

TCU

0000-00

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DTC Code	Defective	Cause and Action
P0742	Torque converter clutch engaged	<p>Cause:</p> <ul style="list-style-type: none"> - Torque converter clutch is engaged when solenoid valve (S7) is not operated. - The rpm of engine and output shaft is not consistent with the characteristic under the condition with torque converter not engaged. • Allowable slip rpm of torque converter < 50 rpm <p>Symptom: - Torque converter clutch is locked.</p> <p>Action:</p> <ul style="list-style-type: none"> - Check solenoid valve (S7) wiring for short to B+. - Replace solenoid valve (S7) if necessary. - Check T/M connector TCU connector for their proper connection. - Replace TCU if necessary. - Returns to the normal operation if the failure does not occur within 30 seconds.
P0710	Defective T/M oil temperature sensor	<p>Cause:</p> <ul style="list-style-type: none"> - Oil temperature of T/M exceeds the specified value. • Oil temperature sensor voltage > 4.88 V • Oil temperature sensor voltage < 0.21 V <p>Symptom: - Oil temperature is fixed to 120°C</p> <ul style="list-style-type: none"> - Shifting impression is poor. <p>Action:</p> <ul style="list-style-type: none"> - Check T/M oil temperature sensor for short or open circuit. - Check T/M connector and TCU connector for proper connection. - Replace TCU if necessary. - Returns to the normal operation if the failure does not occur within 3 seconds.
P0790	Defective W/N/P mode switch	<p>Cause:</p> <ul style="list-style-type: none"> - The W/N/P mode switch's connection is intermittently disconnected (the input of the mode switch changes rapidly). <p>Symptom: - The switch is fixed to normal mode.</p> <p>Action:</p> <ul style="list-style-type: none"> - Check W/N/P mode switch input circuit for short or open circuit. - Check W/N/P mode switch wiring. - Replace W/N/P mode switch if necessary. - Returns to the normal operation if the failure does not occur within 3 seconds.

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DTC Code	Defective	Cause and Action
P0742	Torque converter clutch engaged	<p>Cause:</p> <ul style="list-style-type: none"> - Torque converter clutch is engaged when solenoid valve (S7) is not operated. - The rpm of engine and output shaft is not consistent with the characteristic under the condition with torque converter not engaged. • Allowable slip rpm of torque converter < 50 rpm <p>Symptom:</p> <ul style="list-style-type: none"> - Torque converter clutch is locked. <p>Action:</p> <ul style="list-style-type: none"> - Check solenoid valve (S7) wiring for short to B+. - Replace solenoid valve (S7) if necessary. - Check T/M connector TCU connector for their proper connection. - Replace TCU if necessary. - Returns to the normal operation if the failure does not occur within 30 seconds.
P0710	Defective T/M oil temperature sensor	<p>Cause:</p> <ul style="list-style-type: none"> - Oil temperature of T/M exceeds the specified value. • Oil temperature sensor voltage > 4.88 V • Oil temperature sensor voltage < 0.21 V <p>Symptom:</p> <ul style="list-style-type: none"> - Oil temperature is fixed to 120°C - Shifting impression is poor. <p>Action:</p> <ul style="list-style-type: none"> - Check T/M oil temperature sensor for short or open circuit. - Check T/M connector and TCU connector for proper connection. - Replace TCU if necessary. - Returns to the normal operation if the failure does not occur within 3 seconds.
P0790	Defective W/N/P mode switch	<p>Cause:</p> <ul style="list-style-type: none"> - The W/N/P mode switch's connection is intermittently disconnected (the input of the mode switch changes rapidly). <p>Symptom:</p> <ul style="list-style-type: none"> - The switch is fixed to normal mode. <p>Action:</p> <ul style="list-style-type: none"> - Check W/N/P mode switch input circuit for short or open circuit. - Check W/N/P mode switch wiring. - Replace W/N/P mode switch if necessary. - Returns to the normal operation if the failure does not occur within 3 seconds.

DTC Code	Defective	Cause and Action
P1703	Abnormal engine rpm (CAN)	<p>Cause:</p> <ul style="list-style-type: none"> - The engine rpm signal (CAN) is out of specified value or there is no engine rpm signal. • Engine rpm < 0 rpm • Engine rpm > 7000 rpm <p>Symptom: - The engine rpm corresponding to the max. engine torque is applied to the shifting condition.</p> <p>Action:</p> <ul style="list-style-type: none"> - Check ECU and TCU connectors for poor contact. - Replace TCU if necessary. - Returns to the normal operation if the failure does not occur within 3 seconds.
P1704	Abnormal output shaft rpm (CAN)	<p>Cause:</p> <ul style="list-style-type: none"> - The output shaft signal (CAN) is out of specified value or there is no output shaft signal. • Output shaft rpm < 0 rpm • Output shaft rpm > 9000 rpm - The actual vehicle speed is 0 while other signals indicate that vehicle is moving. <p>Symptom: - Cannot shift down by limiting the engine rpm to prevent the engine from overrunning.</p> <p>Action:</p> <ul style="list-style-type: none"> - Check ECU and TCU connectors for poor contact. - Replace TCU if necessary. - Returns to the normal operation if the failure does not occur within 3 seconds and the rpm is over 0.
P1708	Low TCU supply voltage	<p>Cause:</p> <ul style="list-style-type: none"> - The TCU supply voltage is low or there is no measured voltage value. <p>Symptom:</p> <ul style="list-style-type: none"> - Cannot shift to 1st gear position. - Cannot shift to other gear positions due to the low supply voltage. - No. 6 solenoid valve (S6) stops from its operation. <p>Action:</p> <ul style="list-style-type: none"> - Check TCU terminal for poor contact, bending or deformation. - Replace TCU if necessary. - Returns to the normal operation if the failure does not occur within 30 seconds.
P1709	High TCU supply voltage	<p>Cause:</p> <ul style="list-style-type: none"> - The TCU supply voltage is high. • TCU supply voltage > 16.5 V <p>Symptom:</p> <ul style="list-style-type: none"> - All solenoid valves stop from their operation when high battery voltage is detected. - Enters into the emergency mode. <p>Action:</p> <ul style="list-style-type: none"> - Check TCU terminal for short to B+ or short to ground. - Replace TCU if necessary. - Returns to the normal operation if the failure does not occur within 30 seconds.

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DTC Code	Defective	Cause and Action
P1713	Defective accelerator pedal signal (CAN)	<p>Cause:</p> <ul style="list-style-type: none"> - The accelerator pedal signal (CAN) is out of the specified value. <ul style="list-style-type: none"> • Accelerator pedal signal < 0 % • Accelerator pedal signal > 100 % <p>Symptom:</p> <ul style="list-style-type: none"> - Cannot shift to 4th gear position. - Torque converter clutch stops from its operation. - The interior default value is applied for shift determination (if the accelerator pedal signal is defective, ECU selects the default value and sends it and error message to TCU via CAN line). - The accelerator pedal signal is not used for P, R, N B2. <p>Action:</p> <ul style="list-style-type: none"> - Check ECU and TCU connectors for poor contact and their terminals for bend or deformation. - Replace TCU if necessary. - Returns to the normal operation if the failure does not occur within 30 seconds.
P1714	Defective vehicle coding	<p>Cause:</p> <ul style="list-style-type: none"> - The vehicle coding stored in EEPROM is defective (self-test when IGN ON). <p>Symptom:</p> <ul style="list-style-type: none"> - Determines the vehicle coding value via CAN communication or selects 0 for the coding value. - Shifting impression is poor. <p>Action:</p> <ul style="list-style-type: none"> - Replace TCU if necessary. - DTC disappears after turning ignition from OFF to ON.
P1715	Abnormal VPS offset	<p>Cause:</p> <ul style="list-style-type: none"> - VPS (Variable pressure solenoid valve) is used for controlling clutch and band pressure while shifting. - The VPS offset stored in EEPROM is incorrect (self-test when IGN ON). <ul style="list-style-type: none"> • VPS offset > 120 mA <p>Symptom:</p> <ul style="list-style-type: none"> - Shifting impression is poor. <p>Action:</p> <ul style="list-style-type: none"> - Replace TCU if necessary. - DTC disappears after turning ignition from OFF to ON.
P1717	Defective RAM	<p>Cause:</p> <ul style="list-style-type: none"> - RAM operates abnormally. (self-test when IGN ON) <p>Symptom:</p> <ul style="list-style-type: none"> - No output signal. - Enters into the emergency mode. <p>Action:</p> <ul style="list-style-type: none"> - Replace TCU if necessary. - DTC disappears after turning ignition from OFF to ON.
P1718	Defective ROM	<p>Cause:</p> <ul style="list-style-type: none"> - The program memory is defective (self-test when IGN ON). - The calculated checksum value is not consistent with the stored checksum value. <p>Symptom:</p> <ul style="list-style-type: none"> - No output signal. - Enters into the emergency mode. <p>Action:</p> <ul style="list-style-type: none"> - Replace TCU if necessary. - DTC disappears after turning ignition from OFF to ON.

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P1719	Abnormal CAN communication	<p>Cause: - Cannot use information necessary for TCU via CAN communication.</p> <p>Symptom: - The default value is used for all CAN signals. - Enters into the emergency mode.</p> <p>Action: - Check ECU and TCU connectors wiring for poor contact. - Check ECU and TCU connectors' terminals for bend or deformation. - Replace TCU if necessary. - Returns to the normal operation if the failure does not occur within 30 seconds.</p>
P1720	Defective EEPROM	<p>Cause: - EEPROM memory is defective. - The calculated checksum value is not consistent with the stored checksum value or the error occurs in EEPROM communication. (self-test when IGN ON)</p> <p>Symptom: - Determines the vehicle coding value via CAN communication or selects 0 for the coding value. - Shifting impression is poor.</p> <p>Action: - Replace TCU if necessary. - DTC disappears after turning ignition from OFF to ON.</p>
P1722	Incorrect vehicle model	<p>Cause: - Cannot detect the vehicle coding through EEPROM or CAN communication.</p> <p>Symptom: - Selects 0 for the coding value. - Enters into the emergency mode.</p> <p>Action: - Check TCU connector and terminals for poor contact. - DTC disappears after turning ignition from OFF to ON.</p>
P1733	No. 1 solenoid valve open	<p>Cause: - The No. 1 solenoid valve operates with the No. 2 solenoid valve to control the oil flow for the 1-2 shift valve. - The No.1 solenoid valve internal circuit or solenoid valve wiring is open. - The solenoid valve connection is short to B+.</p> <p>Symptom: - The No. 1 solenoid valve is OFF. - Enters into the emergency mode.</p> <p>Action: - Check No. 1 solenoid valve wiring and connector (especially its ground condition). - Specified resistance value: 22 ~ 30Ω - Check TCU connector for proper connection and its terminal for bend or deformation. - Replace No.1 solenoid valve if necessary. - Replace TCU if necessary. - DTC disappears after turning ignition from OFF to ON.</p>

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DTC Code	Defective	Cause and Action
P1734	No. 2 solenoid valve open	<p>Cause:</p> <ul style="list-style-type: none"> - The No. 2 solenoid valve operates with the No. 1 solenoid valve to control the oil flow for the 2-3 shift valve. - The No. 2 solenoid valve circuit is open. - The solenoid valve connection is short to B+. <p>Symptom:</p> <ul style="list-style-type: none"> - The No. 2 solenoid valve is OFF. - Enters into the emergency mode. <p>Action:</p> <ul style="list-style-type: none"> - Check No. 2 solenoid valve wiring and connector (especially, its ground condition). - Specified resistance value: 22 ~ 30Ω - Check TCU connector for proper connection and its terminal for bend or deformation. - Replace No.2 solenoid valve if necessary. - Replace TCU if necessary. - DTC disappears after turning ignition from OFF to ON.
P1735	No. 3 solenoid valve open	<p>Cause:</p> <ul style="list-style-type: none"> - The No. 3 solenoid valve operates with the No. 4 solenoid valve to shift smoothly and control the shifting order. - The No. 3 solenoid valve turns the clutch regulator valve ON and OFF. - The No. 3 solenoid valve circuit is open. - The solenoid valve connection is short to B+. <p>Symptom:</p> <ul style="list-style-type: none"> - The No. 3 solenoid valve is OFF. - Shifting impression is poor. <p>Action:</p> <ul style="list-style-type: none"> - Check No. 3 solenoid valve wiring and connector (especially, its ground condition). - Specified resistance value: 22 ~ 30Ω - Check TCU connector for proper connection and its terminal for bend or deformation. - Replace No.3 solenoid valve if necessary. - Replace TCU if necessary. - DTC disappears after turning ignition from OFF to ON.

DTC Code	Defective	Cause and Action
P1736	No. 4 solenoid valve open	<p>Cause:</p> <ul style="list-style-type: none"> - The No. 4 solenoid valve operates with the No. 3 solenoid valve to shift smoothly and control the shifting order. - The No. 4 solenoid valve turns the clutch regulator valve ON and OFF. - The No. 4 solenoid valve circuit is open. - The solenoid valve connection is short to B+. <p>Symptom:</p> <ul style="list-style-type: none"> - The No. 4 solenoid valve is OFF or ON. - Shifting impression is poor. <p>Action:</p> <ul style="list-style-type: none"> - Check No. 4 solenoid valve wiring and connector (especially, its ground condition). - Specified resistance value: 22 ~ 30Ω - Check TCU connector for proper connection and its terminal for bend or deformation. - Replace No.4 solenoid valve if necessary. - Replace TCU if necessary. - DTC disappears after turning ignition from OFF to ON.
P1737	No. 5 solenoid valve open	<p>Cause:</p> <ul style="list-style-type: none"> - The No. 5 solenoid valve is a variable solenoid valve to change the pressure for shifting. - The No. 5 solenoid valve circuit is open. - The solenoid valve connection is short to B+. <p>Symptom:</p> <ul style="list-style-type: none"> - The No. 4 solenoid valve is always OFF. - Shifting impression is poor. <p>Action:</p> <ul style="list-style-type: none"> - Check No. 5 solenoid valve wiring and connector (especially, its ground condition). - Specified resistance value: 3.6 ~ 5.5Ω - Check TCU connector for proper connection and its terminal for bend or deformation. - Replace No.5 solenoid valve if necessary. - Replace TCU if necessary. - DTC disappears after turning ignition from OFF to ON.
P1738	No. 6 solenoid valve open	<p>Cause:</p> <ul style="list-style-type: none"> - The No. 6 solenoid valve is used to set the hydraulic line pressure to HIGH/LOW level. - The No. 6 solenoid valve circuit is open. - The solenoid valve connection is short to B+. <p>Symptom:</p> <ul style="list-style-type: none"> - The hydraulic line pressure is high. (No. 6 solenoid valve stops its operation) - Cannot to shift to 1st gear position. <p>Action:</p> <ul style="list-style-type: none"> - Check No. 6 solenoid valve wiring and connector (especially, its ground condition). - Specified resistance value: 22 ~ 30Ω - Check TCU connector for proper connection and its terminal for bend or deformation. - Replace No. 6 solenoid valve if necessary. - Replace TCU if necessary. - DTC disappears after turning ignition from OFF to ON.

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DTC Code	Defective	Cause and Action
P1739	No. 7 solenoid valve open	<p>Cause:</p> <ul style="list-style-type: none"> - The No. 7 solenoid valve controls the operation of the torque converter clutch. - The No. 7 solenoid valve circuit is open. - The solenoid valve connection is short to B+. <p>Symptom:</p> <ul style="list-style-type: none"> - The No. 7 solenoid valve stops its operation (OFF). - The torque converter clutch cannot be locked. <p>Action:</p> <ul style="list-style-type: none"> - Check No. 7 solenoid valve wiring and connector (especially, its ground condition). - Specified resistance value: 22 ~ 30Ω - Check TCU connector for proper connection and its terminal for bend or deformation. - Replace No. 7 solenoid valve if necessary. - Replace TCU if necessary. - DTC disappears after turning ignition from OFF to ON.
P1741	No. 1 solenoid valve short	<p>Cause:</p> <ul style="list-style-type: none"> - The No. 1 solenoid valve operates with the No. 2 solenoid valve to control the oil flow for the 1-2 shift valve. - The No. 1 solenoid valve circuit is short to ground. <p>Symptom:</p> <ul style="list-style-type: none"> - The No. 1 solenoid valve is OFF. - Enters into the emergency mode. <p>Action:</p> <ul style="list-style-type: none"> - Check No. 1 solenoid valve wiring and connector (especially its ground condition). - Specified resistance value: 22 ~ 30Ω - Check TCU connector for proper connection and its terminal for bend or deformation. - Replace No.1 solenoid valve if necessary. - Replace TCU if necessary. - DTC disappears after turning ignition from OFF to ON.
P1742	No. 2 solenoid valve short	<p>Cause:</p> <ul style="list-style-type: none"> - The No. 2 solenoid valve operates with the No. 1 solenoid valve to control the oil flow for the 2-3 shift valve. - The No. 2 solenoid valve circuit is short to ground. <p>Symptom:</p> <ul style="list-style-type: none"> - The No. 2 solenoid valve is OFF. - Enters into the emergency mode. <p>Action:</p> <ul style="list-style-type: none"> - Check No. 2 solenoid valve wiring and connector (especially its ground condition). - Specified resistance value: 22 ~ 30Ω - Check TCU connector for proper connection and its terminal for bend or deformation. - Replace No. 2 solenoid valve if necessary. - Replace TCU if necessary. - DTC disappears after turning ignition from OFF to ON.

DTC Code	Defective	Cause and Action
P1743	No. 3 solenoid valve short	<p>Cause:</p> <ul style="list-style-type: none"> - The No. 3 solenoid valve operates with the No. 4 solenoid valve to shift smoothly and control the shifting order. - The No. 3 solenoid valve turns the clutch regulator valve ON and OFF. - The No. 3 solenoid valve circuit is short to ground. <p>Symptom:</p> <ul style="list-style-type: none"> - The No. 3 solenoid valve is OFF. - Shifting impression is poor. <p>Action:</p> <ul style="list-style-type: none"> - Check No. 3 solenoid valve wiring and connector (especially its ground condition). - Specified resistance value: 22 ~ 30Ω - Check TCU connector for proper connection and its terminal for bend or deformation. - Replace No. 3 solenoid valve if necessary. - Replace TCU if necessary. - DTC disappears after turning ignition from OFF to ON.
P1744	No. 4 solenoid valve short	<p>Cause:</p> <ul style="list-style-type: none"> - The No. 4 solenoid valve operates with the No. 3 solenoid valve to shift smoothly and control the shifting order. - The No. 4 solenoid valve turns the clutch regulator valve ON and OFF. - The No. 4 solenoid valve circuit is short to ground. <p>Symptom:</p> <ul style="list-style-type: none"> - The No. 4 solenoid valve is OFF. - Shifting impression is poor. <p>Action:</p> <ul style="list-style-type: none"> - Check No. 4 solenoid valve wiring and connector (especially its ground condition). - Specified resistance value: 22 ~ 30Ω - Check TCU connector for proper connection and its terminal for bend or deformation. - Replace No. 4 solenoid valve if necessary. - Replace TCU if necessary. - DTC disappears after turning ignition from OFF to ON.
P1745	No. 5 solenoid valve short	<p>Cause:</p> <ul style="list-style-type: none"> - The No. 5 solenoid valve is a variable solenoid valve to change the pressure for shifting. - The No. 5 solenoid valve circuit is short to ground. <p>Symptom:</p> <ul style="list-style-type: none"> - The No. 4 solenoid valve is always OFF. - Shifting impression is poor. <p>Action:</p> <ul style="list-style-type: none"> - Check No. 5 solenoid valve wiring and connector (especially, its ground condition). - Specified resistance value: 3.6 ~ 5.5Ω - Check TCU connector for proper connection and its terminal for bend or deformation. - Replace No.5 solenoid valve if necessary. - Replace TCU if necessary. - DTC disappears after turning ignition from OFF to ON.

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P1746	No. 6 solenoid valve short	<p>Cause:</p> <ul style="list-style-type: none"> - The No. 6 solenoid valve is used to set the hydraulic line pressure to HIGH/LOW level. - The No. 6 solenoid valve circuit is short to ground. <p>Symptom:</p> <ul style="list-style-type: none"> - The hydraulic line pressure is high. (No. 6 solenoid valve stops its operation) - Cannot to shift to 1st gear position. <p>Action:</p> <ul style="list-style-type: none"> - Check No. 6 solenoid valve wiring and connector (especially, its ground condition). - Specified resistance value : 22 ~ 30Ω - Check TCU connector for proper connection and its terminal for bend or deformation. - Replace No. 6 solenoid valve if necessary. - Replace TCU if necessary. - DTC disappears after turning ignition from OFF to ON.
P1747	No. 7 solenoid valve short	<p>Cause:</p> <ul style="list-style-type: none"> - The No. 7 solenoid valve controls the operation of the torque converter clutch. - The No. 7 solenoid valve circuit is short to ground. <p>Symptom:</p> <ul style="list-style-type: none"> - The No. 7 solenoid valve stops its operation (OFF). - The torque converter clutch cannot be locked. <p>Action:</p> <ul style="list-style-type: none"> - Check No. 7 solenoid valve wiring and connector (especially, its ground condition). - Specified resistance value: 22 ~ 30Ω - Check TCU connector for proper connection and its terminal for bend or deformation. - Replace No. 7 solenoid valve if necessary. - Replace TCU if necessary. - DTC disappears after turning ignition from OFF to ON.

Trouble Code	Defectives	Action
P2000	Faulty TCU internal watchdog test	<ul style="list-style-type: none"> • Self-diagnosis with IGN ON. • Cycle the IGN switch from OFF to ON. Check and replace TCU if the trouble still exists.
P2001	Faulty TCU internal watchdog function	<ul style="list-style-type: none"> • Self-diagnosis. • Cycle the IGN switch from OFF to ON. Check and replace TCU if the trouble still exists.
P2002	Faulty TCU external watchdog test	<ul style="list-style-type: none"> • Self-diagnosis with IGN ON. • Cycle the IGN switch from OFF to ON. Check and replace TCU if the trouble still exists.
P2003	Faulty TCU external watchdog function	<ul style="list-style-type: none"> • Self-diagnosis. • Cycle the IGN switch from OFF to ON. Check and replace TCU if the trouble still exists.
P2004	Faulty TCU Clock	<ul style="list-style-type: none"> • Self-diagnosis. • Cycle the IGN switch from OFF to ON. Check and replace TCU if the trouble still exists.
P2005	Faulty TCU RAM	<ul style="list-style-type: none"> • Self-diagnosis with IGN ON. • Cycle the IGN switch from OFF to ON. Check and replace TCU if the trouble still exists.
P2006	Faulty TCU RAM CAN-Controller 1	<ul style="list-style-type: none"> • Self-diagnosis with IGN ON. • Cycle the IGN switch from OFF to ON. Check and replace TCU if the trouble still exists.
P2007	Faulty TCU RAM CAN-Controller 2	<ul style="list-style-type: none"> • Self-diagnosis with IGN ON. • Cycle the IGN switch from OFF to ON. Check and replace TCU if the trouble still exists.
P2008	Faulty TCU ROM	<ul style="list-style-type: none"> • Self-diagnosis with IGN ON. • When the TCU internal checksum is different from scanner checksum. • Cycle the IGN switch from OFF to ON. Check and replace TCU if the trouble still exists.
P200A	Faulty TCU EEPROM	<ul style="list-style-type: none"> • Self-diagnosis with IGN ON. • Cycle the IGN switch from OFF to ON. Check and replace TCU if the trouble still exists.
P200B	Faulty TCU CPU (internal)	<ul style="list-style-type: none"> • Self-diagnosis. • Check harness contact.
P200C	Faulty TCU program control	<ul style="list-style-type: none"> • Self-diagnosis. • Check harness contact.
P2010	No TCU variant coding	<ul style="list-style-type: none"> • Self-diagnosis with IGN ON. • When the TCU coding is not exist. • Check again after TCU coding.

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P2011	Faulty TCU variant coding	<ul style="list-style-type: none"> • Self-diagnosis with IGN ON. • When the TCU coding is faulty. • Check again after TCU coding.
P2012	Faulty TCU checksum	<ul style="list-style-type: none"> • Self-diagnosis with IGN ON. • Cycle the IGN switch from OFF to ON. Check and replace TCU if the trouble still exists.
P2013	Faulty TCU (internally)	<ul style="list-style-type: none"> • Self-diagnosis with IGN ON. • Cycle the IGN switch from OFF to ON. Check and replace TCU if the trouble still exists.
P2100	Defective 1-2, 4-5 shift solenoid valve	<ul style="list-style-type: none"> • When 1-2 or 4-5 shift solenoid valve is defective. • Measure the resistance of 1-2 or 4-5 shift solenoid valve (turn the IGN OFF, then and disconnect TCU connector). <ul style="list-style-type: none"> - TCU connector terminals: B12 (14), B3 (38) - Specified value: $3.8 \pm 0.2 \Omega$ • Triggered emergency mode when the defective is detected. <ul style="list-style-type: none"> - Fixed at 2nd gear in "D" range. • Check the related harness for open, short and contact.
P2101	1-2, 4-5 shift solenoid valve - short	<ul style="list-style-type: none"> • When 1-2 or 4-5 shift solenoid valve is defective. • Measure the resistance of 1-2 or 4-5 shift solenoid valve (turn the IGN OFF, then disconnect TCU connector). <ul style="list-style-type: none"> - TCU connector terminals: B12 (14), B3 (38) - Specified value: $3.8 \pm 0.2 \Omega$ • Triggered emergency mode when the defective is detected. <ul style="list-style-type: none"> - Fixed at 2nd gear in "D" range. • Check the related harness for open, short and contact.
P2102	Defective 2-3 shift solenoid valve	<ul style="list-style-type: none"> • When 2-3 shift solenoid valve is defective. • Measure the resistance of 2-3 shift solenoid valve (turn the IGN OFF, then disconnect TCU connector). <ul style="list-style-type: none"> - TCU connector terminals: B12 (14), B3 (38) - Specified value: $3.8 \pm 0.2 \Omega$ • Triggered emergency mode when the defective is detected. <ul style="list-style-type: none"> - Fixed at 2nd gear in "D" range. • Check the related harness for open, short and contact.
P2103	2-3 shift solenoid valve - short	<ul style="list-style-type: none"> • When 2-3 shift solenoid valve is defective. • Measure the resistance of 2-3 shift solenoid valve (turn the IGN OFF, then disconnect TCU connector). <ul style="list-style-type: none"> - TCU connector terminals: B12 (14), B3 (38) - Specified value: $3.8 \pm 0.2 \Omega$ • Triggered mechanical emergency mode when the defective is detected. <ul style="list-style-type: none"> - Fixed at 2nd gear in "D" range. • Check the related harness for open, short and contact.

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P2104	Defective 3-4 shift solenoid valve	<ul style="list-style-type: none"> When 3-4 shift solenoid valve is defective. Measure the resistance of 3-4 shift solenoid valve (turn the IGN OFF, then disconnect TCU connector). <ul style="list-style-type: none"> TCU connector terminals: B11 (15), B3 (38) Specified value: $3.8 \pm 0.2 \Omega$ Triggered mechanical emergency mode when the defective is detected. <ul style="list-style-type: none"> Fixed at 2nd gear in "D" range. Check the related harness for open, short and contact.
P2105	3-4 shift solenoid valve - short	<ul style="list-style-type: none"> When 3-4 shift solenoid valve is defective. Measure the resistance of 3-4 shift solenoid valve (turn the IGN OFF, then disconnect TCU connector). <ul style="list-style-type: none"> TCU connector terminals: B11 (15), B3 (38) Specified value: $3.8 \pm 0.2 \Omega$ Triggered mechanical emergency mode when the defective is detected. <ul style="list-style-type: none"> Fixed at 2nd gear in "D" range. Check the related harness for open, short and contact.
P2106	Defective lockup clutch solenoid valve	<ul style="list-style-type: none"> Measure the resistance of lockup clutch solenoid valve (turn the IGN OFF, then disconnect TCU connector). <ul style="list-style-type: none"> TCU connector terminals: B9 (17), B3 (38) Specified value: $2.5 \pm 0.2 \Omega$ Triggered emergency mode when the defective is detected. <ul style="list-style-type: none"> Fixed at 2nd gear in "D" range. Check the related harness for open, short and contact.
P2107	Defective modulator pressure solenoid valve	<ul style="list-style-type: none"> Measure the resistance of modulator pressure solenoid valve (turn the IGN OFF, then disconnect TCU connector). <ul style="list-style-type: none"> TCU connector terminals: B5 (36), B3 (38) Specified value: $5.0 \pm 0.2 \Omega$ Triggered emergency mode when the defective is detected. <ul style="list-style-type: none"> Fixed at 2nd gear in "D" range. Check the related harness for open, short and contact.
P2108	Defective shift pressure solenoid valve	<ul style="list-style-type: none"> Measure the resistance of shift pressure solenoid valve (turn the IGN OFF, then disconnect TCU connector). <ul style="list-style-type: none"> TCU connector terminals: B4 (37), B3 (38) Specified value: $5.0 \pm 0.2 \Omega$ Triggered emergency mode when the defective is detected. <ul style="list-style-type: none"> Electrical error: Fixed at 2nd gear in "D" range. Check the related harness for open, short and contact.

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P2200	Faulty speed sensor N2 signal	<ul style="list-style-type: none"> When the speed sensor N2 detects 0 rpm of front sun gear speed. Check the related harness for open, short and contact. <ul style="list-style-type: none"> - TCU connector terminal B14: rectangular wave signal B8: signal ground B13: 6V
P2203	Faulty speed sensor N3 signal	<ul style="list-style-type: none"> When the speed sensor N3 detects 0 rpm of planetary gear carrier speed. Check the related harness for open, short and contact. <ul style="list-style-type: none"> - TCU connector terminal B6: rectangular wave signal B8: signal ground B13: 6V
P220A	Abnormal speed sensor output signal (N2, N3)	<ul style="list-style-type: none"> When the rpm difference between speed sensor N2 and N3 is over 150 rpm. Check the related harness for open, short and contact.
P2220	T/M Oil temperature sensor - short	<ul style="list-style-type: none"> Turn the IGN OFF, then disconnect TCU connector. Selector lever position: R or D T/M Measure the resistance of oil temperature sensor. TCU connector terminals B7, B8 Check the related harness for open, short and contact.
P2221	Abnormal T/M oil temperature sensor signal	<ul style="list-style-type: none"> Turn the IGN OFF, then disconnect TCU connector. Selector lever position: R or D Measure the resistance of T/M oil temperature sensor. TCU connector terminals: B7, B8 Check the related harness for open, short and contact.
P2222	Abnormal T/M oil temperature sensor signal	<ul style="list-style-type: none"> Turn the IGN OFF, then disconnect TCU connector. Selector lever position : R or D Measure the resistance of T/M oil temperature sensor. TCU connector terminals: B7, B8 Check the related harness for open, short and contact.
P2300	Faulty CAN communication	<ul style="list-style-type: none"> Turn the IGN OFF, then disconnect TCU connector. Check the communication line for open, short and contact. Measure the resistance of CAN line: B1, B2 Specified value : approx. 120 W
P2301	Faulty CAN communication	<ul style="list-style-type: none"> Turn the IGN OFF, then disconnect TCU connector. Check the communication line for open, short and contact. Measure the resistance of CAN line: B1, B2 Specified value : approx. 120 W
P2310	CAN: Faulty brake system communication	<ul style="list-style-type: none"> Check CAN communication line H and L. Check ABS/ESP unit. Check the related harness for open, short and contact.

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P2311	CAN: Faulty ECU communication	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check engine ECU. • Check the related harness for open, short and contact.
P2312	CAN: Faulty ECU communication	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check engine ECU. • Check the related harness for open, short and contact.
P2313	CAN: Faulty selector lever control communication	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check selector lever. • Check the related harness for open, short and contact.
P2315	CAN: Faulty instrument panel communication	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check instrument cluster. • Check the related harness for open, short and contact.
P2317	CAN: Faulty communication between TCCU/TOD and CAN (For 4WD only)	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check TCCU/TOD unit. • Check the related harness for open, short and contact.
P2330	CAN: Faulty brake system signal	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check ABS/ESP unit. • Check the related harness for open, short and contact.
P2331	CAN: Faulty ECU message	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check engine ECU. • Check the related harness for open, short and contact.
P2332	CAN: Faulty ECU message	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check engine ECU. • Check the related harness for open, short and contact.
P2333	CAN: Faulty selector lever signal	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check selector lever. Check selector lever. • Check the related harness for open, short and contact.
P2335	CAN: Faulty instrument cluster signal	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check instrument cluster. • Check the related harness for open, short and contact.
P2337	CAN: Faulty TCCU/TOD (For 4WD only)	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check TCCU/TOD unit. • Check the related harness for open, short and contact.
P2400	CAN: Faulty rear RH wheel speed sensor signal	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check ABS/ESP unit. <ul style="list-style-type: none"> - Check wheel speed sensor connector. - Check the air gap between tooth wheel and wheel speed sensor. (Air gap: 0.309 ~ 0.958 mm) - Check the numbers of tooth wheel: 48 • Check the related harness for open, short and contact.

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P2401	CAN: Faulty rear LH wheel speed sensor signal	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check ABS/ESP unit. <ul style="list-style-type: none"> - Check wheel speed sensor connector. - Check the air gap between tooth wheel and wheel speed sensor. (Air gap: 0.309 ~ 0.958 mm) - Check the numbers of tooth wheel: 48 • Check the related harness for open, short and contact.
P2402	CAN: Faulty front RH wheel speed sensor signal	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check ABS/ESP unit. <ul style="list-style-type: none"> - Check wheel speed sensor connector. - Check the air gap between tooth wheel and wheel speed sensor. (Air gap: 0.335 ~ 0.945 mm) - Check the numbers of tooth wheel: 48
P2403	CAN: Faulty front LH wheel speed sensor signal	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check ABS/ESP unit. <ul style="list-style-type: none"> - Check wheel speed sensor connector. - Check the air gap between tooth wheel and wheel speed sensor. (Air gap: 0.335 ~ 0.945 mm) - Check the numbers of tooth wheel: 48
P2404	CAN: No brake signal	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check ABS/ESP unit. • Check the related harness for open, short and contact.
P2405	CAN: No accelerator pedal signal	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check engine ECU. • Check the related harness for open, short and contact.
P2406	CAN: No engine torque signal	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check engine ECU. • Check the related harness for open, short and contact.
P2407	CAN: No ESP signal	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check engine ECU. • Check the related harness for open, short and contact.
P2408	CAN: No minimum engine torque signal	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check engine ECU. • Check the related harness for open, short and contact.
P2409	CAN: No maximum engine torque signal	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check engine ECU. • Check the related harness for open, short and contact.
P240A	CAN: No engine rpm signal	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check engine ECU. • Check the related harness for open, short and contact.

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Trouble Code	Defectives	Action
P240B	CAN: No engine coolant temperature signal	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check engine ECU. • Check the related harness for open, short and contact.
P240C	CAN: No selector lever position signal	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check selector lever. • Check the related harness for open, short and contact.
P240D	CAN: No transfer case position signal (For 4WD only)	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check TCCU/TOD unit. • Check the related harness for open, short and contact.
P2500	Invalid transmission gear ratio	<ul style="list-style-type: none"> • Cycle the IGN switch from OFF to ON. Check A/T system again after a certain period of driving. • If the trouble still exists, replace A/T assembly. • To protect transmission, any shift is not available.
P2501	Excessive engine rpm	<ul style="list-style-type: none"> • Check CAN communication line H and L. • Check engine ECU. • Check the related harness for open, short and contact.
P2503	Faulty recognition of currently selected gear	<ul style="list-style-type: none"> • Check selector lever. • Check the related harness for open, short and contact.
P220B	Excessive N2, N3 rpm	<ul style="list-style-type: none"> • Check speed sensor N2 and N3.
P2510	Torque converter lockup clutch stuck	<ul style="list-style-type: none"> • Check the hydraulic lines for leaks (valve No.22 in valve body). • Check the resistance of lockup clutch solenoid valve (Turn the IGN OFF, then disconnect TCU connector). <ul style="list-style-type: none"> - TCU connector terminals B9 (17), B3 (18) - Specified value : 2.5 ± 0.2 W • Triggered emergency mode when the defective is detected. <ul style="list-style-type: none"> - Fixed at 2nd gear in "D" range. • Check the related harness for open, short and contact.
P2511	Faulty torque converter lockup heat control	<ul style="list-style-type: none"> • Check the hydraulic lines for leaks.
P2520	Faulty recognition of torque reduction	<ul style="list-style-type: none"> • Check ECU.
P2502	Poor gear mesh, transmission slip	<ul style="list-style-type: none"> • Check the hydraulic lines for leaks. • Check oil filter.
P2600	Too low TCU supply voltage	<ul style="list-style-type: none"> • Check TCU supply voltage.
P2601	Too high TCU supply voltage	<ul style="list-style-type: none"> • Check TCU supply voltage.
P2602	Abnormal solenoid valve supply voltage	<ul style="list-style-type: none"> • Check solenoid supply voltage.
P2603	Abnormal speed sensor supply voltage	<ul style="list-style-type: none"> • Check speed sensor supply voltage. <ul style="list-style-type: none"> - TCU connector terminals B13 (13) : 6V

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