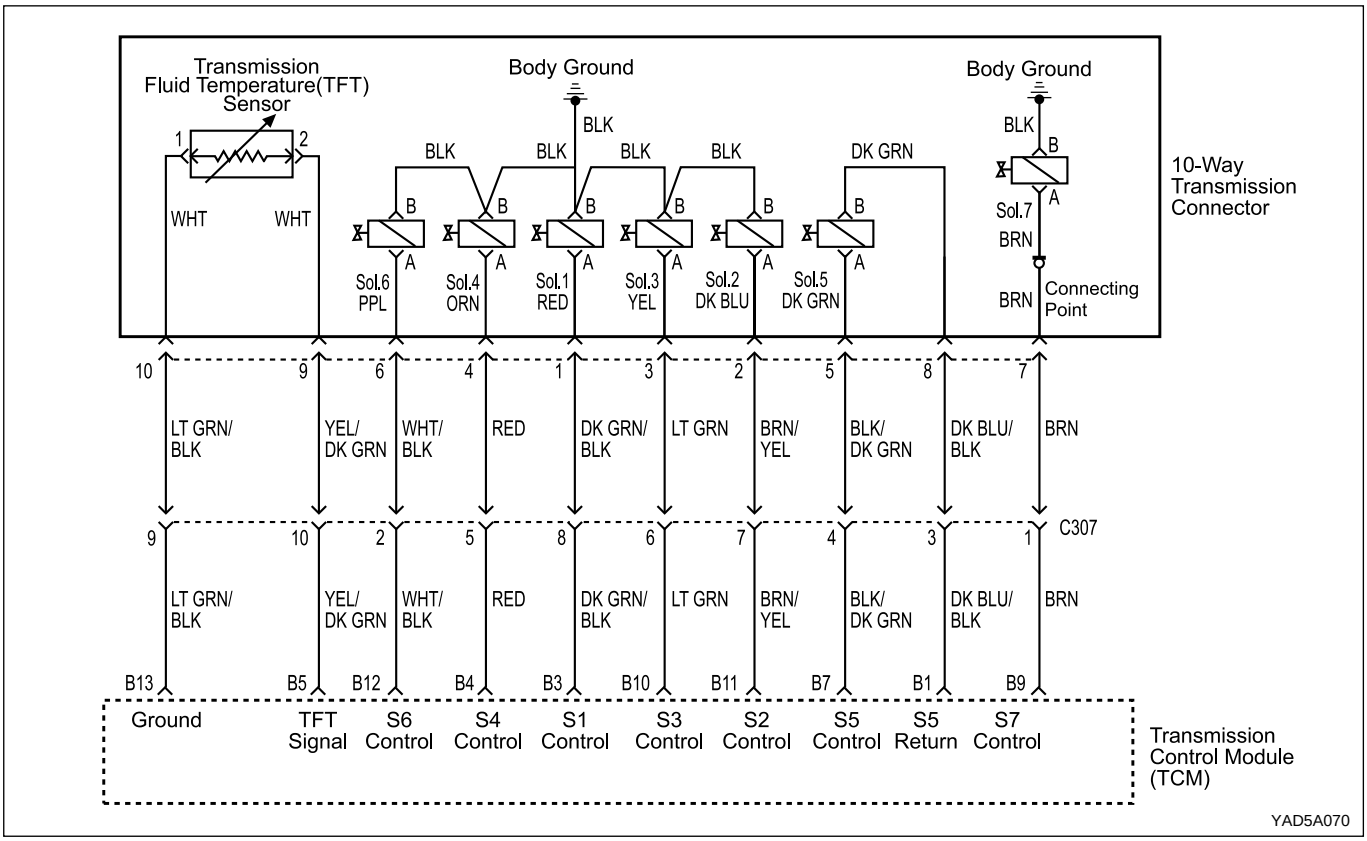

DIAGNOSTIC TROUBLE CODE (DTC) P1737
SOLENOID 5 CIRCUIT OPEN

Circuit Description

The solenoid 5 is a variable force solenoid that ramps the pressure during the gear changes and solenoid switching, to enhance the transmission shift quality. This solenoid provides the signal pressure to the clutch and band regulator, thereby controlling the shift pressure.

The solenoid 5 is attached to the valve body within the transmission. Voltage is supplied directly to the solenoid through the Transmission Control Module (TCM).

The DTC P1737 sets when the solenoid 5 (S5) circuit is open or the switched leg of the solenoid 5 is shorted to battery positive. The solenoid 5's driver Integrated Chip (IC) status indicates a fauty circuit.

Conditions for Setting the DTC

- DTCs P1717 and P1718 are not set.
- The solenoid 5's driver Integrated Chip (IC) status indicates a faulty circuit. This condition must be continuously present for 60 milliseconds.
- The measured S5 current is greater than 100 mA below its expected lower limit.

Action Taken When the DTC Sets

- Solenoid 5 is disabled (always OFF).
- The shift quality is degraded.

Conditions for Clearing the DTC

- The DTC will clear when the malfunction has not occurred after ignition cycle.
- A history DTC will clear after 40 TCM power-up cycles with a warm transmission (>50 °C) and without a fault.
- History DTCs can be cleared by using a scan tool.

Diagnostic Aids

- The current to solenoid 5 was outside acceptable limits.
- This fault results from a mismatch between the current set point for solenoid 5 and the current measured by the feedback within the TCM.
- Typical causes would be an open circuit or short circuit to power in the wiring to, from or within the solenoid.
- It is also possible that there has been a fault in the solenoid output circuit. But if this is the cause, the fault should be continually present.
- Inspect the wiring for poor electrical connections at the TCM and at the 10-way transmission connector. Look for possible bent, backed out, deformed or damaged terminals. Check for weak terminal tension as well. Also check for chafed wires that could short to bare metal or other wiring. Inspect for broken wire in-side the insulation.

- If diagnosing for a possible intermittent short or open condition, move or massage the wiring harness while observing test equipment for a change.

Test Description

The number(s) below refer to the step number(s) on the Diagnostic Table.

3. Checks if the S5 circuit in the transmission is malfunctioning.
4. Check cable in the transmission for open / short.
6. Check resistance between S5 terminal A and B. Standard value is 3.6 - 5.5 Ω.
9. Check connections of other connectors

DTC P1737 Solenoid 5 Circuit Open

Step	Action	Value(s)	Yes	No
1	Perform a Transmission Control Module (TCM) System Check. Is the check performed?	-	Go to Step 2	Go to "TCM Diagnostic System Check"
2	1. Install the scan tool. 2. Turn the ignition ON, with the engine OFF. 3. Record and then clear DTCs. 4. Operate the vehicle within the conditions for setting this DTC as specified in the text. Does the scan tool display P1737?	-	Go to Step 3	Go to "Diagnostic Aids"
3	1. Turn the ignition OFF. 2. Disconnect the 10-way transmission connector. (additional DTCs will set) 3. Connect Solenoid/Thermistor Electrical Tester (STET) to the 10-way transmission connector of transmission side. 4. Turn the mode knob of STET to 5 and push the red button. Does the bulb of open circuit on the solenoids side of STET illuminate?	-	Go to Step 4	Go to Step 7
4	1. Remove the valve cover. Refer to the Transmission in this section. 2. Check the wiring harnesses from 10-way trans mission connector to Solenoid 5 (S5) on the valve body for an open or short to positive and repair as necessary. Is a repair complete?	-	Go to Step 11	Go to Step 5
5	Using a Digital Volt Meter (DVM), measure the resistance between S5 terminal A and B. Is the resistance within the specified value?	3.6 - 5.5 Ω	Go to "Diagnostic Aids"	Go to Step 6
6	Replace the S5. Is the action complete?	-	Go to Step 11	-
7	1. Disconnect the TCM connector B. 2. Check the wiring harness from 10-way transmission connector terminal 5 to TCM terminal B7 for an open or short to battery and repair as necessary. Is a repair necessary?	-	Go to Step 11	Go to Step 8
8	Check the wiring harness from 10-way transmission connector terminal 8 to TCM terminal B1 for an open and repair as necessary. Is a repair necessary?	-	Go to Step 11	Go to Step 9

DTC P1737 Solenoid 5 Circuit Open (Cont'd)

Step	Action	Value(s)	Yes	No
9	Check for a poor connection at the 10-way transmission connector and TCM connector and repair the malfunctioning terminals as necessary. Is a repair necessary?	-	Go to Step 11	Go to Step 10
10	1. Turn the ignition OFF. 2. Replace the TCM. Is the action complete?	-	Go to Step 11	-
11	1. Using the scan tool, clear the DTCs. 2. Road test the vehicle within the conditions for setting this DTC as specified in the text. Does the scan tool indicate that this diagnostic has run and passed?	-	Go to Step 12	Go to Step 2
12	Check if any DTCs are set. Are there any DTCs displayed or previously recorded at Step 2 that have not been diagnosed?	-	Go to applicable DTC table	System OK, Check Complete

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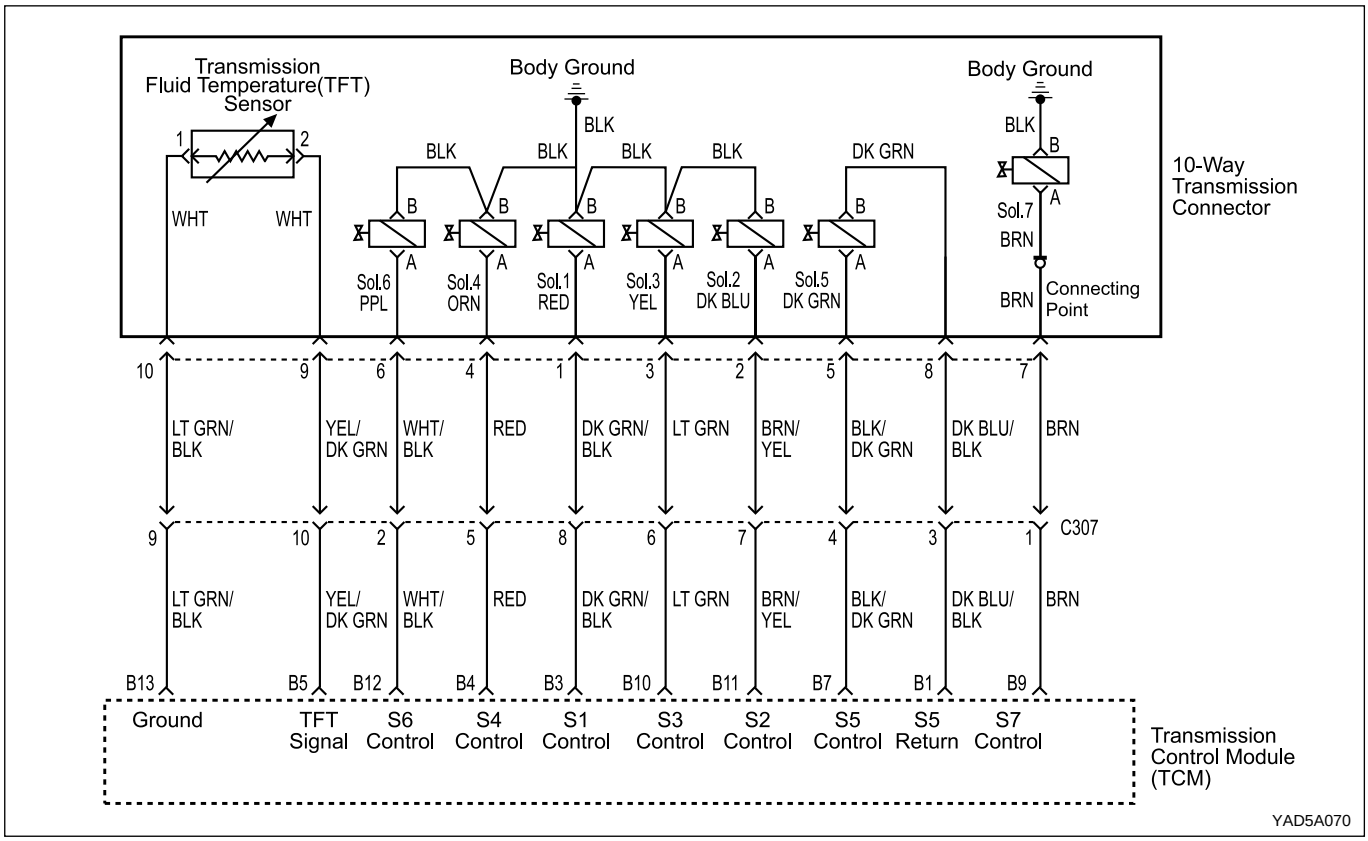

DIAGNOSTIC TROUBLE CODE (DTC) P1738
SOLENOID 6 CIRCUIT OPEN

Circuit Description

The solenoid 6 is a normally open ON/OFF type solenoid that is used to set the high/ low level of line pressure.

The Solenoid 6 (S6) OFF gives high pressure and the S6 is attached to the valve body within the transmission. Voltage is supplied directly to the solenoid through the Transmission Control Module (TCM).

The DTC P1738 sets when the solenoid 6 circuit is open or the switched leg of the solenoid 6 is shorted to battery positive. The solenoid 6's driver Integrated Chip (IC) sta-tus indicates a faulty circuit.

Conditions for Setting the DTC

- DTCs P1717 and P1718 are not set.
- S6 is OFF.
- S4 is OFF.
- The solenoid 6's driver Integrated Chip (IC) status indicates a faulty circuit. This condition must be continuously present for 60 milliseconds.

Action Taken When the DTC Sets

- The solenoid 6 is disabled (OFF) resulting in high line pressure being applied continuously.

Conditions for Clearing the DTC

- The DTC will clear when the malfunction has not occurred after ignition cycle.
- A history DTC will clear after 40 TCM power-up cycles with a warm transmission (>50 °C) and without a fault.
- History DTCs can be cleared by using a scan tool.

Diagnostic Aids

- During the TCM's testing, solenoid 6 is turned OFF/ ON by a very small (4 millisecond) pulses. This pulse is too short for the solenoid to react so the transmission operation is not affected.
- The solenoid feedback voltage is measured before the (4 millisecond) pulse and again during the pulse. If the difference is outside the acceptable limits the relevant fault is recorded.
- Typical causes would be an open circuit in the wiring to or within the solenoid, or a short circuit to power in the wiring to or within the solenoid.
- If several faults of solenoids are present, check the wiring or connectors that are common to the selected solenoids, especially the earth connections.

- Inspect the wiring for poor electrical connections at the TCM and at the 10-way transmission connector. Look for possible bent, backed out, deformed or damaged terminals. Check for weak terminal tension as well. Also check for chafed wires that could short to bare metal or other wiring. Inspect for broken wire inside the insulation.
- If diagnosing for a possible intermittent short or open condition, move or massage the wiring harness while observing test equipment for a change.

Test Description

The number(s) below refer to the step number(s) on the Diagnostic Table.

3. Checks if the S6 circuit in the transmission is malfunctioning.
4. Check cable in the transmission for open / short.
6. Check resistance between S6 terminal A and B. Standard value is 22 - 30 Ω.
9. Check connections of other connectors

DTC P1738 Solenoid 6 Circuit Open

Step	Action	Value(s)	Yes	No
1	Perform a Transmission Control Module (TCM) System Check. Is the check performed?	-	Go to Step 2	Go to "TCM Diagnostic System Check"
2	1. Install the scan tool. 2. Turn the ignition ON, with the engine OFF. 3. Record and then clear DTCs. 4. Operate the vehicle within the conditions for setting this DTC as specified in the text. Does the scan tool display P1738?	-	Go to Step 3	Go to "Diagnostic Aids"
3	1. Turn the ignition OFF. 2. Disconnect the 10-way transmission connector. (additional DTCs will set) 3. Connect Solenoid/Thermistor Electrical Tester (STET) to the 10-way transmission connector of transmission side and to the good ground. 4. Turn the mode knob of STET to 6 and push the red button. Does the bulb of open circuit on the solenoids side of STET illuminate?	-	Go to Step 4	Go to Step 8
4	1. Remove the valve cover. Refer to the Transmission in this section. 2. Check the wiring harness from 10-way transmission connector to Solenoid 6 (S6) on the valve body for an open or short to positive and repair as necessary. Is a repair necessary?	-	Go to Step 11	Go to Step 5
5	Check the S6 ground circuit for an open and repair as necessary. Is a repair necessary?	-	Go to Step 11	Go to Step 6
6	Using a Digital Volt Meter (DVM), measure the resistance between S6 terminal A and B. Is the resistance within the specified value?	22 - 30 Ω	Go to "Diagnostic Aids"	Go to Step 7
7	Replace the S6. Is the action complete?	-	Go to Step 11	-
8	1. Disconnect the TCM connector B. 2. Check the wiring harness from 10-way transmission connector terminal 6 to TCM terminal B12 for an open and repair as necessary. Is a repair necessary?	-	Go to Step 11	Go to Step 9

DTC P1738 Solenoid 6 Circuit Open (Cont'd)

Step	Action	Value(s)	Yes	No
9	Check for a poor connection at the 10-way transmission connector and TCM connector and repair the malfunctioning terminals as necessary. Is a repair necessary?	-	Go to Step 11	Go to Step 10
10	1. Turn the ignition OFF. 2. Replace the TCM. Is the action complete?	-	Go to Step 11	-
11	1. Using the scan tool, clear the DTCs. 2. Road test the vehicle within the conditions for setting this DTC as specified in the text. Does the scan tool indicate that this diagnostic has run and passed?	-	Go to Step 12	Go to Step 2
12	Check if any DTCs are set. Are there any DTCs displayed or previously recorded at Step 2 that have not been diagnosed?	-	Go to applicable DTC table	System OK, Check Complete

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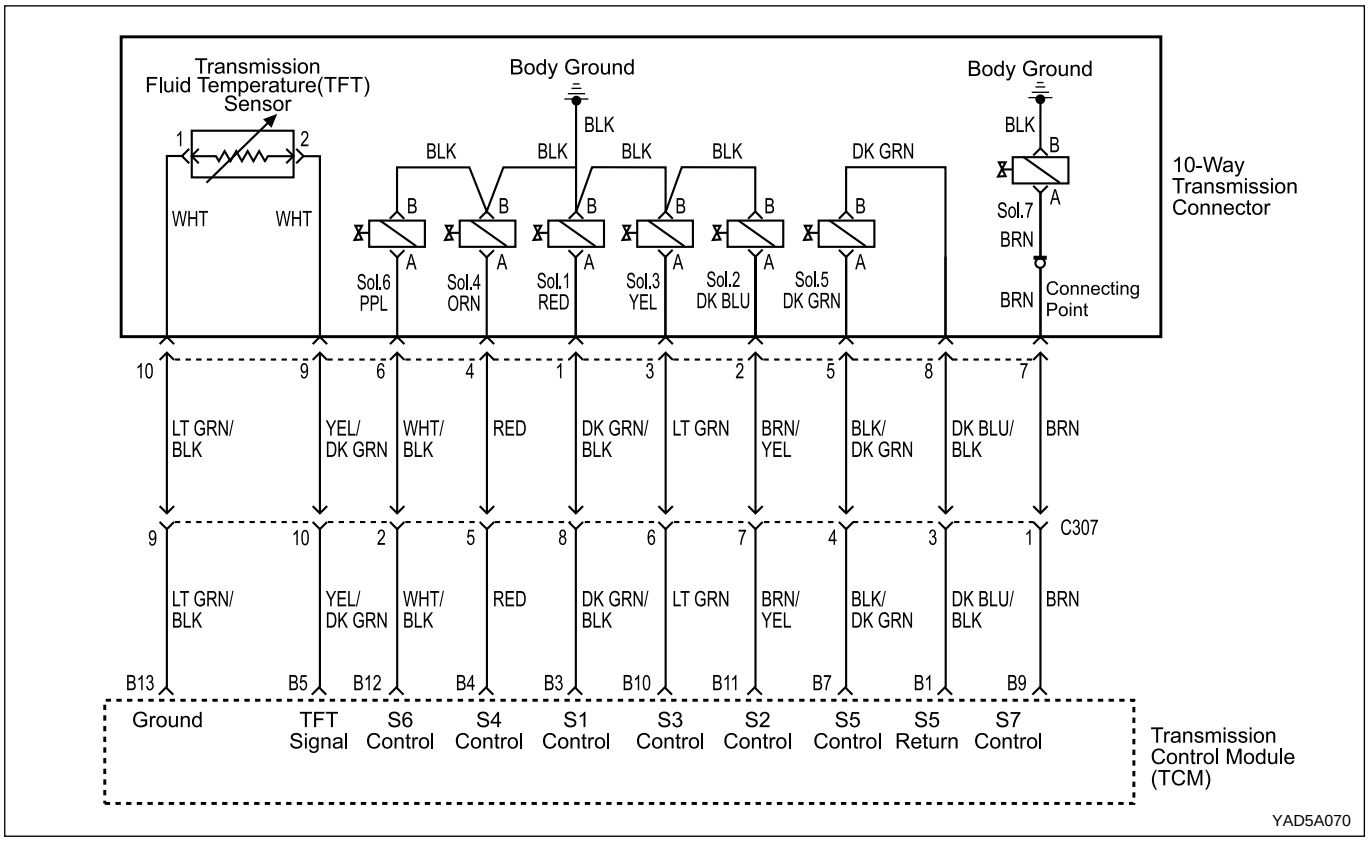

DIAGNOSTIC TROUBLE CODE (DTC) P1739
SOLENOID 7 CIRCUIT OPEN

Circuit Description

The solenoid 7 is a normally open ON/OFF type solenoid that is used to control the application of the Torque Converter Clutch (TCC).

The Solenoid 7 (S7) ON activates the TCC and the S7 is attached to the pump body within the transmission. Voltage is supplied directly to the solenoid through the Transmission Control Module (TCM).

The DTC P1739 sets when the solenoid 7, Torque Converter Clutch Solenoid, circuit is open or the switched leg of the solenoid 7 is shorted to battery positive. The solenoid 7's driver Integrated Chip (IC) status indicates a faulty circuit.

Conditions for Setting the DTC

- DTCs P1717 and P1718 are not set.
- S7 is OFF.
- S3 is OFF.
- The solenoid 7's driver Integrated Chip (IC) status indicates a faulty circuit. This condition must be continuously present for 60 milliseconds.

Action Taken When the DTC Sets

- The solenoid 7 is always disabled (OFF) resulting in the TCC being unlocked always.

Conditions for Clearing the DTC

- The DTC will clear when the malfunction has not occurred after ignition cycle.
- A history DTC will clear after 40 TCM power-up cycles with a warm transmission (>50 °C) and without a fault.
- History DTCs can be cleared by using a scan tool.

Diagnostic Aids

- During the TCM's testing, solenoid 7 is turned OFF/ON by a very small (4 millisecond) pulses. This pulse is too short for the solenoid to react so the transmission operation is not affected.
- The solenoid feedback voltage is measured before the (4 millisecond) pulse and again during the pulse. If the difference is outside the acceptable limits the relevant fault is recorede.
- Typical causes would be an open circuit in the wiring to or within the solenoid, or a short circuit to power in the wiring to or within the solenoid.
- If several faults of solenoids are present, check the wiring or connectors that are common to the selected solenoids, especially the earth connections.
- Inspect the wiring for poor electrical connections at the TCM and at the 10-way transmission connector.

Look for possible bent, backed out, deformed or damaged terminals. Check for weak terminal tension as well. Also check for chafed wires that could short to bare metal or other wiring. Inspect for broken wire inside the insulation.

- If diagnosing for a possible intermittent short or open condition, move or massage the wiring harness while observing test equipment for a change.

Test Description

The number(s) below refer to the step number(s) on the Diagnostic Table.

3. Checks if the S7 circuit in the transmission is malfunctioning.
4. Check cable in the transmission for open / short. If the problem is found in the wiring harness from 10-way transmission connector to contact point attached onto the transmission case, repair it with removing the valve cover. Refer to the Transmission in this section.
7. Check resistance between S7 terminal A and B. Standard value is 22 - 30 Ω.
10. Check connections of other connectors.

DTC P1739 Solenoid 7 Circuit Open

Step	Action	Value(s)	Yes	No
1	Perform a Transmission Control Module (TCM) System Check. Is the check performed?	-	Go to Step 2	Go to "TCM Diagnostic System Check"
2	1. Install the scan tool. 2. Turn the ignition ON, with the engine OFF. 3. Record and then clear DTCs. 4. Operate the vehicle within the conditions for setting this DTC as specified in the text. Does the scan tool display P1739?	-	Go to Step 3	Go to "Diagnostic Aids"
3	1. Turn the ignition OFF. 2. Disconnect the 10-way transmission connector. (additional DTCs will set) 3. Connect Solenoid/Thermistor Electrical Tester (STET) to the 10-way transmission connector of transmission side and to the good ground. 4. Turn the mode knob of STET to 7 and push the red button. Does the bulb of open circuit on the solenoids side of STET illuminate?	-	Go to Step 4	Go to Step 9
4	1. Remove the pump assembly. Refer to the Pump in this section. 2. Check the wiring harness from 10-way transmission connector to contact point attached onto the transmission case for an open or short to positive and repair as necessary. Is a repair necessary?	-	Go to Step 12	Go to Step 5
5	Check the wiring harness from contact point attached onto the transmission case to S7 for an open or short to positive and repair as necessary. Is a repair necessary?	-	Go to Step 12	Go to Step 6
6	Check the S7 ground circuit for an open and repair as necessary. Is a repair necessary?	-	Go to Step 12	Go to Step 7
7	Using a Digital Volt Meter (DVM), measure the resistance between S7 terminal A and B. Is the resistance within the specified value?	22 - 30 Ω	Go to "Diagnostic Aids"	Go to Step 8
8	Replace the S7. Is the action complete?	-	Go to Step 12	-

DTC P1739 Solenoid 7 Circuit Open (Cont'd)

Step	Action	Value(s)	Yes	No
9	1. Disconnect the TCM connector B. 2. Check the wiring harness from 10-way transmission connector terminal 7 to TCM terminal B9 for an open or short to positive and repair as necessary. Is a repair necessary?	-	Go to Step 12	Go to Step 10
10	Check for a poor connection at the 10-way transmission connector and TCM connector and repair the malfunctioning terminals as necessary. Is a repair necessary?	-	Go to Step 12	Go to Step 11
11	1. Turn the ignition OFF. 2. Replace the TCM. Is the action complete?	-	Go to Step 12	-
12	1. Using the scan tool, clear the DTCs. 2. Road test the vehicle within the conditions for setting this DTC as specified in the text. Does the scan tool indicate that this diagnostic has run and passed?	-	Go to Step 13	Go to Step 2
13	Check if any DTCs are set. Are there any DTCs displayed or previously recorded at Step 2 that have not been diagnosed?	-	Go to applicable DTC table	System OK, Check Complete

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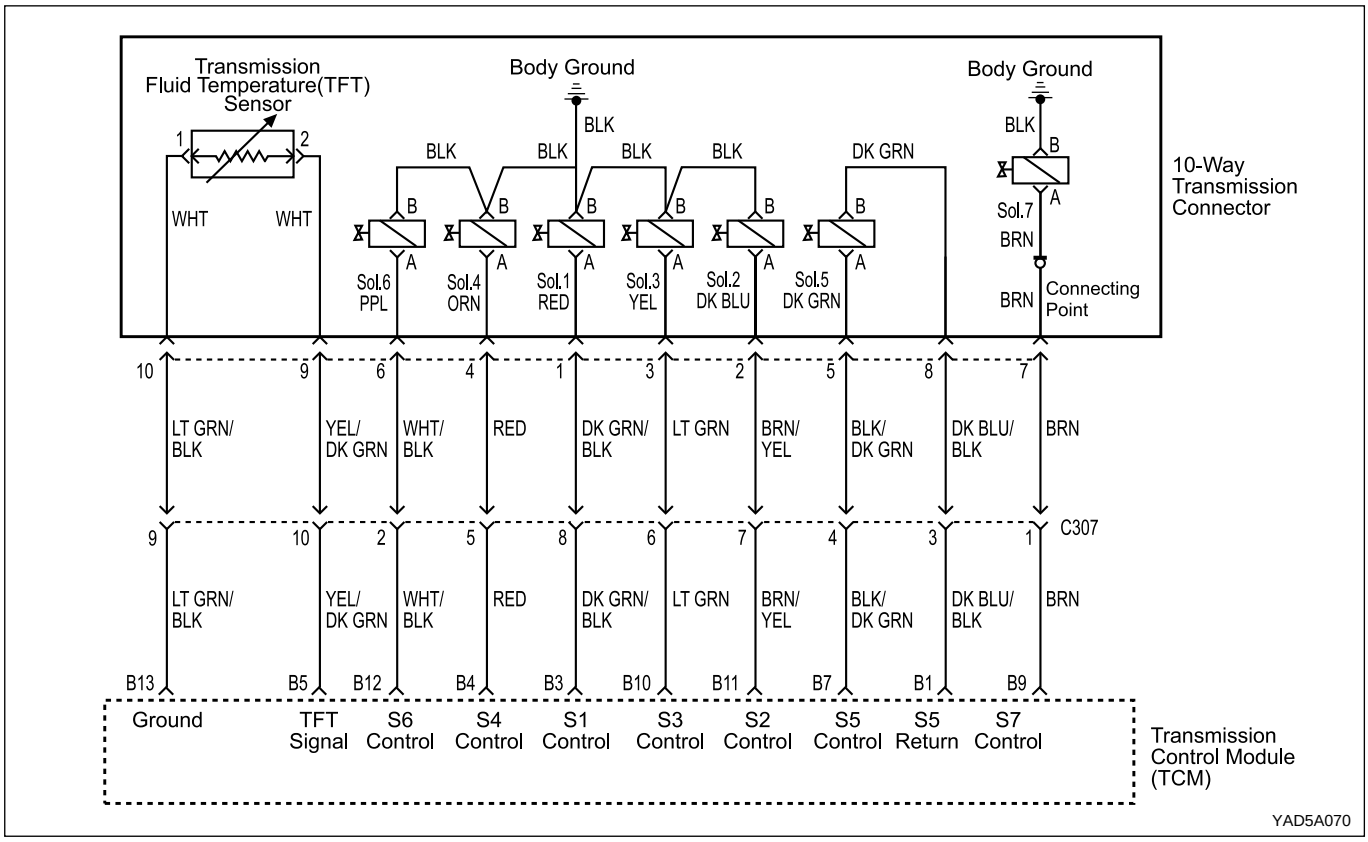

DIAGNOSTIC TROUBLE CODE (DTC) P1741
SOLENOID 1 CIRCUIT SHORT

Circuit Description

The solenoid 1 is used to control fluid flow acting on the 1-2 shift valve. The solenoid 1 is a normally open ON/ OFF type solenoid that is used in conjunction with the solenoid 2 to allow four different shifting combinations. Refer to Static Gear Status.

The solenoid is attached to the valve body within the transmission. Voltage is supplied directly to the solenoid through the Transmission Control Module (TCM).

The DTC P1741 sets when the Solenoid 1 (S1) circuit is shorted to ground. The solenoid 1's driver Integrated Chip (IC) status indicates a faulty circuit.

Conditions for Setting the DTC

- DTCs P1717 and P1718 are not set.
- S1 is ON.
- The solenoid 1's driver Integrated Chip (IC) status indicates a faulty circuit. This condition must be continuously present for 60 milliseconds.

Action Taken When the DTC Sets

- The solenoid 1 is always OFF.
- TCM adopts a Limp Home Mode (LHM) operation.

Conditions for Clearing the DTC

- The DTC will clear when the malfunction has not occurred after ignition cycle.
- A history DTC will clear after 40 TCM power-up cycles with a warm transmission (>50 °C) and without a fault.
- History DTCs can be cleared by using a scan tool.

Diagnostic Aids

- During the TCM's testing, solenoid 1 is turned OFF/ ON by a very small (4 millisecond) pulses. This pulse is too short for the solenoid to react so the transmis-sion operation is not affected.
- The solenoid feedback voltage is measured before the (4 millisecond) pulse and again during the pulse. If the difference is outside the acceptable limits the relevant fault is recorded.
- Typical causes would be a short circuit to ground in the wiring to or within the solenoid.
- If several faults of solenoids are present, check the wiring or connectors that are common to the selected solenoids, especially the earth connections.
- Inspect the wiring for poor electrical connections at the TCM and at the 10-way transmission connector. Look for possible bent, backed out, deformed or damaged terminals. Check for weak terminal tension as well. Also check for chafed wires that could short to bare metal or other wiring. Inspect for broken wire in-side the insulation.

- If diagnosing for a possible intermittent short or open condition, move or massage the wiring harness while observing test equipment for a change.
- Solenoid Logic for Static Gear States

Gear	S1	S2
1 st	ON	ON
2 nd	OFF	ON
3 rd	OFF	OFF
4 th	ON	OFF
Reverse	OFF	OFF
Neutral	OFF	OFF
Park	OFF	OFF

Test Description

The number(s) below refer to the step number(s) on the Diagnostic Table.

3. Checks if the S1 circuit in the transmission is malfunctioning.
4. Check cable in the transmission for short to ground.
6. Check resistance between S1 terminal A and B. Standard value is 22-30 Ω .
9. Check connections of other connectors.

DTC P1741 Solenoid 1 Circuit Short

Step	Action	Value(s)	Yes	No
1	Perform a Transmission Control Module (TCM) System Check. Is the check performed?	-	Go to Step 2	Go to “TCM Diagnostic System Check”
2	1. Install the scan tool. 2. Turn the ignition ON, with the engine OFF. 3. Record and then clear DTCs. 4. Operate the vehicle within the conditions for setting this DTC as specified in the text. Does the scan tool display	-	Go to Step 3	Go to “Diagnostic Aids”
3	1. Turn the ignition OFF. 2. Disconnect the 10-way transmission connector. (additional DTCs will set) 3. Connect Solenoid/Thermistor Electrical Tester (STET) to the 10-way transmission connector of transmission side and to the good ground. 4. Turn the mode knob of STET to 1 and push the red button. Does the bulb of close circuit on the solenoids side of STET illuminate?	-	Go to Step 4	Go to Step 8
4	1. Remove the valve cover. Refer to the Transmission in this section. 2. With a test light connected to B+, probe the wiring harness from 10-way transmission connector to Solenoid 1 (S1) on the valve body. Does the test light illuminate?	-	Go to Step 5	Go to Step 6
5	Repair the short to ground in the wiring harness. Is the repair complete?	-	Go to Step 11	-
6	Using a Digital Volt Meter (DVM), measure the resistance between S1 terminal A and B. Is the resistance within the specified value?	20 - 30 Ω	Go to “Diagnostic Aids”	Go to Step 7
7	Replace the S1. Is the action complete?	-	Go to Step 11	-

DTC P1741 Solenoid 1 Circuit Short (Cont'd)

Step	Action	Value(s)	Yes	No
8	1. Disconnect the TCM connector B. 2. With a test light connected to B+, probe the wiring harness from 10-way transmission connector terminal 1 to TCM terminal B3. Does the test light illuminate?	-	Go to Step 5	Go to Step 9
9	Check for a poor connection at the 10-way transmission connector and TCM connector and repair the malfunctioning terminals as necessary. Is a repair necessary?	-	Go to Step 11	Go to Step 10
10	1. Turn the ignition OFF. 2. Replace the TCM. Is the action complete?	-	Go to Step 11	-
11	1. Using the scan tool, clear the DTCs. 2. Road test the vehicle within the conditions for setting this DTC as specified in the text. Does the scan tool indicate that this diagnostic has run and passed?	-	Go to Step 12	Go to Step 2
12	Check if any DTCs are set. Are there any DTCs displayed or previously recorded at Step 2 that have not been diagnosed?	-	Go to applicable DTC table	System OK, Check Complete

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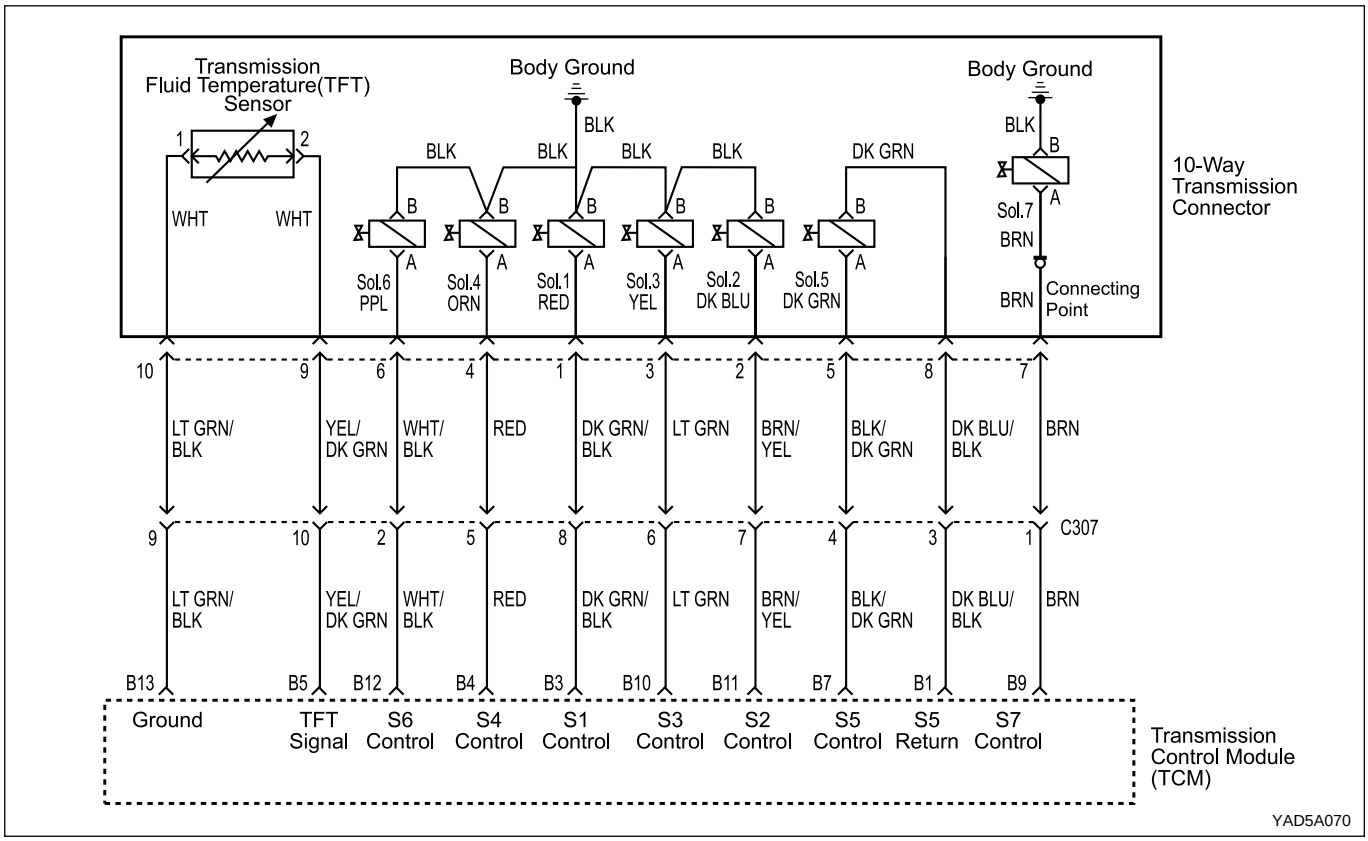

DIAGNOSTIC TROUBLE CODE (DTC) P1742 SOLENOID 2 CIRCUIT SHORT

Circuit Description

The solenoid 2 is used to control fluid flow acting on the 2-3 shift valve. The solenoid 2 is a normally open ON/ OFF type solenoid that is used in conjunction with the solenoid 1 to allow four different shifting combinations. Refer to Static Gear Status.

The solenoid is attached to the valve body within the transmission. Voltage is supplied directly to the solenoid through the Transmission Control Module (TCM).

The DTC P1742 sets when the Solenoid 2 (S2) circuit is shorted to ground. The solenoid 2's driver Integrated Chip (IC) status indicates a faulty circuit.

Conditions for Setting the DTC

- DTCs P1717 and P1718 are not set.
- S2 is ON.
- The solenoid 2's driver Integrated Chip (IC) status indicates a faulty circuit. This condition must be continuously present for 60 milliseconds.

Action Taken When the DTC Sets

- The solenoid 2 is always OFF.
- TCM adopts a Limp Home Mode (LHM) operation.

Conditions for Clearing the DTC

- The DTC will clear when the malfunction has not occurred after ignition cycle.
- A history DTC will clear after 40 TCM power-up cycles with a warm transmission (>50 °C) and without a fault.
- History DTCs can be cleared by using a scan tool.

Diagnostic Aids

- During the TCM's testing, solenoid 2 is turned OFF/ ON by a very small (4 millisecond) pulses. This pulse is too short for the solenoid to react so the transmission operation is not affected.
- The solenoid feedback voltage is measured before the (4 millisecond) pulse and again during the pulse. If the difference is outside the acceptable limits the relevant fault is recorded.
- Typical causes would be a short circuit to ground in the wiring to or within the solenoid.
- If several faults of solenoids are present, check the wiring or connectors that are common to the selected solenoids, especially the earth connections.
- Inspect the wiring for poor electrical connections at the TCM and at the transmission 10-way connector. Look for possible bent, backed out, deformed or damaged terminals. Check for weak terminal tension as well. Also check for chafed wires that could short to bare metal or other wiring. Inspect for broken wire inside the insulation.

- If diagnosing for a possible intermittent short or open condition, move or massage the wiring harness while observing test equipment for a change.
- Solenoid Logic for Static Gear States

Gear	S1	S2
1 st	ON	ON
2 nd	OFF	ON
3 rd	OFF	OFF
4 th	ON	OFF
Reverse	OFF	OFF
Neutral	OFF	OFF
Park	OFF	OFF

Test Description

The number(s) below refer to the step number(s) on the Diagnostic Table.

3. Checks if the S2 circuit in the transmission is malfunctioning.
4. Check cable in the transmission for short to ground.
6. Check resistance between S2 terminal A and B. Standard value is 22 - 30 Ω.
9. Check connections of other connectors.

DTC P1742 Solenoid 2 Circuit Short

Step	Action	Value(s)	Yes	No
1	Perform a Transmission Control Module (TCM) System Check. Is the check performed?	-	Go to Step 2	Go to "TCM Diagnostic System Check"
2	1. Install the scan tool. 2. Turn the ignition ON, with the engine OFF. 3. Record and then clear DTCs. 4. Operate the vehicle within the conditions for setting this DTC as specified in the text. Does the scan tool display P1742?	-	Go to Step 3	Go to "Diagnostic Aids"
3	1. Turn the ignition OFF. 2. Disconnect the 10-way transmission connector. (additional DTCs will set) 3. Connect Solenoid/Thermistor Electrical Tester (STET) to the 10-way transmission connector of transmission side and to the good ground. 4. Turn the mode knob of STET to 2 and push the red button. Does the bulb of close circuit on the solenoids side of STET illuminate?	-	Go to Step 4	Go to Step 8
4	1. Remove the valve cover. Refer to the Transmission in this section. 2. With a test light connected to B+, probe the wiring harness from 10-way transmission connector to Solenoid 2 (S2) on the valve body. Does the test light illuminate?	-	Go to Step 5	Go to Step 6
5	Repair the short to ground in the wiring harness. Is the repair complete?	-	Go to Step 11	-
6	Using a Digital Volt Meter (DVM), measure the resistance between S2 terminal A and B. Is the resistance within the specified value?	20 - 30 Ω	Go to "Diagnostic Aids"	Go to Step 7
7	Replace the S2. Is the action complete?	-	Go to Step 11	-

DTC P1742 Solenoid 2 Circuit Short (Cont'd)

Step	Action	Value(s)	Yes	No
8	1. Disconnect the TCM connector B. 2. With a test light connected to B+, probe the wiring harness from 10-way transmission connector terminal 2 to TCM terminal B11. Does the test light illuminate?	-	Go to Step 5	Go to Step 9
9	Check for a poor connection at the 10-way transmission connector and TCM connector and repair the malfunctioning terminals as necessary. Is a repair necessary?	-	Go to Step 11	Go to Step 10
10	1. Turn the ignition OFF. 2. Replace the TCM. Is the action complete?	-	Go to Step 11	-
11	1. Using the scan tool, clear the DTCs. 2. Road test the vehicle within the conditions for setting this DTC as specified in the text. Does the scan tool indicate that this diagnostic has run and passed?	-	Go to Step 12	Go to Step 2
12	Check if any DTCs are set. Are there any DTCs displayed or previously recorded at Step 2 that have not been diagnosed?	-	Go to applicable DTC table	System OK, Check Complete

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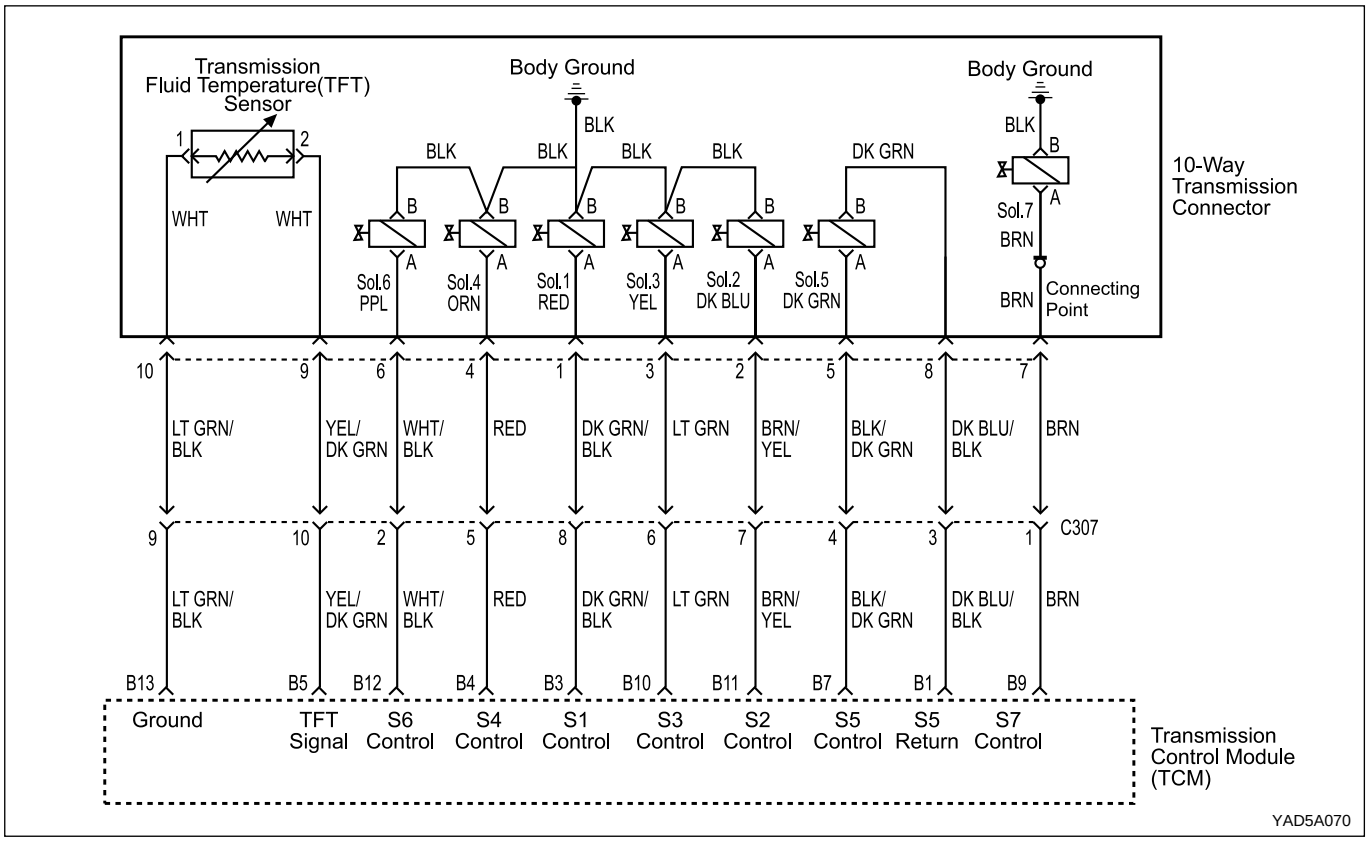

DIAGNOSTIC TROUBLE CODE (DTC) P1743 SOLENOID 3 CIRCUIT SHORT

Circuit Description

The solenoid 3 is a normally open ON/OFF type solenoid that is used in conjunction with the solenoid 4 to control the shift quality and sequencing.

The solenoid 3 switches the clutch regulator valve OFF or ON and is attached to the valve body within the transmission. Voltage is supplied directly to the solenoid through the Transmission Control Module (TCM).

The DTC P1743 sets when the Solenoid 3 (S3) circuit is shorted to ground. The solenoid 3's driver Integrated Chip (IC) status indicates a faulty circuit.

Conditions for Setting the DTC

- DTCs P1717 and P1718 are not set.
- S3 is ON.
- The solenoid 3's driver Integrated Chip (IC) status indicates a faulty circuit. This condition must be continuously present for 60 milliseconds.

Action Taken When the DTC Sets

- The solenoid 3 is always OFF.
- The 1 → 3, 1 → 4, 2 → 3, 2 → 4, 3 → 1, 3 → 2, 4 → 2 and 4 1 shift quality is degraded.

Conditions for Clearing the DTC

- The DTC will clear when the malfunction has not occurred after ignition cycle.
- A history DTC will clear after 40 TCM power-up cycles with a warm transmission (>50 °C) and without a fault.
- History DTCs can be cleared by using a scan tool.

Diagnostic Aids

- During the TCM's testing, solenoid 3 is turned OFF/ ON by a very small (4 millisecond) pulses. This pulse is too short for the solenoid to react so the transmission operation is not affected.
- The solenoid feedback voltage is measured before the (4 millisecond) pulse and again during the pulse. If the difference is outside the acceptable limits the relevant fault is recorded.
- Typical causes would be a short circuit to ground in the wiring to or within the solenoid.
- If several faults of solenoids are present, check the wiring or connectors that are common to the selected solenoids, especially the earth connections.
- Inspect the wiring for poor electrical connections at the TCM and at the 10-way transmission connector. Look for possible bent, backed out, deformed or damaged terminals. Check for weak terminal tension as well. Also check for chafed wires that could short to bare metal or other wiring. Inspect for broken wire inside the insulation.

- If diagnosing for a possible intermittent short or open condition, move or massage the wiring harness while observing test equipment for a change.

Test Description

The number(s) below refer to the step number(s) on the Diagnostic Table.

3. Checks if the S3 circuit in the transmission is malfunctioning.
4. Check cable in the transmission for short to ground.
6. Check resistance between S3 terminal A and B. Standard value is 22 - 30 Ω.
9. Check connections of other connectors.

DTC P1743 Solenoid 3 Circuit Short

Step	Action	Value(s)	Yes	No
1	Perform a Transmission Control Module (TCM) System Check. Is the check performed?	-	Go to Step 2	Go to "TCM Diagnostic System Check"
2	1. Install the scan tool. 2. Turn the ignition ON, with the engine OFF. 3. Record and then clear DTCs. 4. Operate the vehicle within the conditions for setting this DTC as specified in the text. Does the scan tool display P1743?	-	Go to Step 3	Go to "Diagnostic Aids"
3	1. Turn the ignition OFF. 2. Disconnect the 10-way transmission connector. (additional DTCs will set) 3. Connect Solenoid/Thermistor Electrical Tester (STET) to the 10-way transmission connector of transmission side and to the good ground. 4. Turn the mode knob of STET to 3 and push the red button. Does the bulb of close circuit on the solenoids side of STET illuminate?	-	Go to Step 4	Go to Step 8
4	1. Remove the valve cover. Refer to the Transmission in this section. 2. With a test light connected to B+, probe the wiring harness from 10-way transmission connector to Solenoid 3 (S3) on the valve body. Does the test light illuminate?	-	Go to Step 5	Go to Step 6
5	Repair the short to ground in the wiring harness. Is the repair complete?	-	Go to Step 11	-
6	Using a Digital Volt Meter (DVM), measure the resistance between S3 terminal A and B. Is the resistance within the specified value?	20 - 30 Ω	Go to "Diagnostic Aids"	Go to Step 7
7	Replace the S3. Is the action complete?	-	Go to Step 11	-
8	1. Disconnect the TCM connector B. 2. With a test light connected to B+, probe the wiring harness from 10-way transmission connector terminal 3 to TCM terminal B10. Does the test light illuminate?	-	Go to Step 5	Go to Step 9
9	Check for a poor connection at the 10-way transmission connector and TCM connector and repair the malfunctioning terminals as necessary. Is a repair necessary?	-	Go to Step 11	Go to Step 10

DTC P1743 Solenoid 3 Circuit Short (Cont'd)

Step	Action	Value(s)	Yes	No
10	1. Turn the ignition OFF. 2. Replace the TCM. Is the action complete?	-	Go to Step 11	-
11	1. Using the scan tool, clear the DTCs. 2. Road test the vehicle within the conditions for setting this DTC as specified in the text. Does the scan tool indicate that this diagnostic has run and passed?	-	Go to Step 12	Go to Step 2
12	Check if any DTCs are set. Are there any DTCs displayed or previously recorded at Step 2 that have not been diagnosed?	-	Go to applicable DTC table	System OK, Check Complete

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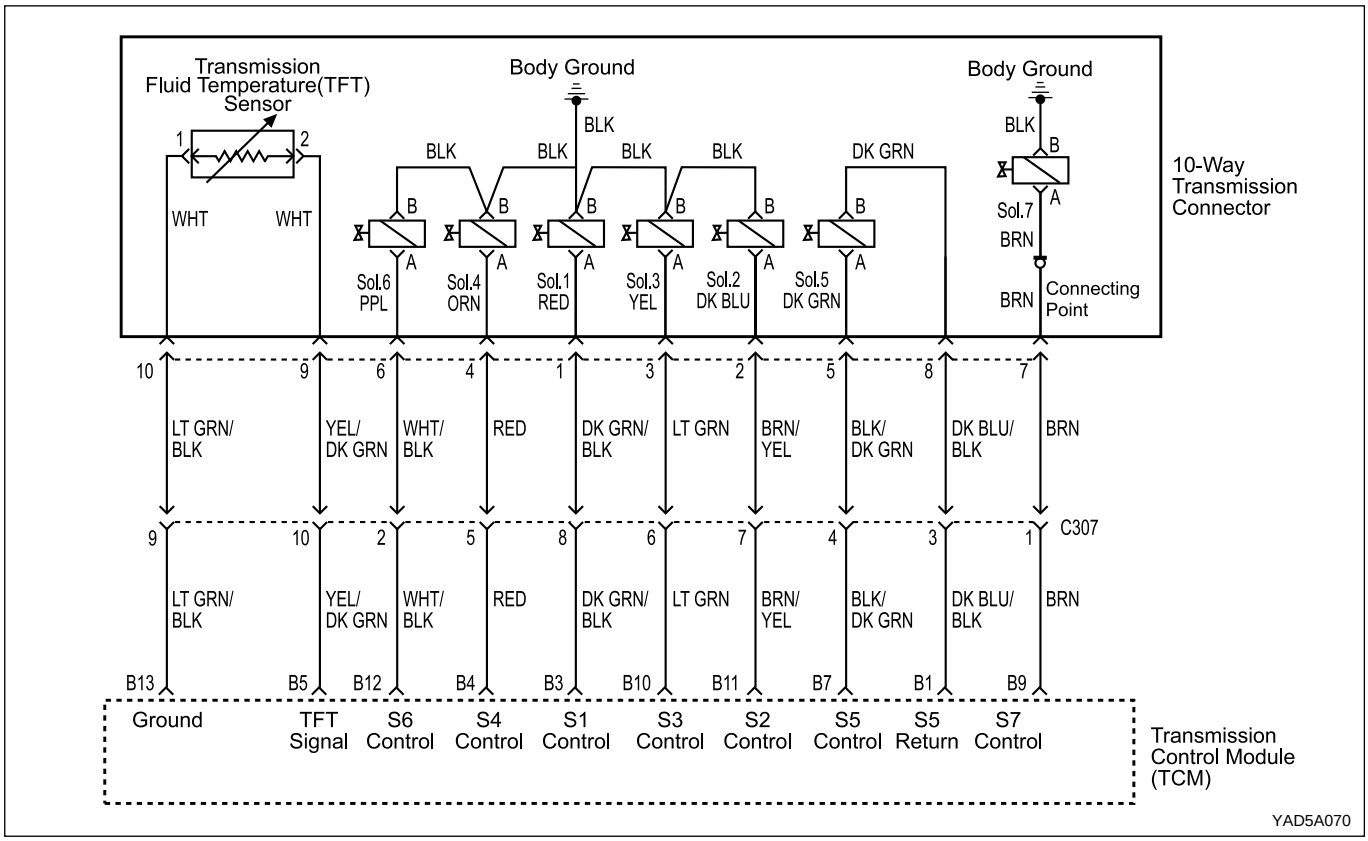

DIAGNOSTIC TROUBLE CODE (DTC) P1744
SOLENOID 4 CIRCUIT SHORT

Circuit Description

The solenoid 4 is a normally open ON/OFF type solenoid that is used in conjunction with the solenoid 3 to control the shift quality and sequencing.

The solenoid 4 switches the band regulator valve OFF or ON and is attached to the valve body within the transmission.

Voltage is supplied directly to the solenoid through the Transmission Control Module (TCM).

The DTC P1744 sets when the Solenoid 4 (S4) circuit is shorted to ground. The solenoid 4's driver Integrated Chip (IC) status indicates a faulty circuit.

Conditions for Setting the DTC

- DTCs P1717 and P1718 are not set.
- S4 is ON.
- The solenoid 4's driver Integrated Chip (IC) status indicates a faulty circuit. This condition must be continuously present for 60 milliseconds.

Action Taken When the DTC Sets

- The solenoid 4 is always OFF.
- The 1 → 2, 1 → 4, 2 → 3, 2 → 4, 3 → 1, 3 → 2 (all including manual), 3 → 4, 4 → 1 and 4 → 3 shift quality is degraded.

Conditions for Clearing the DTC

- The DTC will clear when the malfunction has not occurred after ignition cycle.
- A history DTC will clear after 40 TCM power-up cycles with a warm transmission (>50 °C) and without a fault.
- History DTCs can be cleared by using a scan tool.

Diagnostic Aids

- During the TCM's testing, solenoid 4 is turned OFF/ON by a very small (4 millisecond) pulses. This pulse is too short for the solenoid to react so the transmission operation is not affected.
- The solenoid feedback voltage is measured before the (4 millisecond) pulse and again during the pulse. If the difference is outside the acceptable limits the relevant fault is recorded.
- Typical causes would be a short circuit to ground in the wiring to or within the solenoid.
- If several faults of solenoids are present, check the wiring or connectors that are common to the selected solenoids, especially the earth connections.

- Inspect the wiring for poor electrical connections at the TCM and at the 10-way transmission connector. Look for possible bent, backed out, deformed or damaged terminals. Check for weak terminal tension as well. Also check for chafed wires that could short to bare metal or other wiring. Inspect for broken wire inside the insulation.
- If diagnosing for a possible intermittent short or open condition, move or massage the wiring harness while observing test equipment for a change.

Test Description

The number(s) below refer to the step number(s) on the Diagnostic Table.

3. Checks if the S4 circuit in the transmission is malfunctioning.
4. Check cable in the transmission for short to ground.
6. Check resistance between S4 terminal A and B. Standard value is 22 - 30 Ω.
9. Check connections of other connectors.

DTC P1744 Solenoid 4 Circuit Short

Step	Action	Value(s)	Yes	No
1	Perform Transmission Control Module (TCM) System Check. Is the check performed?	-	Go to Step 2	Go to "TCM Diagnostic System Check"
2	1. Install the scan tool. 2. Turn the ignition ON, with the engine OFF. 3. Record and then clear DTCs. 4. Operate the vehicle within the conditions for setting this DTC as specified in the text. Does the scan tool display P1744?	-	Go to Step 3	Go to "Diagnostic Aids"
3	1. Turn the ignition OFF. 2. Disconnect the 10-way transmission connector. (additional DTCs will set) 3. Connect Solenoid/Thermistor Electrical Tester (STET) to the 10-way transmission connector of transmission side and to the good ground. 4. Turn the mode knob of STET to 4 and push the red button. Does the bulb of close circuit on the solenoids side of STET illuminate?	-	Go to Step 4	Go to Step 8
4	1. Remove the valve cover. Refer to the Transmission in this section. 2. With a test light connected to B+, probe the wiring harness from 10-way transmission connector to Solenoid 4 (S4) on the valve body. Does the test light illuminate?	-	Go to Step 5	Go to Step 6
5	Repair the short to ground in the wiring harness. Is the repair complete?	-	Go to Step 11	-
6	Using a Digital Volt Meter (DVM), measure the resistance between S4 terminal A and B. Is the resistance within the specified value?	20 - 30 Ω	Go to "Diagnostic Aids"	Go to Step 7
7	Replace the S4. Is the action complete?	-	Go to Step 11	-
8	1. Disconnect the TCM connector B. 2. With a test light connected to B+, probe the wiring harness from 10-way transmission connector terminal 4 to TCM terminal B4. Does the test light illuminate?	-	Go to Step 5	Go to Step 9

DTC P1744 Solenoid 4 Circuit Short (Cont'd)

Step	Action	Value(s)	Yes	No
9	Check for a poor connection at the 10-way transmission connector and TCM connector and repair the malfunctioning terminals as necessary. Is a repair necessary?	-	Go to Step 11	Go to Step 10
10	1. Turn the ignition OFF. 2. Replace the TCM. Is the action complete?	-	Go to Step 11	-
11	1. Using the scan tool, clear the DTCs. 2. Road test the vehicle within the conditions for setting this DTC as specified in the text. Does the scan tool indicate that this diagnostic has run and passed?	-	Go to Step 12	Go to Step 2
12	Check if any DTCs are set. Are there any DTCs displayed or previously recorded at Step 2 that have not been diagnosed?	-	Go to applicable DTC table	System OK, Check Complete

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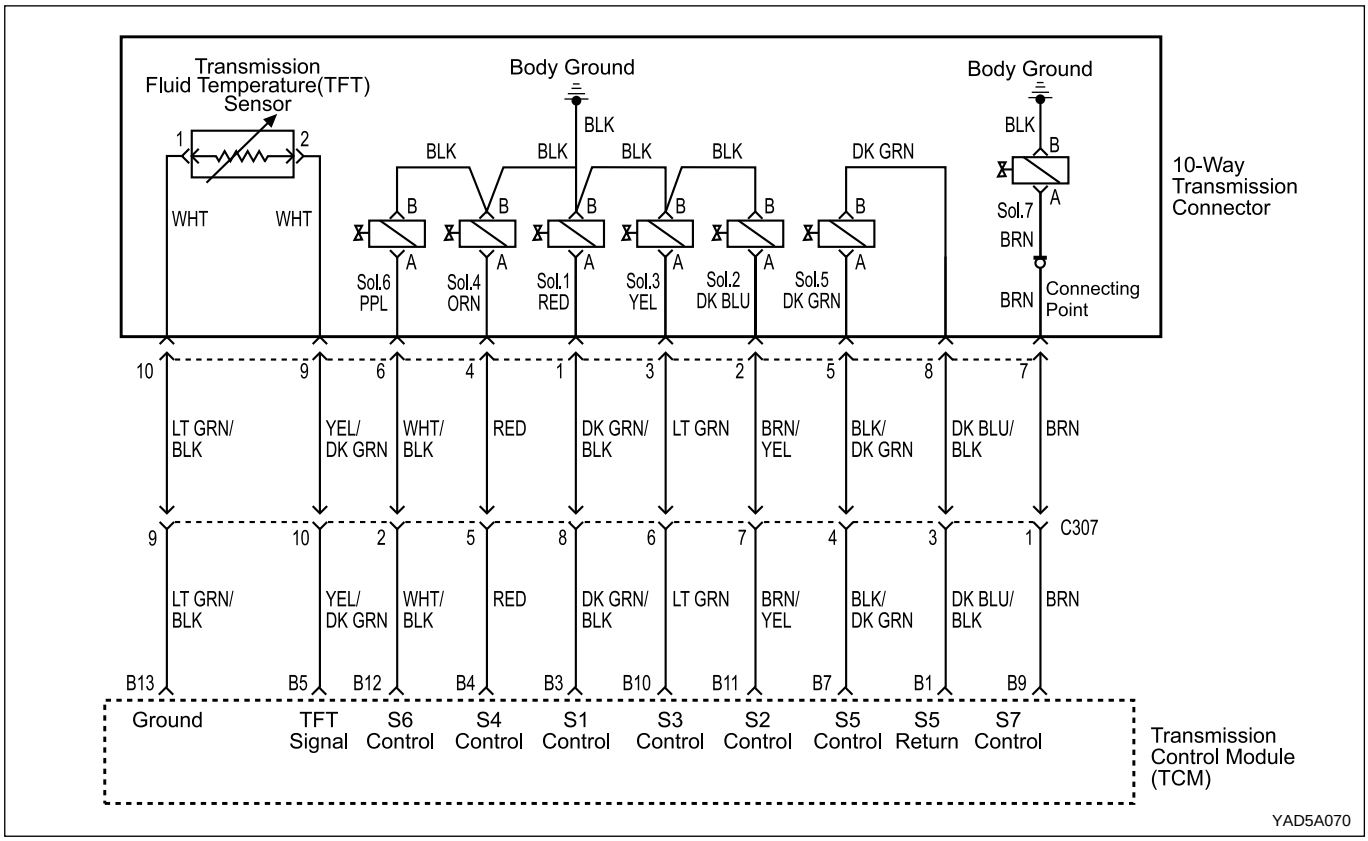

DIAGNOSTIC TROUBLE CODE (DTC) P1745 SOLENOID 5 CIRCUIT SHORT

Circuit Description

The solenoid 5 is a variable force solenoid that ramps the pressure during the gear changes and solenoid switching, to enhance the transmission shift quality. This solenoid provides the signal pressure to the clutch and band regulator, thereby controlling the shift pressure.

The solenoid 5 is attached to the valve body within the transmission. Voltage is supplied directly to the solenoid through the Transmission Control Module (TCM).

The DTC P1745 sets when the Solenoid 5 (S5) circuit is shorted to ground. The solenoid 5's driver Integrated Chip (IC) status indicates a faulty circuit.

Conditions for Setting the DTC

- DTCs P1717 and P1718 are not set.
- S5 is ON.
- The solenoid 5's driver Integrated Chip (IC) status indicates a faulty circuit. This condition must be continuously present for 60 milliseconds.

Action Taken When the DTC Sets

- Solenoid 5 is disabled (always OFF)
- The shift quality is degraded.

Conditions for Clearing the DTC

- The DTC will clear when the malfunction has not occurred after ignition cycle.
- A history DTC will clear after 40 TCM power-up cycles with a warm transmission (>50 °C) and without a fault.
- History DTCs can be cleared by using a scan tool.

Diagnostic Aids

- The current to solenoid 5 was outside acceptable limits.
- This fault results from a mismatch between the current set point for solenoid 5 and the current measured by the feedback within the TCM.
- Typical causes would be a short circuit to ground in the wiring to, from or within the solenoid.
- It is also possible that there has been a fault in the solenoid output circuit. But if this is the cause, the fault should be continually present.
- Inspect the wiring for poor electrical connections at the TCM and at the 10-way transmission connector. Look for possible bent, backed out, deformed or dam-aged terminals. Check for weak terminal tension as well. Also check for chafed wires that could short to bare metal or other wiring. Inspect for broken wire inside the insulation.
- If diagnosing for a possible intermittent short or open condition, move or massage the wiring harness while observing test equipment for a change.

Test Description

The number(s) below refer to the step number(s) on the Diagnostic Table.

3. Checks if the S5 circuit in the transmission is malfunctioning.
4. Check cable in the transmission for short to ground.
6. Check resistance between S5 terminal A and B. Standard value is 3.6 - 5.5 Ω.
10. Check connections of other connectors.

DTC P1745 Solenoid 5 Circuit Short

Step	Action	Value(s)	Yes	No
1	Perform Transmission Control Module (TCM) System Check. Is the check performed?	-	Go to Step 2	Go to "TCM Diagnostic System Check"
2	1. Install the scan tool. 2. Turn the ignition ON, with the engine OFF. 3. Record and then clear DTCs. 4. Operate the vehicle within the conditions for setting this DTC as specified in the text. Does the scan tool display P1745?	-	Go to Step 3	Go to "Diagnostic Aids"
3	1. Turn the ignition OFF. 2. Disconnect the 10-way transmission connector. (additional DTCs will set) 3. Connect Solenoid/Thermistor Electrical Tester (STET) to the 10-way transmission connector of transmission side. 4. Turn the mode knob of STET to 5 and push the red button. Does the bulb of close circuit on the solenoids side of STET illuminate?	-	Go to Step 4	Go to Step 8
4	1. Remove the valve cover. Refer to the Transmission in this section. 2. With a test light connected to B+ probe the wiring harnesses from 10-way transmission connector to Solenoid 5 (S5) on the valve body. Does the test light illuminate?	-	Go to Step 5	Go to Step 6
5	Repair the short to ground in the wiring harness. Is the repair complete?	-	Go to Step 12	-
6	Using a Digital Volt Meter (DVM), measure the resistance between S5 terminal A and B. Is the resistance within the specified value?	3.6 - 5.5 Ω	Go to "Diagnostic Aids"	Go to Step 7
7	Replace the S5. Is the action complete?	-	Go to Step 12	-
8	1. Disconnect the TCM connector B. 2. With a test light connected to B+, probe the wiring harness from 10-way transmission connector terminal 5 to TCM terminal. Does the test light illuminate?	-	Go to Step 5	Go to Step 9
9	Probe the wiring harness from 10-way transmission connector terminal 8 to TCM terminal B1. Does the test light illuminate?	-	Go to Step 5	Go to Step 10
10	Check for a poor connection at the 10-way transmission connector and TCM connector and repair the malfunctioning terminals as necessary. Is a repair necessary?	-	Go to Step 12	Go to Step 11

DTC P1745 Solenoid 5 Circuit Short (Cont'd)

Step	Action	Value(s)	Yes	No
11	1. Turn the ignition OFF. 2. Replace the TCM. Is the action complete?	-	Go to Step 12	-
12	1. Using the scan tool, clear the DTCs. 2. Road test the vehicle within the conditions for setting this DTC as specified in the text. Does the scan tool indicate that this diagnostic has run and passed?	-	Go to Step 13	Go to Step 2
13	Check if any DTCs are set. Are any there DTCs displayed or previously recorded at Step 2 that have not been diagnosed?	-	Go to applicable DTC table	System OK, Check Complete

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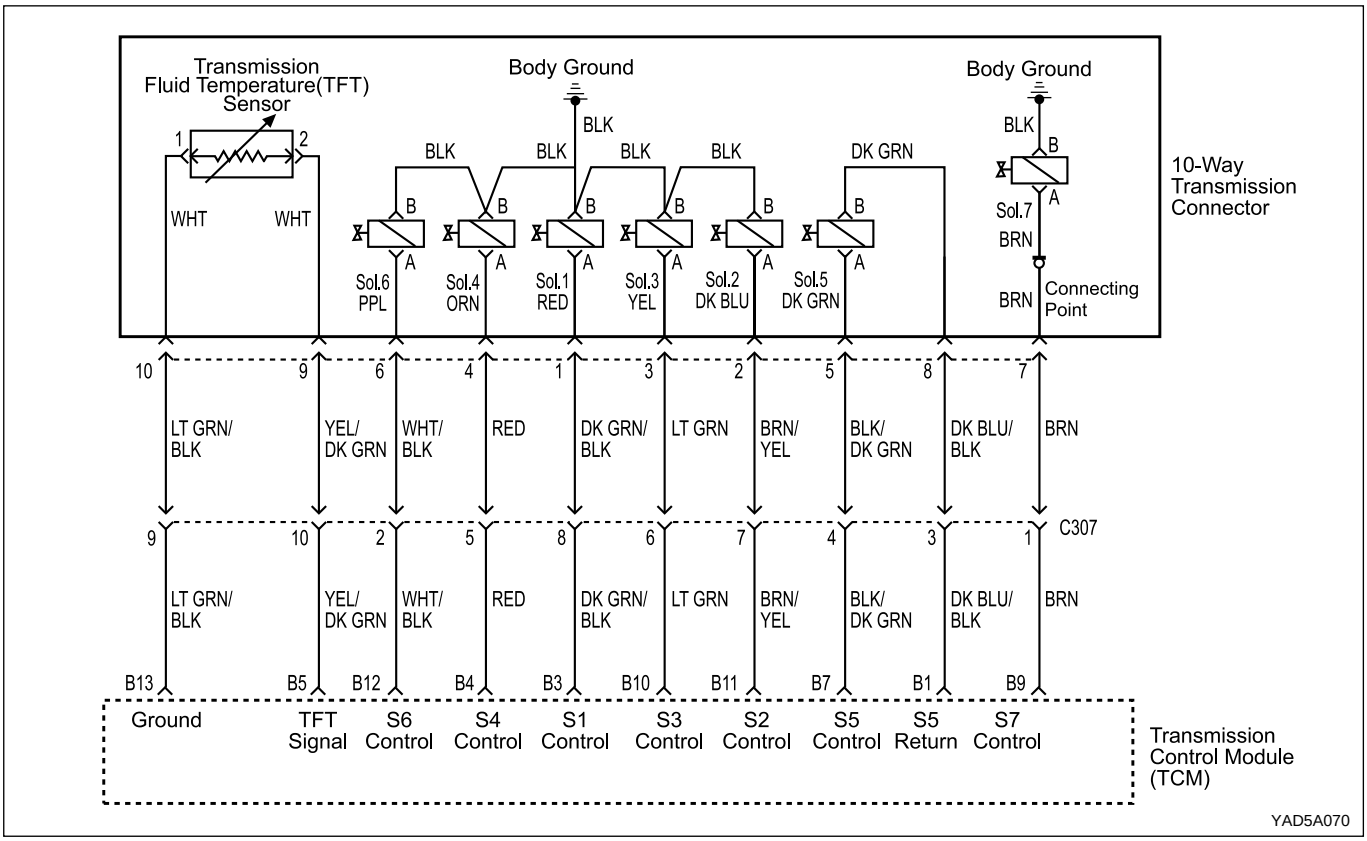

DIAGNOSTIC TROUBLE CODE (DTC) P1746 SOLENOID 6 CIRCUIT SHORT

Circuit Description

The solenoid 6 is a normally open ON/OFF type solenoid that is used to set the high/ low level of line pressure.

The solenoid 6 (S6) OFF gives high pressure and the S6 is attached to the valve body within the transmission. Voltage is supplied directly to the solenoid through the Transmission Control Module (TCM).

The DTC P1746 sets when the Solenoid 6 (S6) circuit is shorted to ground. The solenoid 6's driver Integrated Chip (IC) status indicates a faulty circuit.

Conditions for Setting the DTC

- DTCs P1717 and P1718 are not set.
- S6 is ON.
- The solenoid 6's driver Integrated Chip (IC) status indicates a faulty circuit. This condition must be continuously present for 60 milliseconds.

Action Taken When the DTC Sets

- The solenoid 6 is disabled (OFF) resulting in high line pressure being applied continuously.

Conditions for Clearing the DTC

- The DTC will clear when the malfunction has not occurred after ignition cycle.
- A history DTC will clear after 40 TCM power-up cycles with a warm transmission (>50 °C) and without a fault.
- History DTCs can be cleared by using a scan tool.

Diagnostic Aids

- During the TCM's testing, solenoid 6 is turned OFF/ ON by a very small (4 millisecond) pulses. This pulse is too short for the solenoid to react so the transmission operation is not affected.
- The solenoid feedback voltage is measured before the (4 millisecond) pulse and again during the pulse. If the difference is outside the acceptable limits the relevant fault is recorded.
- Typical causes would be a short circuit to ground in the wiring to or within the solenoid.
- If several faults of solenoids are present, check the wiring or connectors that are common to the selected solenoids, especially the earth connections.
- Inspect the wiring for poor electrical connections at the TCM and at the 10-way transmission connector. Look for possible bent, backed out, deformed or damaged terminals. Check for weak terminal tension as well. Also check for chafed wires that could short to bare metal or other wiring. Inspect for broken wire inside the insulation.

- If diagnosing for a possible intermittent short or open condition, move or massage the wiring harness while observing test equipment for a change.

Test Description

The number(s) below refer to the step number(s) on the Diagnostic Table.

3. Checks if the S6 circuit in the transmission is malfunctioning.
4. Check cable in the transmission for short to ground.
6. Check resistance between S6 terminal A and B. Standard value is 22 - 30 Ω.
9. Check connections of other connectors.

DTC P1746 Solenoid 6 Circuit Short

Step	Action	Value(s)	Yes	No
1	Perform a Transmission Control Module (TCM) System Check. Is the check performed?	-	Go to Step 2	Go to "TCM Diagnostic System Check"
2	1. Install the scan tool. 2. Turn the ignition ON, with the engine OFF. 3. Record and then clear DTCs. 4. Operate the vehicle within the conditions for setting this DTC as specified in the text. Does the scan tool display P1746?	-	Go to Step 3	Go to "Diagnostic Aids"
3	1. Turn the ignition OFF. 2. Disconnect the 10-way transmission connector. (additional DTCs will set) 3. Connect Solenoid/Thermistor Electrical Tester (STET) to the 10-way transmission connector of transmission side and to the good ground. 4. Turn the mode knob of STET to 6 and push the red button. Does the bulb of close circuit on the solenoids side of STET illuminate?	-	Go to Step 4	Go to Step 8
4	1. Remove the valve cover. Refer to the Transmission in this section. 2. With a test light connected to B+, probe the wiring harness from 10-way transmission connector to Solenoid 6 (S6) on the valve body. Does the test light illuminate?	-	Go to Step 5	Go to Step 6
5	Repair the short to ground in the wiring harness. Is the repair complete?	-	Go to Step 11	-
6	Using a Digital Volt Meter (DVM), measure the resistance between S6 terminal A and B. Is the resistance within the specified value?	20 - 30 Ω	Go to "Diagnostic Aids"	Go to Step 7
7	Replace the S6. Is the action complete?	-	Go to Step 11	-
8	1. Disconnect the TCM connector B. 2. With a test light connected to B+, probe the wiring harness from 10-way transmission connector terminal 6 to TCM terminal B12. Does the test light illuminate?	-	Go to Step 5	Go to Step 9
9	Check for a poor connection at the 10-way transmission connector and TCM connector and repair the malfunctioning terminals as necessary. Is a repair necessary?	-	Go to Step 11	Go to Step 10

DTC P1746 Solenoid 6 Circuit Short (Cont'd)

Step	Action	Value(s)	Yes	No
10	1. Turn the ignition OFF. 2. Replace the TCM. Is the action complete?	-	Go to Step 11	-
11	1. Using the scan tool, clear the DTCs. 2. Road test the vehicle within the conditions for setting this DTC as specified in the text. Does the scan tool indicate that this diagnostic has run and passed?	-	Go to Step 12	Go to Step 2
12	Check if any DTCs are set. Are there any DTCs displayed or previously recorded at Step 2 that have not been diagnosed?	-	Go to applicable DTC table	System OK, Check Complete

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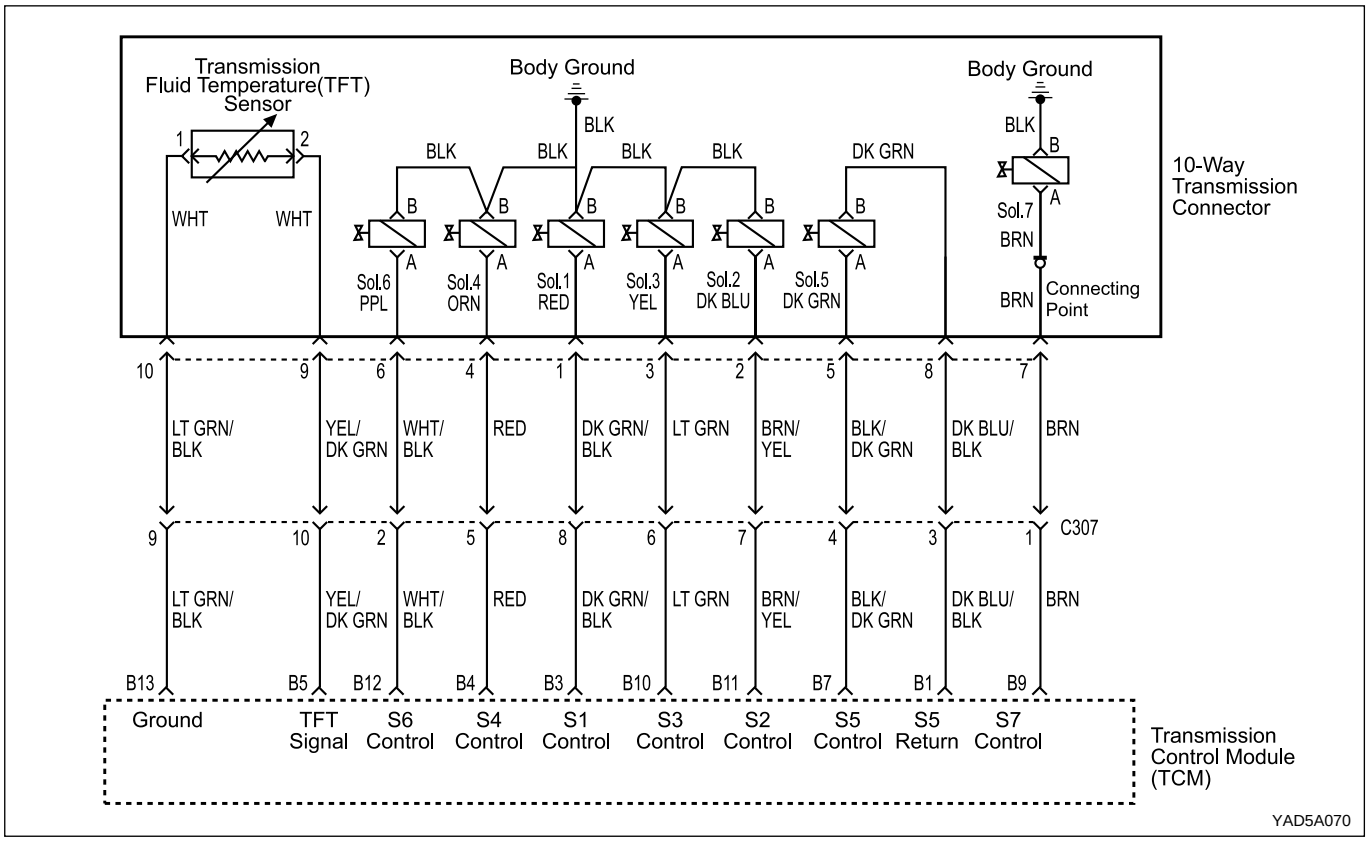

DIAGNOSTIC TROUBLE CODE (DTC) P1747 SOLENOID 7 CIRCUIT SHORT

Circuit Description

The solenoid 7 is a normally open ON/OFF type solenoid that is used to control the application of the Torque Converter Clutch (TCC).

The Solenoid 7 (S7) ON activates the TCC and is attached to the pump body within the transmission. Voltage is supplied directly to the solenoid through the Transmission Control Module (TCM).

The DTC P1747 sets when the solenoid 7, Torque Converter Clutch Solenoid, circuit is shorted to ground. The solenoid 7's driver Integrated Chip (IC) status indicates a faulty circuit.

Conditions for Setting the DTC

- DTCs P1717 and P1718 are not set.
- S7 is ON.
- The solenoid 7's driver Integrated Chip (IC) status indicates a faulty circuit. This condition must be continuously present for 60 milliseconds.

Action Taken When the DTC Sets

- The solenoid 7 is always disabled (OFF) resulting in the TCC being unlocked continuously.

Conditions for Clearing the DTC

- The DTC will clear when the malfunction has not occurred after ignition cycle.
- A history DTC will clear after 40 TCM power-up cycles with a warm transmission (>50 °C) and without a fault.
- History DTCs can be cleared by using a scan tool.

Diagnostic Aids

- During the TCM's testing, solenoid 7 is turned OFF/ON by a very small (4 millisecond) pulses. This pulse is too short for the solenoid to react so the transmission operation is not affected.
- The solenoid feedback voltage is measured before the (4 millisecond) pulse and again during the pulse. If the difference is outside the acceptable limits the relevant fault is recorded.
- Typical causes would be a short circuit to ground in the wiring to or within the solenoid.
- If several faults of solenoids are present, check the wiring or connectors that are common to the selected solenoids, especially the earth connections.
- Inspect the wiring for poor electrical connections at the TCM and at the 10-way transmission connector. Look for possible bent, backed out, deformed or damaged terminals. Check for weak terminal tension as well. Also check for chafed wires that could short to bare metal or other wiring. Inspect for broken wire inside the insulation.

- If diagnosing for a possible intermittent short or open condition, move or massage the wiring harness while observing test equipment for a change.

Test Description

The number(s) below refer to the step number(s) on the Diagnostic Table.

3. Checks if the S7 circuit in the transmission is malfunctioning.
4. Check cable in the transmission for short to ground.
7. Check resistance between S7 terminal A and B. Standard value is 22 - 30 Ω.
10. Check connections of other connectors.

DTC P1747 Solenoid 7 Circuit Short

Step	Action	Value(s)	Yes	No
1	Perform a Transmission Control Module (TCM) System Check. Is the check performed?	-	Go to Step 2	Go to "TCM Diagnostic System Check"
2	1. Install the scan tool. 2. Turn the ignition ON, with the engine OFF. 3. Record and then clear DTCs. 4. Operate the vehicle within the conditions for setting this DTC as specified in the text. Does the scan tool display P1747?	-	Go to Step 3	Go to "Diagnostic Aids"
3	1. Turn the ignition OFF. 2. Disconnect the 10-way transmission connector. (additional DTCs will set) 3. Connect Solenoid/Thermistor Electrical Tester (STET) to the 10-way transmission connector of transmission side and to the good ground. 4. Turn the mode knob of STET to 7 and push the red button. Does the bulb of close circuit on the solenoids side of STET illuminate?	-	Go to Step 4	Go to Step 8
4	1. Remove the pump assembly. Refer to the Pump in this section. 2. With a test light connected to B+, probe the wiring harness from 10-way transmission connector to contact point attached onto the transmission case. Does the test light illuminate?	-	Go to Step 5	Go to Step 6
5	Repair the short to ground in the wiring harness. Is the repair complete?	-	Go to Step 12	-
6	With a test light connected to B+, probe the wiring harness from contact point attached onto the transmission case to S7. Does the test light illuminate?	-	Go to Step 15	Go to Step 7
7	Using a Digital Volt Meter (DVM), measure the resistance between S7 terminal A and B. Is the resistance within the specified value?	20 - 30 Ω	Go to "Diagnostic Aids"	Go to Step 8
8	Replace the S7. Is the action complete?	-	Go to Step 12	-
9	1. Disconnect the TCM connector B. 2. With a test light connected to B+, probe the wiring harness from 10-way transmission connector terminal 7 to TCM terminal B9. Does the test light illuminate?	-	Go to Step 5	Go to Step 10

DTC P1747 Solenoid 7 Circuit Short (Cont'd)

Step	Action	Value(s)	Yes	No
10	Check for a poor connection at the 10-way transmission connector and TCM connector and repair the malfunctioning terminals as necessary. Is a repair necessary?	-	Go to Step 12	Go to Step 11
11	1. Turn the ignition OFF. 2. Replace the TCM. Is the action complete?	-	Go to Step 12	-
12	1. Using the scan tool, clear the DTCs. 2. Road test the vehicle within the conditions for setting this DTC as specified in the text. Does the scan tool indicate that this diagnostic has run and passed?	-	Go to Step 13	Go to Step 2
13	Check if any DTCs are set. Are there any DTCs displayed or previously recorded at Step 2 that have not been diagnosed?	-	Go to applicable DTC table	System OK, Check Complete