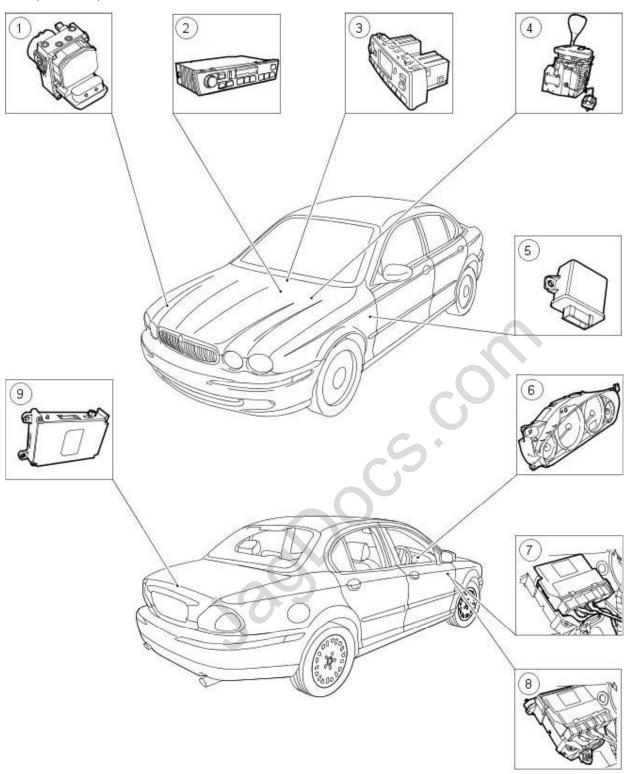
# Published: 11-May-2011

# **Module Communications Network - Communications Network**Description and Operation



## VUJ0004096

Item	Part Number	Description
1	_	Anti-lock brake control module
2	_	In car entertainment (ICE) module
3	_	Dual automatic temperature control (DATC)
4	_	J Gate module (JGM)
5	_	High intensity dipped (HID) headlight module
6	_	Instrument cluster (message center optional)
7	_	Generic electronic module (GEM)
8	_	Engine control module (ECM)
9	_	Voice activated control module (VACM)

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# Module Communications Network - Communications NetworkVIN Range: E96603->J28492

Diagnosis and Testing

### **Principles of Operation**

The vehicle has four module communication networks. Only three of which are connected to the diagnostic connector. The **standard corporate protocol (SCP)** and **controller area network (CAN)**, which are an unshielded twisted pair cable: data bus + and data bus - and the **International Standard Organization (ISO)** 9141 communication network, which is a single wire network.

The **domestic data bus (D2B)**, which is a fibre optic ring network, can be diagnosed through the SCP network, and with the optical bus tester.

The SCP, CAN and ISO networks can be connected to the Jaguar approved diagnostic system by one diagnostic connector. This makes troubleshooting these systems easier by allowing one smart tester to be able to diagnose any module on the three networks from one connector. On-board diagnosis of the D2B network is through the in car entertainment (ICE) head.

The diagnostic connector is located under the instrument panel.

The ISO 9141 communications network does not permit inter-module communications. When the Jaguar approved diagnostic system communicates with modules on the ISO 9141 communication network, the diagnostic system must ask for all information, the modules will not initiate communications

The SCP communication network remains operational even with severing of one of the bus wires. Communications will also continue if one of the bus wires is shorted to ground or battery positive voltage (B+), or if some (but not all) termination resistors are lost.

Unlike the SCP communication network, the ISO 9141 communication network will not function if the wire is shorted to ground or battery positive voltage (B+). Also, if one of the modules on the ISO 9141 network loses power or shorts internally, communication to that module will fail.

The anti-lock brake control module is connected to the CAN communication network. The module comes in two forms. The first type is the standard equipped anti-lock brake system (ABS) with traction control. It controls the brake pressure to the four wheels to keep the vehicle under control while braking. The second type of ABS is optional and is called dynamic stability control (DSC). This module adds yaw and steering wheel angle sensors to the package to help in sensing a loss of vehicle control. For additional information, REFER to: <a href="https://documer.com/Anti-Lock Control">Anti-Lock Control</a> - Stability Assist (206-09 Anti-Lock Control - Stability Assist, Description and Operation).

The in car entertainment (ICE) head is connected to the SCP communication network and also to the D2B network. The D2B communicates with the compact disc player, cellular phone transceiver, navigation system, amplifier, and the voice control module. For additional information on the compact disc,

REFER to: Audio System (415-00 Information and Entertainment System - General Information, Diagnosis and Testing).

For additional information on the cellular phone,

REFER to: Cellular Phone (419-08 Cellular Phone, Diagnosis and Testing).

For additional information on the navigation system,

REFER to: Navigation System (419-07 Navigation System, Diagnosis and Testing).

For additional information on the amplifier,

REFER to: Audio System (415-01 Audio Unit, Description and Operation).

For additional information on the voice activated control system,

REFER to: Multifunction Electronic Module (419-10 Multifunction Electronic Modules, Diagnosis and Testing).

The electronic automatic temperature control (EATC) module is connected to the CAN communication network. The EATC module controls automatic climate functions that maintain the vehicle at a constant temperature setting. For additional information, REFER to: Climate Control System (412-00 Climate Control System - General Information, Diagnosis and Testing).

The instrument cluster (also known as an instrument cluster module ICM) is connected to the CAN and SCP communication networks. The instrument cluster displays information received on the SCP including speedometer, odometer, fuel, and message center warnings. The instrument cluster displays information received on the CAN including ABS, air conditioning, transmission and engine condition. The instrument cluster also controls the passive anti-theft system (PATS). For additional information;

REFER to: Instrument Cluster and Panel Illumination (413-00 Instrument Cluster and Panel Illumination, Diagnosis and Testing). For instrument cluster operation and

REFER to: Anti-Theft - Passive (419-01B Anti-Theft - Passive, Diagnosis and Testing). for PATS.

The general electronic module (GEM) is connected to the SCP communication network. The GEM controls both interior and exterior lighting, active anti-theft functions and warning chimes. For additional information on interior lamps,

REFER to: Interior Lighting (417-02 Interior Lighting, Diagnosis and Testing).

For additional information on exterior lighting,

REFER to: Headlamps (417-01 Exterior Lighting, Diagnosis and Testing).

For additional information on active anti-theft,

REFER to: Anti-Theft - Active (419-01A Anti-Theft - Active, Diagnosis and Testing).

For additional information on warning chimes,

REFER to: Warning Devices (413-09 Warning Devices, Diagnosis and Testing).

The engine control module (ECM) is connected to both the CAN and ISO 9141 communication networks. The ECM controls the engine performance, electronic ignition, emission controls, speed control, and on board diagnostics. For additional information; REFER to: Electronic Engine Controls - 2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, VIN Range: E96603->J28492 (303-14A Electronic Engine Controls - 2.0L NA V6 - AJV6/2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, Diagnosis and Testing).

REFER to: <u>Electronic Engine Controls - 2.0L NA V6 - AJV6</u> (303-14A Electronic Engine Controls - 2.0L NA V6 - AJV6/2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, Diagnosis and Testing).

REFER to: <u>Electronic Engine Controls</u> (303-14B Electronic Engine Controls - 2.0L Duratorq-TDCi/2.2L Duratorq-TDCi (110kW/150PS) - Puma, Diagnosis and Testing).

The 'phone module is connected to the D2B communication network, and incorporates the VEMS, or Vehicle Emergency Messaging System. The module allows a user to request emergency assistance (police, ambulance, fire, recovery) or directions to a desired location at the touch of a button. Also, if any of the vehicle's airbags are deployed while the VEMS system is powered ON, the system automatically issues a call for emergency assistance. For additional information, REFER to: Compact Disc (CD) Changer - 4-Door (415-01 Audio Unit, Removal and Installation).

Compact Disc (D) shanger 1 Door (13 of Additional, Removal and Installation).

The airbag restraints module is connected to the ISO 9141 communication network. The airbag control module controls the deployment of the air bags based on sensor input. For additional information;

REFER to: Air Bag Supplemental Restraint System (SRS) (501-20B Supplemental Restraint System, Diagnosis and Testing).

The voice activated control module (VACM) is connected to the D2B communication network. This allows the user to select functions by giving a voice command. The VACM sends the command information by D2B to the correct module or audio unit.

The navigation system (NAV) is connected to the D2B communication network, and performs it's diagnostics via the SCP network. The NAV receives inputs from the GPS antenna and various other sensors. For additional information, REFER to: Navigation System (419-07 Navigation System, Diagnosis and Testing).

#### **Inspection and Verification**

- 1. 1. Verify the customer concern.
- 2. 2. Visually inspect for obvious signs of mechanical, electrical or optical damage.

#### Electrical

- Fuses
- Wiring harness
- Loose or corroded connections
- Correct engagement of electrical connectors

Controller area network (CAN)

- Instrument cluster (IC)
- Steering wheel rotation sensor (SWRS)
- Gear selector module (GSI)
- Headlight levelling module (HID)
- Yaw rate sensor
- Electronic air temperature control module (EATCM)
- Memory seat control module
- Transmission control module (TCM)
- Anti-lock brake control module with or without dynamic stability control (ABS/DSC)
- Engine control module (ECM)

Standard corporate protocol (SCP)

- Generic electronic module (GEM)
- Instrument cluster (IC)
- In-car entertainment (ICE)
- Navigation system (NAV)
- Engine control module (ÉCM)

International standards organisation (ISO)

- Fuel fired heater module
- Reverse park aid module
- Restraints control module (RCM)
- Headlight levelling module (HID)
- Roof console scanner

Domestic data bus (D2B)

- ICE head unit (HU)
- Compact disc changer (CD)
- Cellular phone module (CPM)
- Voice module (VACM)
- Navigation system module (NSM)
- Amplifier (AMP)

#### Visual Inspection Chart

#### Optical

- Routing of fibre optic harnesses
- Correct engagement of optical connectors
- Correct placement of optical connectors (ring order)
- Damage to fibre (chafing, abrasion, kinking, cuts, etc)
- Correct assembly of optical connectors (backout, etc)

#### **Default Modes**

Possible TCM default

- Fixed 4th gear
- Erratic gear shifts

Possible ECM default

- Throttle motor and relay disabled
- Throttle valve opening set to default value
- Idle speed controlled by fuel injection intervention
- Idle speed adaptation inhibited
- Throttle opening limited to 30%
- Vehicle speed limited
- Speed (cruise) control limited
- Maximum throttle opening for N range inhibited
- Maximum engine speed reduced
- HO2 sensor control circuit inhibited
- Maximum ignition retard

#### **Symptom Chart**

• NOTE: Network DTCs may be set by an error or communications failure in the network. Individual DTCs are in the table, alongside their respective modules, but may also be set by a combination of factors affecting the network, which would result in multiple DTCs being set

for one error, or, as in the case of an open circuit, no DTC being set.

DTC	Description	Possible Source	Action
P1573	CAN throttle angle error	<ul> <li>TP sensor fault (additional DTCs logged)</li> <li>ECM CAN message error</li> </ul>	For TP sensor circuit tests, REFER to: Electronic Engine Controls - 2.0L NA V6 - AJV6 (303-14A Electronic Engine Controls - 2.0L NA V6 - AJV6/2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, Diagnosis and Testing) / Electronic Engine Controls - 2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, VIN Range: E96603->J28492 (303-14A Electronic Engine Controls - 2.0L NA V6 - AJV6/2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, Diagnosis and Testing). Error message sent on CAN, but not CAN related. Check for additional DTCs indicating cause.
P1601	Incorrect ECM or TCM fitted to vehicle	<ul><li>ECM configuration</li><li>TCM configuration</li></ul>	Configure the modules using the Jaguar approved diagnostic system.
P1603	TCM EEPROM failure	<ul> <li>Battery disconnected while the ignition switched ON</li> <li>B+ power supply circuit; open circuit</li> <li>TCM failure</li> </ul>	For TCM EEPROM tests, GO to Pinpoint Test B.
P1609	ECM microprocessor to microprocessor communication failure	● ECM failure	Please check part is not on any form of prior authorisation before replacement.
P1611	ECM sub CPU failure	• ECM failure	Please check part is not on any form of prior authorisation before replacement.
P1633	ECM main CPU failure	• ECM failure	Please check part is not on any form of prior authorisation before replacement.
P1634	Throttle 'watch-dog' circuit malfunction	• ECM failure	Please check part is not on any form of prior authorisation before replacement.
P1637	CAN ECM to ABS/TCCM or DSC control module network malfunction	<ul> <li>Module power supply or ground interruption</li> <li>CAN open circuit fault; ABS/TCCM or DSC to ECM</li> <li>CAN short circuit fault</li> <li>ABS/TCCM or DSC module failure</li> <li>ECM failure</li> </ul>	Refer to power and ground test for suspect module. For ABS/TCCM or DSC CAN circuit tests, GO to Pinpoint Test <u>C.</u> Please check part is not on any form of prior authorisation before replacement.
P1638	CAN ECM / IC network malfunction	<ul> <li>Module power supply or ground interruption</li> <li>CAN open circuit fault; IC to ECM</li> <li>CAN short circuit fault</li> <li>IC failure</li> <li>ECM failure</li> </ul>	Refer to power and ground test for suspect module. For IC CAN circuit tests, GO to Pinpoint Test D. Please check part is not on any form of prior authorisation before replacement.
P1642	CAN circuit malfunction	<ul> <li>Module power supply or ground interruption</li> <li>CAN short circuit fault</li> <li>Control module failure; Check for additional logged DTCs to locate module source</li> </ul>	Refer to power and ground test for suspect module. For network short circuit tests, GO to Pinpoint Test <u>E.</u>
P1643	CAN ECM / TCM network malfunction	<ul> <li>Module power supply or ground interruption</li> <li>CAN open circuit fault; TCM to ECM</li> <li>CAN short circuit fault</li> <li>TCM failure</li> <li>ECM failure</li> </ul>	Refer to power and ground test for suspect module. For CAN open circuit tests, GO to Pinpoint Test A. For network short circuit tests, GO to Pinpoint Test E. Please check part is not on any form of prior authorisation before replacement.
P1646	ECM HO2 sensor control malfunction, right-hand bank		For HO2 sensor circuit tests, REFER to: Electronic Engine Controls - 2.0L NA V6 - AJV6 (303-14A Electronic Engine Controls - 2.0L NA V6 - AJV6/2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, Diagnosis and Testing) / Electronic Engine Controls - 2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, VIN Range: E96603->J28492 (303-14A Electronic Engine Controls - 2.0L NA V6 - AJV6/2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, Diagnosis and Testing). Please check part is not on any form of prior authorisation before replacement.
P1647	ECM HO2 sensor control malfunction, left-hand bank		For HO2 sensor circuit tests, REFER to: Electronic Engine Controls - 2.0L NA V6 - AJV6 (303-14A Electronic Engine Controls - 2.0L NA V6 - AJV6/2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, Diagnosis and Testing) / Electronic Engine Controls - 2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, VIN Range: E96603->J28492 (303-14A Electronic Engine Controls - 2.0L NA V6 - AJV6/2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, Diagnosis and Testing). Please check part is not on any form of prior authorisation before replacement.
P1648	ECM KS self-test failure	● ECM failure	Please check part is not on any form of prior authorisation before replacement.
P1656	TP sensor amplifier circuit malfunction	● ECM failure	Please check part is not on any form of prior authorisation before replacement.

DTC	Description	Possible Source	Action
P1699	CAN ECM to EATCM network malfunction	ground interruption	Refer to power and ground test for suspect module. For EATCM open circuit tests, GO to Pinpoint Test A. For network short circuit tests, GO to Pinpoint Test F. Please check part is not on any form of prior authorisation before replacement.
P1777	CAN torque reduction error	_	Error message sent on CAN, but not CAN related. Check for additional DTCs indicating cause.
P1796	CAN network malfunction	<ul> <li>Module power supply or ground interruption</li> <li>CAN short circuit fault</li> <li>TCM failure</li> </ul>	Refer to power and ground test for suspect module. For network short circuit test, GO to Pinpoint Test <u>A.</u>
P1797	CAN TCM/ECM network malfunction		Refer to power and ground test for suspect module. For TCM open/short circuit tests, GO to Pinpoint Test <u>C</u> .
P1799	CAN TCM to ABS/TCCM or DSC module network malfunction		Refer to power and ground test for suspect module. For ABS/TCCM short circuit tests, GO to Pinpoint Test <u>G</u> .
U1041	GEM SCP network invalid vehicle speed data	ABS/DSC wheel speed message error     SCP network error	For GEM SCP network tests, GO to Pinpoint Test H.
U1135	GEM SCP network invalid ignition switch data	Instrument cluster ignition switch message error     SCP network error	For GEM SCP network tests, GO to Pinpoint Test H.
U1147	GEM anti-theft SCP network invalid ignition key-in data	GEM key-in message error     SCP network error	For GEM SCP network tests, GO to Pinpoint Test H.
U1262	GEM SCP network ignition switch state message missing	SCP circuit(s); open circuit     SCP network error	For GEM SCP network tests, GO to Pinpoint Test H.
U1262	ICE SCP network circuit fault	<ul> <li>SCP network circuit; open circuit, short circuit to B+, short circuit to ground</li> <li>SCP network circuit fault</li> <li>Audio unit fault</li> </ul>	For ICE SCP network tests, GO to Pinpoint Test <u>I.</u>
U1900	CAN instrumentation messages missing	<ul><li>Engine management, ABS, or DSC fault</li><li>CAN network fault</li></ul>	For ABS/DSC CAN network tests, GO to Pinpoint Test G.
U1900	Automatic climate control CAN fault	CAN circuit; open circuit, short circuit to B+, short circuit to ground Automatic climate control module internal CAN fault CAN network fault	For EATC CAN network tests, GO to Pinpoint Test <u>F.</u>
U1900	ABS CAN fault	<ul> <li>CAN circuit: open circuit, short circuit to B+, short circuit to ground</li> <li>ABS control module internal CAN fault</li> <li>CAN network fault</li> </ul>	For ABS/DSC CAN network tests, GO to Pinpoint Test G.
U1900	DSC CAN fault	<ul> <li>CAN circuit; open circuit, short circuit to B+, short circuit to ground</li> <li>DSC control module internal CAN fault</li> <li>CAN network fault</li> </ul>	For ABS/DSC CAN network tests, GO to Pinpoint Test <u>G.</u>
U2003	CD autochanger not responding on D2B network	circuit; short circuit to B+,	For D2B 'wake-up' circuit tests, GO to Pinpoint Test K. For CD autochanger D2B network tests, GO to Pinpoint Test J. For D2B permanent supply tests, GO to Pinpoint Test R.
U2008	Cellular telephone not responding on D2B network	circuit; short circuit to B+, short circuit to ground • D2B network fault	For D2B 'wake-up' circuit tests, GO to Pinpoint Test K. For cellular telephone D2B network tests, GO to Pinpoint Test L. For D2B permanent supply tests, GO to Pinpoint Test R. For D2B accessory switched supply tests, GO to Pinpoint Test S. For D2B ignition switched supply tests, GO to Pinpoint Test T.
U2019	VACM not responding on D2B network	<ul> <li>D2B network 'wake-up' circuit; short circuit to B+, short circuit to ground</li> </ul>	For D2B 'wake-up' circuit tests, GO to Pinpoint Test <u>K.</u> For VACM D2B network tests, GO to Pinpoint Test <u>M.</u> For D2B accessory switched supply tests, GO to Pinpoint Test <u>S.</u> For D2B ignition switched supply tests, GO to Pinpoint Test <u>T.</u>

DTC	Description	Possible Source	Action
U2196	Instrument cluster CAN engine speed message invalid	Verify integrity of engine management system     CAN network fault	For instrument cluster CAN network tests, GO to Pinpoint Test D.
U2197	Instrument cluster CAN engine speed message invalid	<ul><li>Verify integrity of engine management system</li><li>CAN network fault</li></ul>	For instrument cluster CAN network tests, GO to Pinpoint Test D.
U2199	Instrument cluster CAN engine coolant temperature message invalid	<ul><li>Verify integrity of engine management system</li><li>CAN network fault</li></ul>	For instrument cluster CAN network tests, GO to Pinpoint Test D.
U2200	Instrument cluster CAN odometer count message invalid	Verify integrity of ABS or DSC systems     CAN network fault	For instrument cluster CAN network tests, GO to Pinpoint Test D.
U2202	Invalid DSC control module CAN configuration data received from ECM		For ECM CAN network tests, GO to Pinpoint Test <u>E.</u>
U2202	Invalid ABS control module CAN configuration data received from ECM		For ECM CAN network tests, GO to Pinpoint Test <u>E.</u>
U2509	ECM unable to fulfill ABS CAN torque reduction request	<ul><li>Verify integrity of engine management system</li><li>CAN network fault</li></ul>	For ABS/DSC CAN network tests, GO to Pinpoint Test G.
U2509	ECM unable to fulfill DSC CAN torque reduction request	<ul><li>Verify integrity of engine management system</li><li>CAN network fault</li></ul>	For ABS/DSC CAN network tests, GO to Pinpoint Test G.
U2510 (security flash code 23)	Anti-theft ECM identification mismatch	<ul> <li>ECM configuration fault</li> <li>Incorrect ECM installed</li> </ul>	Reconfigure ECM using the Jaguar approved diagnostic system. Please check part is not on any form of prior authorisation before replacement.
U2511	Anti-theft ECM invalid data	<ul> <li>ECM configuration fault</li> <li>Incorrect ECM installed</li> <li>SCP network error</li> </ul>	Reconfigure ECM using the Jaguar approved diagnostic system. Please check part is not on any form of prior authorisation before replacement.
U2514	GEM wash/wipe SCP network vehicle speed message missing	SCP circuit(s); open circuit     SCP network error	For GEM SCP network tests, GO to Pinpoint Test H.
U2520	Memory seats	<ul> <li>CAN open circuit fault: memory seat module to diagnostic connector</li> <li>CAN short circuit fault</li> <li>Memory seat module failure</li> </ul>	For CAN open/short circuit tests, GO to Pinpoint Test A.
U2600	Audio D2B network 'wake-up' circuit fault	D2B network 'wake-up' circuit; short circuit to B+	For D2B 'wake-up' circuit tests, GO to Pinpoint Test <u>K.</u>
U2601	Audio D2B network 'wake-up' circuit fault	D2B network 'wake-up' circuit; short circuit to B+	For D2B 'wake-up' circuit tests, GO to Pinpoint Test <u>K.</u>
U2601	Voice activation module D2B network 'wake-up' circuit fault	D2B network 'wake-up' circuit; short circuit to ground	For D2B 'wake-up' circuit tests, GO to Pinpoint Test K.
U2602	Break in optical ring FROM ICE head unit (transmitter)	D2B network module disconnected     D2B network optical ring broken	For optical ring tests, GO to Pinpoint Test P.
U2603	Break in optical ring <b>TO</b> ICE head unit (receiver)	<ul> <li>D2B network module disconnected</li> <li>D2B network optical ring broken</li> </ul>	For optical ring tests, GO to Pinpoint Test Q.
U2609	Voice activation module D2B network 'wake-up' signal out of specification	<ul> <li>D2B network 'wake-up' circuit; high resistance</li> <li>Voice activation module failure</li> </ul>	For D2B 'wake-up' circuit tests, GO to Pinpoint Test K.
U2610	Voice activation module D2B network 'position status report' not received	D2B network fault	For D2B 'wake-up' circuit tests, GO to Pinpoint Test <u>K.</u>
U2611	Voice activation module D2B network 'alarm clear command' not received	D2B network fault	For D2B 'wake-up' circuit tests, GO to Pinpoint Test <u>K.</u>
U2613	Navigation control module not responding on D2B network	<ul> <li>D2B network 'wake-up' circuit; short circuit to B+, short circuit to ground</li> <li>D2B network fault</li> <li>Module permanent supply fault</li> <li>Module accessory switched</li> </ul>	For D2B 'wake-up' circuit tests, GO to Pinpoint Test K. For navigation module optical tests, GO to Pinpoint Test N. For D2B permanent supply tests, GO to Pinpoint Test R. For D2B accessory switched supply tests, GO to Pinpoint Test S.

DTC	Description	Possible Source	Action
		supply fault  Module ignition switched supply fault	
U2614	Amplifier not responding on D2B network	<ul> <li>D2B network 'wake-up' circuit; short circuit to B+, short circuit to ground</li> <li>D2B network fault</li> </ul>	For D2B 'wake-up' circuit tests, GO to Pinpoint Test K. For amplifier optical tests, GO to Pinpoint Test Q. For D2B permanent supply tests, GO to Pinpoint Test R. For D2B accessory switched supply tests, GO to Pinpoint Test S.
None	ISO circuit malfunction, RCM	RCM K-line circuit; open circuit     RCM K-line circuit; short circuit	For RCM ISO tests, GO to Pinpoint Test AP.
None	ISO circuit malfunction, HID module	HID module K-line circuit; open circuit     HID module K-line circuit; short circuit	For HID module ISO tests, GO to Pinpoint Test AQ.
None	ISO circuit malfunction, roof console module	Roof console module K-line circuit; open circuit     Roof console module K-line circuit; short circuit	For roof console module ISO tests, GO to Pinpoint Test AR.
None	ISO circuit malfunction, reverse park aid module	<ul> <li>Reverse park aid module K-line circuit; open circuit</li> <li>Reverse park aid module K-line circuit; short circuit</li> </ul>	For reverse park aid module ISO tests, GO to Pinpoint Test AS.
None	ISO circuit malfunction, ECM	<ul> <li>ECM K-line circuit; open circuit</li> <li>ECM K-line circuit; short circuit</li> </ul>	For ECM ISO tests, GO to Pinpoint Test AT.
None	ISO circuit malfunction, fuel fired heater (FFH) module	<ul> <li>FFH module K-line circuit; open circuit</li> <li>FFH module K-line circuit; short circuit</li> </ul>	For FFH module ISO tests, GO to Pinpoint Test AU.

# **Power and Ground circuit test index**

Modules may log DTCs if the power supply or GROUND is interrupted. Supply and GROUND tests are covered below by module name.

Description	Possible source Action
IC supply or ground fault	<ul> <li>B+ supply failure</li> <li>Ign+ supply failure</li> <li>Acc+ supply failure</li> <li>GROUND failure</li> </ul>
SWRS supply or ground fault	● Module supply failure For SWRS circuit tests, GO to Pinpoint Test V. ● GROUND failure
Yaw rate sensor supply or ground fault	Module supply failure For yaw rate sensor circuit tests, GO to Pinpoint Test W.     GROUND failure
ABS/TCCM supply or ground fault	• Ign+ supply failure • Pump+ supply failure • Solenoid+ supply failure • GROUND failure • Motor GROUND failure
DSC module supply or ground fault	<ul> <li>Ign+ supply failure</li> <li>Pump+ supply failure</li> <li>Solenoid+ supply failure</li> <li>GROUND failure</li> <li>Motor GROUND failure</li> </ul>
GSI module supply or ground fault	● Ign+ supply failure
HID module supply or ground fault	• Ign+ supply failure • GROUND failure For HID module circuit tests, GO to Pinpoint Test AA.
EATC module supply or ground fault	<ul> <li>B+ supply failure</li> <li>B+save supply failure</li> <li>Ign+ supply failure</li> <li>GROUND failure</li> </ul> For EATC module circuit tests, GO to Pinpoint Test AB.  For EATC module circuit tests, GO to Pinpoint Test AB.  Output  Description:  Output  Descri
Memory seat module supply or ground fault	<ul> <li>B+1 supply failure</li> <li>B+2 supply failure</li> <li>Ign+ supply failure</li> <li>Electronic GROUND failure</li> <li>Power GROUND failure</li> <li>Signal GROUND</li> </ul>

Description	Possible source	Action
	failure	
TCM supply or ground fault (16 bit)	<ul> <li>B+ supply failure</li> <li>Ign+ supply failure</li> <li>GROUND failure</li> </ul>	For 16 bit TCM circuit tests, GO to Pinpoint Test AD.
TCM supply or ground fault (32 bit)	<ul> <li>B+ supply failure</li> <li>Ign+ supply failure</li> <li>GROUND failure</li> </ul>	For 32 bit TCM circuit tests, GO to Pinpoint Test AE.
ECM supply or ground fault, vehicles with 2.0L petrol engine	<ul> <li>B+memory supply failure</li> <li>Control supply failure</li> <li>GROUND failure</li> </ul>	For ECM circuit tests, vehicles with 2.0L petrol engines, GO to Pinpoint Test <u>AF.</u>
ECM supply or ground fault, vehicles with 2.5/3.0L petrol engine	<ul> <li>B+memory supply failure</li> <li>Control supply failure</li> <li>GROUND failure</li> </ul>	For ECM circuit tests, vehicles with 2.5/3.0L petrol engines, GO to Pinpoint Test AG.
ECM supply or ground fault, vehicles with 2.0L diesel engine	<ul> <li>Vpwr supply failure</li> <li>Control supply failure</li> <li>GROUND failure</li> </ul>	For ECM circuit tests, vehicles with 2.0L diesel engines, GO to Pinpoint Test <u>AH.</u>
ICE supply or ground fault	B+memory supply failure     Acc+ supply failure     GROUND failure	For ICE circuit tests, GO to Pinpoint Test <u>AI.</u>
CD supply or ground fault	B+ supply failure     GROUND failure	For CD changer circuit tests, GO to Pinpoint Test AJ.
NAV module supply or ground fault	<ul> <li>B+ supply failure</li> <li>Acc+ supply failure</li> <li>GROUND failure</li> </ul>	For NAV module circuit tests, GO to Pinpoint Test <u>AK.</u>
FFH module supply or ground fault	<ul> <li>B+ supply failure</li> <li>Ign+ supply failure</li> <li>GROUND failure</li> </ul>	For FFH module circuit tests, GO to Pinpoint Test AL.
Park aid module supply or ground fault	• Ign+ supply failure • GROUND failure	For park aid module circuit tests, GO to Pinpoint Test AM.
RCM supply or ground fault	• Ign+ supply failure • GROUND failure	For RCM circuit tests, GO to Pinpoint Test AN.
GEM supply or ground fault	B+ supply failure	For GEM circuit tests, GO to Pinpoint Test AO.
Amplifier supply or ground fault	<ul><li>B+ supply failure</li><li>GROUND failure</li></ul>	For amplifier circuit tests, GO to Pinpoint Test AV.

# **Pinpoint tests**

• CAUTIONS:

Diagnosis by substitution from a donor vehicle is **NOT** acceptable. Each vehicle is configured to it's own vehicle identification data (VID) block, and substitution of control modules may not only not confirm a fault, but may cause faults in the vehicle being tested and/or the donor vehicle. Failure to follow this instruction may result in damage to the vehicle.

Electronic modules are sensitive to static electrical charges. If exposed to these charges, damage may result. Failure to follow this instruction may result in damage to the vehicle.

When probing connectors to take measurements in the course of the pinpoint tests, use the adaptor kit, part number 3548-1358-00. Failure to follow this instruction may result in damage to the vehicle.

- NOTE: When performing voltage or resistance tests, always use a digital multimeter (DMM) accurate to 3 decimal places, and with an up-to-date calibration certificate. When testing resistance, always take the resistance of the DMM leads into account.
- NOTE: Before beginning any diagnosis of the D2B system, codes B1342, U2602, or U2603 must be rectified. No D2B function is possible with these failures present.
- NOTE: Check and rectify basic faults before beginning diagnostic routines involving pinpoint tests.
- NOTE: If DTCs are recorded and the symptom is not present when performing the pinpoint tests, an intermittent concern may be the cause. Always check for loose connections and corroded terminals.

PINPOINT TEST	PINPOINT TEST A : CHECK THE CONTROLLER AREA NETWORK (CAN) CONTINUITY		
	• NOTE: The following test is based on the maximum number of modules in the network. Refer to the wiring diagrams for information on		
networks with fewe	r modules.		
TEST	DETAILS/RESULTS/ACTIONS		
CONDITIONS			
A1: CHECK THE RE	A1: CHECK THE RESISTANCE OF THE CAN NETWORK		
	1 Tum the ignition switch to the <b>OFF</b> position.		
	2 Measure the resistance between pins 06 (Y) and 14 (G) of the diagnostic connector.		

	Is the resistance between 50 and 70 ohms? <b>Yes</b>
	GO to A3.
	No CO to A2
A2: CHECK THE CA	GO to A2. AN NETWORK FOR SHORT CIRCUIT
	1 Turn the ignition switch to the <b>OFF</b> position.
	Measure the resistance between pins 06 (Y) and 14 (G) of the diagnostic connector.
	Is the resistance less than 50 ohms? <b>Yes</b>
	CHECK the network for short circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test
	the system for normal operation.
	No GO to A3.
A3: CHECK THE CA	AN + CIRCUIT BETWEEN THE DIAGNOSTIC CONNECTOR AND THE STEERING WHEEL ROTATION SENSOR
	Disconnect the steering wheel rotation sensor connector, IP19.
	Measure the resistance between IP19, pin 03 (Y) and the diagnostic connector, pin 06 (Y).  Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test the
	system for normal operation.  No
ļ	<u>GO to A4</u> .
A4: CHECK THE CA	AN - CIRCUIT BETWEEN THE DIAGNOSTIC CONNECTOR AND THE STEERING WHEEL ROTATION SENSOR
	Measure the resistance between IP19, pin 04 (G) and the diagnostic connector, pin 14 (G).  Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test the system for normal operation.
	No
AE OUEOVEUE O	GO to A5.
A5: CHECK THE CA	AN + CIRCUIT BETWEEN THE DIAGNOSTIC CONNECTOR AND THE YAW RATE SENSOR  1 Disconnect the yaw rate sensor connector, IP20.
	Measure the resistance between IP20, pin 03 (Y) and the diagnostic connector, pin 06 (Y).
	Is the resistance greater than 5 ohms?
	<b>Yes</b> REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test the
	system for normal operation.
	No CO to AG
A6: CHECK THE CA	GO to A6. AN - CIRCUIT BETWEEN THE DIAGNOSTIC CONNECTOR AND THE YAW RATE SENSOR
, 101 0112011 1112 0	Measure the resistance between IP20, pin 02 (G) and the diagnostic connector, pin 14 (G).
	Is the resistance greater than 5 ohms?
	<b>Yes</b> REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test the
	system for normal operation.
	No GO to A7.
A7: CHECK THE CA	AN + CIRCUIT BETWEEN THE DIAGNOSTIC CONNECTOR AND THE MEMORY SEAT MODULE (WHERE FITTED)
	1 Disconnect the memory seat module connector, DM01.
	Measure the resistance between DM01, pin 12 (Y) and the diagnostic connector, pin 06 (Y).
	Is the resistance greater than 5 ohms? <b>Yes</b>
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test the
	system for normal operation.  No
	GO to A8.
A8: CHECK THE CA	AN - CIRCUIT BETWEEN THE DIAGNOSTIC CONNECTOR AND THE MEMORY SEAT MODULE (WHERE FITTED)
	Measure the resistance between DM01, pin 02 (G) and the diagnostic connector, pin 14 (G).  Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test the system for normal operation.
	No
	<u>GO to A9</u> .
A9: CHECK THE CA	AN + CIRCUIT BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS/DSC MODULE  1 Disconnect the ABS/TCCM connector, JB45, or DSC module connector, JB185.
	2 Measure the resistance between JB45/JB185, pin 24 (Y) and the diagnostic connector, pin 06 (Y).
	Is the resistance greater than 5 ohms?
	<b>Yes</b> REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test the
	system for normal operation.
	No CO to A10
A10: CHECK THE	GO to A10.  CAN - CIRCUIT BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS/DSC MODULE
	1 Measure the resistance between JB45/JB185, pin 40 (G) and the diagnostic connector, pin 14 (G).
	Is the resistance greater than 5 ohms?
	<b>Yes</b> REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test the
	system for normal operation.
	No GO to A11.
A11: CHECK THE	CAN + CIRCUIT BETWEEN THE DIAGNOSTIC CONNECTOR AND THE HID MODULE (WHERE FITTED)
	1 Disconnect the HID module connector, IP130.
	Measure the resistance between IP130, pin 02 (Y) and the diagnostic connector, pin 06 (Y).

Is	s the resistance greater than 5 ohms?
Y	/es
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test the system for normal operation.
N	lo
	GO to A12.
A12: CHECK THE CA	AN - CIRCUIT BETWEEN THE DIAGNOSTIC CONNECTOR AND THE HID MODULE (WHERE FITTED)
	1 Measure the resistance between IP130, pin 03 (G) and the diagnostic connector, pin 14 (G).
Is	s the resistance greater than 5 ohms?
Y	/es
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test the
N	system for normal operation.
	NO circuit fault found. Check DTCs for indications of a module fault.

PINPOINT TEST B : P1603. TCM EEPROM FAILURE				
TEST	DETAILS/RESULTS/ACTIONS			
	CONDITIONS   B1: DTC SET BY 3 POSSIBLE FACTORS			
	1 Check battery voltage.			
	Has the battery been discharged to a voltage where the engine would not crank?			
	Yes			
	CHARGE and test the battery. Install a new battery, if required.			
	REFER to: <u>Battery</u> (414-01 Battery, Mounting and Cables, Removal and Installation). Carry out a drive-cycle.			
	Carry out a univer-cycle.  (The vehicle may lose it's adaptive values and will need to re-learn them. These values will depend on the owner's driving style, and can only be learnt by			
	normal use.)			
	No			
	GO to B2.			
B2: DTC SET BY 3	POSSIBLE FACTORS			
	1 Check the TCM for signs of water ingress.			
	Does the TCM show any indication of water ingress?			
	Yes			
	INSTALL a new TCM.			
	REFER to: <u>Transmission Control Module (TCM)</u> (307-01B Automatic Transmission/Transaxle - Vehicles With: 6-Speed			
	Automatic Transaxle - AWF21, In-vehicle Repair).			
	CLEAR the DTC, test the system for normal operation.			
	No CO to B3			
D2: DTC CET DV 3	GO to B3. POSSIBLE FACTORS			
	Check if the battery has been disconnected with the ignition switched on.			
	Has the battery been disconnected with the ignition switched on?			
	Yes  CARRY out a drive-cycle. For additional information, refer to the DTC section of JTIS.			
	(The vehicle may lose it's adaptive values and will need to re-learn them. These values will depend on the owner's driving style, and can only be learnt by			
	normal use.)			
	No			
	INSTALL a new TCM.			
	REFER to: Transmission Control Module (TCM) (307-01B Automatic Transmission/Transaxle - Vehicles With: 6-Speed			
	Automatic Transaxle - AWF21, In-vehicle Repair).			
	CLEAR the DTC, test the system for normal operation.			

	REFER to: <u>Iransmission Control Module (TCM)</u> (307-01B Automatic Transmission/Transaxle - Vehicles With: 6-Speed
	Automatic Transaxle - AWF21, In-vehicle Repair).
	CLEAR the DTC, test the system for normal operation.
	ST C : P1637: CAN NETWORK MALFUNCTION, TRANSMISSION CONTROL MODULE (TCM)
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
C1: CHECK TCM	FOR DAMAGE
	1 Inspect the TCM
	Does the TCM indicate any signs of damage?
	Yes
	INSTALL a new TCM.
	REFER to: <u>Transmission Control Module (TCM)</u> (307-01B Automatic Transmission/Transaxle - Vehicles With: 6-Speed
	Automatic Transaxle - AWF21, In-vehicle Repair).
	CLEAR the DTC, test the system for normal operation.
	No GO to C2.
CO. CHECK CAN	+ FOR SHORT CIRCUIT TO GROUND
CZ: CHECK CAN	
	1 Measure the resistance between the diagnostic connector, pin 06, (Y) and GROUND.
	Is the resistance less than 10,000 ohms?
	<b>Yes</b> REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for
	normal operation.
	No.
	GO to C3.
C3: CHECK CAN	+ FOR SHORT CIRCUIT TO BATTERY
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1 Measure the resistance between the diagnostic connector, pins 06, (Y) and pin 16 (OY).
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for
	normal operation.
	No
	<u>GO to C4</u> .
C4: CHECK CAN	- FOR SHORT CIRCUIT TO GROUND
	1 Measure the resistance between the diagnostic connector, pin 14 (G) and GROUND.
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for
	normal operation.
1	No.

No

	<u>GO to C5</u> .
C5: CHECK CAN	- FOR SHORT CIRCUIT TO BATTERY
	Measure the resistance between the diagnostic connector, pin 14 (G) and pin 16 (OY).  Is the resistance less than 10,000 ohms?
	Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system fo
	normal operation.
	No GO to C6.
C6: CHECK FOR	SHORT CIRCUIT BETWEEN CAN + AND CAN -
	1 Measure the resistance between the diagnostic connector, pins 6 (Y) and 14 (G). Is the resistance less than 10,000 ohms?
	Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system fo normal operation.  No
	<u>GO to C7</u> .
C7: CHECK FOR	OPEN CIRCUIT ON CAN + BETWEEN DIAGNOSTIC CONNECTOR AND THE TCM  1 Disconnect the battery negative terminal.
	Vehicles with 16 bit modules -
	<ul> <li>Disconnect the TCM connector, JB131.</li> <li>Measure the resistance between the diagnostic connector, pin 06 (Y) and JB131, pin 33 (Y).</li> </ul>
	Vehicles with 32 bit modules -
	<ul> <li>Disconnect the TCM connector, JB230.</li> <li>Measure the resistance between the diagnostic connector, pin 06 (Y) and JB230, pin 05 (Y).</li> </ul>
	Is the resistance greater than 5 ohms?  Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No
	GO to C8.
C8: CHECK FOR	OPEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE TCM
	1 Measure the resistance between the diagnostic connector, pin 14 (G) and:
	Vehicles with 16 bit modules -
	• JB131, pin 12 (G).
	Vehicles with 32 bit modules -
	• JB230, pin 06 (G).
	Is the resistance less than 5 ohms?
	Yes
	GO to C9.
	REPAIR the CAN - circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
C9: CHECK FOR	CORRECT BUS TERMINATION
	Reconnect the TCM connector, JB131 or JB230.
	Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G).  Is the resistance between 50 and 70 ohms?
	Yes
	INSTALL a new TCM.  REFER to: <u>Transmission Control Module (TCM)</u> (307-01B Automatic Transmission/Transaxle - Vehicles With: 6-Speed Automatic Transaxle - AWF21, In-vehicle Repair).  CLEAR the DTC, test the system for normal operation.  No
040 611511 511	<u>GO to C10</u> .
C10: CHECK CO	NTINUITY OF THE CAN + CIRCUIT BETWEEN THE ECM AND THE IC  1 To test:
	Vehicles with 2.5 and 3.0L engine -
	<ul> <li>Disconnect the ECM connector, EN16, and the IC connector, IP10.</li> <li>Measure the resistance between EN16, pin 124 (Y) and IP10, pin 17 (Y).</li> </ul>
	Vehicles with 2.0L petrol engine -
	<ul> <li>Disconnect the ECM connector, EN65, and the IC connector, IP10.</li> <li>Measure the resistance between EN65, pin 89 (Y) and IP10, pin 17 (Y).</li> </ul>
	Vehicles with 2.0L diesel engine -
	<ul> <li>Disconnect the ECM connector, DL01, and the IC connector, IP10.</li> <li>Measure the resistance between DL01, pin 54 (Y) and IP10, pin 17 (Y).</li> </ul>
	Is the resistance greater than 5 ohms?
	Yes  REPAIR the CAN + circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No GO to C11.
C11: CHECK CO	NTINUITY OF THE CAN - CIRCUIT BETWEEN THE ECM AND THE IC

	1 Measure the resistance between:
	Vehicles with 2.5 and 3.0L engine -
	• EN16, pin 123 (G) and IP10, pin 18 (G).
	Vehicles with 2.0L petrol engine -
	● EN65, pin 88 (G) and IP10, pin 18 (G).
	Vehicles with 2.0L diesel engine -
	• DL01, pin 73 (G) and IP10, pin 18 (G).
	Is the resistance greater than 5 ohms?
	<b>Yes</b> REPAIR the CAN - circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No GO to C12.
C12: CHECK	FOR LOSS OF TERMINATION WITHIN THE ECM
	1 To test:
	Vehicles with 2.5 and 3.0L engine -
	<ul> <li>Measure the resistance between pins 123 and 124 of the ECM.</li> </ul>
	Vehicles with 2.0L petrol engine -
	<ul> <li>Measure the resistance between pins 88 and 89 of the ECM.</li> </ul>
	Vehicles with 2.0L diesel engine -
	<ul> <li>Measure the resistance between pins 54 and 73 of the ECM.</li> </ul>
	Is the resistance between 110 and 140 ohms? Yes
	GO to C13.
	No Please check part is not on any form of prior authorisation before replacement.
C13: CHECK	FOR LOSS OF TERMINATION WITHIN THE IC
	1 Measure the resistance between pins 17 and 18 of the IC.
	Is the resistance between 110 and 140 ohms?
	Yes POSSIBLE intermittent fault. Recheck DTCs.
	No
	INSTALL a new instrument cluster.
	REFER to: <u>Instrument Cluster</u> (413-01 Instrument Cluster, Removal and Installation).
L	CLEAR the DTC, test the system for normal operation.

TEST	T D : P1638: CAN NETWORK MALFUNCTION, INSTRUMENT CLUSTER (IC)  DETAILS/RESULTS/ACTIONS
CONDITIONS	DETAILS, RESCENS, ACTIONS
D1: CHECK THE	IC FOR DAMAGE
	1 Inspect the IC for damage.
	Does the IC indicate any signs of damage?
	Yes
	INSTALL a new instrument cluster.
	REFER to: Instrument Cluster (413-01 Instrument Cluster, Removal and Installation).
	CLEAR the DTC, test the system for normal operation.
	GO to D2.
2. CHECK CAN	+ FOR SHORT CIRCUIT TO GROUND
ZI CIILCII CAII	1 Turn the ignition switch to the <b>OFF</b> position.
	2 Measure the resistance between the diagnostic connector, pin 06 (Y) and GROUND.
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	No
	GO to D3.
3: CHECK CAN	+ FOR SHORT CIRCUIT TO BATTERY
	1 Measure the resistance between the diagnostic connector, pin 06 (Y) and pin 16 (OY).
	Is the resistance less than 10,000 ohms?
	Yes  DEDAID the chart circuit For additional information, refer to the wiring diagrams. CLEAD the DTC toot the cyctem
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No.
	GO to D4.
4: CHECK CAN	- FOR SHORT CIRCUIT TO GROUND
	1 Measure the resistance between the diagnostic connector, pin 14 (G) and GROUND.
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	No GO to D5.
25. CHECK CAN	- FOR SHORT CIRCUIT TO BATTERY
J. CHLCK CAN	1 Measure the resistance between the diagnostic connector, pins 14 (G) and 16 (OY).
	114 (a) and 10 (or).

	s the resistance less than 10,000 ohms?	
	<b>Yes</b> REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system	m
	for normal operation. <b>No</b>	
De- CHECK EOD SI	GO to D6.  ORT CIRCUIT BETWEEN CAN + AND CAN -	
DO. CHECK FOR S	Disconnect the battery negative terminal.	
	Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G).  s the resistance less than 10,000 ohms?	
	/es	
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No	m
D7: CHECK FOR O	GO to D7. EN CIRCUIT ON CAN + BETWEEN THE DIAGNOSTIC CONNECTOR AND THE IC	
D7. CHECK FOR O	Disconnect the IC connector, IP10.	
	Measure the resistance between the diagnostic connector, pin 06 (Y) and IP10, pin 17 (Y).	
	s the resistance greater than 5 ohms? <b>/es</b>	
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test system for normal operation.  No	the
D8- CHECK EOB O	GO to D8.  EN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE IC	
Do. CHECK FOR O	Measure the resistance between the diagnostic connector, pin 14 (G) and IP10, pin 18 (G).	
	s the resistance greater than 5 ohms? <b>(es</b>	
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test system for normal operation.	the
	GO to D9.	
D9: CHECK FOR C	RRECT BUS TERMINATION  1 Reconnect the IC connector, IP10.	
	<b>2</b> Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G).	
	s the resistance between 50 and 70 ohms?	
	<b>/es</b> INSTALL a new instrument cluster.	
	REFER to: <u>Instrument Cluster</u> (413-01 Instrument Cluster, Removal and Installation). CLEAR the DTC, test the system for normal operation.  No	
D10. CHECK CONT	GO to D10. INUITY OF THE CAN + CIRCUIT BETWEEN THE ECM AND THE IC	
DIO: CHECK CON	1 To test:	
	Vehicles with 2.5 and 3.0L engine -	
	<ul> <li>Disconnect the ECM connector, EN16, and the IC connector, IP10.</li> <li>Measure the resistance between EN16, pin 124 (Y) and IP10, pin 17 (Y).</li> </ul>	
	Vehicles with 2.0L petrol engine -	
	<ul> <li>Disconnect the ECM connector, EN65, and the IC connector, IP10.</li> <li>Measure the resistance between EN65, pin 89 (Y) and IP10, pin 17 (Y).</li> </ul>	
	Vehicles with 2.0L diesel engine -	
	<ul> <li>Disconnect the ECM connector, DL01, and the IC connector, IP10.</li> <li>Measure the resistance between DL01, pin 54 (Y) and IP10, pin 17 (Y).</li> </ul>	
	s the resistance greater than 5 ohms?	
	<b>(es</b> REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test system for normal operation. <b>No</b>	the
	GO to D11.	
D11: CHECK CONT	INUITY OF THE CAN - CIRCUIT BETWEEN THE ECM AND THE IC  Measure the resistance between:	
	_	
	Vehicles with 2.5 and 3.0L engine -	
	• EN16, pin 123 (G) and IP10, pin 18 (G).	
	Vehicles with 2.0L petrol engine -	
	● EN65, pin 88 (G) and IP10, pin 18 (G).	
	Vehicles with 2.0L diesel engine -	
	● DL01, pin 73 (G) and IP10, pin 18 (G).	
	s the resistance greater than 5 ohms?	
	<b>Yes</b> REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test system for normal operation.	the
	<b>No</b> GO to D12.	
D12: CHECK FOR	OSS OF TERMINATION WITHIN THE ECM	

	1 Measure the resistance between:
	Vehicles with 2.5 and 3.0L engine -
	• pins 123 and 124 of the ECM.
	Vehicles with 2.0L petrol engine -
	• pins 88 and 89 of the ECM.
	Vehicles with 2.0L diesel engine -
	• pins 54 and 73 of the ECM.
	Is the resistance between 110 and 140 ohms?  Yes  GO to D13.
	No Please check part is not on any form of prior authorisation before replacement.
D13: CHECK FOR	LOSS OF TERMINATION WITHIN THE IC
	1 Measure the resistance between pins 17 and 18 of the IC.
	Is the resistance between 110 and 140 ohms?  Yes  Possible intermittent fault, Recheck DTCs.
	No INSTALL a new instrument cluster.
	REFER to: <u>Instrument Cluster</u> (413-01 Instrument Cluster, Removal and Installation).  CLEAR the DTC, test the system for normal operation.

	CLEAR the DTC, test the system for normal operation.
DINDOINT TEST	E. D1642: D1642: D1707: CAN NETWORK MALEUNCTION FOR
	E: P1642; P1643; P1797: CAN NETWORK MALFUNCTION, ECM
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
E1: CHECK THE E	
	1 Inspect the ECM.
	Does the ECM indicate any signs of damage?
	Yes
	Please check part is not on any form of prior authorisation before replacement.
	No GO to E2.
E3: CHECK CAN +	FOR SHORT CIRCUIT TO GROUND
LZ. CIILCK CAN T	1 Measure the resistance between the diagnostic connector, pin 06, (Y) and GROUND.
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	No .
	<u>GO to E3.</u>
E3: CHECK CAN +	FOR SHORT CIRCUIT TO BATTERY
	Measure the resistance between the diagnostic connector, pin 06, (Y) and pin 16 (OY).
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	GO to E4.
F4: CHECK CAN -	FOR SHORT CIRCUIT TO GROUND
L-1. CITEOR CAN	Measure the resistance between the diagnostic connector, pin 14 (G) and GROUND.
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	No .
	GO to E5.
E5: CHECK CAN -	FOR SHORT CIRCUIT TO BATTERY
	Measure the resistance between the diagnostic connector, pins 14 (G) and 16 (OY).
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	GO to E6.
E6: CHECK FOR SI	HORT CIRCUIT BETWEEN CAN + AND CAN -
_ 5. 525k : 5k 5	Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G).
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	No
	GO to E7.
E7: CHECK FOR O	PEN CIRCUIT ON CAN + BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ECM
	Disconnect the battery negative terminal.
	Vehicles with 2.5 and 3.0L engine -

Disconnect the ECM connector, EN16.
Measure the resistance between IP22 pin 06 (Y) and EN16, pin 124 (Y).

Vehicles with 2.0L petrol engine 
• Disconnect the ECM connector, EN65.

 Measure the resistance between IP22 pin 06 (Y) and EN65, pin 89 (Y). Vehicles with 2.0L diesel engine -Disconnect the ECM connector, DL01. Measure the resistance between the diagnostic connector, pin 06 (Y) and DL01, pin 54 (Y). Is the resistance greater than 5 ohms? Yes REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. No E8: CHECK FOR OPEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ECM 1 To test: Vehicles with 2.5 and 3.0L engine - Measure the resistance between the diagnostic connector, pin 14 (G) and EN16, pin 123 (G). Vehicles with 2.0L petrol engine - Measure the resistance between the diagnostic connector, pin 14 (G) and EN65, pin 88 (G). Vehicles with 2.0L diesel engine - Measure the resistance between the diagnostic connector, pin 14 (G) and DL01, pin 73 (G). Is the resistance greater than 5 ohms? Yes REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. No E9: CHECK FOR CORRECT BUS TERMINATION Reconnect the ECM connector. 2 Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G). Is the resistance between 50 and 70 ohms? Yes Please check part is not on any form of prior authorisation before replacement. No GO to E10 E10: CHECK CONTINUITY OF THE CAN + CIRCUIT 1 To test: Vehicles with 2.5 and 3.0L engine - Disconnect the ECM connector, EN16, and the IC connector, IP10. Measure the resistance between EN16, pin 124 (Y) and IP10, pin 17 (Y). Vehicles with 2.0L petrol engine - Disconnect the ECM connector, EN65, and the IC connector, IP10. Measure the resistance between EN65, pin 89 (Y) and IP10, pin 17 (Y). Vehicles with 2.0L diesel engine - Disconnect the ECM connector, DL01, and the IC connector, IP10. Measure the resistance between DL01, pin 54 (Y) and IP10, pin 17 (Y). Is the resistance greater than 5 ohms? Yes REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. GO to E11 E11: CHECK CONTINUITY OF THE CAN - CIRCUIT 1 Measure the resistance between: Vehicles with 2.5 and 3.0L engine -• EN16, pin 123 (G) and IP10, pin 18 (G). Vehicles with 2.0L petrol engine -• EN65, pin 88 (G) and IP10, pin 18 (G). Vehicles with 2.0L diesel engine - DL01, pin 73 (G) and IP10, pin 18 (G). Is the resistance greater than 5 ohms? Yes REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. No GO to E12 E12: CHECK FOR LOSS OF TERMINATION WITHIN THE ECM 1 Measure the resistance between: Vehicles with 2.5 and 3.0L engine -pins 123 and 124 of the ECM.

Vehicles with 2.0L petrol engine -
• pins 88 and 89 of the ECM.
Vehicles with 2.0L diesel engine -
• pins 54 and 73 of the ECM.
Is the resistance between 110 and 140 ohms?
Yes CO to 513
GO to E13. No
Please check part is not on any form of prior authorisation before replacement.
E13: CHECK FOR LOSS OF TERMINATION WITHIN THE IC
1 Measure the resistance between pins 17 and 18 of the IC.
Is the resistance between 110 and 140 ohms?
Yes
Possible intermittent fault. Recheck DTCs.
No
INSTALL a new instrument cluster.
REFER to: Instrument Cluster (413-01 Instrument Cluster, Removal and Installation).
CLEAR the DTC, test the system for normal operation.

	CLEAR the DTC, test the system for normal operation.
PINPOINT TEST (EATC) MODUL	T F : P1699: CAN NETWORK MALFUNCTION, ELECTRONIC AUTOMATIC TEMPERATURE CONTROL .E
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
F1: CHECK THE E	ATC MODULE FOR DAMAGE
	1 Inspect the EATC module for damage.
	Does the EATC module indicate any signs of damage?
	Yes
	INSTALL a new EATC module.
	REFER to: Climate Control System (412-00 Climate Control System - General Information, Description and
	Operation).  CLEAR the DTC, test the system for normal operation.
	No
	GO to F2.
F2: CHECK CAN +	FOR SHORT CIRCUIT TO GROUND
	1 Measure the resistance between the diagnostic connector, pin 06 (Y) and GROUND.
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	No GO to 53
ES. CHECK CAN I	GO to F3. - FOR SHORT CIRCUIT TO BATTERY
F3. CHECK CAN T	Turn the ignition switch to the <b>OFF</b> position.
	Measure the resistance between the diagnostic connector, pin 06 (Y) and pin 16 (OY).
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	No
	<u>GO to F4</u> .
F4: CHECK CAN -	FOR SHORT CIRCUIT TO GROUND
	1 Measure the resistance between the diagnostic connector, pin 14 (G) and GROUND.
	Is the resistance less than 10,000 ohms?
	PEDAID the short singuit. For additional information, refer to the mining diagrams. CLEAD the DTC test the system
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No
	GO to F5.
F5: CHECK CAN -	FOR SHORT CIRCUIT TO BATTERY
	1 Measure the resistance between the diagnostic connector, pin 14 (G) and pin 16 (OY).
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	No GO to F6.
F6: CHECK FOR S	HORT CIRCUIT BETWEEN CAN + AND CAN -
, or crizer or s	1 Disconnect the battery negative terminal.
	2 Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G).
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	No
	<u>GO to F7.</u>
F7: CHECK FOR C	PPEN CIRCUIT ON CAN + BETWEEN THE DIAGNOSTIC CONNECTOR AND THE EATC MODULE
	1 Disconnect the EATC module connector, IP101.
	Measure the resistance between the diagnostic connector, pin 06 (Y) and IP101, pin 22 (Y).
	Is the resistance greater than 5 ohms?
	<b>Yes</b> REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams, CLEAR the DTC, test the
I .	THE NEFARK CHE HIGH TESISLATICE CITCUIT, FOI AUGILIONAL HIDOLINALION, FETER TO THE WITHOU GIAGRAMS. CLEAK THE DIT., FEST THE

REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.

No

ES. CHECK EOD OF	PEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE EATC MODULE
F8: CHECK FOR O	Measure the resistance between the diagnostic connector, pin 14 (G) and IP101, pin 23 (G).
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the
	system for normal operation.  No
	GO to F9.
F9: CHECK FOR CO	ORRECT BUS TERMINATION
	Reconnect the EATC module connector, IP101.
	Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G).
	Is the resistance between 50 and 70 ohms? <b>Yes</b>
	INSTALL a new EATC module.
	REFER to: Climate Control System (412-00 Climate Control System - General Information, Description and
	Operation). CLEAR the DTC, test the system for normal operation.
	No
	<u>GO to F10</u> .
F10: CHECK CONT	INUITY OF THE CAN + CIRCUIT BETWEEN THE ECM AND THE IC  1 To test:
	Vehicles with 2.5 and 3.0L engine -
	<ul> <li>Disconnect the ECM connector, EN16, and the IC connector, IP10.</li> </ul>
	Measure the resistance between EN16, pin 124 (Y) and IP10, pin 17 (Y).
	Vehicles with 2.01 petrol engine
	Vehicles with 2.0L petrol engine -
	• Disconnect the ECM connector, EN65, and the IC connector, IP10.
	<ul> <li>Measure the resistance between EN65, pin 89 (Y) and IP10, pin 17 (Y).</li> </ul>
	Vehicles with 2.0L diesel engine -
	Disconnect the ECM connector DIO1 and the IC connector ID10
	<ul> <li>Disconnect the ECM connector, DL01, and the IC connector, IP10.</li> <li>Measure the resistance between DL01, pin 54 (Y) and IP10, pin 17 (Y).</li> </ul>
	Is the resistance greater than 5 ohms? <b>Yes</b>
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the
	system for normal operation.
	No GO to F11.
F11: CHECK CONT	INUITY OF THE CAN - CIRCUIT BETWEEN THE ECM AND THE IC
	1 Measure the resistance between:
	Vehicles with 2.5 and 3.0L engine -
	● EN16, pin 123 (G) and IP10, pin 18 (G).
	Vehicles with 2.0L petrol engine -
	● EN65, pin 88 (G) and IP10, pin 18 (G).
	Vehicles with 2.0L diesel engine -
	• DL01, pin 73 (G) and IP10, pin 18 (G).
	Is the resistance greater than 5 ohms? <b>Yes</b>
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the
	system for normal operation.
	No GO to F12.
F12: CHECK FOR L	OSS OF TERMINATION WITHIN THE ECM
	1 Measure the resistance between:
	Vehicles with 2.5 and 3.0L engine -
	Vehicles with 2.5 and 5.0L engine -
	• pins 123 and 124 of the ECM.
	Vehicles with 2.0L petrol engine -
	● pins 88 and 89 of the ECM.
	Vehicles with 2.0L diesel engine -
	● pins 54 and 73 of the ECM.
	·
	Is the resistance between 110 and 140 ohms?
	Yes GO to F13.
	No
E12. CHECK FOR :	Please check part is not on any form of prior authorisation before replacement.
F13: CHECK FOR L	OSS OF TERMINATION WITHIN THE IC  Measure the resistance between pins 17 and 18 of the IC.
	Is the resistance between 110 and 140 ohms?
	Yes
	POSSIBLE intermittent fault. Recheck DTCs.
	No INSTALL a new instrument cluster.
	REFER to: Instrument Cluster (413-01 Instrument Cluster, Removal and Installation).

CONTROL (DSC)	G: P1799: CAN NETWORK MALFUNCTION, ANTI-LOCK BRAKE (ABS)/DYNAMIC STABILITY
TEST	CONTROL MODULE  DETAILS/RESULTS/ACTIONS
CONDITIONS	
G1: CHECK THE A	BS OR DSC MODULE FOR DAMAGE  1 Inspect the ABS/TCCM or DSC module.
	Does the ABS/TCCM or DSC module indicate any signs of damage?
	Yes  INSTALL a new ABS/TCCM or DSC module.  REFER to: Hydraulic Control Unit (HCU) - VIN Range: C00001->J12991 (206-09 Anti-Lock Control - Stability Assist, Removal and Installation).  CLEAR the DTC, test the system for normal operation.
	No
CO. CHECK CAN I	GO to G2.  FOR SHORT CIRCUIT TO GROUND
GZ: CHECK CAN +	Turn the ignition switch to the <b>OFF</b> position.
	2 Measure the resistance between the diagnostic connector, pin 06 (Y) and GROUND.
	Is the resistance less than 10,000 ohms?
	Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No
	<u>GO to G3</u> .
G3: CHECK CAN +	FOR SHORT CIRCUIT TO BATTERY
	Measure the resistance between the diagnostic connector, pin 06, (Y) and pin 16 (OY).  Is the resistance less than 10.000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	GO to G4.
G4: CHECK CAN -	FOR SHORT CIRCUIT TO GROUND
	Measure the resistance between the diagnostic connector, pin 14 (G) and GROUND.
	Is the resistance less than 10,000 ohms? Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	No GO to G5.
G5: CHECK CAN -	FOR SHORT CIRCUIT TO BATTERY
	1 Measure the resistance between the diagnostic connector, pins 14 (G) and pin 16 (OY).
	Is the resistance less than 10,000 ohms?
	Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	No GO to G6.
G6: CHECK FOR S	HORT CIRCUIT BETWEEN CAN + AND CAN -
,	1 Disconnect the battery negative terminal.
	Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G).
	Is the resistance less than 10,000 ohms?
	Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No
	<u>GO to G7.</u>
G7: CHECK FOR O	PEN CIRCUIT ON CAN + BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS OR DSC MODULE  1 Disconnect the ABS/TCCM connector, JB45, or DSC module connector, JB185.
	Disconnect the Abs/Tech connector, 1643, or 53c module connector, 16163.  Measure the resistance between the diagnostic connector, pin 06 (Y) and JB45/JB185, pin 24 (Y).
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the
	system for normal operation.  No
G8: CHECK FOR O	system for normal operation.  No  GO to G9.
G8: CHECK FOR O	system for normal operation.  No  GO to G9.  PEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS OR DSC MODULE
G8: CHECK FOR O	system for normal operation.  No  GO to G9.  PEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS OR DSC MODULE  1 Measure the resistance between the diagnostic connector, pin 14 (G) and JB45/JB185, pin 40 (G).  Is the resistance greater than 5 ohms?
G8: CHECK FOR O	system for normal operation.  No  GO to G9.  PEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS OR DSC MODULE  1 Measure the resistance between the diagnostic connector, pin 14 (G) and JB45/JB185, pin 40 (G).  Is the resistance greater than 5 ohms?  Yes
G8: CHECK FOR O	system for normal operation.  No  GO to G9.  PEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS OR DSC MODULE  1 Measure the resistance between the diagnostic connector, pin 14 (G) and JB45/JB185, pin 40 (G).  Is the resistance greater than 5 ohms?  Yes
G8: CHECK FOR O	system for normal operation.  GO to G9.  PEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS OR DSC MODULE  Measure the resistance between the diagnostic connector, pin 14 (G) and JB45/JB185, pin 40 (G).  Is the resistance greater than 5 ohms?  Yes  REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No
	system for normal operation.  No  GO to G9.  PEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS OR DSC MODULE  Measure the resistance between the diagnostic connector, pin 14 (G) and JB45/JB185, pin 40 (G).  Is the resistance greater than 5 ohms?  Yes  REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to G9.
	system for normal operation.  GO to G9.  PEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS OR DSC MODULE  Measure the resistance between the diagnostic connector, pin 14 (G) and JB45/JB185, pin 40 (G).  Is the resistance greater than 5 ohms?  Yes  REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No
	system for normal operation.  No  GO to G9.  PEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS OR DSC MODULE  1 Measure the resistance between the diagnostic connector, pin 14 (G) and JB45/JB185, pin 40 (G).  Is the resistance greater than 5 ohms?  Yes  REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to G9.  ORRECT BUS TERMINATION
	system for normal operation.  No  GO to G9.  PEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS OR DSC MODULE  Measure the resistance between the diagnostic connector, pin 14 (G) and JB45/JB185, pin 40 (G).  Is the resistance greater than 5 ohms?  Yes  REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to G9.  ORRECT BUS TERMINATION  1 Reconnect the ABS/TCCM module connector, JB45, or DSC module connector, JB185.  2 Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G).  Is the resistance between 50 and 70 ohms?
	system for normal operation.  No  GO to G9.  PEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS OR DSC MODULE  Measure the resistance between the diagnostic connector, pin 14 (G) and JB45/JB185, pin 40 (G).  Is the resistance greater than 5 ohms?  Yes  REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to G9.  ORRECT BUS TERMINATION  1 Reconnect the ABS/TCCM module connector, JB45, or DSC module connector, JB185.  2 Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G).  Is the resistance between 50 and 70 ohms?  Yes
	system for normal operation.  No  GO to G9.  PEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS OR DSC MODULE  Measure the resistance between the diagnostic connector, pin 14 (G) and JB45/JB185, pin 40 (G).  Is the resistance greater than 5 ohms?  Yes  REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to G9.  ORRECT BUS TERMINATION  1 Reconnect the ABS/TCCM module connector, JB45, or DSC module connector, JB185.  2 Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G).  Is the resistance between 50 and 70 ohms?
	system for normal operation.  No  GO to G9.  PEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS OR DSC MODULE  1 Measure the resistance between the diagnostic connector, pin 14 (G) and JB45/JB185, pin 40 (G).  Is the resistance greater than 5 ohms?  Yes  REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to G9.  ORRECT BUS TERMINATION  1 Reconnect the ABS/TCCM module connector, JB45, or DSC module connector, JB185.  2 Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G).  Is the resistance between 50 and 70 ohms?  Yes  INSTALL a new ABS/TCCM module, or DSC module.  REFER to: Hydraulic Control Unit (HCU) - VIN Range: C00001->J12991 (206-09 Anti-Lock Control - Stability Assist, Removal and Installation).
	system for normal operation.  No  GO to G9.  PEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS OR DSC MODULE  [1] Measure the resistance between the diagnostic connector, pin 14 (G) and JB45/JB185, pin 40 (G).  Is the resistance greater than 5 ohms?  Yes  REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to G9.  ORRECT BUS TERMINATION  [1] Reconnect the ABS/TCCM module connector, JB45, or DSC module connector, JB185.  [2] Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G).  Is the resistance between 50 and 70 ohms?  Yes  INSTALL a new ABS/TCCM module, or DSC module.  REFER to: Hydraulic Control Unit (HCU) - VIN Range: C00001->J12991 (206-09 Anti-Lock Control - Stability Assist, Removal and Installation).  CLEAR the DTC, test the system for normal operation.
	system for normal operation.  No GO to G9.  PEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS OR DSC MODULE  1 Measure the resistance between the diagnostic connector, pin 14 (G) and JB45/JB185, pin 40 (G).  Is the resistance greater than 5 ohms?  Yes REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No GO to G9.  ORRECT BUS TERMINATION  1 Reconnect the ABS/TCCM module connector, JB45, or DSC module connector, JB185.  2 Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G).  Is the resistance between 50 and 70 ohms?  Yes INSTALL a new ABS/TCCM module, or DSC module. REFER to: Hydraulic Control Unit (HCU) - VIN Range: C00001->J12991 (206-09 Anti-Lock Control - Stability Assist, Removal and Installation).

Vahidas with 2.5 and 2.01 ansing
Vehicles with 2.5 and 3.0L engine -
<ul> <li>Disconnect the ECM connector, EN16, and the IC connector, IP10.</li> <li>Measure the resistance between EN16, pin 124 (Y) and IP10, pin 17 (Y).</li> </ul>
Vehicles with 2.0L petrol engine -
<ul> <li>Disconnect the ECM connector, EN65, and the IC connector, IP10.</li> <li>Measure the resistance between EN65, pin 89 (Y) and IP10, pin 17 (Y).</li> </ul>
Vehicles with 2.0L diesel engine -
<ul> <li>Disconnect the ECM connector, DL01, and the IC connector, IP10.</li> <li>Measure the resistance between DL01, pin 54 (Y) and IP10, pin 17 (Y).</li> </ul>
Is the resistance greater than 5 ohms? Yes
REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No
GO to G11.
G11: CHECK CONTINUITY OF THE CAN - CIRCUIT    1   Measure the resistance between:
Vehicles with 2.5 and 3.0L engine -
● EN16, pin 123 (G) and IP10, pin 18 (G).
Vehicles with 2.0L petrol engine -
• EN65, pin 88 (G) and IP10, pin 18 (G).
Vehicles with 2.0L diesel engine -
● DL01, pin 73 (G) and IP10, pin 18 (G).
Is the resistance greater than 5 ohms?  Yes
REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No
GO to G12.  G12: CHECK FOR LOSS OF TERMINATION WITHIN THE ECM
Measure the resistance between:
Vehicles with 2.5 and 3.0L engine -
• pins 123 and 124 of the ECM.
Vehicles with 2.0L petrol engine -
• pins 88 and 89 of the ECM.
Vehicles with 2.0L diesel engine -
• pins 54 and 73 of the ECM.
Is the resistance between 110 and 140 ohms? Yes
GO to G13.
Please check part is not on any form of prior authorisation before replacement.
G13: CHECK FOR LOSS OF TERMINATION WITHIN THE IC  1 Measure the resistance between pins 17 and 18 of the instrument cluster.
Is the resistance between 110 and 140 ohms? Yes
Possible intermittent fault. Recheck DTCs. Repeat tests from A1.  No
INSTALL a new instrument cluster. REFER to: <u>Instrument Cluster</u> (413-01 Instrument Cluster, Removal and Installation). CLEAR the DTC, test the system for normal operation.
PINPOINT TEST H : SCP NETWORK MALFUNCTION, GENERIC ELECTRONIC MODULE (GEM)
TEST DETAILS/RESULTS/ACTIONS CONDITIONS
H1: CHECK GEM FOR DAMAGE
I Inspect the GEM for damage.  Does the GEM indicate any signs of damage?

PINPOINT TEST H : SCP NETWORK MALFUNCTION, GENERIC ELECTRONIC MODULE (GEM)	
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
H1: CHECK GEM FO	OR DAMAGE
	1 Inspect the GEM for damage.
	Does the GEM indicate any signs of damage?
	Yes
	INSTALL a new GEM.
	REFER to: Generic Electronic Module (GEM) (419-10 Multifunction Electronic Modules, Removal and Installation).
	CLEAR the DTC, test the system for normal operation.
	No
	GO to H2.
H2: CHECK THE SC	CP + FOR SHORT CIRCUIT TO GROUND
	1 Measure the resistance between the diagnostic connector, pin 02 (Y) and GROUND.
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	No

	GO to H3.
H3: CHECK THE S	CCP + FOR SHORT CIRCUIT TO BATTERY
	1 Measure the resistance between the diagnostic connector, pins 02 (Y) and 16 (OY).
	Is the resistance less than 10,000 ohms?
	<b>Yes</b> REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	No CO to U.A.
H4: CHECK THE S	GO to H4.  SCP - FOR SHORT CIRCUIT TO GROUND
626.	1 Measure the resistance between the diagnostic connector, pin 10 (U) and GROUND.
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No
LIE GUEGK THE G	GO to H5.
HS: CHECK THE S	CCP - FOR SHORT CIRCUIT TO BATTERY  1 Measure the resistance between the diagnostic connector, pins 10 (U) and 16 (OY).
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.  No
	GO to H6.
H6: CHECK FOR S	SHORT CIRCUIT BETWEEN SCP + AND SCP -
	Measure the resistance between the diagnostic connector, pins 10 (U) and 02, (Y).
1	Is the resistance less than 10,000 ohms? Yes
1	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
1	No GO to H7.
H7: CHECK FOR C	OPEN CIRCUIT ON SCP + BETWEEN THE DIAGNOSTIC CONNECTOR AND THE GEM
	1 Turn the ignition switch to the <b>OFF</b> position.
	2 Disconnect the battery negative terminal.
	3 Disconnect the GEM connector, IP05.
	Measure the resistance between the diagnostic connector, pin 02 (Y) and IP05, pin 19 (Y).
	Is the resistance greater than 5 ohms? Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the
	system for normal operation.
	No GO to H8.
H8: CHECK FOR C	OPEN CIRCUIT ON SCP - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE GEM
	1 Measure the resistance between the diagnostic connector, pin 10 (U) and IP05, pin 18 (U).
	Is the resistance greater than 5 ohms?
	<b>Yes</b> REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the
	system for normal operation.
	No CO to UD
H9- CHECK FOR C	GO to H9.  CORRECT BUS TERMINATION ON SCP +
III. CITECK TOK C	1 Reconnect the battery negative terminal.
	Reconnect the GEM connector, IP05.
	Measure the resistance between the diagnostic connector, pin 02 (Y) and GROUND.
	Is the resistance 150 to 210 ohms?
	Yes INSTALL a new GEM.
1	REFER to: Generic Electronic Module (GEM) (419-10 Multifunction Electronic Modules, Removal and Installation).
1	CLEAR the DTC, test the system for normal operation.
1	No GO to H10.
H10: CHECK THE	CONTINUITY OF THE GENERIC ELECTRONIC MODULE (GEM) SCP + CIRCUIT
	1 Disconnect the battery negative terminal.
	2 Disconnect the GEM connector, IP05.
	Measure the resistance between the diagnostic connector, pin 02 (Y) and IP05, pin 19 (Y).
1	Is the resistance greater than 5 ohms? Yes
1	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the
1	system for normal operation.
1	<b>No</b> <u>GO to H11</u> .
H11: CHECK FOR	LOSS OF SCP + TERMINATION WITHIN THE GEM
	1 Disconnect the GEM connector, IP06.
	2 Measure the resistance between IP05, pin 19, and IP06, pin 01 of the GEM.
	Is the resistance 320 to 400 ohms?
1	Yes GO to H12.
1	No
1	INSTALL a new GEM.
1	REFER to: Generic Electronic Module (GEM) (419-10 Multifunction Electronic Modules, Removal and Installation). CLEAR the DTC, test the system for normal operation.
H12: CHECK CON	TINUITY OF THE INSTRUMENT CLUSTER (IC) SCP + CIRCUIT
	1 Disconnect the IC connector, IP10.
	Measure the resistance between the diagnostic connector, pin 02 (Y) and IP10, pin 22 (Y).

	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No
	GO to H13.
H13: CHECK FOR	LOSS OF SCP + TERMINATION WITHIN THE INSTRUMENT CLUSTER
	1 Measure the resistance between pins 22 and 08 of the IC.
	Is the resistance 320 to 400 ohms?
	Yes
	Possible intermittent fault. Recheck DTCs.
	No
	INSTALL a new IC.
	REFER to: Instrument Cluster (413-01 Instrument Cluster, Removal and Installation).
	CLEAR the DTC, test the system for normal operation.

	CLEAR the DTC, test the system for normal operation.
	I : SCP NETWORK MALFUNCTION, IN CAR ENTERTAINMENT (ICE) HEAD
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS I1: CHECK ICE FO	D DAMAGE
II: CHECK ICE FO	I Inspect the ICE head for damage.
	Does the ICE head indicate any signs of damage?
	Yes
	INSTALL a new ICE head.
	REFER to: Audio Unit (415-01 Audio Unit, Removal and Installation).
	CLEAR the DTC, test the system for normal operation.
	No GO to I2.
T2: CHECK THE SO	CP + FOR SHORT CIRCUIT TO GROUND
	1 Measure the resistance between the diagnostic connector, pin 02 (Y) and GROUND.
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	No CO to 12
13. CHECK THE SO	GO to I3.  CP + FOR SHORT CIRCUIT TO BATTERY
13. CHECK THE SC	Measure the resistance between the diagnostic connector, pins 02 (Y) and 16 (OY).
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	No CO to I4
TAL CHECK THE CO	GO to I4.  CP - FOR SHORT CIRCUIT TO GROUND
14: CHECK THE SC	Measure the resistance between the diagnostic connector, pin 10 (U) and GROUND.
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	No
TE: CUECK THE CO	GO to 15.
15: CHECK THE SC	TP - FOR SHORT CIRCUIT TO BATTERY  1 Measure the resistance between the diagnostic connector, pins 10 (U) and 16 (OY).
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	No
	<u>GO to I6.</u>
16: CHECK FOR SI	HORT CIRCUIT BETWEEN SCP + AND SCP -
	Measure the resistance between the diagnostic connector, pins 10 (U) and 02 (Y).
	Is the resistance less than 10,000 ohms? Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	No .
	GO to I7.
17: CHECK FOR O	PEN CIRCUIT ON SCP + BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ICE HEAD UNIT
	Turn the ignition switch to the <b>OFF</b> position.
	Disconnect the battery negative terminal.
	3 Disconnect the ICE connector, IP65.
	Measure the resistance between the diagnostic connector, pin 02 (Y) and IP65, pin 09 (Y).
	Is the resistance greater than 5 ohms?
	PEDATE the high recistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC test the
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No
	GO to 18.
I8: CHECK FOR O	PEN CIRCUIT ON SCP - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ICE HEAD UNIT
	1 Measure the resistance between the diagnostic connector, pin 10 (U) and IP65, pin 10 (U).
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the
	system for normal operation.  No
	pro-

No GO to I9.

I9: CHECK FOR CORRECT BUS TERMINATION ON SCP +

1	Reconnect the ICE connector, IP65.
2	Reconnect the battery negative terminal.
3	Measure the resistance between the diagnostic connector, pin 02 (Y) and GROUND.
	he resistance 150 to 210 ohms?
Yes	INSTALL a new ICE head unit.
	REFER to: Audio Unit (415-01 Audio Unit, Removal and Installation).
	CLEAR the DTC, test the system for normal operation.
No	CO 1 - 740
ON.	GO to 110.  FINUITY OF THE GENERIC ELECTRONIC MODULE (GEM) SCP + CIRCUIT
	Turn the ignition switch to the <b>OFF</b> position.
2	Disconnect the battery negative terminal.
3	Disconnect the GEM connector, IP05.
	Measure the resistance between IP22, pin 02 (Y) and IP05, pin 19 (Y).
	he resistance greater than 5 ohms?
Yes	
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
No	system for normal operation.
	<u>GO to I11</u> .
	OF SCP + TERMINATION WITHIN THE GEM
	Disconnect the GEM connector, IP06.
	Measure the resistance between IP05, pin 19, and IP06, pin 01 of the GEM.
	he resistance 320 to 400 ohms?
1 63	GO to I12.
No	
	INSTALL a new GEM.
TNII	REFER to: Generic Electronic Module (GEM) (419-10 Multifunction Electronic Modules, Removal and Installation).  ITY OF THE IC SCP + CIRCUIT
7	Disconnect the IC connector, IP10.
2	Measure the resistance between the diagnostic connector, pin 02 (Y) and IP10, pin 22 (Y).
Is t	he resistance greater than 5 ohms?
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
No	system for normal operation.
	<u>GO to I13</u> .
LOSS	OF SCP + TERMINATION WITHIN THE IC
1	Measure the resistance between IP10, pin 22 (Y) and IP11, pin 08 of the IC.
	ne resistance 320 to 400 ohms?
res	Possible intermittent fault. Recheck DTCs.
No	
	INSTALL a new IC.
	REFER to: <u>Instrument Cluster</u> (413-01 Instrument Cluster, Removal and Installation). CLEAR the DTC, test the system for normal operation.
	CLEAR the Die, test the system for normal operation.
ГJ:	U2003: COMPACT DISC CHANGER NOT RESPONDING
	lowing tests involve disconnection of the fibre optic hamesses. The hamess connectors must be protected by
	oon as they are disconnected, or damage may result. The use of tools to unlatch connectors must be avoided, or the
	ion may be lost. Failure to follow this instruction may result in damage to the vehicle.  test sequence is based on a five node network. Refer to the wiring diagrams for network configuration for networks
	of nodes (all possible network combinations are shown in the wiring diagrams).
breal	coccur in the D2B ring, then codes, U2602, or U2603 will be set, depending on the location of the break. U2602 will
	e optical harness <b>FROM</b> the ICE head unit (the transmitter signal). U2603 will set if the break is in the optical
	ad unit (the receiver signal). GO to Pinpoint Test P. GO to Pinpoint Test Q.  ONS  DETAILS/RESULTS/ACTIONS
	ER MODULE, USING OPTICAL BUS TESTER
	1 Connect the Optical Bus Tester to the fibre optic lead connector, CD02.
	2 Set the Optical Bus Tester to <b>BY-PASS</b> .
	3 Clear the DTC.
	4 Turn the ignition switch to the <b>ACC</b> position.
	4 Turn the ignition switch to the ACC position.
	4 Turn the ignition switch to the ACC position.  5 Wait for 10 seconds.  6 Check for 'not responding' DTCs.  Is U2003 set?
	4 Turn the ignition switch to the ACC position.  5 Wait for 10 seconds.  6 Check for 'not responding' DTCs.  Is U2003 set?  Yes
	4 Turn the ignition switch to the ACC position.  5 Wait for 10 seconds.  6 Check for 'not responding' DTCs.  Is U2003 set?
	4 Turn the ignition switch to the ACC position.  5 Wait for 10 seconds.  6 Check for 'not responding' DTCs.  Is U2003 set?  Yes  CHECK the 'wake-up' signal to the module.  No  GO to J2.
TC U	4 Turn the ignition switch to the ACC position.  5 Wait for 10 seconds.  6 Check for 'not responding' DTCs.  Is U2003 set?  Yes  CHECK the 'wake-up' signal to the module.  No  GO to J2.  2602 OR U2603
TC U	4 Turn the ignition switch to the ACC position.  5 Wait for 10 seconds.  6 Check for 'not responding' DTCs.  Is U2003 set?  Yes  CHECK the 'wake-up' signal to the module.  No  GO to J2.  2602 OR U2603  1 Check DTCs.
TC U	4 Turn the ignition switch to the ACC position.  5 Wait for 10 seconds.  6 Check for 'not responding' DTCs.  Is U2003 set?  Yes  CHECK the 'wake-up' signal to the module.  No  GO to J2.  2602 OR U2603  1 Check DTCs.  Are codes U2602 or U2603 logged?
TC U	4 Tum the ignition switch to the ACC position.  5 Wait for 10 seconds.  6 Check for 'not responding' DTCs.  Is U2003 set?  Yes  CHECK the 'wake-up' signal to the module.  No  GO to J2.  2602 OR U2603  1 Check DTCs.  Are codes U2602 or U2603 logged?  Yes
TC U	4 Turn the ignition switch to the ACC position.  5 Wait for 10 seconds.  6 Check for 'not responding' DTCs.  Is U2003 set?  Yes  CHECK the 'wake-up' signal to the module.  No  GO to J2.  2602 OR U2603  1 Check DTCs.  Are codes U2602 or U2603 logged?
	No CONT 1 2 3 4 Is ti Yes No COSS 1 Is ti Yes No COSS 1 Is ti Yes No COSS Is ti Yes

# PINPOINT TEST K : ONE OR MORE D2B MODULES NOT RESPONDING. 'WAKE-UP' SIGNAL FAULT

\*\*NOTE: The D2B 'wake-up' signal is not a constant, but will generate a pulse at each cycle of the ignition key. The ignition key must be turned to the OFF position following each step of the tests, and turned to the position indicated by the test step for each module. To avoid missing the signal, use an assistant to operate the key while reading the oscilloscope. The 'wake-up' line is battery voltage, switching to 0 volts for between 50 milliseconds and 110 milliseconds as the ICE head unit sends it's signal.

\*\*TEST CONDITIONS\*\*

DETAILS/RESULTS/ACTIONS\*\*

K1: CHECK THE 'WAI	(E-UP' SIGNAL TO THE CD CHANGER
	1 Disconnect the CD changer connector, CA301.
	2 Turn the ignition switch to the ACC position.
	Measure the voltage between CA301, pin 03 (O) and GROUND, using an oscilloscope (see note above).
	Does the oscilloscope show a 'wake-up' signal as described? <b>Yes</b>
	GO to K2.
	No
	REPAIR the circuit between CA301, pin 03 and the ICE head unit connector, IP65, pin 19. For additional
KO CHECK THE """	information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.
KZ: CHECK THE 'WAI	KE-UP' SIGNAL TO THE VOICE ACTIVATED CONTROL MODULE  1 Disconnect the voice activated control module connector, PH02.
	Turn the ignition switch to the <b>ACC</b> position.
	Turn the ignition switch to the ACC position:   Measure the voltage between PH02, pin 14 (O) and GROUND, using an oscilloscope (see note above).
	Does the oscilloscope show a 'wake-up' signal as described?
	Yes
	<u>GO to K3</u> .
	No
	REPAIR the circuit between PH02, pin 14 and the ICE head unit connector, IP65, pin 19. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation.
K3: CHECK THE 'WAI	(E-UP' SIGNAL TO THE 'PHONE MODULE
	1 Disconnect the 'phone module connector, PH01.
	2 Turn the ignition switch to the <b>ACC</b> position.
	Measure the voltage between PH01, pin 23 (O) and GROUND, using an oscilloscope (see note above).
	Does the oscilloscope show a 'wake-up' signal as described?
	Yes CO to I/A
	GO to K4. No
	REPAIR the circuit between PH01, pin 23 and the ICE head unit connector, IP65, pin 19. For additional
	information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
K4: CHECK THE 'WA	(E-UP' SIGNAL TO THE NAVIGATION COMPUTER
	<b>1</b> Disconnect the navigation system connector, NA07.
	Turn the ignition switch to the ACC position.
	Measure the voltage between NA07, pin 03 (O) and GROUND, using an oscilloscope (see note above).
	Does the oscilloscope show a 'wake-up' signal as described?
	Yes GO to K5.
	No
	REPAIR the circuit between NA07, pin 03 and the ICE head unit connector, IP65, pin 19. For additional
	information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
K5: CHECK THE 'WAI	(E-UP' SIGNAL TO THE AMPLIFIER
	<u>1</u> Disconnect the amplifier connector, CA425.
	Turn the ignition switch to the ACC position.
	Measure the voltage between CA425, pin 05 (O) and GROUND, using an oscilloscope (see note above).
	Does the oscilloscope show a 'wake-up' signal as described?
	Yes CHECK for DTCs indicating a module failure.
	No
	REPAIR the circuit between CA425, pin 05 and the ICE head unit connector, IP65, pin 19. For additional
	information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
PINPOINT TEST L	: U2008: 'PHONE MODULE NOT RESPONDING

PINPOINT TEST L: U2008	3: 'PHONE MODULE NOT RESPONDING
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
L1: CHECK 'PHONE MODULE,	USING OPTICAL BUS TESTER
	1 Connect the Optical Bus Tester to the fibre optic lead connector, CD03.
	2 Set the Optical Bus Tester to BY-PASS.
	3 Clear the DTC.
	4 Turn the ignition switch to the ACC position.
	5 Wait for 10 seconds.
	6 Check for 'not responding' DTCs.
I	s U2008 set?
	Yes
	CHECK the 'wake-up' signal to the module.
l l	No GO to L2.
L2: CHECK FOR DTC U2602 O	
LZ: CHECK FOR DIC 02602 O	1 Check DTCs.
	Are codes U2602 or U2603 logged?
	<b>Yes</b> CHECK for break in optical harness.
	<b>No</b> RECHECK DTCs. No break in optical hamess.

PINPOINT TEST M: U20	19: VOICE CONTROL MODULE NOT RESPONDING	
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS	
11: CHECK VOICE CONTRO	L MODULE, USING OPTICAL BUS TESTER	
	1 Connect the Optical Bus Tester to the fibre optic lead connector, CD04.	
	2 Set the Optical Bus Tester to BY-PASS.	
	3 Clear the DTC.	
	4 Turn the ignition switch to the <b>ACC</b> position.	
	5 Wait for 10 seconds.	
	6 Check for 'not responding' DTCs.	

	Is U2019 set?
	Yes
	CHECK the 'wake-up' signal to the module.
	No
	GO to M2.
M2: CHECK FOR DTC U2602	OR U2603
	1 Check DTCs.
	Are codes U2602 or U2603 logged?
	Yes
	CHECK for break in optical harness.
	No
	RECHECK DTCs. No break in optical hamess.

<b>PINPOINT TEST N: U2613</b>	: NAVIGATION CONTROL MODULE NOT RESPONDING
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
N1: CHECK NAVIGATION CON	TROL MODULE, USING OPTICAL BUS TESTER
	1 Connect the Optical Bus Tester to the fibre optic connector, CD05.
	2 Set the Optical Bus Tester to <b>BY-PASS</b> .
	3 Clear the DTC.
	4 Turn the ignition switch to the ACC position.
	5 Wait for 10 seconds.
	6 Check for DTCs.
	Is U2613 set?
	Yes
	CHECK the 'wake-up' signal to the module.
	No GO to N2.
N2: CHECK FOR DTC U2602 O	
	1 Check DTCs.
	Are codes U2602 or U2603 logged?
	Yes
	CHECK for break in optical harness.
	No
	RECHECK DTCs. No break in optical harness.

<b>PINPOINT TEST 0: U2614</b>	: AMPLIFIER NOT RESPONDING
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
O1: CHECK AMPLIFIER, USING	OPTICAL BUS TESTER
	1 Connect the Optical Bus Tester to the fibre optic connector, CD07.
	2 Set the Optical Bus Tester to BY-PASS.
	3 Clear the DTC.
	4 Turn the ignition switch to the ACC position.
	5 Wait for 10 seconds.
	6 Check for DTCs.
	Is U2614 set?
	Yes
	CHECK the 'wake-up' signal to the module.
	No GO to O2.
O2: CHECK FOR DTC U2602 O	
	1 Check DTCs.
	Are codes U2602 or U2603 logged?
	Yes
	CHECK for break in optical harness.
	No DECUMENT DESCRIPTION OF THE PROPERTY OF THE
	RECHECK DTCs. No break in optical hamess.

PINPOINT TES	T P : U2602: BREAK IN OPTICAL HARNESS FROM ICE HEAD UNIT (TRANSMITTER)
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
P1: CHECK FIBR	E OPTIC LEAD BETWEEN LUGGAGE COMPARTMENT JOINT AND CD CHANGER
	1 Disconnect the fibre optic connector, CD02.
	2 Disconnect the fibre optic connector, CD06.
	3 Connect the Optical Bus Tester to the fibre optic connector, CD06.
	4 Set the Optical Bus Tester to <b>TX</b> .
	5 Set the Optical Bus Tester to <b>ON</b> .
	6 Check for light pulses at the receiver pin of disconnected D2B connector, CD02.
	Are light pulses visible?
	Yes
	GO to P2.
	No .
	INSTALL a new telematic harness between CD06 and CD02. For additional information, refer to the wiring diagrams.
	CLEAR the DTC, test the system for normal operation.
P2: CHECK CAB	N FIBRE OPTIC HARNESS
	1 Disconnect the fibre optic connector, CD01.
	2 Disconnect the fibre optic connector, CD06.
	3 Connect the Optical Bus Tester to CD01 using adaptor lead.
	Set the Optical Bus Tester to <b>TX</b> .
	5 Set the Optical Bus Tester to <b>ON</b> .
	6 Check for light pulses at the receiver pin of disconnected D2B connector, CD06.

	Are I <b>Yes</b>	light pulses visible?
		<u>GO to P3</u> .
	No	INSTALL a new cabin optical harness between CD06 and CD01. For additional information, refer to the wiring
		diagrams. CLEAR the DTC, test the system for normal operation.
P3: CHECK FIBRE		TIC LEAD BETWEEN 'A' POST AND ICE HEAD UNIT
	_	Disconnect the fibre optic connector, ID01.
	=	Connect the Optical Bus Tester to ID01 using the adaptor lead.  Set the Optical Bus Tester to <b>TX</b> .
	=	Set the Optical Bus Tester to ON.
	_	Check for light pulses at the receiver pin of disconnected D2B connector, CD001.
		light pulses visible?
	Yes	GO to P4.
	No	
		INSTALL a new instrument optical harness between CD01 and ID01. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
P4: CHECK THE I		
		Turn the ignition switch to the <b>ACC</b> position.
		Wait for 10 seconds.
		Check for light pulses at the transmitter pin of disconnected D2B connector, ID01 (rear of ICE head unit).  light pulses visible?
	Yes	
		<u>GO to P5</u> .
	No	INSTALL a new ICE head unit,
		REFER to: Audio Unit (415-01 Audio Unit, Removal and Installation).
DE. CHECK THE E	TDD	CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE
PS: CHECK THE P		Disconnect the fibre optic connector CD02.
		Disconnect the fibre optic connector CD03.
	3	Connect the Optical Bus Tester to CD02.
		Set the Optical Bus Tester to <b>TX</b> .
		Set the Optical Bus Tester to <b>ON</b> .
		Check for light pulses at the transmitter pin of disconnected D2B connector, CD03. light pulses visible?
	Yes	
		<u>GO to P6</u> .
	No	INSTALL a new telematic harness between CD03 and CD02. For additional information, refer to the wiring diagrams.
		CLEAR the DTC, test the system for normal operation.
P6: CHECK THE F	IBRE	E OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE
P6: CHECK THE F	IBRE 1	E OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE Disconnect the fibre optic connector CD04.
P6: CHECK THE F	IBRE 1 2	E OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.
P6: CHECK THE F	IBRE 1 2 3	E OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE Disconnect the fibre optic connector CD04.
P6: CHECK THE F	1 2 3 4	Disconnect the fibre optic connector CD04. Connect the Optical Bus Tester to CD03. Set the Optical Bus Tester to TX.
	1 1 2 3 4 5 Are I	Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?
	1 2 3 4 5 Are I	Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?
	IBRE 1 2 3 4 5 Are I Yes	Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?  GO to P7.
	IBRE 1 2 3 4 5 Are I Yes	Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?  GO to P7.  INSTALL a new telematic hamess between CD03 and CD04. For additional information, refer to the wiring diagrams.
	IBRE 1 2 3 4 5 Are I Yes	Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?  GO to P7.  INSTALL a new telematic harness between CD03 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER
	IBRE 1 2 3 4 5 Are I Yes No	Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?  GO to P7.  INSTALL a new telematic harmess between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.
	IBRE 1 2 3 4 5 Are I Yes No	Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?  GO to P7.  INSTALL a new telematic harmess between CD03 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Disconnect the fibre optic connector CD05.
	1 2 3 4 5 Are   Yes No 1 2 2 3 3	Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?  GO to P7.  INSTALL a new telematic harmess between CD03 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Disconnect the Optical Bus Tester to CD04.
	1 2 3 4 5 No 1 2 3 4 4 1 2 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?  GO to P7.  INSTALL a new telematic harness between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Disconnect the Optical Bus Tester to CD04.  Set the Optical Bus Tester to CD04.  Set the Optical Bus Tester to TX.
	1 2 3 4 Yes No 1 2 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 6 6 7 6 7 6 7	Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?  GO to P7.  INSTALL a new telematic harmess between CD03 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Disconnect the Optical Bus Tester to CD04.
P7: CHECK THE F	1 2 3 4 5 No No 1 BRE 1 2 3 4 5 6 Are   1 4 5 6 6 Are   1 5 6 6 Are   1 5 6 6 6 Are   1 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6 7 6	Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?  GO to P7.  INSTALL a new telematic hamess between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Disconnect the Optical Bus Tester to CD04.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD05.  light pulses visible?
P7: CHECK THE F	1	Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?  GO to P7.  INSTALL a new telematic harness between CD03 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Disconnect the fibre optic connector CD05.  Connect the Optical Bus Tester to CD04.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD05.  light pulses visible?
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P7: CHECK THE F	1 2 3 4 5 No	Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  Ilight pulses visible?  GO to P7.  INSTALL a new telematic hamess between CD03 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  FOPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Disconnect the Optical Bus Tester to CD04.  Set the Optical Bus Tester to TX.  INSTALL a new telematic hamess between CD05 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
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P7: CHECK THE F	11 2 3 4 5 No 15 6 Are   1 Yes No 16 Are   1 Yes No 17 Y	Disconnect the fibre optic connector CD04. Connect the Optical Bus Tester to CD03. Set the Optical Bus Tester to TX. Set the Optical Bus Tester to ON. Check for light pulses at the transmitter pin of disconnected D2B connector, CD04. light pulses visible? GO to P7.  INSTALL a new telematic hamess between CD03 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. EOPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04. Disconnect the Optical Bus Tester to CD04. Set the Optical Bus Tester to TX. Set Type Type Type Type Type Type Type Type
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P7: CHECK THE F	11 2 3 4 5 No 15 No 16 No 17 N	Disconnect the fibre optic connector CD04. Connect the Optical Bus Tester to CD03. Set the Optical Bus Tester to TX. Set the Optical Bus Tester to TX. Set the Optical Bus Tester to ON. Check for light pulses at the transmitter pin of disconnected D2B connector, CD04. light pulses visible?  GO to P7.  INSTALL a new telematic hamess between CD03 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04. Disconnect the fibre optic connector CD05. Connect the Optical Bus Tester to TX. Set the Optical Bus Tester to TX. Set the Optical Bus Tester to ON. Check for light pulses at the transmitter pin of disconnected D2B connector, CD05.  INSTALL a new telematic hamess between CD05 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE NAVIGATION COMPUTER TO THE AMPLIFIER  Disconnect the fibre optic connector CD05.  Connect the Optical Bus Tester to CD05. Set the Optical Bus Tester to CD05.
P7: CHECK THE F	1	Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04. light pulses visible?  GO to P7.  INSTALL a new telematic hamess between CD03 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Disconnect the Optical Bus Tester to CD04.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD05. light pulses visible?  GO to P8.  INSTALL a new telematic hamess between CD05 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE NAVIGATION COMPUTER TO THE AMPLIFIER  Disconnect the fibre optic connector CD07.  Disconnect the fibre optic connector CD05.  Connect the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to CD05.  Connect the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD07.
P7: CHECK THE F	1	E OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  GO to P7.  INSTALL a new telematic harness between CD03 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Disconnect the fibre optic connector CD05.  Connect the Optical Bus Tester to CD04.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD05.  INSTALL a new telematic harness between CD05 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE NAVIGATION COMPUTER TO THE AMPLIFIER  Disconnect the fibre optic connector CD07.  Disconnect the fibre optic connector CD05.  Connect the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.
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P7: CHECK THE F	TIBRE	E OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04. Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  Ilight pulses visible?  GO to P7.  INSTALL a new telematic hamess between CD03 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Disconnect the fibre optic connector CD05. Connect the Optical Bus Tester to CD04.  Set the Optical Bus Tester to TX.  Install a new telematic hamess between CD05 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE NAVIGATION COMPUTER TO THE AMPLIFIER  Disconnect the fibre optic connector CD05.  COPTIC LEAD FROM THE NAVIGATION COMPUTER TO THE AMPLIFIER  Disconnect the fibre optic connector CD05.  Set the Optical Bus Tester to CD05.  Set the Optical Bus Tester to CD05.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to CD05.  Connect the Optical Bus Tester to CD05.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to CD05.  Connect the Optical Bus Tester to CD05.  Connect for Optical Bus Tester to CD05.  Set the Optical Bus Tester to CD05.  Connect the Optical Bus Teste
P7: CHECK THE F	TIBRE	E OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?  GO to PZ.  INSTALL a new telematic harness between CD03 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Disconnect the fibre optic connector CD05.  Connect the Optical Bus Tester to CD04.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD05.  INSTALL a new telematic harness between CD05 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE NAVIGATION COMPUTER TO THE AMPLIFIER  Disconnect the fibre optic connector CD05.  Connect the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.
P7: CHECK THE F	1	E OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04. Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  Ilight pulses visible?  GO to P7.  INSTALL a new telematic hamess between CD03 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Disconnect the fibre optic connector CD05. Connect the Optical Bus Tester to CD04.  Set the Optical Bus Tester to TX.  Install a new telematic hamess between CD05 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE NAVIGATION COMPUTER TO THE AMPLIFIER  Disconnect the fibre optic connector CD05.  COPTIC LEAD FROM THE NAVIGATION COMPUTER TO THE AMPLIFIER  Disconnect the fibre optic connector CD05.  Set the Optical Bus Tester to CD05.  Set the Optical Bus Tester to CD05.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to CD05.  Connect the Optical Bus Tester to CD05.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to CD05.  Connect the Optical Bus Tester to CD05.  Connect for Optical Bus Tester to CD05.  Set the Optical Bus Tester to CD05.  Connect the Optical Bus Teste

CONDITIONS

Q1: CHECK FI	IBRE OPTIC LEAD BETWEEN LUGGAGE COMPARTMENT JOINT AND AMPLIFIER
	1 Disconnect the fibre optic connector, CD06.
	2 Disconnect the fibre optic connector, CD07.
	3 Connect the Optical Bus Tester to CD07.
	4 Set the Optical Bus Tester to TX.
	5 Set the Optical Bus Tester to <b>ON</b> .
	6 Check for light pulses at the receiver pin of disconnected D2B connector, CD06.
	Are light pulses visible?
	Yes
	GO to Q2. No
	INSTALL a new telematic harness between CD06 and C07. For additional information, refer to the wiring diagrams.
	CLEAR the DTC, test the system for normal operation.
Q2: CHECK CA	ABIN FIBRE OPTIC HARNESS
	1 Disconnect the fibre optic connector, CD01.
	2 Disconnect the fibre optic connector, CD06.
	3 Connect the Optical Bus Tester to CD06 using adaptor lead.
	4 Set the Optical Bus Tester to <b>TX</b> .
	Set the Optical Bus Tester to <b>ON</b> .
	6 Check for light pulses at the receiver pin of disconnected D2B connector, CD01.
	Are light pulses visible?
	Yes
	GO to Q3.
	INSTALL a new cabin optical harness between CD06 and CD01. For additional information, refer to the wiring
	diagrams. CLEAR the DTC, test the system for normal operation.
Q3: CHECK FI	IBRE OPTIC LEAD BETWEEN 'A' POST AND ICE HEAD UNIT
	1 Connect the Optical Bus Tester to ID01.
	2 Set the Optical Bus Tester to <b>TX</b> .
	3 Set the Optical Bus Tester to <b>ON</b> .
	4 Check for light pulses at the receiver pin of disconnected D2B connector, ID01.
	Are light pulses visible?
	Yes GO to O4.
	<u>GO to Q4</u> . No
	INSTALL a new instrument optical harness between CD01 and ID01. For additional information, refer to the wiring
	diagrams. CLEAR the DTC, test the system for normal operation.
Q4: CHECK TI	HE ICE HEAD UNIT
	1 Connect the optical short link between the receiver and transmitter of the ICE head unit.
	Turn the ignition switch to the ACC position.
	Wait for 10 seconds.
	4 Check for DTC.
	Is U2603 logged?
	Yes INSTALL a new ICE head unit,
	REFER to: <u>Audio Unit</u> (415-01 Audio Unit, Removal and Installation).
	CLEAR the DTC. TEST the system for normal operation.
	No
	RECHECK DTCs. No fault found in D2B system.
	FEST D. ONE OD MODE DOD MODULES NOT DESDONDING DEDMANENT SUDDLY FALLET

DINDOINT TO	ST D. ONE OR MODE DOD MODULES NOT DESCRONDING DERMANENT SURPLY FAULT	
TEST	EST R : ONE OR MORE D2B MODULES NOT RESPONDING. PERMANENT SUPPLY FAULT	
CONDITIONS	DETAILS/RESULTS/ACTIONS	
	E PERMANENT SUPPLY TO THE CD CHANGER	
KI: CHECK I HE	1 Disconnect the CD changer connector, CA301.	
	Measure the voltage between CA301, pin 02 (OY) and GROUND.	
	Is the voltage less than 10 volts?	
	Yes  PEDAID the simult between the CD changes connected CA201 min 02, and five 72 of the control impation five how	
	REPAIR the circuit between the CD changer connector, CA301, pin 02, and fuse 72 of the central junction fuse box additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.	
	No	
	CHECK the module for GROUND. INSTALL a new CD Changer.	
	REFER to: Compact Disc (CD) Changer - 4-Door (415-01 Audio Unit, Removal and Installation).	
	CLEAR the DTC, test the system for normal operation. GO to R2.	
R2: CHECK THE	E PERMANENT SUPPLY TO THE VOICE ACTIVATED CONTROL MODULE	
	1 Disconnect the voice activated control module connector, PH02.	
	2 Measure the voltage between PH02, pin 22 (NR) and GROUND.	
	Is the voltage less than 10 volts?	
	Yes	
	REPAIR the circuit between the voice activated control module connector, PH02, pin 22, and fuse 71 of the central	
	junction fuse box. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for no	
	operation.	
	No	
	CHECK the module for GROUND. INSTALL a new VACM.	
	REFER to: Multifunction Voice Activated Module - 4-Door (419-10 Multifunction Electronic Modules, Removal and Installation).	
	CLEAR the DTC, test the system for normal operation. GO to R3.	
D2. CUECV TUE	E PERMANENT SUPPLY TO THE 'PHONE MODULE	
K3: CHECK I HE	1 Disconnect the 'phone module connector, PH01.	
	Measure the voltage between PH01, pins 12 and 13 (NR) and GROUND.	
	Is the voltage less than 10 volts?	
	Yes  DEDAID the circuit between the 'phone module connector DH01 pine 12 and 12 and five 71 of the central junctice	
	REPAIR the circuit between the 'phone module connector, PH01, pins 12 and 13 and fuse 71 of the central junction fuse box. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal	
	operation.	
	operation.	

	No
	CHECK the module for GROUND. INSTALL a new 'phone module.
	REFER to: Module - 4-Door (419-08 Cellular Phone, Removal and Installation).
	CLEAR the DTC, test the system for normal operation. <u>GO to R4</u> .
R4: CHECK THE	PERMANENT SUPPLY TO THE NAVIGATION MODULE
	1 Disconnect the navigation module connector, NA07.
	2 Measure the voltage between NA07, pin 01 (OY) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	Repair the circuit between the navigation module connector, NAO7, pin 01 and fuse 72 of the central junction fuse
	box. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No CHECK the module for CROUND INSTALL a new pavigation module
	CHECK the module for GROUND. INSTALL a new navigation module.  REFER to: Navigation System Module - 4-Door (419-07 Navigation System, Removal and Installation).
	CLEAR the DTC, test the system for normal operation.GO to R5.
R5. CHECK THE	PERMANENT SUPPLY TO THE AMPLIFIER
KOI CIIZOR I IIZ	1 Disconnect the amplifier connector, CA425.
	Measure the voltage between CA425, pin 09 (NR) and GROUND.
	Measure the voltage between CA425, pin 03 (NR) and GROUND.
	Is either voltage less than 10 volts?
	Yes
	Repair the circuit between the amplifier connector, CA425 and fuse 20 of the primary junction box. For additional
	information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No
	CHECK the module for GROUND. INSTALL a new amplifier. CLEAR the DTC, test the system for normal operation.

TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
S1: CHECK THE	ACCESSORY SWITCHED SUPPLY TO THE VOICE ACTIVATED CONTROL MODULE
	Disconnect the voice activated control module connector, PH02.
	Turn the ignition switch to the ACC position.
	Measure the voltage between PH02, pin 08 (YG) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between the voice activated control module connector, PH02, pin 08 and the ignition switch. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. (This circuit includes the central junction fuse box, fuse 69)
	No COAL CO
CO. CHECK THE	GO to S2.  ACCESSORY SWITCHED SUPPLY TO THE 'PHONE MODULE
SZ: CHECK I HE	Disconnect the 'phone module connector, PH01.
	Turn the ignition switch to the <b>ACC</b> position.
	Measure the voltage between PH01, pin 14 (YG) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between the 'phone module connector, PH01, pin 14 and the ignition switch. This circuit includes the central junction fuse box, fuse 69. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No
	<u>G0 to S3.</u>
S3: CHECK THE	ACCESSORY SWITCHED SUPPLY TO THE NAVIGATION MODULE
	Disconnect the navigation module electrical connector, NA07.
	Turn the ignition switch to the ACC position.
	Measure the voltage between NA07, pin 11 (YG) and GROUND.
	Is the voltage less than 10 volts?
	Yes  REPAIR the circuit between the navigation module connector, NA07, pin 11 and the ignition switch. This circuit includes the central junction fuse box, fuse 69. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No
	CHECK the module for GROUND. INSTALL a new navigation module.  REFER to: Navigation System Module - 4-Door (419-07 Navigation System, Removal and Installation).  CLEAR the DTC, test the system for normal operation.

TEST	IPOINT TEST T : ONE OR MORE D2B MODULES NOT RESPONDING. IGNITION SWITCHED SUPPLY FAULT	
	DETAILS/RESULTS/ACTIONS	
CONDITIONS	<u> </u>	
T1: CHECK THE	IGNITION SWITCHED SUPPLY TO THE VOICE ACTIVATED CONTROL MODULE	
	Disconnect the voice activated control module connector, PH02.	
	2 Turn the ignition switch to the <b>ON</b> position.	
	Measure the voltage between PH02, pin 06 (WR) and GROUND.	
	Is the voltage less than 10 volts?	
	Yes	
	REPAIR the circuit between the voice activated control module connector, PH02, pin 06 and the central junction fuse box, fuse 67. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.	
	No	
	GO to T2.	
T2: CHECK THE IGNITION SWITCHED SUPPLY TO THE 'PHONE MODULE		
	Disconnect the 'phone module connector, PH01.	
	Turn the ignition switch to the <b>ON</b> position.	
	Measure the voltage between PH01, pin 29 (Y) and GROUND.	

Is the voltage less than 10 volts?	
Yes	
REPAIR the circuit between the 'phone module connector, PH01, pin 29 and the central junction fuse box, fuse 78. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.	
No	
Check the module for GROUND. INSTALL a new 'phone module.	
REFER to: Module - 4-Door (419-08 Cellular Phone, Removal and Installation).	
CLEAR the DTC, test the system for normal operation.	

TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
1: CHECK THE B	+ SUPPLY TO THE IC
	Disconnect the IC connector, IP11.
	Measure the voltage between IP11, pin 07 (OG) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between IP11, pin 07 and battery. This circuit includes the primary junction box, fuse 45. For additional information, refer to the wiring diagrams.
	No
	GO to U2.
2: CHECK THE A	CC SUPPLY TO THE IC
	Turn the ignition switch to the ACC position.
	Measure the voltage between IP11, pin 13 (YU) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between IP11, pin 13 and battery. This circuit includes the primary junction box, fuse 43. For
	additional information, refer to the wiring diagrams.
	GO to U3.
3: CHECK THE I	GNITION SUPPLY TO THE IC
	1 Turn the ignition switch to the <b>IGN</b> position.
	Measure the voltage between IP11, pin 11 (GR) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between IP11, pin 11 and battery. This circuit includes the primary junction box, fuse 54. For
	additional information, refer to the wiring diagrams.
	No GO to U4.
A. CUECV THE C	GROUND TO THE IC
4: CHECK THE G	Measure the resistance between IP11, pin 08 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.

No	fault found with power or ground supplies. Check for DTCs indicating a module fault.
	WRS SUPPLY OR GROUND FAULT
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
V1: CHECK THE MODULE	
	<u>1</u> Disconnect the SWRS connector, IP19.
	Turn the ignition switch to the <b>ON</b> position.
	Measure the voltage between IP19, pin 02 (GW) and GROUND.
	s the voltage less than 4 volts?
	<b>/es</b> GO to V2.
	No
	GO to V3.
<b>V2: CHECK THE MODULE</b>	SUPPLY CIRCUIT TO THE SWRS FOR HIGH RESISTANCE
	1 Turn the ignition switch to the <b>OFF</b> position.
	Disconnect the DSC module connector, JB185.
	Measure the resistance between IP19, pin 02 (GW) and JB185, pin 39 (GW).
	s the resistance greater than 5 ohms?
N	(es
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
ľ	GO to V3.
V3: CHECK THE GROUND	
	1 Reconnect the DSC module connector, JB185.
Ī	Measure the resistance between IP19, pin 08 (U) and GROUND.
Ī	s the resistance greater than 5 ohms?
	/es
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
<b> </b>	No fault found with power or ground supplies. Check for DTCs indicating a module fault.
	No fault found with power of ground supplies. Check for DTCs maleating a module fault.

PINPOINT TEST W: YAW RATE SENSOR SUPPLY OR GROUND FAULT		
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS	
W1: CHECK THE MODULE SUPPLY TO THE YAW RATE SENSOR		
	1 Disconnect the yaw rate sensor connector, IP20.	
	2 Turn the ignition switch to the <b>ON</b> position.	
	Measure the voltage between IP20, pin 04 (GW) and GROUND.	

	Is the voltage less than 4 volts?
	Yes
	GO to W2.
	No
	GO to W3.
W2: CHECK THE MODU	LE SUPPLY CIRCUIT TO THE YAW RATE SENSOR FOR HIGH RESISTANCE
	1 Turn the ignition switch to the <b>OFF</b> position.
	2 Disconnect the DSC module connector, JB185.
	Measure the resistance between IP20, pin 04 (GW) and JB185, pin 39 (GW).
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No
	<u>GO to W3</u> .
W3: CHECK THE GROUP	ND TO THE YAW RATE SENSOR
	1 Measure the resistance between IP20, pin 01 (U) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.

PINPOINT TEST X : ABS/TCCM SUPPLY OR GROUND FAULT		
TEST	DETAILS/RESULTS/ACTIONS	
CONDITIONS		
X1: CHECK THE I	GNITION SUPPLY TO THE ABS/TC MODULE	
	Disconnect the ABS/TCCM connector, JB45.	
	Turn the ignition switch to the <b>ON</b> position.	
	Measure the voltage between JB45, pin 23 (GW) and GROUND.	
	Is the voltage less than 10 volts?	
	Yes  REPAIR the circuit between JB45, pin 23 and battery. This circuit includes the front power distribution box, fuse 13 and the ignition relay. For additional information, refer to the wiring diagrams.	
	No GO to X2.	
X2: CHECK THE	PUMP+ SUPPLY TO THE ABS/TCCM	
r.a. chiack the f	Turn the ignition switch to the <b>ON</b> position.	
	Measure the voltage between JB45, pin 02 (R) and GROUND.	
	Is the voltage less than 10 volts?	
	Yes  REPAIR the circuit between JB45, pin 02 and battery. This circuit includes the front power distribution box, fuse 41.	
	For additional information, refer to the wiring diagrams.	
	GO to X3.	
X3: CHECK THE S	SOLENOID+ SUPPLY TO THE ABS/TCCM	
	1 Turn the ignition switch to the ON position.	
	Measure the voltage between JB45, pin 06 (R) and GROUND.	
	Is the voltage less than 10 volts?	
	Yes	
	REPAIR the circuit between JB45, pin 06 and battery. This circuit includes the front power distribution box, fuse 41. For additional information, refer to the wiring diagrams.	
	No COLLAND	
VA. CHECK THE	GO to X4. GROUND TO THE ABS/TCCM	
A4: CHECK I HE	Turn the ignition switch to the <b>OFF</b> position.	
	Measure the resistance between JB45, pin 05 (B) and GROUND.  Is the resistance greater than 5 ohms?	
	Yes	
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.	
	No land the state of the state	
	<u>GO to X5</u> .	
X5: CHECK THE MOTOR GROUND TO THE ABS/TCCM		
	1 Measure the resistance between JB45, pin 01 (B) and GROUND.	
	Is the resistance greater than 5 ohms?	
	Yes	
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.	
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.	

PINPOINT TEST Y : DSC MODULE SUPPLY OR GROUND FAULT	
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
Y1: CHECK THE I	GNITION SUPPLY TO THE DSC MODULE
	1 Disconnect the DSC module connector, JB185.
	2 Turn the ignition switch to the <b>ON</b> position.
	3 Measure the voltage between JB185, pin 23 (GW) and GROUND.
	Is the voltage less than 10 volts?
	<b>Yes</b> REPAIR the circuit between JB45, pin 23 and battery. This circuit includes the front power distribution box, fuse 13 and the ignition relay. For additional information, refer to the wiring diagrams.
	No GO to Y2.
Y2: CHECK THE PUMP+ SUPPLY TO THE DSC MODULE	
	1 Tum the ignition switch to the <b>ON</b> position.
	2 Measure the voltage between JB185, pin 02 (R) and GROUND.

Is the voltage less than 10 volts?	
Yes	
REPAIR the circuit between JB185, pin 02 and battery. This circuit includes the front power distribution box, fuse 41	
For additional information, refer to the wiring diagrams.	
No CO to V3	
GO to Y3.	
Y3: CHECK THE SOLENOID+ SUPPLY TO THE DSC MODULE	—
1 Turn the ignition switch to the <b>ON</b> position.	
<b>2</b> Measure the voltage between JB185, pin 06 (R) and GROUND.	
Is the voltage less than 10 volts?	
Yes	
REPAIR the circuit between JB185, pin 06 and battery. This circuit includes the front power distribution box, fuse 41 For additional information, refer to the wiring diagrams.	.
No No	
GO to Y4.	
Y4: CHECK THE GROUND TO THE DSC MODULE	
1 Turn the ignition switch to the <b>OFF</b> position.	
Measure the resistance between JB185, pin 05 (B) and GROUND.	
Is the resistance greater than 5 ohms?	
Yes	
REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.	
No	
GO to Y5.	
Y5: CHECK THE MOTOR GROUND TO THE DSC MODULE	
1 Measure the resistance between JB185, pin 01 (B) and GROUND.	
Is the resistance greater than 5 ohms?	
Yes	
REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.  No	
No fault found with power or ground supplies. Check for DTCs indicating a module fault.	

TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
Z1: CHECK THE I	GNITION SUPPLY TO THE GSI MODULE
	1 Disconnect the GSI module connector, IP14.
	Turn the ignition switch to the <b>ON</b> position.
	Measure the voltage between IP14, pin 01 (WR) and GROUND.
	Is the voltage less than 10 volts?
	Yes  REPAIR the circuit between IP14, pin 01 and battery. This circuit includes the primary junction box, fuse 50. For additional information, refer to the wiring diagrams.
	No GO to Z2.
Z2: CHECK THE G	ROUND TO THE GSI MODULE
	1 Measure the resistance between IP14, pin 02 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.  No
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.

PINPOINT TEST	AA : HID MODULE SUPPLY OR GROUND FAULT
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
AA1: CHECK THE	IGNITION SUPPLY TO THE HID MODULE
	1 Disconnect the HID module connector, IP130.
	2 Turn the ignition switch to the <b>ON</b> position.
	3 Measure the voltage between IP130, pin 23 (WR) and GROUND.
	Is the voltage less than 10 volts?  Yes  REPAIR the circuit between IP130, pin 23 and battery. This circuit includes the primary junction box, fuse 39. For additional information, refer to the wiring diagrams.  No
AA2: CHECK THE	GO to AA2.  GROUND TO THE HID MODULE
	1 Measure the resistance between IP130, pin 24 (B) and GROUND.
	Is the resistance greater than 5 ohms?  Yes  REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.  No  No fault found with power or ground supplies. Check for DTCs indicating a module fault.

PINPOINT TEST AB: EATC MODULE SUPPLY OR GROUND FAULT	
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
<b>AB1: CHECK THE</b>	B+ SUPPLY TO THE EATC MODULE
	1 Disconnect the EATC module connector, IP101.
	Measure the voltage between IP101, pin 14 (OG) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between IP101, pin 14 and battery. This circuit includes the primary junction box, fuse 45. For additional information, refer to the wiring diagrams.
	No
	GO to AB2.
AB2: CHECK THE IGNITION SUPPLY TO THE EATC MODULE	

	1 Turn the ignition switch to the <b>ON</b> position.
	2 Measure the voltage between IP101, pin 02 (WR) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between IP101, pin 02 and battery. This circuit includes the primary junction box, fuse 39, and the
	ignition relay. For additional information, refer to the wiring diagrams.
	No CO to AB3
ADD CHECK	GO to AB3.
AB3: CHECK	THE B+ SAVE SUPPLY TO THE EATC MODULE
	1 Turn the ignition switch to the <b>OFF</b> position.
	2 Measure the voltage between IP101, pin 01 (OY) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between IP101, pin 01 and battery. This circuit includes the primary junction box, fuse 49, and the battery save relay. For additional information, refer to the wiring diagrams.
	No
	GO to AB4.
AB4: CHECK	THE GROUND TO THE EATC MODULE
	1 Measure the resistance between IP101, pin 15 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.
DINDOINT	TEST AC - MEMORY SEAT MODULE SURRIY OR CROUND FAULT

	The fault found with power of ground supplies officer for bress malesting a module fault.
PINPOINT TEST	FAC: MEMORY SEAT MODULE SUPPLY OR GROUND FAULT
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
AC1: CHECK THE	B+1 SUPPLY TO THE MEMORY SEAT MODULE
	1 Disconnect the memory seat module connector, DM02.
	Measure the voltage between DM02, pin 01 (OG) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between DM02, pin 01 and battery. This circuit includes the primary junction box, fuse 16. For additional information, refer to the wiring diagrams.
	No
	GO to AC2.
AC2: CHECK THE	B+2 SUPPLY TO THE MEMORY SEAT MODULE
	1 Measure the voltage between DM02, pin 06 (GB) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between DM02, pin 06 and battery. This circuit includes the primary junction box, fuse 09. For
	additional information, refer to the wiring diagrams. <b>No</b>
	GO to AC3.
AC3: CHECK THE	IGNITION SUPPLY TO THE MEMORY SEAT MODULE
	1 Turn the ignition switch to the <b>ON</b> position.
	Measure the voltage between DM02, pin 04 (GB) and GROUND.
	Is the voltage less than 4 volts?
	Yes
	REPAIR the circuit between DM02, pin 04 and battery. This circuit includes the primary junction box, fuse 07. For
	additional information, refer to the wiring diagrams. <b>No</b>
	GO to AC4.
AC4: CHECK THE	ELECTRONIC GROUND TO THE MEMORY SEAT MODULE
	1 Turn the ignition switch to the OFF position.
	Measure the resistance between DM02, pin 10 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No GO to AC5.
AC5: CHECK THE	POWER GROUND TO THE MEMORY SEAT MODULE
ACSI CILCR TIL	1 Measure the resistance between DM02, pin 05 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No Colon Acc
ACG, CHECK THE	GO to AC6. SIGNAL GROUND TO THE MEMORY SEAT MODULE
	1 Measure the resistance between DM02, pin 03 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.

PINPOINT TEST AD : TCM (16 BIT) SUPPLY OR GROUND FAULT	
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
AD1: CHECK THE B+ SUPPLY TO THE TCM	
	1 Disconnect the TCM connector, JB131.
	Measure the voltage between JB131, pin 06 (UY) and GROUND.

Is the voltage less than 10 volts?
Yes
REPAIR the circuit between JB131, pin 06 and battery. This circuit includes the front power distribution box, fuse 32.
For additional information, refer to the wiring diagrams.
No GO to AD2.
AD2: CHECK THE IGNITION 1 SUPPLY TO THE TCM
1 Turn the ignition switch to the <b>ON</b> position.
2 Measure the voltage between JB131, pin 36 (WU) and GROUND.
Is the voltage less than 10 volts?
Yes
REPAIR the circuit between JB131, pin 36 and battery. This circuit includes the front power distribution box, fuse 11,
and the ignition relay. For additional information, refer to the wiring diagrams.
No COLLARS
GO to AD3.
AD3: CHECK THE IGNITION 2 SUPPLY TO THE TCM
Turn the ignition switch to the <b>ON</b> position.
Measure the voltage between JB131, pin 54 (WU) and GROUND.
Is the voltage less than 10 volts?
Yes  REPAIR the circuit between JB131, pin 54 and battery. This circuit includes the front power distribution box, fuse 11,
and the ignition relay. For additional information, refer to the wiring diagrams.
No
GO to AD4.
AD4: CHECK THE GROUND 1 TO THE TCM
1 Turn the ignition switch to the <b>OFF</b> position.
Measure the resistance between JB131, pin 09 (B) and GROUND.
Is the resistance greater than 5 ohms?
Yes
REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
No GO to AD5.
AD5: CHECK THE GROUND 2 TO THE TCM
1 Measure the resistance between JB131, pin 38 (B) and GROUND.
Is the resistance greater than 5 ohms?
Yes
REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
No
No fault found with power or ground supplies. Check for DTCs indicating a module fault.

PINPOINT TES	T AE : TCM (32 BIT) SUPPLY OR GROUND FAULT
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
AE1: CHECK THE	B+ SUPPLY TO THE TCM
	Disconnect the TCM connector, JB231.
	Measure the voltage between JB231, pin 28 (UY) and GROUND.
	Is the voltage less than 10 volts?
	Yes  REPAIR the circuit between JB231, pin 28 and battery. This circuit includes the front power distribution box, fuse 32.  For additional information, refer to the wiring diagrams.  No
	GO to AE2.
<b>AE2: CHECK THE</b>	IGNITION 1 SUPPLY TO THE TCM
	1 Turn the ignition switch to the <b>ON</b> position.
	Measure the voltage between JB231, pin 10 (WU) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between JB231, pin 10 and battery. This circuit includes the front power distribution box, fuse 11,
	and the ignition relay. For additional information, refer to the wiring diagrams.
	No GO to AE3.
AE3: CHECK THE	IGNITION 2 SUPPLY TO THE TCM
, test chiest the	1 Turn the ignition switch to the <b>ON</b> position.
	Measure the voltage between JB231, pin 19 (WU) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between JB231, pin 19 and battery. This circuit includes the front power distribution box, fuse 11, and the ignition relay. For additional information, refer to the wiring diagrams.
	No GO to AE4.
AEA: CHECK THE	GROUND 1 TO THE TCM
ALT. CITECK THE	Turn the ignition switch to the <b>OFF</b> position.
	Measure the resistance between JB231, pin 25 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No
	GO to AE5.
AE5: CHECK THE	GROUND 2 TO THE TCM
	Measure the resistance between JB231, pin 38 (B) and GROUND.
	Is the resistance greater than 5 ohms? <b>Yes</b>
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.

PINPOINT TEST AF : ECM SUPPLY OR GROUND FAULT (VEHICLES WITH 2.0L PETROL ENGINE)	
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
	B+ SUPPLY TO THE ECM
	1 Turn the ignition switch to the OFF position.
	Disconnect the ECM connector, EN65.
	3 Measure the voltage between EN65, pin 21 (NR) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between EN65, pin 21 and battery. This circuit includes the front power distribution box, fuse 36. For additional information, refer to the wiring diagrams.
	No
	GO to AF2.
AF2: CHECK THE	CONTROL SUPPLY TO THE ECM
	1 Turn the ignition switch to the <b>ON</b> position.
	Measure the voltage between EN65, pin 69 (B) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between EN65, pin 69 and battery. This circuit includes the EMS control relay, pin 2. For additional
	information, refer to the wiring diagrams.
	<b>No</b> GO to AF3.
AE3: CHECK THE	POWER GROUND (1) TO THE ECM
	1 Turn the ignition switch to the <b>OFF</b> position.
	2 Measure the resistance between EN65, pin 19 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No
	GO to AF4.
AF4: CHECK THE	POWER GROUND (2) TO THE ECM
	Measure the resistance between EN65, pin 18 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	<b>Yes</b> REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.
PINPOINT TEST	AG: ECM SUPPLY OR GROUND FAULT (VEHICLES WITH 2.5/3.0L PETROL ENGINE)

PINPOINT TEST AG: ECM SUPPLY OR GROUND FAULT (VEHICLES WITH 2.5/3.0L PETROL ENGINE)	
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
	B+ SUPPLY TO THE ECM
	1 Turn the ignition switch to the <b>OFF</b> position.
	Disconnect the ECM connector, EN16.
	3 Measure the voltage between EN16, pin 22 (NR) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between EN16, pin 22 and battery. This circuit includes the front power distribution box, fuse 36.
	For additional information, refer to the wiring diagrams.
	GO to AG2.
AG2: CHECK THE	CONTROL SUPPLY TO THE ECM
	1 Turn the ignition switch to the ON position.
	Measure the voltage between EN16, pin 40 (B) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between EN16, pin 40 and battery. This circuit includes the EMS control relay, pin 02. For
	additional information, refer to the wiring diagrams.
	No GO to AG3.
AG3: CHECK THE	POWER GROUND (1) TO THE ECM
	1 Turn the ignition switch to the <b>OFF</b> position.
	Measure the resistance between EN16, pin 04 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No , , , , , , , , , , , , , , , , , , ,
	<u>GO to AG4</u> .
AG4: CHECK THE	POWER GROUND (2) TO THE ECM
	1 Measure the resistance between EN16, pin 05 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes  DEDAID the high registance discuit. For additional information, refer to the wiring diagrams
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.  No
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.
-	

PINPOINT TEST AH: ECM SUPPLY OR GROUND FAULT (VEHICLES WITH 2.0L DIESEL ENGINE)	
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
	B+ SUPPLY TO THE ECM
	1 Turn the ignition switch to the <b>OFF</b> position.
	2 Disconnect the ECM connector, DL01.
	Measure the voltage between DL01, pin 03 (WG) and GROUND.

	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between DL01, pin 03 and battery. This circuit includes the front power distribution box, fuse 21, and the EMS control relay. For additional information, refer to the wiring diagrams.  No
	GO to AH2.
AH2: CHECK TH	E CONTROL SUPPLY TO THE ECM
	1 Turn the ignition switch to the <b>ON</b> position.
	2 Measure the voltage between DL01, pin 09 (B) and GROUND.
	Is the voltage less than 10 volts?
	REPAIR the circuit between DL01, pin 09 and battery. This circuit includes the EMS control relay, pin 02. For additional information, refer to the wiring diagrams.
	No GO to AH3.
AUS, CUECK TU	E POWER GROUND (1) TO THE ECM
AIIS. CIILCK IIII	1 Turn the ignition switch to the <b>OFF</b> position.
	2 Measure the resistance between DL01, pin 01 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No
ALLA GUEGICATU	GO to AH4.
AH4: CHECK TH	E POWER GROUND (2) TO THE ECM
	Measure the resistance between DL01, pin 02 (B) and GROUND.
	Is the resistance greater than 5 ohms?  Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No ,
	GO to AH5.
AH5: CHECK TH	E POWER GROUND (3) TO THE ECM
	Measure the resistance between DL01, pin 28 (B) and GROUND.
	Is the resistance greater than 5 ohms?  Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No
	GO to AH6.
AH6: CHECK TH	E POWER GROUND (4) TO THE ECM
	Measure the resistance between DL01, pin 66 (B) and GROUND.
	Is the resistance greater than 5 ohms?  Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No
	GO to AH7.
AH7: CHECK TH	E POWER GROUND (5) TO THE ECM
	1 Measure the resistance between DL01, pin 88 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	<b>Yes</b> REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.
PINPOINT TES	ST AI : ICE SUPPLY OR GROUND FAULT
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
AI1: CHECK THE	B+ SUPPLY TO THE ICE

	The fault found with power of ground supplies. Check for DTes maleating a module fault.
PINPOINT TES	T AI : ICE SUPPLY OR GROUND FAULT
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
AI1: CHECK THE	B+ SUPPLY TO THE ICE
	1 Turn the ignition switch to the <b>OFF</b> position.
	2 Disconnect the ICE connector, IP65.
	Measure the voltage between IP65, pin 11 (NW) and GROUND.
	Is the voltage less than 10 volts?  Yes
	REPAIR the circuit between IP65, pin 11 and battery. This circuit includes the primary junction box, fuse 44. For additional information, refer to the wiring diagrams.
	No GO to AI2.
AI2: CHECK THE	ACC SUPPLY TO THE ICE
	Turn the ignition switch to the ACC position.
	Measure the voltage between IP65, pin 02 (YG) and GROUND.
	Is the voltage less than 10 volts?
	<b>Yes</b> REPAIR the circuit between IP65, pin 02 and battery. This circuit includes the primary junction box, fuse 43. For additional information, refer to the wiring diagrams.
	No GO to AI3.
AI3: CHECK THE	GROUND TO THE ICE
	Turn the ignition switch to the <b>OFF</b> position.
	2 Measure the resistance between IP65, pin 01 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.

PINPOINT TEST AJ: CD CHANGER SUPPLY OR GROUND FAULT	
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	

AJ1: CHECK THE	B+ SUPPLY TO THE CD CHANGER
	1 Turn the ignition switch to the <b>OFF</b> position.
	2 Disconnect the CD changer connector, CA301.
	3 Measure the voltage between CA301, pin 02 (OY) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between CA301, pin 02 and battery. This circuit includes the primary junction box, fuse 44. For additional information, refer to the wiring diagrams.
	No
	GO to AJ2.
AJ2: CHECK THE	GROUND TO THE CD CHANGER
	1 Measure the resistance between CA301, pin 01 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.

PINPOINT TEST AK : NAV MODULE SUPPLY OR GROUND FAULT	
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
AK1: CHECK THE	B+ SUPPLY TO THE NAV MODULE
	1 Turn the ignition switch to the OFF position.
	2 Disconnect the NAV module connector, NA07.
	3 Measure the voltage between NA07, pin 01 (OY) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between NA07, pin 01 and battery. This circuit includes the primary junction box, fuse 44. For additional information, refer to the wiring diagrams.
	No
	GO to AK2.
	ACC SUPPLY TO THE NAV MODULE
	1 Turn the ignition switch to the ACC position.
	Measure the voltage between NA07, pin 11 (YG) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between NA07, pin 11 and battery. This circuit includes the primary junction box, fuse 43. For
	additional information, refer to the wiring diagrams.
	GO to AK3.
AK3: CHECK THE	GROUND TO THE NAV MODULE
	1 Turn the ignition switch to the <b>OFF</b> position.
	Measure the resistance between NA07, pin 02 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.

DINDOINT TECT	TALL FELL MODILLE CURRLY OF CROUND FAULT
	T AL : FFH MODULE SUPPLY OR GROUND FAULT
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
AL1: CHECK THE	B+ SUPPLY TO THE FFH MODULE
	1 Turn the ignition switch to the <b>OFF</b> position.
	2 Disconnect the FFH module connector, JB232.
	Measure the voltage between JB232, pin 01 (GR) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between JB232, pin 01 and battery. This circuit includes the front power distribution box, fuse 31.
	For additional information, refer to the wiring diagrams.
	No control of the con
	GO to AL2.
,	IGNITION SUPPLY TO THE FFH MODULE
	1 Turn the ignition switch to the <b>ON</b> position.
	2 Measure the voltage between JB232, pin 04 (RW) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between JB232, pin 04 and battery. This circuit includes the front power distribution box, fuse 12.
	For additional information, refer to the wiring diagrams.
	No control of the con
	GO to AL3.
	GROUND TO THE FFH MODULE
	1 Turn the ignition switch to the <b>OFF</b> position.
	Measure the resistance between JB232, pin 02 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No .
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.

PINPOINT TEST AM: PARK AID MODULE SUPPLY OR GROUND FAULT	
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
AM1: CHECK THE IGNITION SUPPLY TO THE PARK AID MODULE	
1 Turn the ignition switch to the <b>OFF</b> position.	

[	2 Disconnect the park aid module connector, CA418.
	3 Tum the ignition switch to the <b>ON</b> position.
	4 Measure the voltage between CA418, pin 01 (N) and GROUND.
	Is the voltage less than 10 volts?
	Yes  REPAIR the circuit between CA418, pin 01 and battery. This circuit includes the primary junction box, fuse 33 and the
	ignition relay. For additional information, refer to the wiring diagrams.  No  GO to AM2.
AM2: CHECK THE	GROUND TO THE PARK AID MODULE
	1 Turn the ignition switch to the <b>OFF</b> position.
	Measure the resistance between CA418, pin 16 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.  No
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.

PINPOINT TEST AN: RCM SUPPLY OR GROUND FAULT		
TEST	DETAILS/RESULTS/ACTIONS	
CONDITIONS		
AN1: CHECK THE	IGNITION SUPPLY TO THE RCM	
	1 Turn the ignition switch to the <b>OFF</b> position.	
	2 Disconnect the RCM connector, IP74.	
	3 Turn the ignition switch to the <b>ON</b> position.	
	4 Measure the voltage between IP74, pin 12 (G) and GROUND.	
	Is the voltage less than 10 volts?	
	<b>Yes</b> REPAIR the circuit between IP74, pin 12 and battery. This circuit includes the primary junction box, fuse 53 and the	
	ignition relay. For additional information, refer to the wiring diagrams.  No	
	GO to AN2.	
AN2: CHECK THE	AN2: CHECK THE GROUND TO THE RCM	
	1 Turn the ignition switch to the <b>OFF</b> position.	
	Measure the resistance between IP74, pin 16 (B) and GROUND.	
	Is the resistance greater than 5 ohms?	
	Yes REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.  No	
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.	

PINPOINT TEST AO : GEM SUPPLY FAULT	
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
AO1: CHECK THE	B+ SUPPLY TO THE GEM
	1 Disconnect the GEM connector, JB172.
	Measure the voltage between JB172, pin 01 (OY) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between JB172, pin 01 and battery. This circuit includes the primary junction box, fuse 22. For additional information, refer to the wiring diagrams.
	No No fault found with power supplies. Check for DTCs indicating a module fault.

#### PINPOINT TEST AP: RESTRAINTS CONTROL MODULE (RCM) ISO CIRCUIT MALFUNCTION WARNING: To avoid accidental deployment and possible injury, the backup power supply must be depleted before repairing or replacing any airbag supplemental restraint system (SRS) components. To deplete the backup power supply energy, disconnect the battery ground cable and wait one minute. Failure to follow this instruction may result in personal injury. TEST CONDITIONS **DETAILS/RESULTS/ACTIONS** AP1: CHECK THE RCM FOR DAMAGE **1** Inspect the RCM for damage. Does the RCM indicate signs of damage? INSTALL a new RCM. REFER to: Restraints Control Module (RCM) (501-20B Supplemental Restraint System, Removal and Installation). CLEAR the DTC, test the system for normal operation. No GO to AP2 AP2: CHECK K-LINE FOR SHORT CIRCUIT TO GROUND Measure the resistance between diagnostic connector, pin 07 (W) and GROUND. Is the resistance less than 10,000 ohms? Yes REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. No GO to AP3 AP3: CHECK K-LINE FOR SHORT CIRCUIT TO BATTERY Measure the resistance between diagnostic connector, pins 07 (W) and pin 16 (OY). Is the resistance less than 10,000 ohms? Yes REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the

system for normal operation.

GO to AP4.

AP4: CHECK FOR OPEN CIRCUIT ON K-LINE BETWEEN DIAGNOSTIC CONNECTOR AND RCM			
	1 Turn the ignition switch to the <b>OFF</b> position.		
	2 Disconnect the battery negative terminal.		
	3 Disconnect the RCM connector, IP74.		
	4 Measure the resistance between diagnostic connector, pin 07 (W) (K-line) and IP74, pin 11 (W).		
	Is the resistance greater than 5 ohms?		
	Yes		
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.		
	No		
	INSTALL a new RCM.		
	REFER to: Restraints Control Module (RCM) (501-20B Supplemental Restraint System, Removal and		
	Installation).		
	CLEAR the DTC, test the system for normal operation.		

PINPOINT TEST	TEST AQ: HEADLAMP LEVELLING MODULE (HID) ISO CIRCUIT MALFUNCTION			
TEST	DETAILS/RESULTS/ACTIONS			
CONDITIONS				
AQ1: CHECK HEADLAMP LEVELLING MODULE FOR DAMAGE				
	1 Inspect the HID module for damage.			
	Does the HID module indicate signs of damage?			
	Yes			
	INSTALL a new HID module.			
	REFER to: Headlamp Leveling Module (417-01 Exterior Lighting, Removal and Installation).			
	CLEAR the DTC, test the system for normal operation.  No			
	GO to AO2.			
AO2: CHECK K-I IN	NE FOR SHORT CIRCUIT TO GROUND			
	Measure the resistance between diagnostic connector, pin 07 (W) and GROUND.			
	Is the resistance less than 10,000 ohms?			
	Yes			
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system			
	for normal operation.			
	No .			
	GO to AQ3.			
	NE FOR SHORT CIRCUIT TO BATTERY			
	1 Measure the resistance between diagnostic connector, pins 07 (W) and pin 16 (OY).			
	Is the resistance less than 10,000 ohms?			
	Yes			
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system			
	for normal operation.			
	GO to AO4.			
AOA: CHECK FOR	OPEN CIRCUIT ON K-LINE BETWEEN DIAGNOSTIC CONNECTOR AND HID MODULE			
AQT. CILCRION	Disconnect the HID module connector, IP130.			
	Measure the resistance between diagnostic connector, pin 07 (W) and IP130, pin 05 (W).			
	Is the resistance greater than 5 ohms?			
	Yes			
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the			
	system for normal operation.			
	No			
	INSTALL a new HID module.			
	REFER to: <u>Headlamp Leveling Module</u> (417-01 Exterior Lighting, Removal and Installation).			
	CLEAR the DTC, test the system for normal operation.			

### PINPOINT TEST AR: ROOF CONSOLE ISO CIRCUIT MALFUNCTION • NOTE: There are two levels of Roof Console. High-line, with moon roof, and/or reading lamps, plus VEMS and/or garage door opener (electrical connector, RC22). Low-line, with moon roof and/or reading lamps only (electrical connector, RC33) TEST CONDITIONS **DETAILS/RESULTS/ACTIONS** AR1: CHECK ROOF CONSOLE MODULE FOR DAMAGE Inspect the roof console module for damage. Does the roof console module indicate signs of damage? Yes INSTALL a new roof console module. CLEAR the DTC, test the system for normal operation. No GO to AR2 AR2: CHECK K-LINE FOR SHORT CIRCUIT TO GROUND 1 Measure the resistance between diagnostic connector, pin 07 (W) and GROUND. Is the resistance less than 10,000 ohms? Yes REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. No AR3: CHECK K-LINE FOR SHORT CIRCUIT TO BATTERY Measure the resistance between diagnostic connector, pin 07 (W) and pin 16 (OY). 1 Is the resistance less than 10,000 ohms? Yes REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. No

# AR4: CHECK FOR OPEN CIRCUIT ON K-LINE BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ROOF CONSOLE MODULE 1 2 3 Turn the ignition switch to the **OFF** position.

Disconnect the battery negative terminal.

Disconnect the roof console module connector (RC23, high-line, RC33, low-line).

	4 Measure the resistance between the diagnostic connector, pin 07 (W) and:		
	Vehicles with low-line console -		
	• RC23, pin 08 (W).		
	Vehicles with high-line console -		
	• RC33, pin 03 (W).		
	Is the resistance greater than 5 ohms? Yes		
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.		
	<b>No</b> INSTALL a new roof console module. CLEAR the DTC, test the system for normal operation.		

PINPOINT TEST AS : REVERSE PARK AID ISO CIRCUIT MALFUNCTION				
TEST	DETAILS/RESULTS/ACTIONS			
CONDITIONS				
	REVERSE PARK AID MODULE FOR DAMAGE			
	1 Inspect the reverse park aid module for damage.			
	Does the reverse park aid module indicate signs of damage?			
	Yes			
	INSTALL a new reverse park aid module.			
	REFER to: <u>Parking Aid Module - 4-Door</u> (413-13 Parking Aid, Removal and Installation). CLEAR the DTC, test the system for normal operation.			
	No			
	GO to AS2.			
AS2: CHECK K-LIN	E FOR SHORT CIRCUIT TO GROUND			
	1 Measure the resistance between diagnostic connector, pin 07 (W) and GROUND.			
	Is the resistance less than 10,000 ohms?			
	Yes			
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system			
	for normal operation.			
	No COLLAGO			
ACO. CHECK K LTN	GO to AS3. E FOR SHORT CIRCUIT TO BATTERY			
	Measure the resistance between diagnostic connector, pin 07 (W) and pin 16 (OY).			
	Is the resistance less than 10,000 ohms?			
	Yes			
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system			
	for normal operation.			
	No			
	GO to AS4.			
AS4: CHECK FOR (	OPEN CIRCUIT ON K-LINE BETWEEN THE DIAGNOSTIC CONNECTOR AND THE REVERSE PARK AID MODULE			
	1 Turn the ignition switch to the OFF position.			
	2 Disconnect the battery negative terminal.			
	3 Disconnect the reverse park aid module connector, RB07.			
'	4 Measure the resistance between diagnostic connector, pin 07 (W) and RB07, pin 05 (W).			
	Is the resistance greater than 5 ohms?			
	Yes			
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the			
	system for normal operation.			
	No INSTALL a new reverse park aid module			
	INSTALL a new reverse park aid module. REFER to: <u>Parking Aid Module - 4-Door</u> (413-13 Parking Aid, Removal and Installation).			
	CLEAR the DTC, test the system for normal operation.			
1	SEE AR CHE BY OF TEST CHE BY SECTION FOR HORIZON			

PINPOINT TEST	AT : ECM ISO CIRCUIT MALFUNCTION			
<ul> <li>NOTE: These pinpoint tests apply only to OBD2 diagnostics. The ECM does most of it's diagnostics via CAN.</li> </ul>				
TEST	DETAILS/RESULTS/ACTIONS			
CONDITIONS				
AT1: CHECK ECM	FOR DAMAGE			
	1 Inspect the ECM for damage.			
1	Does the ECM indicate signs of damage?			
	Yes			
	Please check part is not on any form of prior authorisation before replacement.			
	No COLLARD			
ATD 611561/1/15	GO to ATZ.			
A I 2: CHECK K-LII	NE FOR SHORT CIRCUIT TO GROUND			
	Measure the resistance between the diagnostic connector, pin 07 (W) and GROUND.			
	Is the resistance less than 10,000 ohms?			
	Yes			
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system			
	for normal operation.			
	GO to AT3.			
AT3: CHECK K-LIN	NE FOR SHORT CIRCUIT TO BATTERY			
	1 Measure the resistance between the diagnostic connector, pins 07 (W) and 16 (OY).			
	Is the resistance less than 10,000 ohms?			
	Yes			
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system			
	for normal operation.			
	No			
	GO to AT4.			
	OPEN CIRCUIT ON K-LINE BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ECM			
<ul> <li>NOTE: The diesel</li> </ul>	ECM is not part of the ISO network.			

1	Turn the ignition switch to the <b>OFF</b> position.
2	Disconnect the battery negative terminal.
	Vehicles with 2.5 and 3.0L engine -
	<ul> <li>Disconnect the ECM connector, EN16.</li> <li>Measure the resistance between the diagnostic connector, pin 07 (W) and EN16, pin 105 (W).</li> </ul>
	Vehicles with 2.0L petrol engine -
	<ul> <li>Disconnect the ECM connector, EN65.</li> <li>Measure the resistance between the diagnostic connector, pin 07 (W) and EN65, pin 39 (W).</li> </ul>
Is t	the resistance greater than 5 ohms? <b>s</b>
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
No	Please check part is not on any form of prior authorisation before replacement.

PINPOINT TEST AU : FUEL FIRED HEATER (FFH) MODULE ISO CIRCUIT MALFUNCTION					
TEST	DETAILS/RESULTS/ACTIONS				
CONDITIONS					
	FH MODULE FOR DAMAGE				
	1 Inspect the FFH module for damage.				
	Does the FFH module indicate signs of damage?				
	Yes				
	Please check part is not on any form of prior authorisation before replacement.  No				
	GO to AU2.				
AU2: CHECK K-LIN	NE FOR SHORT CIRCUIT TO GROUND				
	1 Measure the resistance between the diagnostic connector, pin 07 (W) and GROUND.				
	Is the resistance less than 10,000 ohms?				
	Yes				
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system				
	for normal operation.				
	No GO to AU3.				
AUS: CHECK K-I IN	NE FOR SHORT CIRCUIT TO BATTERY				
PROOF CHILDREN ELL	1 Measure the resistance between the diagnostic connector, pins 07 (W) and 16 (OY).				
	Is the resistance less than 10,000 ohms?				
	Yes				
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system				
	for normal operation.				
	No GO to AU4.				
ALIA: CHECK FOR	OPEN CIRCUIT ON K-LINE BETWEEN THE DIAGNOSTIC CONNECTOR AND THE FFH MODULE				
AU4. CHECK FOR	Turn the ignition switch to the OFF position.				
	Disconnect the battery negative terminal.				
	3 Disconnect the FFH module connector, JB232.				
	Measure the resistance between the diagnostic connector, pin 07 (W) and JB232, pin 03 (W).				
	Is the resistance greater than 5 ohms?				
	Yes				
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the				
	system for normal operation.				
	No				
<u></u>	Please check part is not on any form of prior authorisation before replacement.				

PINPOINT TEST	TEST AV : AMPLIFIER SUPPLY OR GROUND FAULT				
TEST	DETAILS/RESULTS/ACTIONS				
CONDITIONS	1				
AV1: CHECK THE	B+ SUPPLY TO THE AMPLIFIER				
	1 Turn the ignition switch to the OFF position.				
	2 Disconnect the amplifier connector, CA425.				
	3 Measure the voltage between CA425, pin 03 (NR) and GROUND.				
	4 Measure the voltage between CA425, pin 09 (NR) and GROUND.				
	Is either voltage less than 10 volts?				
	Yes				
	REPAIR the circuit between CA425, pins 03/09 and battery. This circuit includes the primary junction box, fuse 20.				
	For additional information, refer to the wiring diagrams.				
	No GO to AV2.				
AVA: CUECK TUE					
AVZ: CHECK THE	GROUND TO THE AMPLIFIER				
	1 Turn the ignition switch to the <b>OFF</b> position.				
	2 Measure the resistance between CA425, pin 02 (B) and GROUND.				
	Measure the resistance between CA425, pin 08 (B) and GROUND.				
	Is either resistance greater than 5 ohms?				
	Yes				
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.				
	No				
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.				

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# Module Communications Network - Communications NetworkVIN Range: J28493->V99999

Diagnosis and Testing

#### **Principles of Operation**

The vehicle has four module communication networks. Only three of which are connected to the diagnostic connector. The **standard corporate protocol (SCP)** and **controller area network (CAN)**, which are an unshielded twisted pair cable: data bus + and data bus - and the **International Standard Organization (ISO)** 9141 communication network, which is a single wire network.

The **domestic data bus (D2B)**, which is a fibre optic ring network, can be diagnosed through the SCP network, and with the optical bus tester.

The SCP, CAN and ISO networks can be connected to the Jaguar approved diagnostic system by one diagnostic connector. This makes troubleshooting these systems easier by allowing one smart tester to be able to diagnose any module on the three networks from one connector. On-board diagnosis of the D2B network is through the in car entertainment (ICE) head.

The diagnostic connector is located under the instrument panel.

The ISO 9141 communications network does not permit inter-module communications. When the Jaguar approved diagnostic system communicates with modules on the ISO 9141 communication network, the diagnostic system must ask for all information, the modules will not initiate communications.

The SCP communication network remains operational even with severing of one of the bus wires. Communications will also continue if one of the bus wires is shorted to ground or battery positive voltage (B+), or if some (but not all) termination resistors are lost.

Unlike the SCP communication network, the ISO 9141 communication network will not function if the wire is shorted to ground or battery positive voltage (B+). Also, if one of the modules on the ISO 9141 network loses power or shorts internally, communication to that module will fail.

The anti-lock brake control module is connected to the CAN communication network. The module comes in two forms. The first type is the standard equipped anti-lock brake system (ABS) with traction control. It controls the brake pressure to the four wheels to keep the vehicle under control while braking. The second type of ABS is optional and is called dynamic stability control (DSC). This module adds yaw and steering wheel angle sensors to the package to help in sensing a loss of vehicle control. For additional information, REFER to: <a href="https://doi.org/10.1036/nation.com/nation/">Anti-Lock Control - Stability Assist</a> (206-09 Anti-Lock Control - Stability Assist, Description and Operation).

The in car entertainment (ICE) head is connected to the SCP communication network and also to the D2B network. The D2B communicates with the compact disc player, cellular phone transceiver, navigation system, amplifier, and the voice control module. For additional information on the compact disc,

REFER to: Audio System (415-00 Information and Entertainment System - General Information, Diagnosis and Testing).

For additional information on the cellular phone,

REFER to: Cellular Phone (419-08 Cellular Phone, Diagnosis and Testing).

For additional information on the navigation system,

REFER to: Navigation System (419-07 Navigation System, Diagnosis and Testing).

For additional information on the amplifier,

REFER to: Audio System (415-01 Audio Unit, Description and Operation).

For additional information on the voice activated control system,

REFER to: Multifunction Electronic Module (419-10 Multifunction Electronic Modules, Diagnosis and Testing).

The electronic automatic temperature control (EATC) module is connected to the CAN communication network. The EATC module controls automatic climate functions that maintain the vehicle at a constant temperature setting. For additional information, REFER to: Climate Control System (412-00 Climate Control System - General Information, Diagnosis and Testing).

The instrument cluster (also known as an instrument cluster module ICM) is connected to the CAN and SCP communication networks. The instrument cluster displays information received on the SCP including speedometer, odometer, fuel, and message center warnings. The instrument cluster displays information received on the CAN including ABS, air conditioning, transmission and engine condition. The instrument cluster also controls the passive anti-theft system (PATS). For additional information;

REFER to: Instrument Cluster and Panel Illumination (413-00 Instrument Cluster and Panel Illumination, Diagnosis and Testing). For instrument cluster operation and

REFER to: Anti-Theft - Passive (419-01B Anti-Theft - Passive, Diagnosis and Testing). for PATS.

The general electronic module (GEM) is connected to the SCP communication network. The GEM controls both interior and exterior lighting, active anti-theft functions and warning chimes. For additional information on interior lamps,

REFER to: Interior Lighting (417-02 Interior Lighting, Diagnosis and Testing).

For additional information on exterior lighting,

REFER to: Headlamps (417-01 Exterior Lighting, Diagnosis and Testing).

For additional information on active anti-theft,

REFER to: Anti-Theft - Active (419-01A Anti-Theft - Active, Diagnosis and Testing).

For additional information on warning chimes,

REFER to: Warning Devices (413-09 Warning Devices, Diagnosis and Testing).

The engine control module (ECM) is connected to both the CAN and ISO 9141 communication networks. The ECM controls the engine performance, electronic ignition, emission controls, speed control, and on board diagnostics. For additional information; REFER to: Electronic Engine Controls - 2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, VIN Range: E96603->J28492 (303-14A Electronic Engine Controls - 2.0L NA V6 - AJV6/2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, Diagnosis and Testing).

REFER to: <u>Electronic Engine Controls - 2.0L NA V6 - AJV6</u> (303-14A Electronic Engine Controls - 2.0L NA V6 - AJV6/2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, Diagnosis and Testing).

REFER to: <u>Electronic Engine Controls</u> (303-14B Electronic Engine Controls - 2.0L Duratorq-TDCi/2.2L Duratorq-TDCi (110kW/150PS) - Puma, Diagnosis and Testing).

The 'phone module is connected to the D2B communication network, and incorporates the VEMS, or Vehicle Emergency Messaging System. The module allows a user to request emergency assistance (police, ambulance, fire, recovery) or directions to a desired location at the touch of a button. Also, if any of the vehicle's airbags are deployed while the VEMS system is powered ON, the system automatically issues a call for emergency assistance. For additional information, REFER to: Compact Disc (CD) Changer - 4-Door (415-01 Audio Unit, Removal and Installation).

CLE Like to a surprise (ab) changer 1 Bost (13 of Addie offic) Kernovar and Installation).

The airbag restraints module is connected to the ISO 9141 communication network. The airbag control module controls the deployment of the air bags based on sensor input. For additional information;

REFER to: Air Bag Supplemental Restraint System (SRS) (501-20B Supplemental Restraint System, Diagnosis and Testing).

The voice activated control module (VACM) is connected to the D2B communication network. This allows the user to select functions by giving a voice command. The VACM sends the command information by D2B to the correct module or audio unit.

The navigation system (NAV) is connected to the D2B communication network, and performs it's diagnostics via the SCP network. The NAV receives inputs from the GPS antenna and various other sensors. For additional information, REFER to: Navigation System (419-07 Navigation System, Diagnosis and Testing).

# **Inspection and Verification**

- 1. 1. Verify the customer concern.
- 2. 2. Visually inspect for obvious signs of mechanical, electrical or optical damage.

#### Electrical

- Fuses
- Wiring harness
- Loose or corroded connections
- Correct engagement of electrical connectors
- Controller area network (CAN)
- Instrument cluster (IC)
- Steering wheel rotation sensor (SWRS)
- Gear selector module (GSI)
- Headlight levelling module (HID)
- Yaw rate sensor
- Electronic air temperature control module (EATCM)
- Memory seat control module
- Transmission control module (TCM)
- Anti-lock brake control module with or without dynamic stability control (ABS/DSC)
- Engine control module (ECM)
- Standard corporate protocol (SCP)
- Generic electronic module (GEM)
- Instrument cluster (IC)
- In-car entertainment (ICE)
- Navigation system (NAV) Engine control module (ECM)
- International standards organization (ISO)
- Fuel fired heater module
- Reverse park aid module
- Restraints control module (RCM)
- Headlight levelling module (HID)
- Roof console scanner
- Domestic data bus (D2B)
- ICE head unit (HU)
- Compact disc changer (CD)
- Cellular phone module (CPM)
- Voice module (VACM)
- Navigation system module (NSM)
- Amplifier (AMP)

#### **Visual Inspection Chart**

#### Optical

- Routing of fibre optic harnesses
- Correct engagement of optical connectors
- Correct placement of optical connectors (ring order)
- Damage to fibre (chafing, abrasion, kinking, cuts, etc)
  - Correct assembly of optical connectors (backout, etc)

#### **Default Modes**

Possible TCM default

- Fixed 4th gear
- Erratic gear shifts

Possible ECM default

- Throttle motor and relay disabled
- Throttle valve opening set to default value
- Idle speed controlled by fuel injection intervention
- Idle speed adaptation inhibited
- Throttle opening limited to 30%
- Vehicle speed limited
- Speed (cruise) control limited
- Maximum throttle opening for N range inhibited
- Maximum engine speed reduced
- HO2 sensor control circuit inhibited
- Maximum ignition retard

# **Symptom Chart**

• NOTE: Network DTCs may be set by an error or communications failure in the network. Individual DTCs are in the table, alongside their respective modules, but may also be set by a combination of factors affecting the network, which would result in multiple DTCs being set for one error, or, as in the case of an open circuit, no DTC being set.

DTC	Description	Possible Source	Action
	CAN ECM / JGM network		Refer to power and ground test for suspect module. For JGM CAN
	malfunction	<ul> <li>ČAN open circuit fault; JGM</li> </ul>	circuit tests, GO to Pinpoint Test <u>AW.</u> Please check part is not on any form of prior authorization before replacement.
		to ECM	

DTC	Description	Possible Source	Action
		<ul><li>CAN short circuit fault</li><li>JGM failure</li><li>ECM failure</li></ul>	
P1573	CAN throttle angle error	TP sensor fault (additional DTCs logged) ECM CAN message error	REFER to: Electronic Engine Controls - 2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, VIN Range: E96603->J28492 (303-14A Electronic Engine Controls - 2.0L NA V6 - AJV6/2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, Diagnosis and Testing) / Electronic Engine Controls - 2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, VIN Range: E96603->J28492 (303-14A Electronic Engine Controls - 2.0L NA V6 - AJV6/2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, Diagnosis and Testing).  Error message sent on CAN, but not CAN related. Check for
P1601	Incorrect ECM or TCM fitted to vehicle	<ul><li>ECM configuration</li><li>TCM configuration</li></ul>	additional DTCs indicating cause.  Configure the modules using the Jaguar approved diagnostic system.
P1603	TCM EEPROM failure	Battery disconnected while the ignition switched ON     B+ power supply circuit; open circuit     TCM failure	For TCM EEPROM tests, GO to Pinpoint Test <u>B.</u>
P1609	ECM microprocessor to microprocessor communication failure	● ECM failure	Please check part is not on any form of prior authorization before replacement.
P1611	ECM sub CPU failure	● ECM failure	Please check part is not on any form of prior authorization before
P1633	ECM main CPU failure	● ECM failure	replacement. Please check part is not on any form of prior authorization before
P1634	Throttle 'watch-dog'	● ECM failure	replacement. Please check part is not on any form of prior authorization before
P1637	circuit malfunction CAN ECM to ABS/TCCM or DSC control module network malfunction	Module power supply or ground interruption     CAN open circuit fault;     ABS/TCCM or DSC to ECM     CAN short circuit fault     ABS/TCCM or DSC module failure     ECM failure	replacement.  Refer to power and ground test for suspect module. For ABS/TCCM or DSC CAN circuit tests, GO to Pinpoint Test C. Please check part is not on any form of prior authorization before replacement.
P1638	CAN ECM / IC network malfunction	Module power supply or ground interruption     CAN open circuit fault; IC to ECM     CAN short circuit fault     IC failure     ECM failure	Refer to power and ground test for suspect module. For IC CAN circuit tests, GO to Pinpoint Test D. Please check part is not on any form of prior authorization before replacement.
P1642	CAN circuit malfunction	Module power supply or ground interruption     CAN short circuit fault     Control module failure; Check for additional logged DTCs to locate module source	Refer to power and ground test for suspect module. For network short circuit tests, GO to Pinpoint Test <u>E.</u>
P1643	CAN ECM / TCM network malfunction	Module power supply or ground interruption     CAN open circuit fault; TCM to ECM     CAN short circuit fault     TCM failure     ECM failure	Refer to power and ground test for suspect module. For CAN open circuit tests, GO to Pinpoint Test A. For network short circuit tests, GO to Pinpoint Test E. Please check part is not on any form of prior authorization before replacement.
P1646	ECM HO2 sensor control malfunction, right-hand bank	short circuit to ground, short circuit to high voltage, open circuit • ECM failure	For HO2 sensor circuit tests, REFER to: Electronic Engine Controls - 2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, VIN Range: E96603->J28492 (303-14A Electronic Engine Controls - 2.0L NA V6 - AJV6/2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, Diagnosis and Testing) / Electronic Engine Controls - 2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, VIN Range: E96603->J28492 (303-14A Electronic Engine Controls - 2.0L NA V6 - AJV6/2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, Diagnosis and Testing). Please check part is not on any form of prior authorization before replacement.
P1647	ECM HO2 sensor control malfunction, left-hand bank	short circuit to ground, short circuit to high voltage, open circuit • ECM failure	For HO2 sensor circuit tests, REFER to: Electronic Engine Controls - 2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, VIN Range: E96603->J28492 (303-14A Electronic Engine Controls - 2.0L NA V6 - AJV6/2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, Diagnosis and Testing) / Electronic Engine Controls - 2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, VIN Range: E96603->J28492 (303-14A Electronic Engine Controls - 2.0L NA V6 - AJV6/2.5L NA V6 - AJV6/3.0L NA V6 - AJ27, Diagnosis and Testing). Please check part is not on any form of prior authorization before replacement.
P1648	ECM KS self-test failure	● ECM failure	Please check part is not on any form of prior authorization before replacement.

DTC	Description	Possible Source	Action
P1656	TP sensor amplifier circuit malfunction	ECM failure	Please check part is not on any form of prior authorization before replacement.
P1699	CAN ECM to EATCM network malfunction	Module power supply or ground interruption     CAN open circuit fault; EATCM to ECM     CAN short circuit fault; EATCM to ECM     EATCM failure     ECM failure	Refer to power and ground test for suspect module. For EATCM open circuit tests, GO to Pinpoint Test A. For network short circuit tests, GO to Pinpoint Test F. Please check part is not on any form of prior authorization before replacement.
P1777	CAN torque reduction	● ECM CAN message error	Error message sent on CAN, but not CAN related. Check for
P1796	error CAN network malfunction	Module power supply or ground interruption     CAN short circuit fault     TCM failure	additional DTCs indicating cause.  Refer to power and ground test for suspect module. For network short circuit test, GO to Pinpoint Test A.
P1797	CAN TCM/ECM network malfunction	Module power supply or ground interruption     CAN open circuit fault; TCM to ECM     CAN short circuit fault     TCM failure     ECM failure	Refer to power and ground test for suspect module. For TCM open/short circuit tests, GO to Pinpoint Test <u>C.</u>
P1799	CAN TCM to ABS/TCCM or DSC module network malfunction	<ul> <li>Module power supply or ground interruption</li> <li>CAN short circuit fault</li> <li>ABS/TCCM or DSC module failure</li> <li>TCM failure</li> </ul>	Refer to power and ground test for suspect module. For ABS/TCCM short circuit tests, GO to Pinpoint Test <u>G.</u>
U1041	GEM SCP network invalid vehicle speed data	ABS/DSC wheel speed message error     SCP network error	For GEM SCP network tests, GO to Pinpoint Test H.
U1135	GEM SCP network invalid ignition switch data	<ul><li>Instrument cluster ignition switch message error</li><li>SCP network error</li></ul>	For GEM SCP network tests, GO to Pinpoint Test H.
U1147	GEM anti-theft SCP network invalid ignition key-in data	GEM key-in message error     SCP network error	For GEM SCP network tests, GO to Pinpoint Test H.
U1262	GEM SCP network ignition switch state message missing	<ul><li>SCP circuit(s); open circuit</li><li>SCP network error</li></ul>	For GEM SCP network tests, GO to Pinpoint Test H.
U1262	ICE SCP network circuit fault	<ul> <li>SCP network circuit; open circuit, short circuit to B+, short circuit to ground</li> <li>SCP network circuit fault</li> <li>Audio unit fault</li> </ul>	For ICE SCP network tests, GO to Pinpoint Test <u>I.</u>
U1900	CAN instrumentation messages missing	<ul> <li>Engine management, ABS, or DSC fault</li> <li>CAN network fault</li> </ul>	For ABS/DSC CAN network tests, GO to Pinpoint Test <u>G.</u>
U1900	Automatic climate control CAN fault	CAN circuit; open circuit, short circuit to B+, short circuit to ground Automatic climate control module internal CAN fault CAN network fault	For EATC CAN network tests, GO to Pinpoint Test <u>F.</u>
U1900	ABS CAN fault	<ul> <li>CAN circuit: open circuit, short circuit to B+, short circuit to ground</li> <li>ABS control module internal CAN fault</li> <li>CAN network fault</li> </ul>	For ABS/DSC CAN network tests, GO to Pinpoint Test <u>G.</u>
U1900	DSC CAN fault	<ul> <li>CAN circuit; open circuit, short circuit to B+, short circuit to ground</li> <li>DSC control module internal CAN fault</li> <li>CAN network fault</li> </ul>	For ABS/DSC CAN network tests, GO to Pinpoint Test <u>G.</u>
U2003	CD autochanger not responding on D2B network	<ul> <li>D2B network 'wake-up' circuit; short circuit to B+, short circuit to ground</li> <li>D2B network fault</li> </ul>	For D2B 'wake-up' circuit tests, GO to Pinpoint Test K. For CD autochanger D2B network tests, GO to Pinpoint Test J. For D2B permanent supply tests, GO to Pinpoint Test R.
U2008	Cellular telephone not responding on D2B network	<ul> <li>D2B network 'wake-up' circuit; short circuit to B+, short circuit to ground</li> <li>D2B network fault</li> </ul>	For D2B 'wake-up' circuit tests, GO to Pinpoint Test K. For cellular telephone D2B network tests, GO to Pinpoint Test L. For D2B permanent supply tests, GO to Pinpoint Test R. For D2B accessory switched supply tests, GO to Pinpoint Test S. For D2B ignition switched supply tests, GO to Pinpoint Test T.

DTC	Description	Possible Source	Action
U2019	VACM not responding on D2B network	circuit; short circuit to B+,	For D2B 'wake-up' circuit tests, GO to Pinpoint Test K. For VACM D2B network tests, GO to Pinpoint Test M. For D2B accessory switched supply tests, GO to Pinpoint Test S. For D2B ignition switched supply tests, GO to Pinpoint Test T.
U2196	Instrument cluster CAN engine speed message invalid	<ul><li>Verify integrity of engine management system</li><li>CAN network fault</li></ul>	For instrument cluster CAN network tests, GO to Pinpoint Test D.
U2197	Instrument cluster CAN engine speed message invalid	<ul><li>Verify integrity of engine management system</li><li>CAN network fault</li></ul>	For instrument cluster CAN network tests, GO to Pinpoint Test D.
U2199	Instrument cluster CAN engine coolant temperature message invalid	<ul><li>Verify integrity of engine management system</li><li>CAN network fault</li></ul>	For instrument cluster CAN network tests, GO to Pinpoint Test D.
U2200	Instrument cluster CAN odometer count message invalid	<ul><li>Verify integrity of ABS or DSC systems</li><li>CAN network fault</li></ul>	For instrument cluster CAN network tests, GO to Pinpoint Test D.
U2202	Invalid DSC control module CAN configuration data received from ECM	<ul> <li>Reconfigure the ECM using the Jaguar approved diagnostic system</li> <li>CAN network fault</li> </ul>	For ECM CAN network tests, GO to Pinpoint Test <u>E.</u>
U2202	Invalid ABS control module CAN configuration data received from ECM	<ul> <li>Reconfigure the ECM using the Jaguar approved diagnostic system</li> <li>CAN network fault</li> </ul>	For ECM CAN network tests, GO to Pinpoint Test <u>E.</u>
U2509	ECM unable to fulfill ABS CAN torque reduction request	<ul><li>Verify integrity of engine management system</li><li>CAN network fault</li></ul>	For ABS/DSC CAN network tests, GO to Pinpoint Test G.
U2509	ECM unable to fulfill DSC CAN torque reduction request	<ul><li>Verify integrity of engine management system</li><li>CAN network fault</li></ul>	For ABS/DSC CAN network tests, GO to Pinpoint Test G.
U2510 (security flash code 23)	Anti-theft ECM identification mismatch	<ul><li>ECM configuration fault</li><li>Incorrect ECM installed</li></ul>	Reconfigure ECM using the Jaguar approved diagnostic system. Please check part is not on any form of prior authorization before replacement.
U2511	Anti-theft ECM invalid data	ECM configuration fault     Incorrect ECM installed     SCP network error	Reconfigure ECM using the Jaguar approved diagnostic system. Please check part is not on any form of prior authorization before replacement.
U2514	GEM wash/wipe SCP network vehicle speed message missing	<ul> <li>SCP network error</li> </ul>	For GEM SCP network tests, GO to Pinpoint Test H.
U2520	Memory seats	<ul> <li>CAN open circuit fault: memory seat module to diagnostic connector</li> <li>CAN short circuit fault</li> <li>Memory seat module failure</li> </ul>	For CAN open/short circuit tests, GO to Pinpoint Test A.
U2600	Audio D2B network 'wake-up' circuit fault	<ul> <li>D2B network 'wake-up' circuit; short circuit to B+</li> </ul>	For D2B 'wake-up' circuit tests, GO to Pinpoint Test <u>K.</u>
U2601	Audio D2B network 'wake-up' circuit fault	<ul> <li>D2B network 'wake-up' circuit; short circuit to B+</li> </ul>	For D2B 'wake-up' circuit tests, GO to Pinpoint Test <u>K.</u>
U2601	Voice activation module D2B network 'wake-up' circuit fault	<ul> <li>D2B network 'wake-up' circuit; short circuit to ground</li> </ul>	For D2B 'wake-up' circuit tests, GO to Pinpoint Test <u>K.</u>
U2602	Break in optical ring FROM ICE head unit (transmitter)	<ul> <li>D2B network module disconnected</li> <li>D2B network optical ring broken</li> </ul>	For optical ring tests, GO to Pinpoint Test P.
U2603	Break in optical ring <b>TO</b> ICE head unit (receiver)	<ul> <li>D2B network module disconnected</li> <li>D2B network optical ring broken</li> </ul>	For optical ring tests, GO to Pinpoint Test Q.
U2609	Voice activation module D2B network 'wake-up' signal out of specification	<ul> <li>D2B network 'wake-up' circuit; high resistance</li> <li>Voice activation module failure</li> </ul>	For D2B 'wake-up' circuit tests, GO to Pinpoint Test <u>K.</u>
U2610	Voice activation module D2B network 'position status report' not received	D2B network fault	For D2B 'wake-up' circuit tests, GO to Pinpoint Test K.
U2611	Voice activation module D2B network 'alarm clear command' not received	D2B network fault	For D2B 'wake-up' circuit tests, GO to Pinpoint Test <u>K.</u>

DTC	Description	Possible Source	Action
U2613	Navigation control module not responding on D2B network	<ul> <li>D2B network 'wake-up' circuit; short circuit to B+, short circuit to ground</li> <li>D2B network fault</li> <li>Module permanent supply fault</li> <li>Module accessory switched supply fault</li> <li>Module ignition switched supply fault</li> </ul>	For D2B 'wake-up' circuit tests, GO to Pinpoint Test K. For navigation module optical tests, GO to Pinpoint Test N. For D2B permanent supply tests, GO to Pinpoint Test R. For D2B accessory switched supply tests, GO to Pinpoint Test S.
U2614	Amplifier not responding on D2B network	short circuit to ground	For D2B 'wake-up' circuit tests, GO to Pinpoint Test K. For amplifier optical tests, GO to Pinpoint Test O. For D2B permanent supply tests, GO to Pinpoint Test R. For D2B accessory switched supply tests, GO to Pinpoint Test S.
None	ISO circuit malfunction, RCM	RCM K-line circuit; open circuit     RCM K-line circuit; short circuit	For RCM ISO tests, GO to Pinpoint Test AP.
None	ISO circuit malfunction, HID module	HID module K-line circuit; open circuit     HID module K-line circuit; short circuit	For HID module ISO tests, GO to Pinpoint Test AQ.
None	ISO circuit malfunction, roof console module	Roof console module K-line circuit; open circuit     Roof console module K-line circuit; short circuit	For roof console module ISO tests, GO to Pinpoint Test AR.
None	ISO circuit malfunction, reverse park aid module	Reverse park aid module     K-line circuit; open circuit     Reverse park aid module     K-line circuit; short circuit	For reverse park aid module ISO tests, GO to Pinpoint Test AS.
None	ISO circuit malfunction, ECM	<ul> <li>ECM K-line circuit; open circuit</li> <li>ECM K-line circuit; short circuit</li> </ul>	For ECM ISO tests, GO to Pinpoint Test AT.
None	ISO circuit malfunction, fuel fired heater (FFH) module	FFH module K-line circuit; open circuit     FFH module K-line circuit; short circuit	For FFH module ISO tests, GO to Pinpoint Test <u>AU.</u>

# **Power and Ground circuit test index**

Modules may log DTCs if the power supply or GROUND is interrupted. Supply and GROUND tests are covered below by module name.

Description	Possible source	Action
IC supply or ground fault	<ul> <li>B+ supply failure</li> <li>Ign+ supply failure</li> <li>Acc+ supply failure</li> <li>GROUND failure</li> </ul>	For IC circuit tests, GO to Pinpoint Test <u>U</u> .
SWRS supply or ground fault	<ul><li>Module supply failure</li><li>GROUND failure</li></ul>	For SWRS circuit tests, GO to Pinpoint Test <u>V.</u>
Yaw rate sensor supply or ground fault	<ul><li>Module supply failure</li><li>GROUND failure</li></ul>	For yaw rate sensor circuit tests, GO to Pinpoint Test <u>W.</u>
ABS/TCCM supply or ground fault	<ul> <li>Ign+ supply failure</li> <li>Pump+ supply failure</li> <li>Solenoid+ supply failure</li> <li>GROUND failure</li> <li>Motor GROUND failure</li> </ul>	For ABS/TCCM circuit tests, GO to Pinpoint Test X.
DSC module supply or ground fault	<ul> <li>Ign+ supply failure</li> <li>Pump+ supply failure</li> <li>Solenoid+ supply failure</li> <li>GROUND failure</li> <li>Motor GROUND failure</li> </ul>	For DSC module circuit tests, GO to Pinpoint Test <u>Y.</u>
GSI module supply or ground fault	• Ign+ supply failure • GROUND failure	For GSI module circuit tests, GO to Pinpoint Test Z.
HID module supply or ground fault	• Ign+ supply failure • GROUND failure	For HID module circuit tests, GO to Pinpoint Test AA.
EATC module supply or ground fault	<ul> <li>B+ supply failure</li> <li>B+save supply failure</li> <li>Ign+ supply failure</li> <li>GROUND failure</li> </ul>	For EATC module circuit tests, GO to Pinpoint Test AB.

Description	Possible source	Action
Memory seat module supply or ground fault	<ul> <li>B+1 supply failure</li> <li>B+2 supply failure</li> <li>Ign+ supply failure</li> <li>Electronic GROUND failure</li> <li>Power GROUND failure</li> <li>Signal GROUND failure</li> </ul>	For memory seat module circuit tests, GO to Pinpoint Test AC.
TCM supply or ground fault (16 bit)	<ul> <li>B+ supply failure</li> <li>Ign+ supply failure</li> <li>GROUND failure</li> </ul>	For 16 bit TCM circuit tests, GO to Pinpoint Test AD.
TCM supply or ground fault (32 bit)	<ul> <li>B+ supply failure</li> <li>Ign+ supply failure</li> <li>GROUND failure</li> </ul>	For 32 bit TCM circuit tests, GO to Pinpoint Test AE.
ECM supply or ground fault, vehicles with 2.0L petrol engine	<ul> <li>B+memory supply failure</li> <li>Control supply failure</li> <li>GROUND failure</li> </ul>	For ECM circuit tests, vehicles with 2.0L petrol engines, GO to Pinpoint Test <u>AF.</u>
ECM supply or ground fault, vehicles with 2.5/3.0L petrol engine		For ECM circuit tests, vehicles with 2.5/3.0L petrol engines, GO to Pinpoint Test <u>AG.</u>
ECM supply or ground fault, vehicles with 2.0L diesel engine	<ul> <li>Vpwr supply failure</li> <li>Control supply failure</li> <li>GROUND failure</li> </ul>	For ECM circuit tests, vehicles with 2.0L diesel engines, GO to Pinpoint Test <u>AH.</u>
ICE supply or ground fault	<ul> <li>B+memory supply failure</li> <li>Acc+ supply failure</li> <li>GROUND failure</li> </ul>	For ICE circuit tests, GO to Pinpoint Test AI.
CD supply or ground fault	<ul><li>B+ supply failure</li><li>GROUND failure</li></ul>	For CD changer circuit tests, GO to Pinpoint Test Al.
NAV module supply or ground fault	<ul><li>B+ supply failure</li><li>Acc+ supply failure</li><li>GROUND failure</li></ul>	For NAV module circuit tests, GO to Pinpoint Test <u>AK.</u>
FFH module supply or ground fault	<ul> <li>B+ supply failure</li> <li>Ign+ supply failure</li> <li>GROUND failure</li> </ul>	For FFH module circuit tests, GO to Pinpoint Test AL.
Park aid module supply or ground fault	<ul><li>Ign+ supply failure</li><li>GROUND failure</li></ul>	For park aid module circuit tests, GO to Pinpoint Test AM.
RCM supply or ground fault	• Ign+ supply failure • GROUND failure	For RCM circuit tests, GO to Pinpoint Test <u>AN.</u>
GEM supply or ground fault	B+ supply failure	For GEM circuit tests, GO to Pinpoint Test AO.
Amplifier supply or ground fault	B+ supply failure     GROUND failure	For amplifier circuit tests, GO to Pinpoint Test AV.
JGM supply or ground fault	<ul><li>Ign+ supply failure</li><li>GROUND failure</li></ul>	For JGM circuit tests, GO to Pinpoint Test AX.

### **Pinpoint tests**

• CAUTIONS:

Diagnosis by substitution from a donor vehicle is **NOT** acceptable. Each vehicle is configured to it's own vehicle identification data (VID) block, and substitution of control modules may not only not confirm a fault, but may cause faults in the vehicle being tested and/or the donor vehicle. Failure to follow this instruction may result in damage to the vehicle.

Electronic modules are sensitive to static electrical charges. If exposed to these charges, damage may result. Failure to follow this instruction may result in damage to the vehicle.

When probing connectors to take measurements in the course of the pinpoint tests, use the adaptor kit, part number 3548-1358-00. Failure to follow this instruction may result in damage to the vehicle.

- NOTE: When performing voltage or resistance tests, always use a digital multimeter (DMM) accurate to 3 decimal places, and with an up-to-date calibration certificate. When testing resistance, always take the resistance of the DMM leads into account.
- NOTE: Before beginning any diagnosis of the D2B system, codes B1342, U2602, or U2603 must be rectified. No D2B function is possible with these failures present.
- NOTE: Check and rectify basic faults before beginning diagnostic routines involving pinpoint tests.
- NOTE: If DTCs are recorded and the symptom is not present when performing the pinpoint tests, an intermittent concern may be the cause. Always check for loose connections and corroded terminals.

## PINPOINT TEST A: CHECK THE CONTROLLER AREA NETWORK (CAN) CONTINUITY

<ul> <li>NOTE: The follow networks with fewer</li> </ul>	ving test is based on the maximum number of modules in the network. Refer to the wiring diagrams for information on
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
A1: CHECK THE R	ESISTANCE OF THE CAN NETWORK
	Turn the ignition switch to the <b>OFF</b> position.
	Measure the resistance between pins 06 (Y) and 14 (G) of the diagnostic connector.  Is the resistance between 50 and 70 ohms?
	Yes
	GO to A3.
	No CO to A3
A2: CHECK THE C	GO to A2. AN NETWORK FOR SHORT CIRCUIT
	1 Turn the ignition switch to the <b>OFF</b> position.
	Measure the resistance between pins 06 (Y) and 14 (G) of the diagnostic connector.
	Is the resistance less than 50 ohms?
	Yes  CHECK the network for short circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test
	the system for normal operation.
	No COLLAR
V3. CHECK THE C	GO to A3. AN + CIRCUIT BETWEEN THE DIAGNOSTIC CONNECTOR AND THE STEERING WHEEL ROTATION SENSOR
AS. CHECK THE C	Disconnect the steering wheel rotation sensor connector, IP19.
	2 Measure the resistance between IP19, pin 03 (Y) and the diagnostic connector, pin 06 (Y).
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test the system for normal operation.
	No
A A CUECK THE C	GO to A4.
A4: CHECK THE C	AN - CIRCUIT BETWEEN THE DIAGNOSTIC CONNECTOR AND THE STEERING WHEEL ROTATION SENSOR  1 Measure the resistance between IP19, pin 04 (G) and the diagnostic connector, pin 14 (G).
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test the system for normal operation.
	No
	GO to A5.
A5: CHECK THE C	AN + CIRCUIT BETWEEN THE DIAGNOSTIC CONNECTOR AND THE YAW RATE SENSOR
	<ul> <li>Disconnect the yaw rate sensor connector, IP20.</li> <li>Measure the resistance between IP20, pin 03 (Y) and the diagnostic connector, pin 06 (Y).</li> </ul>
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test the system for normal operation.
	No
	<u>GO to A6</u> .
A6: CHECK THE C	AN - CIRCUIT BETWEEN THE DIAGNOSTIC CONNECTOR AND THE YAW RATE SENSOR
	Measure the resistance between IP20, pin 02 (G) and the diagnostic connector, pin 14 (G).  Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test the
	system for normal operation.
	GO to A7.
A7: CHECK THE C	AN + CIRCUIT BETWEEN THE DIAGNOSTIC CONNECTOR AND THE MEMORY SEAT MODULE (WHERE FITTED)
	Disconnect the memory seat module connector, DM01.
	Measure the resistance between DM01, pin 12 (Y) and the diagnostic connector, pin 06 (Y).  Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test the
	system for normal operation.  No
	GO to A8.
A8: CHECK THE C	AN - CIRCUIT BETWEEN THE DIAGNOSTIC CONNECTOR AND THE MEMORY SEAT MODULE (WHERE FITTED)
	Measure the resistance between DM01, pin 02 (G) and the diagnostic connector, pin 14 (G).
	Is the resistance greater than 5 ohms? <b>Yes</b>
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test the
	system for normal operation.
	No GO to A9.
A9: CHECK THE C	AN + CIRCUIT BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS/DSC MODULE
	1 Disconnect the ABS/TCCM connector, JB45, or DSC module connector, JB185.
	Measure the resistance between JB45/JB185, pin 24 (Y) and the diagnostic connector, pin 06 (Y).
	Is the resistance greater than 5 ohms? <b>Yes</b>
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test the
	system for normal operation.
	No GO to A10.
A10: CHECK THE	CAN - CIRCUIT BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS/DSC MODULE
	Measure the resistance between JB45/JB185, pin 40 (G) and the diagnostic connector, pin 14 (G).

-	Is the registered greater than Eighman
	is the resistance greater than 5 ohms?
[	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test the
	system for normal operation.
l li	No ´
	<u>GO to A11</u> .
A11: CHECK THE C	AN + CIRCUIT BETWEEN THE DIAGNOSTIC CONNECTOR AND THE HID MODULE (WHERE FITTED)
	1 Disconnect the HID module connector, IP130.
	Measure the resistance between IP130, pin 02 (Y) and the diagnostic connector, pin 06 (Y).
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test the
	system for normal operation.
l li	No.
	GO to A12.
<u> </u>	
A12: CHECK THE C	AN - CIRCUIT BETWEEN THE DIAGNOSTIC CONNECTOR AND THE HID MODULE (WHERE FITTED)
	1 Measure the resistance between IP130, pin 03 (G) and the diagnostic connector, pin 14 (G).
	Is the resistance greater than 5 ohms?
l •	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Clear any DTCs, test the
	system for normal operation.
	No.
	NO circuit fault found. Check DTCs for indications of a module fault.

PINPOINT TES	ГВ: P1603. TCM EEPROM FAILURE		
TEST	DETAILS/RESULTS/ACTIONS		
CONDITIONS			
B1: DTC SET BY 3	B POSSIBLE FACTORS		
	1 Check battery voltage.		
	Has the battery been discharged to a voltage where the engine would not crank?		
	Yes		
	CHARGE and test the battery. Install a new battery, if required.		
	REFER to: <u>Battery</u> (414-01 Battery, Mounting and Cables, Removal and Installation).  Carry out a drive-cycle.		
	(The vehicle may lose it's adaptive values and will need to re-learn them. These values will depend on the owner's driving style, and can only be learnt by		
	normal use.)		
	No.		
	GO to B2.		
B2: DTC SET BY 3	POSSIBLE FACTORS		
	1 Check the TCM for signs of water ingress.		
	Does the TCM show any indication of water ingress?		
	Yes		
	INSTALL a new TCM.		
	REFER to: <u>Transmission Control Module (TCM)</u> (307-01B Automatic Transmission/Transaxle - Vehicles With: 6-Speed		
	Automatic Transaxle - AWF21, In-vehicle Repair).		
	CLEAR the DTC, test the system for normal operation.		
	No CO to P2		
D2. DTC CET DV 3	GO to B3.  B POSSIBLE FACTORS		
B3: DIC SEI BY 3	The Check if the battery has been disconnected with the ignition switched on.		
	Has the battery been disconnected with the ignition switched on? <b>Yes</b>		
	CARRY out a drive-cycle. For additional information, refer to the DTC section of GTR.		
	(The vehicle may lose it's adaptive values and will need to re-learn them. These values will depend on the owner's driving style, and can only be learnt by		
	normal use.)		
	No		
	INSTALL a new TCM.		
	REFER to: Transmission Control Module (TCM) (307-01B Automatic Transmission/Transaxle - Vehicles With: 6-Speed		
	Automatic Transaxle - AWF21, In-vehicle Repair).		
	CLEAR the DTC, test the system for normal operation.		

TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
C1: CHECK TCM	FOR DAMAGE
	1 Inspect the TCM
	Does the TCM indicate any signs of damage?  Yes  INSTALL a new TCM.
	REFER to: <u>Transmission Control Module (TCM)</u> (307-01B Automatic Transmission/Transaxle - Vehicles With: 6-Speed Automatic Transaxle - AWF21, In-vehicle Repair). CLEAR the DTC, test the system for normal operation.
	No GO to C2.
C2: CHECK CAN -	+ FOR SHORT CIRCUIT TO GROUND
	Measure the resistance between the diagnostic connector, pin 06, (Y) and GROUND.
	Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for
	normal operation.
	<u>GO to C3</u> .
C3: CHECK CAN -	+ FOR SHORT CIRCUIT TO BATTERY
	Measure the resistance between the diagnostic connector, pins 06, (Y) and pin 16 (OY).

	Is the resistance less than 10,000 ohms?
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for
	normal operation. No
C4: CHECK CAN -	GO to C4.  FOR SHORT CIRCUIT TO GROUND
	1 Measure the resistance between the diagnostic connector, pin 14 (G) and GROUND.
	Is the resistance less than 10,000 ohms? Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No
C5: CHECK CAN -	GO to C5. FOR SHORT CIRCUIT TO BATTERY
	1 Measure the resistance between the diagnostic connector, pin 14 (G) and pin 16 (OY).
	Is the resistance less than 10,000 ohms?  Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No '
C6: CHECK FOR S	GO to C6.  SHORT CIRCUIT BETWEEN CAN + AND CAN -
	Measure the resistance between the diagnostic connector, pins 6 (Y) and 14 (G).
	Is the resistance less than 10,000 ohms? Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No GO to C7.
C7: CHECK FOR C	OPEN CIRCUIT ON CAN + BETWEEN DIAGNOSTIC CONNECTOR AND THE TCM
	Disconnect the battery negative terminal.
	Vehicles with 16 bit modules -
	<ul> <li>Disconnect the TCM connector, JB131.</li> <li>Measure the resistance between the diagnostic connector, pin 06 (Y) and JB131, pin 33 (Y).</li> </ul>
	Vehicles with 32 bit modules -
	<ul> <li>Disconnect the TCM connector, JB230.</li> <li>Measure the resistance between the diagnostic connector, pin 06 (Y) and JB230, pin 05 (Y).</li> </ul>
	Is the resistance greater than 5 ohms?
	Yes  REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the
	system for normal operation.
	No GO to C8.
	DPEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE TCM  1 Measure the resistance between the diagnostic connector, pin 14 (G) and:
	Vehicles with 16 bit modules -
	● JB131, pin 12 (G).
	Vehicles with 32 bit modules -
	● JB230, pin 06 (G).
	Is the resistance less than 5 ohms? <b>Yes</b>
	<u>GO to C9</u> .
	No REPAIR the CAN - circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
CO. CHECK EOB C	for normal operation.  CORRECT BUS TERMINATION
CJ. CHECK TOR C	1 Reconnect the TCM connector, JB131 or JB230.
	Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G).  Is the resistance between 50 and 70 ohms?
	Yes
	INSTALL a new TCM. REFER to: <u>Transmission Control Module (TCM)</u> (307-01B Automatic Transmission/Transaxle - Vehicles With: 6-Speed
	Automatic Transaxle - AWF21, In-vehicle Repair). CLEAR the DTC, test the system for normal operation.
	No
C10: CHECK CON	GO to C10. TINUITY OF THE CAN + CIRCUIT BETWEEN THE ECM AND THE IC
	1 To test:
	Vehicles with 2.5 and 3.0L engine -
	<ul> <li>Disconnect the ECM connector, EN16, and the IC connector, IP10.</li> <li>Measure the resistance between EN16, pin 124 (Y) and IP10, pin 17 (Y).</li> </ul>
	Vehicles with 2.0L petrol engine -
	<ul> <li>Disconnect the ECM connector, EN65, and the IC connector, IP10.</li> <li>Measure the resistance between EN65, pin 89 (Y) and IP10, pin 17 (Y).</li> </ul>
	Vehicles with 2.0L and 2.2L diesel engine -

	<ul> <li>Disconnect the ECM connector, DL01, and the IC connector, IP10.</li> <li>Measure the resistance between DL01, pin 54 (Y) and IP10, pin 17 (Y).</li> </ul>
	Is the resistance greater than 5 ohms?
	<b>Yes</b> REPAIR the CAN + circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No GO to C11.
C11: CHECK CON	TINUITY OF THE CAN - CIRCUIT BETWEEN THE ECM AND THE IC
	1 Measure the resistance between:
	Vehicles with 2.5 and 3.0L engine -
	• EN16, pin 123 (G) and IP10, pin 18 (G).
	Vehicles with 2.0L petrol engine -
	• EN65, pin 88 (G) and IP10, pin 18 (G).
	Vehicles with 2.0L and 2.2L diesel engine -
	• DL01, pin 73 (G) and IP10, pin 18 (G).
	Is the resistance greater than 5 ohms?
	REPAIR the CAN - circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No GO to C12.
C12: CHECK FOR	LOSS OF TERMINATION WITHIN THE ECM
	1 To test:
	Vehicles with 2.5 and 3.0L engine -
	<ul> <li>Measure the resistance between pins 123 and 124 of the ECM.</li> </ul>
	Vehicles with 2.0L petrol engine -
	<ul> <li>Measure the resistance between pins 88 and 89 of the ECM.</li> </ul>
	Vehicles with 2.0L and 2.2L diesel engine -
	<ul> <li>Measure the resistance between pins 54 and 73 of the ECM.</li> </ul>
	Is the resistance between 110 and 140 ohms? Yes
	GO to C13.
	No Please check part is not on any form of prior authorization before replacement.
C13: CHECK FOR	LOSS OF TERMINATION WITHIN THE IC
	Measure the resistance between pins 17 and 18 of the IC.
	Is the resistance between 110 and 140 ohms?  Yes  POSSIBLE intermittent fault. Recheck DTCs.
	No
	INSTALL a new instrument cluster. REFER to: Instrument Cluster (413-01 Instrument Cluster, Removal and Installation). CLEAR the DTC, test the system for normal operation.
	T D : P1638: CAN NETWORK MALFUNCTION, INSTRUMENT CLUSTER (IC)
TECT	DETAIL C / DECULTO / ACTIONO

PINPOINT TEST	D: P1638: CAN NETWORK MALFUNCTION, INSTRUMENT CLUSTER (IC)
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
D1: CHECK THE IC	
	1 Inspect the IC for damage.
	Does the IC indicate any signs of damage?
	Yes
	INSTALL a new instrument cluster.
	REFER to: Instrument Cluster (413-01 Instrument Cluster, Removal and Installation).
	CLEAR the DTC, test the system for normal operation.
	No CO to D2
D2: CHECK CAN I	GO to D2. FOR SHORT CIRCUIT TO GROUND
+	
	Measure the resistance between the diagnostic connector, pin 06 (Y) and GROUND.
	Is the resistance less than 10,000 ohms?
	Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	<b>No</b> GO to D3.
D2. CHECK CAN I	FOR SHORT CIRCUIT TO BATTERY
1	Is the resistance less than 10,000 ohms?
	Yes  DEDAID the short circuit. For additional information, refer to the wiring diagrams. CLEAD the DTC test the system
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No
	GO to D4.
D4: CHECK CAN - F	FOR SHORT CIRCUIT TO GROUND
	1 Measure the resistance between the diagnostic connector, pin 14 (G) and GROUND.
1	Picasure the resistance between the diagnostic connector, pin 14 (a) and divolub.

	Is the resistance less than 10,000 ohms?
	<b>Yes</b> REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
	<u>GO to D5</u> .
D5: CHECK CAN -	FOR SHORT CIRCUIT TO BATTERY  1 Measure the resistance between the diagnostic connector, pins 14 (G) and 16 (OY).
	Is the resistance less than 10,000 ohms?
	Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No
	GO to D6.
D6: CHECK FOR S	HORT CIRCUIT BETWEEN CAN + AND CAN -
	<ul> <li>Disconnect the battery negative terminal.</li> <li>Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G).</li> </ul>
	Is the resistance less than 10,000 ohms?
	<b>Yes</b> REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.
D7: CHECK FOR O	GO to D7.  OPEN CIRCUIT ON CAN + BETWEEN THE DIAGNOSTIC CONNECTOR AND THE IC
	1 Disconnect the IC connector, IP10.
	Measure the resistance between the diagnostic connector, pin 06 (Y) and IP10, pin 17 (Y).
	Is the resistance greater than 5 ohms? <b>Yes</b>
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No
DO: CHECK FOR O	GO to D8.
PO: CHECK FUK O	PPEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE IC  1 Measure the resistance between the diagnostic connector, pin 14 (G) and IP10, pin 18 (G).
	Is the resistance greater than 5 ohms?
	PEDATE the high reciptance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC test the
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No
D9: CHECK FOR C	GORRECT BUS TERMINATION
	Reconnect the IC connector, IP10.
	Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G).
	Is the resistance between 50 and 70 ohms?  Yes
	INSTALL a new instrument cluster. REFER to: Instrument Cluster (413-01 Instrument Cluster, Removal and Installation). CLEAR the DTC, test the system for normal operation.  No
	GO to D10.
D10: CHECK CONT	TINUITY OF THE CAN + CIRCUIT BETWEEN THE ECM AND THE IC
	1 To test:
	Vehicles with 2.5 and 3.0L engine -
	<ul> <li>Disconnect the ECM connector, EN16, and the IC connector, IP10.</li> <li>Measure the resistance between EN16, pin 124 (Y) and IP10, pin 17 (Y).</li> </ul>
	Vehicles with 2.0L petrol engine -
	<ul> <li>Disconnect the ECM connector, EN65, and the IC connector, IP10.</li> <li>Measure the resistance between EN65, pin 89 (Y) and IP10, pin 17 (Y).</li> </ul>
	Vehicles with 2.0L and 2.2L diesel engine -
	<ul> <li>Disconnect the ECM connector, DL01, and the IC connector, IP10.</li> <li>Measure the resistance between DL01, pin 54 (Y) and IP10, pin 17 (Y).</li> </ul>
	Is the resistance greater than 5 ohms? Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No
D11. CUECK CO.	GO to D11.
DIT: CHECK CON	TINUITY OF THE CAN - CIRCUIT BETWEEN THE ECM AND THE IC  1 Measure the resistance between:
	Vehicles with 2.5 and 3.0L engine -
	● EN16, pin 123 (G) and IP10, pin 18 (G).
	Vehicles with 2.0L petrol engine -
	● EN65, pin 88 (G) and IP10, pin 18 (G).
	Vehicles with 2.0L and 2.2L diesel engine -
	Vehicles with 2.0L and 2.2L diesel engine -  ■ DL01, pin 73 (G) and IP10, pin 18 (G).

I	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No
	<u>GO to D12</u> .
77	OSS OF TERMINATION WITHIN THE ECM
	<u>1</u> Measure the resistance between:
	Vehicles with 2.5 and 3.0L engine -
	• pins 123 and 124 of the ECM.
	Vehicles with 2.0L petrol engine -
	• pins 88 and 89 of the ECM.
	Vehicles with 2.0L and 2.2L diesel engine -
	• pins 54 and 73 of the ECM.
	Is the resistance between 110 and 140 ohms? Yes
	GO to D13.
	No
	Please check part is not on any form of prior authorization before replacement.
79	OSS OF TERMINATION WITHIN THE IC
	Measure the resistance between pins 17 and 18 of the IC.
1	Is the resistance between 110 and 140 ohms? Yes
	Possible intermittent fault. Recheck DTCs.
	No
	INSTALL a new instrument cluster.
	REFER to: Instrument Cluster (413-01 Instrument Cluster, Removal and Installation).
	CLEAR the DTC, test the system for normal operation.
PINPOINT TEST	E: P1642: P1643: P1797: CAN NETWORK MALFUNCTION, ECM

PINPOINT TEST E : P1642; P1643; P1797: CAN NETWORK MALFUNCTION, ECM		
TEST	DETAILS/RESULTS/ACTIONS	
CONDITIONS		
E1: CHECK THE E		
	1 Inspect the ECM.	
	Does the ECM indicate any signs of damage?	
	Yes	
	Please check part is not on any form of prior authorization before replacement.	
	No	
	<u>GO to E2</u> .	
E2: CHECK CAN +	FOR SHORT CIRCUIT TO GROUND	
	1 Measure the resistance between the diagnostic connector, pin 06, (Y) and GROUND.	
	Is the resistance less than 10,000 ohms?	
	Yes	
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system	
	for normal operation.	
	No CO to F3	
E2. CHECK CAN I	GO to E3.  FOR SHORT CIRCUIT TO BATTERY	
ES: CHECK CAN T	Measure the resistance between the diagnostic connector, pin 06, (Y) and pin 16 (OY).	
	Is the resistance less than 10,000 ohms?	
	Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system	
	for normal operation.	
	No	
	GO to E4.	
E4: CHECK CAN -	FOR SHORT CIRCUIT TO GROUND	
	1 Measure the resistance between the diagnostic connector, pin 14 (G) and GROUND.	
	Is the resistance less than 10,000 ohms?	
	Yes	
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system	
	for normal operation.	
	No	
	GO to E5.	
E5: CHECK CAN -	FOR SHORT CIRCUIT TO BATTERY	
	1 Measure the resistance between the diagnostic connector, pins 14 (G) and 16 (OY).	
	Is the resistance less than 10,000 ohms?	
	Yes	
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system	
	for normal operation.	
	No CO to FG	
EC. CHECK FOR C	<u>GO to E6.</u> HORT CIRCUIT BETWEEN CAN + AND CAN -	
ED: CHECK FOR SI	Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G).	
	<u>-</u>	
	Is the resistance less than 10,000 ohms?	
1	<b>Yes</b> REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system	
	for normal operation.	
	No	
	GO to E7.	
E7: CHECK FOR O	PEN CIRCUIT ON CAN + BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ECM	

**1** Disconnect the battery negative terminal. Vehicles with 2.5 and 3.0L engine - Disconnect the ECM connector, EN16. Measure the resistance between IP22 pin 06 (Y) and EN16, pin 124 (Y). Vehicles with 2.0L petrol engine - Disconnect the ECM connector, EN65. Measure the resistance between IP22 pin 06 (Y) and EN65, pin 89 (Y). Vehicles with 2.0L and 2.2L diesel engine - Disconnect the ECM connector, DL01. Measure the resistance between the diagnostic connector, pin 06 (Y) and DL01, pin 54 (Y). Is the resistance greater than 5 ohms? Yes REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. No E8: CHECK FOR OPEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ECM 1 To test: Vehicles with 2.5 and 3.0L engine -• Measure the resistance between the diagnostic connector, pin 14 (G) and EN16, pin 123 (G). Vehicles with 2.0L petrol engine - Measure the resistance between the diagnostic connector, pin 14 (G) and EN65, pin 88 (G). Vehicles with 2.0L and 2.2L diesel engine - Measure the resistance between the diagnostic connector, pin 14 (G) and DL01, pin 73 (G). Is the resistance greater than 5 ohms? Yes REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. No GO to E9 E9: CHECK FOR CORRECT BUS TERMINATION Reconnect the ECM connector. Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G). 2 Is the resistance between 50 and 70 ohms? Yes Please check part is not on any form of prior authorization before replacement. GO to E10 E10: CHECK CONTINUITY OF THE CAN + CIRCUIT 1 To test: Vehicles with 2.5 and 3.0L engine - Disconnect the ECM connector, EN16, and the IC connector, IP10. Measure the resistance between EN16, pin 124 (Y) and IP10, pin 17 (Y). Vehicles with 2.0L petrol engine - Disconnect the ECM connector, EN65, and the IC connector, IP10. Measure the resistance between EN65, pin 89 (Y) and IP10, pin 17 (Y). Vehicles with 2.0L and 2.2L diesel engine - Disconnect the ECM connector, DL01, and the IC connector, IP10. Measure the resistance between DL01, pin 54 (Y) and IP10, pin 17 (Y). Is the resistance greater than 5 ohms? Yes REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. No E11: CHECK CONTINUITY OF THE CAN - CIRCUIT Measure the resistance between: Vehicles with 2.5 and 3.0L engine - EN16, pin 123 (G) and IP10, pin 18 (G). Vehicles with 2.0L petrol engine - EN65, pin 88 (G) and IP10, pin 18 (G). Vehicles with 2.0L and 2.2L diesel engine -DL01, pin 73 (G) and IP10, pin 18 (G).

	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the
	system for normal operation.
	No Contraction
	GO to E12.
E12: CHECK FOR	LOSS OF TERMINATION WITHIN THE ECM
	1 Measure the resistance between:
	Vehicles with 2.5 and 3.0L engine -
	• pins 123 and 124 of the ECM.
	Vehicles with 2.0L petrol engine -
	• pins 88 and 89 of the ECM.
	Vehicles with 2.0L and 2.2L diesel engine -
	• pins 54 and 73 of the ECM.
	Is the resistance between 110 and 140 ohms?
	Yes
	GO to E13.
	No
E12. CHECK FOR	Please check part is not on any form of prior authorization before replacement.  LOSS OF TERMINATION WITHIN THE IC
E13: CHECK FOR	1 Measure the resistance between pins 17 and 18 of the IC.
	Is the resistance between 110 and 140 ohms?
	Yes
	Possible intermittent fault. Recheck DTCs.
	No
	INSTALL a new instrument cluster.
	REFER to: Instrument Cluster (413-01 Instrument Cluster, Removal and Installation).
	CLEAR the DTC, test the system for normal operation.

PINPOINT TEST	F: P1699: CAN NETWORK MALFUNCTION, ELECTRONIC AUTOMATIC TEMPERATURE CONTROL	
(EATC) MODUL	E ( ) Y	
TEST	DETAILS/RESULTS/ACTIONS	
CONDITIONS   F1: CHECK THE EATC MODULE FOR DAMAGE		
T: CHECK THE EA	Inspect the EATC module for damage.	
	Does the EATC module indicate any signs of damage?	
	Yes	
	INSTALL a new EATC module.	
	REFER to: Climate Control System (412-00 Climate Control System - General Information, Description and	
	Operation).	
	CLEAR the DTC, test the system for normal operation.	
	No GO to F2.	
2: CHECK CAN +	FOR SHORT CIRCUIT TO GROUND	
	Measure the resistance between the diagnostic connector, pin 06 (Y) and GROUND.	
	Is the resistance less than 10,000 ohms?	
	Yes	
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system	
	for normal operation.	
	No GO to F3.	
3: CHECK CAN +	FOR SHORT CIRCUIT TO BATTERY	
51 G112G13 G7413 1	1 Turn the ignition switch to the <b>OFF</b> position.	
	2 Measure the resistance between the diagnostic connector, pin 06 (Y) and pin 16 (OY).	
	Is the resistance less than 10,000 ohms?	
	Yes	
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system	
	for normal operation.	
	GO to F4.	
4: CHECK CAN -	FOR SHORT CIRCUIT TO GROUND	
C.I.Z.C.K C.J.I.K	1 Measure the resistance between the diagnostic connector, pin 14 (G) and GROUND.	
	Is the resistance less than 10,000 ohms?	
	Yes	
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system	
	for normal operation.	
	No GO to F5.	
5: CHECK CAN -	FOR SHORT CIRCUIT TO BATTERY	
	1 Measure the resistance between the diagnostic connector, pin 14 (G) and pin 16 (OY).	
	Is the resistance less than 10,000 ohms?	
	Yes	
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system	
	for normal operation.	
	No GO to F6.	
e CHECK FOR S	HORT CIRCUIT BETWEEN CAN + AND CAN -	
J. CHECK I OK 3	Disconnect the battery negative terminal.	
	2 Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G).	
	The destriction the resistance between the diagnostic connector, pins of (1) and 14 (0).	

	Is the resistance less than 10,000 ohms? Yes
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system
	for normal operation.  No
	<u>GO to F7.</u>
F7: CHECK FOR O	PEN CIRCUIT ON CAN + BETWEEN THE DIAGNOSTIC CONNECTOR AND THE EATC MODULE  1 Disconnect the EATC module connector, IP101.
	Measure the resistance between the diagnostic connector, pin 06 (Y) and IP101, pin 22 (Y).
	Is the resistance greater than 5 ohms? <b>Yes</b>
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the
	system for normal operation.  No
TO: CHECK TOD OF	GO to F8.
F8: CHECK FOR O	PEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE EATC MODULE  1 Measure the resistance between the diagnostic connector, pin 14 (G) and IP101, pin 23 (G).
	Is the resistance greater than 5 ohms?
	<b>Yes</b> REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the
	system for normal operation. <b>No</b>
	<u>GO to F9</u> .
F9: CHECK FOR CO	DRRECT BUS TERMINATION  1 Reconnect the EATC module connector, IP101.
	Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G).
	Is the resistance between 50 and 70 ohms? <b>Yes</b>
	INSTALL a new EATC module.
	REFER to: <u>Climate Control System</u> (412-00 Climate Control System - General Information, Description and Operation).
	CLEAR the DTC, test the system for normal operation.
	No GO to F10.
F10: CHECK CONT	INUITY OF THE CAN + CIRCUIT BETWEEN THE ECM AND THE IC
	1 To test:
	Vehicles with 2.5 and 3.0L engine -
	<ul> <li>Disconnect the ECM connector, EN16, and the IC connector, IP10.</li> <li>Measure the resistance between EN16, pin 124 (Y) and IP10, pin 17 (Y).</li> </ul>
	Vehicles with 2.0L petrol engine -
	<ul> <li>Disconnect the ECM connector, EN65, and the IC connector, IP10.</li> <li>Measure the resistance between EN65, pin 89 (Y) and IP10, pin 17 (Y).</li> </ul>
	Vehicles with 2.0L and 2.2L diesel engine -
	<ul> <li>Disconnect the ECM connector, DL01, and the IC connector, IP10.</li> <li>Measure the resistance between DL01, pin 54 (Y) and IP10, pin 17 (Y).</li> </ul>
	Is the resistance greater than 5 ohms?
	<b>Yes</b> REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the
	system for normal operation.
	<b>No</b> <u>GO to F11.</u>
F11: CHECK CONT	INUITY OF THE CAN - CIRCUIT BETWEEN THE ECM AND THE IC
	1 Measure the resistance between:
	Vehicles with 2.5 and 3.0L engine -
	● EN16, pin 123 (G) and IP10, pin 18 (G).
	Vehicles with 2.0L petrol engine -
	● EN65, pin 88 (G) and IP10, pin 18 (G).
	Vehicles with 2.0L and 2.2L diesel engine -
	● DL01, pin 73 (G) and IP10, pin 18 (G).
	Is the resistance greater than 5 ohms? <b>Yes</b>
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No
F12: CHECK FOR I	GO to F12.  OSS OF TERMINATION WITHIN THE ECM
	1 Measure the resistance between:
	Vehicles with 2.5 and 3.0L engine -
	• pins 123 and 124 of the ECM.
	Vehicles with 2.0L petrol engine -
	• pins 88 and 89 of the ECM.
	Vehicles with 2.0L and 2.2L diesel engine -

	• pins 54 and 73 of the ECM.	
	Is the resistance between 110 and 140 ohms?	
	Yes	
	GO to F13.	
	No	
	Please check part is not on any form of prior authorization before replacement.	
F13: (	CHECK FOR LOSS OF TERMINATION WITHIN THE IC	
	1 Measure the resistance between pins 17 and 18 of the IC.	
	Is the resistance between 110 and 140 ohms?	
	Yes	
	POSSIBLE intermittent fault. Recheck DTCs.	
	No	
	INSTALL a new instrument cluster.	
	REFER to: Instrument Cluster (413-01 Instrument Cluster, Removal and Installation).	
	CLEAR the DTC, test the system for normal operation.	

TEST	CONTROL MODULE  DETAILS/RESULTS/ACTIONS		
CONDITIONS	TIONS		
G1: CHECK THE A	CHECK THE ABS OR DSC MODULE FOR DAMAGE  Inspect the ABS/TCCM or DSC module.		
	<u></u>		
	Does the ABS/TCCM or DSC module indicate any signs of damage? <b>Yes</b>		
	INSTALL a new ABS/TCCM or DSC module.		
	REFER to: <u>Hydraulic Control Unit (HCU) - VIN Range</u> : <u>J12992-&gt;V99999</u> (206-09 Anti-Lock Control - Stability Assist,		
	Removal and Installation).  CLEAR the DTC, test the system for normal operation.		
	No		
	GO to G2.		
32: CHECK CAN +	FOR SHORT CIRCUIT TO GROUND		
	Turn the ignition switch to the <b>OFF</b> position.		
	Measure the resistance between the diagnostic connector, pin 06 (Y) and GROUND.		
	Is the resistance less than 10,000 ohms?		
	<b>Yes</b> REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system		
	for normal operation.		
	No		
	GO to G3.		
33: CHECK CAN +	FOR SHORT CIRCUIT TO BATTERY		
	1 Measure the resistance between the diagnostic connector, pin 06, (Y) and pin 16 (OY). Is the resistance less than 10,000 ohms?		
	Yes		
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system		
	for normal operation.		
	No GO to G4.		
34: CHECK CAN -	FOR SHORT CIRCUIT TO GROUND		
	1 Measure the resistance between the diagnostic connector, pin 14 (G) and GROUND.		
	Is the resistance less than 10,000 ohms?		
	Yes		
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system		
	for normal operation.  No		
	GO to G5.		
55: CHECK CAN -	FOR SHORT CIRCUIT TO BATTERY		
	1 Measure the resistance between the diagnostic connector, pins 14 (G) and pin 16 (OY).		
	Is the resistance less than 10,000 ohms?		
	<b>Yes</b> REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system		
	for normal operation.		
	No		
	<u>GO to G6</u> .		
	HORT CIRCUIT BETWEEN CAN + AND CAN -		
	Disconnect the battery negative terminal.		
	Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G).		
	Is the resistance less than 10,000 ohms? <b>Yes</b>		
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system		
	for normal operation.		
	No COLUMN		
CT. CHECK FOR O	GO to G7. PEN CIRCUIT ON CAN + BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS OR DSC MODULE		
37: CHECK FOR O	Disconnect the ABS/TCCM connector, JB45, or DSC module connector, JB185.		
	Place in the Abs/ recent connector, 3b45, or b3c module connector, 3b45.  Measure the resistance between the diagnostic connector, pin 06 (Y) and JB45/JB185, pin 24 (Y).		
	Is the resistance greater than 5 ohms?		
	Yes		
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the		
	system for normal operation.		
	No GO to G9.		
	PEN CIRCUIT ON CAN - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ABS OR DSC MODULE		

Is the resistance greater than 5 ohms? Yes REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. GO to G9 **G9: CHECK FOR CORRECT BUS TERMINATION** Reconnect the ABS/TCCM module connector, JB45, or DSC module connector, JB185. 2 Measure the resistance between the diagnostic connector, pins 06 (Y) and 14 (G). Is the resistance between 50 and 70 ohms? Yes INSTALL a new ABS/TCCM module, or DSC module. REFER to: Hydraulic Control Unit (HCU) - VIN Range: J12992->V99999 (206-09 Anti-Lock Control - Stability Assist, Removal and Installation). CLEAR the DTC, test the system for normal operation. No G10: CHECK CONTINUITY OF THE CAN + CIRCUIT BETWEEN THE ECM AND THE IC **1** To test: Vehicles with 2.5 and 3.0L engine - Disconnect the ECM connector, EN16, and the IC connector, IP10. Measure the resistance between EN16, pin 124 (Y) and IP10, pin 17 (Y). Vehicles with 2.0L petrol engine -Disconnect the ECM connector, EN65, and the IC connector, IP10. Measure the resistance between EN65, pin 89 (Y) and IP10, pin 17 (Y). Vehicles with 2.0L and 2.2L diesel engine -Disconnect the ECM connector, DL01, and the IC connector, IP10. Measure the resistance between DL01, pin 54 (Y) and IP10, pin 17 (Y). Is the resistance greater than 5 ohms? Yes REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. No G11: CHECK CONTINUITY OF THE CAN - CIRCUIT Measure the resistance between: Vehicles with 2.5 and 3.0L engine -• EN16, pin 123 (G) and IP10, pin 18 (G). Vehicles with 2.0L petrol engine -• EN65, pin 88 (G) and IP10, pin 18 (G). Vehicles with 2.0L and 2.2L diesel engine - DL01, pin 73 (G) and IP10, pin 18 (G). Is the resistance greater than 5 ohms? Yes REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. No GO to G12 G12: CHECK FOR LOSS OF TERMINATION WITHIN THE ECM 1 Measure the resistance between: Vehicles with 2.5 and 3.0L engine pins 123 and 124 of the ECM. Vehicles with 2.0L petrol engine pins 88 and 89 of the ECM. Vehicles with 2.0L and 2.2L diesel engine -• pins 54 and 73 of the ECM. Is the resistance between 110 and 140 ohms? Yes GO to G13. No Please check part is not on any form of prior authorization before replacement G13: CHECK FOR LOSS OF TERMINATION WITHIN THE IC 1 Measure the resistance between pins 17 and 18 of the instrument cluster. Is the resistance between 110 and 140 ohms? Yes Possible intermittent fault. Recheck DTCs. Repeat tests from A1. No INSTALL a new instrument cluster. REFER to: Instrument Cluster (413-01 Instrument Cluster, Removal and Installation). CLEAR the DTC, test the system for normal operation. PINPOINT TEST H: SCP NETWORK MALFUNCTION, GENERIC ELECTRONIC MODULE (GEM)

CONDITIONS	DETAILS/RESULTS/ACTIONS	
	1: CHECK GEM FOR DAMAGE	
	1 Inspect the GEM for damage.	
	Does the GEM indicate any signs of damage?	
	Yes	
	INSTALL a new GEM. REFER to: Generic Electronic Module (GEM) (419-10 Multifunction Electronic Modules, Removal and Installation).	
	CLEAR the DTC, test the system for normal operation.	
	No	
	GO to H2.	
H2: CHECK THE S	CP + FOR SHORT CIRCUIT TO GROUND	
	1 Measure the resistance between the diagnostic connector, pin 02 (Y) and GROUND.	
	Is the resistance less than 10,000 ohms?	
	Yes	
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system	
	for normal operation.	
	GO to H3.	
H3: CHECK THE S	CP + FOR SHORT CIRCUIT TO BATTERY	
	Measure the resistance between the diagnostic connector, pins 02 (Y) and 16 (OY).	
	Is the resistance less than 10,000 ohms?	
	Yes	
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system	
	for normal operation.	
	No CO to H4	
HA: CHECK THE CO	GO to H4. CP - FOR SHORT CIRCUIT TO GROUND	
PI-T. CHECK THE S	1 Measure the resistance between the diagnostic connector, pin 10 (U) and GROUND.	
1	Is the resistance less than 10,000 ohms?	
	Yes	
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system	
	for normal operation.	
	No	
	GO to H5.	
H5: CHECK THE S	CP - FOR SHORT CIRCUIT TO BATTERY	
	Measure the resistance between the diagnostic connector, pins 10 (U) and 16 (OY).	
	Is the resistance less than 10,000 ohms?	
	<b>Yes</b> REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system	
	for normal operation.	
	No.	
	GO to H6.	
H6: CHECK FOR S	HORT CIRCUIT BETWEEN SCP + AND SCP -	
	1 Measure the resistance between the diagnostic connector, pins 10 (U) and 02, (Y).	
	Is the resistance less than 10,000 ohms?	
	Yes	
	REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system	
	for normal operation.	
	No GO to H7.	
H7: CHECK FOR O	PEN CIRCUIT ON SCP + BETWEEN THE DIAGNOSTIC CONNECTOR AND THE GEM	
III. CIILCR I OR O	1 Turn the ignition switch to the OFF position.	
	2 Disconnect the battery negative terminal.	
	Disconnect the GEM connector, IP05.  Measure the resistance between the diagnostic connector, pin 02 (Y) and IP05, pin 19 (Y).	
	Is the resistance greater than 5 ohms? <b>Yes</b>	
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the	
	system for normal operation.	
	No.	
	GO to H8.	
H8: CHECK FOR O	PEN CIRCUIT ON SCP - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE GEM	
	1 Measure the resistance between the diagnostic connector, pin 10 (U) and IP05, pin 18 (U).	
	Is the resistance greater than 5 ohms?	
	Yes	
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the	
	system for normal operation.	
	No GO to H9.	
UO. CHECK FOR C		
III J. CHECK FUK C	ORRECT BUS TERMINATION ON SCP +  1 Reconnect the battery negative terminal.	
	Reconnect the GEM connector, IP05.	
	Measure the resistance between the diagnostic connector, pin 02 (Y) and GROUND.	
	Is the resistance 150 to 210 ohms?	
	Yes INSTALL a new GEM.	
	REFER to: Generic Electronic Module (GEM) (419-10 Multifunction Electronic Modules, Removal and Installation).	
	CLEAR the DTC, test the system for normal operation.	
	No	
	GO to H10.	
H10: CHECK THE	CONTINUITY OF THE GENERIC ELECTRONIC MODULE (GEM) SCP + CIRCUIT	
	1 Disconnect the battery negative terminal.	
	2 Disconnect the GEM connector, IP05.	
	Measure the resistance between the diagnostic connector, pin 02 (Y) and IP05, pin 19 (Y).	
	121	

DETAILS/RESULTS/ACTIONS

TEST

	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the
	system for normal operation.
	No
	<u>GO to H11</u> .
H11: CHECK FOR	LOSS OF SCP + TERMINATION WITHIN THE GEM
	1 Disconnect the GEM connector, IP06.
	2 Measure the resistance between IP05, pin 19, and IP06, pin 01 of the GEM.
	Is the resistance 320 to 400 ohms?
	Yes
	GO to H12.
	No Thistall and CEM
	INSTALL a new GEM.  PEFED to Conoris Floatronic Module (CEM) (410-10 Multifunction Floatronic Modules, Pemoval and Installation)
	REFER to: Generic Electronic Module (GEM) (419-10 Multifunction Electronic Modules, Removal and Installation).  CLEAR the DTC, test the system for normal operation.
H12: CHECK CON	TINUITY OF THE INSTRUMENT CLUSTER (IC) SCP + CIRCUIT
H12. CHECK CON	Disconnect the IC connector, IP10.
	2 Measure the resistance between the diagnostic connector, pin 02 (Y) and IP10, pin 22 (Y).
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the
	system for normal operation.
	No
	GO to H13.
H13: CHECK FOR	LOSS OF SCP + TERMINATION WITHIN THE INSTRUMENT CLUSTER
	1 Measure the resistance between pins 22 and 08 of the IC.
	Is the resistance 320 to 400 ohms?
	Yes
	Possible intermittent fault. Recheck DTCs.
	No TOTAL TO TO
	INSTALL a new IC.
	REFER to: Instrument Cluster (413-01 Instrument Cluster, Removal and Installation).
	CLEAR the DTC, test the system for normal operation.

REPERT CO. Instrument Cluster, Removal and Installation).   CLEAR the DTC, test the system for normal operation.		INSTALL a new IC.
PINPOINT TEST 1: SCP NETWORK MALFUNCTION, IN CAR ENTERTAINMENT (ICE) HEAD  TEST CONDITIONS  11: CHECK ICE FOR DAMAGE		REFER to: Instrument Cluster (413-01 Instrument Cluster, Removal and Installation).
TEST CONDITIONS  11: CHECK ICE FOR DAMAGE  12 Inspect the ICE head for damage. Does the ICE head indicate any signs of damage? Yes INSTALL a new ICE head. REFER to: Audio Unit, (415-01 Audio Unit, Removal and Installation). CLEAR the DTC, test the system for normal operation. No GO to 12.  12: CHECK THE SCP + FOR SHORT CIRCUIT TO GROUND 13 Measure the resistance between the diagnostic connector, pin 02 (Y) and GROUND. Is the resistance less than 10,000 ohms? Yes REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. No GO to 13.  13: CHECK THE SCP + FOR SHORT CIRCUIT TO BATTERY 1 Measure the resistance between the diagnostic connector, pins 02 (Y) and 16 (OY). Is the resistance less than 10,000 ohms? Yes REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. No GO to 14.  14: CHECK THE SCP - FOR SHORT CIRCUIT TO GROUND 1 Measure the resistance between the diagnostic connector, pin 10 (U) and GROUND. Is the resistance less than 10,000 ohms? Yes REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. No GO to 15.  15: CHECK THE SCP - FOR SHORT CIRCUIT TO BATTERY 1 Measure the resistance between the diagnostic connector, pins 10 (U) and 16 (OY). Is the resistance less than 10,000 ohms? Yes REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. No GO to 15.  15: CHECK THE SCP - FOR SHORT CIRCUIT TO BATTERY 1 Measure the resistance between the diagnostic connector, pins 10 (U) and 16 (OY). Is the resistance less than 10,000 ohms? Yes REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. No GO to 16.  16: CHECK FOR SHORT CIRCUIT BETWEEN SCP + AND SCP - 17 Measure the resistance between the diagnostic connector, pin		CLEAK LIIE DTC, TEST THE SYSTEM FOR NORMAL OPERATION.
TEST CONDITIONS  II: CHECK ICE FOR DAMAGE  [] Inspect the ICE head for damage.  Does the ICE head indicate any signs of damage?  Yes INSTALL a new ICE head. REFER to: Audio Unit, (415-01 Audio Unit, Removal and Installation). CLEAR the DTC, test the system for normal operation.  No GO to 12.  II: CHECK THE SCP + FOR SHORT CIRCUIT TO GROUND  [] Measure the resistance between the diagnostic connector, pin 02 (Y) and GROUND.  Is the resistance less than 10,000 ohms?  Yes REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No GO to 13.  IS: CHECK THE SCP + FOR SHORT CIRCUIT TO BATTERY  [] Measure the resistance between the diagnostic connector, pins 02 (Y) and 16 (OY).  Is the resistance less than 10,000 ohms?  Yes REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No GO to 14.  I4: CHECK THE SCP - FOR SHORT CIRCUIT TO GROUND  [] Measure the resistance between the diagnostic connector, pin 10 (U) and GROUND.  Is the resistance less than 10,000 ohms?  Yes REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No GO to 15.  IS: CHECK THE SCP - FOR SHORT CIRCUIT TO BATTERY  [] Measure the resistance between the diagnostic connector, pins 10 (U) and 16 (OY).  Is the resistance less than 10,000 ohms?  Yes REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No GO to 15.  IS: CHECK THE SCP - FOR SHORT CIRCUIT TO BATTERY  [] Measure the resistance between the diagnostic connector, pins 10 (U) and 16 (OY).  Is the resistance less than 10,000 ohms?  Yes REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No GO to 16.  IS: CHECK FOR SHORT CIRCUIT BETWEEN SCP + AND SCP -  [] Measure the resistance between t	DINDOINT TEST	T - SCD NETWORK MALEUNCTION IN CAR ENTERTAINMENT (ICE) HEAD
CONDITIONS  II: CHECK ICE FOR DAMAGE  I] Inspect the ICE head for damage.  Does the ICE head indicate any signs of damage?  Yes  INSTALL a new ICE head.  REFER to: Audio Unit (415-01 Audio Unit, Removal and Installation).  CLEAR the DTC, test the system for normal operation.  No  GO to 12.  II: CHECK THE SCP + FOR SHORT CIRCUIT TO GROUND  I] Measure the resistance between the diagnostic connector, pin 02 (Y) and GROUND.  Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to 13.  II: CHECK THE SCP + FOR SHORT CIRCUIT TO BATTERY  I] Measure the resistance between the diagnostic connector, pins 02 (Y) and 16 (OY).  Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to 14.  I4: CHECK THE SCP - FOR SHORT CIRCUIT TO GROUND  I] Measure the resistance between the diagnostic connector, pin 10 (U) and GROUND.  Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to 14.  I5: CHECK THE SCP - FOR SHORT CIRCUIT TO BATTERY  I] Measure the resistance between the diagnostic connector, pin 10 (U) and GROUND.  Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to 15.  I5: CHECK THE SCP - FOR SHORT CIRCUIT TO BATTERY  I] Measure the resistance between the diagnostic connector, pins 10 (U) and 16 (OY).  Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to 16.  I6: CHECK FOR SHORT CIRCUIT BETWEEN SCP + AND SCP -  II Measure the resistance bet		
Ti: CHECK ICE FOR DAMAGE  [1] Inspect the ICE head for damage.  Does the ICE head indicate any signs of damage?  Yes  INSTALL a new ICE head.  REFER to: Audio Unit, (415-01 Audio Unit, Removal and Installation).  CLEAR the DTC, test the system for normal operation.  No  GO to 12.  Ti: CHECK THE SCP + FOR SHORT CIRCUIT TO GROUND  [2] Measure the resistance between the diagnostic connector, pin 02 (Y) and GROUND.  Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to 13.  Ti: CHECK THE SCP + FOR SHORT CIRCUIT TO BATTERY  [2] Measure the resistance between the diagnostic connector, pins 02 (Y) and 16 (OY).  Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to 14.  Ti: CHECK THE SCP - FOR SHORT CIRCUIT TO GROUND  [3] Measure the resistance between the diagnostic connector, pin 10 (U) and GROUND.  Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to 16.  Ti: CHECK THE SCP - FOR SHORT CIRCUIT TO BATTERY  [2] Measure the resistance between the diagnostic connector, pins 10 (U) and GROUND.  Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to 16.  Ti: CHECK THE SCP - FOR SHORT CIRCUIT TO BATTERY  [2] Measure the resistance between the diagnostic connector, pins 10 (U) and 16 (OY).  Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to 16.  Ti: CHECK THE SCP - FOR SHORT CIRCUIT TO BATTERY  [3] Measure the resistance between t		DETAILS/ RESULTS/ ACTIONS
1   Inspect the ICE head for damage. Does the ICE head indicate any signs of damage? Yes INSTALL a new ICE head. REFER to: Audio Unit (415-01 Audio Unit, Removal and Installation). CLEAR the DTC, test the system for normal operation. No GO to 12.    12: CHECK THE SCP + FOR SHORT CIRCUIT TO GROUND   I   Measure the resistance between the diagnostic connector, pin 02 (Y) and GROUND.   Is the resistance less than 10,000 ohms? Yes REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. No   30: to 13:     I   Measure the resistance between the diagnostic connector, pins 02 (Y) and 16 (OY).   I   Measure the resistance between the diagnostic connector, pins 02 (Y) and 16 (OY).   I   Result		R DAMAGE
Does the ICE head indicate any signs of damage?  Yes  INSTALL a new ICE head. REFER to: Audio Unit (415-01 Audio Unit, Removal and Installation). CLEAR the DTC, test the system for normal operation.  No  GO to 12.  II Measure the resistance between the diagnostic connector, pin 02 (Y) and GROUND.  Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to 13.  I3: CHECK THE SCP + FOR SHORT CIRCUIT TO BATTERY  I1 Measure the resistance between the diagnostic connector, pins 02 (Y) and 16 (OY).  Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  No  SO to 13.  GO to 14.  I4: CHECK THE SCP - FOR SHORT CIRCUIT TO GROUND  I2 Measure the resistance between the diagnostic connector, pins 10 (U) and GROUND.  Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to 14.  I5: CHECK THE SCP - FOR SHORT CIRCUIT TO GROUND  II Measure the resistance between the diagnostic connector, pin 10 (U) and GROUND.  Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to 15.  I5: CHECK THE SCP - FOR SHORT CIRCUIT TO BATTERY  I2 Measure the resistance between the diagnostic connector, pins 10 (U) and 16 (OY).  Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No  GO to 16.  I6: CHECK FOR SHORT CIRCUIT TO BATTERY  II Measure the resistance between the diagnostic connector, pins 10 (U) and 02 (Y).	III. CHECK ICE IO.	
INSTALL a new ICE head. REFER to: Audio Unit (A15-01 Audio Unit, Removal and Installation). CLEAR the DTC, test the system for normal operation.  No GO to 12.  IZ: CHECK THE SCP + FOR SHORT CIRCUIT TO GROUND  I] Measure the resistance between the diagnostic connector, pin 02 (Y) and GROUND.  IS the resistance less than 10,000 ohms?  Yes REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No Octo 13.  IS: CHECK THE SCP + FOR SHORT CIRCUIT TO BATTERY I] Measure the resistance between the diagnostic connector, pins 02 (Y) and 16 (OY).  Is the resistance less than 10,000 ohms?  Yes REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No GO to 14.  I4: CHECK THE SCP - FOR SHORT CIRCUIT TO GROUND I] Measure the resistance between the diagnostic connector, pin 10 (U) and GROUND.  Is the resistance less than 10,000 ohms?  Yes REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No GO to 15.  I5: CHECK THE SCP - FOR SHORT CIRCUIT TO BATTERY I] Measure the resistance between the diagnostic connector, pins 10 (U) and 16 (OY).  Is the resistance less than 10,000 ohms?  Yes REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No GO to 15.  I6: CHECK THE SCP - FOR SHORT CIRCUIT TO BATTERY I] Measure the resistance between the diagnostic connector, pins 10 (U) and 16 (OY).  Is the resistance less than 10,000 ohms?  Yes REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No GO to 15.  I6: CHECK FOR SHORT CIRCUIT BETWEEN SCP + AND SCP - I] Measure the resistance between the diagnostic connector, pins 10 (U) and 02 (Y).  Is the resistance less than 10,000 ohms?  Yes		
INSTALL a new ICE head. REFER to: Audio Unit (415-01 Audio Unit, Removal and Installation). CLEAR the DTC, test the system for normal operation.  No GO to 12.  12: CHECK THE SCP + FOR SHORT CIRCUIT TO GROUND  I Measure the resistance between the diagnostic connector, pin 02 (Y) and GROUND.  Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No GO to 13.  13: CHECK THE SCP + FOR SHORT CIRCUIT TO BATTERY I Measure the resistance between the diagnostic connector, pins 02 (Y) and 16 (OY).  Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No GO to 14.  14: CHECK THE SCP - FOR SHORT CIRCUIT TO GROUND I Measure the resistance between the diagnostic connector, pin 10 (U) and GROUND.  Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No GO to 15.  15: CHECK THE SCP - FOR SHORT CIRCUIT TO BATTERY  1 Measure the resistance between the diagnostic connector, pins 10 (U) and 16 (OY).  Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No GO to 15.  16: CHECK THE SCP - FOR SHORT CIRCUIT TO BATTERY  1 Measure the resistance between the diagnostic connector, pins 10 (U) and 16 (OY).  Is the resistance less than 10,000 ohms?  Yes  REPAIR the short circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No GO to 16.  16: CHECK FOR SHORT CIRCUIT BETWEEN SCP + AND SCP -  17 Measure the resistance between the diagnostic connector, pins 10 (U) and 02 (Y).		, 5
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for normal operation.		
No No		
GO to 17.		
17: CHECK FOR OPEN CIRCUIT ON SCP + BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ICE HEAD UNIT	<b>I7: CHECK FOR OF</b>	PEN CIRCUIT ON SCP + BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ICE HEAD UNIT

	1 Turn the ignition switch to the <b>OFF</b> position.
	2 Disconnect the battery negative terminal.
	3 Disconnect the ICE connector, IP65.
	Measure the resistance between the diagnostic connector, pin 02 (Y) and IP65, pin 09 (Y).
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No
	GO to 18.
I8: CHECK FOR O	PEN CIRCUIT ON SCP - BETWEEN THE DIAGNOSTIC CONNECTOR AND THE ICE HEAD UNIT
	<b>1</b> Measure the resistance between the diagnostic connector, pin 10 (U) and IP65, pin 10 (U).
	Is the resistance greater than 5 ohms?
	Yes  DEDATE the high registeres singuit for additional information, refer to the mining discrepance CLEAR the DTC took the
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No.
	GO to 19.
I9: CHECK FOR CO	ORRECT BUS TERMINATION ON SCP +
	1 Reconnect the ICE connector, IP65.
	Reconnect the battery negative terminal.
	Measure the resistance between the diagnostic connector, pin 02 (Y) and GROUND.
	Is the resistance 150 to 210 ohms?
	Yes
	INSTALL a new ICE head unit.  PEFER to Audio Unit (415 01 Audio Unit Removal and Installation)
	REFER to: <u>Audio Unit</u> (415-01 Audio Unit, Removal and Installation). CLEAR the DTC, test the system for normal operation.
	No
	GO to I10.
I10: CHECK THE C	CONTINUITY OF THE GENERIC ELECTRONIC MODULE (GEM) SCP + CIRCUIT
	1 Turn the ignition switch to the <b>OFF</b> position.
	2 Disconnect the battery negative terminal.
	3 Disconnect the GEM connector, IP05.
	4 Measure the resistance between IP22, pin 02 (Y) and IP05, pin 19 (Y).
	Is the resistance greater than 5 ohms?
	Yes  DEDATE the high registeres singuit for additional information, refer to the mining diagrams. CLEAR the DTC took the
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No
	GO to I11.
I11: CHECK FOR L	OSS OF SCP + TERMINATION WITHIN THE GEM
	1 Disconnect the GEM connector, IP06.
	Measure the resistance between IP05, pin 19, and IP06, pin 01 of the GEM.
	Is the resistance 320 to 400 ohms?
	Yes CO to 112
	<u>GO to I12</u> . <b>No</b>
	INSTALL a new GEM.
	REFER to: Generic Electronic Module (GEM) (419-10 Multifunction Electronic Modules, Removal and Installation).
I12: CHECK CONT	INUITY OF THE IC SCP + CIRCUIT
	1 Disconnect the IC connector, IP10.
	Measure the resistance between the diagnostic connector, pin 02 (Y) and IP10, pin 22 (Y).
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No.
	GO to I13.
I13: CHECK FOR L	<u> OSS OF SCP + TERMINATION WITHIN THE IC</u>
	Measure the resistance between IP10, pin 22 (Y) and IP11, pin 08 of the IC.
	Is the resistance 320 to 400 ohms?
	Yes Possible intermittent fault. Recheck DTCs.
	No
	INSTALL a new IC.
	REFER to: Instrument Cluster (413-01 Instrument Cluster, Removal and Installation).
	CLEAR the DTC, test the system for normal operation.
DINDOINT TEST	1 - H2002- COMPACT DISC CHANCED NOT DECRONDING
LINFOINT LEST	J: U2003: COMPACT DISC CHANGER NOT RESPONDING
CALITTON: T	a fallowing tacks involve disconnection of the fibre actic however. The beauty acceptance where the control of
	e following tests involve disconnection of the fibre optic harmesses. The harmess connectors must be protected by as soon as they are disconnected, or damage may result. The use of tools to unlatch connectors must be avoided, or the
Lancabic dust caps	Contract to the first fell of the third to a street of the

connector locking function may be lost. Failure to follow this instruction may result in damage to the vehicle.

• NOTE: The following test sequence is based on a five node network. Refer to the wiring diagrams for network configuration for networks

with a different number of nodes (all possible network combinations are shown in the wiring diagrams).

NOTE: Should a break occur in the D2B ring, then codes, U2602, or U2603 will be set, depending on the location of the break. U2602 will set if the break is in the optical harness FROM the ICE head unit (the transmitter signal). U2603 will set if the break is in the optical harness TO the ICE head unit (the receiver signal). GO to Pinpoint Test P. GO to Pinpoint Test Q.

TEST CONDITIONS

DETAILS/RESULTS/ACTIONS

J1: CHECK CD CHANGER MODULE, USING OPTICAL BUS TESTER

- - Connect the Optical Bus Tester to the fibre optic lead connector, CD02.
  - Set the Optical Bus Tester to BY-PASS.
  - Clear the DTC.
  - Turn the ignition switch to the **ACC** position.
  - **5** Wait for 10 seconds.

	6 Check for 'not responding' DTCs.
[I:	s U2003 set?
Y	/es
	CHECK the 'wake-up' signal to the module.
	<u>GO to J2</u> .
J2: CHECK FOR DTC U2602 OR U2	603
<u> </u>	1 Check DTCs.
A	re codes U2602 or U2603 logged?
Y	es
	CHECK for break in optical harness.
	lo
	Recheck DTCs. No break in optical harness.

#### PINPOINT TEST K : ONE OR MORE D2B MODULES NOT RESPONDING. 'WAKE-UP' SIGNAL FAULT • NOTE: The D2B 'wake-up' signal is not a constant, but will generate a pulse at each cycle of the ignition key. The ignition key must be tumed to the OFF position following each step of the tests, and turned to the position indicated by the test step for each module. To avoid missing the signal, use an assistant to operate the key while reading the oscilloscope. The 'wake-up' line is battery voltage, switching to 0 volts for between 50 milliseconds and 110 milliseconds as the ICE head unit sends it's signal **TEST CONDITIONS DETAILS/RESULTS/ACTIONS** K1: CHECK THE 'WAKE-UP' SIGNAL TO THE CD CHANGER Disconnect the CD changer connector, CA301. Turn the ignition switch to the ACC position. 3 Measure the voltage between CA301, pin 03 (O) and GROUND, using an oscilloscope (see note above). Does the oscilloscope show a 'wake-up' signal as described? Yes GO to K2. No REPAIR the circuit between CA301, pin 03 and the ICE head unit connector, IP65, pin 19. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation K2: CHECK THE 'WAKE-UP' SIGNAL TO THE VOICE ACTIVATED CONTROL MODULE Disconnect the voice activated control module connector, PH02 Turn the ignition switch to the ACC position. Measure the voltage between PH02, pin 14 (0) and GROUND, using an oscilloscope (see note above). 3 Does the oscilloscope show a 'wake-up' signal as described? Yes GO to K3. No REPAIR the circuit between PH02, pin 14 and the ICE head unit connector, IP65, pin 19. For additional information, refer to the wiring diagrams. CLEAR the DTC. TEST the system for normal operation. K3: CHECK THE 'WAKE-UP' SIGNAL TO THE 'PHONE MODULE Disconnect the 'phone module connector, PH01. Turn the ignition switch to the ACC position. Measure the voltage between PH01, pin 23 (O) and GROUND, using an oscilloscope (see note above). Does the oscilloscope show a 'wake-up' signal as described? Yes GO to K4. No REPAIR the circuit between PH01, pin 23 and the ICE head unit connector, IP65, pin 19. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. K4: CHECK THE 'WAKE-UP' SIGNAL TO THE NAVIGATION COMPUTER Disconnect the navigation system connector, NA07. Turn the ignition switch to the ACC position. 3 Measure the voltage between NA07, pin 03 (0) and GROUND, using an oscilloscope (see note above). Does the oscilloscope show a 'wake-up' signal as described? Yes GO to K5. No REPAIR the circuit between NA07, pin 03 and the ICE head unit connector, IP65, pin 19. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation. K5: CHECK THE 'WAKE-UP' SIGNAL TO THE AMPLIFIER Disconnect the amplifier connector, CA425. Turn the ignition switch to the ACC position. 3 Measure the voltage between CA425, pin 05 (O) and GROUND, using an oscilloscope (see note above). Does the oscilloscope show a 'wake-up' signal as described? Yes CHECK for DTCs indicating a module failure. No REPAIR the circuit between CA425, pin 05 and the ICE head unit connector, IP65, pin 19. For additional

PINPOINT TEST L : U2008: 'PHONE MODULE NOT RESPONDING	
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
L1: CHECK 'PHONE MODULE	, USING OPTICAL BUS TESTER
	1 Connect the Optical Bus Tester to the fibre optic lead connector, CD03.
	2 Set the Optical Bus Tester to BY-PASS.
	3 Clear the DTC.
	4 Turn the ignition switch to the ACC position.
	5 Wait for 10 seconds.
	6 Check for 'not responding' DTCs.
	Is U2008 set?
	Yes
	CHECK the 'wake-up' signal to the module.
	No
	GO to L2.

information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.

L2: CHECK FOR D	TC U2602 OR U2603
	The check DTCs.
	Are codes U2602 or U2603 logged? Yes
	CHECK for break in optical harness.
	No RECHECK DTCs. No break in optical harness.
	Recited Brost to break in optical namess.
	M : U2019: VOICE CONTROL MODULE NOT RESPONDING
TEST CONDIT	.,
MI: CHECK VOICE	CONTROL MODULE, USING OPTICAL BUS TESTER  1 Connect the Optical Bus Tester to the fibre optic lead connector, CD04.
	2 Set the Optical Bus Tester to <b>BY-PASS</b> .
	3 Clear the DTC.
	Turn the ignition switch to the ACC position.
	Wait for 10 seconds.
	G Check for 'not responding' DTCs.  Is U2019 set?
	Yes
	CHECK the 'wake-up' signal to the module.
	No GO to M2.
M2: CHECK FOR D	TC U2602 OR U2603
	1 Check DTCs.
	Are codes U2602 or U2603 logged? Yes
	CHECK for break in optical harness.
	No RECHECK DTCs. No break in optical harness.
	Recited bics. No bleak in optical namess.
PINPOINT TEST	N: U2613: NAVIGATION CONTROL MODULE NOT RESPONDING
TEST CONDI	
N1: CHECK NAVIG	ATION CONTROL MODULE, USING OPTICAL BUS TESTER  1 Connect the Optical Bus Tester to the fibre optic connector, CD05.
	2 Set the Optical Bus Tester to BY-PASS.
	3 Clear the DTC.
	4 Turn the ignition switch to the ACC position.
	5 Wait for 10 seconds.
	6 Check for DTCs.
	Is U2613 set? <b>Yes</b>
	CHECK the 'wake-up' signal to the module.
	No GO to N2.
N2: CHECK FOR D	TC U2602 OR U2603
	1 Check DTCs.
	Are codes U2602 or U2603 logged? Yes
	CHECK for break in optical harness.
	No DECUECK DEC. No hardy in patient houses
<u>I</u>	RECHECK DTCs. No break in optical hamess.
PINPOINT TEST	O: U2614: AMPLIFIER NOT RESPONDING
TEST CONDI	
O1: CHECK AMPL	FIER, USING OPTICAL BUS TESTER
	Connect the Optical Bus Tester to the fibre optic connector, CD07.  Set the Optical Bus Tester to BY-PASS.
	3 Clear the DTC.
	Turn the ignition switch to the <b>ACC</b> position.
	<b>5</b> Wait for 10 seconds.
	6 Check for DTCs.
	Is U2614 set? <b>Yes</b>
	CHECK the 'wake-up' signal to the module.
	No GO to O2.
O2: CHECK FOR D	TC U2602 OR U2603
	1 Check DTCs.
	Are codes U2602 or U2603 logged?
	Yes CHECK for break in optical harness.
	No
<u>I</u>	RECHECK DTCs. No break in optical harness.
PINPOINT TEST	P: U2602: BREAK IN OPTICAL HARNESS FROM ICE HEAD UNIT (TRANSMITTER)
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS DICCHECK FIRES	OPTIC LEAD BETWEEN LUGGAGE COMPARTMENT JOINT AND CD CHANGER
	1 Disconnect the fibre optic connector, CD02.
<del> </del>	2 Disconnect the fibre optic connector, CD06.
<u> </u>	3 Connect the Optical Bus Tester to the fibre optic connector, CD06.
[	Set the Optical Bus Tester to <b>TX</b> .
	5 Set the Optical Bus Tester to ON.

	6	Check for light pulses at the receiver pin of disconnected D2B connector, CD02.
	Are	light pulses visible?
	Yes	
	NI.	<u>GO to P2</u> .
	No	INSTALL a new telematic hamess between CD06 and CD02. For additional information, refer to the wiring diagrams.
		CLEAR the DTC, test the system for normal operation.
P2: CHECK CABIN	I FI	BRE OPTIC HARNESS
	1	Disconnect the fibre optic connector, CD01.
	2	Disconnect the fibre optic connector, CD06.
	3	Connect the Optical Bus Tester to CD01 using adaptor lead.
	4	Set the Optical Bus Tester to TX.
	5	Set the Optical Bus Tester to <b>ON</b> .
	6	Check for light pulses at the receiver pin of disconnected D2B connector, CD06.
	Are	light pulses visible?
	Yes	
	NI.	<u>GO to P3</u> .
	No	INSTALL a new cabin optical harness between CD06 and CD01. For additional information, refer to the wiring
		diagrams. CLEAR the DTC, test the system for normal operation.
P3: CHECK FIBRE	OF	PTIC LEAD BETWEEN 'A' POST AND ICE HEAD UNIT
	1	Disconnect the fibre optic connector, ID01.
	2	Connect the Optical Bus Tester to ID01 using the adaptor lead.
	3	Set the Optical Bus Tester to <b>TX</b> .
	4	Set the Optical Bus Tester to <b>ON</b> .
	5	Check for light pulses at the receiver pin of disconnected D2B connector, CD001.
	Are	light pulses visible?
	Yes	
	No	<u>GO to P4</u> .
	NO	INSTALL a new instrument optical harness between CD01 and ID01. For additional information, refer to the wiring
		diagrams. CLEAR the DTC, test the system for normal operation.
P4: CHECK THE I		
	1	Turn the ignition switch to the <b>ACC</b> position.
	2	Wait for 10 seconds.
	3	Check for light pulses at the transmitter pin of disconnected D2B connector, ID01 (rear of ICE head unit).
		light pulses visible?
	Yes	GO to P5.
	No	
		INSTALL a new ICE head unit,
		DEEED to Audio Unit (415 01 Audio Unit Democratical and Tact-Units)
		REFER to: <u>Audio Unit</u> (415-01 Audio Unit, Removal and Installation).
		CLEAR the DTC, test the system for normal operation.
P5: CHECK THE F	IBR	CLEAR the DTC, test the system for normal operation. RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE
P5: CHECK THE F	IBR	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.
P5: CHECK THE F	IBR	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.
P5: CHECK THE F	1 2 3	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.
P5: CHECK THE F	1 2 3 4	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.
P5: CHECK THE F	1 2 3 4	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.
	1 2 3 4 5	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.
	1 3 4 5 6 Are	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?
	1 2 3 4 5	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?
	1 3 4 5 6 Are	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?  SGO to P6.
	1 3 4 5 6 Are	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?  S  GO to P6.  INSTALL a new telematic harness between CD03 and CD02. For additional information, refer to the wiring diagrams.
	1 2 3 4 5 6 Are Yes	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?  GO to P6.  INSTALL a new telematic harness between CD03 and CD02. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	1 2 3 4 5 6 Are Yes	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?  S  GO to P6.  INSTALL a new telematic harness between CD03 and CD02. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE
	1 2 3 4 5 6 Are Yes	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?  S  GO to P6.  INSTALL a new telematic harness between CD03 and CD02. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.
	1 2 3 4 5 6 Are Yes No	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?  S  GO to P6.  INSTALL a new telematic harness between CD03 and CD02. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.
	1 2 3 4 5 6 Are Yes	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?  GO to P6.  INSTALL a new telematic hamess between CD03 and CD02. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.
	1 2 3 4 5 6 Are Yes No	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?  GO to P6.  INSTALL a new telematic harness between CD03 and CD02. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.
P6: CHECK THE F	1 2 3 4 5 6 Are Yes No	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?  S GO to P6.  INSTALL a new telematic harness between CD03 and CD02. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.
P6: CHECK THE F	1 2 3 4 5 6 Are Yes No 1 1 2 3 4 5 Are	CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?  GO to P6.  INSTALL a new telematic harness between CD03 and CD02. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TN.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?
P6: CHECK THE F	1 2 3 4 5 6 Are Yes No	CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?  GO to P6.  INSTALL a new telematic harness between CD03 and CD02. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TN.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?
P6: CHECK THE F	1 2 3 4 5 6 Are Yes No 1 1 2 3 4 5 Are	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?  SOUTO PG.  INSTALL a new telematic harness between CD03 and CD02. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?  SOUTO P7.
P6: CHECK THE F	1 2 3 4 5 6 Are Yes No 1 2 3 4 5 Are	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  Iight pulses visible?  S GO to P6.  INSTALL a new telematic harness between CD03 and CD02. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  Iight pulses visible?  S GO to P7.  INSTALL a new telematic harness between CD03 and CD04. For additional information, refer to the wiring diagrams.
P6: CHECK THE F	1 2 3 4 5 6 Are Yes No Are Yes	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?  S  GO to P6.  INSTALL a new telematic harness between CD03 and CD02. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to CD03.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?  S  GO to P7.  INSTALL a new telematic harness between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.
P6: CHECK THE F	1 2 3 4 5 6 Are Yes No IBR Are Yes No IBR	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?  GO to P6.  INSTALL a new telematic harness between CD03 and CD02. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?  SO to P7.  INSTALL a new telematic harness between CD03 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER
P6: CHECK THE F	1 2 3 4 5 6 Are Yes No Are Yes	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  Iight pulses visible?  SO to P6.  INSTALL a new telematic hamess between CD03 and CD02. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  INSTALL a new telematic hamess between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  INSTALL a new telematic hamess between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.
P6: CHECK THE F	1 2 3 4 5 6 Are Yes No IBR Are Yes No IBR	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?  SOUTED FOR THE PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set Typical Bus Tester to TY.  Set Typical Bus Tester Typical Bus Tester Typical Bus Tester Typic
P6: CHECK THE F	1 2 3 4 5 6 Are Yes No IBR Are Yes No IBR	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  Ilight pulses visible?  SO to P6.  INSTALL a new telematic harness between CD03 and CD02. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?  SO to P7.  INSTALL a new telematic harness between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Disconnect the fibre optic connector CD05.  Connect the Optical Bus Tester to CD04.
P6: CHECK THE F	1 2 3 4 5 6 Are Yes No IBR 1 2 3 4 1 5 1 2 3 4 1 5 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the DTC, test the system for normal operation.  TO OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  Ight pulses visible?  Solot P7.  INSTALL a new telematic hamess between CD03 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  TO PTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Disconnect the fibre optic connector CD04.  Disconnect the fibre optic connector CD04.  Disconnect the Optical Bus Tester to CD04.  Set the Optical Bus Tester to CD04.  Set the Optical Bus Tester to CD04.
P6: CHECK THE F	1 2 3 4 5 6 Are Yes No IBR 1 2 3 4 5 No IBR 1 2 3 4 5 1 5 1 7	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?  SOUTO PG.  INSTALL a new telematic hamess between CD03 and CD02. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?  SOUTO PT.  INSTALL a new telematic hamess between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Disconnect the fibre optic connector CD04.  Disconnect the fibre optic connector CD04.  Disconnect the Optical Bus Tester to CD04.  Set the Optical Bus Tester to CD04.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.
P6: CHECK THE F	1 2 3 4 5 6 Are Y No IBR 1 2 3 4 5 6	CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD02.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  Ilight pulses visible?  Sol to P6.  INSTALL a new telematic harness between CD03 and CD02. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  light pulses visible?  Sol to P7.  INSTALL a new telematic harness between CD03 and CD04. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  RE OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Disconnect the fibre optic connector CD04.  Disconnect the fibre optic connector CD05.  Connect the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.
P6: CHECK THE F	1 2 3 4 5 6 Are Y No IBR 1 2 3 4 5 6	CLEAR the DTC, test the system for normal operation.  IE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD03.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  Instrall a new telematic harmess between CD03 and CD02. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  INSTALL a new telematic harmess between CD03.  Set the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Instrall a new telematic harmess between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  Instrall a new telematic harmess between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  Instrall a new telematic harmess between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  Instrall a new telematic harmess between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  Instrall a new telematic harmess between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  Set OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Set the Optical Bus Tester to CD04.  Set the Optical Bus Tester to CD04.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.
P6: CHECK THE F	1 2 3 4 5 6 Are Yes No IBR 1 2 3 4 5 6 Are Yes No IBR 1 2 3 4 5 6 Are Yes No IBR 1 2 3 4 5 6 Are Yes No IBR 1 1 2 3 4 5 6 6 Are Yes No IBR 1 1 2 3 4 5 6 6 Are Yes No IBR 1 1 2 3 4 5 6 6 Are Yes No IBR 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CLEAR the DTC, test the system for normal operation.  IE OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD03.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  Instrall a new telematic harmess between CD03 and CD02. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  INSTALL a new telematic harmess between CD03.  Set the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Instrall a new telematic harmess between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  Instrall a new telematic harmess between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  Instrall a new telematic harmess between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  Instrall a new telematic harmess between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  Instrall a new telematic harmess between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  Set OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Set the Optical Bus Tester to CD04.  Set the Optical Bus Tester to CD04.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.
P6: CHECK THE F	1 2 3 4 5 6 Are Yes No IBR 1 2 3 4 5 6 Are	CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD03.  Disconnect the fibre optic connector CD03.  Set the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?  SO to P6.  INSTALL a new telematic harness between CD03 and CD02. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  Ilight pulses visible?  SO to P7.  INSTALL a new telematic harness between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Disconnect the fibre optic connector CD04.  Disconnect the fibre optic connector CD04.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to CD04.  Set the Optical Bus Tester to TX.
P6: CHECK THE F	1 2 3 4 5 6 Are Yes No IBR 1 2 3 4 5 6 Are Yes No IBR 1 2 3 4 5 6 Are Yes No IBR 1 2 3 4 5 6 Are Yes No IBR 1 1 2 3 4 5 6 6 Are Yes No IBR 1 1 2 3 4 5 6 6 Are Yes No IBR 1 1 2 3 4 5 6 6 Are Yes No IBR 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD03.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?  SO to P6.  INSTALL a new telematic harness between CD03 and CD02. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  Ilight pulses visible?  SO to P2.  INSTALL a new telematic harness between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Disconnect the fibre optic connector CD04.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TO04.  Ilight pulses visible?  So to P8.  INSTALL a new telematic harness between CD05 and CD04. For additional information, refer to the wiring diagrams.
P6: CHECK THE F	1 2 3 4 5 6 Are Y NO BR 1 2 3 4 5 6 Are Y NO BR 1 2 3 4 5 6 Are Y NO BR 1 2 3 4 5 6 Are Y NO BR 1 2 3 4 5 6 Are Y NO BR 1 2 3 4 5 6 6 Are Y NO BR 1 3 4 5 6 6 Are Y NO BR 1 3 4 5 6 6 Are Y NO BR 1 3 4 5 6 6 Are Y NO BR 1 3 4 5 6 6 Are Y NO BR 1 3 4 5 6 6 Are Y NO BR 1 3 4 5 6 6 Are Y NO BR 1 3 4 5 6 6 Are Y NO BR 1 3 4 6 6 Are Y NO BR 1 3 4 6 6 Are Y NO BR 1 3 4 Ar	CLEAR the DTC, test the system for normal operation.  12 POTIC LEAD FROM THE CO CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD03.  Disconnect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Instruction of the Company of the Comp
P6: CHECK THE F	1 2 3 4 5 6 Are Y NO BR 1 2 3 4 5 6 Are Y NO BR 1 2 3 4 5 6 Are Y NO BR 1 2 3 4 5 6 Are Y NO BR 1 2 3 4 5 6 Are Y NO BR 1 2 3 4 5 6 6 Are Y NO BR 1 3 4 5 6 6 Are Y NO BR 1 3 4 5 6 6 Are Y NO BR 1 3 4 5 6 6 Are Y NO BR 1 3 4 5 6 6 Are Y NO BR 1 3 4 5 6 6 Are Y NO BR 1 3 4 5 6 6 Are Y NO BR 1 3 4 5 6 6 Are Y NO BR 1 3 4 6 6 Are Y NO BR 1 3 4 6 6 Are Y NO BR 1 3 4 Ar	CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE CD CHANGER TO THE 'PHONE MODULE  Disconnect the fibre optic connector CD03.  Disconnect the fibre optic connector CD03.  Connect the Optical Bus Tester to CD02.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD03.  light pulses visible?  SO to P6.  INSTALL a new telematic harness between CD03 and CD02. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE 'PHONE MODULE TO THE VOICE MODULE  Disconnect the fibre optic connector CD04.  Connect the Optical Bus Tester to CD03.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to ON.  Check for light pulses at the transmitter pin of disconnected D2B connector, CD04.  Ilight pulses visible?  SO to P2.  INSTALL a new telematic harness between CD03 and CD04. For additional information, refer to the wiring diagrams.  CLEAR the DTC, test the system for normal operation.  E OPTIC LEAD FROM THE VOICE MODULE TO THE NAVIGATION COMPUTER  Disconnect the fibre optic connector CD04.  Disconnect the fibre optic connector CD04.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TX.  Set the Optical Bus Tester to TO04.  Ilight pulses visible?  So to P8.  INSTALL a new telematic harness between CD05 and CD04. For additional information, refer to the wiring diagrams.

	3 Connect the Optical Bus Tester to CD05.
	4 Set the Optical Bus Tester to <b>TX</b> .
	5 Set the Optical Bus Tester to <b>ON</b> .
	6 Check for light pulses at the transmitter pin of disconnected D2B connector, CD07.
I I	re light pulses visible?
Y	<b>/es</b>
	CHECK for DTC U2603.
	No
	INSTALL a new telematic hamess between CD05 and CD07. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.

TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
1: CHECK FIBR	E OPTIC LEAD BETWEEN LUGGAGE COMPARTMENT JOINT AND AMPLIFIER  1 Disconnect the fibre optic connector, CD06.
	1 '
	Disconnect the fibre optic connector, CD07.
	Connect the Optical Bus Tester to CD07.
	4 Set the Optical Bus Tester to <b>TX</b> .
	Set the Optical Bus Tester to <b>ON</b> .
	6 Check for light pulses at the receiver pin of disconnected D2B connector, CD06.
	Are light pulses visible?
	Yes GO to O2.
	No.
	INSTALL a new telematic harness between CD06 and C07. For additional information, refer to the wiring diagrams CLEAR the DTC, test the system for normal operation.
2: CHECK CAB	IN FIBRE OPTIC HARNESS
	1 Disconnect the fibre optic connector, CD01.
	2 Disconnect the fibre optic connector, CD06.
	3 Connect the Optical Bus Tester to CD06 using adaptor lead.
	4 Set the Optical Bus Tester to <b>TX</b> .
	Set the Optical Bus Tester to ON.
	6 Check for light pulses at the receiver pin of disconnected D2B connector, CD01.
	Are light pulses visible?
	Yes
	GO to Q3.
	No INSTALL a new sphin entired harmons between CD06 and CD01. For additional information, refer to the winter
	INSTALL a new cabin optical harness between CD06 and CD01. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
3: CHECK FIBR	E OPTIC LEAD BETWEEN 'A' POST AND ICE HEAD UNIT
	1 Connect the Optical Bus Tester to ID01.
	2 Set the Optical Bus Tester to <b>TX</b> .
	3 Set the Optical Bus Tester to ON.
	4 Check for light pulses at the receiver pin of disconnected D2B connector, ID01.
	Are light pulses visible?
	Yes
	GO to Q4.
	No
	INSTALL a new instrument optical harness between CD01 and ID01. For additional information, refer to the wiring
4. CUECK THE	diagrams. CLEAR the DTC, test the system for normal operation.
4: CHECK THE	ICE HEAD UNIT
	Connect the optical short link between the receiver and transmitter of the ICE head unit.
	Turn the ignition switch to the ACC position.
	Wait for 10 seconds.
	4 Check for DTC.
	Is U2603 logged?
	Yes INSTALL a new ICE head unit,
	REFER to: Audio Unit (415-01 Audio Unit, Removal and Installation).
	CLEAR the DTC. TEST the system for normal operation.
	No
	RECHECK DTCs. No fault found in D2B system.

PINPOINT TES	TR: ONE OR MORE D2B MODULES NOT RESPONDING. PERMANENT SUPPLY FAULT
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
R1: CHECK THE	PERMANENT SUPPLY TO THE CD CHANGER
	1 Disconnect the CD changer connector, CA301.
	2 Measure the voltage between CA301, pin 02 (OY) and GROUND.
	Is the voltage less than 10 volts?
	Yes  REPAIR the circuit between the CD changer connector, CA301, pin 02, and fuse 72 of the central junction fuse box. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No
	CHECK the module for GROUND. INSTALL a new CD Changer. REFER to: <u>Compact Disc (CD) Changer - 4-Door</u> (415-01 Audio Unit, Removal and Installation). CLEAR the DTC, test the system for normal operation. <u>GO to R2</u> .
R2: CHECK THE	PERMANENT SUPPLY TO THE VOICE ACTIVATED CONTROL MODULE
	1 Disconnect the voice activated control module connector, PH02.
	2 Measure the voltage between PH02, pin 22 (NR) and GROUND.

	Is the voltage less than 10 volts?
1	Yes
	REPAIR the circuit between the voice activated control module connector, PH02, pin 22, and fuse 71 of the central
	junction fuse box. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal
	operation.
	No
	CHECK the module for GROUND. INSTALL a new VACM.
	REFER to: Multifunction Voice Activated Module - 4-Door (419-10 Multifunction Electronic Modules, Removal and
	Installation).
	CLEAR the DTC, test the system for normal operation. <u>GO to R3</u> .
	PERMANENT SUPPLY TO THE 'PHONE MODULE
	Disconnect the 'phone module connector, PH01.
	2 Measure the voltage between PH01, pins 12 and 13 (NR) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between the 'phone module connector, PH01, pins 12 and 13 and fuse 71 of the central junction
	fuse box. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal
	operation.
	No CHECK the module for GROUND. INSTALL a new 'phone module.
	REFER to: Module - 4-Door (419-08 Cellular Phone, Removal and Installation).
	CLEAR the DTC, test the system for normal operation. GO to R4.
P4: CHECK THE	PERMANENT SUPPLY TO THE NAVIGATION MODULE
K-1 CHECK THE	1 Disconnect the navigation module connector, NA07.
	Measure the voltage between NA07, pin 01 (OY) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	Repair the circuit between the navigation module connector, NAO7, pin O1 and fuse 72 of the central junction fuse
	box. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No
	CHECK the module for GROUND. INSTALL a new navigation module.
	REFER to: Navigation System Module - 4-Door (419-07 Navigation System, Removal and Installation).
	CLEAR the DTC, test the system for normal operation. GO to R5.
R5: CHECK THE	PERMANENT SUPPLY TO THE AMPLIFIER
	1 Disconnect the amplifier connector, CA425.
	2 Measure the voltage between CA425, pin 09 (NR) and GROUND.
	3 Measure the voltage between CA425, pin 03 (NR) and GROUND.
	Is either voltage less than 10 volts?
	Yes
	Repair the circuit between the amplifier connector, CA425 and fuse 20 of the primary junction box. For additional
	information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No
	CHECK the module for GROUND. INSTALL a new amplifier. CLEAR the DTC, test the system for normal operation.
PINPOINT TES	T S : ONE OR MORE D2B MODULES NOT RESPONDING. ACCESSORY SWITCHED SUPPLY FAULT
TECT	DETAILS / DESCRIPTS / ACTIONS

TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
1: CHECK THE	ACCESSORY SWITCHED SUPPLY TO THE VOICE ACTIVATED CONTROL MODULE
	<u>1</u> Disconnect the voice activated control module connector, PH02.
	Turn the ignition switch to the ACC position.
	Measure the voltage between PH02, pin 08 (YG) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between the voice activated control module connector, PH02, pin 08 and the ignition switch. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  (This circuit includes the central junction fuse box, fuse 69)
	No GO to S2.
2: CHECK THE	ACCESSORY SWITCHED SUPPLY TO THE 'PHONE MODULE
	1 Disconnect the 'phone module connector, PH01.
	Turn the ignition switch to the ACC position.
	Measure the voltage between PH01, pin 14 (YG) and GROUND.
	Is the voltage less than 10 volts?
	Yes  REPAIR the circuit between the 'phone module connector, PH01, pin 14 and the ignition switch. This circuit includes the central junction fuse box, fuse 69. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.  No
	GO to S3.
B: CHECK THE	ACCESSORY SWITCHED SUPPLY TO THE NAVIGATION MODULE
	1 Disconnect the navigation module electrical connector, NA07.
	Turn the ignition switch to the ACC position.
	Measure the voltage between NA07, pin 11 (YG) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between the navigation module connector, NA07, pin 11 and the ignition switch. This circuit includes the central junction fuse box, fuse 69. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No  CHECK the module for GROUND. INSTALL a new navigation module.  REFER to: Navigation System Module - 4-Door (419-07 Navigation System, Removal and Installation).  CLEAR the DTC, test the system for normal operation.

PINPOINT TEST T: ONE OR MORE D2B MODULES NOT RESPONDING. IGNITION SWITCHED SUPPLY FAULT	
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	

T1: CHECK THE	IGNITION SWITCHED SUPPLY TO THE VOICE ACTIVATED CONTROL MODULE
	1 Disconnect the voice activated control module connector, PH02.
	2 Turn the ignition switch to the <b>ON</b> position.
	3 Measure the voltage between PH02, pin 06 (WR) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between the voice activated control module connector, PH02, pin 06 and the central junction fuse box, fuse 67. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal
	operation.
	No
	GO to T2.
T2: CHECK THE	IGNITION SWITCHED SUPPLY TO THE 'PHONE MODULE
	1 Disconnect the 'phone module connector, PH01.
	2 Turn the ignition switch to the <b>ON</b> position.
	3 Measure the voltage between PH01, pin 29 (Y) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between the 'phone module connector, PH01, pin 29 and the central junction fuse box, fuse 78. For additional information, refer to the wiring diagrams. CLEAR the DTC, test the system for normal operation.
	No
	Check the module for GROUND. INSTALL a new 'phone module.
	REFER to: Module - 4-Door (419-08 Cellular Phone, Removal and Installation).
	CLEAR the DTC, test the system for normal operation.

PINPOINT TEST	U: IC SUPPLY OR GROUND FAULT
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
1	+ SUPPLY TO THE IC
	1 Disconnect the IC connector, IP11.
	2 Measure the voltage between IP11, pin 07 (OG) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between IP11, pin 07 and battery. This circuit includes the primary junction box, fuse 45. For additional information, refer to the wiring diagrams.
	No
	GO to U2.
U2: CHECK THE A	CC SUPPLY TO THE IC
	1 Turn the ignition switch to the ACC position.
	Measure the voltage between IP11, pin 13 (YU) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between IP11, pin 13 and battery. This circuit includes the primary junction box, fuse 43. For
	additional information, refer to the wiring diagrams.  No
	GO to U3.
U3: CHECK THE IC	GNITION SUPPLY TO THE IC
	1 Turn the ignition switch to the IGN position.
	Measure the voltage between IP11, pin 11 (GR) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between IP11, pin 11 and battery. This circuit includes the primary junction box, fuse 54. For
	additional information, refer to the wiring diagrams.
	No GO to U4.
U4. CHECK THE G	ROUND TO THE IC
041 CHECK THE G	Measure the resistance between IP11, pin 08 (B) and GROUND.
	Is the resistance greater than 5 ohms?
1	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No .
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.

PINPOINT TEST V : S	SWRS SUPPLY OR GROUND FAULT
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
V1: CHECK THE MODUL	E SUPPLY TO THE SWRS
	1 Disconnect the SWRS connector, IP19.
	2 Turn the ignition switch to the <b>ON</b> position.
	Measure the voltage between IP19, pin 02 (GW) and GROUND.
	Is the voltage less than 4 volts?
	Yes
	GO to V2. No
	GO to V3.
V2: CHECK THE MODUL	E SUPPLY CIRCUIT TO THE SWRS FOR HIGH RESISTANCE
	1 Turn the ignition switch to the OFF position.
	2 Disconnect the DSC module connector, JB185.
	Measure the resistance between IP19, pin 02 (GW) and JB185, pin 39 (GW).
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.  No
	GO to V3.
V3: CHECK THE GROUN	
	1 Reconnect the DSC module connector, JB185.
	Measure the resistance between IP19, pin 08 (U) and GROUND.

	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.  No
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.
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PINPOINT TEST W:	YAW RATE SENSOR SUPPLY OR GROUND FAULT
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
W1: CHECK THE MODU	LE SUPPLY TO THE YAW RATE SENSOR
	1 Disconnect the yaw rate sensor connector, IP20.
	2 Turn the ignition switch to the ON position.
	3 Measure the voltage between IP20, pin 04 (GW) and GROUND.
	Is the voltage less than 4 volts?
	Yes
	GO to W2.
	No GO to W3.
W2. CHECK THE MODIL	LE SUPPLY CIRCUIT TO THE YAW RATE SENSOR FOR HIGH RESISTANCE
W2. CHECK THE MODO	1 Turn the ignition switch to the <b>OFF</b> position.
	2 Disconnect the DSC module connector, JB185.
	Is the resistance greater than 5 ohms? <b>Yes</b>
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No
	GO to W3.
W3: CHECK THE GROUP	ND TO THE YAW RATE SENSOR
	1 Measure the resistance between IP20, pin 01 (U) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No No fault found with power or ground supplies. Check for DTCs indicating a module fault.
	No fault found with power of ground supplies. Check for DTCs flutcating a module fault.

	No fault found with power or ground supplies. Check for DTCs indicating a module fault.
PINPOINT TES	ST X : ABS/TCCM SUPPLY OR GROUND FAULT
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
	IGNITION SUPPLY TO THE ABS/TC MODULE
	1 Disconnect the ABS/TCCM connector, JB45.
	2 Turn the ignition switch to the <b>ON</b> position.
	Measure the voltage between JB45, pin 23 (GW) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between JB45, pin 23 and battery. This circuit includes the front power distribution box, fuse 13 and the ignition relay. For additional information, refer to the wiring diagrams.
	No GO to X2.
X2: CHECK THE	PUMP+ SUPPLY TO THE ABS/TCCM
	1 Turn the ignition switch to the <b>ON</b> position.
	2 Measure the voltage between JB45, pin 02 (R) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between JB45, pin 02 and battery. This circuit includes the front power distribution box, fuse 41.
	For additional information, refer to the wiring diagrams.
	GO to X3.
X3: CHECK THE	SOLENOID+ SUPPLY TO THE ABS/TCCM
	1 Turn the ignition switch to the ON position.
	Measure the voltage between JB45, pin 06 (R) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between JB45, pin 06 and battery. This circuit includes the front power distribution box, fuse 41. For additional information, refer to the wiring diagrams.
	No GO to X4.
X4: CHECK THE	GROUND TO THE ABS/TCCM
	1 Turn the ignition switch to the <b>OFF</b> position.
	2 Measure the resistance between JB45, pin 05 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	<b>Yes</b> REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No GO to X5.
X5: CHECK THE	MOTOR GROUND TO THE ABS/TCCM
AS. CHECK THE	1 Measure the resistance between JB45, pin 01 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No
<u> </u>	No fault found with power or ground supplies. Check for DTCs indicating a module fault.

PINPOINT TEST Y : DSC MODULE SUPPLY OR GROUND FAULT	
TEST	DETAILS/RESULTS/ACTIONS
CONDITIONS	
Y1: CHECK THE IGNITION SUPPLY TO THE DSC MODULE	
	1 Disconnect the DSC module connector, JB185.

	2 Turn the ignition switch to the <b>ON</b> position.
	Measure the voltage between JB185, pin 23 (GW) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between JB45, pin 23 and battery. This circuit includes the front power distribution box, fuse 13
	and the ignition relay. For additional information, refer to the wiring diagrams.
	No GO to Y2.
V2: CHECK THE D	PUMP+ SUPPLY TO THE DSC MODULE
	1 Turn the ignition switch to the <b>ON</b> position.
	2   Measure the voltage between JB185, pin 02 (R) and GROUND.
	Is the voltage less than 10 volts?
	Yes
	REPAIR the circuit between JB185, pin 02 and battery. This circuit includes the front power distribution box, fuse 41.
	For additional information, refer to the wiring diagrams.
	No .
/2 21124	GO to Y3.
	OLENOID+ SUPPLY TO THE DSC MODULE
	Turn the ignition switch to the <b>ON</b> position.
	Measure the voltage between JB185, pin 06 (R) and GROUND.
	Is the voltage less than 10 volts?
	<b>Yes</b> REPAIR the circuit between JB185, pin 06 and battery. This circuit includes the front power distribution box, fuse 41.
	For additional information, refer to the wiring diagrams.
	No
	GO to Y4.
Y4: CHECK THE G	ROUND TO THE DSC MODULE
	1 Turn the ignition switch to the <b>OFF</b> position.
	2 Measure the resistance between JB185, pin 05 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No GO to Y5.
V5. CHECK THE M	MOTOR GROUND TO THE DSC MODULE
	Measure the resistance between JB185, pin 01 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.
	T Z : GSI MODULE SUPPLY OR GROUND FAULT
TECT	DETAIL C / DECILITY / ACTIONS

PINPOINT TEST Z : GSI MODULE SUPPLY OR GROUND FAULT	
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
Z1: CHECK THE IC	NITION SUPPLY TO THE GSI MODULE
	1 Disconnect the GSI module connector, IP14.
	2 Turn the ignition switch to the <b>ON</b> position.
	3 Measure the voltage between IP14, pin 01 (WR) and GROUND.
	Is the voltage less than 10 volts?
	Yes  REPAIR the circuit between IP14, pin 01 and battery. This circuit includes the primary junction box, fuse 50. For additional information, refer to the wiring diagrams.  No  GO to Z2.
Z2: CHECK THE GROUND TO THE GSI MODULE	
	1 Measure the resistance between IP14, pin 02 (B) and GROUND.
	Is the resistance greater than 5 ohms?  Yes  REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.  No
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.

PINPOINT TEST AA : HID MODULE SUPPLY OR GROUND FAULT	
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
AA1: CHECK THE	IGNITION SUPPLY TO THE HID MODULE
	1 Disconnect the HID module connector, IP130.
	<b>2</b> Turn the ignition switch to the <b>ON</b> position.
	3 Measure the voltage between IP130, pin 23 (WR) and GROUND.
	Is the voltage less than 10 volts?
	Yes  REPAIR the circuit between IP130, pin 23 and battery. This circuit includes the primary junction box, fuse 39. For additional information, refer to the wiring diagrams.  No  GO to AA2.
AA2: CHECK THE	GROUND TO THE HID MODULE
	1 Measure the resistance between IP130, pin 24 (B) and GROUND.
	Is the resistance greater than 5 ohms?  Yes  REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.  No  No fault found with power or ground supplies. Check for DTCs indicating a module fault.

TEST	DETAILS/RESULTS/ACTIONS	
CONDITIONS		
<b>AB1: CHECK THE</b>	AB1: CHECK THE B+ SUPPLY TO THE EATC MODULE	
	1 Disconnect the EATC module connector, IP101.	
	Measure the voltage between IP101, pin 14 (OG) and GROUND.	
	Is the voltage less than 10 volts?	
	Yes	
	REPAIR the circuit between IP101, pin 14 and battery. This circuit includes the primary junction box, fuse 45. For	
	additional information, refer to the wiring diagrams.	
	GO to AB2.	
AB2: CHECK THE	IGNITION SUPPLY TO THE EATC MODULE	
	1 Turn the ignition switch to the ON position.	
	Measure the voltage between IP101, pin 02 (WR) and GROUND.	
	Is the voltage less than 10 volts?	
	Yes	
	REPAIR the circuit between IP101, pin 02 and battery. This circuit includes the primary junction box, fuse 39, and the	
	ignition relay. For additional information, refer to the wiring diagrams.	
	GO to AB3.	
AB3: CHECK THE	B+ SAVE SUPPLY TO THE EATC MODULE	
	1 Turn the ignition switch to the OFF position.	
	Measure the voltage between IP101, pin 01 (OY) and GROUND.	
	Is the voltage less than 10 volts?	
	Yes	
	REPAIR the circuit between IP101, pin 01 and battery. This circuit includes the primary junction box, fuse 49, and the	
	battery save relay. For additional information, refer to the wiring diagrams.  No	
	GO to AB4.	
AB4: CHECK THE	GROUND TO THE EATC MODULE	
	1 Measure the resistance between IP101, pin 15 (B) and GROUND.	
	Is the resistance greater than 5 ohms?	
	Yes	
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.	
	No No fault found with newer or ground cumplies. Check for DTCs indicating a module fault	
	No fault found with power or ground supplies. Check for DTCs indicating a module fault.	

PINPOINT TEST AC : MEMORY SEAT MODULE SUPPLY OR GROUND FAULT	
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
AC1: CHECK THE	B+1 SUPPLY TO THE MEMORY SEAT MODULE
	1 Disconnect the memory seat module connector, DM02.
	Measure the voltage between DM02, pin 01 (OG) and GROUND.
	Is the voltage less than 10 volts?
	Yes  REPAIR the circuit between DM02, pin 01 and battery. This circuit includes the primary junction box, fuse 16. For additional information, refer to the wiring diagrams.  No
ACO. CUECK THE	GO to AC2.  B+2 SUPPLY TO THE MEMORY SEAT MODULE
AC2: CHECK THE	111 2001 1020 110
	Measure the voltage between DM02, pin 06 (GB) and GROUND.
	Is the voltage less than 10 volts?
	Yes  REPAIR the circuit between DM02, pin 06 and battery. This circuit includes the primary junction box, fuse 09. For additional information, refer to the wiring diagrams.
	No GO to AC3.
AC3: CHECK THE	IGNITION SUPPLY TO THE MEMORY SEAT MODULE
	Turn the ignition switch to the <b>ON</b> position.
	Measure the voltage between DM02, pin 04 (GB) and GROUND.
	Is the voltage less than 4 volts?
	Yes  REPAIR the circuit between DM02, pin 04 and battery. This circuit includes the primary junction box, fuse 07. For additional information, refer to the wiring diagrams.  No
	GO to AC4.
AC4: CHECK THE	ELECTRONIC GROUND TO THE MEMORY SEAT MODULE
	1 Turn the ignition switch to the <b>OFF</b> position.
	Measure the resistance between DM02, pin 10 (B) and GROUND.
	Is the resistance greater than 5 ohms?
	Yes
	REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
4.0E_0UE0V_TUE	GO to AC5.
ACS: CHECK I HE	POWER GROUND TO THE MEMORY SEAT MODULE
	Measure the resistance between DM02, pin 05 (B) and GROUND.
	Is the resistance greater than 5 ohms?  Yes  REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams.
	No GO to AC6.
AC6: CHECK THE	SIGNAL GROUND TO THE MEMORY SEAT MODULE
	1 Measure the resistance between DM02, pin 03 (B) and GROUND.