

DIAGNOSTIC PROCEDURE FOR NO-TROUBLE CODE

Automatic Transmission (DIAGNOSTICS)

15. Diagnostic Procedure for No-trouble Code S004618

A: CHECK GEAR POSITION. S004618F15

No.	Step	Check	Yes	No
1	CHECK GEAR POSITION. 1) Lift-up the vehicle and place safety stand. CAUTION: On AWD models, raise all wheels off ground. 2) Start the engine. 3) Move select lever to "D", and drive vehicle. 4) Read data of gear position using Subaru Select Monitor. ● Gear position is indicated. NOTE: The speed difference between front and rear wheels may light the ABS warning light, but this indicates no malfunction. When AT control diagnosis is finished, perform the ABS memory clearance procedure of on-board diagnostics system. <Ref. to ABS-20 Clear Memory Mode.>	Does the transmission gear correspond to the gear which is shown on display?	Go to step CHECK FWD SWITCH. <Ref. to AT-120 CHECK FWD SWITCH, Diagnostic Procedure for No-trouble Code.>	Check shift solenoid 1 and shift solenoid 2 signal circuit. <Ref. to AT-74 TROUBLE CODE 71 — SHIFT SOLENOID 1 —, Diagnostic Procedure with Trouble Code.> and <Ref. to AT-78 TROUBLE CODE 72 — SHIFT SOLENOID 2 —, Diagnostic Procedure with Trouble Code.>

DIAGNOSTIC PROCEDURE FOR NO-TROUBLE CODE

Automatic Transmission (DIAGNOSTICS)

MEMO:

DIAGNOSTIC PROCEDURE FOR NO-TROUBLE CODE

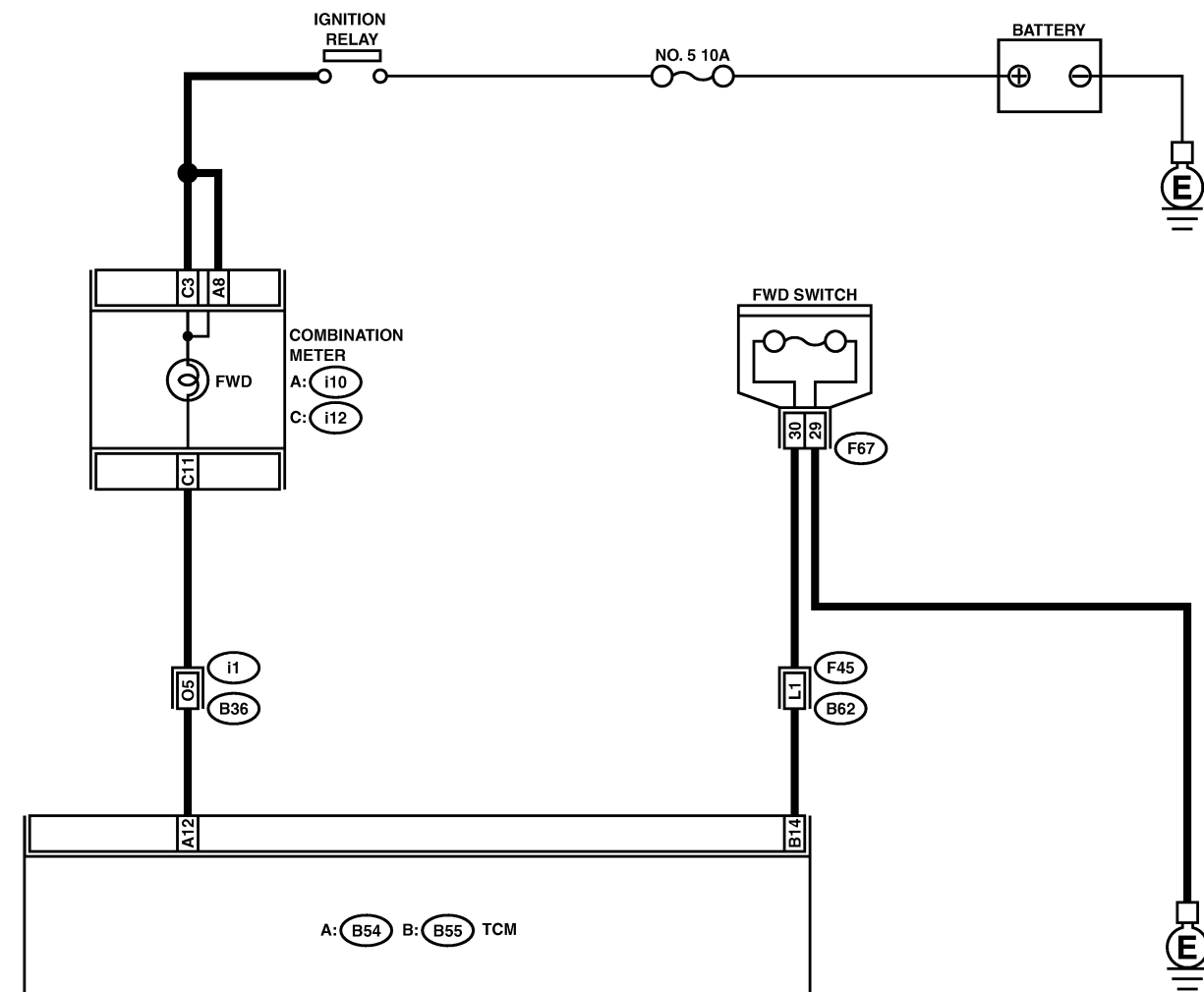
Automatic Transmission (DIAGNOSTICS)

B: CHECK FWD SWITCH. S004618F16

DIAGNOSIS:

- LED does not come on even if FWD switch is ON.
- FWD switch circuit is open or short.

WIRING DIAGRAM:



i12

1	2	3			4	5	6
7	8	9	10	11	12	13	14

B54

1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18
19	20	21				22	23	24

B55

1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18
19	20	21				22	23	24

i10

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

B36 B62

A1	A2	A3	A4	A5	A6
B1	B2		B4	B5	B6
C2	B3		C4	C5	C6
D1	D2	C3	D4	D5	D6
E1	E2		E4	E5	E6
F1					F6
G1					G6
H1					H6
I1					I6
J1					J6
K1					K6
L1	L2		L4	L5	L6
M1	M2	N3	M4	M5	M6
N2	O3		N4	N5	N6
O1	O2		O4	O5	O6
P1	P2	P3	P4	P5	P6

B3M1891

DIAGNOSTIC PROCEDURE FOR NO-TROUBLE CODE

Automatic Transmission (DIAGNOSTICS)

No.	Step	Check	Yes	No
1	CHECK FWD SWITCH.	When fuse is inserted to FWD switch, does LED light up?	Go to step BRAKE SWITCH. <Ref. to AT-122 CHECK BRAKE SWITCH, Diagnostic Procedure for No-trouble Code.>	Go to step 2.
2	CHECK FWD INDICATOR LIGHT. 1) Turn ignition switch to OFF. 2) Remove combination meter. 3) Remove FWD indicator light bulb from combination meter.	Is FWD indicator light bulb OK?	Go to step 3.	Replace FWD indicator light bulb.
3	CHECK HARNESS CONNECTOR BETWEEN TCM AND FWD SWITCH. 1) Turn ignition switch to OFF. 2) Disconnect connector from TCM and FWD switch. 3) Measure resistance of harness between TCM and FWD switch connector. Connector & terminal (B55) No. 14 — (F67) No. 30:	Is the resistance less than 1 Ω ?	Go to step 4.	Repair open circuit in harness between TCM and FWD switch connector.
4	CHECK HARNESS CONNECTOR BETWEEN TCM AND FWD SWITCH. Measure resistance of harness connector between TCM and body to make sure that circuit does not short. Connector & terminal (B55) No. 14 — Chassis ground:	Is the resistance more than 1 M Ω ?	Go to step 5.	Repair short circuit in harness connector between TCM and chassis ground.
5	CHECK INPUT SIGNAL FOR TCM. 1) Turn ignition switch to OFF. 2) Connect connector to TCM and FWD switch. 3) Turn ignition switch to ON. 4) Measure signal voltage for TCM while installing the fuse to FWD switch connector. Connector & terminal (B55) No. 14 (+) — Chassis ground (-):	Is the voltage less than 1 V in FWD switch while installing?	Go to step 6.	Go to step 11.
6	CHECK INPUT SIGNAL FOR TCM. Measure signal voltage for TCM while removing the fuse from FWD switch connector. Connector & terminal (B55) No. 14 (+) — Chassis ground (-):	Is the voltage more than 10 V in FWD switch while removing?	Go to step 7.	Replace TCM. <Ref. to AT-42 Transmission Control Module (TCM).>
7	CHECK HARNESS CONNECTOR BETWEEN TCM AND COMBINATION METER. 1) Turn ignition switch to OFF. 2) Disconnect connector from TCM and combination meter. 3) Measure resistance of harness between TCM and diagnosis connector. Connector & terminal (B54) No. 12 — (i12) No. 11:	Is the resistance less than 1 Ω ?	Go to step 8.	Repair open circuit in harness between TCM and combination meter and poor contact in coupling connector.

DIAGNOSTIC PROCEDURE FOR NO-TROUBLE CODE

Automatic Transmission (DIAGNOSTICS)

No.	Step	Check	Yes	No
8	CHECK HARNESS CONNECTOR BETWEEN TCM AND COMBINATION METER. Measure resistance of harness connector between TCM and chassis ground to make sure that circuit does not short. Connector & terminal (B54) No. 12 — Chassis ground:	Is the resistance more than 1 MΩ?	Go to step 9.	Repair short circuit in harness between TCM and combination meter connector.
9	CHECK OUTPUT SIGNAL EMITTED FROM TCM. 1) Turn ignition switch to OFF. 2) Connect connector to TCM and combination meter. 3) Turn ignition switch to ON. 4) Measure signal voltage for TCM while installing and removing the fuse to FWD switch connector. Connector & terminal (B54) No. 12 — Chassis ground:	Is the voltage less than 1 V in FWD switch while installing?	Go to step 10.	Go to step 11.
10	CHECK OUTPUT SIGNAL EMITTED FROM TCM. Measure signal voltage for TCM while removing the fuse from FWD switch connector. Connector & terminal (B54) No. 12 — Chassis ground:	Is the voltage more than 10 V in FWD switch while removing?	Go to step 11.	Replace TCM. <Ref. to AT-42 Transmission Control Module (TCM).>
11	CHECK POOR CONTACT.	Is there poor contact in FWD switch circuit?	Repair poor contact.	Replace TCM. <Ref. to AT-42 Transmission Control Module (TCM).>

C: CHECK BRAKE SWITCH. S004618F17

No.	Step	Check	Yes	No
1	CHECK BRAKE SWITCH.	When the brake pedal is depressed, does LED light up?	Go to step ABS SWITCH. <Ref. to AT-123 CHECK ABS SWITCH, Diagnostic Procedure for No-trouble Code.>	Check brake switch circuit. <Ref. to EN-476 DTC P0703 — BRAKE SWITCH INPUT MALFUNCTION —, Diagnostic Procedure with Diagnostic Trouble Code (DTC) for AT Vehicles.>

DIAGNOSTIC PROCEDURE FOR NO-TROUBLE CODE

Automatic Transmission (DIAGNOSTICS)

D: CHECK ABS SWITCH. S004618F18

No.	Step	Check	Yes	No
1	CHECK ABS SWITCH.	Does the LED of ABS switch light up?	Check ABS switch circuit. <Ref. to ABS-126 TROUBLE CODE 44 — ABS — AT CONTROL (NON CONTROLLED), Diagnostic Chart with Subaru Select Monitor.> and <Ref. to ABS-128 TROUBLE CODE 44 — ABS — AT CONTROL (CONTROLLED), Diagnostic Chart with Subaru Select Monitor.>	Go to step CRUISE CONTROL SWITCH. <Ref. to AT-Go to step . CHECK CRUISE CONTROL SWITCH, Diagnostic Procedure for No-trouble Code.>

E: CHECK CRUISE CONTROL SWITCH. S004618F19

No.	Step	Check	Yes	No
1	CHECK CRUISE CONTROL SWITCH.	When cruise control is set, does LED light up?	Go to step INHIBITOR SWITCH. <Ref. to AT-124 CHECK INHIBITOR SWITCH, Diagnostic Procedure for No-trouble Code.>	Check cruise control. <Ref. to CC-30 Diagnostic Chart with Trouble Code.>

DIAGNOSTIC PROCEDURE FOR NO-TROUBLE CODE

Automatic Transmission (DIAGNOSTICS)

F: CHECK INHIBITOR SWITCH. S004618F20

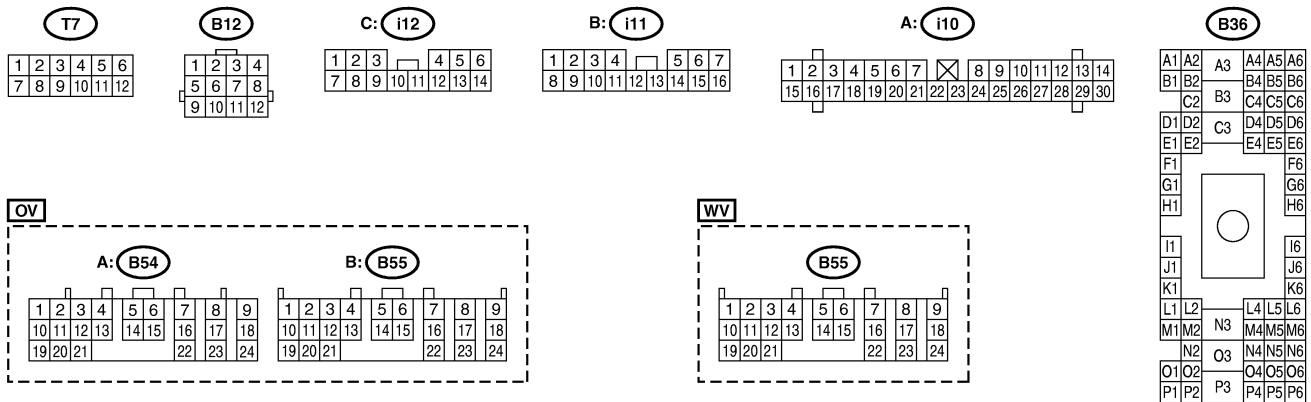
DIAGNOSIS:

Input signal circuit of inhibitor switch is open or shorted.

TROUBLE SYMPTOM:

- Shift characteristics are erroneous.
- Engine brake is not effected when selector lever is in “3” range.
- Engine brake is not effected when selector lever is in “2” range.
- Engine brake is not effected when selector lever is in “1” range.

Automatic Transmission (DIAGNOSTICS)

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AT-125

DIAGNOSTIC PROCEDURE FOR NO-TROUBLE CODE

Automatic Transmission (DIAGNOSTICS)

No.	Step	Check	Yes	No
1	CHECK "P" RANGE SWITCH.	When "P" range is selected, does LED light up?	Go to step 2.	Go to step 22.
2	CHECK INDICATOR LIGHT.	Does combination meter "P" range indicator illuminate?	Go to step 3.	Go to step 27.
3	CHECK "P" RANGE SWITCH.	When the "R" range is selected, does "P" range LED light up?	Go to step 29.	Go to step 4.
4	CHECK "R" RANGE SWITCH.	When the "R" range is selected, does LED light up?	Go to step 5.	Go to step 31.
5	CHECK INDICATOR LIGHT.	Does combination meter "R" range indicator illuminate?	Go to step 6.	Go to step 35.
6	CHECK "R" RANGE SWITCH.	When the "N" range is selected, does "R" range LED light up?	Go to step 37.	Go to step 7.
7	CHECK "N" RANGE SWITCH.	When the "N" range is selected, does LED light up?	Go to step 8.	Go to step 39.
8	CHECK INDICATOR LIGHT.	Does combination meter "N" range indicator illuminate?	Go to step 9.	Go to step 43.
9	CHECK "N" RANGE SWITCH.	When the "D" range is selected, does "N" range LED light up?	Go to step 45.	Go to step 10.
10	CHECK "D" RANGE SWITCH.	When the "D" range is selected, does LED light up?	Go to step 11.	Go to step 47.
11	CHECK INDICATOR LIGHT.	Does combination meter "D" range indicator illuminate?	Go to step 12.	Go to step 51.
12	CHECK "D" RANGE SWITCH.	When the "3" range is selected, does "D" range LED light up?	Go to step 53.	Go to step 13.
13	CHECK "3" RANGE SWITCH.	When the "3" range is selected, does LED light up?	Go to step 14.	Go to step 55.
14	CHECK INDICATOR LIGHT.	Does combination meter "3" range indicator illuminate?	Go to step 15.	Go to step 59.
15	CHECK "3" RANGE SWITCH.	When the "2" range is selected, does "3" range LED light up?	Go to step 61.	Go to step 16.
16	CHECK "2" RANGE SWITCH.	When the "2" range is selected, does LED light up?	Go to step 17.	Go to step 63.
17	CHECK INDICATOR LIGHT.	Does combination meter "2" range indicator illuminate?	Go to step 18.	Go to step 67.
18	CHECK "2" RANGE SWITCH.	When the "1" range is selected, does "2" range LED light up?	Go to step 69.	Go to step 19.
19	CHECK "1" RANGE SWITCH.	When the "1" range is selected, does LED light up?	Go to step 20.	Go to step 71.

DIAGNOSTIC PROCEDURE FOR NO-TROUBLE CODE

Automatic Transmission (DIAGNOSTICS)

No.	Step	Check	Yes	No
20	CHECK INDICATOR LIGHT.	Does combination meter "1" range indicator illuminate?	Go to step 21.	Go to step 75.
21	CHECK "1" RANGE SWITCH.	When the "P" range is selected, does "1" range LED light UP?	Go to step 77.	Go to step CHECK FWD SWITCH. <Ref. to AT-137 CHECK FWD LIGHT, Diagnostic Procedure for No-trouble Code.>
22	CHECK HARNESS CONNECTOR BETWEEN INHIBITOR SWITCH AND CHASSIS GROUND. 1) Turn ignition switch to OFF. 2) Disconnect connector from inhibitor switch. 3) Measure resistance of harness between inhibitor switch and chassis ground. Connector & terminal (B12) No. 4 — Chassis ground:	Is the resistance less than 1 Ω?	Go to step 23.	Repair open circuit in harness between inhibitor switch connector and combination meter.
23	CHECK HARNESS CONNECTOR BETWEEN TCM AND INHIBITOR SWITCH. 1) Turn ignition switch to OFF. 2) Disconnect connectors from TCM and inhibitor switch. 3) Measure resistance of harness between TCM and inhibitor switch connector. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 23 — (B12) No. 3: WITH VDC SYSTEM (B55) No. 1 — (B12) No. 3:	Is the resistance less than 1 Ω?	Go to step 24.	Repair open circuit in harness between TCM and inhibitor switch connector, and poor contact in coupling connector.
24	CHECK INHIBITOR SWITCH. Measure resistance between inhibitor switch connector receptacle's terminals. Terminals (T3) No. 4 — No. 3:	Is the resistance less than 1 Ω in "P" range?	Go to step 25.	Adjust inhibitor switch and select cable. <Ref. to CS-21 AT Select Lever.> and <Ref. to CS-24 Select Cable.>
25	CHECK INPUT SIGNAL FOR TCM. 1) Turn ignition switch to OFF. 2) Connect connector to TCM and inhibitor switch. 3) Turn ignition switch to ON. 4) Measure voltage between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 23 (+) — Chassis ground (-): WITH VDC SYSTEM (B55) No. 1 (+) — (B12) No. 3 (-):	Is the voltage less than 1 V in "P" range?	Go to step 26.	Go to step 79.
26	CHECK INPUT SIGNAL FOR TCM. Measure voltage between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 23 (+) — Chassis ground (-): WITH VDC SYSTEM (B55) No. 1 (+) — (B12) No. 3 (-):	Is the voltage more than 8 V in other ranges?	Go to step 79.	Replace TCM. <Ref. to AT-42 Transmission Control Module (TCM).>

DIAGNOSTIC PROCEDURE FOR NO-TROUBLE CODE

Automatic Transmission (DIAGNOSTICS)

No.	Step	Check	Yes	No
27	CHECK "P" RANGE INDICATOR LIGHT BULB. 1) Turn ignition switch to OFF. 2) Remove combination meter. 3) Remove "P" range indicator light bulb from combination meter.	Is "P" range indicator light bulb OK?	Go to step 28.	Replace "P" range indicator light bulb. <Ref. to IDI-17 Combination Meter Assembly.>
28	CHECK HARNESS CONNECTOR BETWEEN TCM AND COMBINATION METER. 1) Disconnect connectors from TCM and combination meter. 2) Measure resistance of harness between TCM and combination meter. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 23 — (i11) No. 1: WITH VDC SYSTEM (B55) No. 1 — (i11) No. 1:	Is the resistance more than 1 Ω?	Go to step 79.	Repair open circuit in harness between inhibitor switch connector and combination meter.
29	CHECK HARNESS CONNECTOR BETWEEN TCM AND INHIBITOR SWITCH. 1) Turn ignition switch to OFF. 2) Disconnect connectors from TCM, inhibitor switch and combination meter. 3) Measure resistance of harness between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 23 — Chassis ground: WITH VDC SYSTEM (B55) No. 1 — Chassis ground:	Is the resistance more than 1 MΩ?	Go to step 30.	Repair ground short circuit in "P" range circuit.
30	CHECK INHIBITOR SWITCH. Measure resistance between inhibitor switch connector receptacle's terminals. Terminals (T3) No. 4 — No. 3:	Is the resistance more than 1 MΩ in other ranges?	Replace TCM. <Ref. to AT-42 Transmission Control Module (TCM).>	Adjust inhibitor switch and select cable. <Ref. to CS-21 AT Select Lever.> and <Ref. to CS-24 Select Cable.>
31	CHECK HARNESS CONNECTOR BETWEEN TCM AND INHIBITOR SWITCH. 1) Turn ignition switch to OFF. 2) Disconnect connectors from TCM and inhibitor switch. 3) Measure resistance of harness between TCM and inhibitor switch connector. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 17 — (B12) No. 2: WITH VDC SYSTEM (B55) No. 3 — (B12) No. 2:	Is the resistance less than 1 Ω?	Go to step 32.	Repair open circuit in harness between TCM and inhibitor switch connector, and poor contact in coupling connector.
32	CHECK INHIBITOR SWITCH. Measure resistance between inhibitor switch connector receptacle's terminals. Terminals (T3) No. 2 — No. 4:	Is the resistance less than 1 Ω in "R" range?	Go to step 33.	Adjust inhibitor switch and select cable. <Ref. to CS-21 AT Select Lever.> and <Ref. to CS-24 Select Cable.>

DIAGNOSTIC PROCEDURE FOR NO-TROUBLE CODE

Automatic Transmission (DIAGNOSTICS)

No.	Step	Check	Yes	No
33	CHECK INPUT SIGNAL FOR TCM. 1) Turn ignition switch to OFF. 2) Connect connector to TCM and inhibitor switch. 3) Turn ignition switch to ON. 4) Measure voltage between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 17 (+) — Chassis ground (-): WITH VDC SYSTEM (B55) No. 3 (+) — Chassis ground (-):	Is the voltage less than 1 V in "R" range?	Go to step 34.	Go to step 79.
34	CHECK INPUT SIGNAL FOR TCM. Measure voltage between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 17 (+) — Chassis ground (-): WITH VDC SYSTEM (B55) No. 3 (+) — Chassis ground (-):	Is the voltage more than 9.5 V in other ranges?	Go to step 79.	Replace TCM. <Ref. to AT-42 Transmission Control Module (TCM).>
35	CHECK "R" RANGE INDICATOR LIGHT BULB. 1) Turn ignition switch to OFF. 2) Remove combination meter. 3) Remove "R" range indicator light bulb from combination meter.	Is "R" range indicator light bulb OK?	Go to step 36.	Replace "R" range indicator light bulb. <Ref. to IDI-17 Combination Meter Assembly.>
36	CHECK HARNESS CONNECTOR BETWEEN TCM AND COMBINATION METER. 1) Disconnect connectors from TCM and combination meter. 2) Measure resistance of harness between TCM and combination meter. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 17 — (i11) No. 2 WITH VDC SYSTEM (B55) No. 3 (+) — Chassis ground (-):	Is the resistance more than 1 Ω?	Go to step 79.	Repair open circuit in harness between inhibitor switch connector and combination meter.
37	CHECK HARNESS CONNECTOR BETWEEN TCM AND INHIBITOR SWITCH. 1) Turn ignition switch to OFF. 2) Disconnect connectors from TCM, inhibitor switch and combination meter. 3) Measure resistance of harness between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 17 — Chassis ground: WITH VDC SYSTEM (B55) No. 3 — Chassis ground:	Is the resistance more than 1 MΩ?	Go to step 38.	Repair ground short circuit in "R" range circuit.
38	CHECK INHIBITOR SWITCH. Measure resistance between inhibitor switch connector receptacle's terminals. Terminals (T3) No. 2 — No. 4:	Is the resistance more than 1 MΩ in other ranges?	Replace TCM. <Ref. to AT-42 Transmission Control Module (TCM).>	Adjust inhibitor switch and select cable. <Ref. to CS-21 AT Select Lever.> and <Ref. to CS-24 Select Cable.>

DIAGNOSTIC PROCEDURE FOR NO-TROUBLE CODE

Automatic Transmission (DIAGNOSTICS)

No.	Step	Check	Yes	No
39	CHECK HARNESS CONNECTOR BETWEEN TCM AND INHIBITOR SWITCH. 1) Turn ignition switch to OFF. 2) Disconnect connectors from TCM and inhibitor switch. 3) Measure resistance of harness between TCM and inhibitor switch connector. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 22 — (B12) No. 1: WITH VDC SYSTEM (B55) No. 14 — (B12) No. 1:	Is the resistance less than 1 Ω ?	Go to step 40.	Repair open circuit in harness between TCM and inhibitor switch connector, and poor contact in coupling connector.
40	CHECK INHIBITOR SWITCH. Measure resistance between inhibitor switch connector receptacle's terminals. Terminals (T3) No. 4 — No. 1:	Is the resistance less than 1 Ω in "N" range?	Go to step 41.	Adjust inhibitor switch and select cable. <Ref. to CS-21 AT Select Lever.> and <Ref. to CS-24 Select Cable.>
41	CHECK INPUT SIGNAL FOR TCM. 1) Turn ignition switch to OFF. 2) Connect connector to TCM and inhibitor switch. 3) Turn ignition switch to ON. 4) Measure voltage between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 22 (+) — Chassis ground (-): WITH VDC SYSTEM (B55) No. 14 (+) — Chassis ground (-):	Is the voltage less than 1 V in "N" range?	Go to step 42.	Go to step 79.
42	CHECK INPUT SIGNAL FOR TCM. Measure voltage between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 22 (+) — Chassis ground (-): WITH VDC SYSTEM (B55) No. 14 (+) — Chassis ground (-):	Is the voltage more than 8 V in other ranges?	Go to step 79.	Replace TCM. <Ref. to AT-42 Transmission Control Module (TCM).>
43	CHECK "N" RANGE INDICATOR LIGHT BULB. 1) Turn ignition switch to OFF. 2) Remove combination meter. 3) Remove "N" range indicator light bulb from combination meter.	Is "N" range indicator light bulb OK?	Go to step 44.	Replace "N" range indicator light bulb. <Ref. to IDI-17 Combination Meter Assembly.>
44	CHECK HARNESS CONNECTOR BETWEEN TCM AND COMBINATION METER. 1) Disconnect connectors from TCM and combination meter. 2) Measure resistance of harness between TCM and combination meter. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 22 — (i11) No. 3: WITH VDC SYSTEM (B55) No. 14 — (i11) No. 3:	Is the resistance more than 1 Ω ?	Go to step 79.	Repair open circuit in harness between inhibitor switch connector and combination meter.

DIAGNOSTIC PROCEDURE FOR NO-TROUBLE CODE

Automatic Transmission (DIAGNOSTICS)

No.	Step	Check	Yes	No
45	CHECK HARNESS CONNECTOR BETWEEN TCM AND INHIBITOR SWITCH. 1) Turn ignition switch to OFF. 2) Disconnect connectors from TCM, inhibitor switch and combination meter. 3) Measure resistance of harness between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 22 — Chassis ground: WITH VDC SYSTEM (B55) No. 14 — Chassis ground:	Is the resistance more than 1 MΩ?	Go to step 47.	Repair ground short circuit in "N" range circuit.
46	CHECK INHIBITOR SWITCH. Measure resistance between inhibitor switch connector receptacle's terminals. Terminals (T3) No. 1 — No. 4:	Is the resistance more than 1 MΩ in other ranges?	Replace TCM. <Ref. to AT-42 Transmission Control Module (TCM).>	Adjust inhibitor switch and select cable. <Ref. to CS-21 AT Select Lever.> and <Ref. to CS-24 Select Cable.>
47	CHECK HARNESS CONNECTOR BETWEEN TCM AND INHIBITOR SWITCH. 1) Turn ignition switch to OFF. 2) Disconnect connectors from TCM and inhibitor switch. 3) Measure resistance of harness between TCM and inhibitor switch connector. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 8 — (B12) No. 8: WITH VDC SYSTEM (B55) No. 4 — (B12) No. 8:	Is the resistance less than 1 Ω?	Go to step 48.	Repair open circuit in harness between TCM and inhibitor switch connector, and poor contact in coupling connector.
48	CHECK INHIBITOR SWITCH. Measure resistance between inhibitor switch connector receptacle's terminals. Terminals (T3) No. 4 — No. 8:	Is the resistance less than 1 Ω in "D" range?	Go to step 49.	Adjust inhibitor switch and select cable. <Ref. to CS-21 AT Select Lever.> and <Ref. to CS-24 Select Cable.>
49	CHECK INPUT SIGNAL FOR TCM. 1) Turn ignition switch to OFF. 2) Connect connector to TCM and inhibitor switch. 3) Turn ignition switch to ON. 4) Measure voltage between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 8 (+) — Chassis ground (-): WITH VDC SYSTEM (B55) No. 4 (+) — Chassis ground (-):	Is the voltage less than 1 V in "D" range?	Go to step 50.	Go to step 79.
50	CHECK INPUT SIGNAL FOR TCM. Measure voltage between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 8 (+) — Chassis ground (-): WITH VDC SYSTEM (B55) No. 4 (+) — Chassis ground (-):	Is the voltage more than 9.5 V in other ranges?	Go to step 79.	Replace TCM. <Ref. to AT-42 Transmission Control Module (TCM).>

DIAGNOSTIC PROCEDURE FOR NO-TROUBLE CODE

Automatic Transmission (DIAGNOSTICS)

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51	CHECK "D" RANGE INDICATOR LIGHT BULB. 1) Turn ignition switch to OFF. 2) Remove combination meter. 3) Remove "D" range indicator light bulb from combination meter.	Is "D" range indicator light bulb OK?	Go to step 52.	Replace "D" range indicator light bulb. <Ref. to IDI-17 Combination Meter Assembly.>
52	CHECK HARNESS CONNECTOR BETWEEN TCM AND COMBINATION METER. 1) Disconnect connectors from TCM and combination meter. 2) Measure resistance of harness between TCM and combination meter. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 8 — (i11) No. 4: WITH VDC SYSTEM (B55) No. 4 — (i11) No. 4:	Is the resistance more than 1 Ω?	Go to step 79.	Repair open circuit in harness between inhibitor switch connector and combination meter.
53	CHECK HARNESS CONNECTOR BETWEEN TCM AND INHIBITOR SWITCH. 1) Turn ignition switch to OFF. 2) Disconnect connectors from TCM, inhibitor switch and combination meter. 3) Measure resistance of harness between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 8 — Chassis ground: WITH VDC SYSTEM (B55) No. 4 — Chassis ground:	Is the resistance more than 1 MΩ?	Go to step 54.	Repair ground short circuit in "D" range circuit.
54	CHECK INHIBITOR SWITCH. Measure resistance between inhibitor switch connector receptacle's terminals. Terminals (T3) No. 4 — No. 8:	Is the resistance more than 1 MΩ in other ranges?	Replace TCM. <Ref. to AT-42 Transmission Control Module (TCM).>	Adjust inhibitor switch and select cable. <Ref. to CS-21 AT Select Lever.> and <Ref. to CS-24 Select Cable.>
55	CHECK HARNESS CONNECTOR BETWEEN TCM AND INHIBITOR SWITCH. 1) Turn ignition switch to OFF. 2) Disconnect connector from TCM and inhibitor switch. 3) Measure resistance of harness between TCM and inhibitor switch connector. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 18 — (B12) No. 7: WITH VDC SYSTEM (B55) No. 5 — (B12) No. 7:	Is the resistance less than 1 Ω?	Go to step 56.	Repair open circuit in harness between TCM and inhibitor switch connector, and poor contact in coupling connector.
56	CHECK INHIBITOR SWITCH. Measure resistance between inhibitor switch connector receptacle's terminals. Terminals (T3) No. 4 — No. 7:	Is the resistance less than 1 Ω in "3" range?	Go to step 57.	Adjust inhibitor switch and select cable. <Ref. to CS-21 AT Select Lever.> and <Ref. to CS-24 Select Cable.>

DIAGNOSTIC PROCEDURE FOR NO-TROUBLE CODE

Automatic Transmission (DIAGNOSTICS)

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57	CHECK INPUT SIGNAL FOR TCM. 1) Turn ignition switch to OFF. 2) Connect connector to TCM and inhibitor switch. 3) Turn ignition switch to ON. 4) Measure voltage between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 18 (+) — Chassis ground (-): WITH VDC SYSTEM (B55) No. 5 (+) — Chassis ground (-):	Is the voltage less than 1 V in "3" range?	Go to step 58.	Go to step 79.
58	CHECK INPUT SIGNAL FOR TCM. Measure voltage between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 18 (+) — Chassis ground (-): WITH VDC SYSTEM (B55) No. 5 (+) — Chassis ground (-):	Is the voltage more than 9.5 V in other ranges?	Go to step 79.	Replace TCM. <Ref. to AT-42 Transmission Control Module (TCM).>
59	CHECK "3" RANGE INDICATOR LIGHT BULB. 1) Turn ignition switch to OFF. 2) Remove combination meter. 3) Remove "3" range indicator light bulb from combination meter.	Is "3" range indicator light bulb OK?	Go to step 60.	Replace "3" range indicator light bulb. <Ref. to IDI-17 Combination Meter Assembly.>
60	CHECK HARNESS CONNECTOR BETWEEN TCM AND COMBINATION METER. 1) Disconnect connectors from TCM and combination meter. 2) Measure resistance of harness between TCM and combination meter. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 18 — (i11) No. 11: WITH VDC SYSTEM (B55) No. 5 — (i11) No. 11:	Is the resistance more than 1 Ω?	Go to step 79.	Repair open circuit in harness between inhibitor switch connector and combination meter.
61	CHECK HARNESS CONNECTOR BETWEEN TCM AND INHIBITOR SWITCH. 1) Turn ignition switch to OFF. 2) Disconnect connectors from TCM, inhibitor switch and combination meter. 3) Measure resistance of harness between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B55) No. 18 — Chassis ground: WITH VDC SYSTEM (B55) No. 5 — Chassis ground:	Is the resistance more than 1 MΩ?	Go to step 62.	Repair ground short circuit in "3" range circuit.
62	CHECK INHIBITOR SWITCH. Measure resistance between inhibitor switch connector receptacle's terminals. Terminals (T3) No. 4 — No. 7:	Is the resistance more than 1 MΩ in other ranges?	Replace TCM. <Ref. to AT-42 Transmission Control Module (TCM).>	Adjust inhibitor switch and select cable. <Ref. to CS-21 AT Select Lever.> and <Ref. to CS-24 Select Cable.>

DIAGNOSTIC PROCEDURE FOR NO-TROUBLE CODE

Automatic Transmission (DIAGNOSTICS)

No.	Step	Check	Yes	No
63	CHECK HARNESS CONNECTOR BETWEEN TCM AND INHIBITOR SWITCH. 1) Turn ignition switch to OFF. 2) Disconnect connector from TCM and inhibitor switch. 3) Measure resistance of harness between TCM and inhibitor switch connector. Connector & terminal WITHOUT VDC SYSTEM (B54) No. 10 — (B12) No. 6: WITH VDC SYSTEM (B55) No. 6 — (B12) No. 6:	Is the resistance less than 1 Ω ?	Go to step 64.	Repair open circuit in harness between TCM and inhibitor switch connector, and poor contact in coupling connector.
64	CHECK INHIBITOR SWITCH. Measure resistance between inhibitor switch connector receptacle's terminals. Terminals (T3) No. 6 — No. 4:	Is the resistance less than 1 Ω in "2" range?	Go to step 65.	Adjust inhibitor switch and select cable. <Ref. to CS-21 AT Select Lever.> and <Ref. to CS-24 Select Cable.>
65	CHECK INPUT SIGNAL FOR TCM. 1) Turn ignition switch to OFF. 2) Connect connector to TCM and inhibitor switch. 3) Turn ignition switch to ON. 4) Measure voltage between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B54) No. 10 (+) — Chassis ground (-): WITH VDC SYSTEM (B55) No. 6 (+) — Chassis ground (-):	Is the voltage less than 1 V in "2" range?	Go to step 66.	Go to step 79.
66	CHECK INPUT SIGNAL FOR TCM. Measure voltage between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B54) No. 10 (+) — Chassis ground (-): WITH VDC SYSTEM (B55) No. 6 (+) — Chassis ground (-):	Is the voltage more than 9.5 V in other ranges?	Go to step 79.	Replace TCM. <Ref. to xx.>
67	CHECK "2" RANGE INDICATOR LIGHT BULB. 1) Turn ignition switch to OFF. 2) Remove combination meter. 3) Remove "2" range indicator light bulb from combination meter.	Is "2" range indicator light bulb OK?	Go to step 68.	Replace "2" range indicator light bulb. <Ref. to IDI-17 Combination Meter Assembly.>
68	CHECK HARNESS CONNECTOR BETWEEN TCM AND COMBINATION METER. 1) Disconnect connectors from TCM and combination meter. 2) Measure resistance of harness between TCM and combination meter. Connector & terminal WITHOUT VDC SYSTEM (B54) No. 10 — (i11) No. 12: WITH VDC SYSTEM (B55) No. 6 — (i11) No. 12:	Is the resistance more than 1 Ω ?	Go to step 79.	Repair open circuit in harness between inhibitor switch and combination meter.

DIAGNOSTIC PROCEDURE FOR NO-TROUBLE CODE

Automatic Transmission (DIAGNOSTICS)

No.	Step	Check	Yes	No
69	CHECK HARNESS CONNECTOR BETWEEN TCM AND INHIBITOR SWITCH. 1) Turn ignition switch to OFF. 2) Disconnect connectors from TCM, inhibitor switch and combination meter. 3) Measure resistance of harness between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B54) No. 10 — Chassis ground: WITH VDC SYSTEM (B55) No. 6 — Chassis ground:	Is the resistance more than 1 MΩ?	Go to step 70.	Repair ground short circuit in "2" range circuit.
70	CHECK INHIBITOR SWITCH. Measure resistance between inhibitor switch connector receptacle's terminals. Terminals (T3) No. 6 — No. 4:	Is the resistance more than 1 MΩ in other ranges?	Replace TCM. <Ref. to AT-42 Transmission Control Module (TCM).>	Adjust inhibitor switch and select cable. <Ref. to CS-21 AT Select Lever.> and <Ref. to CS-24 Select Cable.>
71	CHECK HARNESS CONNECTOR BETWEEN TCM AND INHIBITOR SWITCH. 1) Turn ignition switch to OFF. 2) Disconnect connectors from TCM and inhibitor switch. 3) Measure resistance of harness between TCM and inhibitor switch connector. Connector & terminal WITHOUT VDC SYSTEM (B54) No. 1 — (B12) No. 5: WITH VDC SYSTEM (B55) No. 7 — (B12) No. 5:	Is the resistance less than 1 Ω?	Go to step 72.	Repair open circuit in harness between TCM and inhibitor switch connector, and poor contact in coupling connector.
72	CHECK INHIBITOR SWITCH. Measure resistance between inhibitor switch connector receptacle's terminals. Terminals (T3) No. 5 — No. 4:	Is the resistance less than 1 Ω in "1" range?	Go to step 73.	Adjust inhibitor switch and select cable. <Ref. to CS-21 AT Select Lever.> and <Ref. to CS-24 Select Cable.>
73	CHECK INPUT SIGNAL FOR TCM. 1) Turn ignition switch to OFF. 2) Connect connector to TCM and inhibitor switch. 3) Turn ignition switch to ON. 4) Measure voltage between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B54) No. 1 (+) — Chassis ground (-): WITH VDC SYSTEM (B55) No. 7 (+) — Chassis ground (-):	Is the voltage less than 1 V in "1" range?	Go to step 74.	Go to step 79.
74	CHECK INPUT SIGNAL FOR TCM. Measure voltage between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B54) No. 1 (+) — Chassis ground (-): WITH VDC SYSTEM (B55) No. 7 (+) — Chassis ground (-):	Is the voltage more than 9.5 V in other ranges?	Go to step 79.	Replace TCM. <Ref. to AT-42 Transmission Control Module (TCM).>

DIAGNOSTIC PROCEDURE FOR NO-TROUBLE CODE

Automatic Transmission (DIAGNOSTICS)

No.	Step	Check	Yes	No
75	CHECK "1" RANGE INDICATOR LIGHT BULB. 1) Turn ignition switch to OFF. 2) Remove combination meter. 3) Remove "1" range indicator light bulb from combination meter.	Is "1" range indicator light bulb OK?	Go to step 76.	Replace "1" range indicator light bulb. <Ref. to IDI-17 Combination Meter Assembly.>
76	CHECK HARNESS CONNECTOR BETWEEN TCM AND COMBINATION METER. 1) Disconnect connectors from TCM and combination meter. 2) Measure resistance of harness between TCM and combination meter. Connector & terminal WITHOUT VDC SYSTEM (B54) No. 1 — (i11) No. 5: WITH VDC SYSTEM (B55) No. 7 — (i11) No. 5:	Is the resistance more than 1Ω?	Go to step 79.	Repair open circuit in harness between inhibitor switch and combination meter.
77	CHECK HARNESS CONNECTOR BETWEEN TCM AND INHIBITOR SWITCH. 1) Turn ignition switch to OFF. 2) Disconnect connectors from TCM, inhibitor switch and combination meter. 3) Measure resistance of harness between TCM and chassis ground. Connector & terminal WITHOUT VDC SYSTEM (B54) No. 1 — Chassis ground: WITH VDC SYSTEM (B55) No. 7 — Chassis ground:	Is the resistance more than 1 MΩ?	Go to step 78.	Repair ground short circuit in "1" range circuit.
78	CHECK INHIBITOR SWITCH. Measure resistance between inhibitor switch connector receptacle's terminals. Terminals (T3) No. 5 — No. 4:	Is the resistance more than 1 MΩ in other ranges?	Replace TCM. <Ref. to AT-42 Transmission Control Module (TCM).>	Adjust inhibitor switch and select cable. <Ref. to CS-21 AT Select Lever.> and <Ref. to CS-24 Select Cable.>
79	CHECK POOR CONTACT.	Is there poor contact in inhibitor switch circuit?	Repair poor contact.	Replace TCM. <Ref. to AT-42 Transmission Control Module (TCM).>

DIAGNOSTIC PROCEDURE FOR NO-TROUBLE CODE

Automatic Transmission (DIAGNOSTICS)

G: CHECK FWD LIGHT. S004618F21

No.	Step	Check	Yes	No
1	CHECK FWD LIGHT.	Does the LED of FWD light illuminate?	Check FWD light circuit. <Ref. to AT-120 CHECK FWD SWITCH, Diagnostic Procedure for No-trouble Code.>	Go to step Symptom Related Diagnostic. <Ref. to AT-138 Symptom Related Diagnostic.>