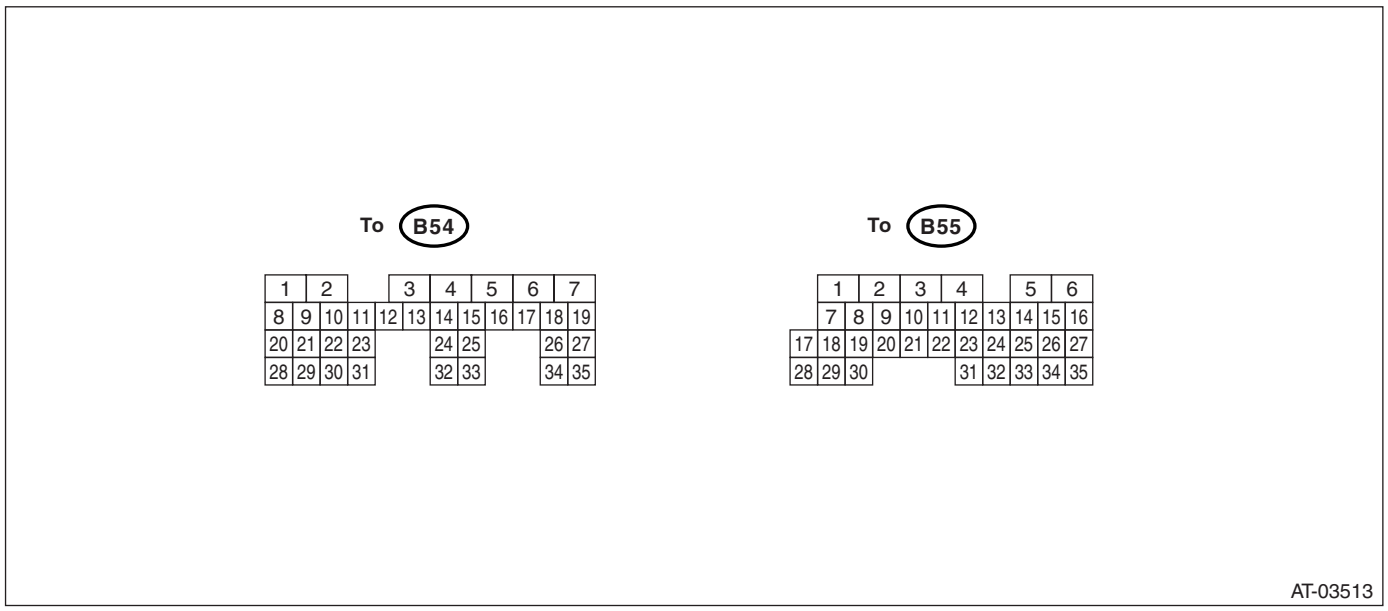
5. Transmission Control Module (TCM) I/O Signal

A: ELECTRICAL SPECIFICATION



Check with ignition switch ON.						
Content		Connector No.	Terminal No.	Measuring conditions	Voltage (V)	Resistance to body (Ω)
Back-up power supply		B54	25 26 27	Ignition switch OFF	10 — 13	—
ACC power supply		B54	12	Ignition switch ACC	10 — 13	—
Ignition power supply		B54	1 2	Ignition switch ON (with engine OFF)	10 — 13	—
Inhibitor switch	"P" range switch	B55	14	Select lever in "P" range	Less than 1	—
				Select lever in any other than "P" range (except "N" range)	More than 8	
	"N" range switch	B55	11	Select lever in "N" range	Less than 1	—
				Select lever in any other than "N" range	More than 8	
	"R" range switch	B55	13	Select lever in "R" range	Less than 1	—
				Select lever in any other than "R" range	More than 8	
	"D" range switch	B55	10	Select lever in "D" range	Less than 1	—
				Select lever in any other than "D" range	More than 8	
	"3" range switch	B55	8	Select lever in "3" range	Less than 1	—
				Select lever in any other than "3" range	More than 8	
	"2" range switch	B55	7	Select lever in "2" range	Less than 1	—
				Select lever in any other than "2" range	More than 8	
	"1" range switch	B55	19	Select lever in "1" range	Less than 1	—
				Select lever in any other than "1" range	More than 8	
Brake switch		B55	20	Brake pedal depressed.	More than 10.5	—
				Brake pedal released.	Less than 1	

Check with ignition switch ON.					
Content	Connector No.	Terminal No.	Measuring conditions	Voltage (V)	Resistance to body (Ω)
AT OIL TEMP warning light	B54	15	Light ON	Less than 1	—
			Light OFF	More than 9	
ATF temperature sensor	B55	23	ATF temperature 20°C (68°F)	3.5 — 4.3	2.3 k — 5.3 k
			ATF temperature 80°C (176°F)	1.5 — 1.9	300 — 800
Rear vehicle speed sensor	B55	26	Vehicle speed at least 20 km/h (12 MPH)	More than 2 (AC range)	—
Front vehicle speed sensor	B55	27	Vehicle stopped.	0	450 — 650
			Vehicle speed at least 20 km/h (12 MPH)	More than 1 (AC range)	
Torque converter turbine speed sensor	B55	1	Engine idling after warm-up. (“D” range)	0	450 — 650
			Engine idling after warm-up. (“N” range)	More than 1 (AC range)	
Vehicle speed output signal	B55	21	Vehicle speed at least 10 km/h (6 MPH)	Less than 1← →More than 4	—
Engine speed signal	B54	11	Ignition switch ON (with engine OFF)	Less than 1	—
			Ignition switch ON (with engine ON)	More than 5 (AC range)	
Line pressure linear solenoid	B55	4	Ignition switch ON (with engine OFF) Throttle fully closed after warm-up. (“R” range)	3.7 — 7.5	4.0 — 8.0
			Ignition switch ON (with engine OFF) Throttle fully open after warm-up. (“R” range)	1.0 — 5.1	
Lock-up duty solenoid	B55	6	When lock up occurs.	More than 10.5	2.0 — 6.0
			When lock up is released.	Less than 1	
Transfer duty solenoid	B55	5	“P” or “N” range	Less than 1	2.0 — 6.0
			Select lever in 1st gear.	1.7 — 4.0	
2-4 brake duty solenoid	B54	4	“P” or “N” range	More than 10.5	2.0 — 6.0
			2nd or 4th gear	Less than 1	
High clutch duty solenoid	B54	6	3rd or 4th gear	Less than 1	2.0 — 6.0
			“P” or “N” range	More than 10.5	
Low clutch duty solenoid	B54	7	1st or 2nd gear	Less than 1	2.0 — 6.0
			“P” or “N” range	More than 10.5	
Low & reverse duty solenoid	B54	5	“P” or “N” range	More than 10.5	2.0 — 6.0
			“1” range	5 — 10	
Front vehicle speed sensor ground	B55	16	—	0	Less than 1
Rear vehicle speed sensor ground	B55	15	—	0	Less than 1
System ground line	B54	23	—	0	Less than 1
	B54	20			
	B54	21			
	B54	22			
Torque converter turbine speed sensor ground	B55	2	—	0	Less than 1
Sensor ground line 4	B55	12	—	0	Less than 1

Check with ignition switch ON.					
Content	Connector No.	Terminal No.	Measuring conditions	Voltage (V)	Resistance to body (Ω)
Range lock signal	B54	3	"D" range 0 km/h (0 mile)	More than 10.5	7 — 18
			"D" range 20 km/h (12 mile/h)	Less than 1	
Data link signal (Subaru Select Monitor)	B54	8	—	—	—
FWD switch	B54	10	Fuse removed	9.5	—
			Fuse installed	Less than 1	
AWD warning light	B54	13	FWD switch fuse installed	Less than 1	—
			FWD switch fuse removed	More than 9	
CAN communication signal (+)	B55	18	Ignition switch ON	Pulse signal	—
CAN communication signal (–)	B55	17	Ignition switch ON	Pulse signal	—
Line pressure linear solenoid ground	B55	3	—	Less than 1	Less than 1