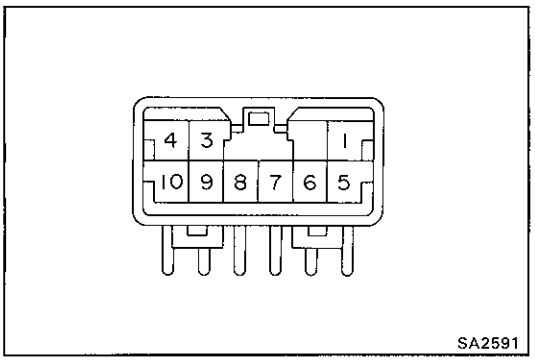



# Parts Inspection

## Power Locking Hub ECU

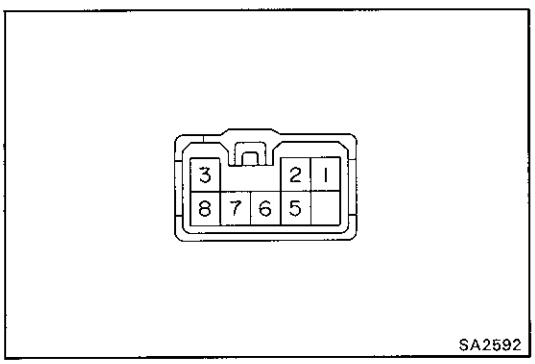
### INSPECT ECU CIRCUIT WITH CONNECTOR CONNECTED

HINT:

- Before inspection, check that the battery voltage is 20 — 28 V.
- Inspect with the ignition switch turning on.

| Terminal | | Check for | Tester connection + | Tester connection — | Condition | Specified voltage | Trouble part |
|---|---|---|---|---|---|---|---|
| 1 | SPD | Voltage | 1 | 7 | Slowly turn the speed meter cable | 0 ↔ 4.5V | Speed Sensor |
| 3 | $M_1$ | Voltage | 3 | 4 | Hub lock switch OFF to ON | Battery voltage (About 3 seconds) | 4WD Control ECU |
| 4 | $M_2$ | Voltage | 4 | 3 | Hub lock switch ON to OFF | Battery voltage (About 4 seconds) | |
| 5 | 4WD | Voltage | 5 | 7 | 4WD Condition (H4 switch ON or transfer lever in L4 position) | No voltage | 4WD Detection Switch |
| | | | | | 2WD Condition (H4 switch OFF and transfer lever in H2 position) | Battery voltage | |
| 6 | PLH | Voltage | 6 | 7 | Hub lock switch OFF | Battery voltage | Hub Lock Switch |
| | | | | | Hub lock switch ON | No voltage | |
| 7 | GND | Continuity | 7 | Body ground | Constant (IG switch OFF) | Continuity | Wire Harness |
| 8 | PLP | Voltage | 8 | 7 | Hub lock switch OFF (Hub lock indicator light off) | Battery voltage | Hub Lock Indicator Light |
| | | | | | Hub lock switch ON (Hub lock indicator light on) | No voltage | |
| 9 | 4LP | Voltage | 9 | 7 | 2WD Condition (4WD indicator light off) | Battery voltage | 4WD Indicator Light |
| | | | | | 4WD Condition (4WD indicator light on) | No voltage | |
| 10 | IG | Voltage | 10 | 7 | Constant | Battery voltage | DIFF Fuse |

## 4WD Control Switch

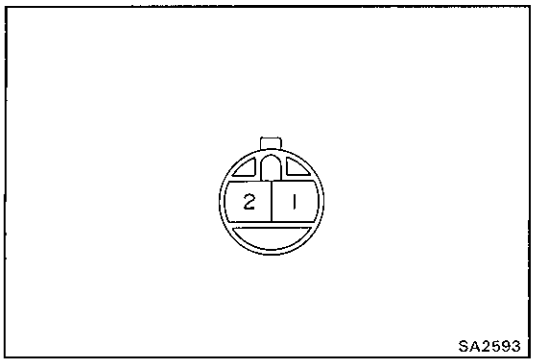



### INSPECT 4WD CONTROL SWITCH

**(4WD Control Switch/Continuity)**

| Switch | Terminal / Position | 1 | 6 | 5 | 8 | 3 | Illumination 7 | Illumination 2 |
|---|---|---|---|---|---|---|---|---|
| H4 Switch | OFF | ○ | —○ | | | | | |
| | ON | ○ | — | —○ | | | | |
| Hub Lock Switch | OFF | | | | | | | |
| | ON | | | | ○ | —○ | | |

If continuity is not as specified, replace the switch.




## 4WD Detection Switch

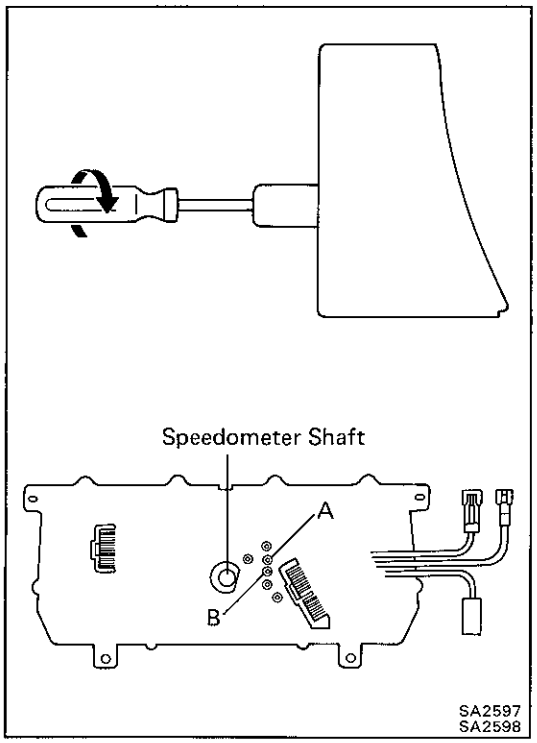
### INSPECT 4WD DETECTION SWITCH

(a) Remove the switch from the transfer.

(b) Inspect the switch continuity between terminals.

| Terminal / Switch position | 1 | 2 |
|---|---|---|
| Tip ball is pushed | ○ | ○ |
| Tip ball is free | | |

If continuity is not as specified, replace the switch.




## Speed Sensor

### INSPECT SPEED SENSOR

(a) Remove the combination meter.
(See page BO-50)

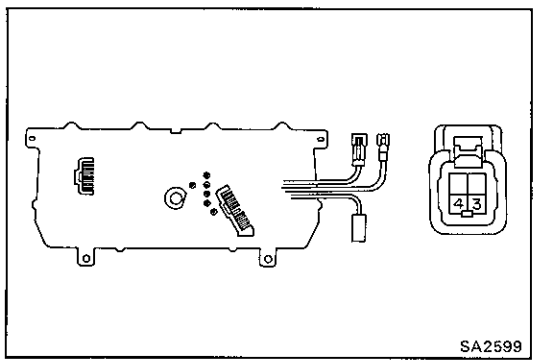
(b) Using a small screwdriver, turn the speedometer shaft.

HINT: Tape the screwdriver tip before use.

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

If operation is not a specified, replace the speedometer.

(d) Install the combination meter.
(See page BO-56)




# INDICATOR LIGHTS

## (Hub Lock Indicator Light)

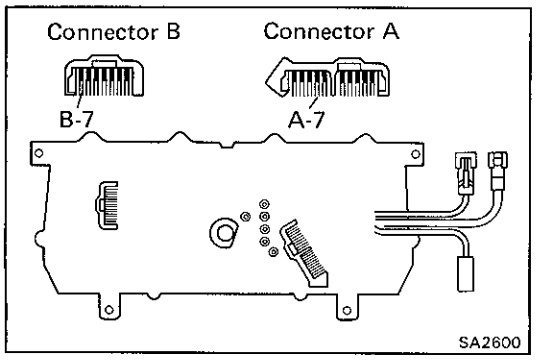
### INSPECT HUB LOCK INDICATOR LIGHT

(a) Remove the combination meter.
(See page BO-50)

(b) Connect the positive (+) lead from the battery to terminal 3 and negative (−) lead to terminal 4, check the indicator light lights on.

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

(c) Install the combination meter.
(See page BO-56)




## (4WD Indicator Light)

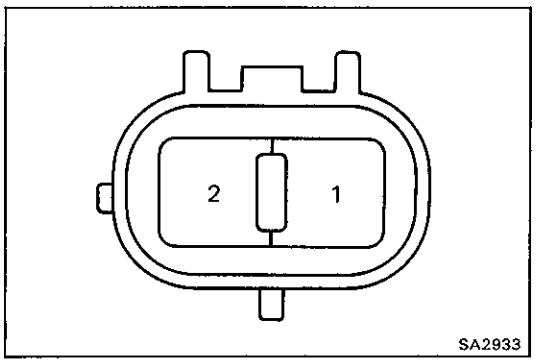
### INSPECT INDICATOR LIGHT

(a) Remove the combination meter.
(See page BO-50)

(b) Connect the positive (+) lead from the battery to terminal A-7, and the negative (−) battery to terminal B-7 check that the indicator light lights on.

If the indicator light does no light up, test the bulb.

(c) Install the combination meter.
(See page BO-56)




## Power Locking Hub Actuator

**1. INSPECT POWER LOCKING HUB ACTUATOR OPERATION**

(a) Set the vehicle in 2WD condition and turn on the hub lock switch.

(b) Jack up the front of the vehicle and lock the rear wheels.

(c) Disconnect the connector from the disc brake dust cover.

(d) Check that the axle hub is in lock condition.

(e) Connect the positive (+) lead from the battery to terminal 1 and negative (−) lead to terminal 2, check that the motor operates and the hub is in "LOCK" to "FREE" condition.

**NOTICE: Do not apply voltage for more than 4 seconds.**

HINT: When checking the hub condition, turn the front propeller shaft and check that the right and left tires do not turn.

(f) Reverse the leads, and check that the motor operates and the hub is in "FREE" to "LOCK" condition.

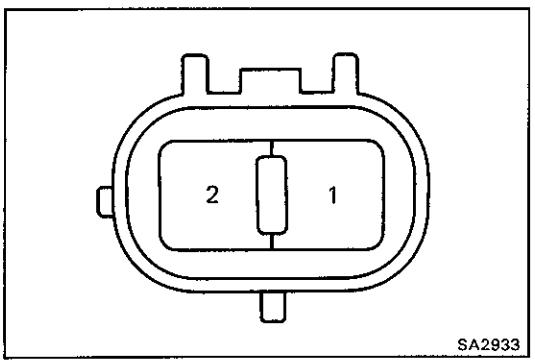
**NOTICE: Do not apply voltage for more than 3 seconds.**

HINT:

- When checking the hub condition, turn the front propeller shaft and check that the right and left tires turn.
- If the inner hub did not mesh with the clutch, slowly turn the right and left wheels by hand, and set the hub in lock condition.
- If the one of the right and left hubs did not be in lock condition, both tires do not turn when turn the front propeller shaft.

(g) Connect the connector.

(h) Jack down the vehicle.




**2. INSPECT ELECTRICAL LOCKING HUB ACTUATOR MOTOR**

(a) Disconnect the connector from the disc brake dust cover.

(b) Measure the resistance between terminals.

**Resistance: 20 — 500 Ω**

If resistance value is not as specified, check the power locking hub body sub-assembly and replace if necessary.

(c) Check that there is no continuity between each terminal and body ground.

If there is continuity, replace the power locking hub body sub assembly.

(d) Connect the connector.