DIAVD–01

# PROBLEM SYMPTOMS TABLE

If a normal code is displayed during the diagnostic trouble code check but the trouble still occurs, check the circuits for each symptom in the order given in the charts on the following pages and proceed to the page given for troubleshooting.

The Matrix Chart is divided into 3 chapters.

**Chapter 1: Electronic Circuit Matrix Chart**

**Chapter 2: On–vehicle Repair Matrix Chart**

**Chapter 3: Off–vehicle Repair Matrix Chart**

- If the instruction ”Proceed to next circuit inspection shown on matrix chart” is given in the flow chart for each circuit, proceed to the circuit with the next highest number in the table to continue the check.
- If the trouble still occurs even though there are no abnormalities in any of the other circuits, then check and replace the Engine and ECT ECU.

**Chapter 1: Electronic Circuit Matrix Chart**

HINT:

*1: When a malfunction is on the circuit *1 mark is attached, DTC is output.

| Symptom | Suspect Area | See page |
|---|---|---|
| No up–shift<br>(A particular gear, from 1st to 4th gear, is not up–shifted) | 1. Shift solenoid valve (S1) circuit *1<br>2. Shift solenoid valve (S2) circuit *1<br>3. Engine and ECT ECU | DI–132<br>DI–141<br>IN–38 |
| No up–shift (4th → 5th) | 1. Transmission control switch circuit (D – 4)<br>2. Speed sensor NT circuit *1<br>3. Shift solenoid valve (SL1) circuit *1<br>4. Shift solenoid valve (SL2) circuit *1<br>5. Shift solenoid valve (SR) circuit *1<br>6. Engine and ECT ECU | DI–156<br>DI–125<br>DI–135<br>DI–144<br>DI–150<br>IN–38 |
| No up–shift (3th → 4th) | 1. Shift solenoid valve (S2) circuit *1<br>2. Engine and ECT ECU | DI–141<br>IN–38 |
| No up–shift (1st → 2nd) | 1. Transmission control switch circuit (2 – L)<br>2. Shift solenoid valve (S2) circuit *1<br>3. Engine and ECT ECU | DI–156<br>DI–141<br>IN–38 |
| No down–shift (5th → 4th) | 1. Transmission control switch circuit (D – 4)<br>2. Shift solenoid valve (SL1) circuit *1<br>3. Shift solenoid valve (SL2) circuit *1<br>4. Shift solenoid valve (SR) circuit *1<br>5. Engine and ECT ECU | DI–156<br>DI–135<br>DI–144<br>DI–150<br>IN–38 |
| No down–shift (2nd → 1st) | 1. Transmission control switch circuit (2 – L)<br>2. Shift solenoid valve (S2) circuit *1<br>3. Engine and ECT ECU | DI–156<br>DI–141<br>IN–38 |
| No down–shift<br>(A particular gear, from 1st to 4th gear, is not down–shifted) | 1. Shift solenoid valve (S1) circuit *1<br>2. Shift solenoid valve (S2) circuit *1<br>3. Engine and ECT ECU | DI–132<br>DI–141<br>IN–38 |
| No lock–up | 1. Transfer L4 position switch circuit<br>2. Stop light switch circuit<br>3. Speed sensor NT circuit *1<br>4. Shift solenoid valve (SLU) circuit *1<br>5. Engine and ECT ECU | DI–159<br>DI–161<br>DI–125<br>DI–147<br>IN–38 |
| No lock–up off | Engine and ECT ECU | IN–38 |

| | | |
|---|---|---|
| Shift point too high or too low | 1. Shift solenoid valve (SLT) circuit *1<br>2. Speed sensor NT circuit *1<br>3. Speed sensor SP2 circuit *1<br>4. ATF temperature sensor circuit *1<br>5. Pattern select switch circuit (PWR mode switch)<br>6. Transfer L4 position switch circuit<br>7. Engine and ECT ECU | DI–153<br>DI–125<br>DI–130<br>DI–127<br>DI–134<br>DI–139<br>IN–38 |
| Up–shift to 5th from 4th while shift lever is 4 range | 1. Transmission control switch circuit (D – 4)<br>2. Engine and ECT ECU | DI–156<br>IN–38 |
| Up–shift to 5th from 4th while engine is cold | Engine and ECT ECU | IN–38 |
| Up–shift to 4th from 3rd while shift lever is 3 range | 1. Neutral start switch circuit<br>2. Engine and ECT ECU | DI–156<br>IN–38 |
| Up–shift to 3rd from 2nd while shift lever is 2 range | 1. Neutral start switch circuit<br>2. Engine and ECT ECU | DI–156<br>IN–38 |
| Up–shift to 2nd from 1st while shift lever is L range | 1. Transmission control switch circuit (2 – L)<br>2. Engine and ECT ECU | DI–156<br>IN–38 |
| Harsh engagement (N → D) | 1. Speed sensor NT circuit *1<br>2. Shift solenoid valve (SL1) circuit *1<br>3. Shift solenoid valve (SLT) circuit *1<br>4. Engine and ECT ECU | DI–125<br>DI–135<br>DI–153<br>IN–38 |
| Harsh engagement (Lock–up) | 1. Speed sensor NT circuit *1<br>1. Speed sensor SP2 circuit *1<br>3. Shift solenoid valve (SLU) circuit *1<br>4. Engine and ECT ECU | DI–125<br>DI–130<br>DI–147<br>IN–38 |
| Harsh engagement (Any driving range) | Engine and ECT ECU | IN–38 |
| Poor acceleration | Engine and ECT ECU | IN–38 |
| No engine braking | Engine and ECT ECU | IN–38 |
| No kick–down | Engine and ECT ECU | IN–38 |
| Engine stalls when starting off or stopping | Engine and ECT ECU | IN–38 |
| No pattern select (PWR) | 1. Pattern select switch circuit (PWR mode switch)<br>2. Engine and ECT ECU | DI–134<br>IN–38 |
| No 2nd start | 1. Pattern select switch circuit (2nd start switch)<br>2. Transmission control switch circuit (2 – L)<br>3. Engine and ECT ECU | DI–156<br>DI–156<br>IN–38 |
| AT Oil Temp. warning light remains on | 1. ATF temperature sensor No.2 circuit<br>2. Engine and ECT ECU | DI–171<br>IN–38 |
| A/T.P. indicator light does not light up | 1. A/T.P. indicator light circuit<br>2. Combination meter circuit<br>3. Engine and ECT ECU | DI–180<br>BE–33<br>IN–38 |

## Chapter 2: On–Vehicle Repair
## (★: A750E, A750F AUTOMATIC TRANSMISSION Repair Manual Pub. No. RM999U)

| Symptom | Suspect Area | See page |
|---|---|---|
| Vehicle does not move in any forward range and reverse ranges | 1. Transmission control rod<br>2. Manual valve<br>3. Parking lock pawl<br>4. Off–vehicle repair matrix chart | DI–102<br>★<br>★<br>– |
| Vehicle does not move in R range | 1. Valve body assy<br>2. Off–vehicle repair matrix chart | AT–8<br>– |
| No up–shift (1st → 2nd) | 1. Valve body assy<br>2. Off–vehicle repair matrix chart | AT–8<br>– |
| No up–shift (2nd → 3rd) | 1. Valve body assy<br>2. Off–vehicle repair matrix chart | AT–8<br>– |
| No up–shift (3rd → 4th) | 1. Valve body assy<br>2. Off–vehicle repair matrix chart | AT–8<br>– |
| No up–shift (4th → 5th) | 1. Valve body assy<br>2. Off–vehicle repair matrix chart | AT–8<br>– |
| No down–shift (5th → 4th) | 1. Valve body assy<br>2. Off–vehicle repair matrix chart | AT–8<br>– |
| No down–shift (4th → 3rd) | 1. Valve body assy<br>2. Off–vehicle repair matrix chart | AT–8<br>– |
| No down–shift (3rd → 2nd) | 1. Valve body assy<br>2. Off–vehicle repair matrix chart | AT–8<br>– |
| No down–shift (2nd → 1st) | 1. Valve body assy<br>2. Off–vehicle repair matrix chart | AT–8<br>– |
| No lock–up or No lock–up off | 1. Shift solenoid valve (SLU)<br>2. Valve body assy<br>3. Off–vehicle repair matrix chart | DI–174<br>AT–8<br>– |
| Harsh engagement (N → D) | 1. Shift solenoid valve (SL1)<br>2. Valve body assy<br>3. $C_1$ accumulator<br>4. Off–vehicle repair matrix chart | DI–174<br>AT–8<br>★<br>– |
| Harsh engagement (Lock–up) | 1. Shift solenoid valve (SLU)<br>2. Valve body assy<br>3. Off–vehicle repair matrix chart | DI–174<br>AT–8<br>– |
| Harsh engagement (N → R) | 1. Shift solenoid valve (SLT)<br>2. Shift solenoid valve (SLU)<br>3. Valve body assy<br>4. $C_3$ accumulator<br>5. Off–vehicle repair matrix chart | DI–174<br>DI–174<br>AT–8<br>★<br>– |
| Harsh engagement (1st →2nd → 3rd → 4th → 5th) | 1. Shift solenoid valve (SLT)<br>2. Shift solenoid valve (SL1)<br>3. Valve body assy | DI–174<br>DI–174<br>AT–8 |
| Harsh engagement (1st → 2nd) | 1. Valve body assy<br>2. $B_3$ accumulator<br>3. Off–vehicle repair matrix chart | AT–8<br>★<br>– |
| Harsh engagement (2nd → 3rd) | 1. Valve body assy<br>2. $C_3$ accumulator<br>3. Off–vehicle repair matrix chart | AT–8<br>★<br>– |
| Harsh engagement (3rd → 4th) | 1. Valve body assy<br>2. $C_2$ accumulator<br>3. Off–vehicle repair matrix chart | AT–8<br>★<br>– |

| | | |
|---|---|---|
| Harsh engagement (4th → 5th) | 1. Shift solenoid valve (SL1)<br>2. Shift solenoid valve (SL2)<br>3. Valve body assy<br>4. Off–vehicle repair matrix chart | DI–1774<br>DI–1774<br>AT–8<br>– |
| Harsh engagement (5th → 4th) | 1. Shift solenoid valve (SL1)<br>2. Shift solenoid valve (SL2)<br>3. Valve body assy<br>4. Off–vehicle repair matrix chart | DI–1774<br>DI–1774<br>AT–8<br>– |
| Slip or shudder (Forward and reverse) | 1. Transmission control rod<br>2. Valve body assy<br>3. Oil strainer<br>4. Off–vehicle repair matrix chart | DI–1002<br>AT–8<br>AT–8<br>– |
| No engine braking (1st: L range) | 1. Valve body assy<br>2. Off–vehicle repair matrix chart | AT–8<br>– |
| No engine braking (2nd: 2 range) | 1. Valve body assy<br>2. Off–vehicle repair matrix chart | AT–8<br>– |
| No kick–down | Valve body assy | AT–8 |
| Shift point too high or too low | 1. Shift solenoid valve (SLT)<br>2. Shift solenoid valve (SL1)<br>3. Valve body assy | DI–1774<br>DI–1774<br>AT–8 |
| Poor acceleration | 1. Shift solenoid valve (SLT)<br>2. Valve body assy | DI–1774<br>AT–8 |
| Engine stalls when starting off or stopping | 1. Shift solenoid valve (SLU)<br>2. Valve body assy | DI–1774<br>AT–8 |

## Chapter 3: Off–Vehicle Repair
## (★: A750E, A750F AUTOMATIC TRANSMISSION Repair Manual Pub. No. RM999U)

| Symptom | Suspect Area | See page |
|---|---|---|
| Vehicle does not move in any forward range and reverse ranges | 1. Rear planetary gear unit<br>2. Torque converter | ★<br>AT–43 |
| Vehicle does not move in R range | Brake No. 4 ($B_4$) | ★ |
| No up–shift (1st → 2nd) | 1. Brake No. 3 ($B_3$)<br>2. One–way clutch No.1 ($F_1$)<br>3. One–way clutch No. 2 ($F_2$) | ★<br>★<br>★ |
| No up–shift (2nd → 3rd) | Clutch No. 3 ($C_3$) | ★ |
| No up–shift (3rd → 4th) | Clutch No. 2 ($C_2$) | ★ |
| No up–shift (4th → 5th) | 1. Brake No. 1 ($B_1$)<br>2. Clutch No. 1 ($C_1$) | ★<br>★ |
| No lock–up or No lock–up off | Torque converter | AT–43 |
| Harsh engagement (N → D) | 1. Clutch No. 1 ($C_1$)<br>2. One–way clutch No.3 ($F_3$) | ★<br>★ |
| Harsh engagement (N → R) | 1. Clutch No. 3 ($C_3$)<br>2. Brake No. 4 ($B_4$)<br>3. One–way clutch No.1 ($F_1$) | ★<br>★<br>★ |
| Harsh engagement (1 → 2) | 1. Brake No. 3 ($B_3$)<br>2. One–way clutch No.1 ($F_1$)<br>3. One–way clutch No. 2 ($F_2$) | ★<br>★<br>★ |
| Harsh engagement (2 → 3) | Clutch No. 3 ($C_3$) | ★ |
| Harsh engagement (3 → 4) | Clutch No. 2 ($C_2$) | ★ |
| Harsh engagement (4 → 5th) | 1. Brake No. 1 ($B_1$)<br>2. Clutch No. 1 ($C_1$) | ★<br>★ |
| Harsh engagement (Lock–up) | Torque converter | AT–43 |
| Slip or shudder (Forward and reverse: After warm–up) | 1. One–way clutch No.1 ($F_1$)<br>2. Clutch No. 3 ($C_3$)<br>3. Torque converter clutch | ★<br>★<br>★ |
| Slip or shudder (Particular range: Just after engine starts) | Torque converter | AT–43 |
| Slip or shudder (R range) | 1. Brake No. 4 ($B_4$)<br>2. One–way clutch No.1 ($F_1$)<br>3. Clutch No. 3 ($C_3$) | ★<br>★<br>★ |
| Slip or shudder (1st) | 1. Clutch No. 1 ($C_1$)<br>2. One–way clutch No.3 ($F_3$) | ★<br>★ |
| Slip or shudder (2nd) | 1. Clutch No. 1 ($C_1$)<br>2. Brake No. 3 ($B_3$)<br>3. One–way clutch No.1 ($F_1$)<br>4. One–way clutch No.2 ($F_2$) | ★<br>★<br>★<br>★ |
| Slip or shudder (3rd) | 1. Clutch No. 1 ($C_1$)<br>2. Clutch No. 3 ($C_3$)<br>3. One–way clutch No.1 ($F_1$) | ★<br>★<br>★ |
| Slip or shudder (4th) | 1. Clutch No. 1 ($C_1$)<br>2. Clutch No. 2 ($C_2$) | ★<br>★ |
| Slip or shudder (5th) | 1. Clutch No. 2 ($C_2$)<br>2. Clutch No. 3 ($C_3$)<br>3. Brake No. 1 ($B_1$) | ★<br>★<br>★ |
| No engine braking (1st – 4th: D range) | Clutch No. 1 ($C_1$) | ★ |
| No engine braking (1st: L range) | Brake No. 4 ($B_4$) | ★ |
| No engine braking (2nd: 2 range) | Brake No. 2 ($B_2$) | ★ |

| | | |
|---|---|---|
| No engine braking (3rd: 3 range) | Brake No. 1 ($B_1$) | ★ |
| Poor acceleration (All ranges) | Torque converter | AT–43 |
| Poor acceleration (5th) | 1. Clutch No. 1 ($C_1$)<br>2. Clutch No. 3 ($C_3$)<br>3. Brake No. 1 ($B_1$)<br>4. Front planetary gear unit | ★<br>★<br>★<br>★ |
| Engine stalls when starting off or stopping | Torque converter | AT–43 |