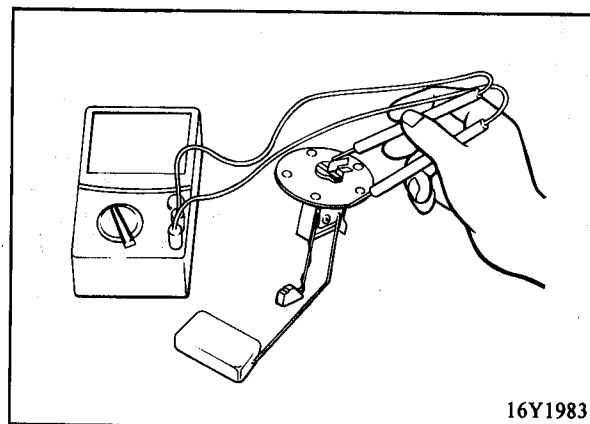




FUEL GAUGE UNIT CONTINUITY TEST

Measure resistance between the unit terminal (for fuel gauge) and GND (fuel gauge unit body) when the float is positioned at point "F" and point "E".

Resistance value [Standard value]	
Position F	1–5 Ω
Position E	103–117 Ω



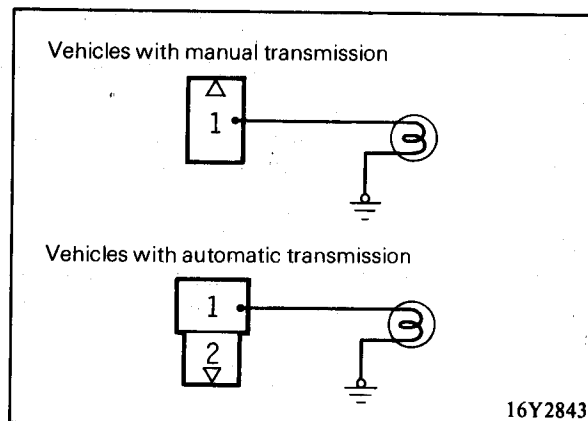
16Y1983

WATER TEMPERATURE GAUGE AND UNIT

Inspection

SIMPLE WATER TEMPERATURE GAUGE CHECK

1. Disconnect the wiring connector from the water temperature gauge unit inside the engine compartment.
2. Connect a 12V, 3.4W bulb between the harness side connector terminal (No. 1) and GND as illustrated.
3. Turn on the ignition key.
4. Check that the test bulb flashes and the gauge pointer deflects.



16Y2843

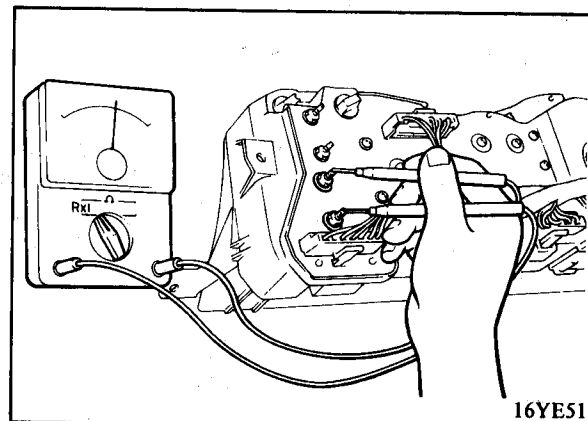
WATER TEMPERATURE GAUGE CONTINUITY TEST

Measure the resistance value between the terminals by using an ohmmeter.

Resistance value [Standard value]	49–61 Ω
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NOTE

If the resistance value is extremely small, there may be a short in the coil; if it is extremely large, there may be a broken wire or some other problem in the coil. In either case, replace the gauge.

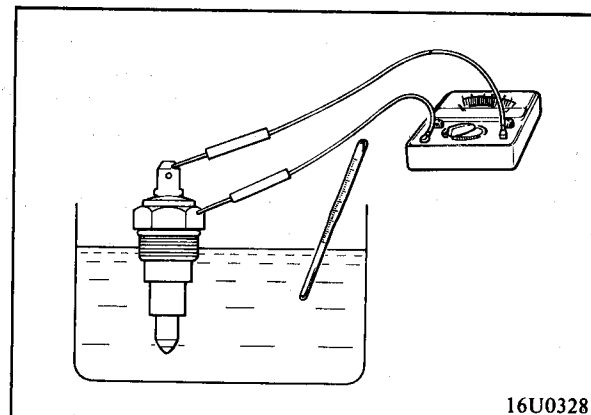


16YE51

WATER TEMPERATURE GAUGE UNIT OPERATION CHECK

Measure the resistance with the gauge unit in hot water at 70°C (158°F).

Resistance value [Standard value]	104 Ω
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16U0328

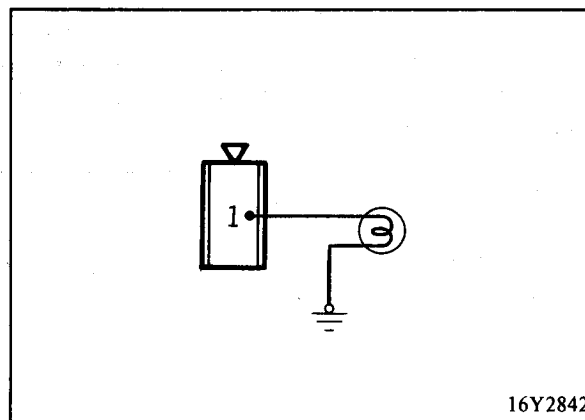


OIL PRESSURE GAUGE AND UNIT

Inspection

SIMPLE OIL PRESSURE GAUGE CHECK

1. Disconnect the wiring connector from the oil pressure gauge unit inside the engine compartment.
2. Connect a 12V, 3.4W bulb between the harness side connector terminal (No. 1) and GND as illustrated.
3. Turn on the ignition key.
4. Check that the test bulb flashes and the gauge pointer deflects.



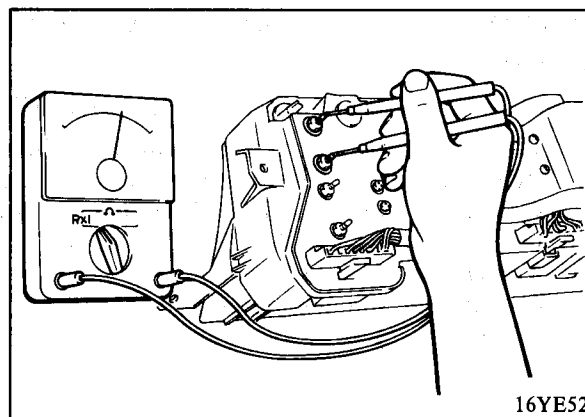
OIL PRESSURE GAUGE CONTINUITY TEST

Measure the resistance value between the terminals by using an ohmmeter.

Resistance value [Standard value] 37 – 47 Ω

NOTE

If the resistance value is extremely small, there may be a short in the coil; if it is extremely large, there may be a broken wire or some other problem in the coil.



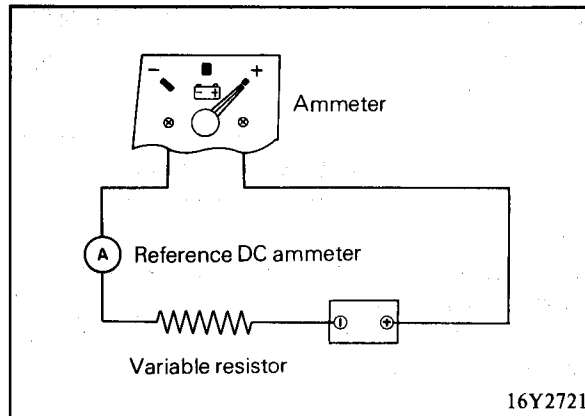
AMMETER

Inspection

AMMETER INDICATION ERROR

1. Connect reference DC ammeter and variable resistor to the connector of the ammeter as shown in the illustration.
2. Apply current until the reference DC ammeter resisters 1A to make sure that the pointer of the ammeter indicates + reading (or – reading).

Indication readings [Standard value]
For + reading or – reading ±3° (±3A)



NOTES

1. The ammeter is a shut ammeter and it indicates 30A (+ reading or – reading) when 1A is flowing.
2. There is about 60° between + reading and – reading on the ammeter, and 1° corresponds to 1A.

Caution

Please note that application of current greater than 1A may cause damage to the ammeter.



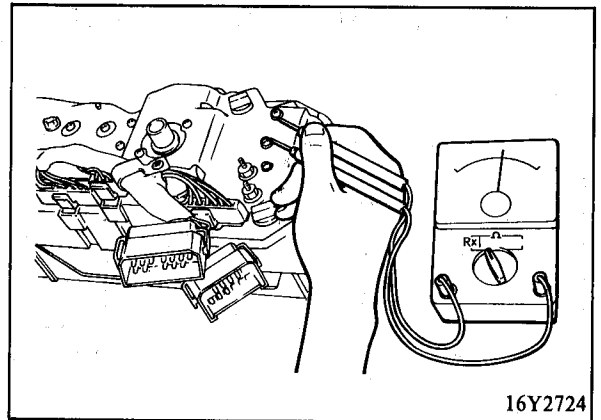
AMMETER CONTINUITY TEST

Measure the resistance value between the terminals by using a circuit tester.

Resistance value [Standard value] 143–203 mΩ

NOTE

If the resistance value is extremely small, there may be a short in the coil; If it is extremely large, there may be a broken wire or some other problem in the coil. In either case, replace the gauge.

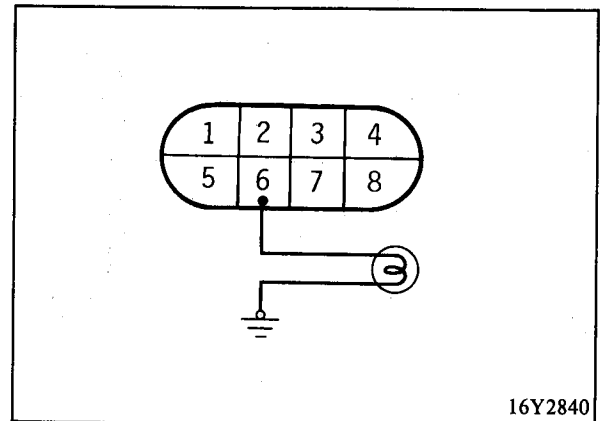


PRESSURE METER

Inspection

SIMPLE PRESSURE METER CHECK

1. Disconnect the wiring connector from the pressure sensor inside the engine compartment.
2. Connect a 12V, 3.4W bulb between the harness side connector (pin 6) and GND.
3. Turn on the ignition key.
4. Check that the test bulb lights up and the meter pointer deflects toward the + side.



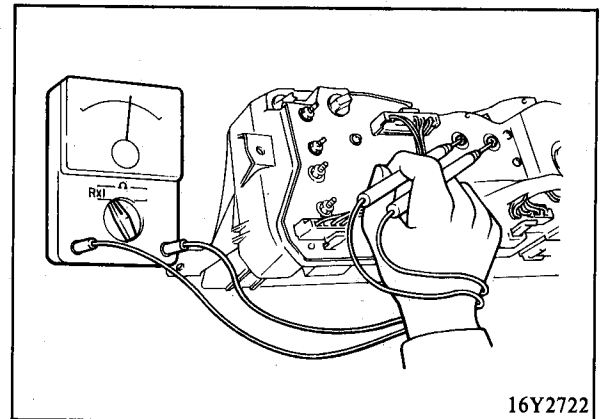
PRESSURE METER CONTINUITY TEST

Measure the resistance value between the terminals with an ohmmeter.

Resistance value [Standard value] 30–56 Ω

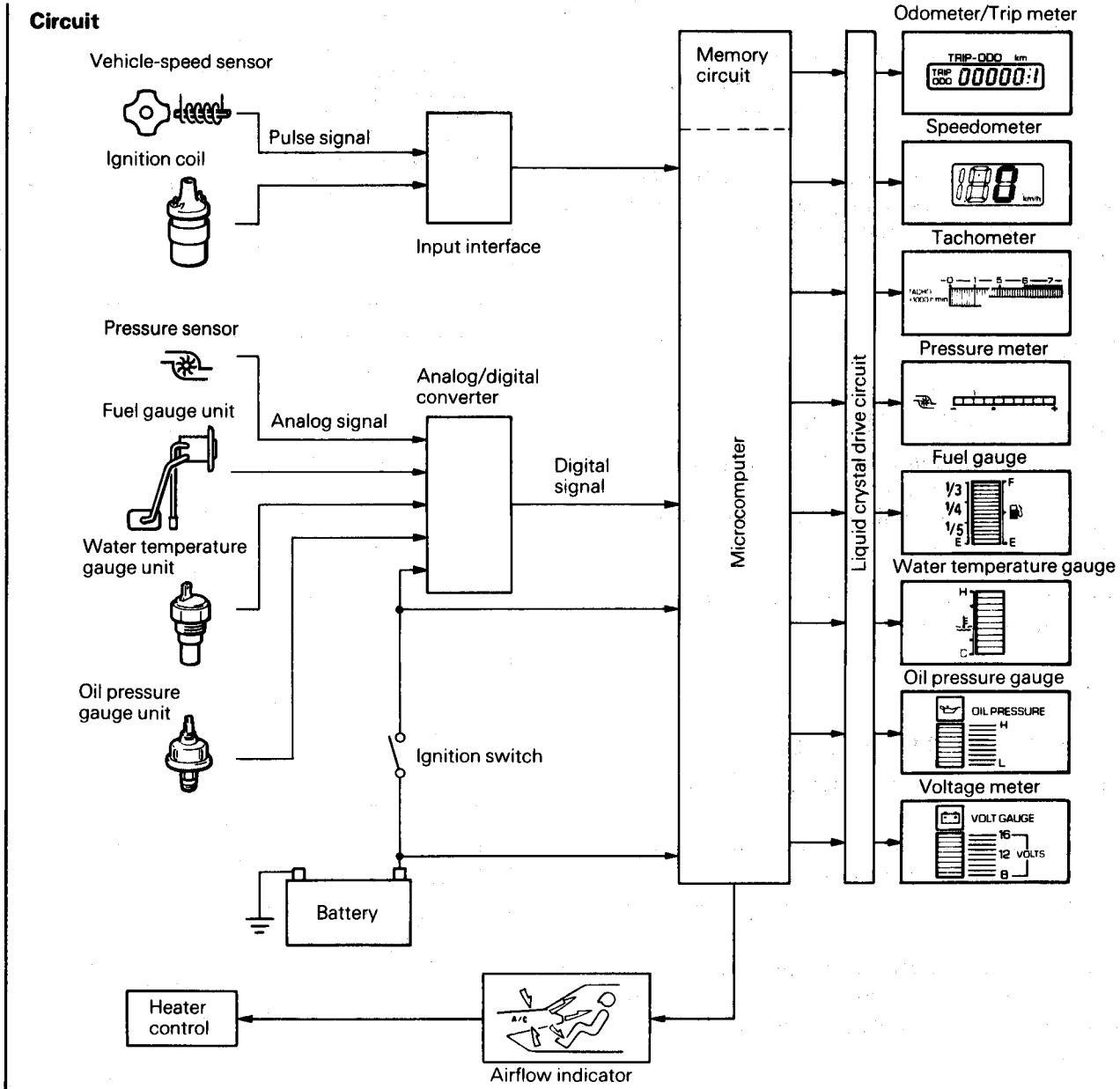
NOTE

If the resistance value is extremely small, there may be a short in the coil; If it is extremely large, there may be a broken wire or some other problem in the coil. In either case, replace the gauge.





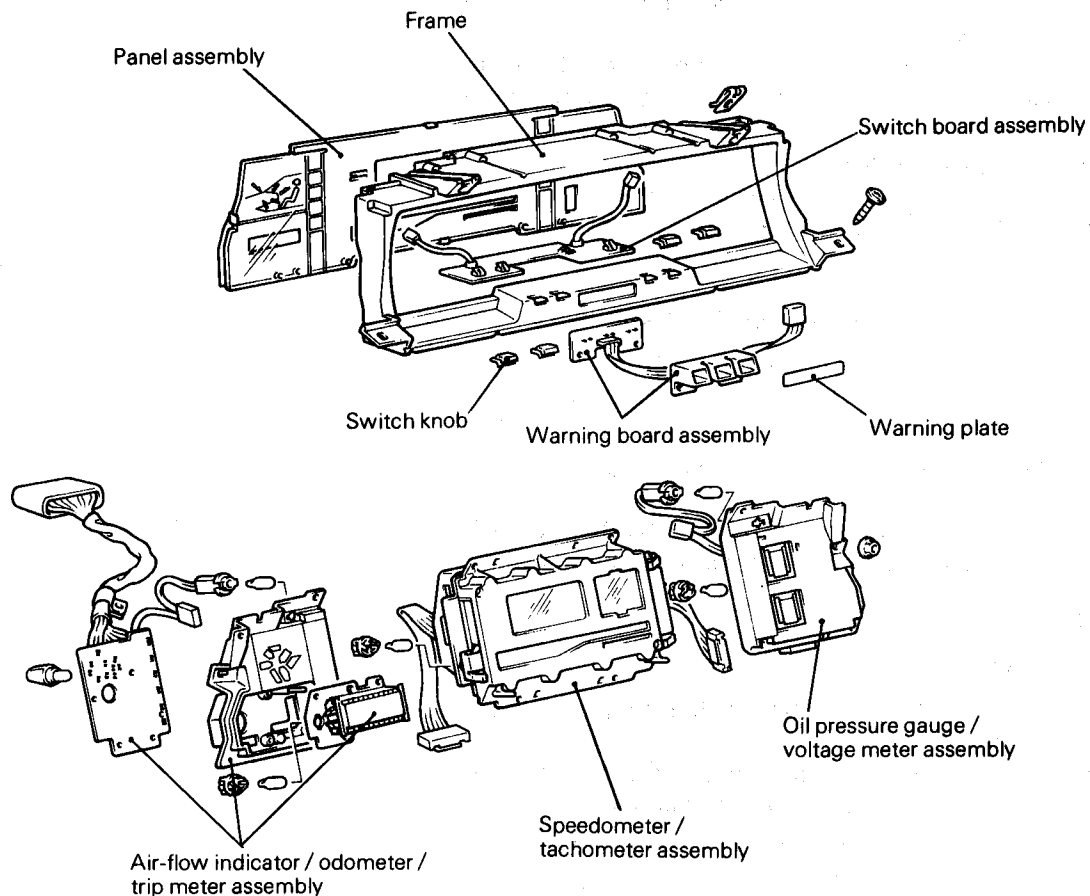
LIQUID CRYSTAL DISPLAY METER



16Y2741



COMPONENTS (LIQUID CRYSTAL DISPLAY METER)



16Y2740

INSPECTION

Operation-checking of Liquid Crystal Display Unit

1. Turn the ignition switch to the "ON" position, and all liquid crystal displays will automatically perform display for approximately 3 seconds.
2. At this time, each display unit will display the maximum indication.
3. If any display does not perform, the display unit is probably defective. Therefore, replace the whole unit in assembly.



REMOVAL

Follow the same procedure as used for the needle point type meter.

Caution

1. Because the electronic liquid crystal meters are composed of delicate components such as liquid crystal elements, transistors, etc., they must not be subjected to severe shocks, etc.
2. Internal repairs of the electronic liquid crystal meters require special tools and equipment; never attempt to disassemble the meters. If there is a malfunction, replace the appropriate assembly.
3. If the vehicle is to be bake-painted, be sure that the meter assembly is not exposed to temperatures in excess of 60°C (140°F).

Replacement of Liquid Crystal Display Unit Assembly

Remove the installation screws and connectors at the back of meter, and remove the liquid crystal display unit assembly.

Caution

1. Liquid crystal display unit assembly must not be disassembled.
2. Reflector plate at the front of liquid crystal display unit should not be touched directly with hands or damaged.

SPEEDOMETER

Speedometer Indication Error

1. Adjust the tire inflation pressure to the standard value. (Refer to Group 22.)
2. Use speedometer tester to make sure that the error in indication of speedometer is within the standard value.

Permissible speedometer indication error
 [Standard value]

Meter with "km/h" indication	km/h	
20 km/h		+3 0
40 km/h		+3 0
80 km/h		+3.5 0
120 km/h		+4 +0.5

Meter with "mph" indication	mph	
10 mph		+2.25 -0.25
25 mph		+2.25 -0.25
50 mph		+2.0 0
75 mph		+2.5 0

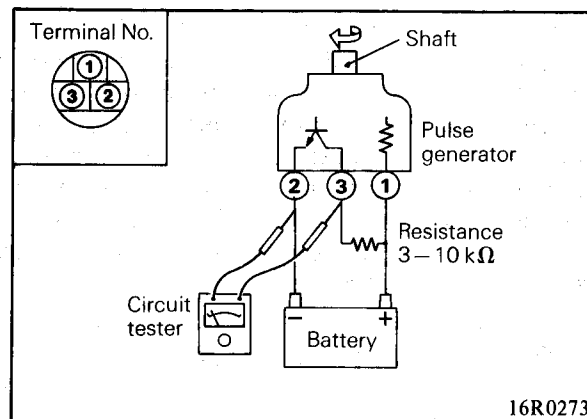


Caution

1. When the speedometer is checked with a speedometer tester, apply chocks to the driven wheels to prevent the car from running away.
2. Be sure to meet the requirement of any local regulations with regard to the error in indication of speedometer.
3. If the speedometer indication error deviates greatly from the standard value, check the pulse generator as well because the faulty pulse generator is also responsible for the error.

Inspection of Pulse Generator

1. Remove the pulse generator and connect as shown in the illustration, using a 3 to 10-kΩ resistance.
2. Use a circuit tester to check for voltage at terminals (2) and (3) when the pulse generator shaft is turning. (One revolution is four pulses.)



TACHOMETER

Inspection

Connect a Tach-dwell meter, and then compare the meter readings at various engine speeds with the values indicated on the tach-dwell meter. If there is a large error, replace the tachometer.

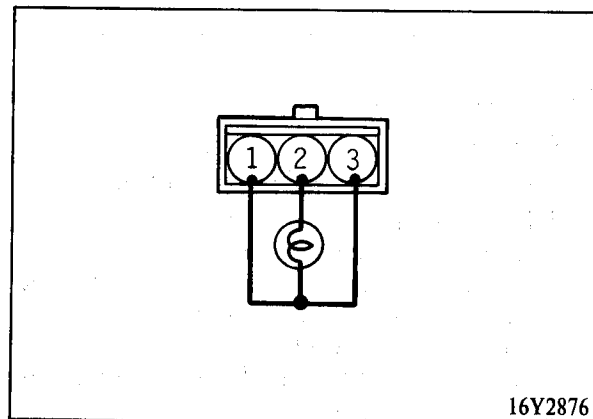
Permissible indication error [Standard value]	
1,000 rpm	± 100 rpm
3,000 rpm	± 200 rpm
6,000 rpm	+ 500 - 200 rpm

FUEL GAUGE AND UNIT

Inspection

SIMPLE FUEL GAUGE CHECK

1. Disconnect the wiring connector from the fuel gauge unit inside the luggage compartment.
2. Connect a 12V, 3.4W bulb to the harness side connector as illustrated.
3. Turn on the ignition key.
4. Check that the test bulb lights up and the gauge segment goes on up to point F.



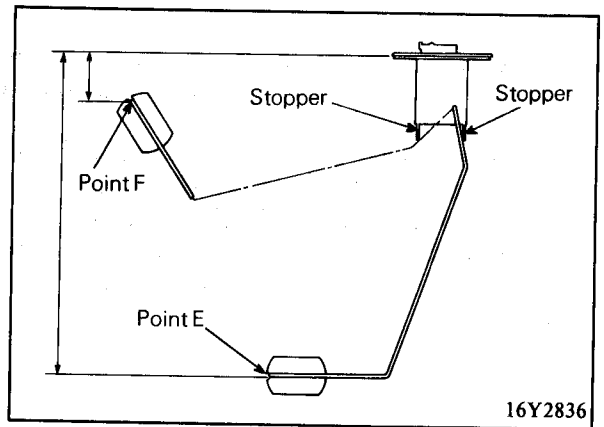
16Y2876



FUEL GAUGE UNIT FLOAT POSITION CHECK

Move the float and measure the float position at points “F” and “E” when the float arm contacts the stopper.

Float position dimension [Standard value]	
Point F	33.1–39.1 mm (1.30–1.54 in.)
Point E	235.7–241.7 mm (9.28–9.52 in.)



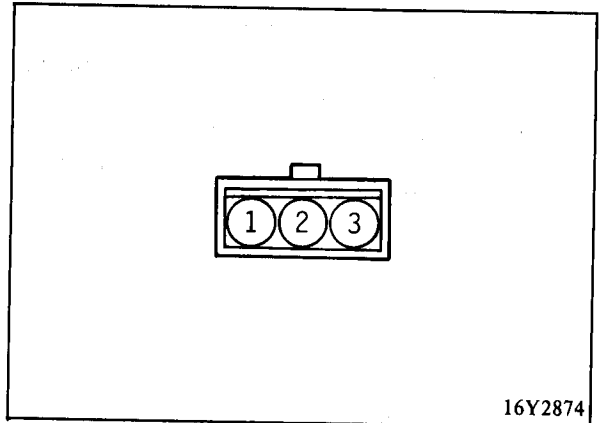
16Y2836

FUEL GAUGE UNIT OUTPUT VOLTAGE CHECK

After disconnecting the fuel gauge unit harness connector, turn on the ignition key and check that approximately 5V is present at the harness side connector (terminal 2).

Connect the fuel gauge unit with the harness connector and move the fuel gauge unit float from position F to E to check that the voltage between terminals 2 and 3 changes smoothly and that the output voltage at each of positions F and E is within the standard range.

Output voltage [Standard value]	
Position F	4.35–4.70V
Position E	0.3–0.5V



16Y2874

VOLTAGE METER

Inspection

VOLTAGE METER INDICATION ERROR

Connect the (+) terminal of the checking voltmeter to the R terminal of the alternator and ground the (-) terminal. Crank the engine and compare indications of the combination meter voltmeter and the checking voltmeter. If the indication error exceeds the standard value, replace the meter.

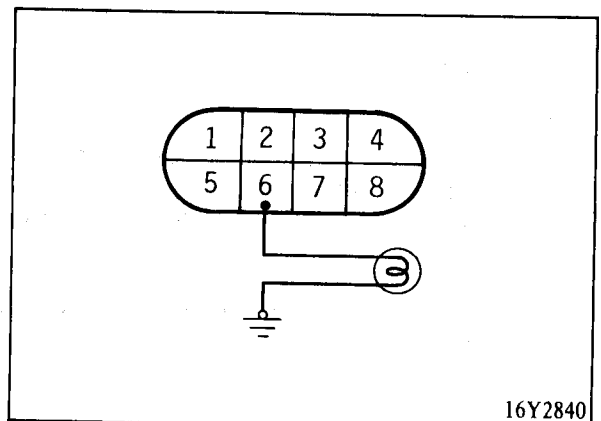
Voltmeter indication error [Standard value]	
12.5V	+0.9V -1.1V

PRESSURE METER

Inspection

SIMPLE PRESSURE METER CHECK

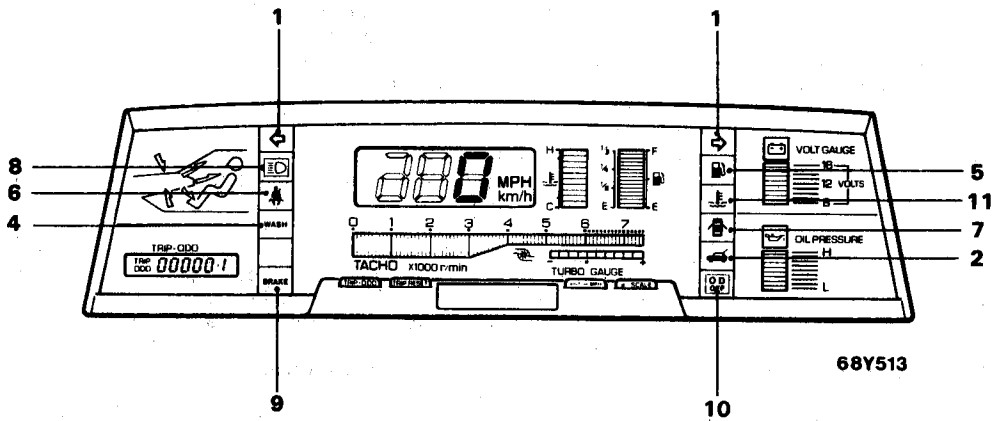
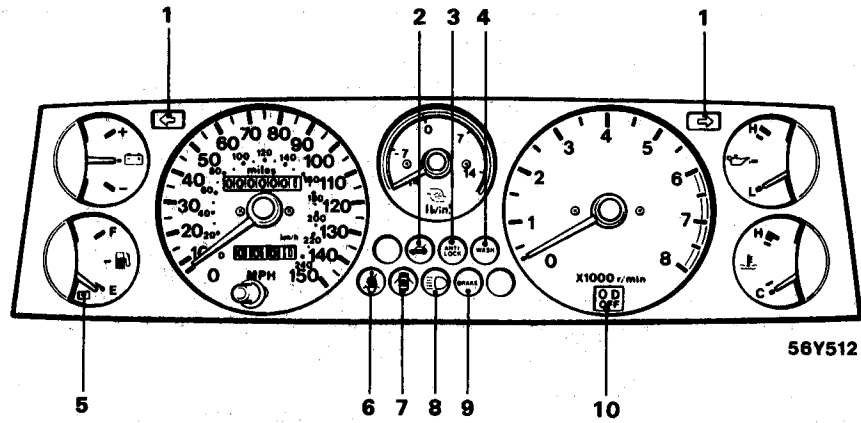
1. Disconnect the wiring connector from the pressure sensor inside the engine compartment.
2. Connect a 12V, 3.4W bulb between the harness side connector (pin 6) and ground.
3. Turn on the ignition key.
4. Check that the test bulb lights up and the meter segments light toward + side.



16Y2840



COMPONENTS
















COMPONENT SERVICE – INDICATOR AND WARNING LIGHT

SYMBOL

Warning light and indicator are concentrated in the combination meter in order to improve visibility and confirmation.

Symbol	Description	Operation	Lens color
1 	Turn-signal indicator	This indicator flashes as the same side of turn-signal light flashes. If the turn-signal light is burned out, the indicator illuminates, but does not flash. This indicator is common with hazard light.	Green
2 	Hatch open warning light	This light comes on when the rear hatch is either open or not completely closed.	Red
3 	Rear brake lock-up control system failure indicator	This indicator comes on if the rear brake lock-up system fails.	Umber
4 	Washer fluid level warning light	This light comes on when the windshield washer fluid level is low.	Umber
5 	Fuel level warning indicator	This indicator comes on when the fuel in the fuel tank falls to approximately 9 liters (2.4 U.S.gals., 2.0 Imp. gals.).	Umber
6 	Seat belt warning light	When the door is closed and the ignition switch is in "ON" position, this light goes on for four to eight seconds.	Red
7 	Door-ajar warning light	This light comes on when the door is either open or not completely closed.	Red
8 	High beam indicator	This indicator illuminates when the headlights are on high beam.	Bluish purple
9 	Brake system warning indicator	When the parking brake is applied or brake fluid level falls below the specific level this indicator comes on.	Red
10 	Overdrive-off indicator	This light comes on when the overdrive-off switch is turned on.	Umber
11 	Overheat warning indicator	This indicator comes on when the engine coolant temperature becomes more than 125°C (257°F).	Red

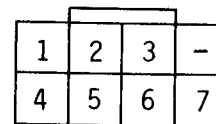
56Y651

OVERDRIVE RELAY

Inspection

1. Apply battery voltage (12V) to the relay by connecting battery positive (+) terminal to terminal (5) and negative (-) terminal to terminal (1).
2. With terminal (4) connected to negative (-) terminal, check to see that a 12V output is available at terminal (2).
3. With terminals (6) and (7) connected to negative (-) terminal, check to see that a 12V output is available at terminal (4).

Then, disconnect terminal (6) and check to see that output at terminal (4).



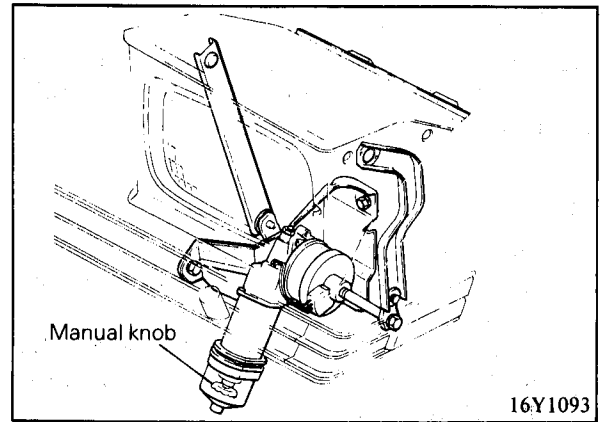
16Y2891



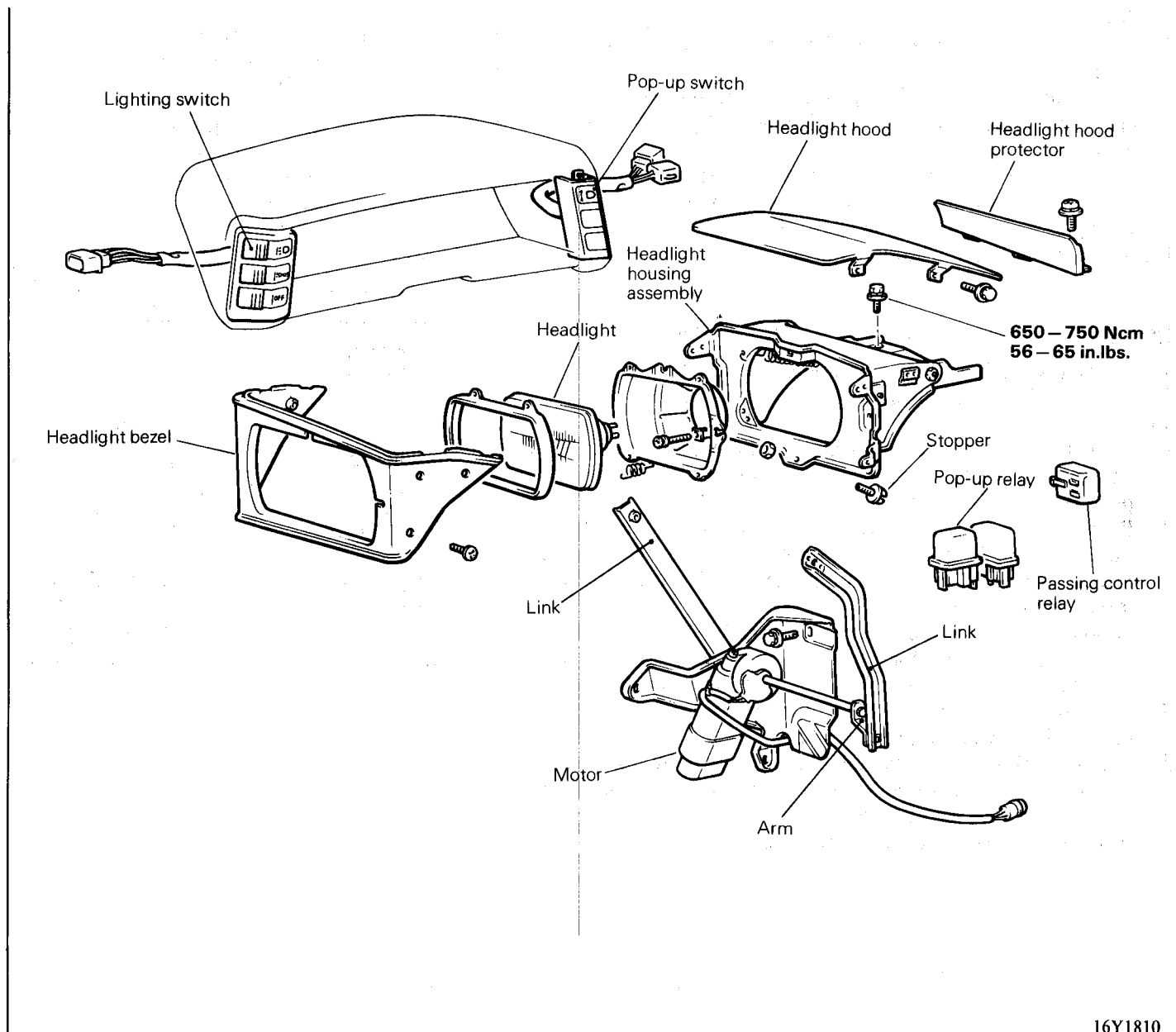
HEADLIGHTS (POP-UP TYPE)

Construction

The right and left headlights are driven up and down by independent motors and linkages. Manual knobs are also provided which, in the event of electric trouble, allow the headlights to be manually raised or lowered.



Components





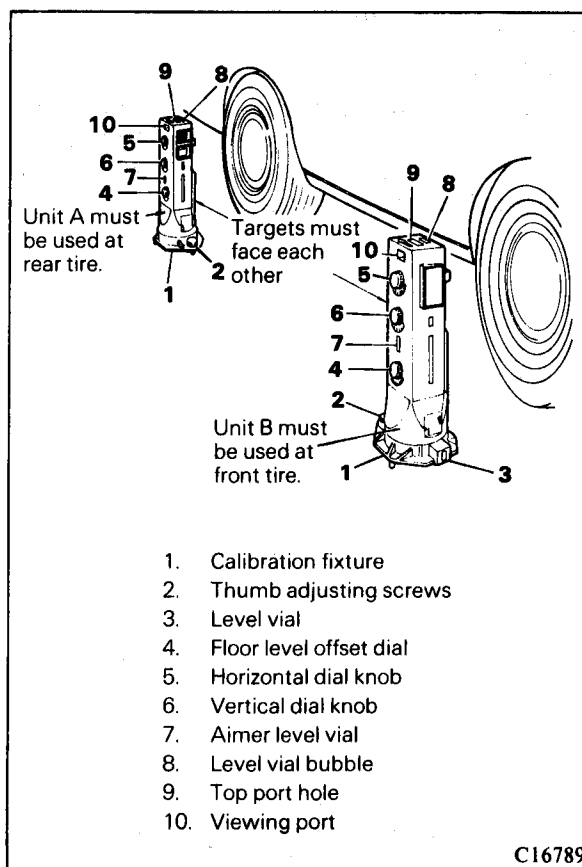
Headlight System

The headlight system consists of two sealed-beam bulbs. The bulbs are of the two-filament type for low and high beam and are marked by a code 2B1 molded in the lens.

Aiming

PRE-AIMING INSTRUCTIONS

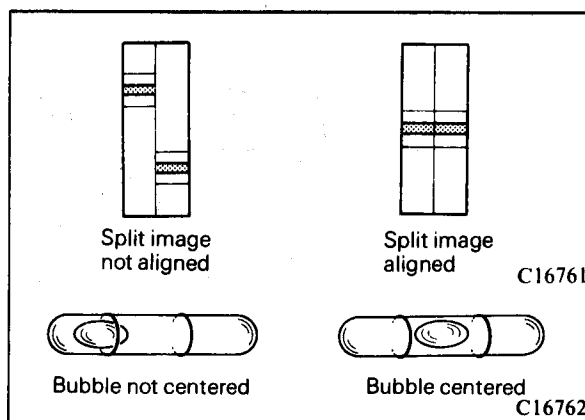
1. Test dimmer switch operation.
2. Observe operation of high-beam indicator light mounted in instrument cluster.
3. Inspect for badly rusted or faulty headlight assemblies. These conditions must be corrected before a satisfactory adjustment can be made.
4. Place vehicle on a level floor.
5. Bounce front suspension through three (3) oscillations by applying body weight to hood or bumper.
6. Inspect tire inflation.
7. Rock vehicle sideways to allow vehicle to assume its normal position.
8. If gasoline tank is not full, place a weight in trunk of vehicle to simulate weight of a full tank [3 kg (6.5 lbs.) per gallon].
9. There should be no other load in the vehicle other than driver or substituted weight of approximately 68 kg (150 lbs.) placed in driver's position.
10. Thoroughly clean headlight lenses.



COMPENSATING THE AIMERS FOR FLOOR SLOPE

The floor level offset dial must coincide with the floor slope for accurate aiming. Calibration fixtures are included with the aimers.

1. Attach one calibration fixture to each aimer. Fixtures will easily snap into position on aimer when properly positioned. (C16789)
2. Place aimers at center line of each wheel on one side of vehicle. Unit A must be placed at rear wheel with target facing forward. Unit B must be placed at front wheel with target facing rearward.
3. Adjust thumb adjusting screw on each calibration fixture by turning either clockwise or counterclockwise until level vial bubble registers in a centered, level position.
4. Look into top port hole of Unit A. Turn horizontal knob until split image is aligned. (C16762)
5. Transfer plus or minus reading indicated on horizontal dial to floor level offset dial on each aimer. Press floor level dial inward to set reading.
6. Remove calibration fixtures from both units.

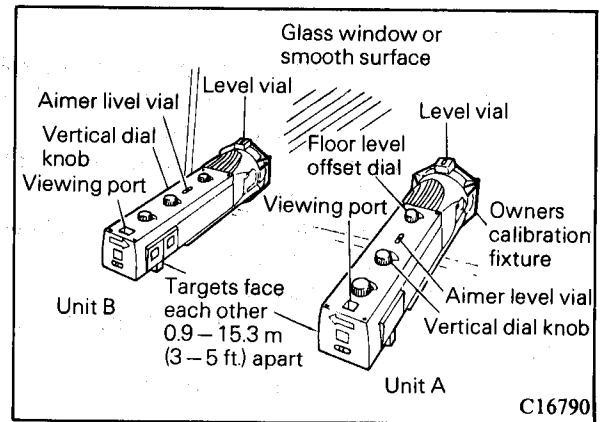




TESTING AIMER CALIBRATION

The aimer calibration may be off due to extended use. Calibration fixtures used in conjunction with aimers can be used to check and adjust aimers.

1. Turn thumb adjusting screw on each calibration fixture until it is approximately the same distance as the supporting posts.
2. Attach calibration fixtures to each unit with level vials on top.
3. Locate a true vertical plate glass window or smooth surface and secure aimers three to five feet apart so split image targets can be located in viewing ports. (C16790)
4. Set floor level dial at zero. (C16789)
5. Rotate thumb adjusting screws on each calibration fixture until level vials on fixtures are centered.
6. With both calibration level vials centered turn vertical dial knobs on each aimer until aimer level vials are centered. If aimer vertical dial pointers read between 1/2 up and 1/2 down, aimers are within allowable vertical tolerance. Re-calibrate units if beyond these limits.
7. Adjust horizontal dial knob on each aimer until split image targets align. If aimer horizontal dial pointers read between 1 left and 1 right, the aimers are within allowable tolerance limits. Re-calibrate units if beyond these limits.



Description	Standard value Aimers (unit A and B)
Vertical dial pointer reading (on each aimer)	1/2 up to 1/2 down
Horizontal dial pointer reading (on each aimer)	1 left to 1 right

MOUNTING AIMERS

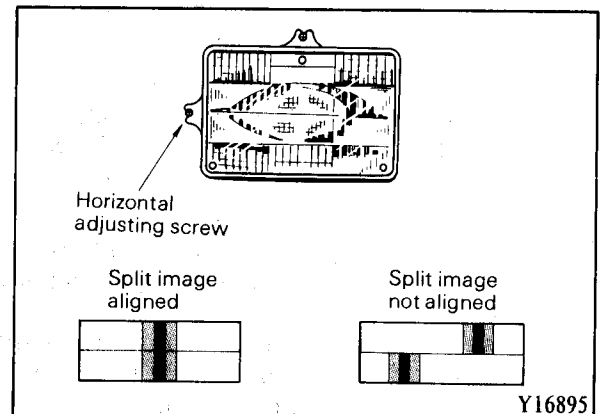
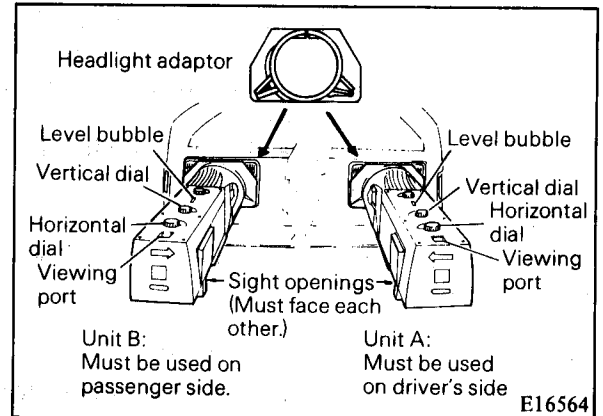
1. If necessary to expose adjusting screws remove headlight trim rings.
2. Snap proper adaptor into position on each aimer making full contact with aimer mounting flange.
3. Position aimers on headlights by pushing piston handle forward, engaging rubber suction cup. Immediately pull back piston handle until it locks in place.

NOTE

Steel inserts are moulded into position on the adaptor to insure accuracy. These inserts must be in contact with the three guide points on the lights when the aimers are properly positioned.

Horizontal Adjustment

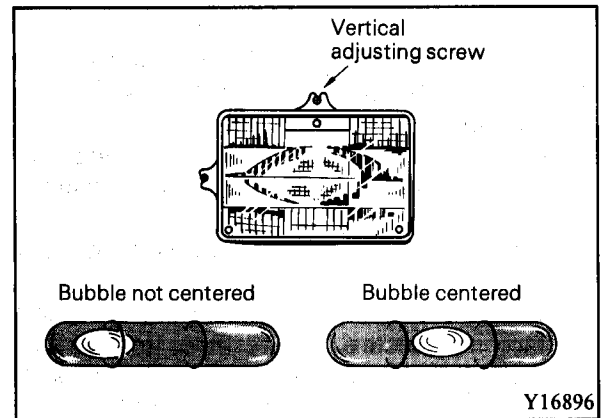
1. Set horizontal dial to zero.
2. Check to see that the split image target lines are visible in the viewing port. If necessary, rotate each aimer slightly to locate the target.
3. Turn horizontal screw on side of headlight until split image of target line appears in mirrors as one solid line. To remove "backlash", make final adjustment by turning adjusting screw in a clockwise direction.
4. Repeat the last three steps on opposite headlight.





Vertical Adjustment

1. The vertical dial should be set at zero. (For passenger vehicles an “O” setting is generally required. For special settings, consult local state laws.)
2. Turn vertical adjusting screw until the level bubble is centered between the lines.
3. Repeat the last two steps on the opposite headlight.
4. Re-check target alignment on both aimers and readjust horizontal aim if necessary.
5. Remove aimers by pressing “vacuum release” button located on piston handle.
6. Install headlight trim rings if removed.

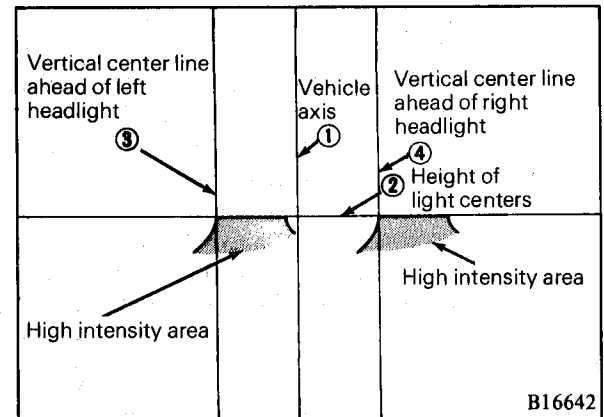


HEADLIGHT AIM PREPARATION

Place vehicle on a known level floor 7.6 m (25 feet) from aiming screen or light colored wall.

Four lines of adhesive tape or like are required on screen or wall.

1. Position a vertical tape so that it is aligned with the vehicle center line, number ①.
2. Position a horizontal tape with reference to center line of headlight, number ②.
3. Position a vertical tape on the screen with reference to the center line of each of headlights, numbers ③ and ④.



Visual Headlight Adjustment

1. A properly aimed lower beam of 142 × 200 mm (5.6 × 7.9 in.) sealed beam (marked “2B1” on lens) will appear on the aiming screen 7.6 m (25 feet) in front of the vehicle. The shaded area as shown in illustration indicates high intensity zone. (B16642)
2. Adjust low beam of headlights to match the low beam pattern of the right and left headlights.

NOTE

Single headlight system should be aimed according to low beam procedure only.

Luminous Intensity Measurement

Measure the luminous intensity of headlights with a photometer in accordance with the instruction manual prepared by the manufacturer of the photometer and make sure that the following standard value is reached.

Luminous intensity at the center of high intensity zone for high beam (Limit) 20,000 cd or more

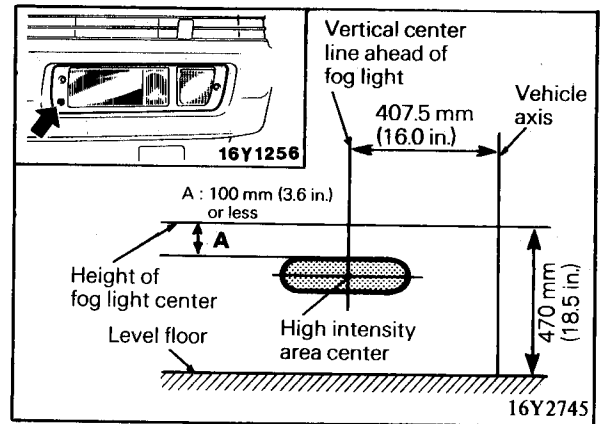
NOTE

1. When measuring the luminous intensity of headlight, keep the engine speed at 2,000 rpm and have the battery charged.
2. If there are specific regulations for luminous intensity of headlights in the region where the vehicle is operated, make sure that the intensity conforms to the requirements of such regulations.



Fog Light Aiming

1. Place vehicle on a known level floor 7.6 m (25 feet) from aiming screen or light colored wall.
2. Use adjusting screw to adjust the top end of high intensity zone to dimension A.



Replacement of the Headlight

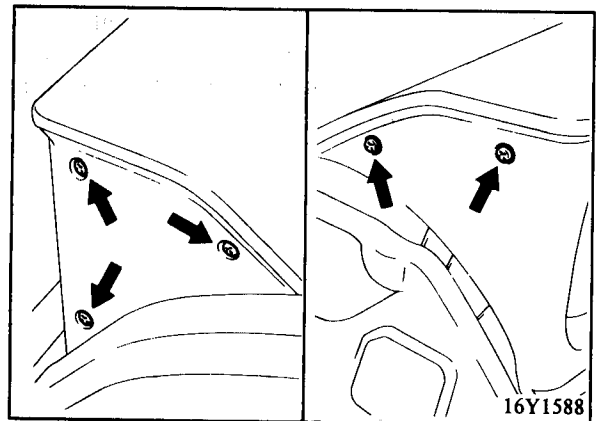
Raise the headlights by using the pop-up switch. Disconnect the negative (-) battery terminal.

Caution

Because there is the danger of burning the coil of the headlight relay by a reverse flow of power if the headlight switch is used to raise the headlights and the negative terminal of the battery is disconnected, be sure to always raise the headlights, in this condition, by using the pop-up switch.

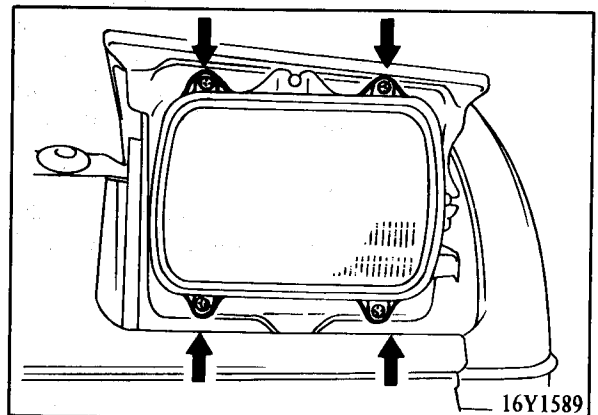
Removal of the Headlight Bezel

1. Remove 3 screws from the outside and 2 screws from the inside of the bezel.
2. Pull the bezel up and forward to remove.



Removal of the Headlight

1. Remove the 2 upper and 2 lower retaining screws. (16Y1589)
2. Disconnect the headlight harness connector from the headlight.



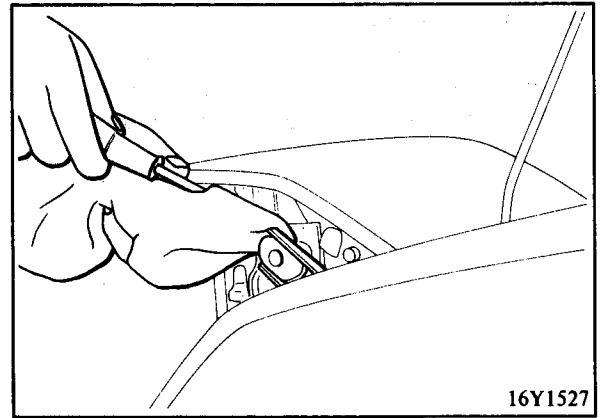


Replacement of the Headlight Housing

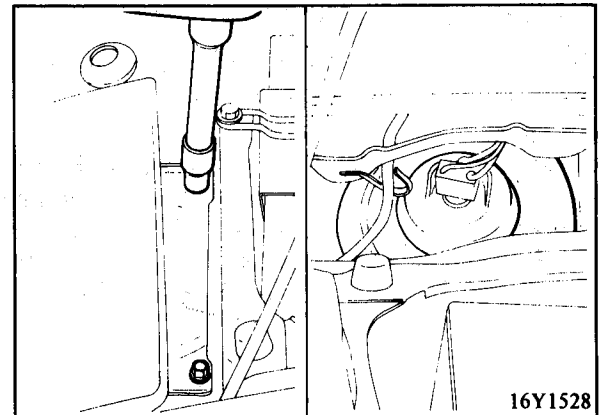
1. Remove the headlight bezel, and then perform the following operations.
2. Remove the headlight assembly and the linkage coupling part.

NOTE

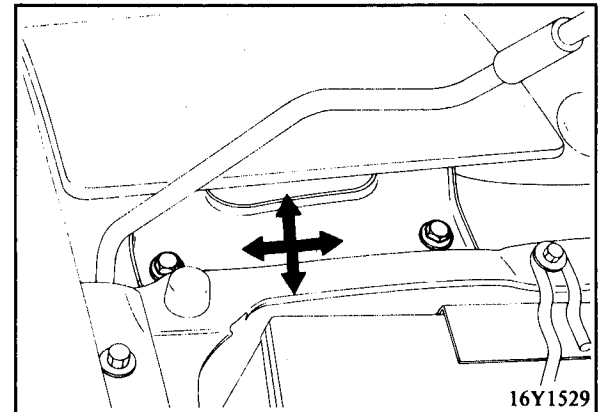
Remove the linkage coupling part while holding the headlight hood by hand.



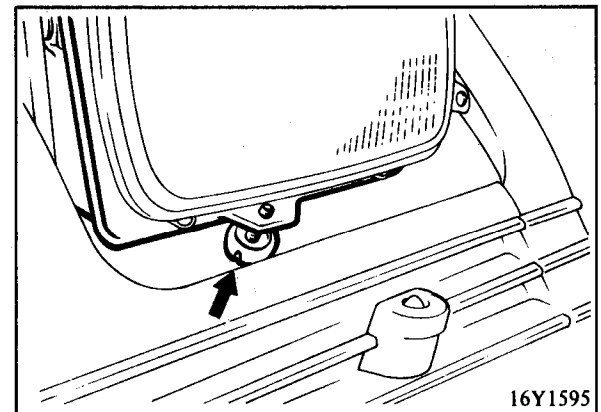
3. Remove the headlight housing.
4. Remove the headlight assembly.



5. Use the elliptical hole in the headlight hood to adjust the clearance between the headlight hood and the fender, and between the headlight hood and the header panel, so that they are equal.



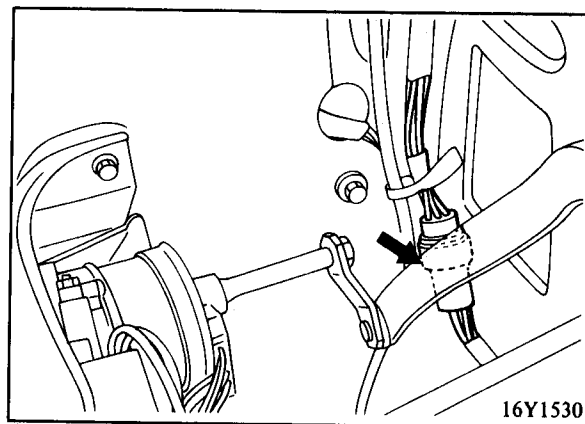
6. Irregularity between the headlight housing assembly and the fender, and between the assembly and the header panel, can be eliminated by using the stopper bolt in the headlight housing assembly to make the necessary adjustment.
7. Couple the linkage.
8. Install the headlight bezel, and then check to be sure that the headlight bezel and the linkage do not interfere with one another.



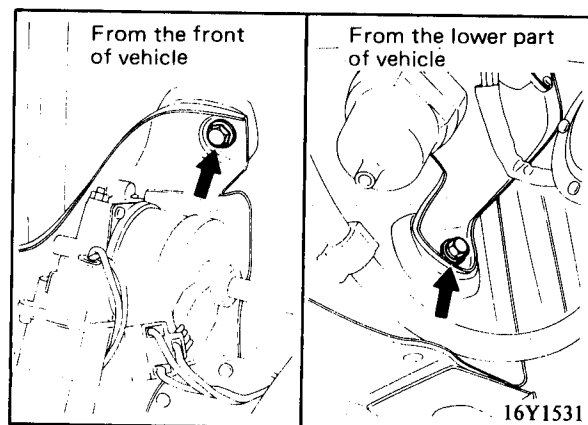


Replacement of the Pop-up Motor

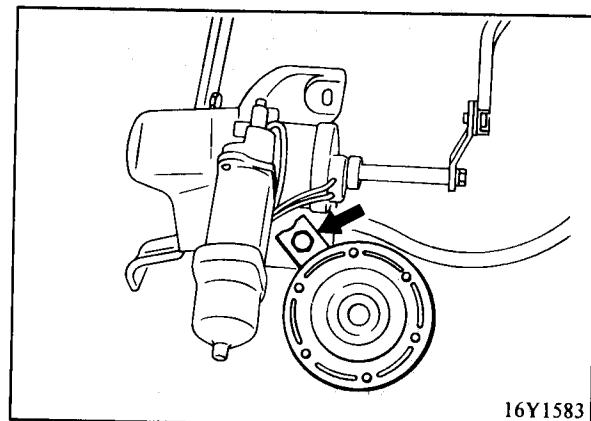
1. Remove the headlight mud guard panel. (Refer to GROUP 23.)
2. Remove the headlight assembly.
3. Disconnect the pop-up motor connector. (16Y1530)
4. Disconnect the horn connector.



5. Remove the pop-up motor together with the horn.



6. Remove the horn from the pop-up motor.

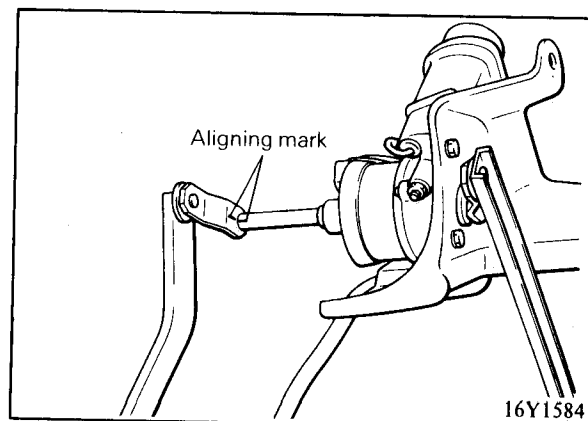


Link Replacement

1. Remove the snap ring connecting the link with the arm and replace the link.

Arm Replacement

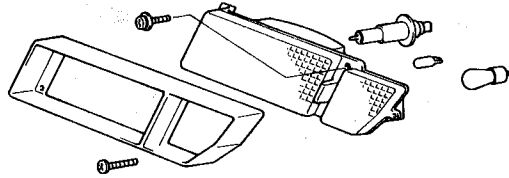
1. Put the aligning marks to the old arm (to be replaced with a new one) in assembled condition and the shaft of motor as illustrated.
2. Put an aligning mark to a new arm in the same location as made in the old arm.
3. With the mark on the new arm and that on the motor shaft in alignment, install the arm to the shaft.





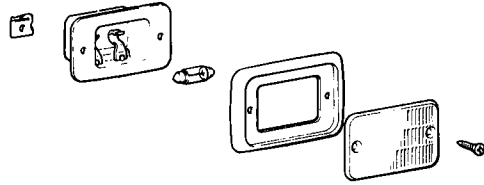
LIGHT COMPONENTS

Front combination light



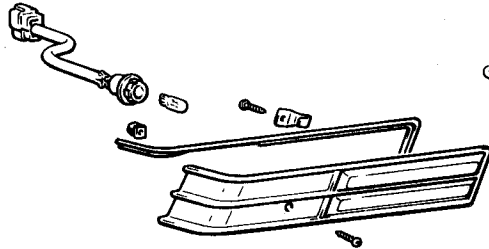
16Y2668

Door light



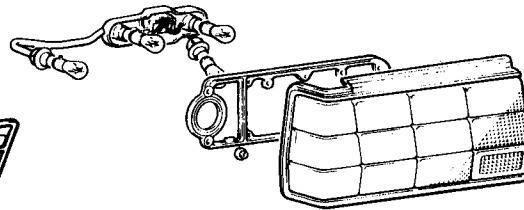
16Y892

Front side marker light



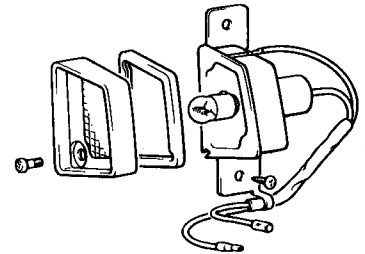
16Y1505

Rear combination light



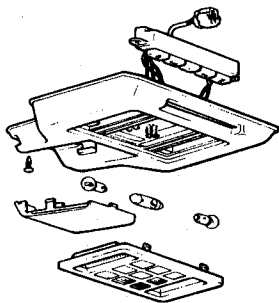
16Y1023

License plate light



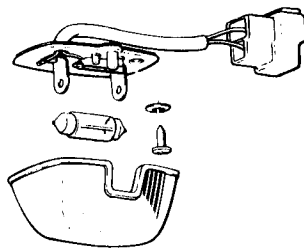
16Y1054

Dome light



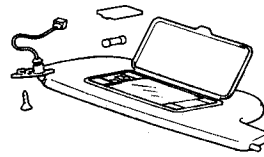
16Y1501

Luggage compartment light



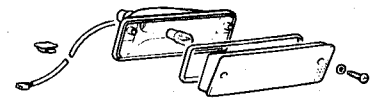
16Y1565

Vanity mirror light



16Y2771

High mounted stop light



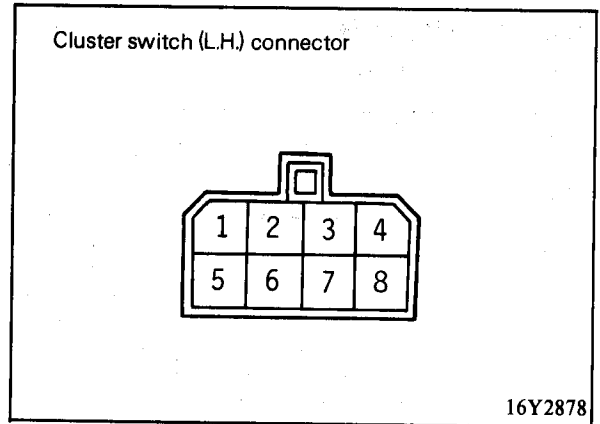
16Y2890



CLUSTER SWITCH

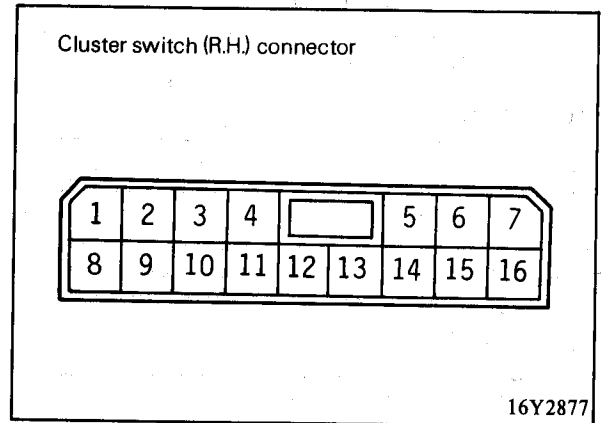
Lighting Switch

Terminal / Switch position	1	2	3	4	5	6	7	8
OFF							○—○	
TAIL	○—○			○—○			○—○	
HEAD			○—○	○—○	○—○	○—○	○—○	○—○



Hazard Switch

Terminal / Switch position	9	10	11	12	5	7	14	15	16
OFF				○—○				○—○	
ON	○—○	○—○	○—○			○—○			



Fog Light Switch

Terminal / Switch position	6	13
OFF		
ON	○—○	○—○

Pop-up Switch

Terminal / Switch position	3	4	8
OFF	○—○	○—○	
ON	○—○	○—○	○—○

Illumination

Terminal	1	2
	○—○	○—○



COMPONENT SERVICE – LIGHTING SYSTEM

COLUMN SWITCH

Turn-signal Switch

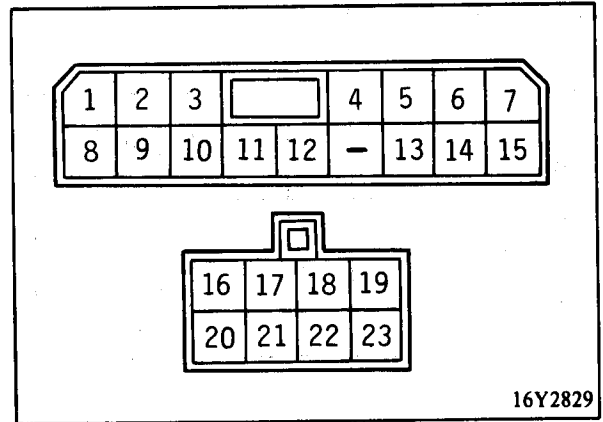
Terminal	1	2	3	4	5	6
Right side	○		○		○	
Neutral				○	○	○
Left side	○	○		○	○	○

Dimmer/Passing Switch

Terminal	12	13	15	21
Lower	○		○	
Upper		○	○	
Passing switch		○	○	○

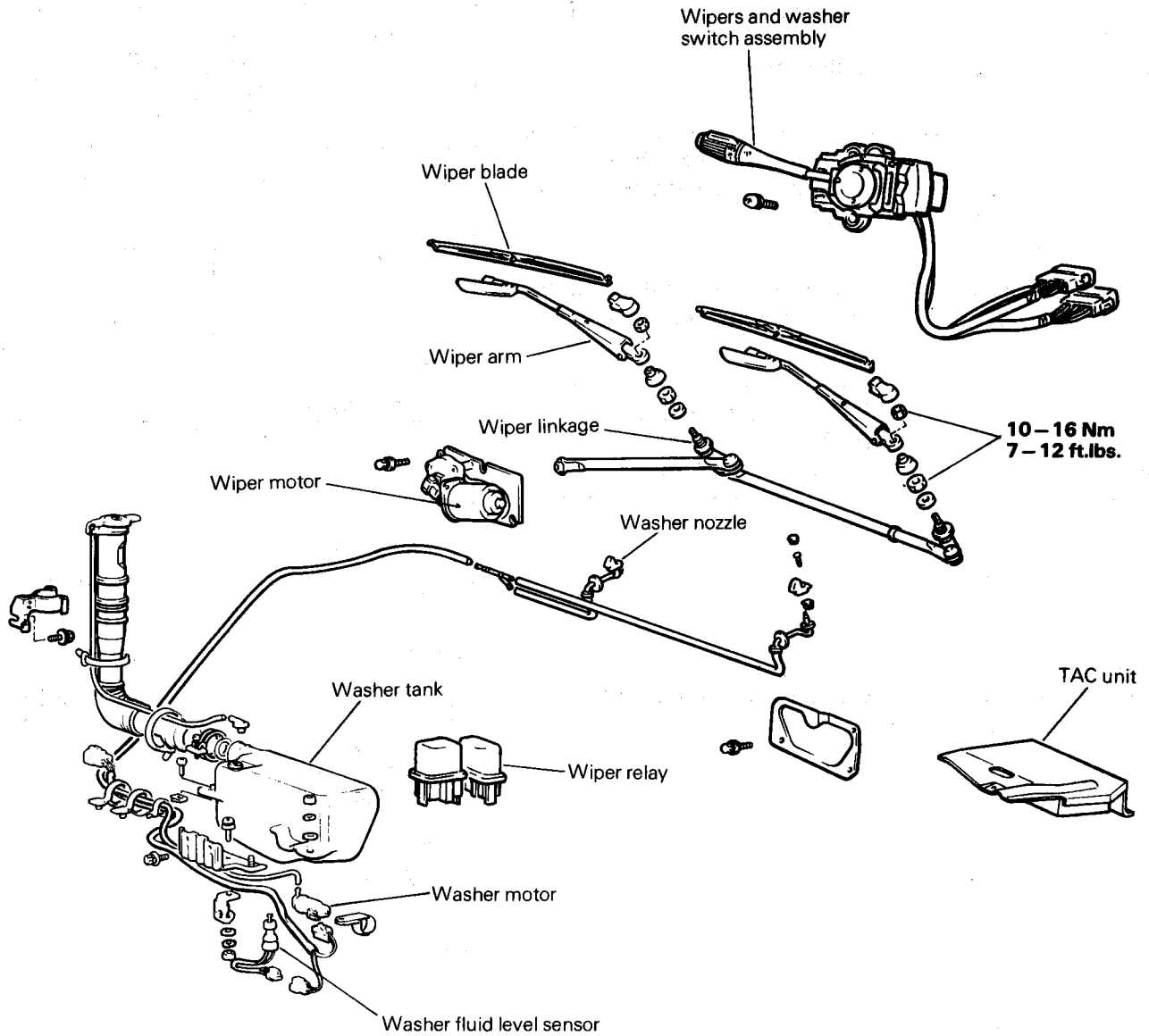
Horn Switch

Terminal	7	15
OFF		
ON	○	○





COMPONENTS





WIPER MOTOR AND LINKAGE

Removal

1. Remove the wiper arm and the pivot shaft mounting nut, then push the pivot shaft toward the inside.
2. Remove the cover from the wiper access hole on the right side of the front deck.
3. Loosen the bolt on the wiper motor mounting, and then, with the motor pulled out slightly, disconnect the linkage and the motor.
4. Remove both the motor and the linkage.

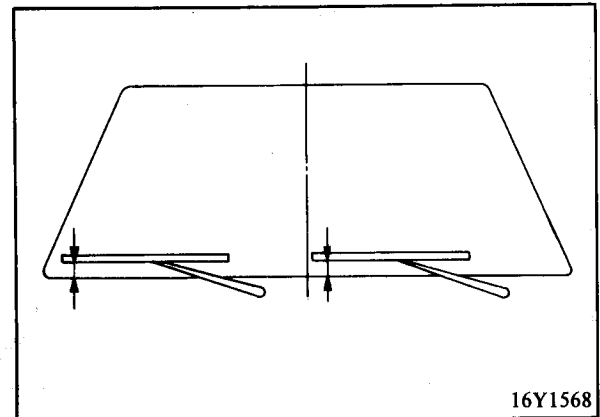
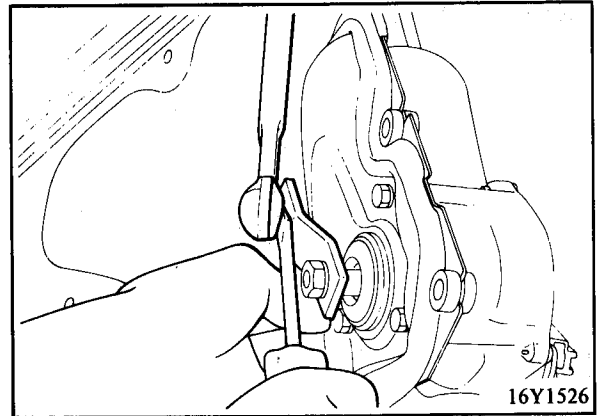
Caution

Because the installation angle of the crank arm and the motor has been set, do not remove them unless it is necessary to do so. If they must be removed, remove them only after marking their mounting positions.

Installation

Install the wiper arms on the pivot shafts so that the stopping position of the wiper blades is in agreement with the standard value.

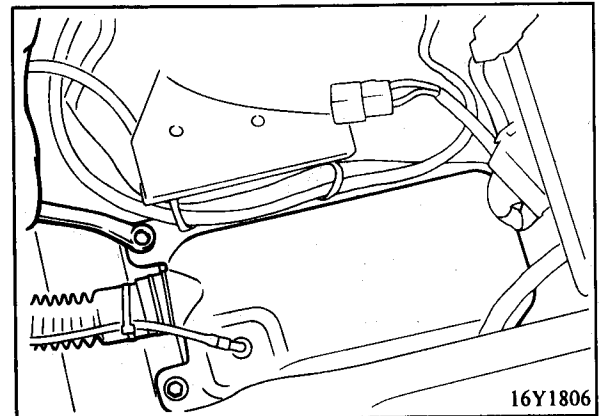
Wiper blade stopping position (distance between blade tip and front deck garnish)
 [Standard value] 13 mm (.5 in.)



WASHER TANK

Removal

1. Remove the battery and the battery tray.
2. Remove the washer tank mounting bolt. (16Y1806)
3. Remove the washer tank.



WINDSHIELD WASHER

Inspection and Adjustment

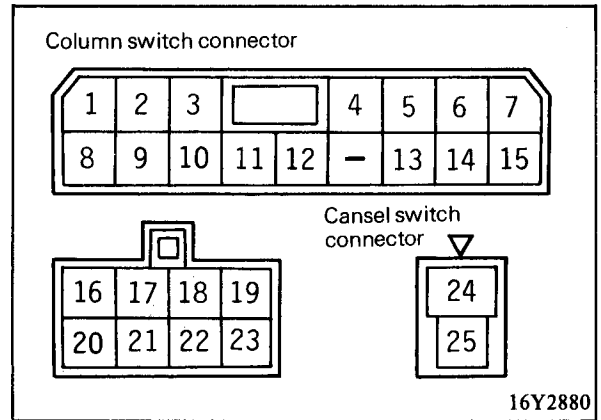
1. Check the washer fluid ejection point.
2. Adjust the washer fluid ejection point by using a wire to move the washer nozzle ball.
3. If the amount of washer fluid ejected is too small, check for clogged, bent or crushed washer piping. Check the clipped points too, because the tube might be crushed.



WIPER AND WASHER SWITCH

Inspection

Terminal		Switch position									
		8	17	9	10	14	25	11	24	23	19
Wiper switch	OFF			○	○						
	A/INT	○	○	○	○						
	1		○	○							
	2		○	○	○						
Washer switch	OFF										
	ON		○					○			
CANCEL	OFF										
	ON						○	○			
FAST	OFF										
	ON		○							○	
SLOW	OFF										
	ON		○								○



WIPER RELAY

Inspection

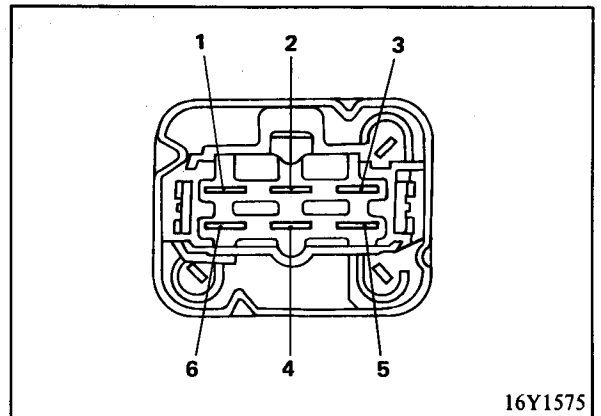
Check continuity between terminals while power is being supplied and while it is not.

While power is not being supplied:

- Between terminals 3 – 1 continuity
- Between terminals 3 – 5 no continuity
- Between terminals 4 – 2 continuity

While power is being supplied to terminals 4 – 2:

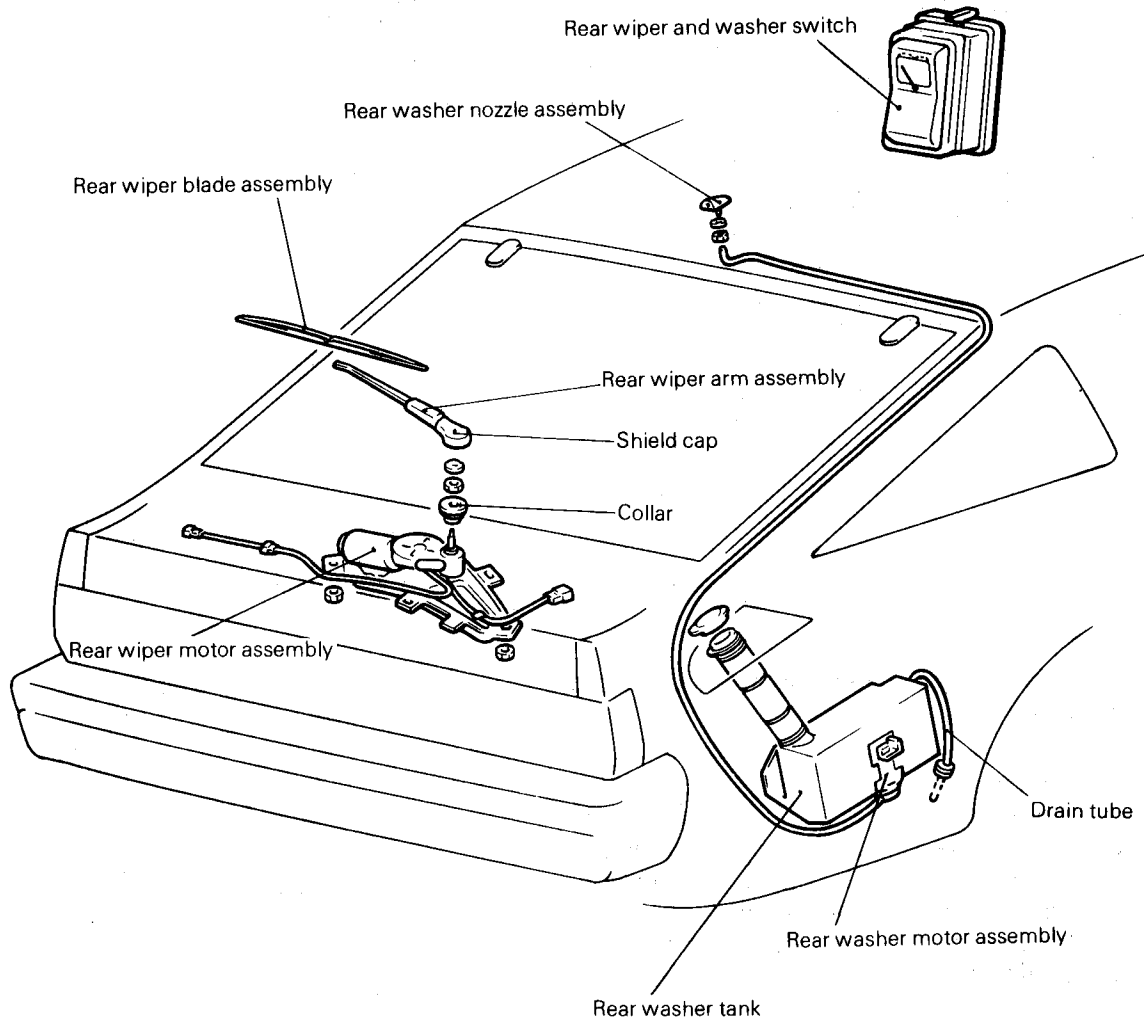
- Between terminals 3 – 1 no continuity
- Between terminals 3 – 5 continuity





COMPONENT SERVICE — REAR WINDOW WIPER AND WASHER

COMPONENTS



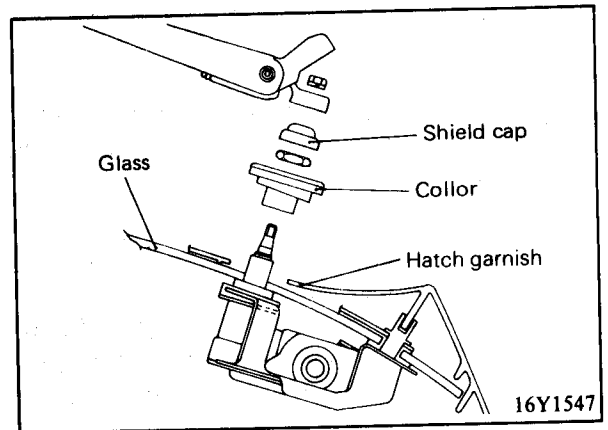
16Y1559



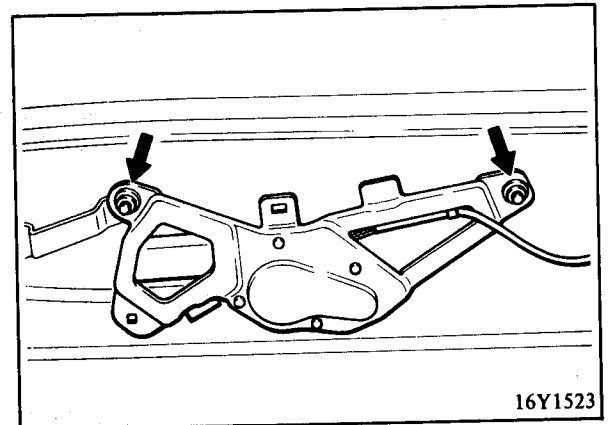
REAR WIPER MOTOR AND WIPER ARM

Removal

1. Raise the head cover of the wiper arm pivot, loosen the nut, and then remove the wiper arm and the shield cap.
2. Remove the nut, and then remove the collar.



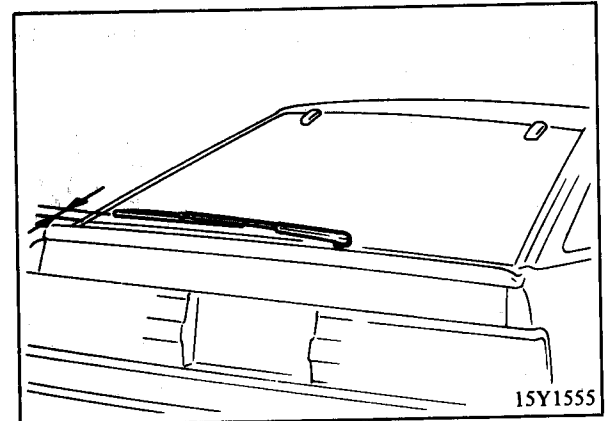
3. Remove the hatch trim. (Refer to GROUP 23.)
4. Remove the rear wiper motor bracket mounting nut, and then remove the rear wiper motor assembly from the hatch. (16Y1523)



Installation

Install the wiper arm on the pivot shaft so that the stopping position of the wiper blade is in agreement with the standard value.

Wiper blade stopping position (distance between blade tip and hatch garnish) [Standard value]	45 – 55 mm (1.8 – 2.2 in.)
---	----------------------------



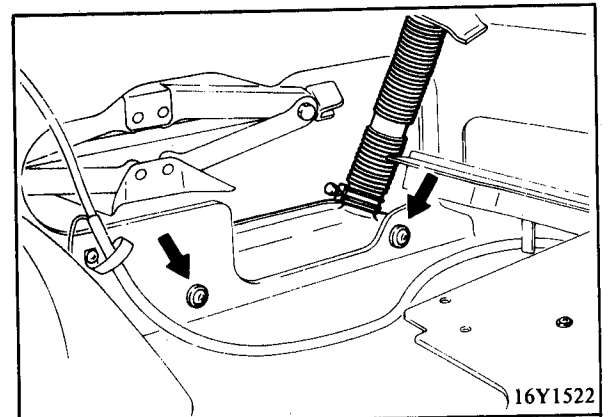
REAR WASHER TANK

Removal

1. Remove the right rear side trim, the high floor side panel, and the high floor side frame.
2. Remove the rear washer tank mounting screws, and then take out the tank. (16Y1522)

Caution

Be careful not to spill any of the washer fluid when disconnecting the drain tube and hose from the tank.





COMPONENT SERVICE — REAR WINDOW WIPER AND WASHER

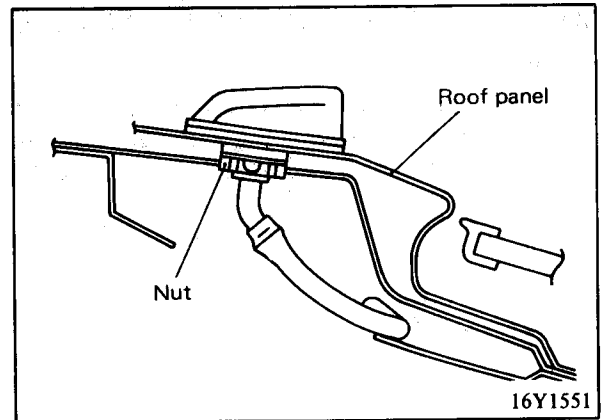
REAR WASHER NOZZLE

Removal

1. Remove the roll bar trim. (Refer to GROUP 23.)
2. Remove the nut, and then remove the nozzle.

Inspection

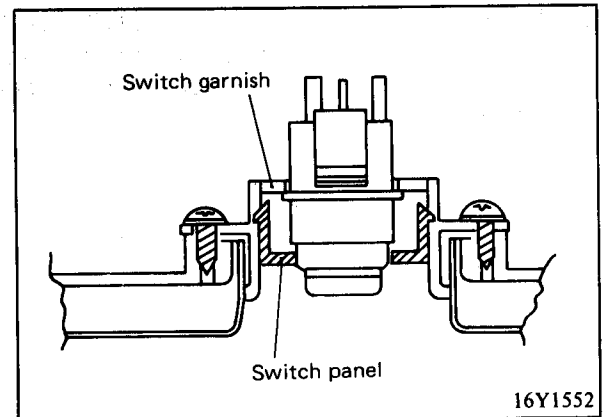
1. Check the washer fluid ejection point.
2. Adjust the washer fluid ejection point by using a wire to move the washer nozzle ball.
3. If the amount of washer fluid ejected is too small, check for clogged, bent or crushed washer piping. Check the clipped points too, because the tube might be crushed.



REAR WIPER AND WASHER SWITCH

Removal

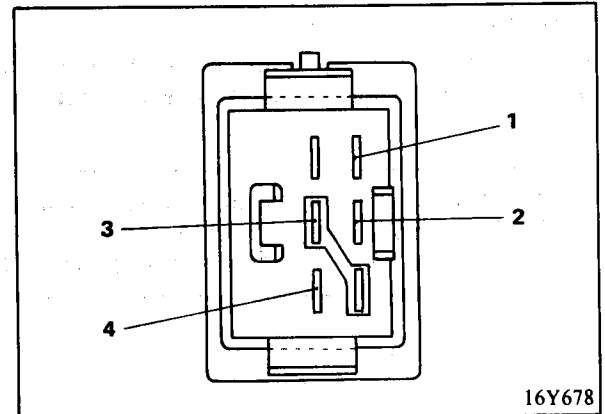
1. Remove the switch panel from the instrument panel.
2. Remove the rear wiper and washer switch from the switch garnish.



Inspection

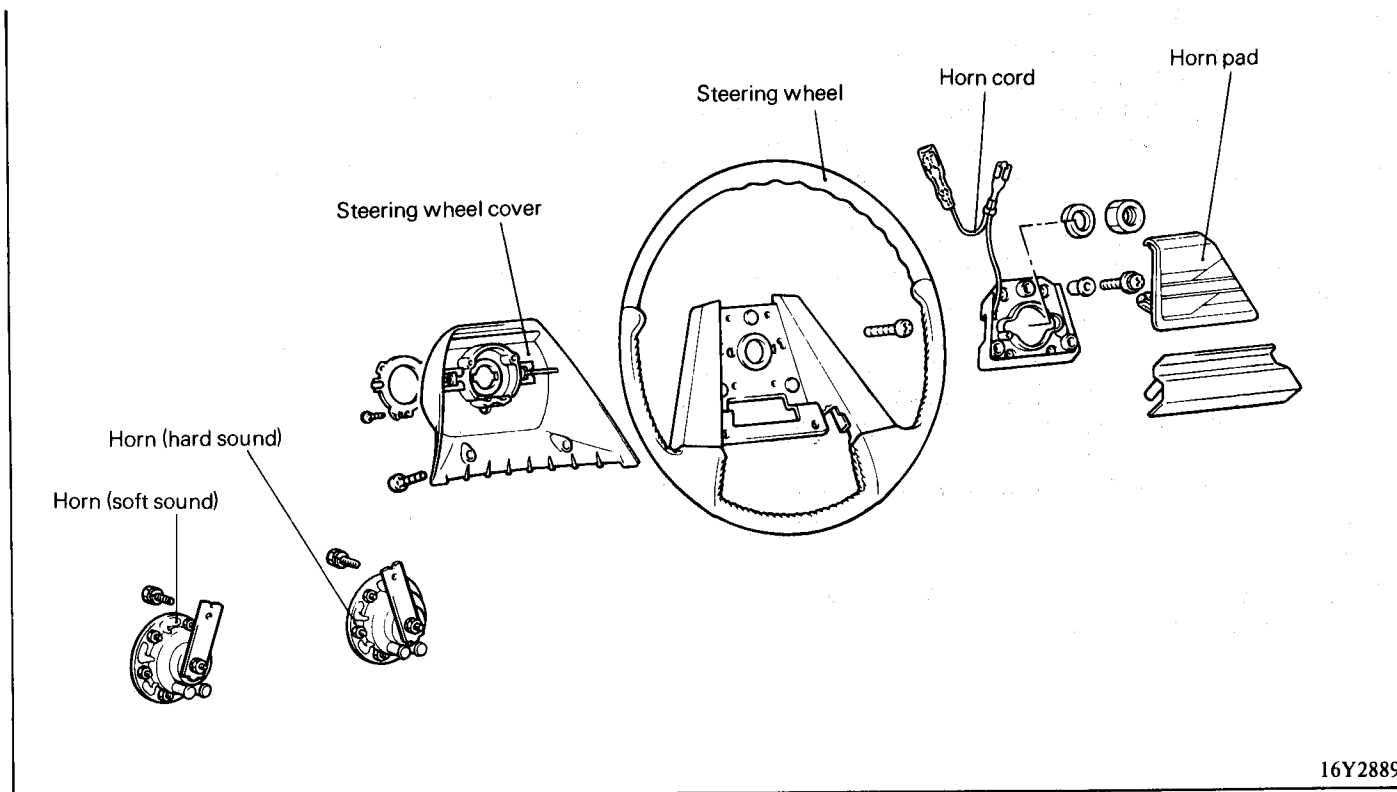
Move the switch to ON and OFF, and check the continuity between the terminals.

Terminal	1	2	3	4
Switch				
Washer			○	○
Wiper OFF	○	○		
Wiper ON		○	○	
Washer		○	○	○





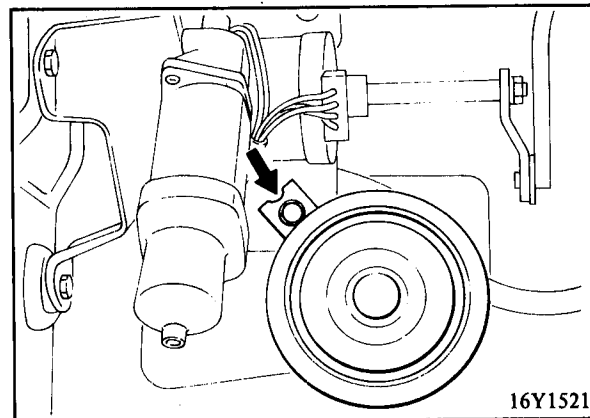
COMPONENTS



16Y2889

REMOVAL

1. Remove the headlight mud guard panel from the front bumper.
2. Disconnect the horn connectors.
3. Remove the horn attaching bolt. (16Y1521)



16Y1521

INSPECTION

1. Check for burned out or short-circuited horn switch contact.
2. Check for broken or damaged horn switch spring.
3. Check horn switch harness for damage.
4. Check horn adjustment screw for looseness.
5. Check for water, dirt or other foreign matter lodged inside the horn.



HORN ADJUSTMENT

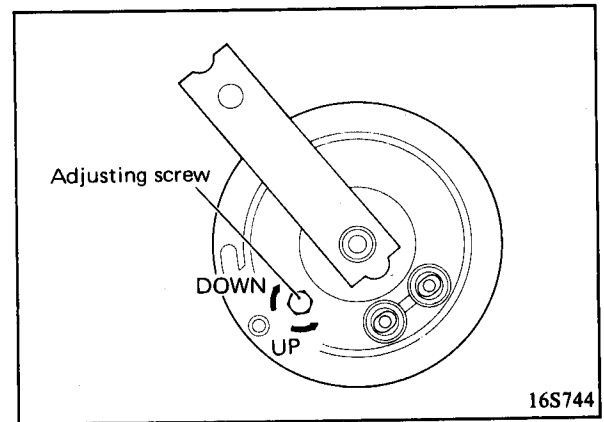
Secure the horn bracket in a vice, and then connect a battery of the specified voltage (12 volts).

Sound the horn, and adjust it by turning the adjusting screw.

1. The sound volume is too low:
Turn the adjusting screw in the “UP” direction within a range of about 180°, and then lock it in position when a satisfactory sound volume has been obtained.
2. The sound volume is too loud:
Turn the adjusting screw 20° to 30° in the “DOWN” direction, and then lock it in position when a satisfactory sound volume has been obtained.
3. Horn will not sound:
Turn the adjusting screw slightly in the “UP” direction until the horn sounds, find a satisfactory sound volume by continuing to turn the screw within a range of 180°, and then lock the screw in place.
If a satisfactory volume cannot be obtained, replace the horn.

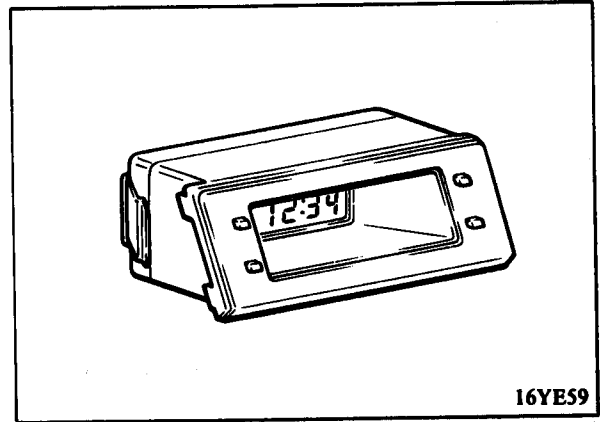
Caution

After the adjustment, apply lacquer to prevent the adjusting screw from becoming loose.





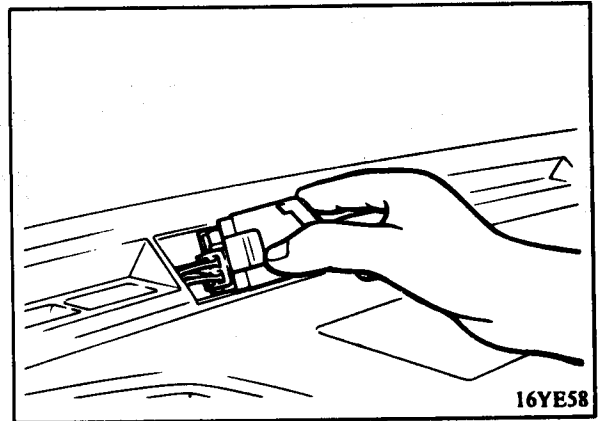
COMPONENTS



16YE59

REMOVAL

1. Remove the clock from the instrument pad.
2. Disconnect the power supply connector.



16YE58

CORRECTION OF TIME

Adjust the clock as follows:

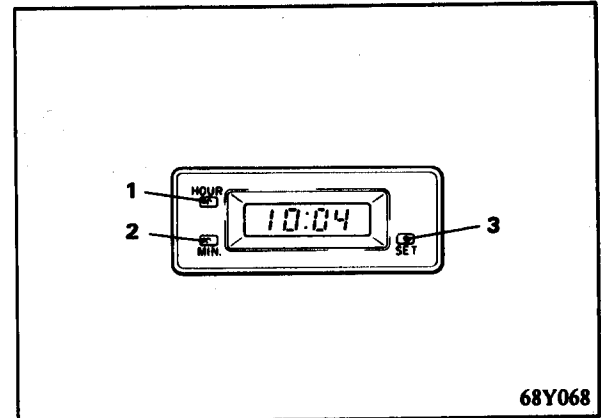
1. To adjust the hour, push button (1).
2. To adjust the minute, push button (2).

NOTE

To clear away the minute display, in order to set the correct time, push button (3).

Example of correct time

Before correction	After correction
10:01 – 10:29	10:00
10:30 – 10:59	11:00



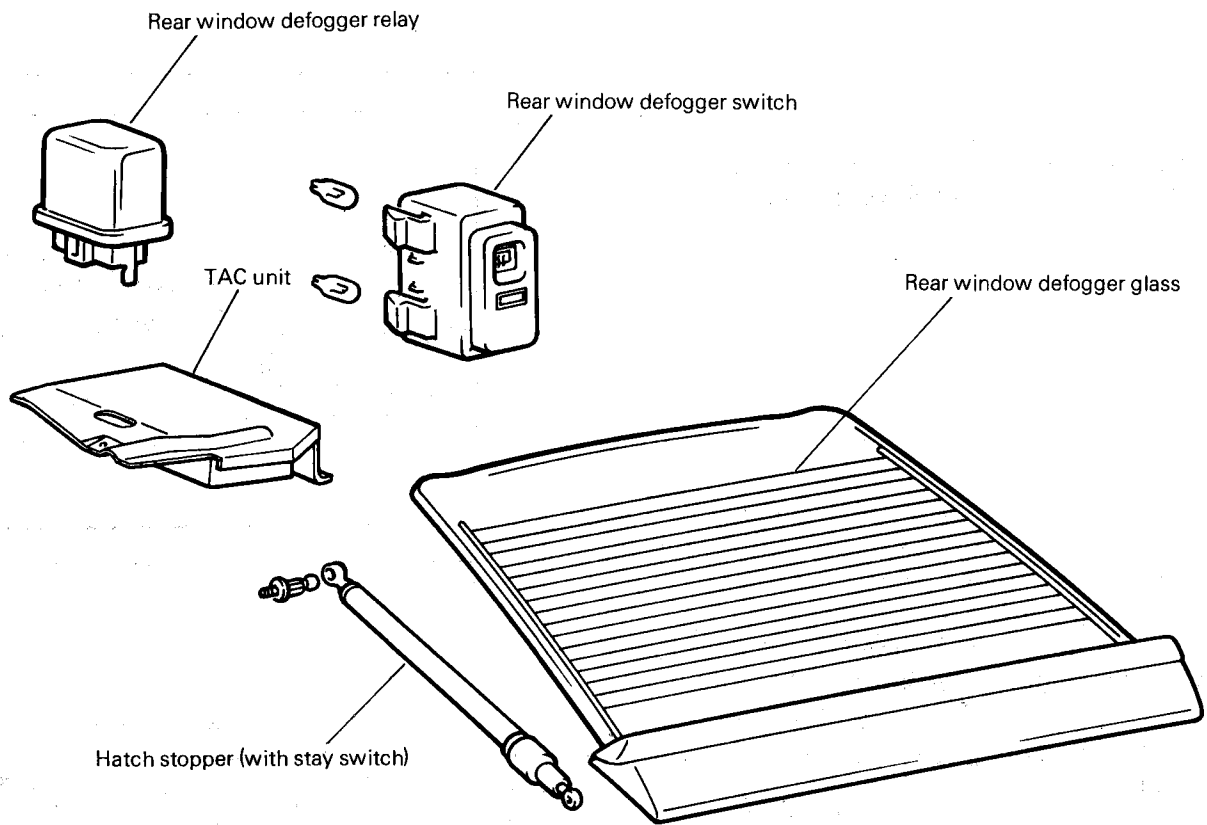
68Y068

Caution

This clock is a delicate mechanism containing a crystal oscillator, transistors, etc., and should be handled with care. Specialized technical skill is needed to repair the internal mechanism of this clock; do not attempt to disassemble it. If the clock itself is malfunctioning, replace the entire assembly. When bake-finishing a paint coat, take care not to allow the clock to be exposed to temperatures exceeding 60°C (140°F).



COMPONENTS

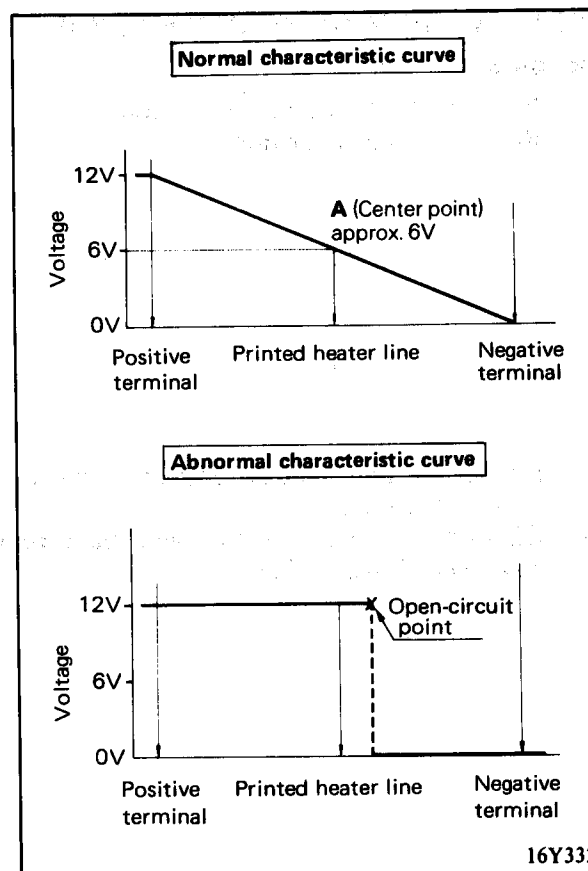




PRINTED HEATER LINES

Inspection

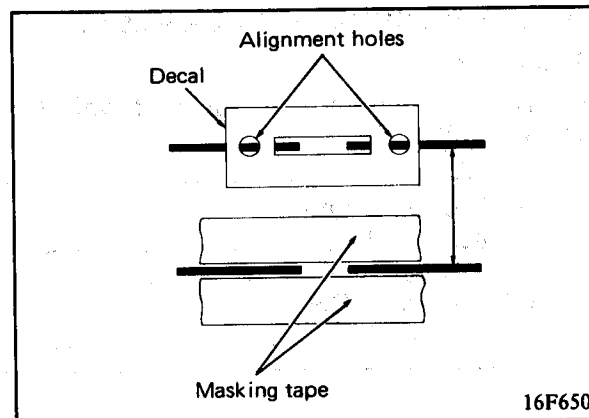
1. The printed heater lines should be tested while the engine is running at 2,000 rpm and the battery is being charged.
2. Turn the defogger switch to the "ON" position, and use a circuit tester to measure the voltage of each printed heater line at the rear window glass center point "A".
3. If all of the heater lines indicate approximately 6V, the rear window printed heater lines are functioning properly.
4. If a voltage of 12V is indicated at point "A", the wire is broken between point "A" and the negative (-) terminal. Move the test bar gradually toward the negative (-) terminal, and search for the place where there is a sudden change in the voltage (to 0V).
5. This place where the voltage suddenly changes indicates the location of the broken wire.
6. If 0V is indicated at point "A", the wire is broken between point "A" and the positive (+) terminal. Find the point where there is a sudden change in the voltage (to 12V), as described in 4. above.



Repair

1. Prepare the following items:
 - Conductive paint
 - Paint thinner
 - Masking tape, decal, etc.
 - Unleaded gasoline
 - Thin brush

Wipe the glass adjacent to the broken heater line, clean with unleaded gasoline, and bond a decal or masking tape as shown.
2. Shake the electroconductive paint container well, and remove the amount of paint needed. Dilute it with a small quantity of paint thinner, and apply three coats with the brush at intervals of about 15 minutes.
3. Remove the tape or decal and leave the repaired defogger unused for a while before supplying power.
4. For a better finish, scrape away excess deposits with a knife after drying is complete (one day later).



Caution

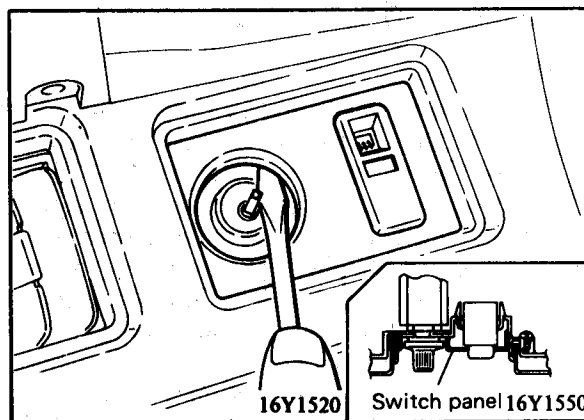
After repair, clean the glass with a soft dry cloth or wipe along the printed heater line with a slightly moistened cloth.



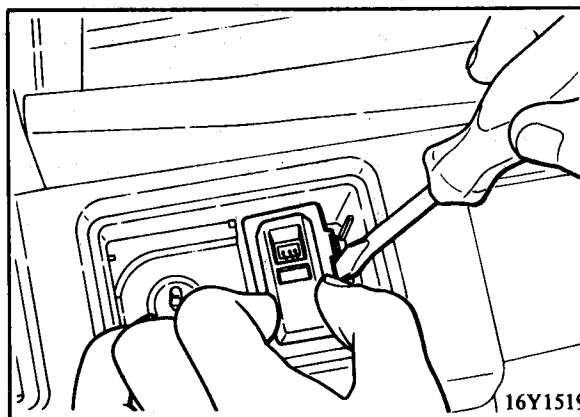
REAR WINDOW DEFOGGER SWITCH

Removal

1. Remove the dimmer control knob.
2. Remove the switch panel.



3. Detach the rear window defogger switch by pressing the tabs of the switch.
4. Disconnect the connector, and then remove the rear window defogger switch.

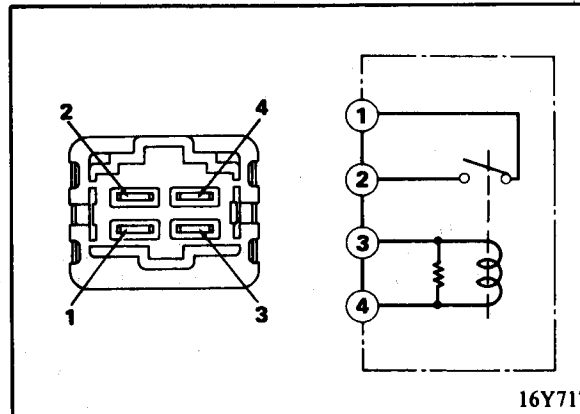


REAR WINDOW DEFOGGER RELAY

Inspection

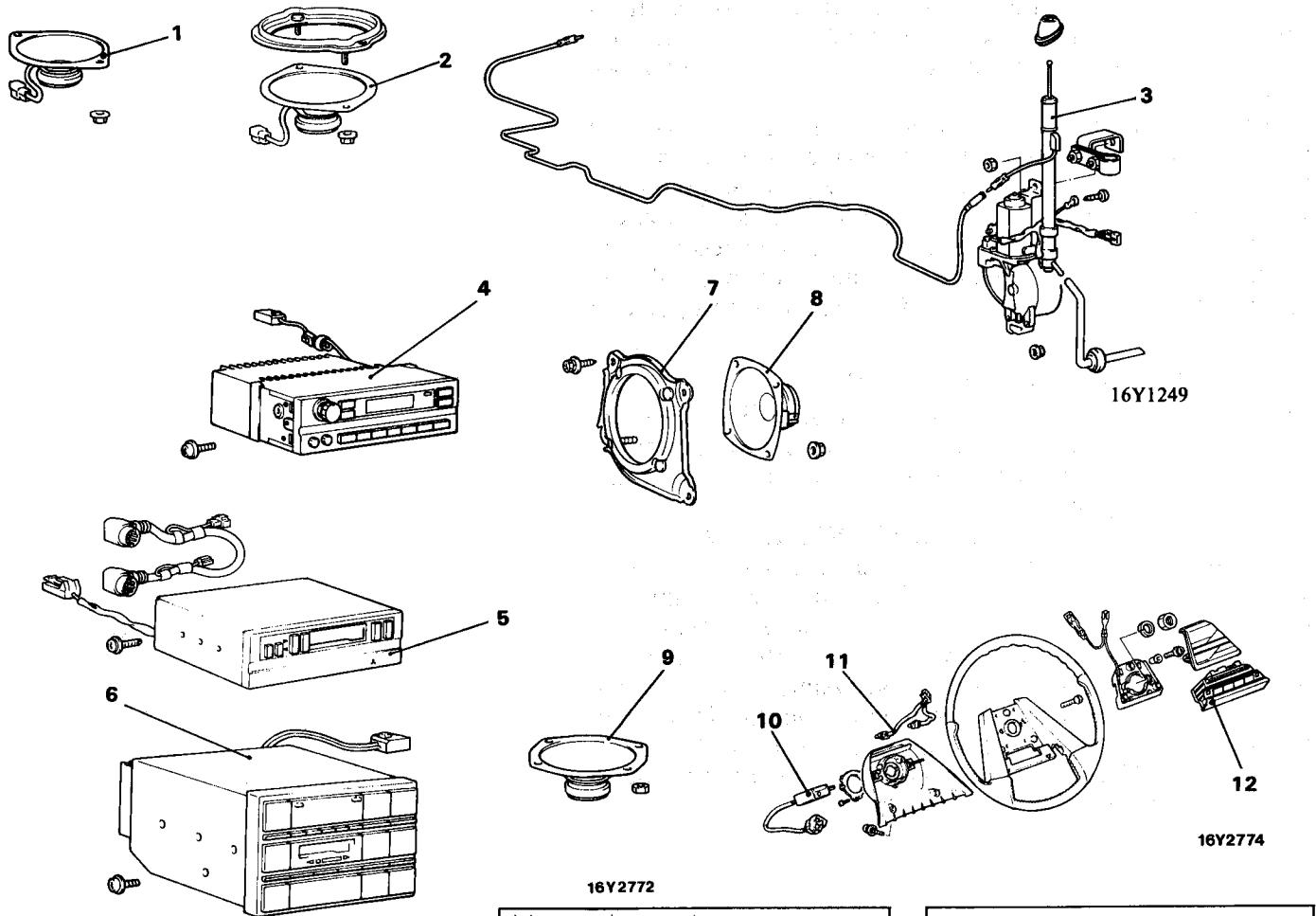
Check for continuity between the terminals with the power ON and OFF.

While power is OFF	
Between 1-2	no continuity
Between 3-4	continuity
While power is ON	
Between 1-2	continuity

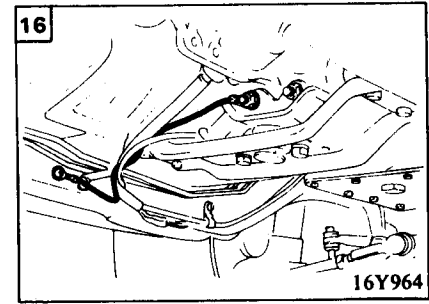
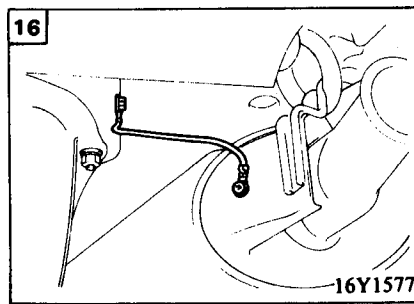
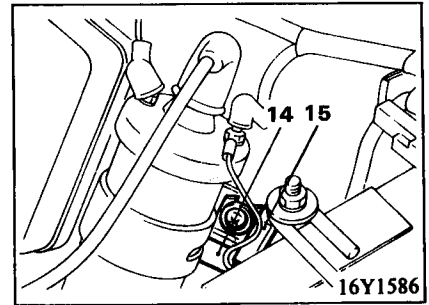
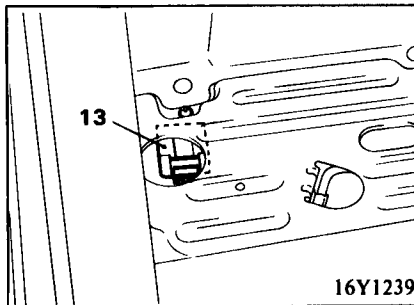




COMPONENTS



1. Front speaker (driver's side)
2. Front speaker (passenger's side)
3. Power antenna
4. AM/FM electric tuning radio
5. Tape player
6. AM/FM electric tuning radio with tape player and graphic equalizer
7. Door speaker bracket
8. Door speaker
9. Rear speaker
10. Amplifier
11. LED assembly
12. Remote control assembly
13. Antenna relay
14. Noise suppression filter
15. Noise suppression capacitor
16. Noise suppression ground cable





RADIO AND TAPE PLAYER

PLL (Phase Locked Loop) Synthesizer Type Electronic Tuning System

The system is a digital tuning system with a built-in electrical control unit and realizes extremely stable and high accuracy tuning by use of a quartz crystal oscillator for the reference frequency.

The PLL synthesizer is controlled by the electronic control unit so that when the manual tuning control or up-scan button is operated, the whole band will be automatically scanned within 7 seconds. When a broadcast station is encountered, the scan operation stops there, and reception of the station begins. If no broadcast station is encountered after the whole band has been scanned twice, the scan operation automatically stops.

Stereo Automatic Reception Control System

The tuner was formerly equipped with an SRC (Stereo Reception Control) system, which automatically controlled the reception to either stereo or monaural, in accordance with the strength of the signal.

However, it is now equipped with a NEW-SRC system which also eliminates multi-pass noise interference. This NEW-SRC system detects the multi-pass noise component in the FM signal, and then, in accordance with the level of that noise interference, controls the reception to either stereo or monaural. If the noise level subsequently increases, the system will continuously cut the high frequencies in order to reduce the amount of static that results from the noise interference. Noise that occurs from insufficient signal strength is reduced in the same way.



Multi-pass Noise (16K003)

Because FM signals are both very high frequency and very directional, the signals bouncing off mountains, buildings, etc., interfere with those received from the broadcasting point, and thus become noise interference.

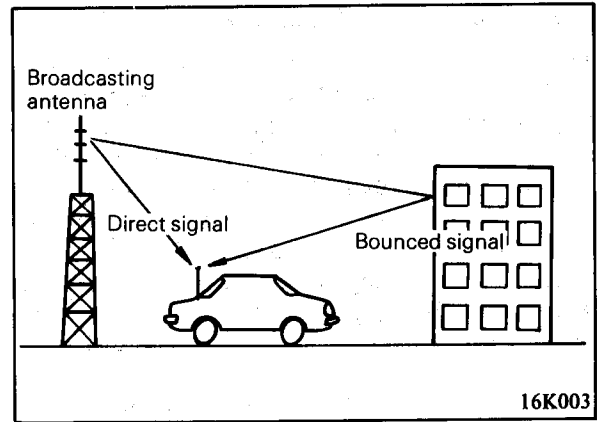
Dolby* Noise Reduction (NR Button)

The Dolby noise reduction circuitry reduces tape hiss. Press the NR button to activate the circuitry when playing dolby encoded tapes.

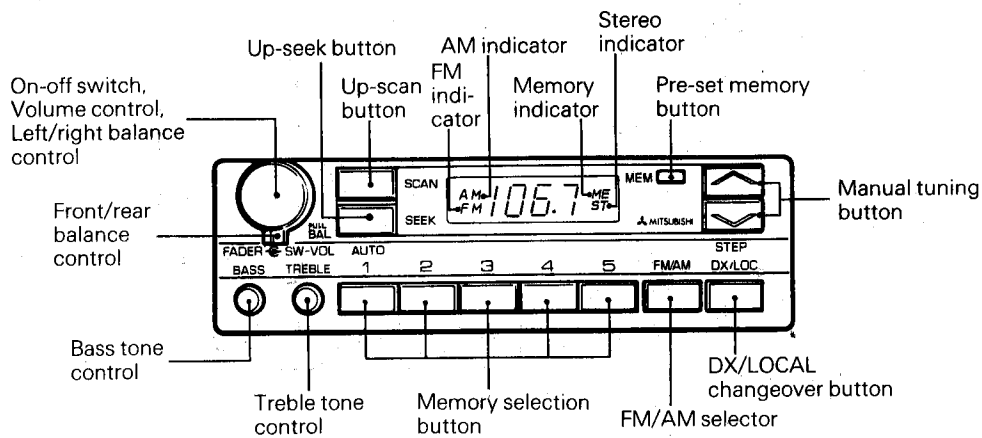
An NR will appear in the display window while the Dolby system is activated. Pressing the NR button a second time will turn off the Dolby system.

*** NOTE**

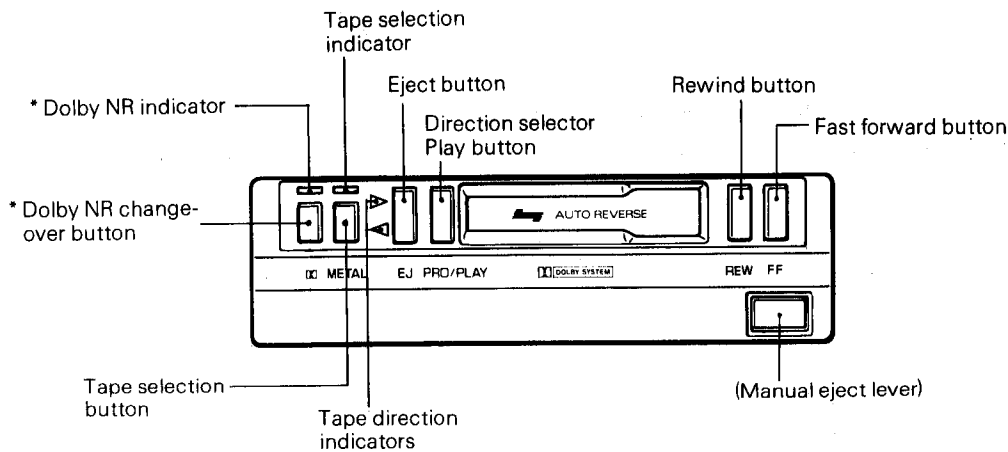
Dolby is a trademark of Dolby Laboratories. The noise reduction circuit is made under license from Dolby Laboratories.



AM/FM, MPX Electric Tuning Radio and Tape Player



70R0115



*** NOTE**

Dolby is a trademark of Dolby Laboratories. The noise reduction circuit is made under license from Dolby Laboratories.

70K601



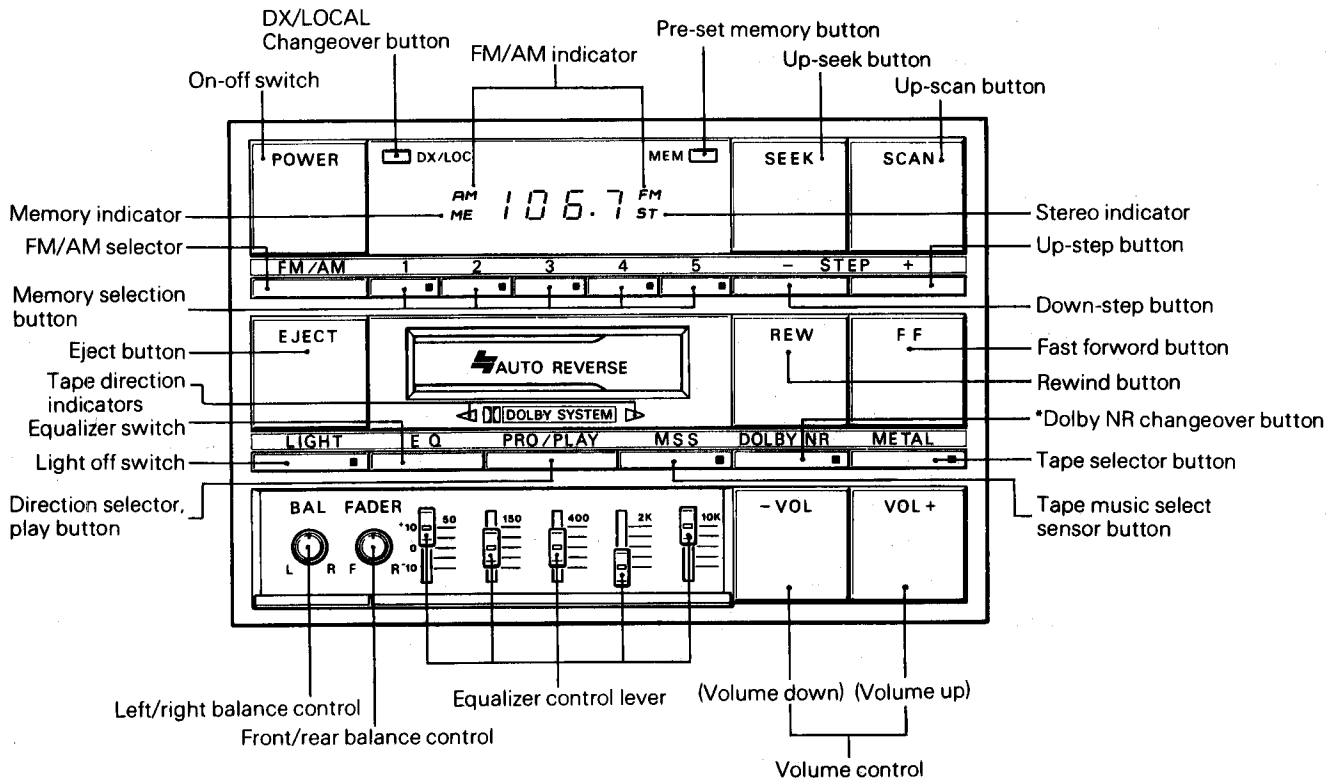
5-Element Graphic Equalizer

When the equalizer switch is turned ON, five frequency band equalizer adjusting levers are activated for independently setting the output level of respective frequency bands.

When the equalizer switch is turned OFF, the standard sound level is restored regardless of the adjusting lever positions.

The five up-down movable equalizer adjusting levers are used to increase or decrease the output of specific frequency bands for obtaining a desired sound level. Moving up the lever raises the output level of respective frequency band and moving it down lowers its output level.

AM/FM, MPX Electric Tuning Radio with Tape Player



*NOTE
 Dolby is a trademark of Dolby Laboratories.
 The noise reduction circuit is made under license from Dolby Laboratories.

70Y501



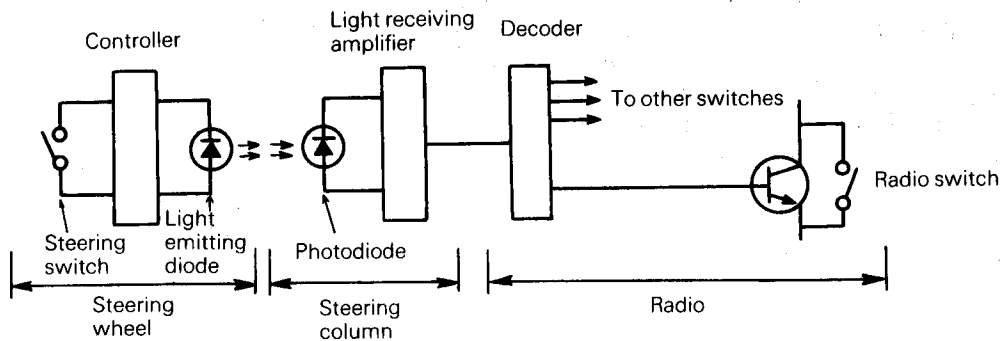
RADIO REMOTE CONTROL

Description

The radio switches used very frequently are located near the center of steering wheel to operate the radio by remote control.

The radio switches turn together with the steering wheel. Therefore, optical communication by infrared rays is used between steering wheel and column not to interfere with steering wheel operation.

Construction and Operation



16Y2547

1. Push any steering switch, and the controller will give corresponding electric signal.

Reference

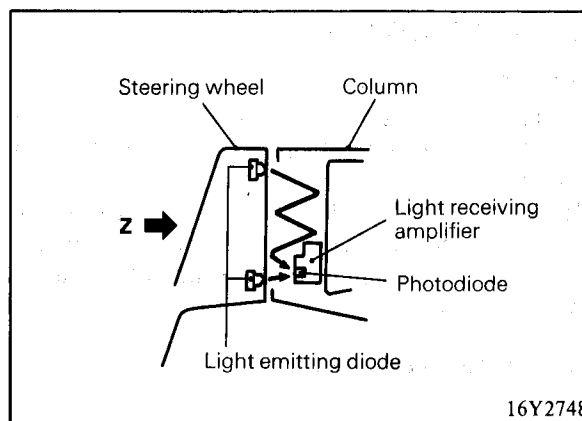
The electric signal used for remote control of radio is called pulse coordinate modulation code. The codes correspond to the respective switch keys as follows:

Keyed input (Instruction)	Pulse Coordinate Modulation Code							
	K ₀	K ₁	K ₂	D ₀	D ₁	D ₂	D ₃	D ₄
Power ON/OFF	0	0	0	0	0	1	0	0
FM/AM	0	0	0	1	1	0	0	0
SEEK	0	0	0	1	0	0	0	0
SCAN	0	0	0	0	1	0	0	0
VOL +	0	0	0	0	0	0	1	0
VOL -	0	0	0	1	0	0	1	0

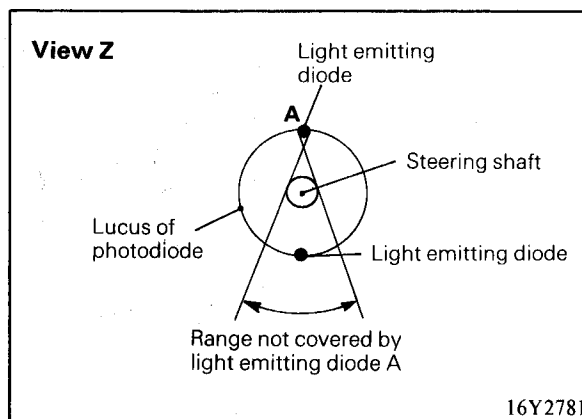
2. The infrared light emitting diode goes on and off according to the electric signal.



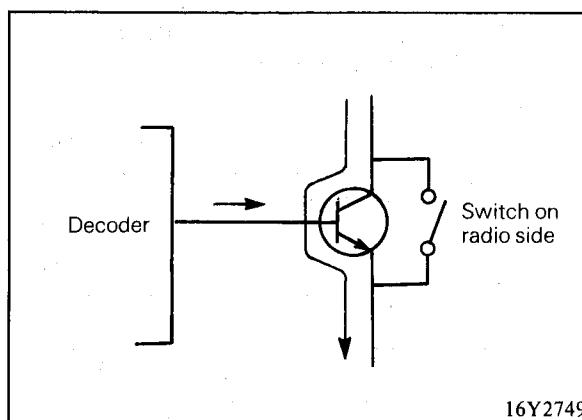
- Infrared rays travel between steering wheel and column directly in straight lines or by reflection until they reach the photodiode on the steering column.



For your information, two light emitting diodes are installed 180° apart from each other so that infrared rays may reach every spot on the circumference of the column. In this design, the shadow cast by the steering shaft when one light emitting diode goes on will be covered by the other light emitting diode.

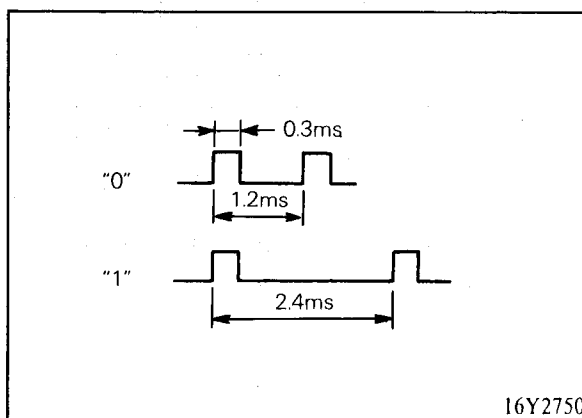


- Received optical signal is converted to electric signal by the light receiving amplifier and this electric signal is then amplified and demodulated.
- The amplified and demodulated electric signal is decoded by the decoder to turn on the corresponding electronic switch (transistor).



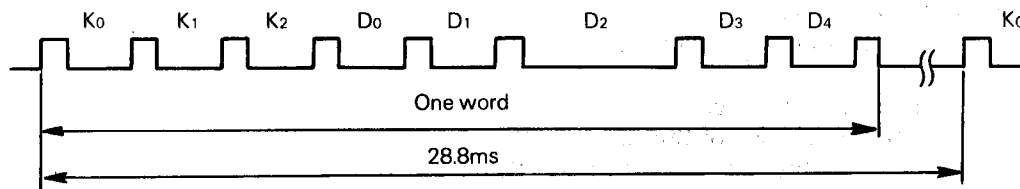
NOTE

- Pulse spacing of 1.2ms is used for code "0", while that of "1" is 2.4ms.
- One word for transfer instruction is made up of 8 bits. While keying, it is transmitted on a 28.8 ms cycle.
- K₀ through K₂ are codes for discriminating the remote control of VTR, TV and air conditioner, from that of audio equipment in order to avoid malfunction caused by other remote control.





[Example] Power ON/OFF



16Y2751

Steering Remote Control Assembly

REMOVAL

1. Remove the steering wheel.
2. Remove the contact plate.
3. Remove the lower cover.
4. Remove the light emitting diodes from the lower cover and remove the remote control assembly.

Caution

1. Install the light emitting diodes to the lower cover positively.
2. Make sure that the light emitting diodes are not contaminated.

Light Receiving Amplifier

REMOVAL

1. Remove the steering wheel.
2. Remove the amplifier from the column and disconnect the connector.

Caution

Make sure that the photodiode is not contaminated.



NOISE SUPPRESSION

Noise interfering with radio reception may be roughly classified as follows:

- (1) Noise produced by the vehicle itself
Noise from the ignition circuit, alternator circuit, etc.
- (2) Noise generated in the radio itself
Thermal noise from transistors, IC, resistor, etc.
- (3) Atmospheric noise
Noise from other cars, neon signs, etc.

The radio has devices to suppress noise of the radio itself and atmospheric noise, but it is difficult to eliminate them completely. Noise produced by the vehicle includes whining from the alternator system, and a strong, impulsive, fast popping noise from the ignition system.

Prevention of Ignition Circuit Noise

A resistance-equipped cable is used for the high-tension cable in order to prevent noise; however, if any noise from the ignition circuit does occur, check the tightness and ground connection of the terminal of the noise suppression capacitor, and, if necessary, check the noise suppression capacitor.

Caution

Be careful not to connect the noise filter to the high-tension cable; doing so could damage the noise filter.

Prevention of Other Circuit Noise

For other noises, take necessary corrective actions in accordance with the following items and the NOISE SUPPRESSION CHART.

Polish the grounding cable terminal, and connect it properly.

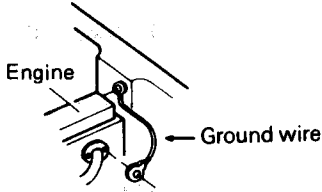
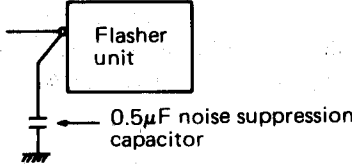
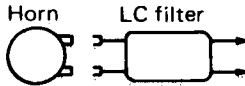
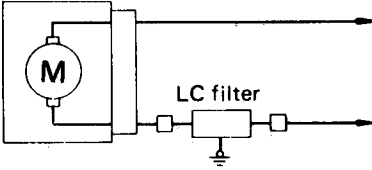
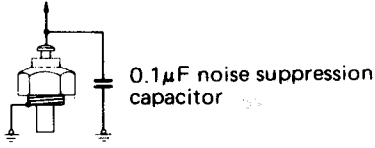
Polish the power antenna ground terminal, and connect it properly.

Ground electric parts completely.

Keep the antenna cable and speaker lead wire away from other electric wiring.



NOISE SUPPRESSION CHART

Symptom	Noise source	Remedy
Unusual noise related to engine speed.	Engine	Securely ground the engine, frame and/or body and engine hood. 
“Clatter” noise related to the flashing of turn signal lights.	Turn signals	Connect a 0.5 μ F noise-suppression capacitor to the B-terminal of the flasher unit. 
Abnormal noise when the horn is operated.	Horn	1. Connect a 0.5 μ F noise-suppression capacitor to the + B-terminal of the horn. 2. For an FM radio, connect an LC filter to the horn terminals. 
Noise when the windshield washer operates.	Washer motor	Connect an LC filter between the terminal of the washer motor and the power source wire. 
Unusual noise when the engine is started.	Water temperature gauge unit	Connect a 0.1 μ F noise-suppression capacitor to the terminal of the water temperature gauge unit. 

16E710

16E712

16E713

16F671

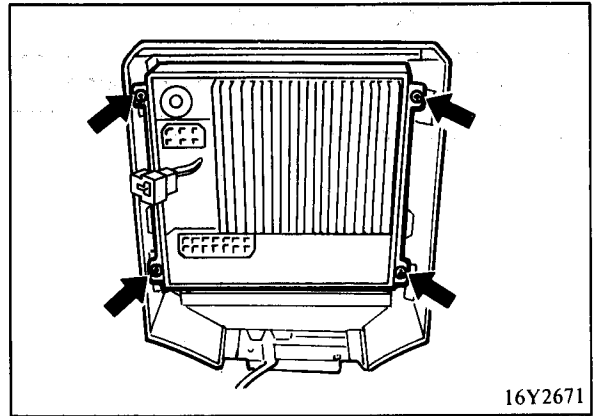
16F672



RADIO AND TAPE PLAYER

Removal

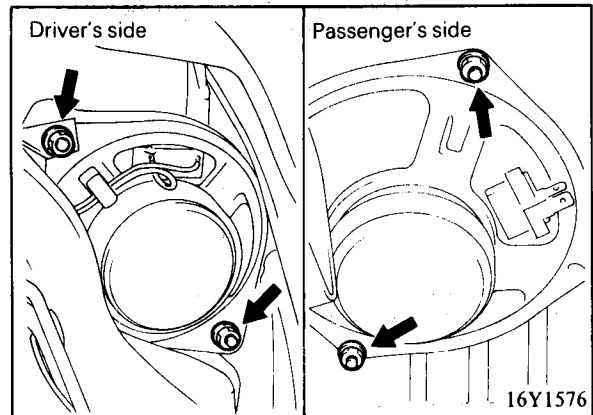
1. Remove the front console box. (Refer to GROUP 23.)
2. Remove the radio panel.
3. Remove the the radio with tape player as mounted to the bracket.
4. Remove the radio with tape player from the bracket.



FRONT SPEAKER

Removal

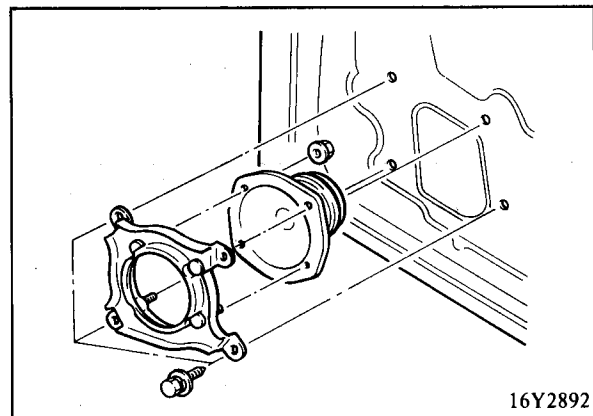
1. Remove the instrument pad. (Refer to GROUP 23.)
2. Remove the speaker attaching nuts. (16Y1576)
3. Remove the speaker, and disconnect the speaker wiring connector.



DOOR SPEAKER

Removal

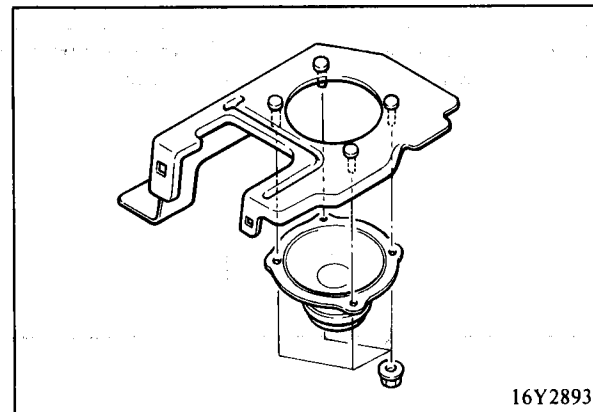
1. Remove the door trim. (Refer to GROUP 23.)
2. Remove the door speaker bracket and remove the speaker. (16Y2892)



REAR SPEAKER

Removal

1. Remove the rear side trim. (Refer to GROUP 23.)
2. Remove the speakers from the rear shelf bracket. (16Y2893)





POWER ANTENNA

The power antenna extends or retracts the antenna mast as follows:

Ignition key position	Radio switch	Tape player	Antenna mast
ACC or ON	OFF → ON	OFF	Extended
	ON → OFF	OFF	Retracted
	OFF	ON	Remains retracted
LOCK	ON	—	Retracted

— : No operations required

NOTE

Before operating the radio, make sure that there is no person near the antenna.

Removal

1. Remove the trunk room side trim and high floor side panel. (Refer to GROUP 23.)

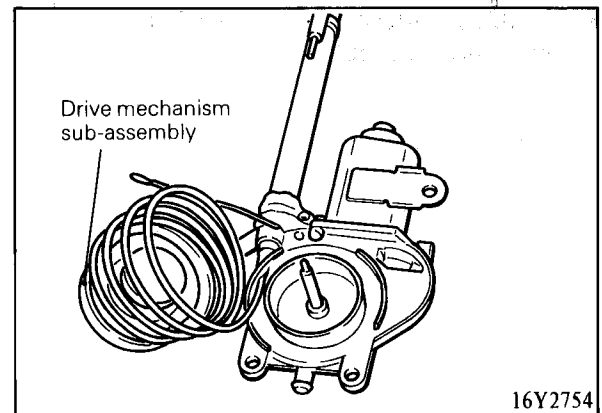
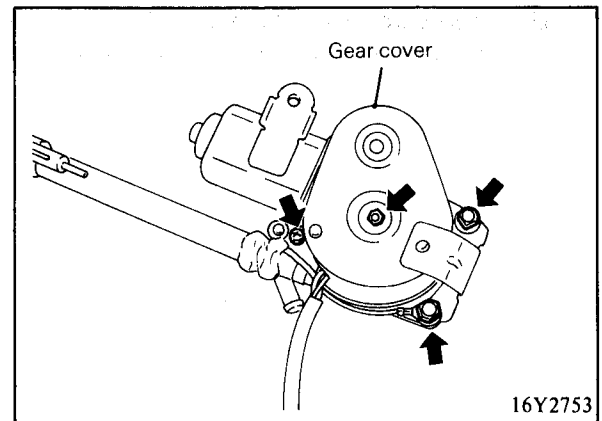
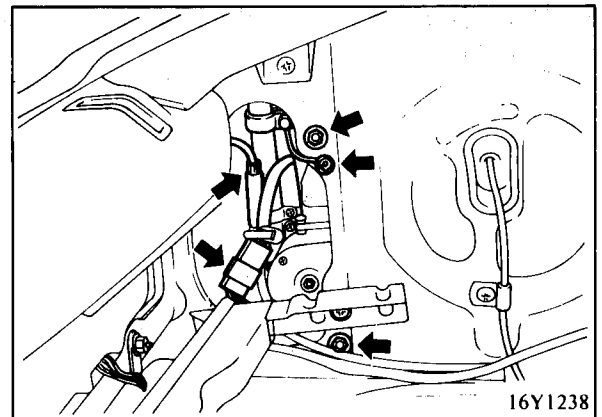
NOTE

Make sure that the antenna mast is retracted before this operation. Disconnect the antenna relay before removing the high floor side panel.

2. Disconnect the harness connector, ground wire, antenna lead-in wire, and drain hose.
3. Remove the antenna assembly mounting nuts and take out the antenna assembly from the trunk room side.

Pole Assembly with Cable Replacement

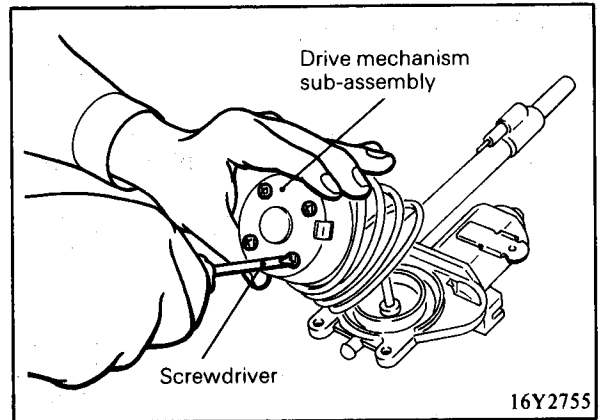
1. Remove the gear cover.
2. Pull out the drive mechanism sub-assembly from the inside of the gear housing.



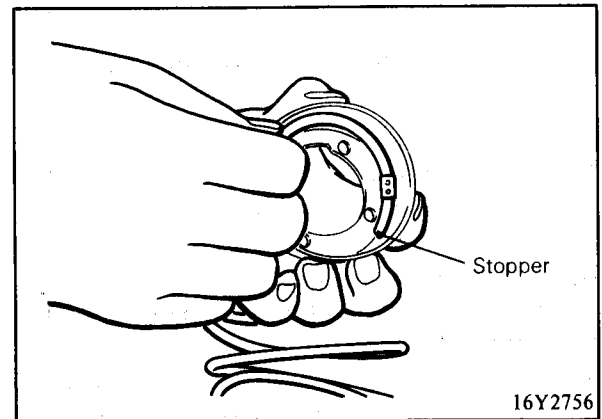


COMPONENT SERVICE — RADIO AND STEREO

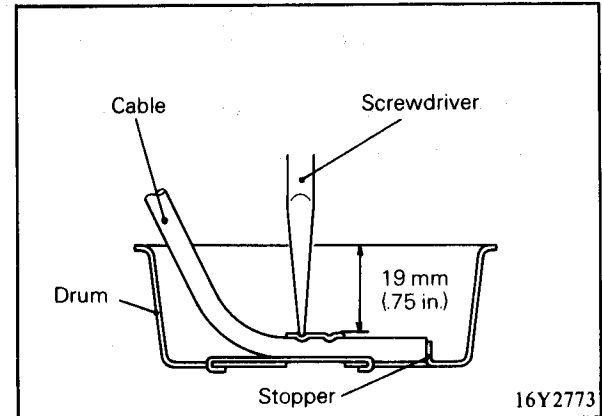
3. Remove the drum from the drive mechanism sub-assembly.
4. Cut the cable and remove the drum and the rod sub-assembly.



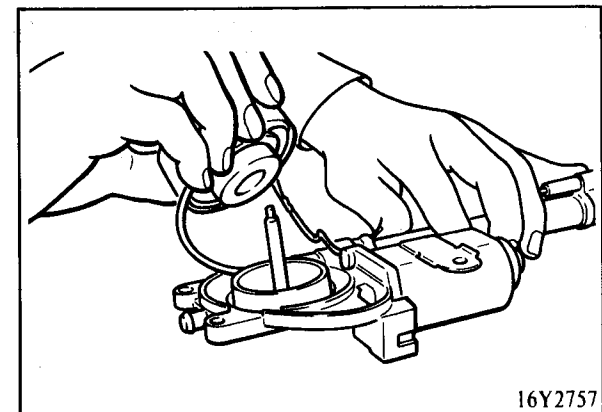
5. Pass new cable through the gear housing before it is put in the drum.



6. Use a screwdriver to stake the cable at two positions.
7. Install the drum to the drive mechanism sub-assembly.



8. With the antenna fully extended, install the drive mechanism sub-assembly.

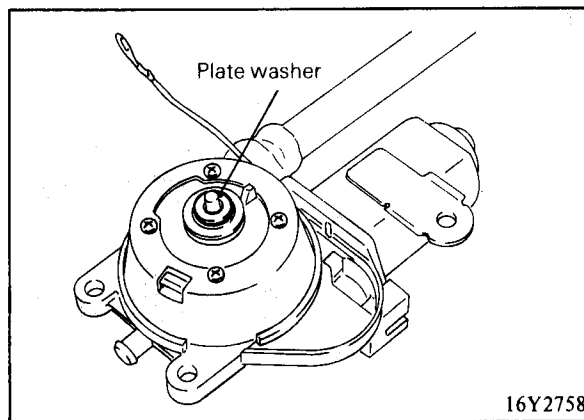




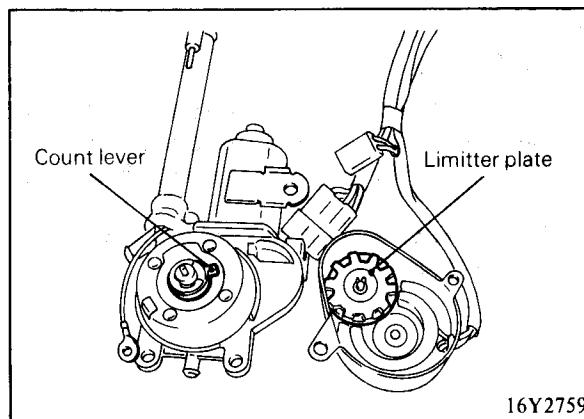
9. Install two plate washers on the drive mechanism sub-assembly.

NOTE

Make sure that the washers are not bound to the shaft.



10. Locate the projection of count lever so that it may engage with the recess in the limiter plate on the gear cover side. Then, install the count lever. Check for operation before installation to the vehicle.

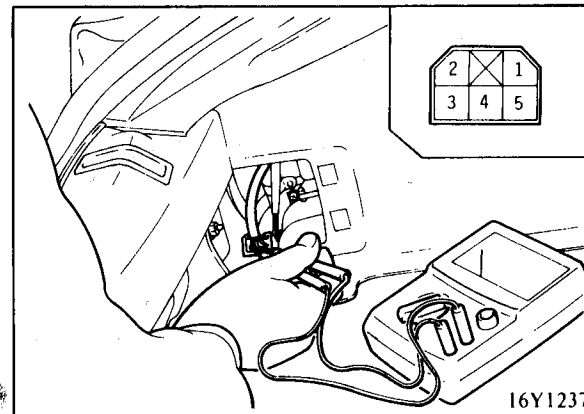


Inspection

Following inspections should be made with the harness connector connected.

1. With the (+) power connected to the terminal (1) and the (-) power to the terminal (2), check that the antenna mast extends. With the connection reversed, check that the antenna mast retracts.
2. Under the following antenna mast conditions, check continuity between terminals.

Antenna mast position \ Terminal	3	4	5
Fully extended		○ — ○	○ — ○
Fully retracted	○ — ○		
During extension/retraction	○ — ○	○ — ○	○ — ○

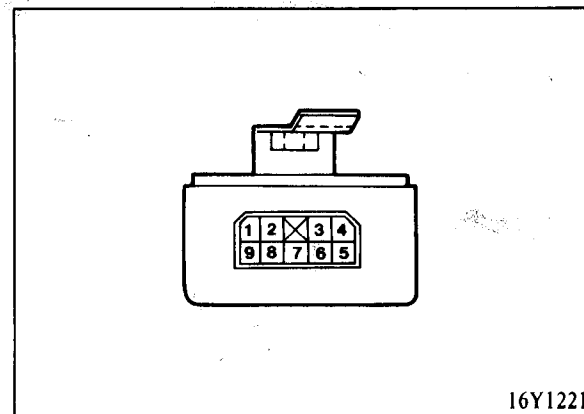


ANTENNA RELAY

Inspection

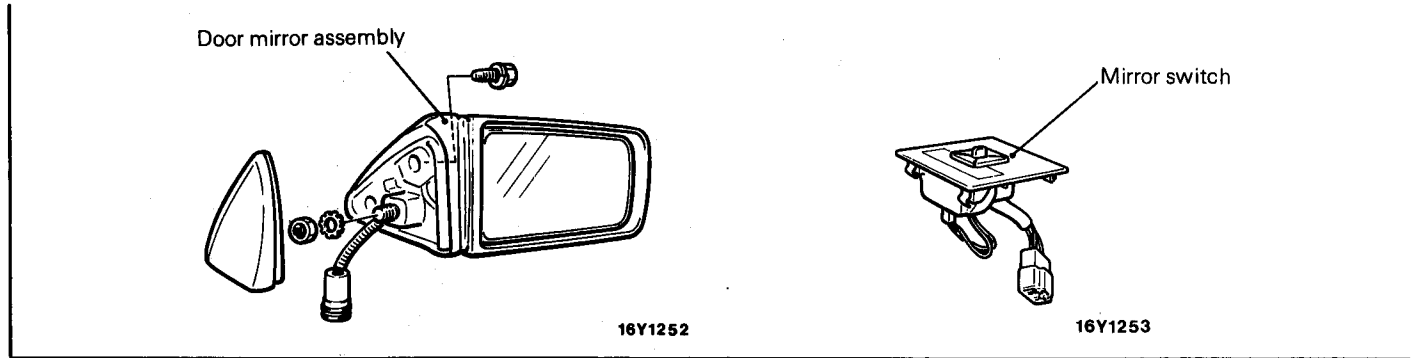
With the harness connector connected and the antenna mast extending/retracting, check the antenna relay voltage.

Antenna mast extending	
Terminal (1)	-1 to +1V
Terminal (4)	10 to 13V
Antenna mast retracting	
Terminal (1)	10 to 13V
Terminal (4)	-1 to +1V





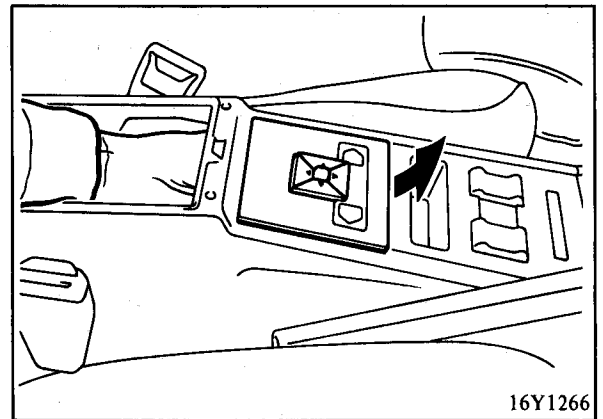
COMPONENTS



REMOVAL

Mirror Switch

1. Remove the inner box from the rear console box.
2. Lift the front portion of mirror switch assembly and remove the mirror switch assembly from the rear console box. (16Y1266)
3. Disconnect the harness connector and remove the mirror switch assembly.





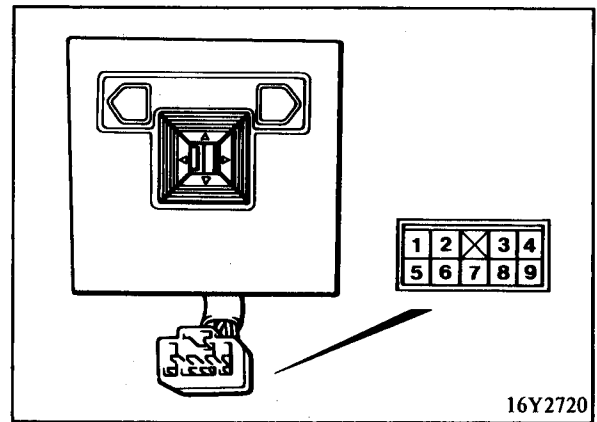
INSPECTION

Mirror Switch

Operate the switch and check for continuity between the various terminals.

Terminal Direction	L.H. switch					R.H. switch				
	4	8	3	7	6	4	2	9	7	6
Up	○—○			○—○		○—○			○—○	
Down	○—○	○—○		○—○		○—○	○—○		○—○	○—○
Left	○—○		○—○	○—○		○—○		○—○	○—○	
Right	○—○		○—○	○—○		○—○		○—○	○—○	

Terminals No. 1 and No. 5 are the terminals for illumination light.



16Y2720

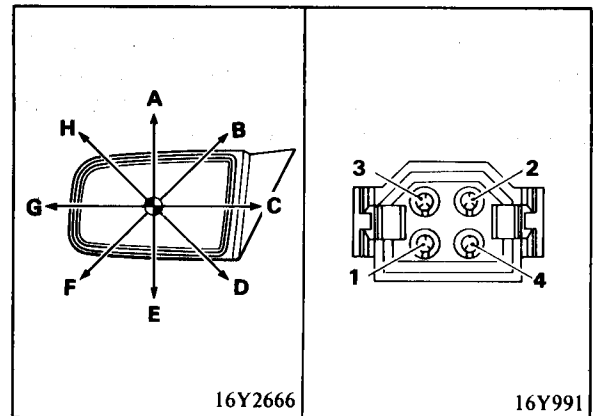
Door Mirror Assembly

Apply battery voltage to each terminal as shown in the table and confirm that the mirror makes corresponding operation.

Terminal Direction	*B	**E	1	2	3	4
A	○—○	○—○	○—○			○—○
B	○—○	○—○	○—○	○—○	○—○	○—○
C	○—○	○—○	○—○	○—○	○—○	
D	○—○	○—○	○—○	○—○	○—○	○—○
E	○—○	○—○	○—○			○—○
F	○—○	○—○	○—○	○—○	○—○	○—○
G	○—○	○—○	○—○	○—○	○—○	
H	○—○	○—○	○—○	○—○	○—○	○—○

* Battery (Electrical source)

** E (Ground)

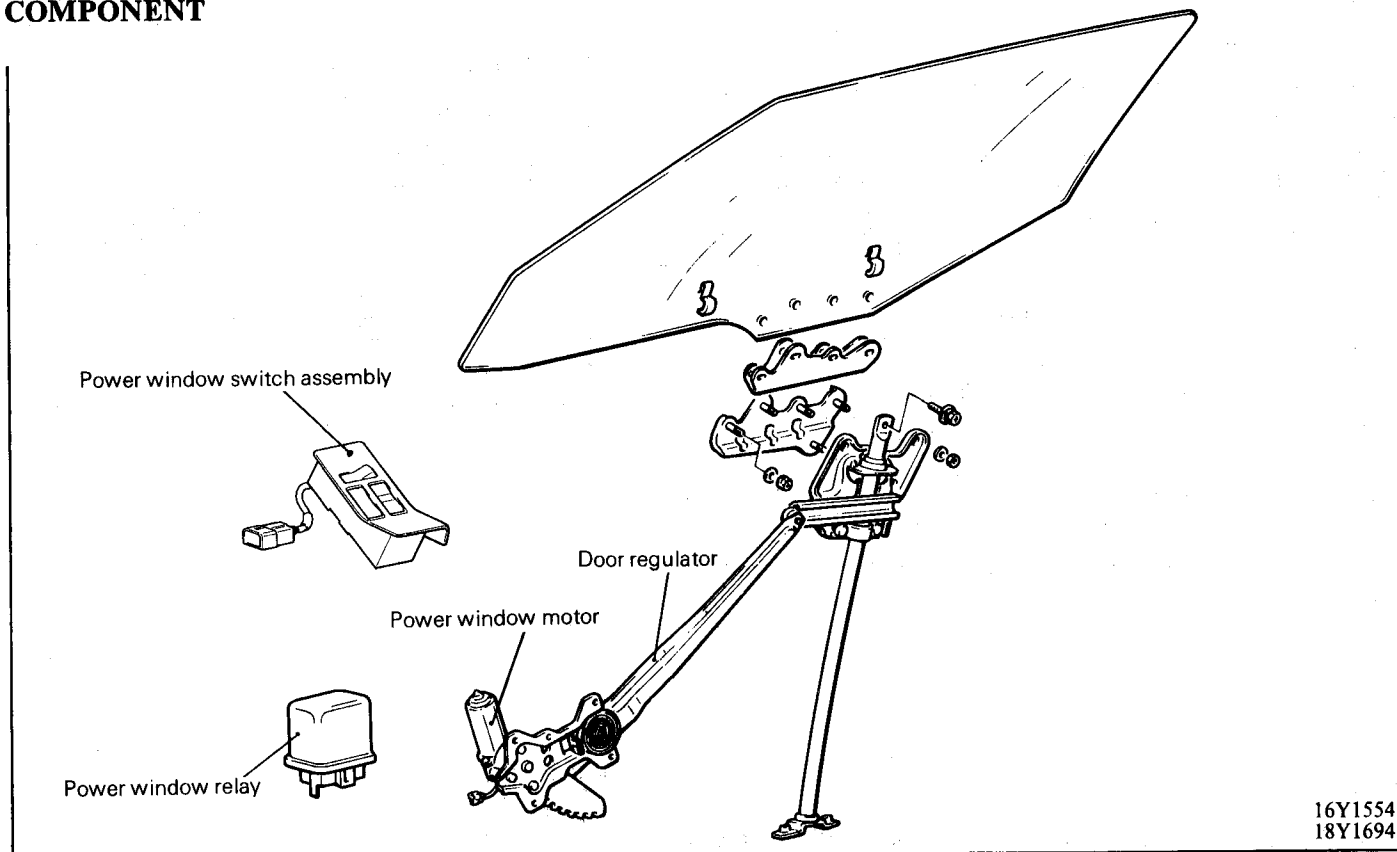


16Y2666

16Y991



COMPONENT



NOTE

For information regarding adjustments, removal, inspection, and installation, or installation procedures other than those contained in this section on the Power Window Regulator System, refer to the section in GROUP 23 on the Front Doors.

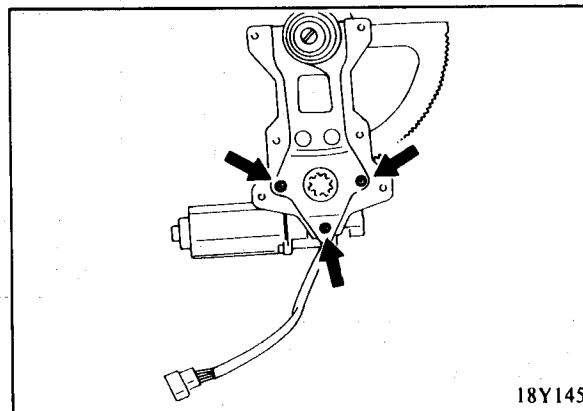
POWER WINDOW MOTOR

Removal

1. Detach the regulator assembly. (Refer to GROUP 23.)
2. Disconnect the power window motor from the regulator assembly. (18Y145)

Caution

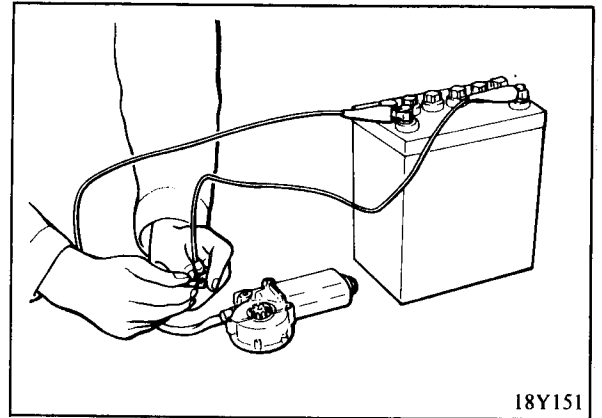
When loosening the connecting screws of the regulator and the motor assembly, the compressed force of the regulator spring may cause the regulator arm to spring up.





Inspection

Connect the motor terminals directly to the battery and check that the motor operates smoothly.
Next, reverse the polarity and check that the motor operates smoothly in the reverse direction.



18Y151

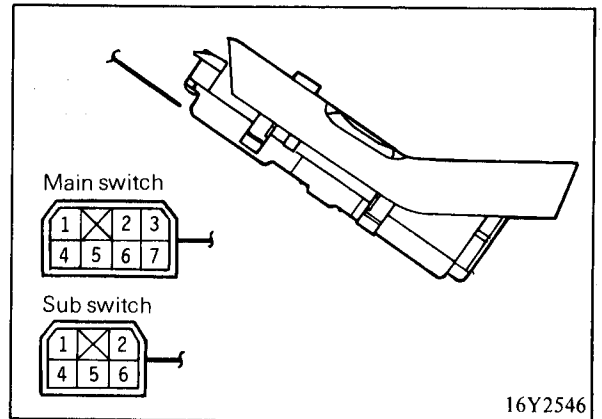
POWER WINDOW SWITCH

Inspection

Operate the switch, and check for continuity between the terminals.

MAIN SWITCH

Terminal Switch	Lock switch		Terminal Switch	Driver's window switch				Passenger's window switch			
	2	5		2	1	4	6	2	3	7	6
NORMAL	○	○	UP	○	○	○	○	○	○	○	○
			OFF	○	○	○	○	○	○	○	○
			DOWN	○	○	○	○	○	○	○	○
LOCK			UP	○	○	○	○	○	○	○	○
			OFF	○	○	○	○	○	○	○	○
			DOWN	○	○	○	○	○	○	○	○



16Y2546

SUB SWITCH

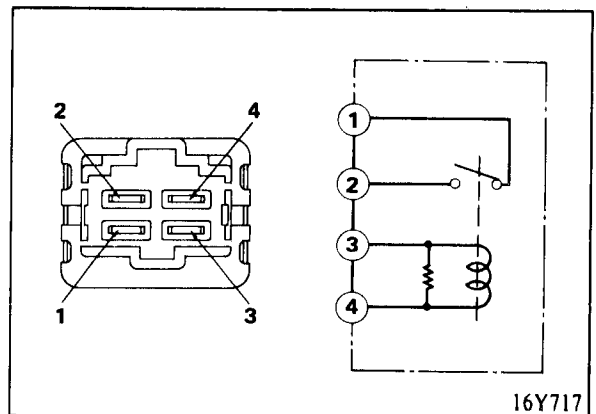
Terminal Switch	1	2	4	5	6
UP	○		○	○	○
OFF	○	○	○		○
DOWN	○	○	○	○	

POWER WINDOW RELAY

Inspection

Check for continuity between the terminals with the power ON and OFF.

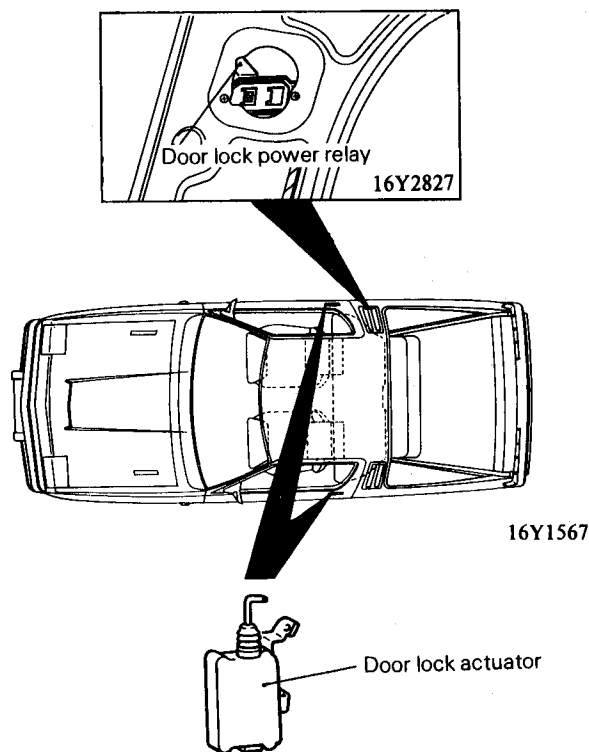
-
- While power is OFF
 - Between terminals 1–2 no continuity
 - Between terminals 3–4 continuity
 - While power is ON
 - Between terminals 1–2 continuity
-



16Y717



COMPONENTS



16Y2665

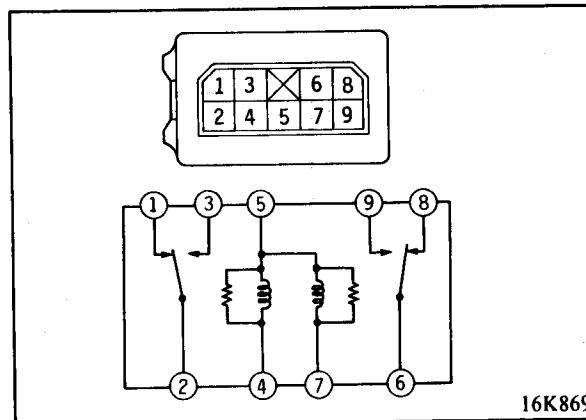
DOOR LOCK POWER RELAY

Inspection

When there is continuity between terminals (1) and (2) and between (6) and (8), and when the battery is connected between terminals (4) and (5), continuity should exist between terminals (2) and (3); when it is connected between terminals (5) and (7), continuity should exist between terminals (6) and (9).

Caution

The battery voltage should not be applied for longer than one minute.





DOOR LOCK ACTUATOR

Removal

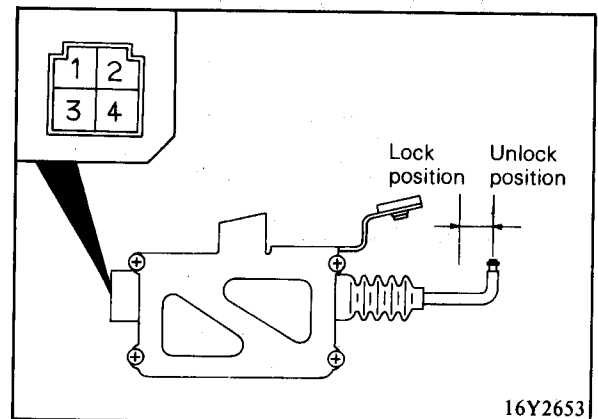
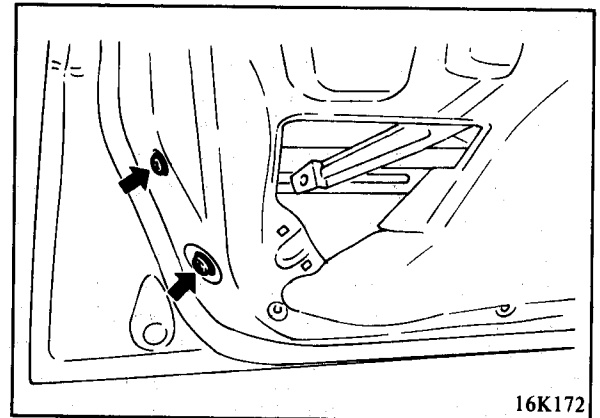
1. Remove the door trim, waterproof film, etc. (Refer to GROUP 23.)
2. Disconnect the door latch and the end of the actuator push rod.
3. Remove the actuator mounting screws, disconnect the actuator connector, and then remove the actuator. (16K172)

Installation

When reinstalling the actuator, replace the resin rod snap used in the connection of the door latch and the actuator push rod with a new rod snap.

Inspection

1. The actuator switch circuit is functioning properly if continuity exists between actuator connector terminals (2) and (4) while the actuator plunger is out (while the door lock actuator switch is OFF), and ceases to exist when the plunger goes in (when the door lock actuator switch becomes ON).
2. The motor circuit is functioning properly if continuity always exists between actuator connector terminals (1) and (3) (whether the actuator is in or out).



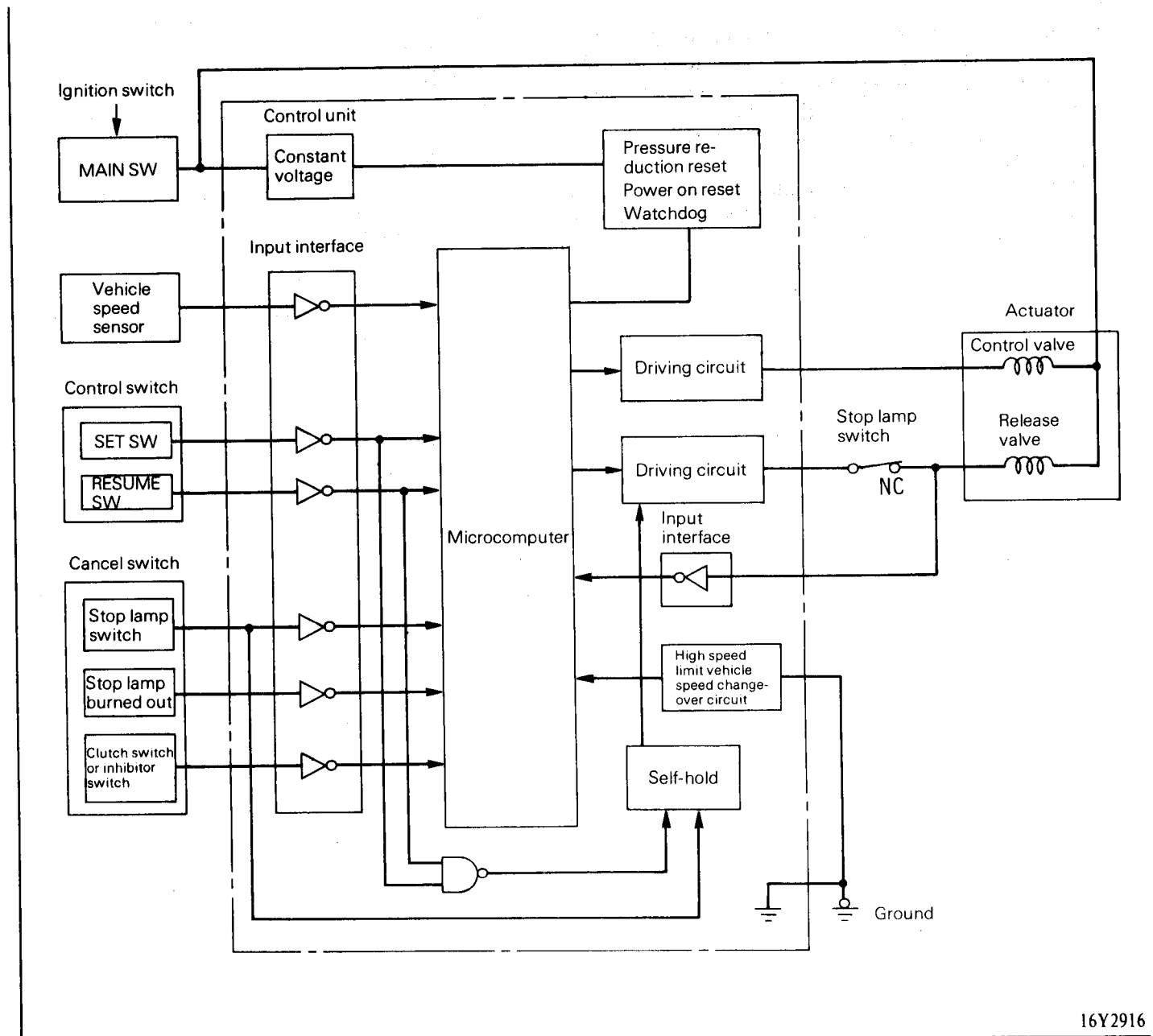


COMPONENT SERVICE — SPEED CONTROL SYSTEM

GENERAL

The speed control system consists of a speed control unit, speed control switch, actuator, speed sensor, etc. The system detects the operating vehicle speed according to the reed switch signals of the speed sensor built in the speedometer. When the set switch of the control switch is depressed, the vehicle speed at that moment is stored in the electronic control unit.

Changes in the vehicle speed after the set switch is released are compared with the set vehicle speed to control the throttle opening through the actuator so that the set vehicle speed will be maintained at all times. The system also has a vacuum pump which assures that the set vehicle speed remains stable even when the vacuum falls.



16Y2916



Cancelling Function

If input of the following signal is made during automatic speed control operation, the signal to each of the two solenoid valves of the actuator is cut to release the automatic speed control.

- (1) Stop lamp switch is turned ON. (Brake pedal is depressed.)
- (2) Clutch switch is turned ON. (Clutch pedal is depressed.)
... Vehicles with M/T
- (3) Inhibitor switch is turned ON. (Selector lever is placed in N.) ... Vehicles with A/T
- (4) MAIN switch is turned OFF.
- (5) IG switch is turned OFF.

If automatic speed control is released by the method (1), (2) or (3), the car speed setting in memory is kept unless the car speed drops below the low speed limit.

Resuming Function

After automatic speed control operation is released by the method (1), (2) or (3) in Cancelling Function, turn the RESUME switch ON for a while (0.5 ± 0.1 sec. or less) while driving within the speed resetting range, and the car speed memorized before release of automatic speed control operation is resumed and then constant-speed operation is made.

If, however, operation is made at car speed below the low speed limit or release is made by the method (4) or (5) shown in Cancelling Function, the car speed in memory is cleared, resulting in no resumption.

Low Speed Limit Function

If the car speed drops below the low speed limit [21.7 ± 3.1 mph (35 ± 5 km/h)], automatic speed control is automatically released and simultaneously with this, the speed setting in memory is cleared.

High Speed Limit Function

If acceleration is made by pressure switch while the car is operated at car speed below the high speed limit [127.4 ± 3.1 mph (205 ± 5 km/h)], acceleration is once made up to the high speed limit and then automatic speed control operation is made at car speed at the high speed limit without further acceleration.

If the SET switch is turned with the car running at car speed at the high speed limit, the high speed limit is kept in memory as car speed setting to make subsequent control.

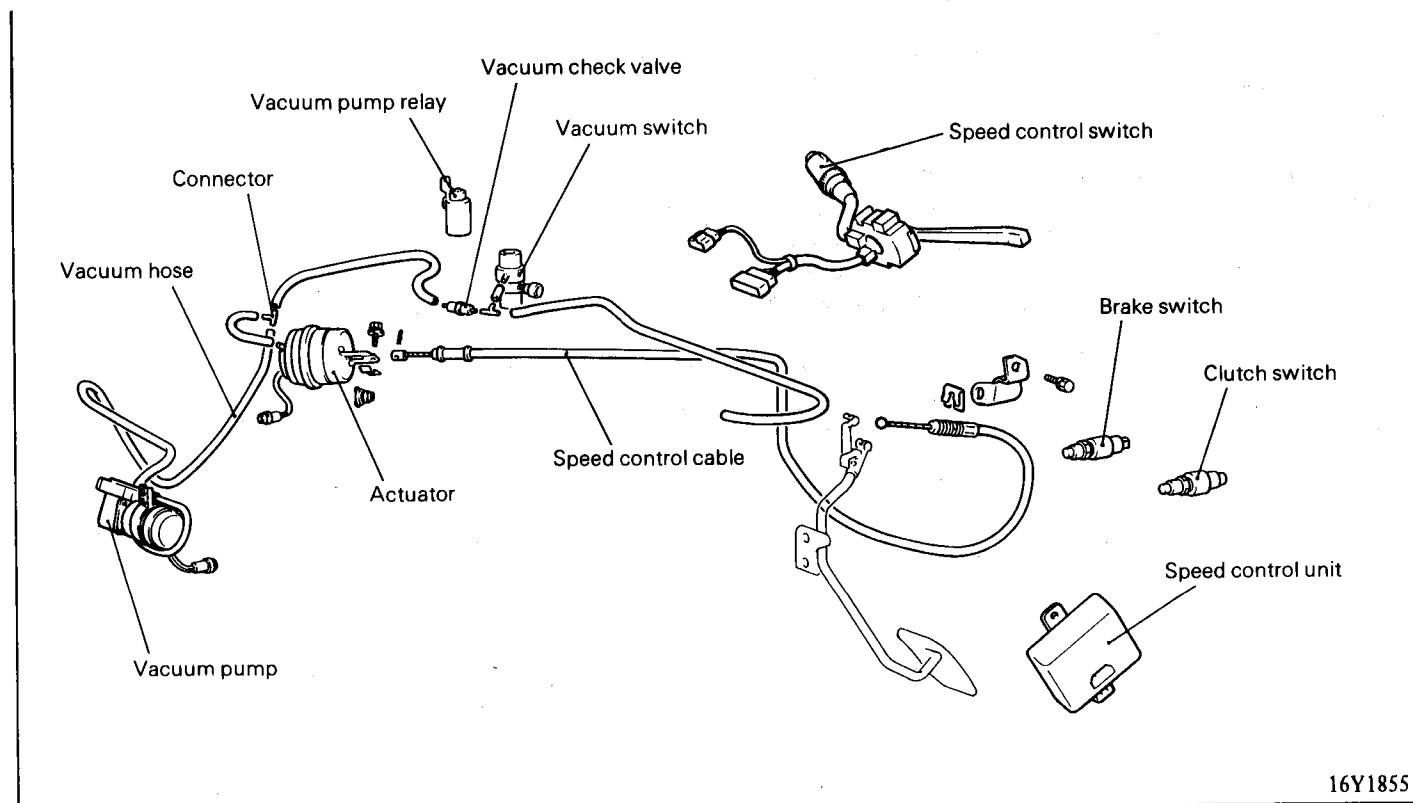


Automatic Cancelling Function (including Fail-safe Function)

If the following signal is input during automatic speed control operation, the signal to each of the two solenoid valves of the actuator is cut to release the automatic speed control.

- (1) Car speed has dropped below the low speed limit.
- (2) Car speed has dropped 12.4 mph (20 km/h) or more below the speed setting.
- (3) After resumption of the car speed to the car speed setting -6.2 mph (10 km/h) or more, the car speed has dropped again 12.4 mph (20 km/h) or more.
- (4) Stop lamp switch turns ON when brake is depressed with fuse blown.
- (5) Stop lamp switch is burned out.
- (6) Car speed is not input for a specified period of time (approx. 1.5 to 2 seconds).
- (7) SET switch or RESUME switch is turned ON simultaneously with SET switch.

COMPONENTS



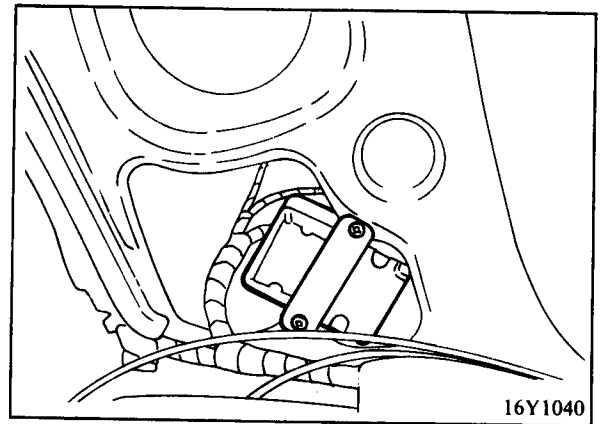
16Y1855



SPEED CONTROL UNIT

Removal

1. Remove the quarter trim. (Refer to GROUP 23.)
2. Remove the control unit from the quarter inner panel. (16Y1040)



SPEED CONTROL SWITCH

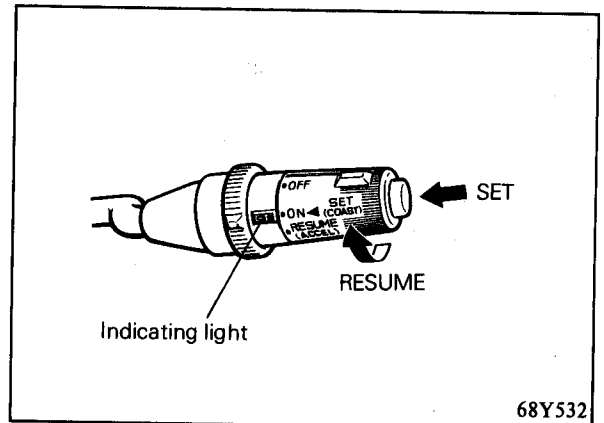
The speed control switch has the following functions.

ON — Energizes the speed control system and indicating light.

OFF — Cancels speed control.

SET — Sets speed control by outputting signal to self-holding circuit and memory circuit, and also is used for reducing vehicle speed.

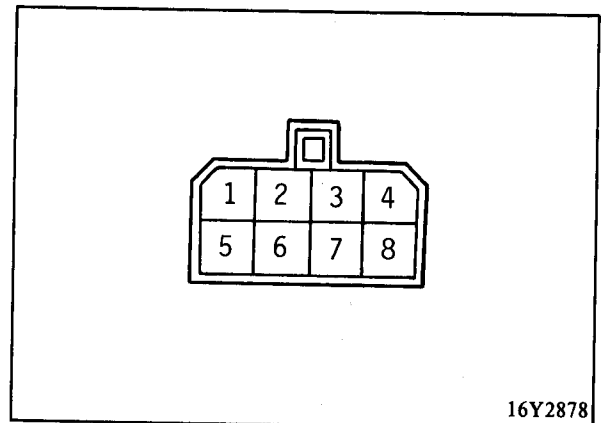
RESUME — Transmits signal to self-holding circuit to resume speed control cancelled by cancel switch. This position is also used for increase of vehicle speed.



Inspection

Operate switch, and check for continuity between the terminals.

Switch	Position	Terminal				
		2	5	1	7	3
Push switch	Off					
	SET on	○	—	○		
Rotary switch	OFF					
	ON				○	○
	RESUME	○	○			

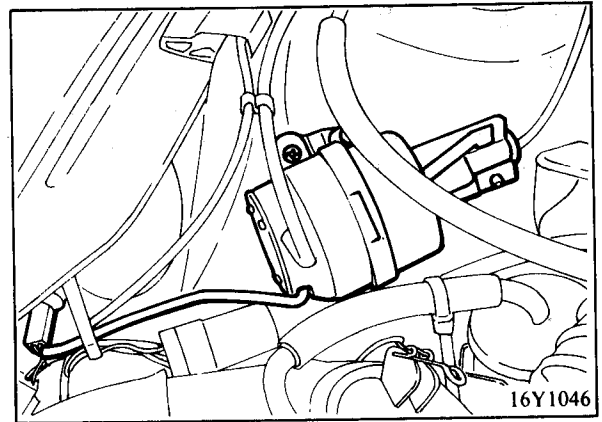




ACTUATOR

Removal

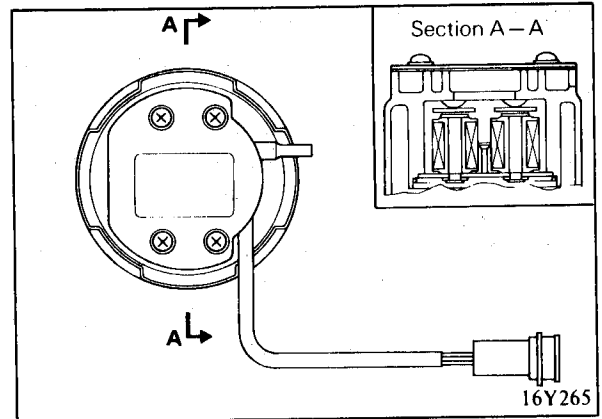
Remove the actuator by disconnecting from the speed control cable.



Inspection

Measure the resistance values of the release valve coil and control valve coil.

Resistance value	
Release valve coil	68 Ω
Control valve coil	30 Ω

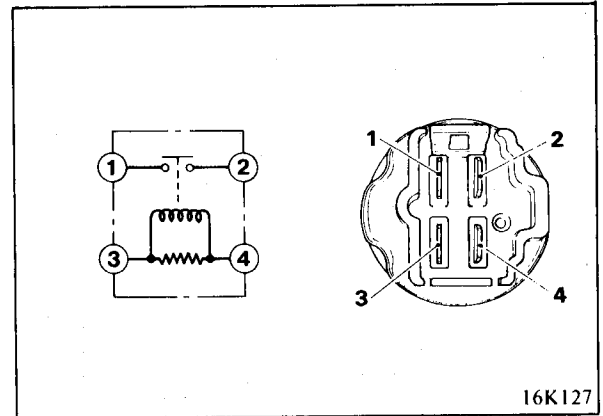


VACUUM PUMP RELAY

Inspection

Check for continuity between the terminals with the power ON and OFF.

While power is OFF	
Between terminals 1–2	no continuity
Between terminals 3–4	continuity
While power is ON	
Between terminals 1–2	continuity
Between terminals 3–4	continuity

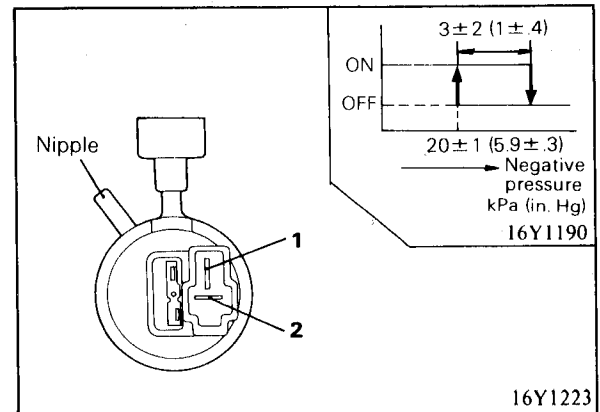


VACUUM SWITCH

Inspection

With a negative pressure applied to the nipple, check continuity between terminals (1) and (2) as follows:

1. With no negative pressure applied, check if there is continuity between terminals (1) and (2).
2. With a negative pressure of 20 to 26 kPa (5.9 to 7.6 in.Hg) applied, check if continuity is lost.
3. From the condition of 2 above, further increase the negative pressure to 30 kPa (8.9 in.Hg) and then slowly decrease down to 19 to 21 kPa (5.6 to 6.2 in.Hg) and check if there is continuity.





GENERAL

The ETACS (Electronic Time and Alarm Control System) provides various timer and alarm facilities through centralized control by an electronic control unit and contains the following circuit functions.

Item	Function and operation description	
Vehicle-speed-sensitive type intermittent wipers with memory function	<p>When the wiper switch is set to the A/INT position, the intermittent wiping time interval automatically changes according to acceleration or deceleration of the vehicle speed. When the cancel switch is switched to the ON position during the vehicle speed sensing condition, the vehicle speed function is cancelled, and the interval time becomes manually variable. In this condition, the SLOW switch or FAST switch can be used to set the interval time from 2 seconds to 15 seconds.</p> <p>If the SLOW switch is activated, the interval time becomes longer; if the FAST switch activated, it becomes shorter. If the cancel switch is pressed once again, note that the vehicle speed sensing condition will resume.</p>	<p>Interval time</p> <p>15 sec.</p> <p>7 sec.</p> <p>2 sec.</p> <p>12 mph</p> <p>20 km/h</p> <p>Vehicle speed</p> <p>← : Changes possible by SLOW and FAST switches</p> <p>16R0591</p>
Washer-interlocked wipers	<p>When the washer switch is switched to the ON position while the ignition key is at the ON or ACC position, the washer will function and then the wipers will operate, and when the washer switch is switched to the OFF position, the wipers will wipe for 2 or 3 strokes.</p>	<p>Wiper ON</p> <p>OFF</p> <p>Washer switch ON</p> <p>OFF</p> <p>2 or 3 strokes</p> <p>16R0099</p>
Delayed switch-off dome light	<p>When the dome light switch is set to the position linked to door opening/closing, the dome light will remain illuminated for about 2 seconds after the door is closed, after which it will gradually become dark, and then about 3 seconds later will extinguish completely.</p>	<p>Brightness</p> <p>100%</p> <p>0%</p> <p>Illuminated (about 2 sec.)</p> <p>Dimming (about 3 sec.)</p> <p>Door open</p> <p>Door closed</p> <p>16R0088</p>
Door lock prevention if ignition key not removed	<p>If, with the key still in the ignition, the driver's side (or the passenger's side) door is opened and the door lock lever is locked, the lever will automatically be unlocked again and the door will remain unlocked.</p>	
Center door locking system	<p>All doors can be automatically locked or unlocked by simply locking or unlocking the driver's door or the passenger's door.</p>	
Defogger timer	<p>When the defogger switch is switched to the ON position while the ignition key is at the ON position, the defogger will begin operating for about 20 minutes. (The defogger can be switched OFF during this time by setting the switch to OFF.)</p>	<p>Defogger relay ON</p> <p>OFF</p> <p>Defogger switch ON</p> <p>OFF</p> <p>About 20 min.</p> <p>16R0096</p>



COMPONENT SERVICE — ETACS

Item	Function and operation description	
Power window timer	For approximately 30 seconds after the ignition key is turned to the OFF position, the power window operation can be made. If a door (driver side or front passenger side) is opened, the power window operation is disabled even within this 30 second period.	<p>Door Closed Door Opened Enabled Disabled Ignition key ON Ignition key OFF</p> <p>30 sec.</p> <p>16R0969</p>
Door-ajar warning	If the door is open or ajar, the warning light steadily illuminates. If the vehicle starts moving while the door is open or ajar, the light will flash.	
Brake warning	If the parking brake is engaged while the ignition key is at the ON position, the warning light will illuminate steadily. If the vehicle begins moving with the parking brake in this condition, the light will flash.	
Seat belt warning	If, with the ignition key at the ON position, the seat belts are not buckled, the seat belt warning light will flash 4 times, the buzzer will sound at the same time.	



The ETACS with audible warning incorporates the following audible warning circuit in place of the monitor circuit below.

Item	Function and operation description	
<p>Lighting monitor alarm</p>	<p>This circuit warns the driver to turn off the headlights in the event that the ignition key is removed while the lighting switch is on, or if the lighting switch is turned on while the key is not in the ignition switch. The interval between the first and second warnings is 0.4 to 0.6 second.</p>	<p>16Y1858</p>
<p>Key reminder alarm</p>	<p>This circuit warns the driver to remove the ignition key in the event that the driver's door is opened while the key is still in the ignition switch. The warning will continue to be given at intervals of 0.4 to 0.6 second until the warning condition is cancelled. Note that the warning will stop immediately when the warning condition is cancelled, even if it is in the middle of a word. The warning will not be given if the ignition key is at either the IG or the ST position.</p>	<p>16Y1859</p>
<p>Seat belt alarm</p>	<p>This circuit warns the driver and passengers to fasten their seat belts if the seat belts are not fastened when the ignition key is turned to the ON position. The warning will be given for 4 to 8 seconds at intervals of 0.4 to 0.6 second. However, the warning will stop, even if it is in the middle of a word, under either of the following conditions:</p> <ol style="list-style-type: none"> 1. The seat belts are fastened. 2. The ignition key is turned to either the LOCK or ACC position. 	<p>16Y1860</p>



COMPONENT SERVICE — ETACS

Item	Function and operation description	
<p>Park position alarm (Vehicles with an automatic transmission)</p>	<p>This circuit warns the driver to put the shift lever in park (P) in the event that the driver's door is opened while the shift lever is in any other position. The warning will be given twice, and the interval between the first and second warnings is 0.4 to 0.6 second. However, the warning will not be given if the vehicle is moving at a speed of 2 to 3 km/h (1.2 to 1.9 mph) or more.</p>	<p>More than 2-3 km/h (1.2-1.9 mph) • Less than 2-3 km/h (1.2-1.9 mph)</p> <p>ON ("P") • OFF (other than "P")</p> <p>Opened • Closed</p> <p>Warning ON • OFF</p> <p>Within 0.5 sec</p> <p>16Y1861</p>
<p>Parking brake alarm</p>	<p>This circuit warns the driver to release the parking brake lever if it is engaged when the vehicle speed reaches 2 to 3 km/h (1.2 to 1.9 mph). The warning will be given twice, and the interval between the first and second warnings is 2.5 to 3.5 seconds. However, the warning will not be given if the parking brake is engaged after the vehicle speed passes 2 to 3 km/h (1.2 to 1.9 mph).</p>	<p>More than 2-3 km/h (1.2-1.9 mph) • Less than 2-3 km/h (1.2-1.9 mph)</p> <p>Operated • Released</p> <p>Warning ON • OFF</p> <p>Within 0.5 sec</p> <p>16Y1862</p>
<p>Open door alarm</p>	<p>This circuit warns the driver and passengers to close the door in the event that one or more of the doors is open or partly open while the vehicle is moving at a speed of 2 to 3 km/h (1.2 to 1.9 mph) or more. The warning will be given whether the door is opened before or after the speed reaches the specified level. The warning will be given twice, and the interval between the first and second warnings is 2.5 to 3.5 seconds.</p> <p>NOTE The warning will not be given if the shift lever is in the reverse (R) position.</p>	<p>More than 2-3 km/h (1.2-1.9 mph) • Less than 2-3 km/h (1.2-1.9 mph)</p> <p>Opened • Closed</p> <p>Door</p> <p>ON (illuminated) • OFF (not illuminated)</p> <p>Back-up light switch</p> <p>Warning ON • OFF</p> <p>Within 0.5 sec</p> <p>16Y1863</p>



Components Related to the ETACS

The various functions of the ETACS are controlled by the components below.

ETACS function		Vehicle-speed sensitive type intermittent wipers with memory function	Washer-interlocked wipers	Delayed switch-off dome light	Door lock prevention if key not removed	Center door locking system	Defogger timer	Power window timer	Door-ajar warning	Parking-brake-engaged warning	Seat belt warning	Seat belt warning buzzer
TAC unit		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ignition switch	ON position	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	ACC position	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Column switch	Wiper switch (A/INT)	<input type="checkbox"/>										
	SLOW switch	<input type="checkbox"/>										
	FAST switch	<input type="checkbox"/>										
	CANCEL switch	<input type="checkbox"/>										
	Washer switch		<input type="checkbox"/>									
Combination meter	Vehicle-speed sensor (reed switch)	<input type="checkbox"/>			<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>		
	Door-ajar warning light							<input type="checkbox"/>				
	Brake warning light								<input type="checkbox"/>			
	Seat belt warning light										<input type="checkbox"/>	
Wiper relay		<input type="checkbox"/>	<input type="checkbox"/>									
Dome light				<input type="checkbox"/>								
Door switch	Driver's seat			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>				
	Passenger's seat			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>				
Key-reminder switch					<input type="checkbox"/>							
Door lock switch* ¹	Driver's seat				<input type="checkbox"/>	<input type="checkbox"/>						
	Passenger's seat					<input type="checkbox"/>						
Door lock power relay	Unlock relay				<input type="checkbox"/>							
	Lock relay					<input type="checkbox"/>						
Defogger relay							<input type="checkbox"/>					
Power window relay								<input type="checkbox"/>				
Parking brake switch									<input type="checkbox"/>			
Seat belt switch										<input type="checkbox"/>		
Defogger switch							<input type="checkbox"/>					<input type="checkbox"/>
Vehicle-speed sensor (pulse generator)* ²		<input type="checkbox"/>			<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>		

- NOTES: 1. The symbol indicates an ETACS-related function.
 2. The *¹ symbol indicates door lock actuator built-in switch.
 3. The *² symbol indicates vehicles with the liquid-crystal display meters.



COMPONENT SERVICE – ETACS

The various functions of the ETACS with audible warning are controlled by the components below.

ETACS function		Lighting monitor	Key reminder alarm	Seat belt alarm	Parking position alarm	Parking brake alarm	Open door alarm
Related component							
TAC unit		○	○	○	○	○	○
Tail light relay		○					
Key reminder switch		○	○	○			
Door switch	Driver's seat		○		○		○
	Passenger's seat						○
Seat belt switch				○			
Inhibitor switch					○		○
Parking brake switch						○	
Back-up light switch							○
Seat belt warning light				○			
Vehicle-speed sensor (reed switch or *1 pulse generator)					○	○	○

NOTES

1. The ○ symbol indicates an ETACS-related function.
2. The *1 symbol indicates vehicles with the liquid-crystal display meters.