

Anti-Lock Brake System Circuit INSPECTION OF SYSTEM CIRCUIT

(2WD vehicles)

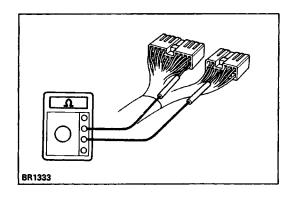
- 1. INSPECT SYSTEM CIRCUIT WITH CONNECTOR CONNECTED
- (a) Remove the ABS ECU.
- (b) Using a voltmeter with high impedance (10 K ohm/ V minimum), measure the voltage at each terminal and body ground.

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	SFL	SR	R-	FL+	FSS	FR+	IG1	w		RSS	STP	TS			RL-	GI	ND SFR	
	SRR	MR	FL-	МТ	AST	FR-	BAT	D/G	RR-	RR+		тс	PKB		RL+	Gr	ND SRL	
								<u> </u>			<u> </u>							
R01274																		
Tester Connection	Check	Item					Cond	dition		· · ·			Spe	ecified	Value		Trouble Part	
	\/-!!		IG	switch	on an	d "ABS'	warning	g light o	joes o	n			Ab	out OV	/			
SFR	Voltage	9	IG	IG switch on and "ABS" warning light goes off						Bat	ttery pos	sitive volt	tage	Actuator				
R L–	Contin	uity	10	3 switch	h off					-		<u></u> -	Co	ntinuit	у			
	Valta	IG switch on and data link connector 1 Ts-E, not connected				ed	Bat	Battery positive voltage		age	ABS ECU							
TS	Voltage		IG	IG switch on and data link connector 1 Ts–E, connected About OV							DV	\neg						
0.70	Voltage		IG switch off and brake pedal depressed							Batte	Battery positive voltage		ige	Stop light switch				
STP	Continu	uity	IG	switch	off an	d brake	pedal re	turned					Continuity			Stop light		
RSS	Contin	uity	IG	IG switch off					Со	ntinuit	у		ABS ECU					
	Voltage		IG	IG switch on and "ABS" warning light goes on						Ab	out OV	/		ABS ECU				
W			IG	IG switch on and "ABS" warning light goes off						Batte	Battery positive voltage		ige	"ABS" warning light				
IG1	Voltage	9	IG	IG switch on				Bat	tery pos	itive volt	age	ECU-IG Fuse						
SRL	Voltage	Voltogo		IG switch on and "ABS" warning light goes on						Ab	About OV			Actuator				
JKL	Voltage	.	IG	IG switch on and "ABS" warning light goes off						Bat	Battery positive voltage		age	Actuator				
GND	Contin	uity	IG	switch	off						-		Со	Continuity			Wiring harness	
PKB	Voltage		IG switch on and PKB lever pulled					About OV			Parking brake switch							
- ND	Voltage	-	IG	IG switch on and PKB lever returneq						Batte	ery positi	ive volta	ge	Level warning switch				
тс	Voltage		IG	IG switch on and data link connector 1 Tc-E, not connected					Batt	Battery positive voltage		age						
	voltage		IG	IG switch on and data link connector 1 Tc-E, connected					Ab	out ov			ADS ECH					
RR-	Contin	uity	IG	switch	off								Со	ntinuit	у		ABS ECU	
DIG	Voltage	e	!G	Switch	on an	d data I	ink conr	ector 1	Ts-E	, not co	onnect	ed	Ab	out O\	/			
BAT	Voltage	e	IG	switch	off								Batt	ery posit	tive volta	age	DOME Fuse	
FSS	Contin	uity	IG	switch	off								Со	ntinuit	у		ARS ECH	
R-	Contin	uity	IG	switch	switch off			Co	Continuity		\neg	ABS ECU						

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Tester Connection	Check Item	Condition	Specified Value	Trouble Part	
0.0	\/alta aa	IG switch on and "ABS" warning light goes on	About OV		
SR	Voltage	IG switch on and "ABS" warning light goes off	Battery positive voltage	ABS ECU	
051	\/-14	IG switch on and "A6S" warning light goes on	About OV	Actuator	
SFL	Voltage	IG switch on and "ABS" warning light goes off	Battery positive voltage		
FR-	Continuity	IG switch off	Continuity	ABS ECU	
	\/-It	IG switch on and "ABS" warning light goes on	About OV	Actuator	
AST	Voltage	IG switch on and "ABS" warning light goes off	Battery positive voltage	Actuator	
FL-	Continuity	IG switch off	Continuity	ABS ECU	
000	Voltage	IG switch on and "ABS" warning light goes on	About OV	Actuator	
SRR	Voltage	IG switch on and "ABS" warning light goes off	Battery positive voltage	Actuator	

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

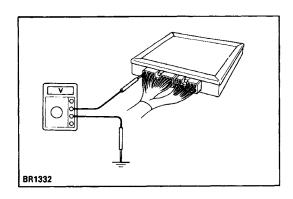
(a) Disconnect the connectors from the ECU, inspect at the wire harness side connector.

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

place.

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



(4WD vehicles)

1. INSPECT SYSTEM CIRCUIT WITH CONNECTOR CONNECTED

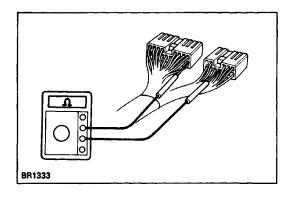
- (a) Remove the ABS ECU.
- (b) Using a voltmeter with high impedance (10 K ohm– V minimum), measure the voltage at each terminal and body ground.

	├── ┼	FSS FL+ MT TC FR- GND SFR RR+ RSS MR FL- AST FR+ GND SRL RR- TS	STP D/G GS2 PKB W GS1	RL- GST RL+	
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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 OV	ABS ECU	
OTD	Voltage	IG switch off and brake pedal depressed	Battery positive voltage	Stop light switch	
STP	Continuity	IG switch off and brake pedal returned	Continuity	Stop light	
RSS	Continuity	IG switch off	Continuity	ABS ECU	
GS 1	Voltage	IG switch on	Deceleration Sensor		
		IG switch on and "ABS\[warning light goes on	About OV	ABS ECU	
W Voltage		IG switch on and "ABS" warning light goes off	Battery positive voltage	"ABS" warning light	
DICE	.,,,	IG switch on and PKB lever pulled	About oV	Parking brake switch Level warning switch ABS ECU	
PKB	Voltage	IG switch on and PKB lever returned	Battery positive voltage		
-	.,,,,	IG switch on and data link connector 1 Ts-E ₁ not connected	Battery positive voltage		
TS	Voltage	IG switch on and data link connector 1 Ts–E ₁ connected	About OV		
RR-	Continuity	IG switch off	Continuity		
	.,,,	IG switch on and "ABS" warning light goes on	About OV	_	
SFR	Voltage	IG switch on and "ABS" warning light goes off	Battery positive voltage	Actuator	
GND	Continuity	IG switch off	Continuity	Wiring harness	
FR-	Continuity	IG switch off	Continuity		
	.,,,	IG switch on and data link connector 1 Tc–E ₁ not connected	Battery positive voltage		
тс	Voltage	IG switch on and data link connector 1 Tc-E ₁ connected	About OV		
FSS	Continuity	IG switch off	Continuity	ABS ECU	
		1G switch on and "ABS" warning light goes on	About OV		
SR	Voltage	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
051	\	IG switch on and "ABS" warning light goes on		
SFL	Voltage	IG switch on and "ABS" warning light goes off Battery positive voltage		
001	., ,	IG switch on and "ABS" warning light goes on About		
SRL	Voltage	IG switch on and "ABS" warning light goes off	Battery positive voltage	Actuator
	.,,,	IG switch on and "ABS" warning light goes on	About OV	
AST	Voltage	IG switch on and "ABS" warning light goes off	Battery positive voltage	
FL-	Continuity	IG switch off	Continuity	ABO FOLL
R	Continuity	IG switch off	Continuity	ABS ECU
BAT	Voltage IG switch off		Battery positive voltage	DOME Fuse
000	\	IG switch on and "ABS" warning light goes on	About OV	Actuator
SRR	Voltage	IG switch on and "ABS" warning light goes off	Battery positive voltage	Actuator

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
$RR+\leftrightarrow RR-$	Resistance	1.1 – 1.7 kΩ	Rear RH speed sensor	$SFL \leftrightarrow AST$	Resistance	About 6Ω	Actuator
$RL+\leftrightarrow RL-$	Resistance	1.1 N 1.7 kΩ	Rear LH speed sensor	$SRL \leftrightarrow AST$	Resistance	About 6Ω	Actuator
$SFR \leftrightarrow AST$	Resistance	About 6Ω	Actuator	FR+↔ FR-	Resistance	0.8 - 1.3 kΩ	Front RH speed senso
$\begin{array}{c} MT \leftrightarrow Body \\ ground \end{array}$	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
$SR \leftrightarrow R-$	Resistance	60 – 100Ω	Control relay	$SR \leftrightarrow AST$	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.