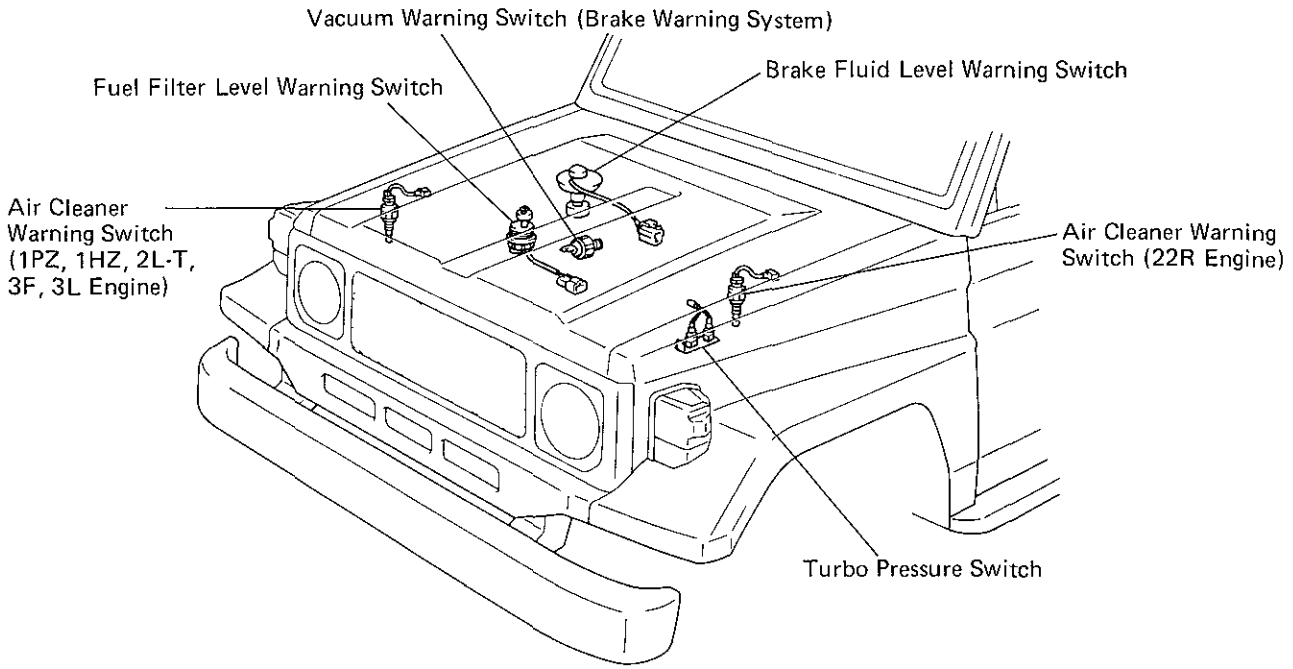
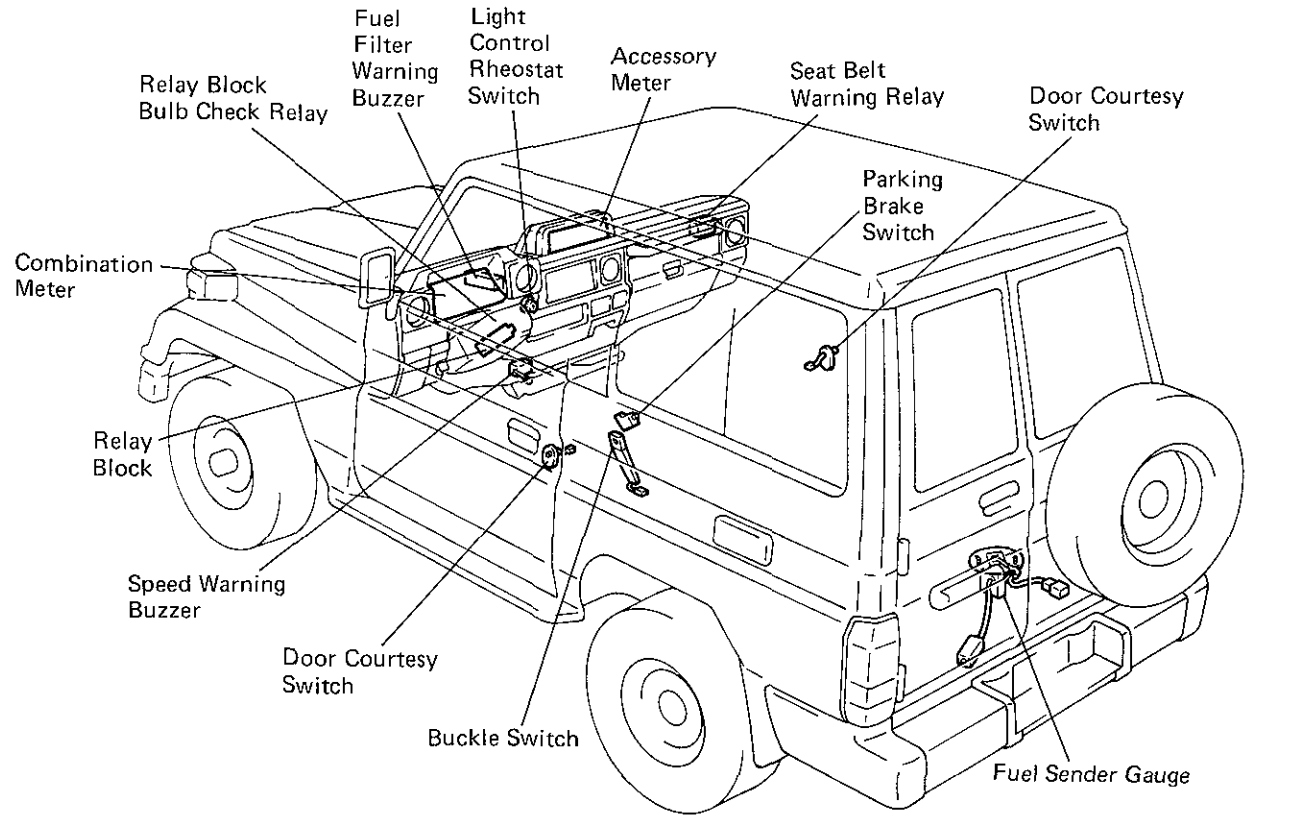
COMBINATION METER

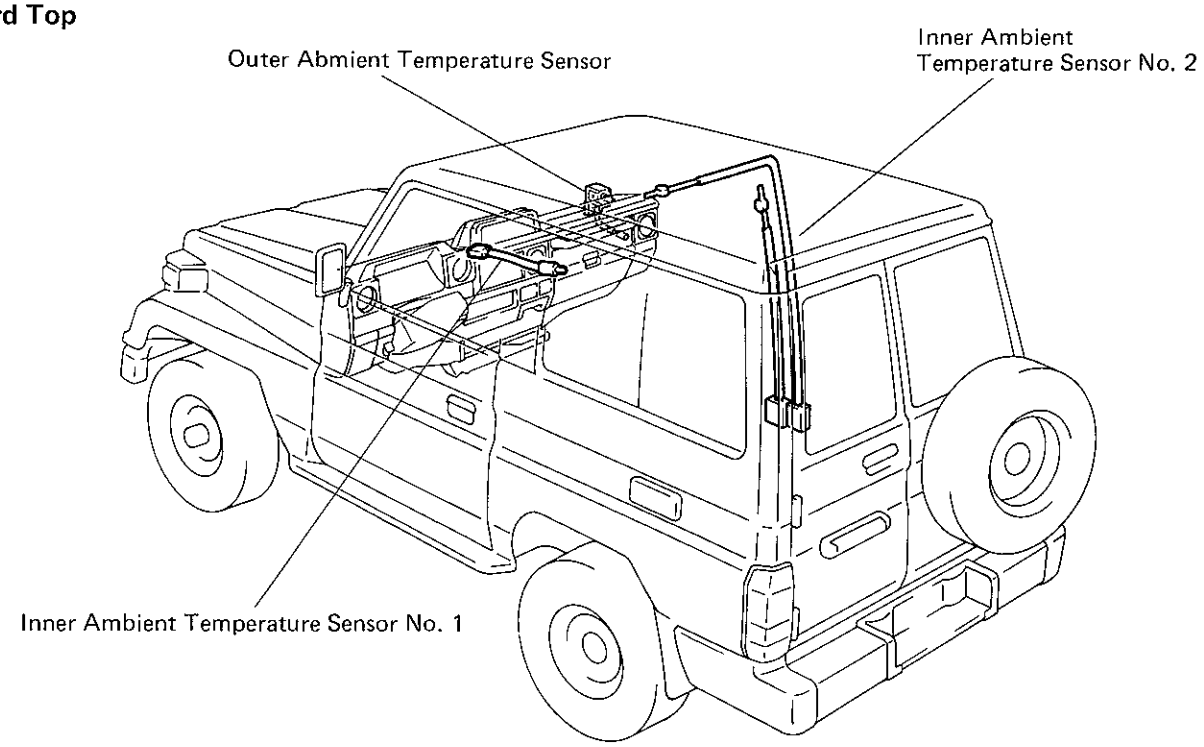
Parts Location



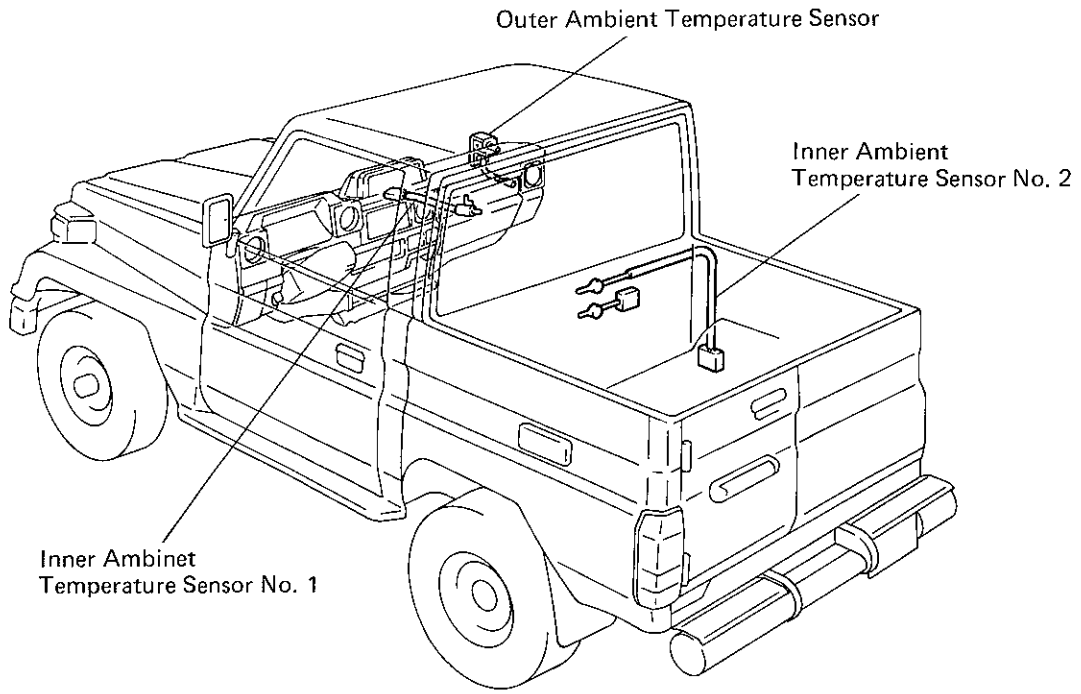


BE5350
BE5382

Hard Top

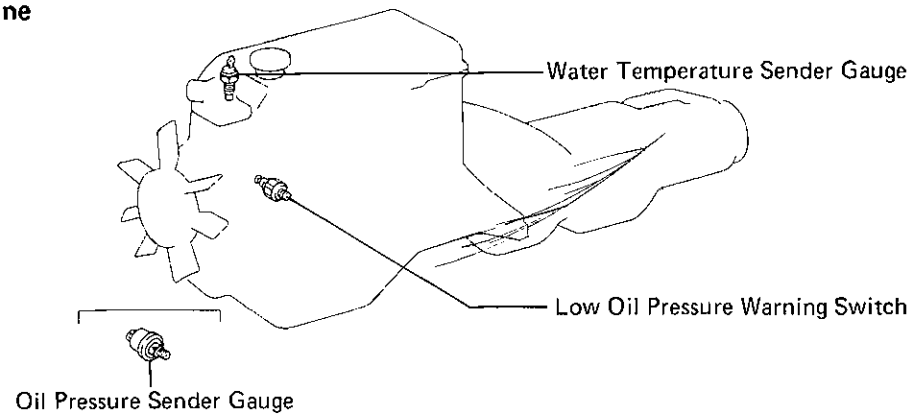


Pick Up

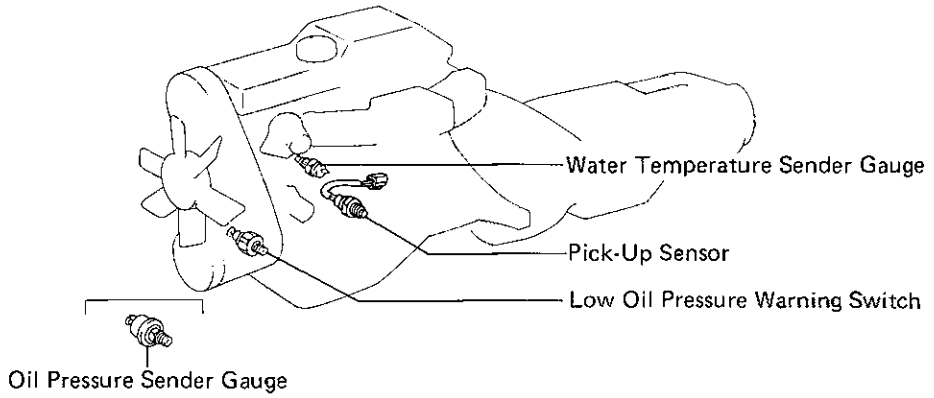


BE5383
BE5384

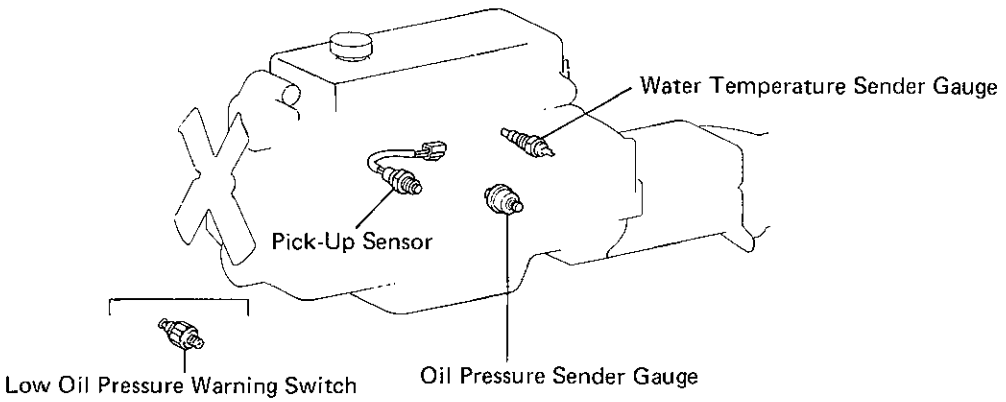
22R, 22R-E Engine



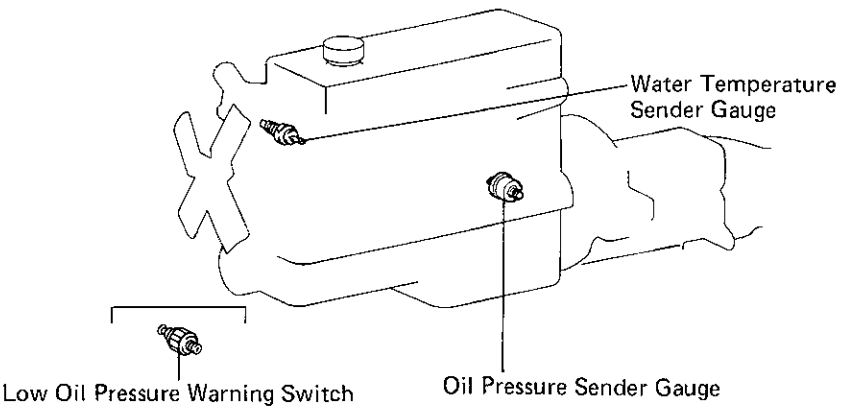
2L-T, 3L Engine



1HZ, 1PZ Engine



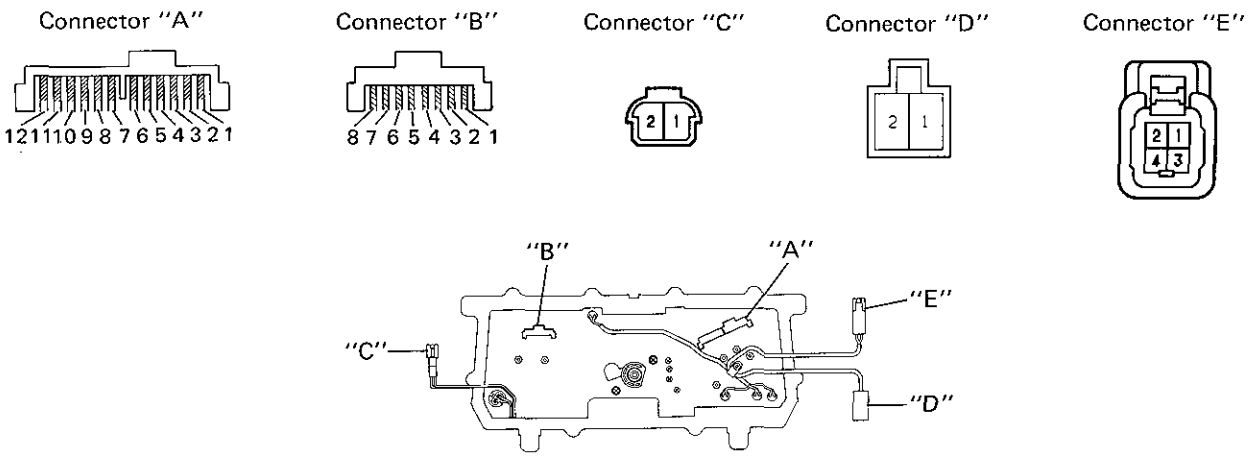
3F Engine

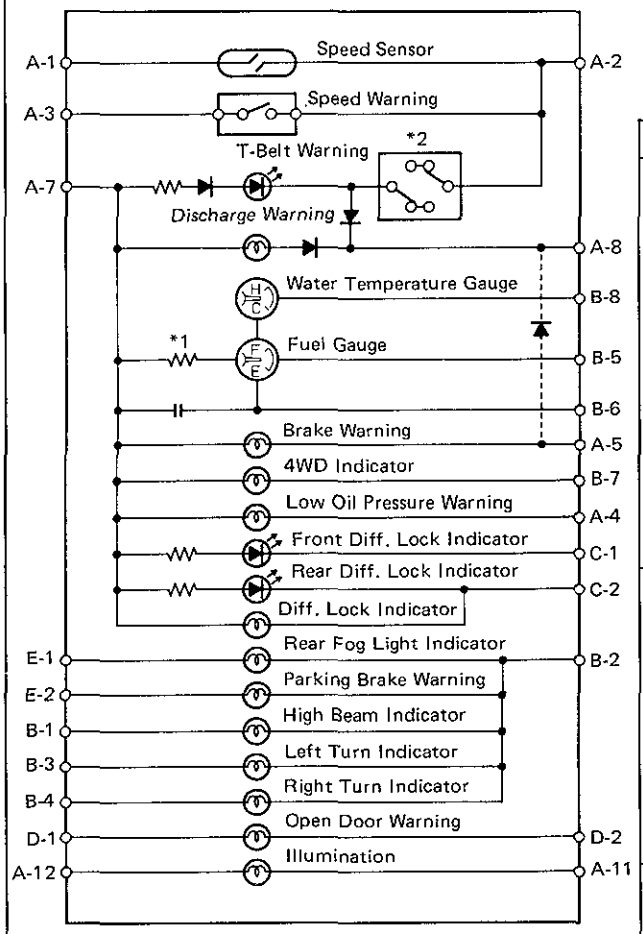


BE5351
BE5352
BE5353
BE5354

Meter Circuit

(w/o Tachometer)





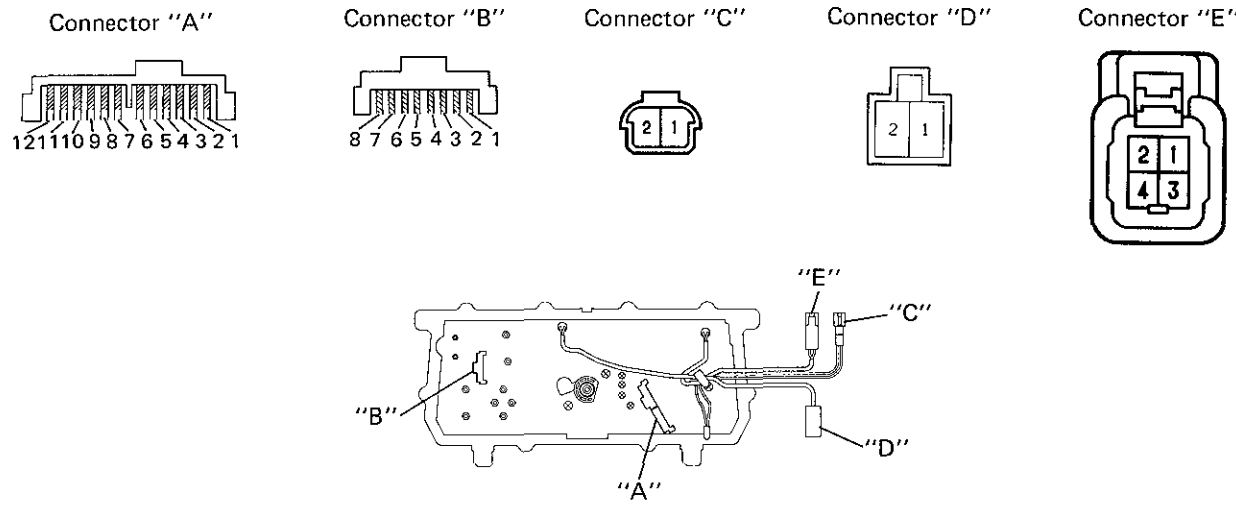
*1: 24V Vehicles
*2: Cancel Switch and Warning Switch
– – –: Europe

BE5356

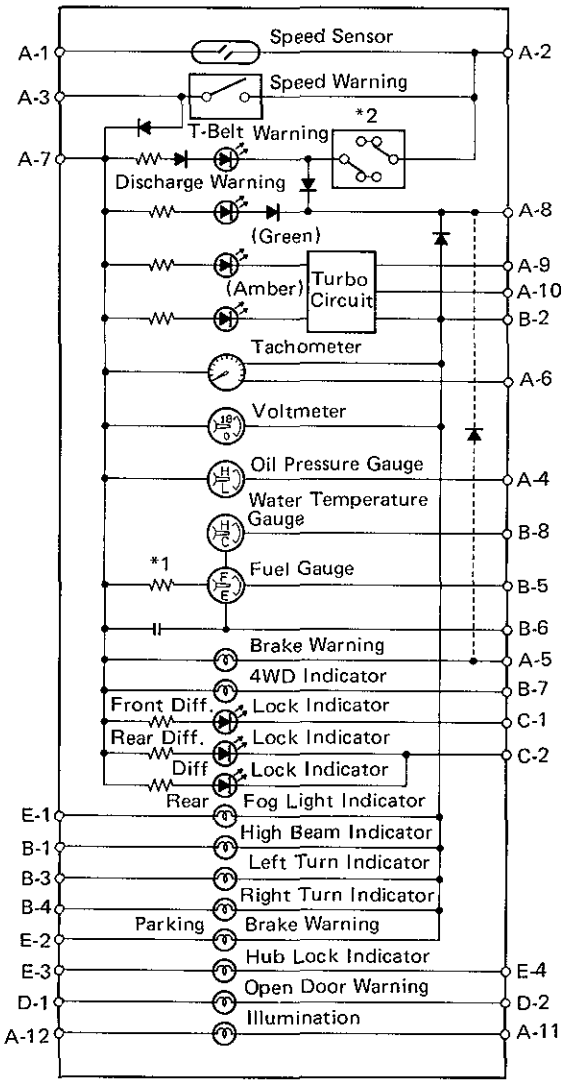
BE1267 BE2639 S-2-2-G N-2-2 e-4-2
BE5355

No.		Wiring connector side
A	1	Emission ECU
	2	Ground
	3	Speed Warning Buzzer
	4	Low Oil Pressure Warning Switch
	5	Brake Fluid Level Warning Switch, Vacuum Switch (Diesel Engine) and Parking Brake Switch (Ex. Europe)
	7	ENGINE Fuse
	8	CHARGE Fuse
	11	Light Control Rheostat or Ground
	12	TAIL Fuse
B	1	Headlight Dimmer Switch
	2	Ground
	3	Turn Signal Switch (Left)
	4	Turn Signal Switch (Right)
	5	Fuel Sender Gauge
	6	Ground
	7	4WD Switch
	8	Water Temperature Sender Gauge
C	1	Front Diff. Lock Switch
	2	Rear Diff. Lock Switch
D	1	DOME Fuse
	2	Door Courtesy Switch
E	1	Rear Fog Light Switch (Europe)
	2	Parking Brake Switch (Europe)

(w/ Tachometer)



BE1267 BE2639 S-2-2-G N-2-2 e-4-2
BE5357



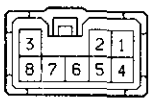
*1: 24V Vehicles
*2: Cancel Switch and Warning Switch
– – –: Europe

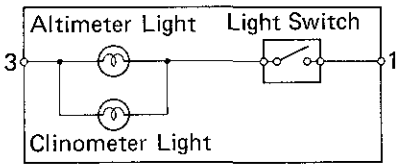
BE5358

No.		Wiring connector side
A	1	Emission ECU
	2	Ground
	3	Speed Warning Buzzer
	4	Oil Pressure Sender Gauge
	5	Brake Fluid Level Warning Switch, Vacuum Switch (Diesel Engine), Parking Brake Switch (Ex. Europe) and Buld Check Relay (Australia)
	6	Ignition Coil (Gasoline Engine) or Tacho Pick Sensor (Diesel Engine)
	7	ENGINE Fuse
	8	CHARGE Fuse
	9	Turbo Pressure Switch-terminal 2
	10	Turbo Pressure Switch-terminal 1
	11	Light Control Rheostat or Ground
	12	TAIL Fuse
B	1	Headlight Dimmer Switch
	2	Ground
	3	Turn Signal Switch (Left)
	4	Turn Signal Switch (Right)
	5	Fuel Sender Gauge
	6	Ground
	7	4WD Switch
	8	Water Temperature Sender Gauge
C	1	Front Diff. LOCK Switch
	2	Rear Diff. LOCK Switch
D	1	DOME Fuse
	2	Door Courtesy Switch
E	1	Rear Fog Light Switch
	2	Parking Brake Switch (Europe)
	3	ENGINE Fuse
	4	Free Wheel Hub CPU

(Accessory Meter/Over Head Console)

- **Altimeter and Clinometer**

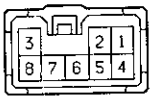


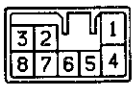


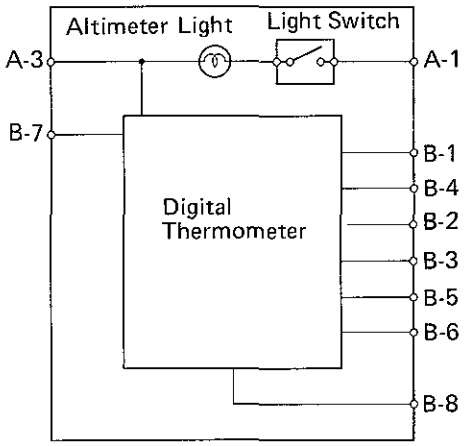
No.	Wiring connector side
1	Ground
3	TAIL Fuse

- **Thermometer and Altimeter**

Connector "A" Connector "B"

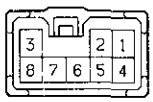


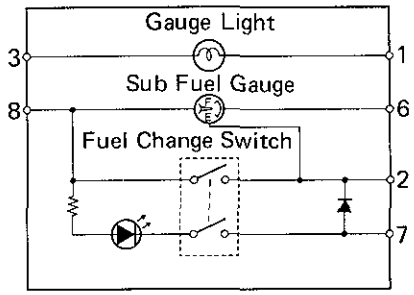




No.		Wiring connector side
A	1	Ground
	3	TAIL Fuse
B	1	Inner Ambient Temperature Sensor No.2
	2	Inner Ambient Temperature Sensor No.1
	3	Inner Ambient Temperature Sensor No.1
	4	Inner Ambient Temperature Sensor No.2
	5	Outer Ambient Temperature Sensor
	6	Outer Ambient Temperature Sensor
	7	ENGINE Fuse
	8	Ground

- **Sub Fuel Gauge**





No.	Wiring connector side
1	Ground
2	Fuel Transfer Solenoid Valve
3	TAIL Fuse
6	Sub Fuel Sender Gauge
7	Ground
8	ENGINE Fuse

S-8-2
BE5385
S-8-2 GS-8-2
BE5386
S-8-2
BE5387

Troubleshooting

Problem	Possible cause	Remedy	Page
Combination meter do not operate	ENGINE fuse blown Wiring or ground faulty	Replace fuse and check for short Repair as necessary	BE-4
Speedometer does not operate	Speedometer cable faulty Speedometer faulty	Check cable Check speedometer	 BE-57
Speed warning buzzer does not sound	Speed warning buzzer faulty Speed warning switch faulty Wiring or ground faulty	Check speed warning buzzer Check speed warning switch Repair as necessary	BE-58 BE-57
Tachometer does not operate	Tachometer faulty Pick-up sensor faulty Wiring or ground faulty	Check tachometer Check pick-up sensor Repair as necessary	BE-58 BE-58
Voltmeter does not operate	Voltmeter faulty Wiring or ground faulty	Check voltmeter	BE-58
Fuel gauge dose not operate	Receiver gauge faulty Sender gauge faulty Wiring or ground faulty	Check gauge Check gauge	BE-58 BE-60
Fuel filter warning light does not light up, warning buzzer does not sound (w/ buzzer)	Bulb burned out Warning switch faulty Warning buzzer faulty	Replace bulb Check switch Check buzzer	 BE-61 BE-61
Water temperature gauge does not operate	Receiver gauge faulty Wiring or ground faulty	Check gauge	BE-61
Oil pressure gauge does not operate	Receiver gauge faulty Sender gauge faulty Wiring or ground faulty	Check gauge Check gauge	BE-62 BE-63
Low oil pressure warning light does not light up	Bulb burned out Warning switch faulty Wiring or ground faulty	Replace bulb Check switch Repair as necessary	 BE-63
Parking brake warning light does not light up	Bulb burned out Parking brake switch faulty Wiring or ground faulty	Replace bulb Check switch Repair as necessary	 BE-63
Brake warning light dose not light up	Bulb burned out Level warning switch faulty Vacuum switch faulty Parking brake switch faulty Wiring or ground faulty	Replace bulb Check switch Check switch Check switch Repair as necessary	 BE-64 BE-64 BE-63
Open door warning light does not light up	Bulb burned out Courtesy switch faulty Wiring or ground faulty	Replace bulb Check switch Repair as necessary	 BE-65
Timing belt warning light does not light up	Bulb burned out Warning switch faulty Wiring or ground faulty	Replace bulb Check switch Repair as necessary	 BE-65
Seat belt warning light does not light up	Bulb burned out Buckle switch faulty Warning relay faulty Wiring or ground faulty	Replace bulb Check switch Check relay Repair as necessary	 BE-66 BE-67

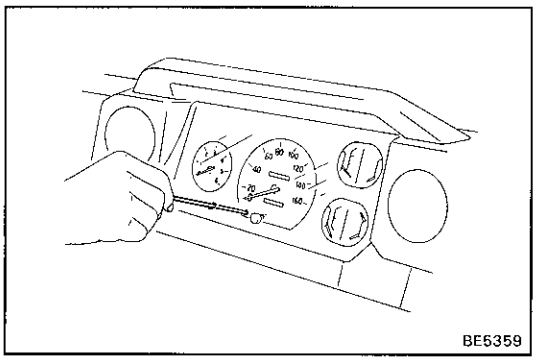
Problem	Possible cause	Remedy	Page
Turbo indicator and warning light do not light up	Bulb burned out Drive circuit faulty Pressure switch faulty Wiring or ground faulty	Replace bulb Check drive circuit Check switch Repair as necessary	 BE-68 BE-67
Air cleaner warning light does not light up	Bulb burned out Warning switch faulty Wiring or ground faulty	Replace bulb Check switch Repair as necessary	 BE-68
Meter illumination control system does not operate	Bulb burned out Rheostat faulty Wiring or ground faulty	Replace bulb Check rheostat Repair as necessary	 BE-68
Thermometer does not operate	Sensor faulty Accessory meter faulty Wiring or ground faulty	Check sensor Check accessory meter Repair as necessary	BE-69 BE-69
Sub fuel gauge does not operate	Receiver gauge faulty Serder gauge faulty Wiring or ground faulty	Check gauge Check gauge Repair as necessary	BE-70 BE-70
Clinometer or Altimeter illumination do not light up	Bulb burned out Accessory meter faulty Wiring or ground faulty	Replace bulb Replace accessory meter Repair as necessary	

Parts Adjustment

(Diesel Engine)

Adjustment of Interval Switch for Timing Belt Warning System

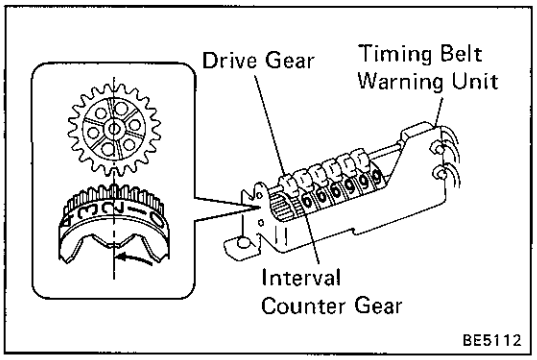
NOTICE: Work carefully so that components are not damaged in any way.



RESET CANCEL SWITCH

(a) Remove the gromet from the meter glass.

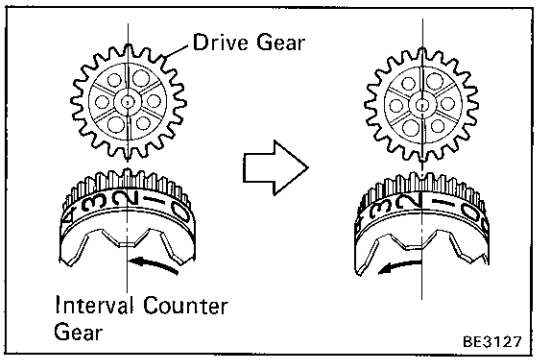
(b) Push the reset switch.



IF REPLACING TIMING BELT BEFORE WARNING LIGHT LIGHTS UP

(a) Remove the timing belt warning unit from the speedometer.

(b) When installing the timing belt warning unit to the speedometer, rotate the interval counter gear in the direction of the arrow so that the tooth at number "2" on the interval counter gear engages with the drive gear on the speedometer side.

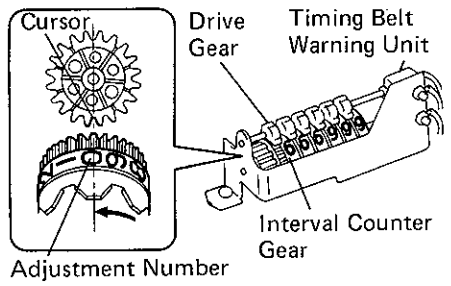


HINT: If the tooth at number "2" on the interval counter gear does not engage with the drive gear, move the tooth at number "2" slightly in the direction of the arrow until the tooth engage.

(c) Install the timing belt warning unit to the speedometer.

HINT: If turn on the timing belt warning light, reset the cancel switch.

Old odometer reading value (b)	(c) Adjustment number for interval counter gear	
	km/h display	MPH display
10000	1	7
20000	0	6
30000	9	5
40000	8	4
50000	7	3
60000	6	2
70000	5	1
80000	4	0
90000	3	A
100000	2	B
110000	1	9
120000	0	8
130000	9	7
140000	8	6
150000	7	5
•	•	•
•	•	•
•	•	•



IF REPLACING SPEEDOMETER

(a) Remove the timing belt warning unit from the speedometer.

(b) Read the value in tens of thousands from the old odometer (taken to the next highest figure when the thousands column shows on thousand or more)

(c) Find the value from (b) in the table on the left, then find the corresponding number from adjustment of the interval counter gear.

Example: When the old odometer shows.

013251 km/h
↓
(b) = 020000
↓
(c) = "0" for the interval counter gear number.

(d) When installing the timing belt warning unit to the speedometer, rotate the interval counter gear in the direction of the arrow so that the number (c) on the interval counter gear alighs with the cursor on the drive gear on the speedometer side.

HINT: Check that the tooth beside to number on the counter gear engages the gap on the cursor port on the drive gear.

(e) Install the timing belt warning unit to the speedometer.

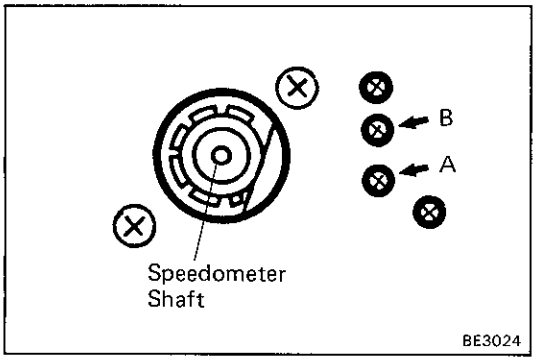
(km/h)

Standard indication	Allowable range	
	Ex. Australia	Australia
20	21 — 25	(17.5 — 21.5)
40	41 — 46	38 — 42
60	62.5 — 67	58 — 63
80	83 — 88	78 — 84
100	104 — 109	99 — 104.5
120	125 — 130.5	119.5 — 125.5
140	145.5 — 151.5	139.5 — 146.5
160	(166 — 173)	(159.5 — 167.5)

Figures in brakets are not official, they are for reference only.

(mph)

Standard indication	Allowable range
20	21 — 23.5
40	41.5 — 44
60	62.5 — 66
80	83 — 87
100	104 — 108.5



Parts Inspection

Speedometer System

1. INSPECT SPEEDOMETER (ON-VEHICLE)

(a) Using a speedometer tester, inspect the speedometer for allowable indication error and check the operation of the odometer.

HINT: Tire wear and tire over or under inflation will increase the indication error.

If error is excessive, replace the speedometer.

(b) Check the speedometer for pointer vibration and abnormal noise.

HINT: Pointer vibration can be caused by a loose speedometer cable.

2. INSPECT SPEED SENSOR

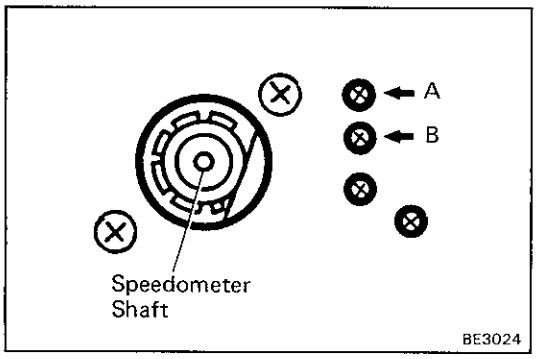
Check that there is continuity between terminals A and B four times per each revolution of the speedometer shaft.

If operation is not as specified, replace the speedometer.

3. INSPECT SPEED WARNING BUZZER SWITCH

(a) Press down on the tabs and remove the combination meter glass from the combination meter case.

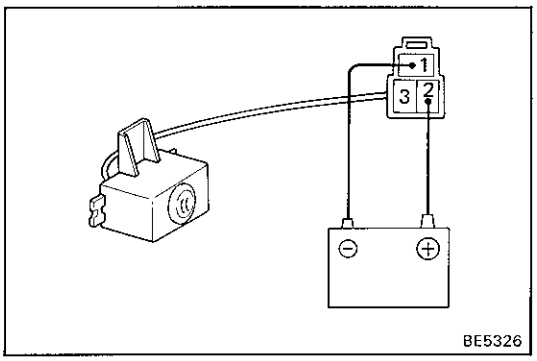
NOTICE: Be careful not to dirty or damage the speedometer panel.



(b) Move the speedometer needle to the 124 km/h or 77 mph mark and fix it there.

(c) Keep on turning the speedometer shaft, check that the continuity between terminals A and B repeatedly fluctuates.

If operation is not as specified, replace the speedometer.



4. **INSPECT SPEED WARNING BUZZER**

Apply battery voltage intermittently between terminals of the buzzer, check that the buzzer sounds.

HINT: The sound will be distorted if the buzzer is tilted.

If operation is not as specified, replace the buzzer.

(rpm)
DC 13 V 25°C (77°F)/12 V Vehicles
DC 26 V 25°C (77°F)/24 V Vehicles

Standard	Allowable range
1000	900 — 1100
(2000)	(1875 — 2125)
3000	2850 — 3150
(4000)	(3850 — 4150)
5000	4850 — 5150
(6000)	(5870 — 6180)

Figures in brackets are not official, they are for reference only.

Tachometer System

1. **INSPECT TACHOMETER (ON-VEHICLE)**

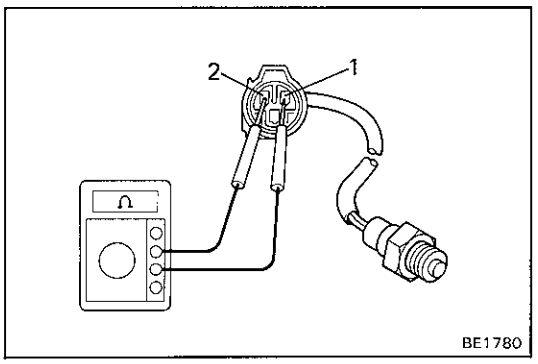
(a) Connect a tune-up test tachometer, and start the engine.

NOTICE:

- **Reversing the connection of the tachometer will damage the transistors and diodes inside.**
- **When removing or installing the tachometer, be careful not to drop or subject it to heavy shocks.**

(b) Compare the tester and tachometer indications.

If error is excessive, replace the tachometer.



2. **(Diesel Engine)**
INSPECT PICK-UP SENSOR

Measure the resistance between terminals 1 and 2.

Resistance: approx. 730 Ω

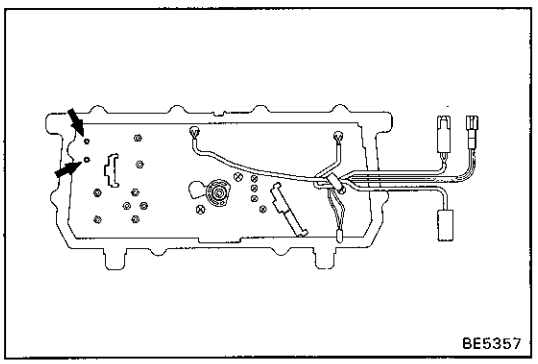
If resistance value is not as specified, replace the sensor.

Voltmeter System

INSPECT VOLTMETER (ON-VEHICLE)

Compare the tester and voltmeter indications.

If error is excessive, replace the voltmeter.

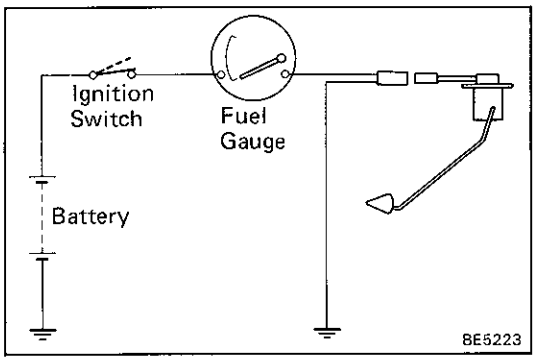


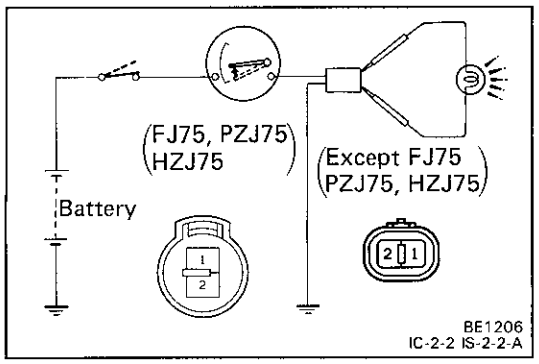
Fuel Gauge System

1. **INSPECT RECEIVER GAUGE**
(Operation)

(a) Disconnect the connector from the sender gauge.

(b) Turn the ignition switch ON, check that the receiver gauge needle indicates EMPTY.



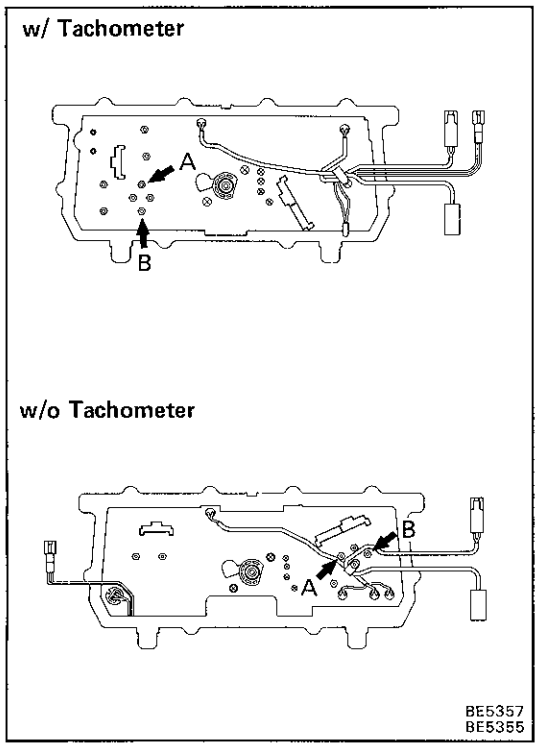


(c) Connect terminals 1 and 2 on the wire harness side connector through a 3.4 W test bulb.

(d) Turn the ignition switch ON, check that the bulb lights up and receiver gauge needle moves toward the full side.

HINT: Because of the silicon oil in the gauge, it will take a short time for the needle to stabilize.

If operation is not as specified, inspect the receiver gauge resistance and the voltage regulator.



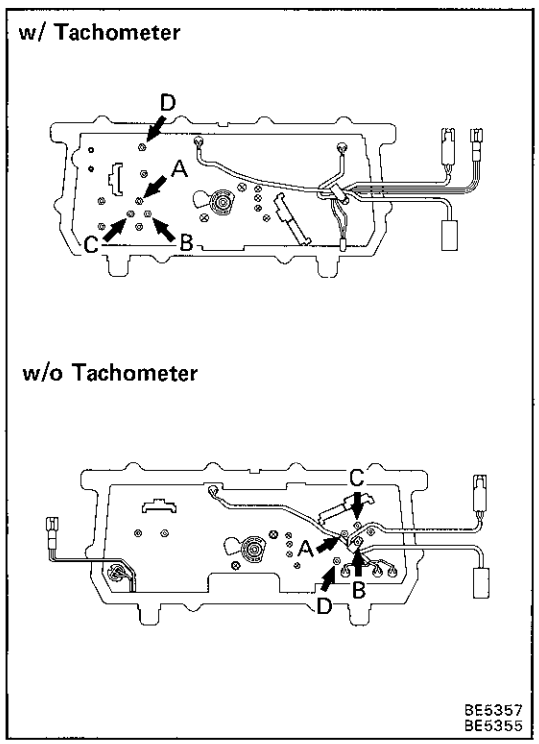
(Resistance)

HINT: The number in brackets ( ) applies to 24 V vehicles.

Measure the resistance between terminals.

Between terminals	Resistance (Ω)
A — B	Approx. 55 (90)

If resistance valve is not as specified, replace the receiver gauge.



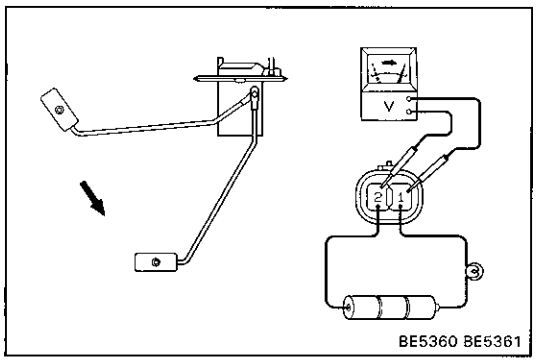
(Voltage Regulator)

HINT: The number in brackets ( ) applies to 24 V vehicles.

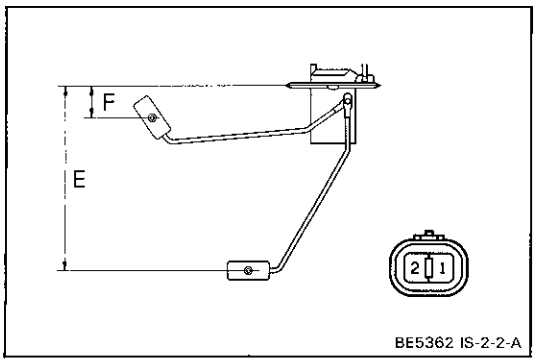
(a) Connect the positive (+) lead from the battery to terminal A (D) and the negative (—) lead to terminal B.

(b) Connect the positive (+) lead from the voltmeter to terminal C and the negative (—) lead to terminal B, check that the voltmeter needle vibrates near the 7 volts position.

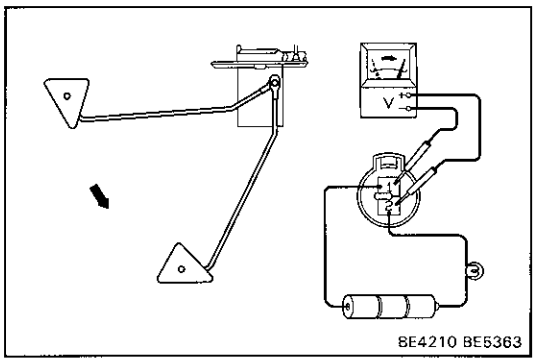
If voltage value is not as specified, replace the receiver gauge.



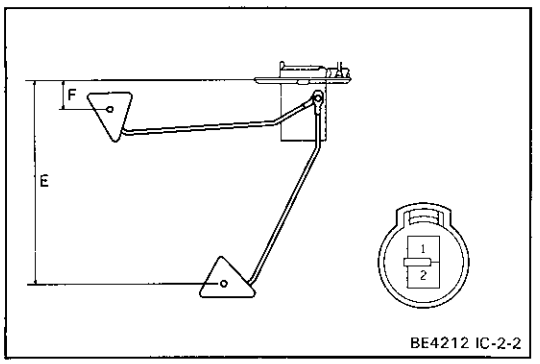
BE5360 BE5361



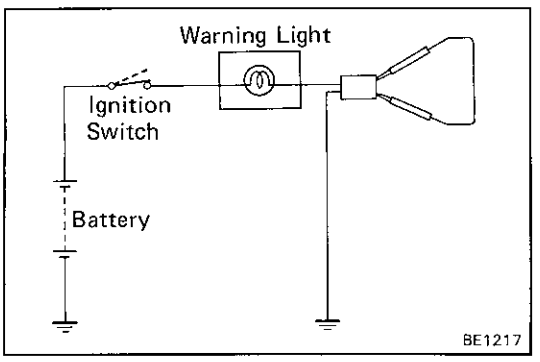
BE5362 IS-2-2-A



BE4210 BE5363



BE4212 IC-2-2



BE1217

2. INSPECT SENDER GAUGE

Except FJ75, PZJ75 and HZJ75
(Operation)

(a) Connect a series of three 1.5 V dry cell batteries.

(b) Connect the positive (+) lead from the dry cell batteries to terminal 2 through a 3.4 W test bulb and the negative (−) lead to terminal 1.

(c) Check that the voltage rises between terminals 1 and 2 as the float is moved from the top to bottom position.

(Resistance)

Measure the resistance between terminals 1 and 2 for each float position.

Float position mm (in.)		Resistance (Ω)
F	Approx. 76.7 (3.020)	Approx. 3
E	Approx. 302.4 (11.905)	Approx. 110

If resistance value is not as specified, replace the sender gauge.

FJ75, PZJ75 and HZJ75
(Operation)

(a) Connect a series of three 1.5 V dry cell batteries.

(b) Connect the positive (+) lead from the dry cell batteries to terminal 2 through a 3.4 W test bulb and the negative (−) lead to terminal 1.

(c) Check that the voltage rises between terminals 1 and 2 as the float is moved from the top to bottom position.

(Resistance)

Measure the resistance between terminals 1 and 2 for each float position.

Float position mm (in.)		Resistance (Ω)
F	Approx. 56 (2.20)	Approx. 3
E	Approx. 259.1 (10.201)	Approx. 110

If resistance value is not as specified, replace the sender gauge.

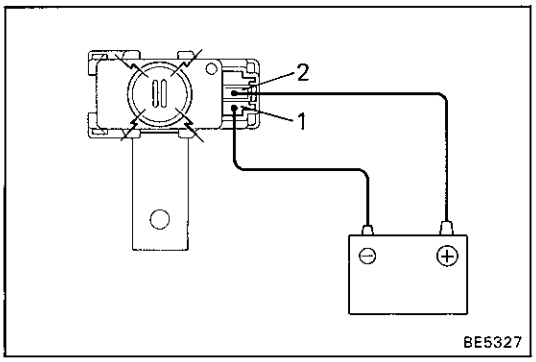
Fuel Filter Warning System

1. INSPECT WARNING LIGHT

(a) Disconnect the connector from the warning switch and connect terminals on the wire harness side connector.

(b) Remove the CHARGE fuse and turn the ignition switch ON.

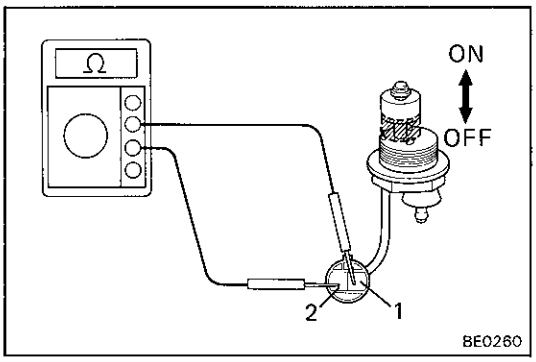
(c) Check that the warning light lights up and the warning buzzer sounds.



2. INSPECT WARNING BUZZER

Connect the positive (+) lead from the battery to terminal 2 and the negative (—) lead to terminal 1, check that the buzzer sounds.

If buzzer does not sound, replace the buzzer.



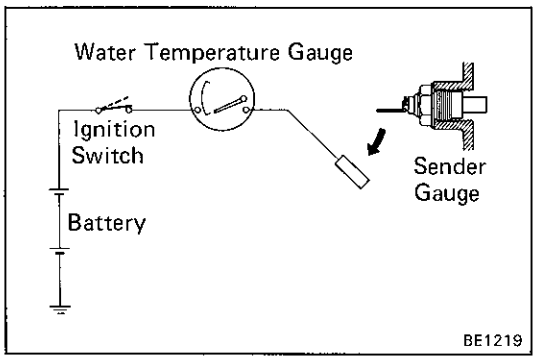
3. INSPECT WARNING SWITCH

(a) Check that there is no continuity between terminals with the warning switch OFF (float down).

(b) Check that there is continuity between terminals with the warning switch ON (float up).

If operation is not as specified, replace the switch.

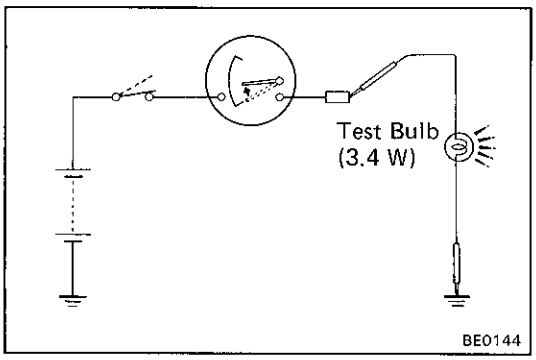
Water Temperature Gauge System



1. INSPECT RECEIVER GAUGE (Operation)

(a) Disconnect the connector from the sender gauge.

(b) Turn the ignition switch ON, check that the receiver gauge needle indicates COOL.

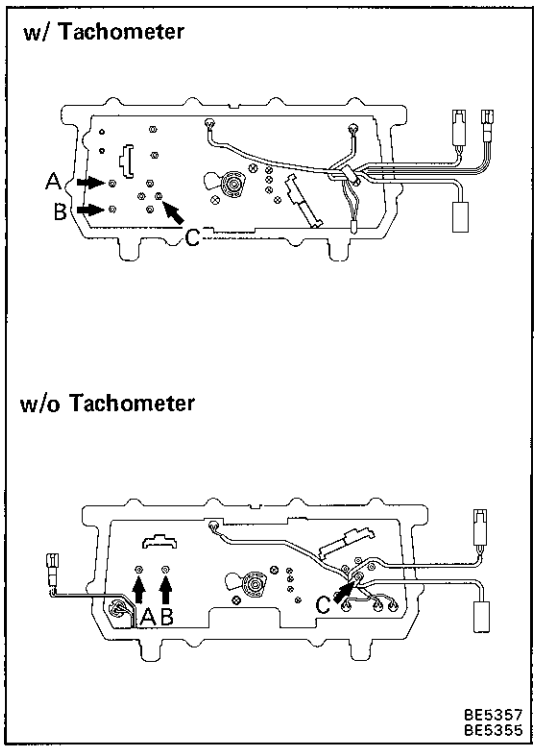


(c) Ground terminal on the wire harness side connector through a 3.4 W test bulb.

(d) Turn the ignition switch ON, check that the bulb lights up and the receiver gauge needle moves to the hot side.

If operation is as specified, replace the sender gauge. Then, recheck the system.

If operation is not as specified, measure the receiver gauge resistance.



(Resistance)

Measure the resistance between terminals.

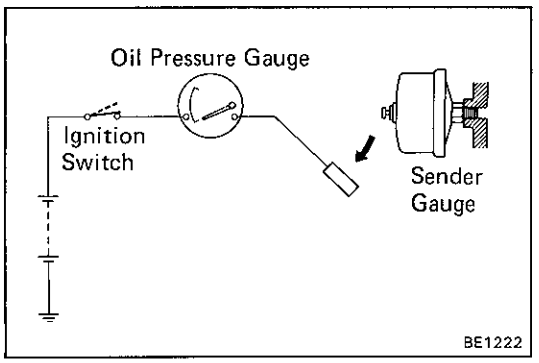
Between terminals	Resistance (Ω)
A — B	Approx. 25

If resistance value is not as specified, replace the receiver gauge.

(Meter circuit)

Check that there is continuity between terminals B and C.

If continuity is as specified, inspect voltage Regulator (See page BE-59).



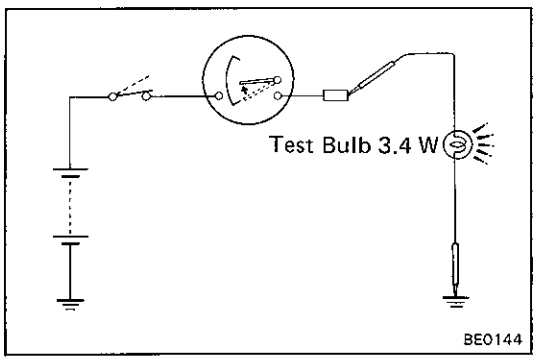
Oil Pressure Gauge System

1. **INSPECT RECEIVER GAUGE**

(Operation)

(a) Disconnect the connector from the sender gauge.

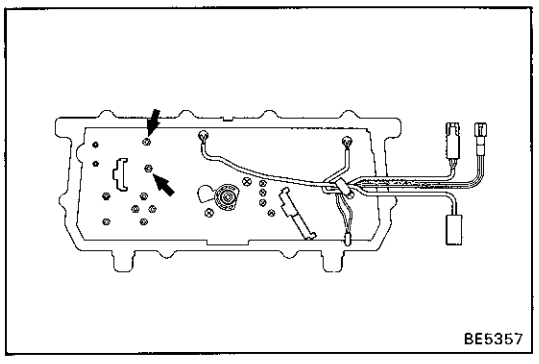
(b) Turn the ignition switch ON, check that the receiver gauge needle indicates to the low.



(c) Ground the terminal on the wire harness side through a 3.4 W test bulb.

(d) Turn the ignition switch ON, check that the bulb lights and the receiver gauge needle moves to the high side.

If the operation is not as specified, measure the receiver gauge resistance.



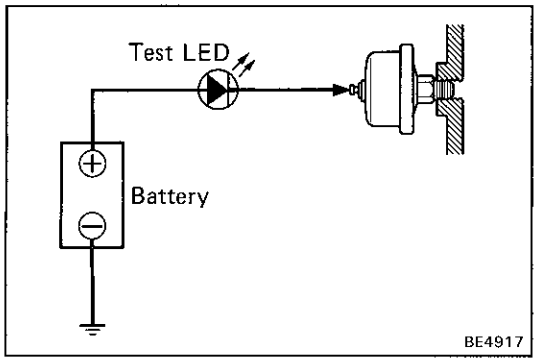
(Resistance)

HINT: The number in brackets ( ) applies to 24 V vehicles.

Measure the receiver gauge resistance between terminals.

Resistance: Approx. 25 (44) Ω

If resistance value is not as specified, replace the receiver gauge.



2. **INSPECT SENDER GAUGE**

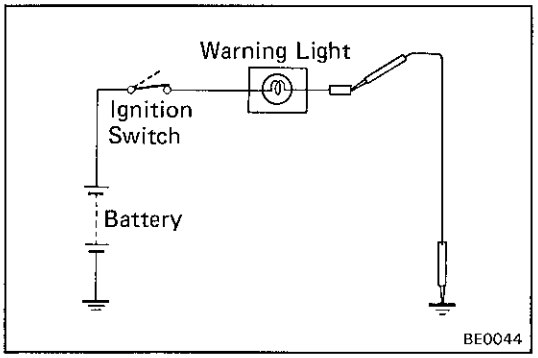
(a) Disconnect the connector from the sender gauge.

(b) Apply battery voltage to the sender gauge terminal through a test LED.

(c) Check that the bulb does not light when the engine is stopped.

(d) Check that the LED flashes when the engine is running. The number of flashes should vary with engine speed.

If operation is not as specified, replace the sender gauge.



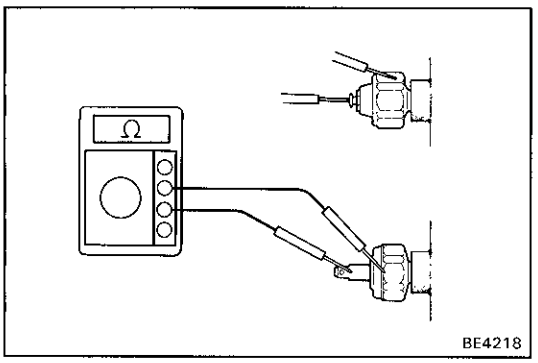
Low Oil Pressure Warning System

1. **INSPECT WARNING LIGHT**

(a) Disconnect the connector from the warning switch and ground terminal on the wire harness side connector.

(b) Turn the ignition switch ON, check that the warning light lights up.

If the warning light does not light up, test the bulb.



2. **INSPECT LOW OIL PRESSURE WARNING SWITCH**

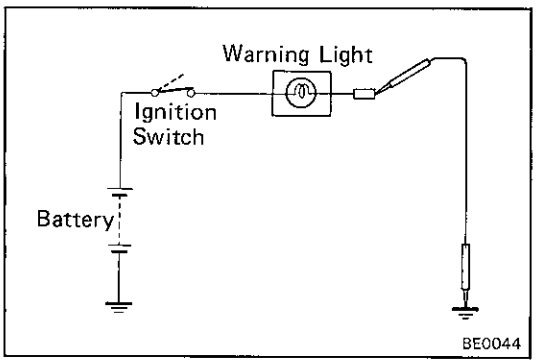
(a) Disconnect the connector from the switch.

(b) Check that there is continuity between terminal and ground with the engine stopped.

(c) Check that there is no continuity between terminal and ground with the engine running.

HINT: Oil pressure should be over 0.5 kg/cm^2 (7.1 psi, 49 kPa)

If operation is not as specified, replace the switch.



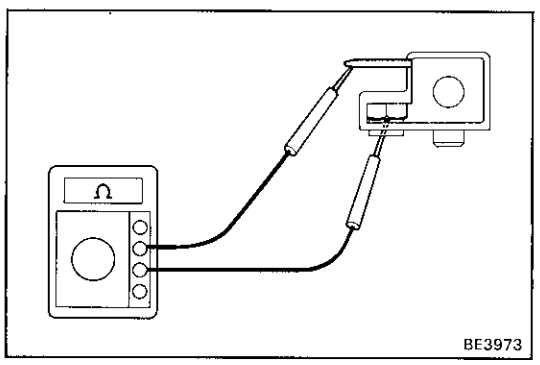
Parking Brake Warning System

1. **INSPECT WARNING LIGHT**

(a) Disconnect the connector from the parking brake switch and ground terminal on the wire harness side connector.

(b) Turn the ignition switch ON, check that the warning light lights up.

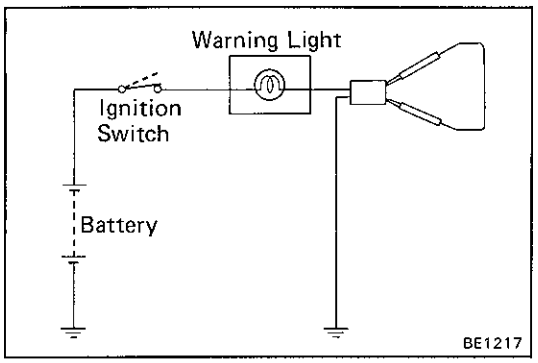
If the warning light does not light up, test the bulb.



2. **INSPECT PARKING BRAKE SWITCH**

(a) Check that there is continuity between terminals with the switch ON (switch pin released).

(b) Check that there is no continuity between terminals with the switch OFF (switch pin pushed in).



Brake Warning System

1. INSPECT WARNING LIGHT

(a) (w/o Parking Brake Warning System)

Disconnect the connectors from the level warning switch, parking brake switch and (Diesel Engine) vacuum warning switch.

(w/ Parking Brake Warning System)

Disconnect the connectors from the level warning switch and (Diesel Engine) vacuum warning switch.

(b) Connect terminals on the wire harness side connector of the level warning switch connector.

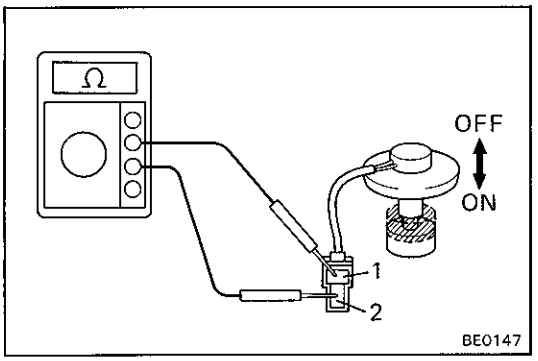
(c) Turn the ignition switch ON, check that the warning light lights up.

If the warning light does not light up, test the bulb.

2. INSPECT SWITCHES

(Parking Brake Switch: w/o Parking Brake Warning System)

See step 2 on page BE-63.

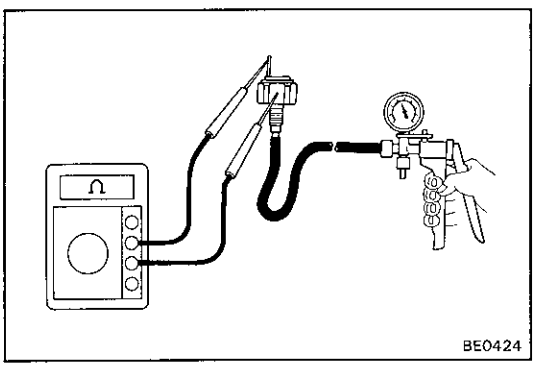


(Brake Fluid Level Warning Switch)

(a) Check that there is no continuity between terminals with the switch OFF (float up).

(b) Check that there is continuity between terminals with the switch ON (float down).

If operation is not as specified, replace the switch.



(Vacuum Warning switch: Diesel Engine)

(a) Check that there is continuity between terminal and the switch body with a no vacuum.

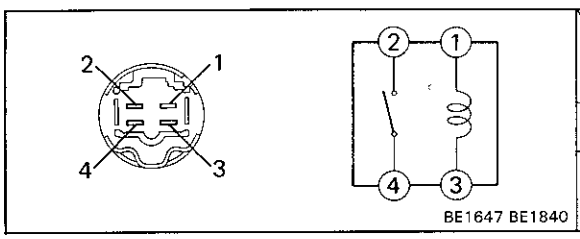
(b) Apply 200 ± 40 mmHg (7.87 ± 1.57 in.Hg, 26.7 ± 5.3 kPa) of pressure.

(c) Check that there is no continuity between terminal and the switch body.

If operation is not as specified, replace the switch.

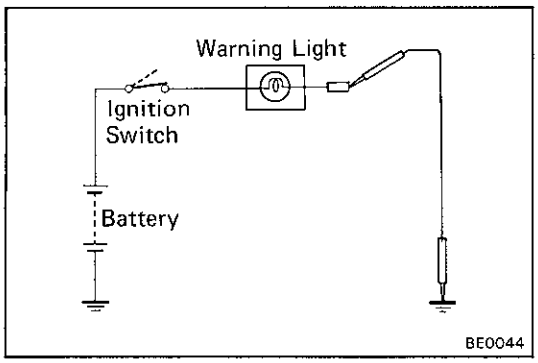
3. INSPECT RELAY

(Bulb Check Relay: Australia/Continuity)



Terminal / Condition	1	2	3	4
Constant	○	∿∿∿	○	
Apply battery voltage to terminals 1 and 3.		○		○

If continuity is not as specified, replace the relay.



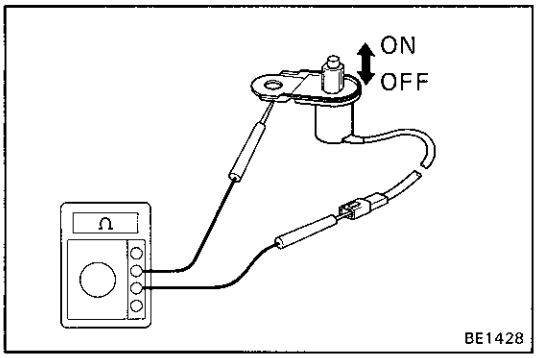
Open Door Warning System

1. INSPECT WARNING LIGHT

(a) Disconnect the connector from the door courtesy switch and ground terminal on the wire harness side connector.

(b) Turn the ignition switch ON, check that the warning light lights up.

If the warning light does not light up, test the bulb.

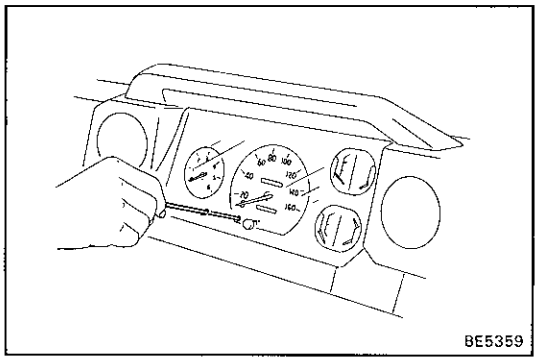


2. INSPECT COURTESY SWITCH

(a) Check that there is continuity between terminal and the switch body with the ON (switch pin released: opened door).

(b) Check that there is no continuity between terminal and the switch body with the OFF (switch pin pushed in: closed door).

If operation is not as specified, replace the switch.



Timing Belt Warning System

1. INSPECT WARNING LIGHT

(a) Turn the ignition switch ON, check that the warning light lights up.

If the warning light does not light up, test the bulb.

(b) When the engine starts, check that the warning light goes out.

HINT: If the warning light does not go out, push the reset switch switch.

If the warning light does not go out, inspect the warning reset switch.

(c) Check that the warning light lights up when the reset switch is pressed during engine operation.

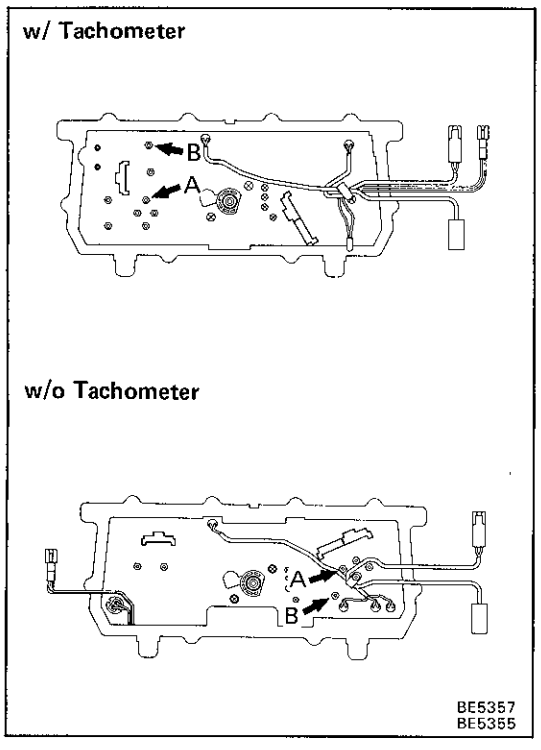
(d) Press the reset switch again and check that the warning light goes out.

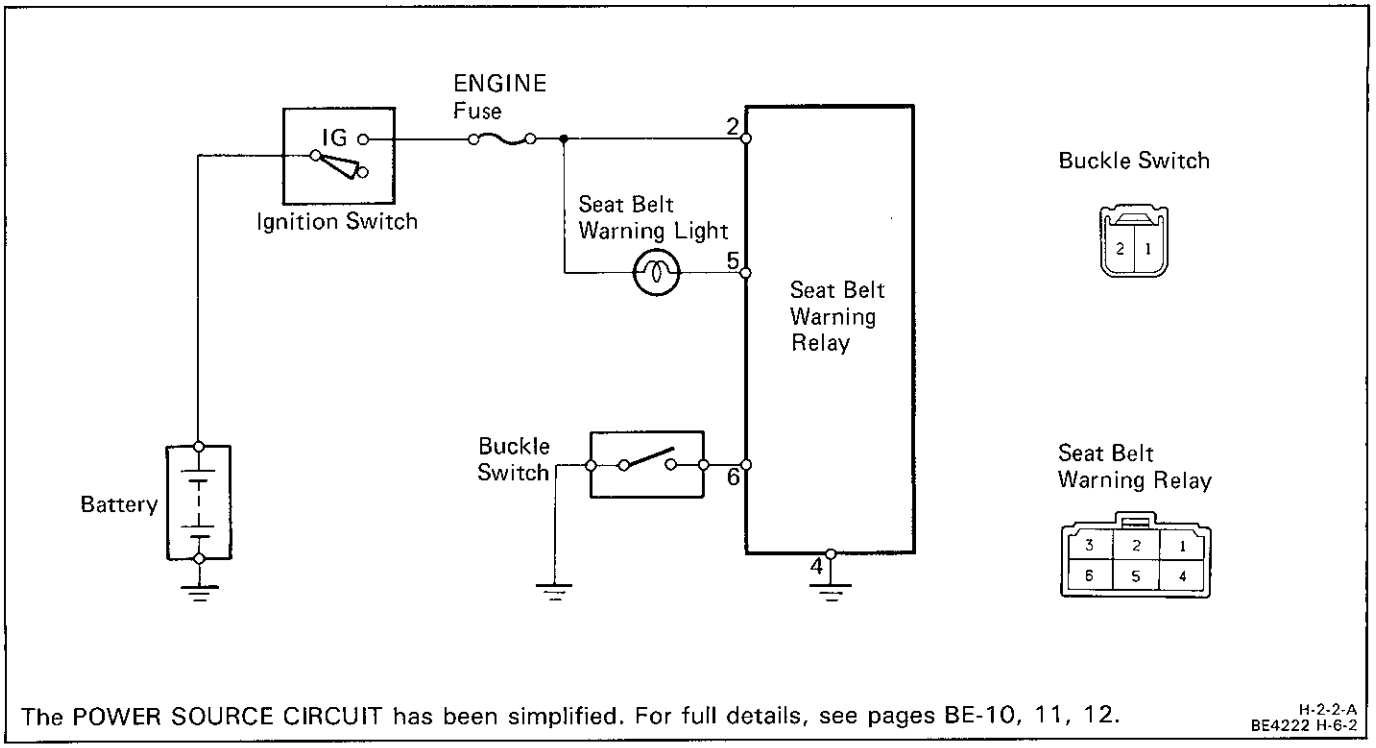
2. INSPECT WARNING RESET SWITCH

Check that each time the reset switch is pressed that there alternately is, then is not, continuity between A and B.

HINT: After inspection, always perform installation when there is no continuity and check that the warning light does not light up.

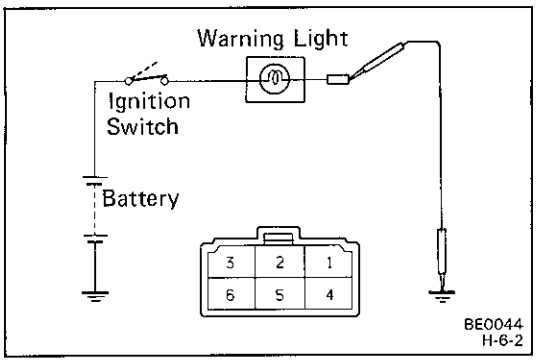
If operation is not as specified, replace the speedometer assembly.





The POWER SOURCE CIRCUIT has been simplified. For full details, see pages BE-10, 11, 12.

H-2-2-A
BE4222 H-6-2



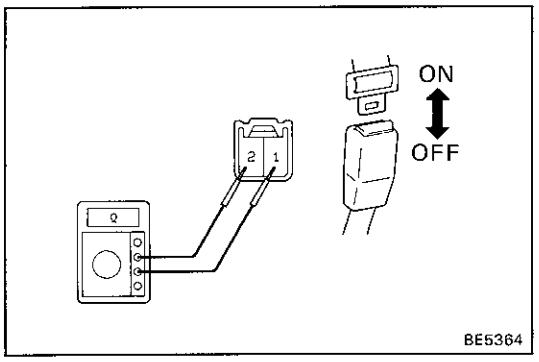
1. INSPECT WARNING LIGHT

(a) Disconnect the connector from the seat belt warning relay.

(b) Ground terminal 5 on the wire harness side connector.

(c) Turn the ignition switch ON, check that the warning light lights up.

If the warning light does not light, test the bulb.

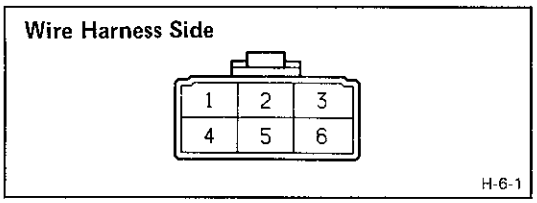


2. INSPECT BUCKLE SWITCHES

(a) Check that there is no continuity between terminals with the switch ON (belt unfastened).

(b) Check that there is continuity between terminals with the switch OFF (belt fastened).

If operation is not as specified, replace the seat belt inner.

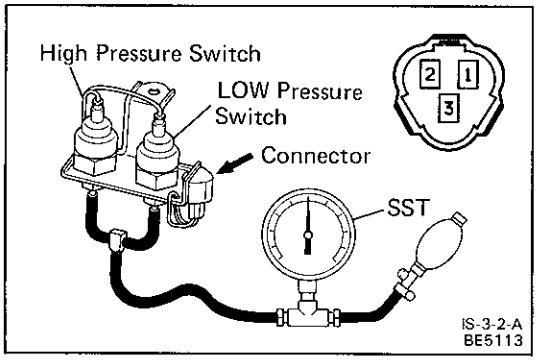


3. INSPECT SEAT BELT RELAY (Relay Circuit)

Disconnect the connector from the relay and inspect the connector on the wire harness side as shown in the chart.

Check for	Tester connection	Condition		Specified Value
Continuity	4 — Ground	Constant		Continuity
	6 — Ground	Buckle switch position	OFF (Belt fastened)	No continuity
			ON (Belt unfastened)	Continuity
Voltage	2 — Ground	Ignition switch position	LOCK or ACC	No voltage
			ON	Battery voltage
	5 — Ground	Ignition switch position	LOCK or ACC	No voltage
			ON	Battery voltage

If circuit is as specified, replace the relay.



Turbo Indicator and Warning System

1. INSPECT INDICATOR AND WARNING LIGHT OPERATION (Refer to EM Section of ENGINE Repair Manual)

2. INSPECT PRESSURE SWITCH OPERATION

(a) At the 3-way union, disconnect the pressure hose from the compressor elbow and connect a turbocharger pressure gauge (SST).

SST 09992-00241

(b) Check that the low and high pressure switch are continuity between terminal and ground as shown in the chart.

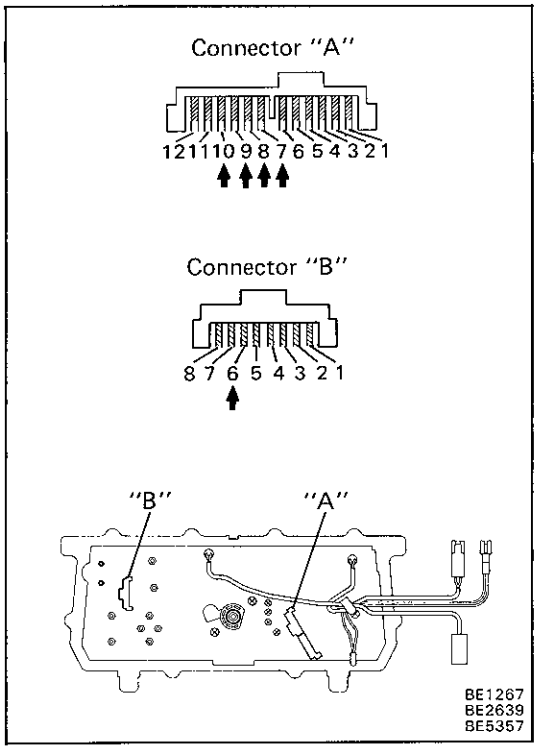
(High Pressure Switch)

Terminal and ground / Condition	1	Ground
No pressure	O	O
Apply 0.84 kg/cm² (11.9 psi, 82.4 kPa) of pressure		

(Low Pressure Switch)

Terminal and ground / Condition	2	Ground
No pressure	O	O
Apply 0.14 kg/cm² (2.0 psi, 13.7 kPa) of pressure		

If operation is not as specified, replace the switch.



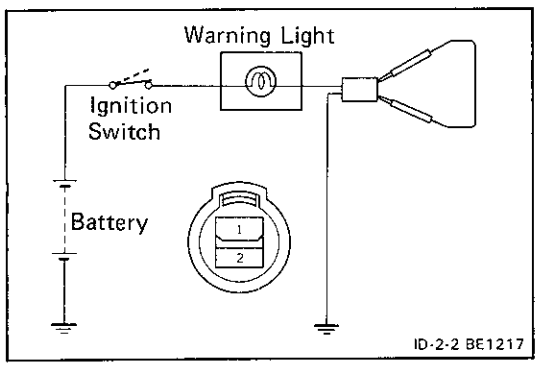
3. INSPECT TURBO INDICATOR AND WARNING LIGHT DRIVE CIRCUIT

(a) Remove the Combination meter.

(b) Connect the positive (+) lead and negative (—) lead from the battery to combination meter terminals as shown in the chart and check that the LED operation.

Positive (+) (Combination Meter Terminal)	Negative (—) (Combination Meter Terminal)	LED Condition	
		Green	Amber
(A-7)	(A-9, A-10, B-6)	OFF	OFF
(A-7)	(A-10, B-6)	ON	OFF
(A-7)	(B-6)	OFF	ON
(A-7)	(A-9, B-6)	OFF	ON
(A-7)	(A-8, B-6)	ON	ON

If operation is not as specified, replace the combination meter.



Air Cleaner Warning System

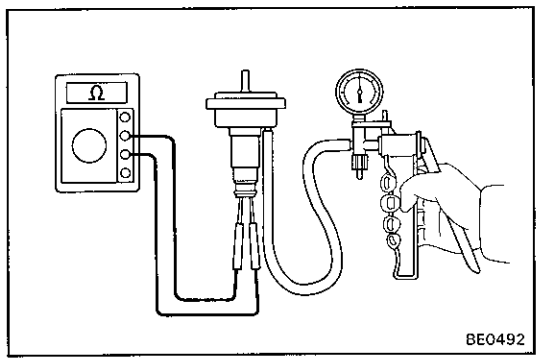
1. INSPECT WARNING LIGHT

(a) Disconnect the connector from the vacuum switch.

Connect the wire harness side connector terminals 1 and 2.

(b) Start the engine. Check that the bulb lights.

If the warning light does not light up, test the bulb.

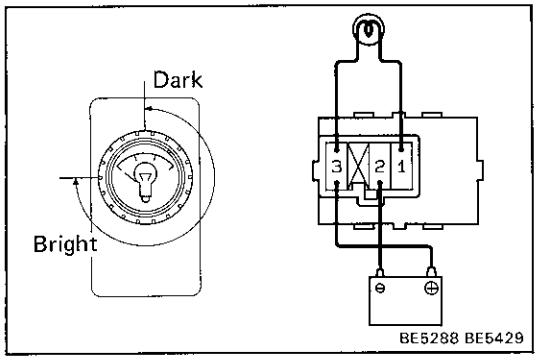


2. INSPECT VACUUM SWITCH

(a) With a vacuum of 29.4 ± 3.7 mmHg (1.157 ± 0.146 in.Hg, 3.9 ± 0.5 kPa) or above, check that there is continuity between terminals.

(b) Check that there is no continuity between terminals with no vacuum.

If operation is not as specified, replace the switch.



Meter Illumination Control System

INSPECT LIGHT CONTROL RHEOSTAT

(a) Connect terminals 1 and 3 through a 3.4 W test bulb.

(b) Connect the positive (+) lead from the battery to terminal 3 and the negative (—) lead to terminal 2.

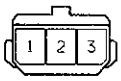
(c) Gradually turn the rheostat knob to clockwise, check that the test bulb brightness changes from dark to bright.

If operation is not as specified, replace the rheostat.

Inner Ambient Temperature Sensor No. 1
(Instrument Panel Side)



Inner Ambient Temperature Sensor No. 2
(Roof or Back Panel Side)



Outer Ambient Sensor



GA-2-2-C
GA-3-1
1H-3-1

THERMOMETER SYSTEM

1. INSPECT INNER AND OUTER AMBIENT TEMPERATURE SENSOR

Measure the resistance between terminals 1 and 2

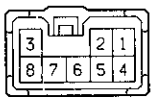
(Inner)

Temperature (°C)	−30	−20	−10	0	10	20	30	40	50	60	70
Resistance (kΩ)	6.24	3.68	2.25	1.41	0.42	0.61	0.41	0.29	0.20	0.15	0.11

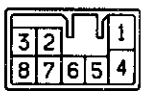
(Outer)

Temperature (°C)	−30	−20	−10	0	10	20	30	40	50	60	70
Resistance (kΩ)	12.47	7.36	4.49	2.83	1.83	1.22	0.83	0.57	0.41	0.29	0.21

If resistance is not specified, replace inner or outer ambient temperature sensor.



Connector "A"



Connector "B"

S-8-2 GS-8-2

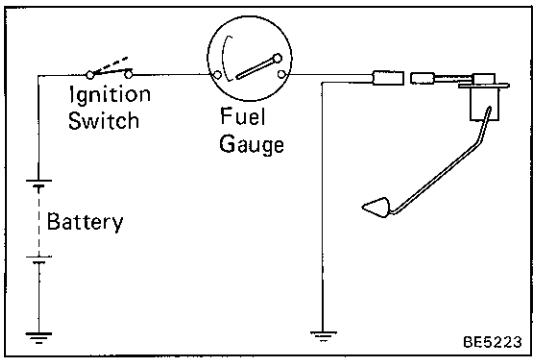
2. INSPECT ACCESSORY METER

Disconnect connectors from the accesory meter and inspect connectors on wire harness side as shown in the chart.

Check for	Tester connection	Condition		Specified value
Continuity	A-1 — Ground	Constant		Continuity
	B-8 — Ground	Constant		Continuity
Resistance	B-1 — B-4	Sensor temperature (Inner No.2)		See STEP 1 of Thermometer System on page BE-69
	B-2 — B-3	Sensor temperature (Inner No.1)		
	B-5 — B-6	Sensor temperature (Outer)		
Voltage	A-3 — Ground	Light control switch position	OFF	No voltage
			TAIL or HEAD	Battery voltage
	B-7 — Ground	Ignition switch position	OFF	No voltage
			ACC or ON	Battery voltage

If circuit is specified, replace the accessory meter.

If circuit is not specified, refer to step 1 of Thermometer System and inspect circuits connected to other parts.



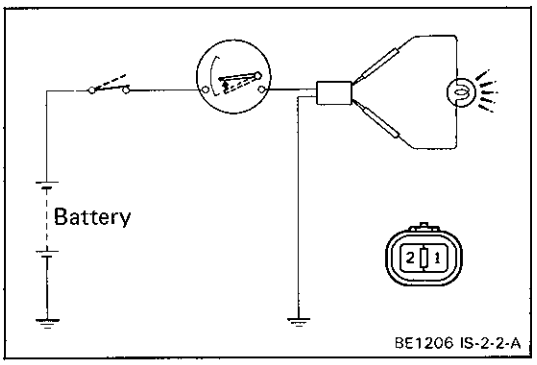
SUB FUEL GAUGE SYSTEM

1. INSPECT RECEIVER GAUGE

(Operation)

(a) Disconnect the connector from the sender gauge.

(b) Turn the ignition switch ON, check that the receiver geuge needle indicates EMPTY.

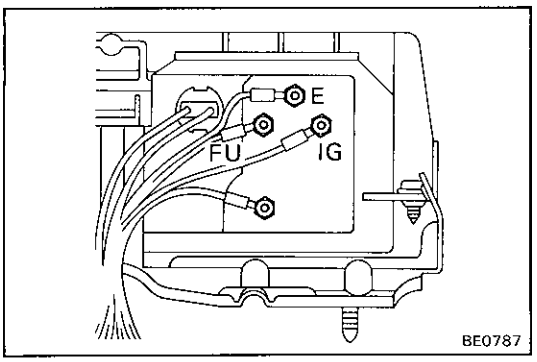


(c) Connect teminals 1 and 2 on the wire harness side connector through a 3.4 W test bulb.

(d) Turn the ignition switch ON, check that the bulb lights up and receiver gauge needle moves toward the full side.

HINT: Because of the silicon oil in the gauge, it will take a short time for the needle stabilize.

If operation is not as specifiedm inspect the receiver gauge resistance.



(Resistance)

Measure the resistance between terminals.

Between terminals	Resistance (Ω)
IG — FU	Approx. 86
FU — E	Approx. 155
IG — E	Approx. 241

If resistance velue is no as specified, replace the receiver gauge.

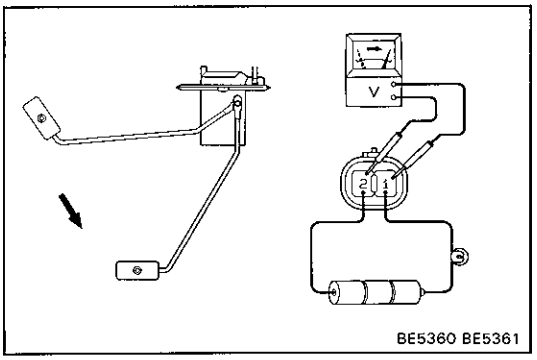
2. INSPECT SENDER GAUGE

(Operation)

(a) Connect a series of three 1.5 V dry cell batteries.

(b) Connect the positive (+) lead from the dry cell batteries to terminal 2 athrough 2.4 W test bulb and the negaive (−) lead to teminal 1.

(c) Check that the voltage reises between teminals 1 and 2 as the float is moved from the top to bottom position.



(Resistance)

Measure the resistance between termianls 1 and 2 for each flat position.

Float position mm (in.)		Resistance (Ω)
F	Approx. 76.7 (3.020)	Approx. 3
E	Approx. 302.4 (11.905)	Approx. 110

If resistance value is not as specified, replace the sender gauge.

