

Transmission Control Module (TCM) I/O Signal

AUTOMATIC TRANSMISSION (DIAGNOSTICS)

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

A: ELECTRICAL SPECIFICATION

TO **B54**
TO **B55**

7	6	5	4	3	2	1
19	18	17	16	15	14	13
12	11	10	9	8		
27	26		25	24		23
35	34		33	32		31
			30	29	28	

6	5	4	3	2	1	
16	15	14	13	12	11	
10	9	8	7			
27	26	25	24	23	22	
21	20	19	18	17		
35	34	33	32	31		30
			29	28		

AT-04576

Check with ignition switch ON.						
Item		Measured terminal (Connector & Terminal No.)		Measuring condition	Voltage (V)	Resistance (Ω)
		Positive terminal	Ground terminal			
Backup power supply		(B54) No. 25	Chassis ground	Ignition switch OFF	10 — 13	—
		(B54) No. 26				
		(B54) No. 27				
Ignition power supply		(B54) No. 1	Chassis ground	Ignition switch ON	10 — 13	—
		(B54) No. 2				
Inhibitor switch	"P" range Switch	(B55) No. 14	Chassis ground	Select lever in "P" range	Less than 1	—
				Select lever in any other than "P" range	8 or more	
	"R" range switch	(B55) No. 13	Chassis ground	Select lever in "R" range	Less than 1	—
				Select lever in any other than "R" range	8 or more	
	"N" range switch	(B55) No. 11	Chassis ground	Select lever in "N" range	Less than 1	—
				Select lever in any other than "N" range	8 or more	
	"D" range switch	(B55) No. 10	Chassis ground	Select lever in "D" range	Less than 1	—
				Select lever in any other than "D" range	8 or more	

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Item	Measured terminal (Connector & Terminal No.)		Measuring condition	Voltage (V)	Resistance (Ω)
	Positive terminal	Ground terminal			
ATF temperature sensor	(B55) No. 23	(B55) No. 12	ATF temperature 20°C (68°F)	3.5 — 4.3	2.5 k — 7 k
			ATF temperature 80°C (176°F)	1.0 — 2.2	300 — 800
ATF temperature sensor ground	(B55) No. 12	Chassis ground	—	0	Less than 1
Front vehicle speed sensor	(B55) No. 27	(B55) No. 16	Vehicle stopped	0	450 — 650
			Vehicle speed 20 km/h (12 MPH) or more	1 or more (AC range)	
Front vehicle speed sensor ground	(B55) No. 16	Chassis ground	—	—	—
Torque converter turbine speed sensor	(B55) No. 1	(B55) 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	(B55) No. 2	Chassis ground	—	—	—
Line pressure linear solenoid	(B55) No. 4	(B55) No. 3	Ignition switch ON "R" range throttle fully closed after engine warm up.	3.7 — 7.7	4.0 — 6.0
			Ignition switch ON "R" range throttle fully open after engine warm up.	1.1 — 5.1	
Line pressure linear solenoid ground	(B55) No. 3	Chassis ground	—	Less than 1	Less than 1
Lock-up duty solenoid	(B55) 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	(B55) 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	(B54) No. 4	Chassis ground	2nd or 4th gear	Less than 1	2.0 — 4.5
			"P" or "N" range	5.0 or more	
High clutch duty solenoid	(B54) 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	(B54) No. 7	Chassis ground	1st or 2nd gear	Less than 1	2.0 — 4.5
			"P" or "N" range	5.0 or more	

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Check with ignition switch ON.					
Item	Measured terminal (Connector & Terminal No.)		Measuring condition	Voltage (V)	Resistance (Ω)
	Positive terminal	Ground terminal			
Low & reverse duty solenoid	(B54) No. 5	Chassis ground	Driving in manual mode in any gear except 1st gear (15 km/h (9.3 MPH) or more)	5.0 or more	2.0 — 4.5
			Driving in 1st gear of manual mode (15 km/h (9.3 MPH) or more)	2.5 — 5.0	
FWD switch	(B54) No. 10	Chassis ground	Fuse removed	10.5 or more	—
			Fuse installed	Less than 1	
CAN communication signal (+)	(B55) No. 18	Chassis ground	Ignition switch ON	Pulse signal	—
CAN communication signal (-)	(B55) No. 17	Chassis ground		Pulse signal	
Power GND2	(B54) No. 20	Chassis ground	—	0	Less than 1
Power GND1	(B54) No. 21	Chassis ground			
Control GND2	(B54) No. 22	Chassis ground			
Control GND1	(B54) No. 23	Chassis ground			
Data link signal (Subaru Select Monitor)	(B54) No. 8	Chassis ground	—	—	—
SPORT shift switch	(B54) No. 17	Chassis ground	Ignition switch ON SPORT shift mode switch is ON	Less than 1	—
			Ignition switch ON SPORT switch shift mode switch is OFF	8 or more	—
SPORT shift UP switch	(B54) No. 19	Chassis ground	Ignition switch ON When SPORT shift UP switch is ON	Less than 1	—
			Ignition switch ON When SPORT shift UP switch is OFF	8 or more	—
SPORT shift DOWN switch	(B54) No. 18	Chassis ground	Ignition switch ON SPORT shift down switch is ON	Less than 1	—
			Ignition switch ON When SPORT shift DOWN switch is OFF	8 or more	—