SERVICE MANUAL SECTION

Aware Vehicle Intelligence System Diagnostic Trouble Codes

S08312

06/17/2005

Table of Contents

1. DIAGNOSTIC TROUBLE CODE (DTC) LIST

Table 1 Aware DTC's

SPN	FMI	Message	Comment	Probable Cause
168	2	Battery Potential - Data erratic, intermittent or incorrect	Black connector, Pin 1	While ignition is on, if voltage level differs from the Engine broadcasted level by more than 2 volts for more than 1 minute, this fault will be active.
168	3	Battery Potential - Voltage above normal or shorted high	Black connector, Pin 1	Voltage level is above 18 volts for more than 1 minute, this fault will be active.
168	4	Battery Potential - Voltage below normal or shorted low	Black connector, Pin 1	Voltage level is below 9 volts for more than 1 minute, this fault will be active.
158	4	Ignition - Switched Battery Potential Voltage	Black connector, Pin 3	With the engine running, no ignition voltage is present for more than 1 minute, this fault will be active.
444	2	Battery Backup Potential Voltage - Data erratic, intermittent or incorrect	Black connector, Pin 2	If Battery Backup is available, if voltage level differs from the Engine broadcasted level by more than 2 volts for more than 1 minute, this fault will be active.
444	3	Battery Backup Potential Voltage - Voltage above normal or shorted high	Black connector, Pin 2	If Battery Backup is available and the voltage level is above 18 volts for more than 1 minute, this fault will be active.
444	4	Battery Backup Potential Voltage - Voltage below normal or shorted low	Black connector, Pin 2	If Battery Backup is available and the voltage level is below 9 volts for more than 1 minute, this fault will be active.
1079	0	Vref Sensor Supply voltage - Data valid but above normal operational range	Black connector, Pin 4	If Vref voltage is above 5.1 but below 7 volts for more than 1 second while the output is on, this fault will be active.
1079	1	Vref Sensor Supply voltage - Data valid but below normal operational range	Black connector, Pin 4	If Vref voltage is above 0.5 but below 4.8 volts for more than 1 second while the output is on, this fault will be active.
1079	3	Vref Sendor Supply voltage - Voltage above normal or shorted high	Black connector, Pin 4	Voltage level is above 7 volts for more than 1 second while the output is on, this fault will be active.

Table 1 Aware DTC's (cont.)

SPN	FMI	Message	Comment	Probable Cause
1079	4	Vref Sendor Supply voltage - Voltage below normal or shorted low	Black connector, Pin 4	Voltage level is below or equal to 0.5 volts for more than 1 second while the output is on, this fault will be active.
701	2	Analog Input 1 - DIGITAL MODE ONLY; Data erratic, intermittent or incorrect	Grey connector, Pin 9	In Digital Mode only; If the voltage level of the Analog Mode 1 parameter is greater than 30 percent but less than 70 percent for more than 1 second, this fault will be active. Ex. Analog 1 Mode is set to VREF biased which is 5 volts; 30 percent would be 1.5 volts and 70 percent would be 3.5 volts. If the value is greater than 1.5 volts but less than 3.5 volts, this fault will be active.
701	3	Analog Input 1 - Voltage above normal or shorted high	Grey connector, Pin 9	If the voltage level is greater than the Analog 1 - Short to Battery parameter for more than the time specified in Analog 1 - Short to Battery Timeout, this fault will be active.
701	4	Analog Input 1 - Voltage below normal or shorted low	Grey connector, Pin 9	If the voltage level is less than the Analog 1 - Short to Ground parameter for more than the time specified in Analog 1 - Short to Ground Timeout, this fault will be active.
701	13	Analog Input 1 - Out of Calibration	Grey connector, Pin 9	If the Analog 1 - X Values in the 5-point curve are not in ascending order, this fault will be active.
702	2	Analog Input 2 - DIGITAL MODE ONLY; Data erratic, intermittent or incorrect	Grey connector, Pin 4	In Digital Mode only; If the voltage level of the Analog Mode 2 parameter is greater than 30 percent but less than 70 percent for more than 1 second, this fault will be active. Ex. Analog 2 Mode is set to VREF biased which is 5 volts; 30 percent would be 1.5 volts and 70 percent would be 3.5 volts. If the value is greater than 1.5 volts but less than 3.5 volts, this fault will be active.

Table 1 Aware DTC's (cont.)

SPN	FMI	Message	Comment	Probable Cause
702	3	Analog Input 2 - Voltage above normal or shorted high	Grey connector, Pin 4	If the voltage level is greater than the Analog 2 - Short to Battery parameter for more than the time specified in Analog 2 - Short to Battery Timeout, this fault will be active.
702	4	Analog Input 2 - Voltage below normal or shorted low	Grey connector, Pin 4	If the voltage level is less than the Analog 2 - Short to Ground parameter for more than the time specified in Analog 2 - Short to Ground Timeout, this fault will be active.
702	13	Analog Input 2 - Out of Calibration	Grey connector, Pin 4	If the Analog 2 - X Values in the 5-point curve are not in ascending order, this fault will be active.
703	2	Analog Input 3 - Data erratic, intermittent or incorrect	Grey connector, Pin 8	In Digital Mode only; If the voltage level of the Analog Mode 3 parameter is greater than 30 percent but less than 70 percent for more than 1 second, this fault will be active. Ex. Analog 3 Mode is set to VREF biased which is 5 volts; 30 percent would be 1.5 volts and 70 percent would be 3.5 volts. If the value is greater than 1.5 volts but less than 3.5 volts, this fault will be active.
703	3	Analog Input 3 - Voltage above normal or shorted high	Grey connector, Pin 8	If the voltage level is greater than the Analog 3 - Short to Battery parameter for more than the time specified in Analog 3 - Short to Battery Timeout, this fault will be active.
703	4	Analog Input 3 - DIGITAL MODE ONLY; Voltage below normal or shorted low	Grey connector, Pin 8	If the voltage level is less than the Analog 3 - Short to Ground parameter for more than the time specified in Analog 3 - Short to Ground Timeout, this fault will be active.
703	13	Analog Input 3 - Out of Calibration	Grey connector, Pin 8	If the Analog 3 - X Values in the 5-point curve are not in ascending order, this fault will be active.

Table 1 Aware DTC's (cont.)

SPN	FMI	Message	Comment	Probable Cause
704	2	Analog Input 4 - DIGITAL MODE ONLY; Data erratic, intermittent or incorrect	Grey connector, Pin 5	In Digital Mode only; If the voltage level of the Analog Mode 4 parameter is greater than 30 percent but less than 70 percent for more than 1 second, this fault will be active. Ex. Analog 4 Mode is set to VREF biased which is 5 volts; 30 percent would be 1.5 volts and 70 percent would be 3.5 volts. If the value is greater than 1.5 volts but less than 3.5 volts, this fault will be active.
704	3	Analog Input 4 - Voltage above normal or shorted high	Grey connector, Pin 5	If the voltage level is greater than the Analog 4 - Short to Battery parameter for more than the time specified in Analog 4 - Short to Battery Timeout, this fault will be active.
704	4	Analog Input 4 - Voltage below normal or shorted low	Grey connector, Pin 5	If the voltage level is less than the Analog 4 - Short to Ground parameter for more than the time specified in Analog 4 - Short to Ground Timeout, this fault will be active.
704	13	Analog Input 4 - Out of Calibration	Grey connector, Pin 5	If the Analog 4- X Values in the 5-point curve are not in ascending order, this fault will be active.
705	2	Analog Input 5 - DIGITAL MODE ONLY; Data erratic, intermittent or incorrect	Grey connector, Pin 7	In Digital Mode only; If the voltage level of the Analog Mode 5 parameter is greater than 30 percent but less than 70 percent for more than 1 second, this fault will be active. Ex. Analog 5 Mode is set to VREF biased which is 5 volts; 30 percent would be 1.5 volts and 70 percent would be 3.5 volts. If the value is greater than 1.5 volts but less than 3.5 volts, this fault will be active.
705	3	Analog Input 5 - Voltage above normal or shorted high	Grey connector, Pin 7	If the voltage level is greater than the Analog 5 - Short to Battery parameter for more than the time specified in Analog 5 - Short to Battery Timeout, this fault will be active.

Table 1 Aware DTC's (cont.)

SPN	FMI	Message	Comment	Probable Cause
705	4	Analog Input 5 - Voltage below normal or shorted low	Grey connector, Pin 7	If the voltage level is less than the Analog 5 - Short to Ground parameter for more than the time specified in Analog 5 - Short to Ground Timeout, this fault will be active.
705	13	Analog Input 5 - Out of Calibration	Grey connector, Pin 7	If the Analog 5 - X Values in the 5-point curve are not in ascending order, this fault will be active.
706	2	Analog Input 6 - DIGITAL MODE ONLY; Data erratic, intermittent or incorrect	Grey connector, Pin 6	In Digital Mode only; If the voltage level of the Analog Mode 6 parameter is greater than 30 percent but less than 70 percent for more than 1 second, this fault will be active. Ex. Analog 6 Mode is set to VREF biased which is 5 volts; 30 percent would be 1.5 volts and 70 percent would be 3.5 volts. If the value is greater than 1.5 volts but less than 3.5 volts, this fault will be active.
706	3	Analog Input 6 - Voltage above normal or shorted high	Grey connector, Pin 6	If the voltage level is greater than the Analog 6 - Short to Battery parameter for more than the time specified in Analog 6 - Short to Battery Timeout, this fault will be active.
706	4	Analog Input 6 - Voltage below normal or shorted low	Grey connector, Pin 6	If the voltage level is less than the Analog 6 - Short to Ground parameter for more than the time specified in Analog 6 - Short to Ground Timeout, this fault will be active.
706	13	Analog Input 6 - Out of Calibration	Grey connector, Pin 6	If the Analog 6 - X Values in the 5-point curve are not in ascending order, this fault will be active.
639	2	CAN1 J1939 Network 1 - Data erratic, intermittent or incorrect	Black connector, Pins 9, 10	No datalink messages are received for more than 5 seconds while ignition is on and communication with the datalink is enabled, this fault will be active.
608	2	J1587/1708 Datalink - Data erratic, intermittent or incorrect	Grey connector, Pins 1, 2	No datalink messages are received for more than 5 seconds while ignition is on and communication with the datalink is enabled, this fault will be active.

Table 1 Aware DTC's (cont.)

SPN	FMI	Message	Comment	Probable Cause
841	2	GPS Module - Data erratic, intermittent or incorrect	GPS Antenna	No GPS satellite signal is received for more than 5 minutes and no other fault is active for the GPS module, this fault will be active.
841	12	GPS Module - Bad intelligent device or component		No communication with the device, or the device indicates a failure to the microprocessor, this fault will be active.
251	12	RTC Module - Bad intelligent device or component		The microprocessor is unable to communicate with the RTC, or the RTC time has exceeded the UTC accuracy limit of more than 3 times in a day, this fault will be active.
251	13	RTC Module - Out of calibration		The RTC time is out-of-date by more than 10 minutes, this fault will be active.
2850	5	1xRTT or AMPS Antenna - Current below normal or open cricuit	Cellular Antenna	The tranceiver is on and the cellular antenna is disconnected for more than 5 seconds, this fault will be active.
96	3	Fuel level sender voltage above normal or shorted high	May be J1587/1708 message or a hardwired analog input pin	Fuel level sender value is greater than 100 percent for more than 5 seconds, this fault will be active.
96	4	Fuel level sender voltage below normal or shorted low	May be J1587/1708 message or a hardwired analog input pin	Fuel level sender value is less than 0 percent for more than 5 seconds, this fault will be active.
701	13	Accessory Equipment Input #1 Out of Calibration	Grey connector, Pin 9	The voltage thresholds for the operating range must be in ascending order or this fault will be active.
702	13	Accessory Equipment Input #2 Out of Calibration	Grey connector, Pin 4	The voltage thresholds for the operating range must be in ascending order or this fault will be active.

Table 1 Aware DTC's (cont.)

SPN	FMI	Message	Comment	Probable Cause
703	13	Accessory Equipment Input #3 Out of Calibration	Grey connector, Pin 8	The voltage thresholds for the operating range must be in ascending order or this fault will be active.
704	13	Accessory Equipment Input #4 Out of Calibration	Grey connector, Pin 5	The voltage thresholds for the operating range must be in ascending order or this fault will be active.