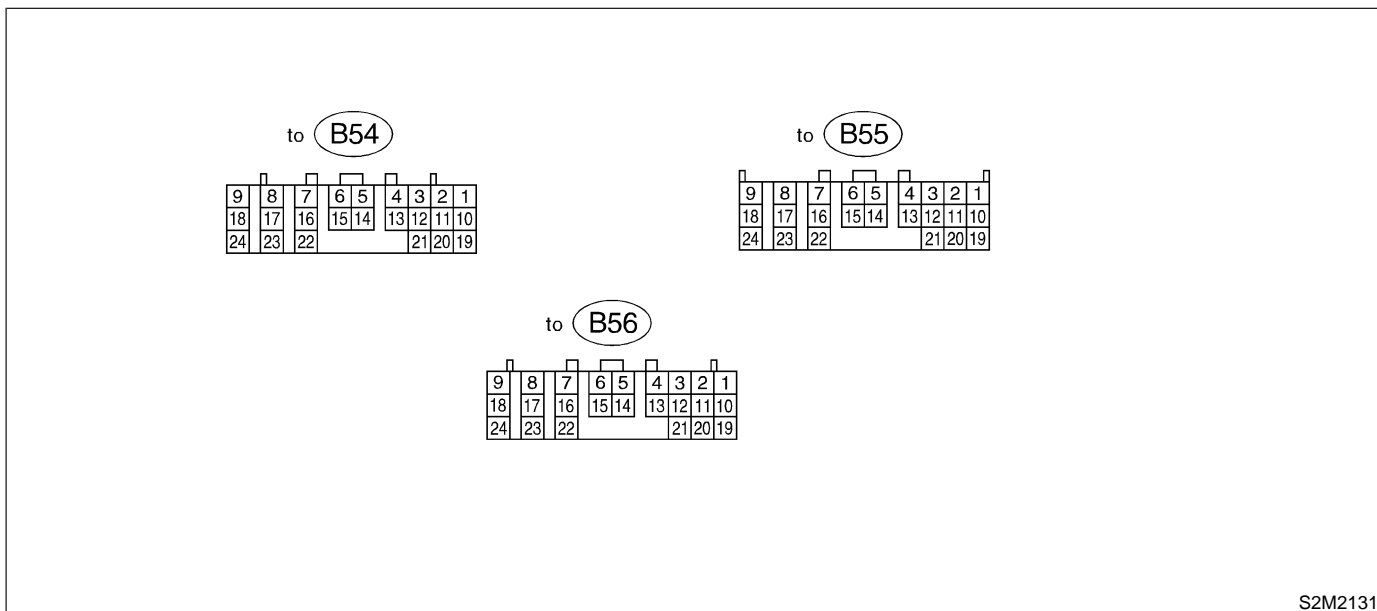


7. Transmission Control Module (TCM) I/O Signal S048506

A: ELECTRICAL SPECIFICATION S048506A08



S2M2131

| Check with ignition switch ON. | | | | | | |
|--------------------------------|------------------|--------------|--------------------------------------|-------------------------------------------------------------|---------------------------|---|
| Content | Connector No. | Terminal No. | Measuring conditions | Voltage (V) | Resistance to body (ohms) | |
| Back-up power supply | B56 | 1 | Ignition switch OFF | 10 — 16 | — | |
| Ignition power supply | B54 | 23 | Ignition switch ON (with engine OFF) | 10 — 16 | — | |
| | B54 | 24 | | | | |
| Inhibitor switch | "P" range switch | B55 | 1 | 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 | 14 | Select lever in "N" range | Less than 1 | — |
| | | | | Select lever in any other than "N" range (except "P" range) | More than 8 | |
| | "R" range switch | B55 | 3 | Select lever in "R" range | Less than 1 | — |
| | | | | Select lever in any other than "R" range | More than 8 | |
| | "D" range switch | B55 | 4 | Select lever in "D" range | Less than 1 | — |
| | | | | Select lever in any other than "D" range | More than 8 | |
| | "3" range switch | B55 | 5 | Select lever in "3" range | Less than 1 | — |
| | | | | Select lever in any other than "3" range | More than 8 | |
| | "2" range switch | B55 | 6 | Select lever in "2" range | Less than 1 | — |
| | | | | Select lever in any other than "2" range | More than 8 | |
| | "1" range switch | B55 | 7 | Select lever in "1" range | Less than 1 | — |
| | | | | Select lever in any other than "1" range | More than 8 | |
| Brake switch | B55 | 12 | Brake pedal depressed. | More than 10.5 | — | |
| | | | Brake pedal released. | Less than 1 | | |

TRANSMISSION CONTROL MODULE (TCM) I/O SIGNAL

Engine (DIAGNOSTICS)

| Check with ignition switch ON. | | | | | |
|---------------------------------------|---------------|--------------|--------------------------------------------------------|--------------------------------|---------------------------|
| Content | Connector No. | Terminal No. | Measuring conditions | Voltage (V) | Resistance to body (ohms) |
| VDC communication signal + | B56 | 9 | Ignition ON | (+) — (–) Plus signal | — |
| VDC communication signal – | B56 | 18 | | (+) — (–) Plus signal | — |
| Kick-down switch | B55 | 11 | Throttle fully opened. | Less than 1 | — |
| | | | Throttle fully closed. | More than 6.5 | |
| AT OIL TEMP warning light | B56 | 10 | Light ON | Less than 1 | — |
| | | | Light OFF | More than 9 | |
| Throttle position sensor | B54 | 3 | Throttle fully closed. | 0.3 — 0.7 | — |
| | | | Throttle fully open. | 4.3 — 4.9 | |
| Throttle position sensor power supply | B54 | 2 | Ignition switch ON (With engine OFF) | 4.8 — 5.3 | — |
| ATF temperature sensor | B54 | 11 | ATF temperature 20°C (68°F) | 2.9 — 4.0 | 2.1 — 2.9 k |
| | | | ATF temperature 80°C (176°F) | 0.5 — 0.8 | 275 — 375 |
| Rear vehicle speed sensor | B55 | 24 | Vehicle stopped. | 0 | 450 — 650 |
| | | | Vehicle speed at least 20 km/h (12 MPH) | More than 1 (AC range) | |
| Front vehicle speed sensor | B55 | 18 | Vehicle stopped. | 0 | 450 — 650 |
| | | | Vehicle speed at least 20 km/h (12 MPH) | More than 1 (AC range) 4 | |
| Torque converter turbine speed sensor | B55 | 8 | 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 | B56 | 17 | Vehicle speed at most 10 km/h (6 MPH) | Less than 1 ← → More than 4 | — |
| Engine speed signal | B55 | 17 | Ignition switch ON (with engine OFF) | More than 10.5 | — |
| | | | Ignition switch ON (with engine ON) | 8 — 11 | |
| Cruise set signal | B55 | 22 | When cruise control is set (SET lamp ON) | Less than 1 | — |
| | | | When cruise control is not set (SET lamp OFF) | More than 6.5 | |
| Torque control signal 1 | B56 | 5 | Ignition switch ON (with engine ON) | More than 4.8 | — |
| Torque control signal 2 | B56 | 14 | Ignition switch ON (with engine ON) | More than 4.8 | — |
| Torque control cut signal | B55 | 10 | Ignition switch ON | 8 | — |
| Intake manifold pressure signal | B54 | 10 | Engine idling after warm-up. | 1.2 — 1.8 | — |
| Shift solenoid 1 | B54 | 22 | 1st or 4th gear | More than 9 | 10 — 16 |
| | | | 2nd or 3rd gear | Less than 1 | |
| Shift solenoid 2 | B54 | 5 | 1st or 2nd gear | More than 9 | 10 — 16 |
| | | | 3rd or 4th gear | Less than 1 | |
| Line pressure duty solenoid | B54 | 9 | Throttle fully closed (with engine OFF) after warm-up. | 1.5 — 4.0 | 2.0 — 4.5 |
| | | | Throttle fully open (with engine OFF) after warm-up. | Less than 0.5 | |

TRANSMISSION CONTROL MODULE (TCM) I/O SIGNAL

Engine (DIAGNOSTICS)

| Check with ignition switch ON. | | | | | |
|------------------------------------------|---------------|--------------|--------------------------------------------------------------------------------------------|--------------------------------|---------------------------|
| Content | Connector No. | Terminal No. | Measuring conditions | Voltage (V) | Resistance to body (ohms) |
| Dropping resistor | B54 | 8 | Throttle fully closed (with engine OFF) after warm-up. | More than 8.5 | 9 — 15 |
| | | | Throttle fully open (with engine OFF) after warm-up. | Less than 0.5 | |
| Lock-up duty solenoid | B54 | 7 | When lock up occurs. | More than 8.5 | 10 — 17 |
| | | | When lock up is released. | Less than 0.5 | |
| Transfer duty solenoid | B54 | 6 | Fuse on FWD switch | More than 8.5 | 10 — 17 |
| | | | Fuse removed from FWD switch (with throttle fully open and with select lever in 1st gear). | Less than 0.5 | |
| 2-4 brake duty solenoid | B54 | 18 | Throttle fully closed (with engine OFF) after warm-up. | 1.5 — 4.0 | 2.0 — 4.5 |
| | | | Throttle fully open (with engine OFF) after warm-up. | Less than 0.5 | |
| 2-4 brake dropping resistor | B54 | 17 | Throttle fully closed (with engine OFF) after warm-up. | More than 8.5 | 9 — 15 |
| | | | Throttle fully open (with engine OFF) after warm-up. | Less than 0.5 | |
| 2-4 brake timing solenoid | B54 | 16 | 1st gear | Less than 1 | 10 — 16 |
| | | | 3rd gear | More than 9 | |
| Low clutch timing solenoid | B54 | 15 | 2nd gear | Less than 1 | 10 — 16 |
| | | | 4th gear | More than 9 | |
| Sensor ground line 1 | B54 | 19 | — | 0 | Less than 1 |
| Sensor ground line 2 | B55 | 9 | — | 0 | Less than 1 |
| System ground line | B56 | 19 | — | 0 | Less than 1 |
| | B54 | 20 | — | | |
| AT diagnosis signal | B56 | 21 | Ignition switch ON | Less than 1 ← → More than 4 | — |
| Data link signal (Subaru Select Monitor) | B56 | 15 | — | — | — |
| | | 6 | — | — | |