

- The roll rate sensor measures the rate of rotation of the vehicle along the centerline of the vehicle from front to back.

Lateral acceleration has 2 forms. The first is the centrifugal acceleration that is generated when the vehicle travels around in a circle. The second is the acceleration due to gravity. On level ground there is no lateral acceleration due to gravity. However, if the vehicle is parked sideways on a bank or incline, the sensor measures some lateral acceleration due to gravity, even though the vehicle is not moving.

Stability-Traction Control Switch

The stability-traction control switch is a single-pole, momentary-contact switch and is part of a 2-switch pack containing the stability-traction control switch and the Hill Descent Control switch. The switch is wired directly to the IPC.

Wheel Speed Sensor

All 4 wheel speed sensors are active (magneto resistive) sensors that operate on the Hall-effect principle to generate a square wave signal proportional to the rotational speed of the wheel. Because these are active sensors, receiving voltage from the ABS module and sending a varying voltage back to the ABS module, they are able to detect much lower rotational speeds than passive (magnetic inductive) sensors. Each wheel speed sensor is connected to the ABS module by 2 circuits. One circuit provides voltage for sensor operation and the other circuit provides sensor input to the ABS module.

The front wheel speed sensors are integrated into the front wheel bearing and wheel hub assembly and are serviced with the bearing and hub assembly.

The rear wheel speed sensors are mounted on the axle flange at the brake dust shield and can be serviced separately.

Wheel Speed Sensor Tone Rings

The wheel speed sensor tone rings are magnetized, toothed rings used to create a Hall-effect switch when combined with the wheel speed sensor. The front wheel speed sensor tone rings are integrated into the front wheel bearing and are serviced with the front wheel bearing. The rear wheel speed sensor tone rings are pressed onto the rear wheel axle shaft and are serviced separately from the axle shaft.

DIAGNOSIS AND TESTING > ANTI-LOCK BRAKE SYSTEM (ABS) AND STABILITY CONTROL > DTC CHARTS > DTC CHART: ANTI-LOCK BRAKE SYSTEM (ABS) MODULE

Diagnostics in this article assume a certain skill level and knowledge of Ford-specific diagnostic practices. REFER to: Diagnostic Methods .

ABS Module DTC Chart

DTC	Description	Action
C0020:16	ABS Pump Motor Control: Circuit Voltage Below Threshold	GO to Pinpoint Test G
C0020:17	ABS Pump Motor Control: Circuit Voltage Above Threshold	GO to Pinpoint Test G

C0020:49	ABS Pump Motor Control: Internal Electronic Failure	GO to Pinpoint Test G
C0030:07	Left Front Tone Wheel: Mechanical Failure	GO to Pinpoint Test B
C0031:01	Left Front Wheel Speed Sensor: General Electrical Failure	GO to Pinpoint Test I
C0031:12	Left Front Wheel Speed Sensor: Circuit Short to Battery	GO to Pinpoint Test I
C0031:14	Left Front Wheel Speed Sensor: Circuit Short to Ground or Open	GO to Pinpoint Test I
C0031:24	Left Front Wheel Speed Sensor: Signal Stuck High	GO to Pinpoint Test B
C0031:25	Left Front Wheel Speed Sensor: Signal Shape / Waveform Failure	GO to Pinpoint Test B
C0031:29	Left Front Wheel Speed Sensor: Signal Invalid	GO to Pinpoint Test B
C0031:38	Left Front Wheel Speed Sensor: Signal Frequency Incorrect	GO to Pinpoint Test B
C0031:4A	Left Front Wheel Speed Sensor: Incorrect Component Installed	DIAGNOSE all other wheel speed sensor Diagnostic Trouble Codes (DTCs) before diagnosing any "Incorrect Component Installed" wheel speed sensor Diagnostic Trouble Codes (DTCs). This DTC sets when the incorrect type of wheel speed sensor has been installed. INSTALL a new wheel speed sensor. REFER to: Front Wheel Speed Sensor .
C0031:65	Left Front Wheel Speed Sensor: Has Too Few Transitions or Events	GO to Pinpoint Test B
C0031:76	Left Front Wheel Speed Sensor: Wrong Mounting Position	GO to Pinpoint Test B
C0032:11	Left Front Wheel Speed Sensor Supply: Circuit Short to Ground	GO to Pinpoint Test I
C0033:07	Right Front Tone Wheel: Mechanical Failure	GO to Pinpoint Test B
C0034:01	Right Front Wheel Speed Sensor: General Electrical Failure	GO to Pinpoint Test I
C0034:12	Right Front Wheel Speed Sensor: Circuit Short to Battery	GO to Pinpoint Test I

C0034:14	Right Front Wheel Speed Sensor: Circuit Short to Ground or Open	GO to Pinpoint Test I
C0034:24	Right Front Wheel Speed Sensor: Signal Stuck High	GO to Pinpoint Test B
C0034:25	Right Front Wheel Speed Sensor: Signal Shape / Waveform Failure	GO to Pinpoint Test B
C0034:29	Right Front Wheel Speed Sensor: Signal Invalid	GO to Pinpoint Test B
C0034:38	Right Front Wheel Speed Sensor: Signal Frequency Incorrect	GO to Pinpoint Test B
C0034:4A	Right Front Wheel Speed Sensor: Incorrect Component Installed	DIAGNOSE all other wheel speed sensor Diagnostic Trouble Codes (DTCs) before diagnosing any "Incorrect Component Installed" wheel speed sensor Diagnostic Trouble Codes (DTCs). This DTC sets when the incorrect type of wheel speed sensor has been installed. INSTALL a new wheel speed sensor. REFER to: Front Wheel Speed Sensor .
C0034:65	Right Front Wheel Speed Sensor: Signal Has Too Few Transitions / Events	GO to Pinpoint Test B
C0034:76	Right Front Wheel Speed Sensor: Wrong Mounting Position	GO to Pinpoint Test B
C0035:11	Right Front Wheel Speed Sensor Supply: Circuit Short To Ground	GO to Pinpoint Test I
C0036:07	Left Rear Tone Wheel: Mechanical Failure	GO to Pinpoint Test B
C0037:01	Left Rear Wheel Speed Sensor: General Electrical Failure	GO to Pinpoint Test J
C0037:12	Left Rear Wheel Speed Sensor: Circuit Short to Battery	GO to Pinpoint Test J
C0037:14	Left Rear Wheel Speed Sensor: Circuit Short to Ground or Open	GO to Pinpoint Test J
C0037:24	Left Rear Wheel Speed Sensor: Signal Stuck High	GO to Pinpoint Test B
C0037:25	Left Rear Wheel Speed Sensor: Signal Shape / Waveform Failure	GO to Pinpoint Test B
C0037:29	Left Rear Wheel Speed Sensor: Signal Invalid	GO to Pinpoint Test B

C0037:38	Left Rear Wheel Speed Sensor: Signal Frequency Incorrect	GO to Pinpoint Test B
C0037:4A	Left Rear Wheel Speed Sensor: Incorrect Component Installed	DIAGNOSE all other wheel speed sensor Diagnostic Trouble Codes (DTCs) before diagnosing any "Incorrect Component Installed" wheel speed sensor Diagnostic Trouble Codes (DTCs). This DTC sets when the incorrect type of wheel speed sensor has been installed. INSTALL a new wheel speed sensor. REFER to: Rear Wheel Speed Sensor .
C0037:65	Left Rear Wheel Speed Sensor: Signal Has Too Few Transitions / Events	GO to Pinpoint Test B
C0037:76	Left Rear Wheel Speed Sensor: Wrong Mounting Position	GO to Pinpoint Test B
C0038:11	Left Rear Wheel Speed Sensor Supply: Circuit Short to Ground	GO to Pinpoint Test J
C0039:07	Right Rear Tone Wheel: Mechanical Failure	GO to Pinpoint Test B
C003A:01	Right Rear Wheel Speed Sensor: General Electrical Failure	GO to Pinpoint Test J
C003A:12	Right Rear Wheel Speed Sensor: Circuit Short to Battery	GO to Pinpoint Test J
C003A:14	Right Rear Wheel Speed Sensor: Circuit Short to Ground or Open	GO to Pinpoint Test J
C003A:24	Right Rear Wheel Speed Sensor: Signal Stuck High	GO to Pinpoint Test B
C003A:25	Right Rear Wheel Speed Sensor: Signal Shape / Waveform Failure	GO to Pinpoint Test B
C003A:29	Right Rear Wheel Speed Sensor: Signal Invalid	GO to Pinpoint Test B
C003A:38	Right Rear Wheel Speed Sensor: Signal Frequency Incorrect	GO to Pinpoint Test B
C003A:4A	Right Rear Wheel Speed Sensor: Incorrect Component Installed	DIAGNOSE all other wheel speed sensor Diagnostic Trouble Codes (DTCs) before diagnosing any "Incorrect Component Installed" wheel speed sensor Diagnostic Trouble Codes (DTCs). This DTC sets when the incorrect

		type of wheel speed sensor has been installed. INSTALL a new wheel speed sensor. REFER to: Rear Wheel Speed Sensor .
C003A:65	Right Rear Wheel Speed Sensor: Signal Has Too Few Transitions / Events	GO to Pinpoint Test B
C003A:76	Right Rear Wheel Speed Sensor: Wrong Mounting Position	GO to Pinpoint Test B
C003B:11	Right Rear Wheel Speed Sensor Supply: Circuit Short to Ground	GO to Pinpoint Test J
C0040:24	Brake Pedal Switch "A": Signal Stuck High	GO to Pinpoint Test O
C0040:64	Brake Pedal Switch "A": Signal Plausibility Failure	GO to Pinpoint Test O
C0051:23	Steering Wheel Position Sensor: Signal Stuck Low	This DTC sets if the steering wheel position signal from the PSCM is unchanged for a predetermined amount of time. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all PSCM Diagnostic Trouble Codes (DTCs). If the diagnostic scan tool cannot communicate with the PSCM, REFER to: Communications Network . If there are no Diagnostic Trouble Codes (DTCs) in the PSCM, the condition may be caused by an intermittent concern. SET the ignition to OFF. DISCONNECT and INSPECT all PSCM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
C0051:27	Steering Wheel Position Sensor: Signal Rate of Change Above Threshold	This DTC sets if steering angle signal message sent from the PSCM indicates a higher rate of change than other ABS module inputs. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all PSCM Diagnostic Trouble Codes (DTCs).

		If the diagnostic scan tool cannot communicate with the PSCM, REFER to: Communications Network . If there are no Diagnostic Trouble Codes (DTCs) in the PSCM, the condition may be caused by an intermittent concern. SET the ignition to OFF. DISCONNECT and INSPECT all PSCM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
C0051:29	Steering Wheel Position Sensor: Signal Invalid	This DTC sets if the steering angle signal message does not match other ABS module inputs. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all PSCM Diagnostic Trouble Codes (DTCs). If the diagnostic scan tool cannot communicate with the PSCM, REFER to: Communications Network . If there are no Diagnostic Trouble Codes (DTCs) in the PSCM, the condition may be caused by an intermittent concern. SET the ignition to OFF. DISCONNECT and INSPECT all PSCM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
C0051:54	Steering Wheel Position Sensor: Missing Calibration	This DTC sets if the steering angle center position is not found and the speed or time limit is exceeded. This DTC clears automatically as soon as the center position is found. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all PSCM Diagnostic Trouble Codes (DTCs). If the diagnostic scan tool cannot communicate with the PSCM, REFER to: Communications Network .

		If there are no Diagnostic Trouble Codes (DTCs) in the PSCM, the condition may be caused by an intermittent concern. SET the ignition to OFF. DISCONNECT and INSPECT all PSCM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
C0051:62	Steering Wheel Position Sensor: Signal Compare Failure	This DTC sets when the ABS module detects a time-out, quality factor failure, plausibility failure of the yaw or active yaw signals or a plausibility failure of the wheel speed data. When this occurs, the steering angle center cannot be determined to be valid and the system triggers the steering angle center learning process. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all PSCM, ABS module and RCM communication (U-code) Diagnostic Trouble Codes (DTCs). REPAIR all communication Diagnostic Trouble Codes (DTCs) before repairing DTC C0051:62. REFER to: Airbag Supplemental Restraint System (SRS) . Using a diagnostic scan tool, RETRIEVE and DIAGNOSE any wheel speed sensor Diagnostic Trouble Codes (DTCs) present in the ABS module. If there are no Diagnostic Trouble Codes (DTCs) in the PSCM, ABS module or RCM, the condition may be caused by an intermittent concern. SET the ignition to OFF. DISCONNECT and INSPECT all PSCM, ABS module and RCM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
C0051:64	Steering Wheel Position Sensor: Signal Plausibility Failure	This DTC sets when the ABS module determines the PSCM

		steering angle message is implausible when compared to the steering angle module value (based on the yaw rate sensor information). This DTC also sets if the long term offset compensation monitoring is completed after more than 30 km (18 miles) of straight driving resulting in a long term filtered steering angle offset greater than 15 degrees. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all PSCM Diagnostic Trouble Codes (DTCs). If the diagnostic scan tool cannot communicate with the PSCM, REFER to: Communications Network . If there are no Diagnostic Trouble Codes (DTCs) in the PSCM, the condition may be caused by an intermittent concern. SET the ignition to OFF. DISCONNECT and INSPECT all PSCM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
C0051:86	Steering Wheel Position Sensor: Signal Invalid	This DTC sets in the ABS module when there is a time-out, quality factor failure or plausibility failure of the steering angle sensor data. When this occurs, the steering angle sensor center cannot be determined to be valid and the system triggers the relearn center process. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all PSCM Diagnostic Trouble Codes (DTCs). If the diagnostic scan tool cannot communicate with the PSCM, REFER to: Communications Network . If there are no Diagnostic Trouble Codes (DTCs) in the PSCM, the condition may be caused by an intermittent concern. SET the ignition to OFF.

		DISCONNECT and INSPECT all PSCM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
C0061:22	Lateral Acceleration Sensor: Signal Amplitude > Maximum	GO to Pinpoint Test U
C0061:28	Lateral Acceleration Sensor: Signal Bias Level Out of Range / Zero Adjustment Failure	GO to Pinpoint Test U
C0061:64	Lateral Acceleration Sensor: Signal Plausibility Failure	GO to Pinpoint Test U
C0062:02	Longitudinal Acceleration Sensor: General Signal Failure	GO to Pinpoint Test U
C0062:22	Longitudinal Acceleration Sensor: Signal Amplitude > Maximum	GO to Pinpoint Test U
C0062:28	Longitudinal Acceleration Sensor: Signal Bias Level Out of Range / Zero Adjustment Failure	GO to Pinpoint Test U
C0062:2A	Longitudinal Acceleration Sensor: Signal Stuck In Range	GO to Pinpoint Test U
C0062:64	Longitudinal Acceleration Sensor: Signal Plausibility Failure	GO to Pinpoint Test U
C0062:67	Longitudinal Acceleration Sensor: Signal Incorrect After Event	GO to Pinpoint Test U
C0063:22	Yaw Rate Sensor: Signal Amplitude > Maximum	GO to Pinpoint Test U
C0063:27	Yaw Rate Sensor: Signal Rate of Change Above Threshold	GO to Pinpoint Test U
C0063:28	Yaw Rate Sensor: Signal Bias Level Out of Range / Zero Adjustment Failure	GO to Pinpoint Test U
C0063:62	Yaw Rate Sensor: Signal Compare Failure	GO to Pinpoint Test U
C0063:64	Yaw Rate Sensor: Signal Plausibility Failure	GO to Pinpoint Test U
C0064:96	Roll Rate Sensor: Component Internal Failure	GO to Pinpoint Test U
C006B:00	Stability System Active Too Long: No Sub Type Information	GO to Pinpoint Test B

C0089:73	TCS Disable Switch: Actuator Stuck Closed	GO to Pinpoint Test K
C1020:00	Brake System Fill Not Complete: No Sub Type Information	This DTC is pre-set in a new ABS module and can only be cleared after PMI has been successfully preformed. REPEAT the PMI procedure as directed by the diagnostic scan tool. If the DTC is still present after the second PMI procedure, INSTALL a new ABS module and HCU assembly. FOLLOW all instructions in the removal and installation procedure. REFER to: Hydraulic Control Unit (HCU) .
C101A:15	Vacuum Pressure Sensor: Circuit Short To Battery or Open	GO to Pinpoint Test P
C101A:16	Vacuum Pressure Sensor: Circuit Voltage Below Threshold	GO to Pinpoint Test P
C101A:1C	Vacuum Pressure Sensor: Circuit Voltage Out of Range	GO to Pinpoint Test C
C101A:29	Vacuum Pressure Sensor: Signal Invalid	GO to Pinpoint Test P
C101F:4B	Generic Valve failure: Over Temperature	This DTC sets in continuous memory if the ABS module plausibility monitor of the hydraulic valves in the HCU determines degraded valve performance due to operating temperatures greater than 195 °C (383 °F). This is most likely due to extended ABS usage (Hill Descent Control™, traction control, ESC or RSC) without allowing sufficient time for the system and components to cool. SET the ignition to OFF and ALLOW the vehicle to cool for at least 30 minutes.
C1A76:49	Valve Relay: Internal Electronic Failure	This DTC is set when the valve relay circuit feedback does not match the commanded state. Using a diagnostic scan tool, CLEAR the ABS module Diagnostic Trouble Codes (DTCs). CYCLE the ignition from ON to OFF and back to ON. Using a diagnostic scan tool,

		RETRIEVE and RECORD all ABS module Diagnostic Trouble Codes (DTCs). If C1A76:49 returns, INSTALL a new ABS module. REFER to: Anti-Lock Brake System (ABS) Module .
C1A77:11	Valve Relay Supply Circuit: Circuit Short To Ground	This DTC is set when the monitoring detects UVR voltage compared to the UBVR voltage indicates the valve relay has a high impedance short to ground. Using a diagnostic scan tool, CLEAR the ABS module Diagnostic Trouble Codes (DTCs). CYCLE the ignition from ON to OFF and back to ON. Using a diagnostic scan tool, RETRIEVE and RECORD all ABS module Diagnostic Trouble Codes (DTCs). If C1A76:49 returns, INSTALL a new ABS module. REFER to: Anti-Lock Brake System (ABS) Module .
C1A95:02	Wheel Speed Sensor: General Signal Failure	GO to Pinpoint Test B
C1A95:2F	Wheel Speed Sensor: Signal Erratic	GO to Pinpoint Test B
C1A95:4A	Wheel Speed Sensor: Incorrect Component Installed	COMPARE the part numbers of the installed wheel speed sensors to the part numbers in the parts catalog or equivalent. INSTALL new wheel speed sensor as necessary. REFER to: Front Wheel Speed Sensor . REFER to: Rear Wheel Speed Sensor .
C1A95:62	Wheel Speed Sensor: Signal Compare Failure	GO to Pinpoint Test B
C1A95:64	Wheel Speed Sensor: Signal Plausibility Failure	GO to Pinpoint Test B
C1A99:01	Pressure Sensor: General Electrical Failure	This DTC indicates the brake fluid line hydraulic pressure sensor signal line located inside the ABS module has failed. CLEAR the DTC. CYCLE the ignition from ON to OFF and back to ON. REPEAT the ABS module self-test. If the DTC returns, INSTALL a new

		ABS module and HCU assembly. REFER to: Hydraulic Control Unit (HCU) .
C1A99:28	Pressure Sensor: Signal Bias Level Out of Range / Zero Adjustment Failure	This DTC indicates the brake fluid line hydraulic pressure sensor located inside the ABS module has failed. CLEAR the DTC. CYCLE the ignition from ON to OFF and back to ON. REPEAT the ABS module self-test. If the DTC returns, INSTALL a new ABS module and HCU assembly. REFER to: Hydraulic Control Unit (HCU) .
P050F:00	Brake Assist Vacuum Too Low: No Sub Type Information	GO to Pinpoint Test V
P0604:94	Internal Control Module Random Access Memory (RAM) Error: Unexpected Operation	CLEAR the DTC. CYCLE the ignition switch. REPEAT the ABS module self-test. If the DTC is retrieved again, INSTALL a new ABS module. REFER to: Anti-Lock Brake System (ABS) Module .
P062F:46	Internal Control Module EEPROM Error: Calibration / Parameter Memory Failure	CLEAR the DTC. CYCLE the ignition switch. REPEAT the ABS module self-test. If the DTC is retrieved again, INSTALL a new ABS module. REFER to: Anti-Lock Brake System (ABS) Module .
U0073:88	Control Module Communication Bus "A" Off: Bus Off	The module could not communicate on the network at a point in time. The fault is not currently present since the module is able to communicate with the diagnostic scan tool to report this DTC. VERIFY the integrity of the connectors and wiring. Refer to Module Communications Network for schematic and connector information.
U0100:00	Lost Communication With ECM/PCM "A": No Sub Type Information	GO to Pinpoint Test H
U0102:00	Lost Communication With Transfer Case Control Module: No Sub Type Information	GO to Pinpoint Test L

U0104:00	Lost Communication With Cruise Control Module: No Sub Type Information	GO to Pinpoint Test M
U0128:00	Lost Communication With Park Brake Control Module: No Sub Type Information	GO to Pinpoint Test N
U0131:00	Lost Communication With Power Steering Control Module: No Sub Type Information	GO to Pinpoint Test Q
U0140:00	Lost Communication With Body Control Module: No Sub Type Information	GO to Pinpoint Test D
U0151:00	Lost Communication With Restraints Control Module: No Sub Type Information	GO to Pinpoint Test F
U0155:00	Lost Communication With Instrument Panel Cluster (IPC) Control Module: No Sub Type Information	GO to Pinpoint Test R
U0401:00	Invalid Data Received From ECM/PCM "A": No Sub Type Information	This DTC sets in continuous memory if the brake pedal position message, driven wheel torque message or the accelerator pedal position message from the PCM (sent through the GWM) contains invalid information. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all PCM and GWM Diagnostic Trouble Codes (DTCs). REFER to: Communications Network . 2.7L EcoBoost REFER to: ELECTRONIC ENGINE CONTROLS . 3.5L Duratec REFER to: ELECTRONIC ENGINE CONTROLS . 3.5L EcoBoost REFER to: ELECTRONIC ENGINE CONTROLS . 5.0L 32V Ti-VCT REFER to: ELECTRONIC ENGINE CONTROLS . If the diagnostic scan tool cannot communicate with the PCM or GWM, REFER to: Communications Network . If there are no Diagnostic Trouble Codes (DTCs) in the PCM or GWM, the condition may be caused by an intermittent concern. SET the ignition to OFF.

		DISCONNECT and INSPECT all PCM and GWM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
U0401:02	Invalid Data Received From ECM/PCM "A": General Signal Failure	This DTC sets if the brake pedal position message, driven wheel torque message or the accelerator pedal position message from the PCM (sent through the GWM) contains invalid information during an auto stop-start event. DTC U3013:16 is also set when U0401:02 sets. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all PCM and GWM Diagnostic Trouble Codes (DTCs). REFER to: Communications Network . 2.7L EcoBoost REFER to: ELECTRONIC ENGINE CONTROLS . 3.5L Duratec REFER to: ELECTRONIC ENGINE CONTROLS . 3.5L EcoBoost REFER to: ELECTRONIC ENGINE CONTROLS . 5.0L 32V Ti-VCT REFER to: ELECTRONIC ENGINE CONTROLS . If the diagnostic scan tool cannot communicate with the PCM or GWM, REFER to: Communications Network . If there are no Diagnostic Trouble Codes (DTCs) in the PCM or GWM, the condition may have been caused by a low voltage condition during the auto stop-start event.
U0401:86	Invalid Data Received From ECM/PCM "A": Signal Invalid	GO to Pinpoint Test S
U0403:00	Invalid Data Received From Transfer Case Control Module: No Sub Type Information	This DTC sets if the AWD locking torque request message or the rear differential locking torque message from the TCCM contains "fault" instead of the actual information. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all TCCM Diagnostic Trouble Codes (DTCs). REFER to: Four-Wheel

		Drive Systems - Vehicles With: 2-Speed Torque On Demand Transfer Case . REFER to: Four-Wheel Drive Systems - Vehicles With: Electronic Shift Transfer Case . If the diagnostic scan tool cannot communicate with the TCCM, REFER to: Communications Network . If there are no Diagnostic Trouble Codes (DTCs) in the TCCM, the condition may be caused by an intermittent concern. SET the ignition to OFF. DISCONNECT and INSPECT all TCCM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
U0405:82	Invalid Data Received From Cruise Control Module: Alive / Sequence Counter Incorrect / Not Updated	This DTC sets if the counter signal value in the adaptive cruise control message does not increase. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all CCM Diagnostic Trouble Codes (DTCs). REFER to: Cruise Control . If the diagnostic scan tool cannot communicate with the CCM, REFER to: Communications Network . If there are no Diagnostic Trouble Codes (DTCs) in the CCM, the condition may be caused by an intermittent concern. SET the ignition to OFF. DISCONNECT and INSPECT all CCM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
U0405:83	Invalid Data Received From Cruise Control Module: Value of Signal Protection Calculation Incorrect	This DTC sets if an invalid checksum value is received in the adaptive cruise control message. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all CCM Diagnostic Trouble Codes (DTCs). REFER to: Cruise Control . If the diagnostic scan tool cannot

		communicate with the CCM, REFER to: Communications Network . If there are no Diagnostic Trouble Codes (DTCs) in the CCM, the condition may be caused by an intermittent concern. SET the ignition to OFF. DISCONNECT and INSPECT all CCM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
U0420:00	Invalid Data Received From Power Steering Control Module: No Sub Type Information	This DTC sets if the ABS module receives invalid data values in the steering wheel data messages. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all PSCM Diagnostic Trouble Codes (DTCs). If the diagnostic scan tool cannot communicate with the PSCM, REFER to: Communications Network . If there are no DTCs in the PSCM, the condition may be caused by an intermittent concern. SET the ignition to OFF. DISCONNECT and INSPECT all PSCM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
U0420:82	Invalid Data Received From Power Steering Control Module: Alive / Sequence Counter Incorrect / Not Updated	This DTC sets if the information in the steering wheel data message from the PSCM does not change for a predetermined amount of time. This DTC clears automatically in the same ignition cycle it was set once valid data has been received. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all PSCM Diagnostic Trouble Codes (DTCs). If the diagnostic scan tool cannot communicate with the PSCM, REFER to: Communications Network . If there are no DTCs in the PSCM,

		the condition may be caused by an intermittent concern. SET the ignition to OFF. DISCONNECT and INSPECT all PSCM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
U0420:83	Invalid Data Received From Power Steering Control Module: Value of Signal Protection Calculation Incorrect	This DTC sets if the checksum data in the steering wheel data message from the PSCM is incorrect. This DTC clears automatically in the same ignition cycle it was set after receiving 5 seconds of valid data. If the DTC is set a second time, it does not clear in the same ignition cycle. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all PSCM Diagnostic Trouble Codes (DTCs). If the diagnostic scan tool cannot communicate with the PSCM, REFER to: Communications Network . If there are no DTCs in the PSCM, the condition may be caused by an intermittent concern. SET the ignition to OFF. DISCONNECT and INSPECT all PSCM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
U0422:00	Invalid Data Received From Body Control Module: No Sub Type Information	This DTC sets if the ignition signal status message is invalid for 5 seconds. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all BCM Diagnostic Trouble Codes (DTCs). REFER to: Body Control Module (BCM) . If the diagnostic scan tool cannot communicate with the BCM, REFER to: Communications Network . If there are no Diagnostic Trouble Codes (DTCs) in the BCM, the condition may be caused by an

		intermittent concern. SET the ignition to OFF. DISCONNECT and INSPECT all BCM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
U0452:00	Invalid Data Received From Restraints Control Module: No Sub Type Information	This DTC sets if the yaw rate, roll rate, longitudinal acceleration or lateral acceleration messages from the RCM are invalid. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all RCM Diagnostic Trouble Codes (DTCs). REFER to: Airbag Supplemental Restraint System (SRS) . If the diagnostic scan tool cannot communicate with the RCM, REFER to: Communications Network . If there are no Diagnostic Trouble Codes (DTCs) in the RCM, the condition may be caused by an intermittent concern. SET the ignition to OFF and WAIT 1 minute. DISCONNECT and INSPECT all RCM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
U0452:02	Invalid Data Received From Restraints Control Module: General Signal Failure	This DTC sets if the yaw rate, roll rate, longitudinal acceleration or lateral acceleration messages from the RCM are invalid during an auto stop-start event. DTC U3013:16 is also set when U0452:02 sets. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all RCM Diagnostic Trouble Codes (DTCs). REFER to: Airbag Supplemental Restraint System (SRS) . If the diagnostic scan tool cannot communicate with the RCM, REFER to: Communications Network . If there are no Diagnostic Trouble Codes (DTCs) in the RCM, the

		condition may be caused by an intermittent concern. SET the ignition to OFF and WAIT 1 minute. DISCONNECT and INSPECT all RCM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
U0452:81	Invalid Data Received From Restraints Control Module: Invalid Serial Data Received	This DTC sets if the yaw rate, roll rate, longitudinal acceleration or lateral acceleration messages from the RCM are not received. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all RCM Diagnostic Trouble Codes (DTCs). REFER to: Airbag Supplemental Restraint System (SRS) . If the diagnostic scan tool cannot communicate with the RCM, REFER to: Communications Network . If there are no Diagnostic Trouble Codes (DTCs) in the RCM, the condition may be caused by an intermittent concern. SET the ignition to OFF and WAIT 1 minute. DISCONNECT and INSPECT all RCM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
U0452:82	Invalid Data Received From Restraints Control Module: Alive / Sequence Counter Incorrect / Not Updated	This DTC sets if the yaw rate, roll rate, longitudinal acceleration or lateral acceleration counter signal message from the RCM does not update. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all RCM Diagnostic Trouble Codes (DTCs). REFER to: Airbag Supplemental Restraint System (SRS) . If the diagnostic scan tool cannot communicate with the RCM, REFER to: Communications Network . If there are no Diagnostic Trouble Codes (DTCs) in the RCM, the

		condition may be caused by an intermittent concern. SET the ignition to OFF and WAIT 1 minute. DISCONNECT and INSPECT all RCM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
U0452:83	Invalid Data Received From Restraints Control Module: Value of Signal Protection Calculation Incorrect	This DTC sets if the yaw rate, roll rate, longitudinal acceleration or lateral acceleration counter signal message from the RCM is invalid. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all RCM Diagnostic Trouble Codes (DTCs). REFER to: Airbag Supplemental Restraint System (SRS) . If the diagnostic scan tool cannot communicate with the RCM, REFER to: Communications Network . If there are no Diagnostic Trouble Codes (DTCs) in the RCM, the condition may be caused by an intermittent concern. SET the ignition to OFF and WAIT 1 minute. DISCONNECT and INSPECT all RCM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
U0452:92	Invalid Data Received From Restraints Control Module: Performance or Incorrect Operation	This DTC sets if the yaw rate, roll rate, longitudinal acceleration or lateral acceleration messages from the RCM are not within the specified data range for at least 200 milliseconds. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all RCM Diagnostic Trouble Codes (DTCs). REFER to: Airbag Supplemental Restraint System (SRS) . If the diagnostic scan tool cannot communicate with the RCM, REFER to: Communications Network . If there are no Diagnostic Trouble

		Codes (DTCs) in the RCM, the condition may be caused by an intermittent concern. SET the ignition to OFF and WAIT 1 minute. DISCONNECT and INSPECT all RCM electrical connectors and related in-line connectors for corrosion, bent pins, pushed-out pins and spread terminals. REPAIR as necessary.
U2007:49	Valve(s): Internal Electronic Failure	This DTC sets due to an electrical failure (open circuit, short to ground, short to voltage) in one or more of the ABS module valve coils. CLEAR the DTC and REPEAT the self-test. If the DTC returns, INSTALL a new ABS module. REFER to: Anti-Lock Brake System (ABS) Module .
U2100:00	Initial Configuration Not Complete: No Sub Type Information	This DTC is pre-set in a new ABS module and clears automatically when the ABS module is configured correctly. CHECK the service history for recent service actions related to the clears module. This DTC sets due to incomplete or improper PMI procedures. If there have been recent service actions with the ABS module, REPEAT the PMI procedure as directed by the diagnostic scan tool. If there have been no recent service actions, INSTALL a new ABS module to correct the failure to retain the configuration data. REFER to: Anti-Lock Brake System (ABS) Module .
U2101:00	Control Module Configuration Incompatible: No Sub Type Information	This DTC sets due to incomplete or improper flash programming procedures. REPEAT the programming procedure as directed by the diagnostic scan tool.
U2107:00	Collision Mitigation By Braking: No Sub Type Information	This DTC sets when the collision deceleration message from the CCM is sent too often or the duration of the message is too long. This is most likely caused by a

		network communication concern or an internal failure of the CCM. Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all CCM Diagnostic Trouble Codes (DTCs). REFER to: Cruise Control .
U2108:62	Adaptive Cruise Control: Signal Compare Failure	This DTC sets when the actual vehicle deceleration monitored by the module exceeds the CCM deceleration maximum request limit by 1.0 m/s (2) . Using a diagnostic scan tool, RETRIEVE and DIAGNOSE all CCM Diagnostic Trouble Codes (DTCs). REFER to: Cruise Control .
U2200:00	Control Module Configuration Memory Corrupt: No Sub Type Information	CHECK the service history for recent service actions related to the clears module. This DTC sets due to incomplete or improper PMI procedures. If there have been recent service actions with the ABS module, REPEAT the PMI procedure as directed by the diagnostic scan tool. If there have been no recent service actions, INSTALL a new ABS module to correct the failure to retain the configuration data. REFER to: Anti-Lock Brake System (ABS) Module .
U3000:44	Control Module: Data Memory Failure	CLEAR the Diagnostic Trouble Codes (DTCs). CYCLE the ignition. CARRY OUT the ABS module self-test. RETRIEVE and RECORD all Diagnostic Trouble Codes (DTCs). If the DTC returns INSTALL a new ABS module. REFER to: Anti-Lock Brake System (ABS) Module .
U3000:45	Control Module: Program Memory Failure	CLEAR the Diagnostic Trouble Codes (DTCs). CYCLE the ignition. CARRY OUT the ABS module self-test. RETRIEVE and RECORD all Diagnostic Trouble Codes (DTCs). If the DTC returns INSTALL a new ABS module. REFER to: Anti-Lock Brake System (ABS) Module .

U3000:46	Control Module: Calibration / Parameter Memory Failure	CLEAR the Diagnostic Trouble Codes (DTCs). CYCLE the ignition. CARRY OUT the ABS module self-test. RETRIEVE and RECORD all Diagnostic Trouble Codes (DTCs). If the DTC returns INSTALL a new ABS module. REFER to: Anti-Lock Brake System (ABS) Module .
U3000:47	Control Module: Watchdog / Safety ?C FOOTNOTE (a) Failure	CLEAR the Diagnostic Trouble Codes (DTCs). CYCLE the ignition. CARRY OUT the ABS module self-test. RETRIEVE and RECORD all Diagnostic Trouble Codes (DTCs). If the DTC returns INSTALL a new ABS module. REFER to: Anti-Lock Brake System (ABS) Module .
U3000:48	Control Module: Supervisor Software Failure	CLEAR the Diagnostic Trouble Codes (DTCs). CYCLE the ignition. CARRY OUT the ABS module self-test. RETRIEVE and RECORD all Diagnostic Trouble Codes (DTCs). If the DTC returns INSTALL a new ABS module. REFER to: Anti-Lock Brake System (ABS) Module .
U3000:49	Control Module: Internal Electronic Failure	CLEAR the Diagnostic Trouble Codes (DTCs). CYCLE the ignition. CARRY OUT the ABS module self-test. RETRIEVE and RECORD all Diagnostic Trouble Codes (DTCs). If the DTC returns INSTALL a new ABS module. REFER to: Anti-Lock Brake System (ABS) Module .
U3000:4B	Control Module: Over Temperature	This DTC sets due to excessive temperatures in the ABS module. Allow the vehicle to cool down for at least 30 minutes.
U3002:62	Vehicle Identification Number: Signal Compare Failure	GO to Pinpoint Test T
U3003:16	Battery Voltage: Circuit Voltage Below Threshold	GO to Pinpoint Test A
U3003:17	Battery Voltage: Circuit Voltage Above Threshold	GO to Pinpoint Test E