

Transmission Control Module (TCM) I/O Signal

AUTOMATIC TRANSMISSION (DIAGNOSTICS)

5. Transmission Control Module (TCM) I/O Signal

A: ELECTRICAL SPECIFICATION

TO **B55**

7	6	5	4	3		2	1
19	18	17	16	15	14	13	12
27	26		25	24		23	22
35	34		33	32		31	30

TO **B54**

6	5		4	3	2	1
16	15	14	13	12	11	10
27	26	25	24	23	22	21
35	34	33	32	31		30

AT-03733

Check with ignition switch ON.

Contents		Measured terminal (Connector & Terminal No.)		Measuring condition	Voltage (V)	Resistance (Ω)
		Positive terminal	Ground terminal			
Backup power supply		(B55) No. 27	Chassis ground	—	10 — 13	—
		(B55) No. 26	Chassis ground			
		(B55) No. 25	Chassis ground			
ACC power supply		(B55) No. 12	Chassis ground	Ignition Switch ACC	10 — 13	—
Ignition power supply		(B55) No. 1	Chassis ground	Ignition Switch ON	10 — 13	—
		(B55) No. 2	Chassis ground			
Inhibitor switch	“P” range switch	(B55) No. 14	Chassis ground	Select lever “P” range	Less than 1	—
				Select lever Except “P” range	8 or more	—
	“N” range switch	(B55) No. 11	Chassis ground	Select lever “N” range	Less than 1	—
				Select lever Except “N” range	8 or more	—
	“R” range switch	(B55) No. 13	Chassis ground	Select lever “R” range	Less than 1	—
				Select lever Except “R” range	8 or more	—
	“D” range switch	(B55) No. 10	Chassis ground	Select lever “D” range	Less than 1	—
				Select lever Except “D” range	8 or more	—
ATF temperature sensor		(B54) No. 23	(B54) No. 12	ATF temperature 20°C (68°F)	3.5 — 4.3	2.5k — 7.0 k
				ATF temperature 80°C (176°F)	1.0 — 2.2	300 — 800
ATF temperature sensor ground		(B54) No. 12	Chassis ground	—	0	Less than 1 (When inserting connector) ∞ (When disconnecting connector)

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Contents	Measured terminal (Connector & Terminal No.)		Measuring condition	Voltage (V)	Resistance (Ω)
	Positive terminal	Ground terminal			
Rear vehicle speed sensor	(B54) No. 26	(B54) No. 15	20 km/h (12 MPH) Vehicle speed at least	2 or more (AC range)	—
Rear vehicle speed sensor ground	(B54) No. 15	Chassis ground	—	0	Less than 1 (When inserting connector) ∞ (When disconnecting connector)
Front vehicle speed sensor	(B54) No. 27	(B54) No. 16	—	—	450 — 650
Front vehicle speed sensor ground	(B54) No. 16	Chassis ground	—	—	—
Torque converter turbine speed sensor	(B54) No. 1	(B54) No. 2	Engine idling after warm-up ("D" range)	0	450 — 650
			Engine idling after warm-up ("N" range)	1 or more (AC range)	
Torque converter turbine speed sensor ground	(B54) No. 2	Chassis ground	—	—	—
Engine speed signal	(B55) No. 11	Chassis ground	Ignition switch ON (engine OFF)	Less than 1	—
			Ignition switch ON (with engine ON)	5 or more (AC range)	—
Line pressure linear solenoid	(B54) No. 4	(B54) No. 3	Ignition switch ON (with engine OFF) Throttle fully closed in "R" range after warm-up.	3.7 — 7.7	4.0 — 6.0
			Ignition switch ON (with engine OFF) Throttle fully closed in "R" range after warm-up.	1.1 — 5.1	
Line pressure linear solenoid ground	(B54) No. 3	Chassis ground	—	Less than 1	Less than 1
Lock-up duty solenoid	(B54) No. 6	Chassis ground	When lock up occurs.	10.5 or more	2.0 — 4.5
			When lock up is released.	Less than 1	
Transfer duty solenoid	(B54) No. 5	Chassis ground	With fuse installed to FWD switch	Less than 1	2.0 — 4.5
			With fuse removed from FWD switch (1st gear)	2.0 — 3.0	
2-4 brake duty solenoid	(B55) No. 4	Chassis ground	"P" or "N" range	5.0 or more	2.0 — 4.5
			2nd or 4th gear	Less than 1	
High clutch duty solenoid	(B55) No. 6	Chassis ground	3rd or 4th gear	Less than 1	2.0 — 4.5
			"P" or "N" range	5.0 or more	
Low clutch duty solenoid	(B55) No. 7	Chassis ground	1st or 2nd gear	Less than 1	2.0 — 4.5
			"P" or "N" range	5.0 or more	
Low & reverse duty solenoid	(B55) No. 5	Chassis ground	Except "1" range	5.0 or more	2.0 — 4.5
			Driving at 1st gear on manual mode (15 km/h (9.3 MPH) or more)	2.5 — 5.0	

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Contents	Measured terminal (Connector & Terminal No.)		Measuring condition	Voltage (V)	Resistance (Ω)
	Positive terminal	Ground terminal			
Range lock signal	(B55) No. 3	Chassis ground	Vehicle speed in "D" range 0 km/h (0 MPH)	10.5 or more	7 — 18
			Vehicle speed in "D" range 20 km/h (12 MPH)	Less than 1	
Data link signal (Subaru Select Monitor)	(B55) No. 8	Chassis ground	—	—	—
CAN communication signal (+)	(B54) No. 18	Chassis ground	Ignition switch ON	Pulse signal	—
CAN communication signal (–)	(B54) No. 17	Chassis ground	Ignition switch ON	Pulse signal	—
FWD switch	(B55) No. 10	Chassis ground	Fuse removed	10.5 or more	—
			Fuse installed	1 or less	—
System ground circuit	(B55) No. 20	Chassis ground	—	0	Less than 1
	(B55) No. 21	Chassis ground	—	0	Less than 1
	(B55) No. 22	Chassis ground	—	0	Less than 1
	(B55) No. 23	Chassis ground	—	0	Less than 1