

BR1332

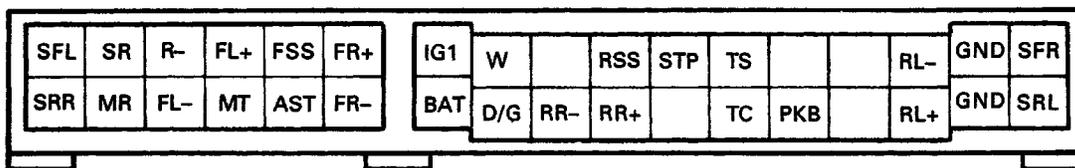
Anti-Lock Brake System Circuit INSPECTION OF SYSTEM CIRCUIT

(2WD vehicles)

1. INSPECT SYSTEM CIRCUIT WITH CONNECTOR CONNECTED

(a) Remove the ABS ECU.

(b) Using a voltmeter with high impedance (10 K ohm/V minimum), measure the voltage at each terminal and body ground.



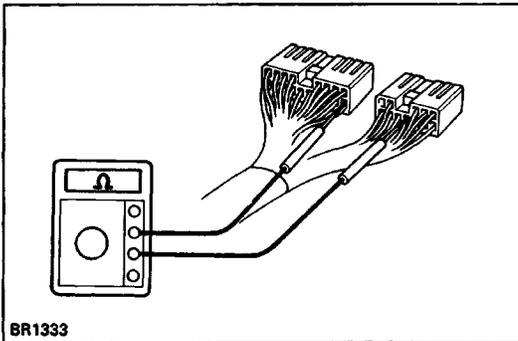
R01274

Tester Connection	Check Item	Condition	Specified Value	Trouble Part
SFR	Voltage	IG switch on and "ABS" warning light goes on	About OV	Actuator
		IG switch on and "ABS" warning light goes off	Battery positive voltage	
R L-	Continuity	1G switch off	Continuity	ABS ECU
TS	Voltage	IG switch on and data link connector 1 Ts-E, not connected	Battery positive voltage	
		IG switch on and data link connector 1 Ts-E, connected	About OV	
STP	Voltage	IG switch off and brake pedal depressed	Battery positive voltage	Stop light switch Stop light
	Continuity	IG switch off and brake pedal returned	Continuity	
RSS	Continuity	IG switch off	Continuity	ABS ECU
W	Voltage	IG switch on and "ABS" warning light goes on	About OV	ABS ECU "ABS" warning light
		IG switch on and "ABS" warning light goes off	Battery positive voltage	
IG1	Voltage	IG switch on	Battery positive voltage	ECU-IG Fuse
SRL	Voltage	IG switch on and "ABS" warning light goes on	About OV	Actuator
		IG switch on and "ABS" warning light goes off	Battery positive voltage	
GND	Continuity	IG switch off	Continuity	Wiring harness
PKB	Voltage	IG switch on and PKB lever pulled	About OV	Parking brake switch Level warning switch
		IG switch on and PKB lever returned	Battery positive voltage	
TC	Voltage	IG switch on and data link connector 1 Tc-E, not connected	Battery positive voltage	ABS ECU
		IG switch on and data link connector 1 Tc-E, connected	About ov	
RR-	Continuity	IG switch off	Continuity	ABS ECU
DIG	Voltage	IG switch on and data link connector 1 Ts-E, not connected	About OV	
BAT	Voltage	IG switch off	Battery positive voltage	DOME Fuse
FSS	Continuity	IG switch off	Continuity	ABS ECU
R-	Continuity	IG switch off	Continuity	

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Tester Connection	Check Item	Condition	Specified Value	Trouble Part
SR	Voltage	IG switch on and "ABS" warning light goes on	About OV	ABS ECU
		IG switch on and "ABS" warning light goes off	Battery positive voltage	
SFL	Voltage	IG switch on and "ABS" warning light goes on	About OV	Actuator
		IG switch on and "ABS" warning light goes off	Battery positive voltage	
FR-	Continuity	IG switch off	Continuity	ABS ECU
AST	Voltage	IG switch on and "ABS" warning light goes on	About OV	Actuator
		IG switch on and "ABS" warning light goes off	Battery positive voltage	
FL-	Continuity	IG switch off	Continuity	ABS ECU
SRR	Voltage	IG switch on and "ABS" warning light goes on	About OV	Actuator
		IG switch on and "ABS" warning light goes off	Battery positive voltage	

If the circuit is not as specified, check and repair or replace the trouble part shown in the table above.



2. INSPECT SYSTEM CIRCUIT WITH CONNECTOR DISCONNECTED

(a) Disconnect the connectors from the ECU, inspect at the wire harness side connector.

Tester Connection	Check Item	Specified Value	Trouble Part	Tester Connection	Check Item	Specified Value	Trouble Part
SFR ↔ AST	Resistance	About 6Ω	Actuator	SR ↔ R-	Resistance	60- 100Ω	Control relay
SRL ↔ AST	Resistance	About 6Ω	Actuator	SFL + ↔ AST	Resistance	About 6Ω	Actuator
RL+ ↔ RL-	Resistance	1.1 - 1.7 kΩ	Rear LH speed sensor	AST ↔ Body ground	Resistance	About 5Ω	Actuator
RR+ ↔ RR-	Resistance	1.1 - 1.7 kΩ	Rear RH speed sensor	MT ↔ Body ground	Continuity	Continuity	Actuator
FR+ ↔ FR-	Resistance	0.8 N 1.3 kΩ	Front RH speed sensor	MR ↔ R-	Resistance	50 - 80Ω	Control relay
FL+ ↔ FL-	Resistance	0.8 - 1.3 kΩ	Front LH speed sensor	SRR ↔ AST	Resistance	About 6Ω	Actuator

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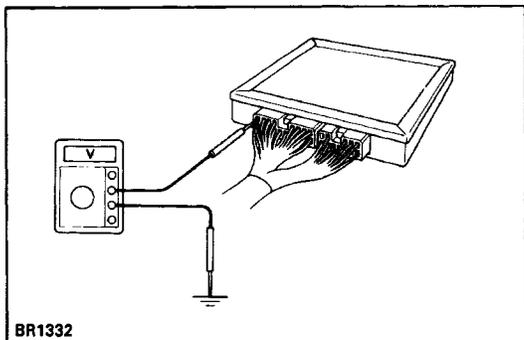
(b) Connect the connectors, and install the ECU in place.

(4WD vehicles)

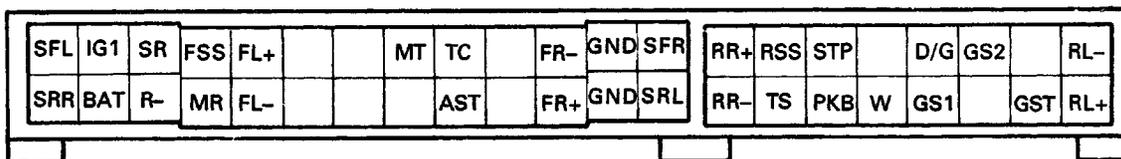
1. INSPECT SYSTEM CIRCUIT WITH CONNECTOR CONNECTED

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(b) Using a voltmeter with high impedance (10 K ohm-V minimum), measure the voltage at each terminal and body ground.



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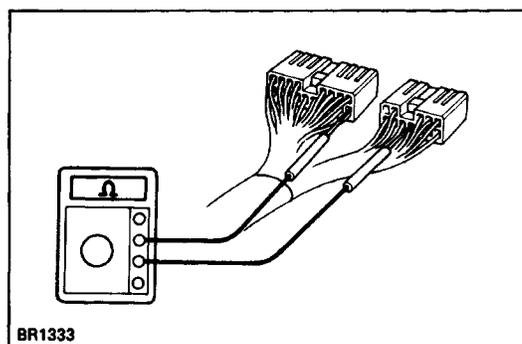
R01275

Tester Connection	Check Item	Condition	Specified Value	Trouble Part
R L-	Continuity	IG switch off	Continuity	ABS ECU
GS2	Voltage	IG switch on	4- 6V	Deceleration Sensor
D/G	Voltage	IG switch on and data link connector 1 Ts-E ₁ not connected	About 0V	ABS ECU
STP	Voltage	IG switch off and brake pedal depressed	Battery positive voltage	Stop light switch Stop light
	Continuity	IG switch off and brake pedal returned	Continuity	
RSS	Continuity	IG switch off	Continuity	ABS ECU
GS 1	Voltage	IG switch on	4 N6V	Deceleration Sensor
W	Voltage	IG switch on and "ABS" warning light goes on	About 0V	ABS ECU "ABS" warning light
		IG switch on and "ABS" warning light goes off	Battery positive voltage	
PKB	Voltage	IG switch on and PKB lever pulled	About 0V	Parking brake switch Level warning switch
		IG switch on and PKB lever returned	Battery positive voltage	
TS	Voltage	IG switch on and data link connector 1 Ts-E ₁ not connected	Battery positive voltage	ABS ECU
		IG switch on and data link connector 1 Ts-E ₁ connected	About 0V	
RR-	Continuity	IG switch off	Continuity	
SFR	Voltage	IG switch on and "ABS" warning light goes on	About 0V	Actuator
		IG switch on and "ABS" warning light goes off	Battery positive voltage	
GND	Continuity	IG switch off	Continuity	Wiring harness
FR-	Continuity	IG switch off	Continuity	
TC	Voltage	IG switch on and data link connector 1 Tc-E ₁ not connected	Battery positive voltage	ABS ECU
		IG switch on and data link connector 1 Tc-E ₁ connected	About 0V	
FSS	Continuity	IG switch off	Continuity	
SR	Voltage	IG switch on and "ABS" warning light goes on	About 0V	ABS ECU
		IG switch on and "ABS" warning light goes off	Battery positive voltage	
IG1	Voltage	IG switch on	Battery positive voltage	ECU-IG Fuse

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Tester Connection	Check item	Condition	Specified Value	Trouble Part
SFL	Voltage	IG switch on and "ABS" warning light goes on	About 0V	Actuator
		IG switch on and "ABS" warning light goes off	Battery positive voltage	
SRL	Voltage	IG switch on and "ABS" warning light goes on	About 0V	
		IG switch on and "ABS" warning light goes off	Battery positive voltage	
AST	Voltage	IG switch on and "ABS" warning light goes on	About 0V	
		IG switch on and "ABS" warning light goes off	Battery positive voltage	
FL-	Continuity	IG switch off	Continuity	ABS ECU
R-	Continuity	IG switch off	Continuity	
BAT	Voltage	IG switch off	Battery positive voltage	DOME Fuse
SRR	Voltage	IG switch on and "ABS" warning light goes on	About 0V	Actuator
		IG switch on and "ABS" warning light goes off	Battery positive voltage	

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(a) Disconnect the connectors from the ECU, inspect at the wire harness side connector.

Tester Connection	Check Item	Specified Value	Trouble Part	Tester Connection	Check item	Specified Value	Trouble Part
RR+ ↔ RR-	Resistance	1.1 – 1.7 kΩ	Rear RH speed sensor	SFL ↔ AST	Resistance	About 6Ω	Actuator
RL+ ↔ RL-	Resistance	1.1 N 1.7 kΩ	Rear LH speed sensor	SRL ↔ AST	Resistance	About 6Ω	Actuator
SFR ↔ AST	Resistance	About 6Ω	Actuator	FR+ ↔ FR-	Resistance	0.8 – 1.3 kΩ	Front RH speed sensor
MT ↔ Body ground	Continuity	Continuity	Actuator	AST ↔ Body ground	Resistance	About 5Ω	Actuator
FL+ ↔ FL-	Resistance	4.8 – 1.3 kΩ	Front LH speed sensor	MR ↔ R-	Resistance	50–80Ω	Control relay
SR ↔ R-	Resistance	60 – 100Ω	Control relay	SR ↔ AST	Resistance	About 6Ω	Actuator

If the circuit is not as specified, check and repair or replace the trouble part shown in the table above.

(b) Connect the connectors, and install the ECU in place.