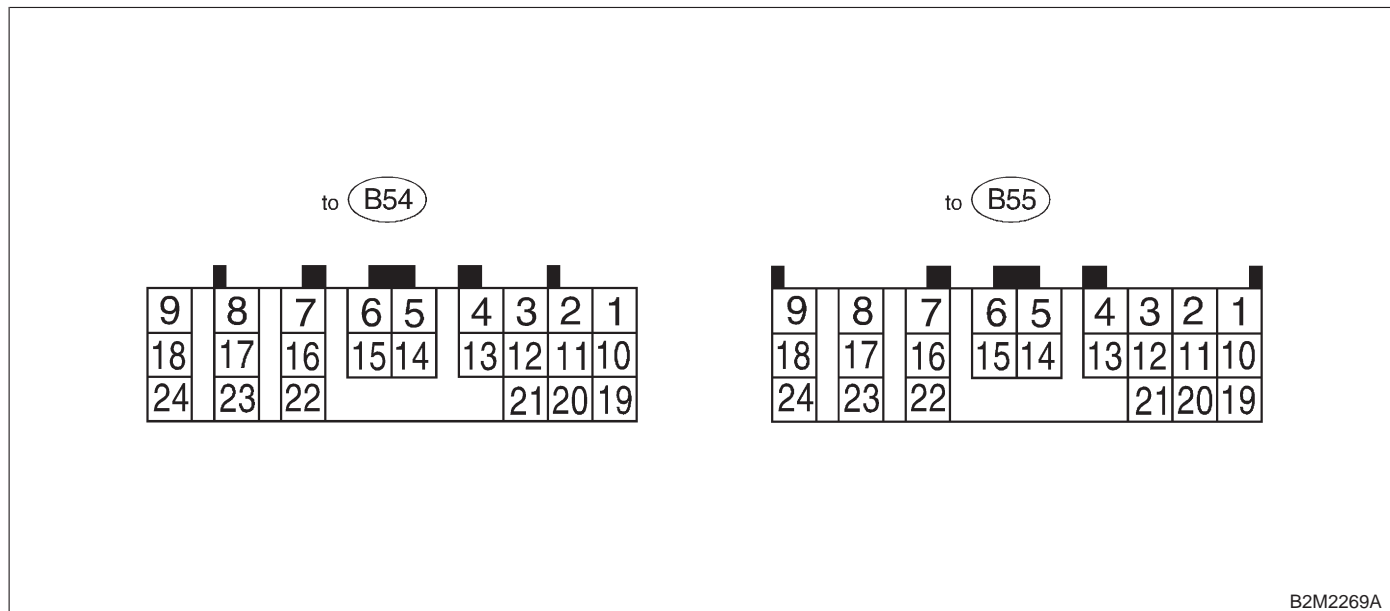


### 3-2 [T500] AUTOMATIC TRANSMISSION AND DIFFERENTIAL

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

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



B2M2269A

| Check with ignition switch ON. |                  |              |                                      |   |                           |   |
|--------------------------------|------------------|--------------|--------------------------------------|---|---------------------------|---|
| Content                        | Connector No.    | Terminal No. | Measuring conditions                 | Voltage (V)   | Resistance to body (ohms) |   |
| Back-up power supply           | B55              | 6            | 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          | 23                                   | 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          | 22                                   | 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          | 17                                   | Select lever in "R" range                                   | Less than 1               | — |
|                                |                  |              |                                      | Select lever in any other than "R" range                    | More than 9.5             |   |
|                                | "D" range switch | B55          | 8                                    | Select lever in "D" range                                   | Less than 1               | — |
|                                |                  |              |                                      | Select lever in any other than "D" range                    | More than 9.5             |   |
|                                | "3" range switch | B55          | 18                                   | Select lever in "3" range                                   | Less than 1               | — |
|                                |                  |              |                                      | Select lever in any other than "3" range                    | More than 9.5             |   |
|                                | "2" range switch | B54          | 10                                   | Select lever in "2" range                                   | Less than 1               | — |
|                                |                  |              |                                      | Select lever in any other than "2" range                    | More than 9.5             |   |
|                                | "1" range switch | B54          | 1                                    | Select lever in "1" range                                   | Less than 1               | — |
|                                |                  |              |                                      | Select lever in any other than "1" range                    | More than 9.5             |   |
| Brake switch                   | B55              | 24           | Brake pedal depressed.               | More than 10.5  | —                         |   |
|                                |                  |              | Brake pedal released.                | Less than 1   |                           |   |
| ABS signal                     | B54              | 19           | ABS switch ON                        | Less than 1   | —                         |   |
|                                |                  |              | ABS switch OFF                       | 6.5 — 15  |                           |   |

# AUTOMATIC TRANSMISSION AND DIFFERENTIAL

[T500] 3-2

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

| Check with ignition switch ON.        |               |              |  |                              |                           |
|---------------------------------------|---------------|--------------|--|------------------------------|---------------------------|
| Content                               | Connector No. | Terminal No. | Measuring conditions                                   | Voltage (V)                  | Resistance to body (ohms) |
| AT OIL TEMP LAMP                      | B54           | 3            | Lamp ON  | Less than 1                  | —                         |
|                                       |               |              | Lamp OFF   | More than 9                  |                           |
| Throttle position sensor              | B55           | 2            | Throttle fully closed.                                 | 0.5±0.2                      | —                         |
|                                       |               |              | Throttle fully open.                                   | 4.6±0.3                      |                           |
| Throttle position sensor power supply | B55           | 1            | Ignition switch ON (With engine OFF)                   | 5.05±0.25                    | —                         |
| ATF temperature sensor                | B55           | 11           | ATF temperature 20°C (68°F)                            | 3.45±0.55                    | 2.1 — 2.9 k               |
|                                       |               |              | ATF temperature 80°C (176°F)                           | 1.2±0.2                      | 272 — 374                 |
| Vehicle speed sensor 1 (Rear)         | B55           | 3            | Vehicle stopped.                                       | 0                            | 450 — 650                 |
|                                       |               |              | Vehicle speed at least 20 km/h (12 MPH)                | More than 1 (AC range)       |                           |
| Vehicle speed sensor 2 (Front)        | B55           | 5            | Vehicle speed at least 20 km/h (12 MPH)                | More than 1 (AC range)<br>4  | 450 — 650                 |
| Torque converter turbine speed sensor | B55           | 12           | Vehicle stopped  | 0                            | 450 — 650                 |
|                                       |               |              | Vehicle speed at least 20 km/h (12 MPH)                | More than 1 (AC range)       |                           |
| Vehicle speed output signal           | B55           | 13           | Vehicle speed at most 10 km/h (6 MPH)                  | Less than 1←<br>→More than 4 | —                         |
| Engine speed signal                   | B55           | 4            | Ignition switch ON (with engine OFF)                   | More than 10.5               | —                         |
|                                       |               |              | Ignition switch ON (with engine ON)                    | 8 — 11                       |                           |
| Cruise set signal                     | B54           | 11           | 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               | B54           | 13           | Ignition switch ON (with engine ON)                    | 5±1                          | —                         |
| Torque control signal 2               | B54           | 21           | Ignition switch ON (with engine ON)                    | More than 9                  | —                         |
| Torque control cut signal             | B54           | 2            | Ignition switch ON                                     | 8                            | —                         |
| AT load signal                        | B55           | 20           | Engine idling after warm-up.                           | 1.2 — 1.8*1                  | —                         |
|                                       |               |              |  | 0.5 — 1.2*2                  |                           |
| Shift solenoid 1                      | B54           | 7            | 1st or 4th gear  | More than 9                  | 10 — 16                   |
|                                       |               |              | 2nd or 3rd gear  | Less than 1                  |                           |
| Shift solenoid 2                      | B54           | 6            | 1st or 2nd gear  | More than 9                  | 10 — 16                   |
|                                       |               |              | 3rd or 4th gear  | Less than 1                  |                           |
| Duty solenoid A                       | 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                |                           |
| Dropping resistor                     | B54           | 18           | 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                |                           |
| Duty solenoid B                       | B54           | 16           | When lock up occurs.                                   | More than 8.5                | 10 — 17                   |
|                                       |               |              | When lock up is released.                              | Less than 0.5                |                           |

## 3-2 [T500] AUTOMATIC TRANSMISSION AND DIFFERENTIAL

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

| Check with ignition switch ON.           |               |              |  |                                |                           |
|--|---------------|--------------|--|--------------------------------|---------------------------|
| Content                                  | Connector No. | Terminal No. | Measuring conditions   | Voltage (V)                    | Resistance to body (ohms) |
| Duty solenoid C                          | B54           | 15           | 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                  |                           |
| Duty solenoid D                          | B54           | 8            | 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           | 5            | 1st gear   | Less than 1                    | 10 — 16                   |
|  |               |              | 3rd gear   | More than 9                    |                           |
| Low clutch timing solenoid               | B54           | 14           | 2nd gear   | Less than 1                    | 10 — 16                   |
|  |               |              | 4th gear   | More than 9                    |                           |
| Sensor ground line 1                     | B55           | 10           | —  | 0                              | Less than 1               |
| Sensor ground line 2                     | B55           | 21           | —  | 0                              | Less than 1               |
| System ground line                       | B55           | 9            | —  | 0                              | Less than 1               |
|  |               | 19           |  |                                |                           |
| FWD switch                               | B55           | 14           | Fuse removed.  | 6 — 9.1                        | —                         |
|  |               |              | Fuse installed.  | Less than 1                    |                           |
| FWD indicator lamp                       | B54           | 12           | Fuse ON FWD switch   | Less than 1                    | —                         |
|  |               |              | Fuse removed from FWD switch   | More than 9                    |                           |
| AT diagnosis signal                      | B54           | 4            | Ignition switch ON   | Less than 1 ←<br>→ More than 4 | —                         |
| Data link signal (Subaru Select Monitor) | B55           | 7            | —  | —                              | —                         |
|  |               | 16           | —  | —                              |                           |

\*1: 2200 cc California spec. vehicles

\*2: Except 2200 cc California spec. vehicles