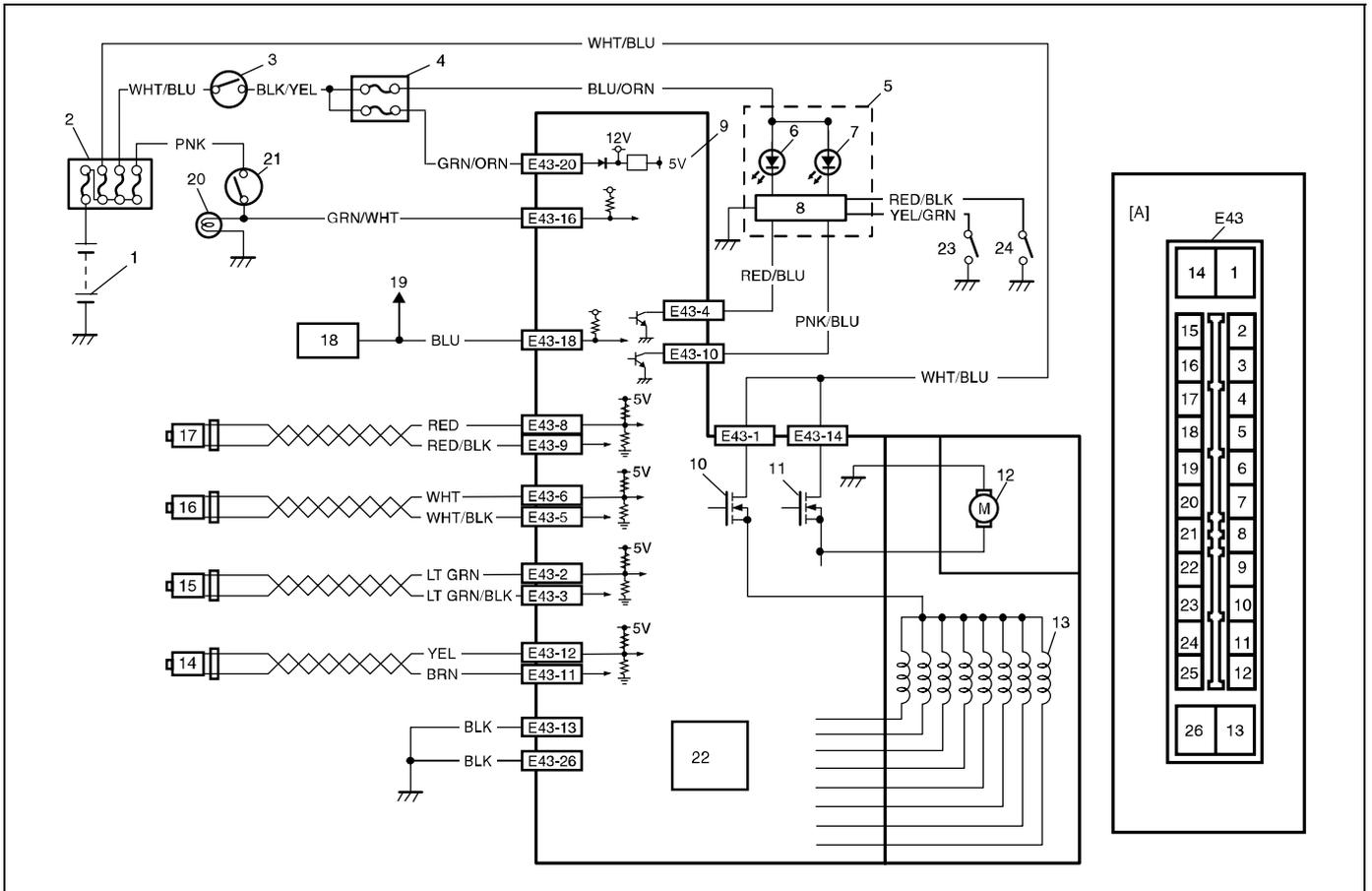


# System Circuit



[A]: Terminal arrangement of ABS hydraulic unit/control module assembly	9. ABS hydraulic unit/control module assembly	18. Data link connector
1. Battery	10. ABS fail-safe relay (transistor) (Solenoid valve relay (transistor))	19. To ECM, TCM, SDM and P/S control module (if equipped)
2. Main fuses	11. ABS pump motor relay (transistor)	20. Stop lamp
3. Ignition switch	12. Pump motor	21. Brake light switch
4. Circuit fuses	13. Solenoid valves	22. G sensor (For 4WD model only)
5. Combination meter	14. Right-rear wheel speed sensor	23. Brake fluid level switch
6. ABS warning lamp	15. Left-rear wheel speed sensor	24. Parking brake switch
7. Brake warning lamp	16. Right-front wheel speed sensor	
8. Lamp driver module	17. Left-front wheel speed sensor	

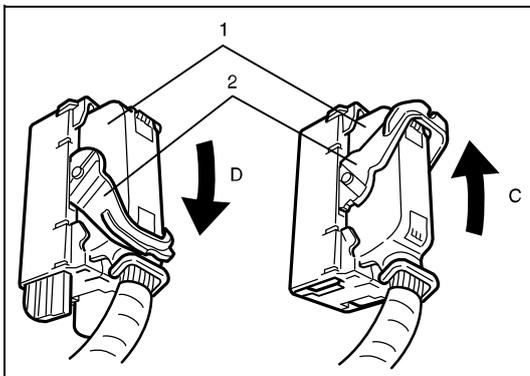
TERMINAL	CIRCUIT	
E43	1	ABS fail-safe relay (transistor)
	2	Left-rear wheel speed sensor (+)
	3	Left rear wheel speed sensor (-)
	4	"ABS" warning lamp
	5	Right-front wheel speed sensor (-)
	6	Right-front wheel speed sensor (+)
	7	-
	8	Left-front wheel speed sensor (+)
	9	Left front wheel speed sensor (-)
	10	Brake warning lamp
	11	Right-rear wheel speed sensor (+)
	12	Right-rear wheel speed sensor (-)
	13	Ground
	14	ABS pump motor relay (transistor)
	15	-
	16	Brake light switch
	17	-
	18	Data link connector
	19	-
	20	Ignition switch
	21	-
	22	-
	23	-
	24	-
	25	-
	26	Ground

## Diagnosis

To ensure that the trouble diagnosis is done accurately and smoothly, observe “Precaution in Diagnosing Troubles” and follow “ABS Diagnostic Flow Table”.

### Precaution in Diagnosing Troubles

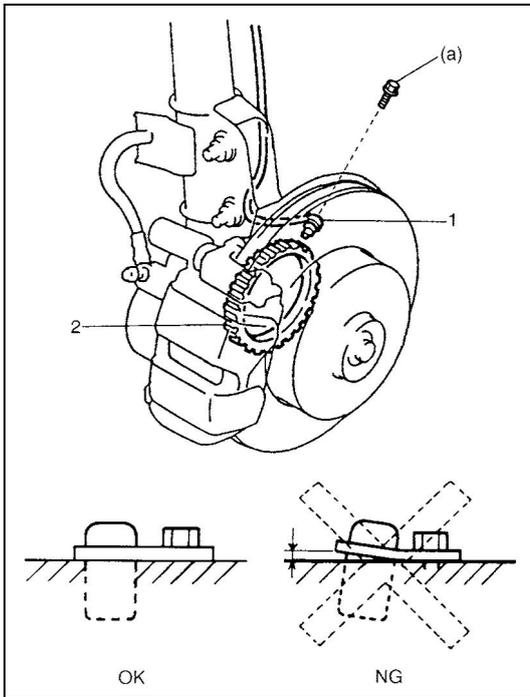
- If the vehicles was operated in any of the following ways, ABS warning lamp may light momentarily but this does not indicate anything abnormal in ABS.
  - The vehicle was driven with parking brake pulled.
  - The vehicle was driven with brake dragging.
  - The vehicle was stuck in mud, sand, etc.
  - Wheel spin occurred while driving.
  - Wheel(s) was rotated while the vehicle was jacked up.
- Be sure to read “Precautions for Electrical Circuit Service” in Section 0A before inspection and observe what is written there.
- Be sure to use the trouble diagnosis procedure as described in the flow table. Failure to follow the flow table may result in incorrect diagnosis. (Some other diagnosis trouble code may be stored by mistake in the memory of ABS control module during inspection.)
- When disconnecting ABS hydraulic unit/control module connector (1), turn down lock (2) of connector.  
When connecting, set the connector on ABS hydraulic unit/control module assembly and push the lock (2) up.



C: Turn down to disconnect
----------------------------

D: Turn up to connect
-----------------------

## Installation



- 1) Check that no foreign material is attached to sensor (1) and sensor ring (2).
- 2) Install it by reversing removal procedure.

### Tightening torque

#### Front wheel speed sensor bolt

(a): 10 N·m (1.0 kg·m, 7.5 lb-ft)

### CAUTION:

**Do not pull or twist wire harness more than necessary when installing front wheel speed sensor.**

- 3) Check that there is no clearance between sensor and knuckle.

## Front Wheel Speed Sensor Inspection

- Check sensor for damage.
- Check sensor for resistance and continuity.

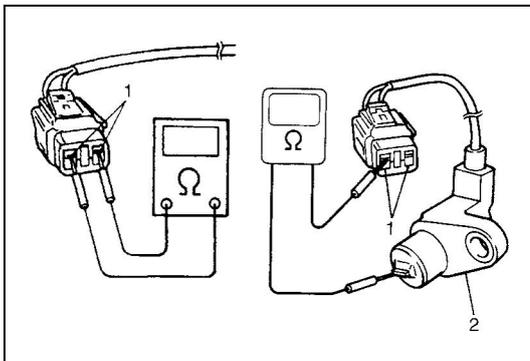
### Between both terminals (1) sensor

: 1.2 – 1.6 k $\Omega$  at 20°C (68°F)

### Between sensor terminal and sensor body (2)

: No continuity

- If the check result is not as specified and any malfunction is found, replace.



## Front Wheel Speed Sensor Ring Removal and Installation

### NOTE:

The front wheel sensor ring can not be removed or replaced alone. If front wheel sensor ring needs to be replaced, replace it as a wheel side joint assembly of drive shaft.

For removal and installation of wheel side joint assembly of drive shaft, refer to "Front Drive Shaft Assembly Removal and Installation" in Section 4A.

## Rear Wheel Speed Sensor Inspection

- Check sensor for damage.
- Check sensor for resistance and continuity.

### Between both terminals of sensor

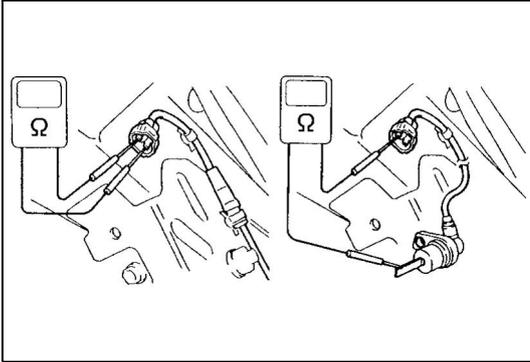
2WD vehicle: 0.9 – 1.3 k $\Omega$  at 20°C (68°F)

4WD vehicle: 1.2 – 1.6 k $\Omega$  at 20°C (68°F)

### Between sensor terminal and sensor body

: No continuity

- If the check result is not as specified and any malfunction is found, replace.



## Rear Wheel Speed Sensor Ring (For 2WD Vehicle) Removal and Installation

For removal, inspection and installation of rear wheel sensor ring, refer to “Brake Drum Removal and Installation (for 2WD Model)” in Section 5C.

## Rear Wheel Speed Sensor Ring (For 2WD Vehicle) Inspection

For inspection of rear wheel speed sensor ring, refer to “Drum Brake Component Parts Inspection” in Section 5C.

## Rear Wheel Speed Sensor Ring (For 4WD Vehicle) Removal and Installation

### NOTE:

**The rear wheel speed sensor ring can not be removed or replaced alone. If rear wheel speed sensor ring needs to be replaced, replace it as a retainer ring of rear axle shaft.**

For removal and installation of retainer ring of rear axle shaft, refer to “Rear Axle Shaft and Wheel Bearing Removal and Installation (for 4WD Model)” in Section 3E.

## Rear Wheel Speed Sensor Ring (For 4WD Vehicle) Inspection

- Check rotor serration (teeth) for being missing damaged or deformed.
- Turn wheel and check if rotor rotation is free from eccentricity and looseness.
- Check that no foreign material is attached.
- If any faulty is found, repair or replace.

