

DIAGNOSIS & TESTING

Communications Network

Principles of Operation

There are three module communication networks connected to the Data Link Connector (DLC), **Controller Area Network, (CAN), Standard Corporate Protocol (SCP), and International Standards Organisation (ISO)**. CAN and SCP are unshielded twisted pair cable; data bus + and data bus -, while ISO is a single wire system. (The exceptions to this are the Adaptive Damping Control Module (ADCM), the Engine Control Module (ECM), and the Air Conditioning Control Module, (A/CCM) which have two wires). The networks can be connected to the Jaguar approved diagnostic system or scan tool by the DLC.

The SCP communication network remains operational even with the 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.

The ISO network, however, will not function if the circuit is damaged.

Modules may log DTCs if power supply or ground is interrupted. Supply and ground tests are in this section under the DTC number flagged, or by module name in the pinpoint tests.

Some faults may occur without logging a network DTC. If this is the case, refer to the wiring diagrams to determine which network includes the faulty circuit, and follow the pinpoint test indicated in the DTC index.

The instrument cluster (IC) is connected to the CAN and SCP communication networks, and forms a 'gateway' between the networks. The networks share information, allowing sensors to serve more than one network.

Inspection and Verification

1. Verify the customer concern.
2. Confirm which, if any, warning lights and/or messages were displayed on the instrument cluster.

NOTE:

If any warning lights and/or messages were displayed when the fault occurred, refer to the Driver Information table for DTCs associated with the display, then to the DTC index table for possible sources and actions. Some warnings will appear to clear when the ignition is cycled. This is often because the warning has flagged as a result of one of the vehicle's on-board diagnostic routines having run to detect the fault. If the same routine is not run when the ignition is switched **ON**, the warning will not reflag until the routine does run. See the DTC summaries for drive cycle routines.

3. Visually inspect for obvious signs of mechanical or electrical damage.

Visual Inspection Chart

Electrical
General
<ul style="list-style-type: none">• Fuses (see table)• Wiring harness• Correct engagement of electrical connectors• Loose or corroded connections
Controller Area Network (CAN)
<ul style="list-style-type: none">• Instrument cluster (IC)• J-Gate (gear shift) illumination module (GSI)• Engine control module (ECM)• Transmission control module (TCM)• ABS/Traction control module (ABS/TCCM)• Vehicle speed interface module (VSIM)
Standard Corporate Protocol (SCP)
<ul style="list-style-type: none">• Instrument cluster (IC)• Body processor module (BPM)• Security and locking control module (SLCM)• Passenger door control module (PDCM)• Driver door control module (DDCM)• Passenger seat control module (PSCM)• Driver seat control module (DSCM)
International Standards Organisation (ISO)
<ul style="list-style-type: none">• Restraints control module (RCM)• Adaptive damping control module (ADCM)• Engine control module (ECM)• Key transponder module (KTM)• Air conditioning control module (A/CCM)• Body processor module (BPM)

Fuse Identification Chart

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Fuse	Rating	Circuit	Location
04	5 Amp, naturally aspirated, 10 Amp supercharged	Engine control module	EMS fuse box
05	10 Amp	Engine control module	Engine compartment fuse box
10	5 Amp	Engine control module	EMS fuse box
17	15 Amp	Body processor module	Passenger side fuse box
05	15 Amp	Body processor module	Driver side fuse box
07	15 Amp	Body processor module	Driver side fuse box
04	10 Amp	Restraints control module	Driver side fuse box
05	5 Amp	Restraints control module	Driver side fuse box
14	10 Amp	Restraints control module	Driver side fuse box
04	5 Amp, naturally aspirated, 10 Amp supercharged	Transmission control module	EMS fuse box
01	10 Amp	Transmission control module	Engine compartment fuse box
16	5 Amp	J-Gate illumination module	Driver side fuse box
18	30 Amp	ABS/Traction control module	Engine compartment fuse box
16	30 Amp	ABS/Traction control module	Engine compartment fuse box
04	5 Amp	ABS/Traction control module	Engine compartment fuse box
01	10 Amp	Vehicle speed interface module	Engine compartment fuse box
02	20 Amp	Adaptive damping control module	Luggage compartment fuse box
04	05 Amp	Adaptive damping control module	Luggage compartment fuse box
06	10 Amp	Air conditioning control module	Passenger side fuse box
12	10 Amp	Air conditioning control module	Driver side fuse box
18	5 Amp	Instrument cluster	Driver side fuse box
14	10 Amp	Instrument cluster	Driver side fuse box
01	5 Amp	Security and locking control module	Luggage compartment fuse box
15	25 Amp	Driver door control module	Driver side fuse box
15	25 Amp	Passenger door control module	Passenger side fuse box
01	20 Amp	Driver seat control module	Driver side fuse box
01	20 Amp	Passenger seat control module	Passenger side fuse box
06	5 Amp	Key transponder module	Driver side fuse box

4. Where the Jaguar approved diagnostic system is available, complete the S93 report before clearing any or all fault codes from the vehicle.

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NOTE:

If a DTC cannot be cleared, then there is a permanent fault present that flags again as soon as it is cleared. (The exception to this is P1260, which will only clear following an ignition **OFF**, wait one minute, ignition **ON** cycle after rectification.)

5. If the cause is not visually evident and the Jaguar approved diagnostic system is not available, use a scan tool to retrieve the fault codes before proceeding to the DTC index chart, or the symptom chart if no DTCs are set.



CAUTION:

Diagnosis by substitution from a donor vehicle is NOT acceptable. Each vehicle is configured to its own 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.



CAUTION:

Electronic modules are sensitive to static electrical charges. If exposed to these charges, damage may result.



CAUTION:

When probing connectors to take measurements in the course of the pinpoint tests, use the adaptor kit, part number 3548-1358-00.

NOTE:

When performing electrical 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:

Check and rectify basic faults before beginning diagnostic routines involving pinpoint tests.

6. If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step
7. If the cause is not visually evident, verify the symptom and refer to the DTC index.

Driver Information Chart

NOTE:

Use this table to identify DTCs associated with the message centre display, then refer to the DTC index for possible sources and actions.

NOTE:

For definitions of Default Modes, see the foot of this table.

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Warning light	Message	Default Mode	DTC
Amber	Restricted performance, DSC fault, DSC system fault	Engine speed limited, reverse throttle progression enabled	P1637
Amber	Restricted performance	Engine speed limited, reverse throttle progression enabled	P1638
Amber	Restricted performance	Engine speed limited, reverse throttle progression enabled	P1642
Amber	Restricted performance	Engine speed limited, reverse throttle progression enabled	P1643
Amber	Cruise not available	Cruise (speed) control inhibited	P1696
Amber	Restricted performance/gearbox fault	Gearbox default to set gear	P1796
Amber	Restricted performance/gearbox fault	Engine speed limited, reverse throttle progression enabled	P1797

Default mode Definitions

LIMP-HOME MODE

- Throttle motor off
- Throttle motor relay off
- Throttle motor circuit off
- Fuel intervention
- Cruise (speed) control Inhibited

LIMP-HOME UNAVAILABLE

- Power limitation
- Vehicle speed limited to 74.5 mph (120 kph)
- Reverse throttle progression enabled *
- Cruise (speed) control Inhibited

REVERSE THROTTLE PROGRESSION

- Throttle opening limited to maximum 30%

NOTE:

* The throttle operation uses the same map as for reverse gear.

ENGINE SPEED LIMITED

- Engine runs normally, up to 3000 RPM
- Engine speed restricted to 3000 RPM maximum, by fuel cut-off

HIGH IDLE

- Throttle valve kept in fixed position by motor
- Cruise (speed) control Inhibited

SAFETY REDUNDANCY

- Power limitation
- Vehicle speed limited to 74.5 mph (120 kph)
- Reverse throttle progression enabled

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- Cruise (speed) control Inhibited

Diagnostic Trouble Code (DTC) index

DTC	Description	Possible Source	Action
P1637	CAN ABS/TCCM token missing	<ul style="list-style-type: none"> • CAN open circuit fault: ABS/TCCM to ECM • CAN short circuit fault • ABS/TCCM failure • ECM failure 	For CAN open circuit tests, Goto <<R>> for vehicles with supercharger, Goto <<S>> for vehicles without supercharger. For CAN short circuit tests, Goto <<T>> . Contact dealer technical support for advice on possible module failure.
P1638	CAN IC token missing	<ul style="list-style-type: none"> • CAN open circuit fault: IC to ECM • CAN short circuit fault • IC failure • ECM failure 	For CAN open circuit tests, Goto <<R>> for vehicles with supercharger, Goto <<S>> for vehicles without supercharger. For CAN short circuit tests, Goto <<T>> . Contact dealer technical support for advice on possible module failure.
P1642	CAN circuit malfunction	<ul style="list-style-type: none"> • CAN short circuit fault • Control module failure - check for additional logged DTCs to locate control module source 	For CAN short circuit tests, Goto <<T>> . Contact dealer technical support for advice on possible module failure.
P1643	CAN TCM token missing	<ul style="list-style-type: none"> • CAN open circuit fault: TCM to ECM • CAN short circuit fault • TCM failure • ECM failure 	For CAN open circuit tests, Goto <<R>> for vehicles with supercharger, Goto <<S>> for vehicles without supercharger. For CAN short circuit tests, Goto <<T>> . Contact dealer technical support for advice on possible module failure.
P1649	ECM flash programming circuit malfunction	<ul style="list-style-type: none"> • ECM to DLC circuit: short circuit to ground, short circuit to battery 	For ECM flash programming circuit tests, Goto <<W>> .
None	SCP circuit malfunction	<ul style="list-style-type: none"> • Short circuit fault in SCP network 	For SCP circuit tests, Goto <<U>> .
None	ISO circuit malfunction	<ul style="list-style-type: none"> • Short circuit fault in ISO network 	For ISO circuit tests, Goto <<V>> .

Power Supply/Ground test index

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Description	Possible Source	Action
BPM supply or GROUND failure	<ul style="list-style-type: none"> • BPM permanent supply fault • BPM GROUND fault 	For BPM circuit tests, Goto <<A>> .
SLCM supply or GROUND failure	<ul style="list-style-type: none"> • SLCM permanent supply fault • SLCM GROUND fault 	For SCLM circuit tests, Goto <> .
PDCM supply or GROUND failure	<ul style="list-style-type: none"> • PDCM permanent supply fault • PDCM GROUND fault 	For PDCM circuit tests, Goto <<C>> .
DDCM supply or GROUND failure	<ul style="list-style-type: none"> • DDCM permanent supply fault • DDCM GROUND fault 	For DDCM circuit tests, Goto <<D>> .
PSCM supply failure	<ul style="list-style-type: none"> • PSCM permanent supply fault 	For PSCM circuit tests, Goto <<E>> .
DSCM supply failure	<ul style="list-style-type: none"> • DSCM permanent supply fault 	For DSCM circuit tests, Goto <<F>> .
IC supply or GROUND failure	<ul style="list-style-type: none"> • IC permanent supply fault • IC ignition switched supply fault • IC GROUND fault 	For IC circuit tests, Goto <<G>> .
RCM supply or GROUND failure	<ul style="list-style-type: none"> • RCM ignition switched supply fault • RCM GROUND fault 	For RCM circuit tests, Goto <<H>> .
ADCM supply or GROUND failure	<ul style="list-style-type: none"> • ADCM permanent supply fault • ADCM ignition switched supply fault • ADCM GROUND fault 	For ADCM circuit tests, Goto <<I>> .
KTM supply or GROUND failure	<ul style="list-style-type: none"> • KTM permanent supply fault • KTM accessory switched GROUND fault • KTM ignition switched GROUND fault • KTM GROUND fault 	For KTM circuit tests, Goto <<J>> .
A/CCM supply or GROUND failure	<ul style="list-style-type: none"> • A/CCM permanent supply fault • A/CCM ignition switched supply fault • A/CCM ignition switched GROUND fault • A/CCM GROUND fault 	For A/CCM circuit tests, Goto <<K>> .

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ECM supply or GROUND failure	<ul style="list-style-type: none"> • ECM permanent supply fault • ECM ignition switched supply fault • ECM GROUND fault 	For ECM circuit tests, Goto <<L>> .
TCM supply or GROUND failure	<ul style="list-style-type: none"> • TCM permanent supply fault • TCM ignition switched supply fault • TCM GROUND fault 	For TCM circuit tests, Goto <<M>> .
ABS/TCCM supply or GROUND failure	<ul style="list-style-type: none"> • ABS/TCCM permanent supply fault • ABS/TCCM ignition switched supply fault • ABS/TCCM GROUND fault 	For ABS/TCCM circuit tests, Goto <<N>> .
GSI module supply or GROUND failure	<ul style="list-style-type: none"> • GSI module ignition switched supply fault • GSI module GROUND fault 	For GSI module circuit tests, Goto <<O>> .
Data Link Connector (DLC) supply or GROUND failure	<ul style="list-style-type: none"> • DLC permanent supply fault • DLC ignition switched supply fault • DLC ignition switched GROUND fault • DLC logic GROUND fault 	For DLC circuit tests, Goto <<P>> .
Vehicle speed interface module (VSIM) supply or GROUND failure	<ul style="list-style-type: none"> • VSIM ignition switched supply fault • VSIM GROUND fault 	For VSIM circuit tests, Goto <<Q>> .

Pinpoint tests

A : BPM POWER SUPPLY OR GROUND FAULT

NOTE:

Before beginning any power supply tests, make sure the vehicle battery is fully charged and in good condition.

NOTE:

Turn the ignition switch to the **OFF** position after testing.

A1 : CHECK THE PERMANENT SUPPLY (1) TO THE BPM

1. Disconnect the BPM electrical connector, FC14.
2. Measure the voltage between FC14, pin 80 (N) and GROUND.

•Is the voltage less than 10 volts?

-> Yes

REPAIR the circuit between the BPM and battery. This circuit includes the driver side fuse box, (fuse 05) and the high power protection module. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> No

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Goto <<A2>>

A2 : CHECK THE PERMANENT SUPPLY (2) TO THE BPM

1. Measure the voltage between FC14, pin 104 (NW) and GROUND.

•Is the voltage less than 10 volts?

-> **Yes**

REPAIR the circuit between the BPM and battery. This circuit includes the driver side fuse box, (fuse 07) and the high power protection module. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<A3>>

A3 : CHECK THE PERMANENT SUPPLY (3) TO THE BPM

1. Measure the voltage between FC14, pin 79 (NG) and GROUND.

•Is the voltage less than 10 volts?

-> **Yes**

REPAIR the circuit between the BPM and battery. This circuit includes the passenger side fuse box, (fuse 17) and the high power protection module. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<A4>>

A4 : CHECK THE IGNITION SWITCHED GROUND (1) TO THE BPM

1. Turn the ignition switch to the **ON** position.

2. Measure the resistance between FC14, pin 41, (RW) and GROUND.

•Is the resistance greater than 5 ohms?

-> **Yes**

REPAIR the high resistance circuit. This circuit includes the ignition switch. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<A5>>

A5 : CHECK THE IGNITION SWITCHED GROUND (2) TO THE BPM

1. Measure the resistance between FC14, pin 15, (WU) and GROUND.

•Is the resistance greater than 5 ohms?

-> **Yes**

REPAIR the high resistance circuit. This circuit includes the ignition switch. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<A6>>

A6 : CHECK THE ACCESSORY SWITCHED GROUND TO THE BPM

1. Turn the ignition switch to the **ACC** position.
2. Measure the resistance between FC14, pin 32, (WR) and GROUND.

•Is the resistance greater than 5 ohms?

-> **Yes**

REPAIR the high resistance circuit. This circuit includes the ignition switch. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

CONTACT dealer technical support for advice on possible BPM failure.

B : SLCM POWER SUPPLY OR GROUND FAULT

NOTE:

Before beginning any power supply tests, make sure the vehicle battery is fully charged and in good condition.

NOTE:

Turn the ignition switch to the **OFF** position after testing.

B1 : CHECK THE PERMANENT SUPPLY (1) TO THE SLCM

1. Disconnect the SLCM electrical connector, BT40.
2. Measure the voltage between BT40, pin 06 (NR) and GROUND.

•Is the voltage less than 10 volts?

-> **Yes**

REPAIR the circuit between the SLCM and battery. This circuit includes the luggage compartment fuse box, (fuse 01) and the high power protection module. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<B2>>

B2 : CHECK THE PERMANENT SUPPLY (2) TO THE SLCM

1. Measure the voltage between BT40, pin 15 (NW) and GROUND.

•Is the voltage less than 10 volts?

-> **Yes**

REPAIR the circuit between the SLCM and battery. This circuit includes the luggage compartment fuse box, (fuse 10) and the high power protection module. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<B3>>

B3 : CHECK THE LOGIC GROUNDS TO THE SLCM

1. Measure the resistance between BT40, pins 13, 14 and 15 (BK) and GROUND.

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- Is any resistance greater than 5 ohms?

- > **Yes**

- REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

- > **No**

- CONTACT dealer technical support for advice on possible SLCM failure.

C : PDCM POWER SUPPLY OR GROUND FAULT

NOTE:

Before beginning any power supply tests, make sure the vehicle battery is fully charged and in good condition.

NOTE:

Turn the ignition switch to the **OFF** position after testing.

C1 : CHECK THE PERMANENT SUPPLY TO THE PDCM

1. Disconnect the PDCM electrical connector, DP10.
2. Measure the voltage between DP10, pin 01 (N) and GROUND.

- Is the voltage less than 10 volts?

- > **Yes**

- REPAIR the circuit between the PDCM and battery. This circuit includes the passenger side fuse box, (fuse 15) and the high power protection module. For additional information, refer to the wiring diagrams. Test the system for normal operation.

- > **No**

- Goto <<C2>>

C2 : CHECK THE LOGIC GROUND TO THE PDCM

1. Measure the resistance between DP10, pin 08 (BK) and GROUND.

- Is the resistance greater than 5 ohms?

- > **Yes**

- REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

- > **No**

- Goto <<C3>>

C3 : CHECK THE POWER GROUND TO THE PDCM

1. Measure the resistance between DP10, pin 17 (B) and GROUND.

- Is the resistance greater than 5 ohms?

- > **Yes**

- REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

- > **No**

- CONTACT dealer technical support for advice on possible PDCM failure.

D : DDCM POWER SUPPLY OR GROUND FAULT

NOTE:

Before beginning any power supply tests, make sure the vehicle battery is fully charged and in good condition.

NOTE:

Turn the ignition switch to the **OFF** position after testing.

D1 : CHECK THE PERMANENT SUPPLY TO THE DDCM

1. Disconnect the DDCM electrical connector, DD10.
2. Measure the voltage between DD10, pin 01 (N) and GROUND.

•Is the voltage less than 10 volts?

-> Yes

REPAIR the circuit between the DDCM and battery. This circuit includes the driver side fuse box, (fuse 15) and the high power protection module. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> No

Goto <<D2>>

D2 : CHECK THE LOGIC GROUND TO THE DDCM

1. Measure the resistance between DD10, pin 08 (BK) and GROUND.

•Is the resistance greater than 5 ohms?

-> Yes

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

-> No

Goto <<D3>>

D3 : CHECK THE POWER GROUND TO THE DDCM

1. Measure the resistance between DD10, pin 17 (B) and GROUND.

•Is the resistance greater than 5 ohms?

-> Yes

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

-> No

CONTACT dealer technical support for advice on possible DDCM failure.

E : PSCM POWER SUPPLY OR GROUND FAULT

NOTE:

Before beginning any power supply tests, make sure the vehicle battery is fully charged and in good condition.

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NOTE:

Turn the ignition switch to the **OFF** position after testing.

E1 : CHECK THE PERMANENT SUPPLY TO THE PSCM

1. Disconnect the PSCM electrical connector, SP05.
2. Measure the voltage between SP05, pin 05 (NR) and GROUND.

•Is the voltage less than 10 volts?

-> Yes

REPAIR the circuit between the PSCM and battery. This circuit includes the passenger side fuse box, (fuse 1) and the high power protection module. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> No

Goto <<E2>>

E2 : CHECK THE GROUND TO THE PSCM

1. Measure the resistance between SP05, 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. Test the system for normal operation.

-> No

CONTACT dealer technical support for advice on possible PSCM failure.

F : DSCM POWER SUPPLY OR GROUND FAULT

NOTE:

Before beginning any power supply tests, make sure the vehicle battery is fully charged and in good condition.

NOTE:

Turn the ignition switch to the **OFF** position after testing.

F1 : CHECK THE PERMANENT SUPPLY TO THE PSCM

1. Disconnect the DSCM electrical connector, SD05.
2. Measure the voltage between SD05, pin 05 (NR) and GROUND.

•Is the voltage less than 10 volts?

-> Yes

REPAIR the circuit between the DSCM and battery. This circuit includes the driver side fuse box, (fuse 1) and the high power protection module. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> No

Goto <<F2>>

F2 : CHECK THE GROUND TO THE DSCM

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1. Measure the resistance between SD05, 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. Test the system for normal operation.

-> **No**

CONTACT dealer technical support for advice on possible DSCM failure.

G : IC POWER SUPPLY OR GROUND FAULT

NOTE:

Before beginning any power supply tests, make sure the vehicle battery is fully charged and in good condition.

NOTE:

Turn the ignition switch to the **OFF** position after testing.

G1 : CHECK THE PERMANENT SUPPLY TO THE IC

1. Disconnect the IC electrical connector, FC25.

2. Measure the voltage between FC25, pin 15 (R) and GROUND.

•Is the voltage less than 10 volts?

-> **Yes**

REPAIR the circuit between the IC and battery. This circuit includes the driver side fuse box, (fuse 18) and the high power protection module. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<G2>>

G2 : CHECK THE IGNITION SWITCHED SUPPLY TO THE IC

1. Turn the ignition switch to the **ON** position.

2. Measure the voltage between FC25, pin 01 (WG) and GROUND.

•Is the voltage less than 10 volts?

-> **Yes**

REPAIR the circuit between the IC and battery. This circuit includes the driver side fuse box, (fuse 18) and the ignition switch. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<G3>>

G3 : CHECK THE LOGIC GROUND TO THE IC

1. Measure the resistance between FC25, pin 04 (BK) and GROUND.

•Is the resistance greater than 5 ohms?

-> **Yes**

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

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-> **No**
Goto <<G4>>

G4 : CHECK THE POWER GROUND TO THE IC

1. Measure the resistance between FC25, 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. Test the system for normal operation.

-> **No**

CONTACT dealer technical support for advice on possible IC failure.

H : RCM POWER SUPPLY OR GROUND FAULT

NOTE:

Before beginning any power supply tests, make sure the vehicle battery is fully charged and in good condition.

NOTE:

Turn the ignition switch to the **OFF** position after testing.

H1 : CHECK THE PERMANENT SUPPLY (1) TO THE RCM

1. Disconnect the RCM electrical connector, FC30.

2. Measure the voltage between FC30, pin 07 (RW) and GROUND.

•Is the voltage less than 10 volts?

-> **Yes**

REPAIR the circuit between the RCM and battery. This circuit includes the driver side fuse box, (fuse 04) and the high power protection module. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<H2>>

H2 : CHECK THE PERMANENT SUPPLY (2) TO THE RCM

1. Measure the voltage between FC30, pin 08 (RW) and GROUND.

•Is the voltage less than 10 volts?

-> **Yes**

REPAIR the circuit between the RCM and battery. This circuit includes the driver side fuse box, (fuse 04) and the high power protection module. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<H3>>

H3 : CHECK THE IGNITION SWITCHED SUPPLY (1) TO THE RCM

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1. Turn the ignition switch to the **ON** position.
2. Measure the voltage between FC30, pin 06 (W) and GROUND.

•Is the voltage less than 10 volts?

-> **Yes**

REPAIR the circuit between the RCM and battery. This circuit includes the driver side fuse box, (fuse 14) and the ignition switch. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<H4>>

H4 : CHECK THE IGNITION SWITCHED SUPPLY (2) TO THE RCM

1. Turn the ignition switch to the **ON** position.
2. Disconnect the RCM electrical connector, FC29.
3. Measure the voltage between FC29, pin 07 (WG) and GROUND.

•Is the voltage less than 10 volts?

-> **Yes**

REPAIR the circuit between the RCM and battery. This circuit includes the luggage compartment fuse box, (fuse 05) and the ignition switch. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<H5>>

H5 : CHECK THE LOGIC GROUNDS TO THE RCM

1. Measure the resistance between FC30, pin 12 (BK) and GROUND.
2. Measure the resistance between FC29, pin 04 (BK) and GROUND.

•Is either resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

CONTACT dealer technical support for advice on possible RCM failure.

I : ADCM POWER SUPPLY OR GROUND FAULT

NOTE:

Before beginning any power supply tests, make sure the vehicle battery is fully charged and in good condition.

NOTE:

Turn the ignition switch to the **OFF** position after testing.

I1 : CHECK THE PERMANENT SUPPLY TO THE ADCM

1. Disconnect the ADCM electrical connector, BT69.
2. Measure the voltage between BT69, pin 27 (NW) and GROUND.

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•Is the voltage less than 10 volts?

-> Yes

REPAIR the circuit between the ADCM and battery. This circuit includes the luggage compartment fuse box (fuse 02). For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> No

Goto <<I2>>

I2 : CHECK THE IGNITION SUPPLY TO THE ADCM

1. Turn the ignition switch to the **ON** position.
2. Measure the voltage between BT69, pin 11 (WR) and GROUND.

•Is the voltage less than 10 volts?

-> Yes

REPAIR the circuit between the ADCM and battery. This circuit includes the luggage compartment fuse box (fuse 04). For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> No

Goto <<I3>>

I3 : CHECK THE GROUND TO THE ADCM

1. Measure the resistance between ADCM, pin 18 (B) and GROUND.

•Is the resistance greater than 5 ohms?

-> Yes

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

-> No

CONTACT dealer technical support for advice on possible ADCM failure.

J : KTM POWER SUPPLY OR GROUND FAULT

NOTE:

Before beginning any power supply tests, make sure the vehicle battery is fully charged and in good condition.

NOTE:

Turn the ignition switch to the **OFF** position after testing.

J1 : CHECK THE PERMANENT SUPPLY TO THE KTM

1. Disconnect the KTM electrical connector, FC22.
2. Measure the voltage between FC22, pin 04 (NR) and GROUND.

•Is the voltage less than 10 volts?

-> Yes

REPAIR the circuit between the KTM and battery. This circuit includes the driver side fuse box (fuse 06). For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> No

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Goto <<J2>>

J2 : CHECK THE LOGIC GROUND TO THE KTM

1. Measure the resistance between FC22, pin 12 (BK) and GROUND.

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<J3>>

J3 : CHECK THE IGNITION SWITCHED GROUND (1) TO THE KTM

1. Turn the ignition switch to the **ON** position.

2. Measure the resistance between FC22, pin 14 (WU) and GROUND.

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<J4>>

J4 : CHECK THE IGNITION SWITCHED GROUND (2) TO THE KTM

1. Turn the ignition switch to the **ON** position.

2. Measure the resistance between FC22, pin 13 (WR) and GROUND.

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

CONTACT dealer technical support for advice on possible KTM failure.

K : A/CCM POWER SUPPLY OR GROUND FAULT

NOTE:

Before beginning any power supply tests, make sure the vehicle battery is fully charged and in good condition.

NOTE:

Turn the ignition switch to the **OFF** position after testing.

K1 : CHECK THE PERMANENT SUPPLY TO THE A/CCM

1. Disconnect the A/CCM electrical connector, AC04.

2. Measure the voltage between AC04, pin 05 (NW) and GROUND.

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•Is the voltage less than 10 volts?

-> Yes

REPAIR the circuit between the A/CCM and battery. This circuit includes the passenger side fuse box (fuse 06). For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> No

Goto <<K2>>

K2 : CHECK THE RELAY SWITCHED SUPPLY TO THE A/CCM

1. Make sure the air conditioning isolate relay is engaged.
2. Measure the voltage between AC04, pin 02 (GW) and GROUND.

•Is the voltage less than 10 volts?

-> Yes

REPAIR the circuit between the A/CCM and battery. This circuit includes the passenger side fuse box (fuse 06) and the isolate relay. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> No

Goto <<K3>>

K3 : CHECK THE IGNITION SWITCHED SUPPLY TO THE A/CCM

1. Turn the ignition switch to the **ON** position.
2. Measure the voltage between AC04, pin 01 (WU) and GROUND.

•Is the voltage less than 10 volts?

-> Yes

REPAIR the circuit between the A/CCM and battery. This circuit includes the driver side fuse box (fuse 12) and the ignition switch. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> No

Goto <<K4>>

K4 : CHECK THE IGNITION SWITCHED GROUND TO THE A/CCM

1. Turn the ignition switch to the **ON** position.
2. Measure the resistance between AC04, pin 03 (WR) and GROUND.

•Is the resistance greater than 5 ohms?

-> Yes

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

-> No

Goto <<K5>>

K5 : CHECK THE GROUND TO THE A/CCM

1. Turn the ignition switch to the **OFF** position.
2. Measure the resistance between AC04, pins 13 (B) and 20 (BK) and GROUND.

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•Is either resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

CONTACT dealer technical support for advice on possible A/CCM failure.

L : ECM POWER SUPPLY OR GROUND FAULT

NOTE:

Before beginning any power supply tests, make sure the vehicle battery is fully charged and in good condition.

NOTE:

Turn the ignition switch to the **OFF** position after testing.

L1 : CHECK THE PERMANENT SUPPLY TO THE ECM

1. Disconnect the ECM electrical connector, EM83.
2. Measure the voltage between EM83, pin 20 (NR) and GROUND.

•Is the voltage less than 10 volts?

-> **Yes**

REPAIR the circuit between the ECM and battery. This circuit includes the EMS fuse box (fuse 04). For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<L2>>

L2 : CHECK THE IGNITION SUPPLY TO THE ECM

1. Reconnect the ECM electrical connector, EM83.
2. Disconnect the ECM electrical connector, EM82.
3. Turn the ignition switch to the **ON** position.
4. Measure the voltage between EM82, pin 09 (W) and GROUND.

•Is the voltage less than 10 volts?

-> **Yes**

REPAIR the circuit between the ECM and battery. This circuit includes the engine compartment fuse box (fuse 05). For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<L3>>

L3 : CHECK THE EMS SWITCHED SUPPLY (1) TO THE ECM

1. Turn the ignition switch to the **ON** position.
2. Make sure the EMS relay is energised.
3. Measure the voltage between EM82, pin 13 (WR) and GROUND.

•Is the voltage less than 10 volts?

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-> **Yes**

REPAIR the circuit between the ECM and battery. This circuit includes the EMS fuse box (fuse 10). For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<L4>>

L4 : CHECK THE EMS SWITCHED SUPPLY (2) TO THE ECM

1. Reconnect the ECM electrical connector, EM82.
2. Disconnect the ECM electrical connector, EM81.
3. Turn the ignition switch to the **ON** position.
4. Make sure the EMS relay is energised.
5. Measure the voltage between EM81, pin 17 (WR) and GROUND.

•Is the voltage less than 10 volts?

-> **Yes**

REPAIR the circuit between the ECM and battery. This circuit includes the EMS fuse box (fuse 10). For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<L5>>

L5 : CHECK THE GROUND TO THE ECM

1. Turn the ignition switch to the **OFF** position.
2. Disconnect the ECM electrical connector, EM84.
3. Disconnect the ECM electrical connector, EM85.
4. Disconnect the ECM electrical connector, EM80.
5. Measure the resistance between the ECM pins and GROUND as follows:

- EM80, pins 29, 21, 03, 31 and GROUND.
- EM81, pins 21, 08 and GROUND.
- EM84, pins 01, 16, 22 and GROUND.
- EM85, pins 07,06 and GROUND.

•Are any of the resistances greater than 5 ohms?

-> **Yes**

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

-> **No**

CONTACT dealer technical support for advice on possible ECM failure.

M : TCM POWER SUPPLY OR GROUND FAULT

NOTE:

Before beginning any power supply tests, make sure the vehicle battery is fully charged and in good condition.

NOTE:

Turn the ignition switch to the **OFF** position after testing.

M1 : CHECK THE PERMANENT SUPPLY TO THE TCM

1. Disconnect the TCM electrical connector, EM07.
2. Measure the voltage between EM07, pin 26 (NR) and GROUND.

•Is the voltage less than 10 volts?

-> Yes

REPAIR the circuit between the ECM and battery. This circuit includes the EMS fuse box (fuse 04). For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> No

Goto <<M2>>

M2 : CHECK THE IGNITION SUPPLY (1) TO THE TCM

1. Turn the ignition switch to the **ON** position.
2. Measure the voltage between EM07, pin 54 (WB) and GROUND.

•Is the voltage less than 10 volts?

-> Yes

REPAIR the circuit between the ECM and battery. This circuit includes the engine compartment fuse box (fuse 01). For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> No

Goto <<M3>>

M3 : CHECK THE IGNITION SUPPLY (2) TO THE TCM

1. Turn the ignition switch to the **ON** position.
2. Measure the voltage between EM07, pin 55 (WB) and GROUND.

•Is the voltage less than 10 volts?

-> Yes

REPAIR the circuit between the ECM and battery. This circuit includes the engine compartment fuse box (fuse 01). For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> No

Goto <<M4>>

M4 : CHECK THE GROUND TO THE TCM

1. Turn the ignition switch to the **OFF** position.
2. Measure the resistance between EM07, pin 06 (B) and GROUND.
3. Measure the resistance between EM07, pin 34 (B) and GROUND.

•Is either resistance greater than 5 ohms?

-> Yes

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

-> No

CONTACT dealer technical support for advice on possible TCM failure.

N : ABS/TCCM POWER SUPPLY OR GROUND FAULT

NOTE:

Before beginning any power supply tests, make sure the vehicle battery is fully charged and in good condition.

NOTE:

Turn the ignition switch to the **OFF** position after testing.

N1 : CHECK THE PERMANENT SUPPLY (1) TO THE ABS/TCCM

1. Disconnect the ABS/TCCM electrical connector, LF37.
2. Measure the voltage between LF37, pin 09 (NR) and GROUND.

•Is the voltage less than 10 volts?

-> Yes

REPAIR the circuit between the ECM and battery. This circuit includes the engine compartment fuse box (fuse 18). For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> No

Goto <<N2>>

N2 : CHECK THE PERMANENT SUPPLY (2) TO THE ABS/TCCM

1. Measure the voltage between LF37, pin 25 (NW) and GROUND.

•Is the voltage less than 10 volts?

-> Yes

REPAIR the circuit between the ECM and battery. This circuit includes the engine compartment fuse box (fuse 16). For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> No

Goto <<N3>>

N3 : CHECK THE IGNITION SUPPLY TO THE ABS/TCCM

1. Turn the ignition switch to the **ON** position.
2. Measure the voltage between LF37, pin 20 (WU) and GROUND.

•Is the voltage less than 10 volts?

-> Yes

REPAIR the circuit between the ECM and battery. This circuit includes the engine compartment fuse box (fuse 04). For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> No

Goto <<N4>>

N4 : CHECK THE GROUND TO THE ABS/TCCM

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1. Turn the ignition switch to the **OFF** position.
2. Measure the resistance between LF37, pin 08 (B) and GROUND.
3. Measure the resistance between LF37, pin 24 (B) and GROUND.

•Is either resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

CONTACT dealer technical support for advice on possible ABS/TCCM failure.

O : GSI MODULE POWER SUPPLY OR GROUND FAULT

NOTE:

Before beginning any power supply tests, make sure the vehicle battery is fully charged and in good condition.

NOTE:

Turn the ignition switch to the **OFF** position after testing.

O1 : CHECK THE IGNITION SUPPLY TO THE GSI MODULE

1. Disconnect the GSI module electrical connector, FC88.
2. Turn the ignition switch to the **ON** position.
3. Measure the voltage between FC88, pin 01 (WR) and GROUND.

•Is the voltage less than 10 volts?

-> **Yes**

REPAIR the circuit between the GSI module and battery. This circuit includes the driver side fuse box (fuse 16). For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<O2>>

O2 : CHECK THE LOGIC GROUND TO THE GSI MODULE

1. Measure the resistance between FC88, pin 06 (BK) and GROUND.

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

CONTACT dealer technical support for advice on possible GSI module failure.

P : DLC POWER SUPPLY OR GROUND FAULT

NOTE:

Before beginning any power supply tests, make sure the vehicle battery is fully charged and in good condition.

NOTE:

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Turn the ignition switch to the **OFF** position after testing.

P1 : CHECK THE PERMANENT SUPPLY TO THE DLC

1. Measure the voltage between the DLC, pin 16 (NW) and GROUND.

•Is the voltage less than 10 volts?

-> **Yes**

REPAIR the circuit between the DLC and battery. This circuit includes the driver side fuse box (fuse 13). For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<P2>>

P2 : CHECK THE IGNITION SUPPLY TO THE DLC

1. Turn the ignition switch to the **ON** position.

2. Measure the voltage between the DLC, pin 09 (WU) and GROUND.

•Is the voltage less than 10 volts?

-> **Yes**

REPAIR the circuit between the DLC and battery. This circuit includes the luggage compartment fuse box (fuse 05). For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<P3>>

P3 : CHECK THE IGNITION SWITCHED GROUND TO THE DLC

1. With the ignition switch still in the **ON** position.

2. Measure the resistance between the DLC, pin 01 (WU) and GROUND.

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<P4>>

P4 : CHECK THE ACCESSORY SWITCHED GROUND TO THE DLC

1. Turn the ignition switch to the **ACC** position.

2. Measure the resistance between the DLC, pin 08 (WR) and GROUND.

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<P5>>

P5 : CHECK THE LOGIC GROUND TO THE DLC

1. Turn the ignition switch to the **OFF** position.
2. Measure the resistance between the DLC, pins 04 and 05 (BK) and GROUND.

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

NO fault found with supplies and grounds to the DLC. Check DTCs. Refer to the DTC index for actions.

Q : VSIM POWER SUPPLY OR GROUND FAULT

NOTE:

Before beginning any power supply tests, make sure the vehicle battery is fully charged and in good condition.

NOTE:

Turn the ignition switch to the **OFF** position after testing.

Q1 : CHECK THE IGNITION SUPPLY TO THE VSIM

1. Disconnect the VSIM electrical connector, EM74.
2. Turn the ignition switch to the **ON** position.
3. Measure the voltage between EM74, pin 03 (WB) and GROUND.

•Is the voltage less than 10 volts?

-> **Yes**

REPAIR the circuit between EM74, pin 03 and battery. This circuit includes the engine compartment fuse box (fuse 01) and the ignition switch. For additional information, refer to the wiring diagrams.

-> **No**

Goto <<Q2>>

Q2 : CHECK THE GROUND TO THE VSIM

1. Turn the ignition switch to the **OFF** position.
2. Measure the resistance between EM74, 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**

CONTACT dealer technical support for advice on possible module failure.

R : CHECK THE CONTROLLER AREA NETWORK INTEGRITY, VEHICLES WITH SUPERCHARGER

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NOTE:

A tolerance of +/- 10% should be used when testing the network.

NOTE:

For vehicles without adaptive speed control, bypass the tests for vehicle speed interface module and adaptive speed control module.

R1 : CHECK THE CAN NETWORK FOR CONTINUITY

1. Measure the resistance between DLC, pins 06 (Y) and 14 (G).

•Is the resistance 180 ohms?

-> **Yes**

Goto <<R2>>

-> **No**

Goto <<R10>>

R2 : CHECK THE ABS/TCCM CAN + CIRCUIT FOR CONTINUITY

1. Disconnect the ABS/TCCM electrical connector, LF37.

2. Measure the resistance between LF37, pin 05 (Y) and DLC, pin 06 (Y).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<R3>>

R3 : CHECK THE ABS/TCCM CAN - CIRCUIT FOR CONTINUITY

1. Measure the resistance between LF37, pin 15 (G) and DLC, pin 14 (G).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<R4>>

R4 : CHECK THE ASCCM (WHERE FITTED) CAN + CIRCUIT FOR CONTINUITY

1. Disconnect the ASCCM electrical connector, LF61.

2. Measure the resistance between LF61, pin 12 (Y) and DLC, pin 06 (Y).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<R5>>

R5 : CHECK THE ASCCM (WHERE FITTED) CAN - CIRCUIT FOR CONTINUITY

1. Measure the resistance between LF61, pin 11 (G) and DLC, pin 14 (G).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<R6>>

R6 : CHECK THE CAN + CIRCUIT BETWEEN THE ASCCM (WHERE FITTED) AND THE ABS/TCCM FOR CONTINUITY

1. Measure the resistance between LF37, pin 05 (Y) and LF61, pin 13 (Y).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<R7>>

R7 : CHECK THE CAN - CIRCUIT BETWEEN THE ASCCM (WHERE FITTED) AND THE ABS/TCCM FOR CONTINUITY

1. Measure the resistance between LF37, pin 15 (G) and LF61, pin 14 (G).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<R8>>

R8 : CHECK THE CAN + CIRCUIT BETWEEN THE VSIM (WHERE FITTED) AND THE DLC FOR CONTINUITY

1. Disconnect the VSIM electrical connector, EM74.

2. Measure the resistance between EM74, pin 15 (Y) and DLC, pin 06 (Y).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<R9>>

R9 : CHECK THE CAN - CIRCUIT BETWEEN THE VSIM (WHERE FITTED) AND THE DLC FOR CONTINUITY

1. Measure the resistance between EM74, pin 16 (G) and DLC, pin 14 (G).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<R10>>

R10 : CHECK THE CAN NETWORK FOR SHORT CIRCUIT

1. Measure the resistance between DLC, pins 06 (Y) and 14 (G).

•Is the resistance less than 180 ohms?

-> **Yes**

Goto <<R19>>

-> **No**

Goto <<R11>>

R11 : CHECK THE CAN + CIRCUIT BETWEEN THE DLC AND THE INSTRUMENT CLUSTER FOR CONTINUITY

1. Disconnect the battery negative terminal.

2. Disconnect the IC electrical connector, FC25.

3. Measure the resistance between FC25, pin 10 (Y) and DLC, pin 06 (Y).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<R12>>

R12 : CHECK THE CAN - CIRCUIT BETWEEN THE DLC AND THE INSTRUMENT CLUSTER FOR CONTINUITY

1. Measure the resistance between FC25, pin 24 (G) and DLC, pin 14 (G).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<R13>>

R13 : CHECK THE CAN + CIRCUIT BETWEEN THE INSTRUMENT CLUSTER AND THE GSI MODULE FOR CONTINUITY

1. Disconnect the GSI module electrical connector, FC88.
2. Measure the resistance between FC88, pin 09 (Y) and FC25, pin 11 (Y).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<R14>>

R14 : CHECK THE CAN - CIRCUIT BETWEEN THE INSTRUMENT CLUSTER AND THE GSI MODULE FOR CONTINUITY

1. Measure the resistance between FC88, pin 08 (G) and FC25, pin 23 (G).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<R15>>

R15 : CHECK THE CAN + CIRCUIT BETWEEN THE GSI MODULE AND THE ECM FOR CONTINUITY

1. Disconnect the ECM electrical connector, EM10.
2. Measure the resistance between EM10, pin 28 (Y) and FC88, pin 04 (Y).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<R16>>

R16 : CHECK THE CAN - CIRCUIT BETWEEN THE GSI MODULE AND THE ECM FOR CONTINUITY

1. Measure the resistance between EM10, pin 27 (G) and FC88, pin 03 (G).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<R17>>

R17 : CHECK THE CAN + CIRCUIT BETWEEN THE ECM AND THE ABS/TCCM FOR CONTINUITY

1. Disconnect the ABS/TCCM electrical connector, LF37.
2. Measure the resistance between LF37, pin 05 (Y) and EM10, pin 26 (Y).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<R18>>

R18 : CHECK THE CAN - CIRCUIT BETWEEN THE ECM AND THE ABS/TCCM FOR CONTINUITY

1. Measure the resistance between LF37, pin 15 (G) and EM10, pin 25 (G).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

NO circuit fault found in network. Recheck DTCs.

R19 : CHECK THE CAN + AND - CIRCUITS BETWEEN THE DLC AND THE INSTRUMENT CLUSTER FOR SHORT CIRCUIT TO EACH OTHER

1. Disconnect the instrument cluster electrical connector, FC25.
2. Measure the resistance between FC25, pins 10 (Y) and 24 (G).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<R20>>

R20 : CHECK THE CAN + AND - CIRCUITS BETWEEN THE INSTRUMENT CLUSTER AND THE GSI MODULE FOR SHORT CIRCUIT TO EACH OTHER

1. Disconnect the GSI module electrical connector, FC88.
2. Measure the resistance between FC88, pins 09 (Y) and 08 (G).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<R21>>

R21 : CHECK THE CAN + AND - CIRCUITS BETWEEN THE GSI MODULE AND THE ECM FOR SHORT CIRCUIT TO EACH OTHER

1. Disconnect the ECM electrical connector, EM83.
2. Measure the resistance between EM83, pins 25 (Y) and 16 (G).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<R22>>

R22 : CHECK THE CAN + AND - CIRCUITS BETWEEN THE ECM AND THE TCM FOR SHORT CIRCUIT TO EACH OTHER

1. Disconnect the TCM electrical connector, EM72.
2. Measure the resistance between EM72, pins H (Y) and L (G).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<R23>>

R23 : CHECK THE CAN + AND - CIRCUITS BETWEEN THE ECM AND THE ASCCM (WHERE FITTED) FOR SHORT CIRCUIT TO EACH OTHER

1. Disconnect the ASCCM electrical connector, LF61.
2. Measure the resistance between LF61, pins 12 (Y) and 11 (G).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<R24>>

R24 : CHECK THE CAN + AND - CIRCUITS BETWEEN THE ASCCM (WHERE FITTED) AND THE ABS/TCCM FOR SHORT CIRCUIT TO EACH OTHER

1. Disconnect the ABS/TCCM electrical connector, LF37.
2. Measure the resistance between LF37, pins 05 (Y) and 15 (G).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

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-> **No**
Goto <<R25>>

R25 : CHECK THE CAN + AND - CIRCUITS BETWEEN THE GSI MODULE AND THE ASCBCM (WHERE FITTED) FOR SHORT CIRCUIT TO EACH OTHER

1. Disconnect the ASCBCM electrical connector, EM87.
2. Measure the resistance between EM87, pins 0 (Y) and 07 (G).

•Is the resistance greater than 5 ohms?

-> **Yes**
REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**
NO circuit fault found in network. Recheck DTCs.

S : CHECK THE CONTROLLER AREA NETWORK INTEGRITY, VEHICLES WITHOUT SUPERCHARGER

NOTE:
A tolerance of +/- 10% should be used when testing the network.

NOTE:
For vehicles without adaptive speed control, bypass the tests for vehicle speed interface module and adaptive speed control module.

S1 : CHECK THE CAN NETWORK FOR CONTINUITY

1. Measure the resistance between DLC, pins 06 (Y) and 14 (G).

•Is the resistance 180 ohms?

-> **Yes**
Goto <<S2>>

-> **No**
Goto <<S4>>

S2 : CHECK THE CAN + CIRCUIT BETWEEN THE VSIM (WHERE FITTED) AND THE DLC FOR CONTINUITY

1. Disconnect the VSIM electrical connector, EM74.
2. Measure the resistance between EM74, pin 15 (Y) and DLC, pin 06 (Y).

•Is the resistance greater than 5 ohms?

-> **Yes**
REPAIR the high resistance circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**
Goto <<S3>>

S3 : CHECK THE CAN - CIRCUIT BETWEEN THE VSIM (WHERE FITTED) AND THE DLC FOR CONTINUITY

1. Measure the resistance between EM74, pin 16 (G) and DLC, pin 14 (G).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

NO circuit fault found in network. Recheck DTCs.

S4 : CHECK THE CAN NETWORK FOR SHORT CIRCUIT

1. Measure the resistance between DLC, pins 06 (Y) and 14 (G).

•Is the resistance less than 180 ohms?

-> **Yes**

Goto <<S15>>

-> **No**

Goto <<S5>>

S5 : CHECK THE CAN + CIRCUIT BETWEEN THE DLC AND THE INSTRUMENT CLUSTER FOR CONTINUITY

1. Disconnect the battery negative terminal.

2. Disconnect the IC electrical connector, FC25.

3. Measure the resistance between FC25, pin 10 (Y) and DLC, pin 06 (Y).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<S6>>

S6 : CHECK THE CAN - CIRCUIT BETWEEN THE DLC AND THE INSTRUMENT CLUSTER FOR CONTINUITY

1. Measure the resistance between FC25, pin 24 (G) and DLC, pin 14 (G).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<S7>>

S7 : CHECK THE CAN + CIRCUIT BETWEEN THE INSTRUMENT CLUSTER AND THE GSI MODULE FOR CONTINUITY

1. Disconnect the GSI module electrical connector, FC88.
2. Measure the resistance between FC88, pin 09 (Y) and FC25, pin 11 (Y).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<S8>>

S8 : CHECK THE CAN - CIRCUIT BETWEEN THE INSTRUMENT CLUSTER AND THE GSI MODULE FOR CONTINUITY

1. Measure the resistance between FC88, pin 08 (G) and FC25, pin 23 (G).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<S9>>

S9 : CHECK THE CAN + CIRCUIT BETWEEN THE GSI MODULE AND THE ECM FOR CONTINUITY

1. Disconnect the ECM electrical connector, EM83.
2. Measure the resistance between EM83, pin 25 (Y) and FC88, pin 04 (Y).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<S10>>

S10 : CHECK THE CAN - CIRCUIT BETWEEN THE GSI MODULE AND THE ECM FOR CONTINUITY

1. Measure the resistance between EM83, pin 16 (G) and FC88, pin 03 (G).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<S11>>

S11 : CHECK THE CAN + CIRCUIT BETWEEN THE ECM AND THE TCM FOR CONTINUITY

1. Disconnect the TCM electrical connector, EM07.
2. Measure the resistance between EM07, pin 86 (Y) and EM83, pin 24 (Y).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<S12>>

S12 : CHECK THE CAN - CIRCUIT BETWEEN THE ECM AND THE TCM FOR CONTINUITY

1. Measure the resistance between EM07, pin 85 (G) and EM83, pin 15 (G).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<S13>>

S13 : CHECK THE CAN + CIRCUIT BETWEEN THE TCM AND THE ABS/TCCM FOR CONTINUITY

1. Measure the resistance between EM07, pin 83 (Y) and LF37, pin 05 (Y).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

Goto <<S14>>

S14 : CHECK THE CAN - CIRCUIT BETWEEN THE ASCCM AND THE ABS/TCCM FOR CONTINUITY

1. Measure the resistance between EM07, pin 82 (G) and LF37, pin 15 (G).

•Is the resistance greater than 5 ohms?

-> **Yes**

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

-> **No**

NO continuity fault found in CAN circuit. CHECK DTCs for possible module fault.

S15 : CHECK THE CAN + AND - CIRCUITS BETWEEN THE DLC AND THE INSTRUMENT CLUSTER FOR SHORT CIRCUIT TO EACH OTHER

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1. Disconnect the battery negative terminal.
2. Disconnect the IC electrical connector, FC25.
3. Measure the resistance between DLC, 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. Test the system for normal operation.

-> **No**

Goto <<S16>>

S16 : CHECK THE CAN + AND - CIRCUITS BETWEEN THE INSTRUMENT CLUSTER AND THE GSI MODULE FOR SHORT CIRCUIT TO EACH OTHER

1. Disconnect the GSI module electrical connector, FC88.
2. Measure the resistance between FC25, pins 11 (Y) and 23 (G).

•Is the resistance less than 10.000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<S17>>

S17 : CHECK THE CAN + AND - CIRCUITS BETWEEN THE GSI MODULE AND THE ECM FOR SHORT CIRCUIT TO EACH OTHER

1. Disconnect the ECM module electrical connector, EM83.
2. Measure the resistance between FC88, pins 04 (Y) and 03 (G).

•Is the resistance less than 10.000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<S18>>

S18 : CHECK THE CAN + AND - CIRCUITS BETWEEN THE ECM AND THE TCM FOR SHORT CIRCUIT TO EACH OTHER

1. Disconnect the TCM module electrical connector, EM07.
2. Measure the resistance between EM07, pins 86 (Y) and 85 (G).

•Is the resistance less than 10.000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<S19>>

S19 : CHECK THE CAN + AND - CIRCUITS BETWEEN THE TCM AND THE ABS/TCCM FOR SHORT CIRCUIT TO EACH OTHER

1. Disconnect the ABS/TCCM module electrical connector, LF37.
2. Measure the resistance between LF37, pins 05 (Y) and 15 (G).

•Is the resistance less than 10.000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<S20>>

S20 : CHECK THE CAN + AND - CIRCUITS BETWEEN THE ECM AND THE VSIM (WHERE FITTED) FOR SHORT CIRCUIT TO EACH OTHER

1. Disconnect the VSIM module electrical connector, EM74.
2. Measure the resistance between EM74, pins 15 (Y) and 16 (G).

•Is the resistance less than 10.000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

NO circuit fault found in network. Recheck DTCs.

T : CHECK THE CONTROLLER AREA NETWORK FOR SHORT CIRCUIT

T1 : CHECK THE CAN + FOR SHORT CIRCUIT TO BATTERY

1. Measure the resistance between pins 06 (Y) and 16 (NW) of the DLC.

•Is the resistance less than 10,000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<T2>>

T2 : CHECK THE CAN + FOR SHORT CIRCUIT TO IGNITION POSITIVE

1. Turn the ignition switch to the **ON** position.
2. Measure the resistance between pins 06 (Y) and 09 (WU) of the DLC.

•Is the resistance less than 10,000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

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-> **No**
Goto <<T3>>

T3 : CHECK THE CAN + FOR SHORT CIRCUIT TO GROUND

1. Turn the ignition switch to the **OFF** position.
2. Measure the resistance between pins 06 (Y) and 04 (BK) of the DLC.
3. Measure the resistance between pins 06 (Y) and 05 (BK) of the DLC.

•Is either resistance less than 10,000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<T4>>

T4 : CHECK THE CAN + FOR SHORT CIRCUIT TO ACCESSORY SWITCHED GROUND

1. Turn the ignition switch to the **ACC** position.
2. Measure the resistance between pins 06 (Y) and 08 (WR) of the DLC.

•Is the resistance less than 10,000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<T5>>

T5 : CHECK THE CAN + FOR SHORT CIRCUIT TO IGNITION SWITCHED GROUND

1. Turn the ignition switch to the **ON** position.
2. Measure the resistance between pins 06 (Y) and 01 (WU) of the DLC.

•Is the resistance less than 10,000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<T6>>

T6 : CHECK THE CAN - FOR SHORT CIRCUIT TO BATTERY

1. Measure the resistance between pins 14 (G) and 16 (NW) of the DLC.

•Is the resistance less than 10,000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

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Goto <<T7>>

T7 : CHECK THE CAN - FOR SHORT CIRCUIT TO IGNITION POSITIVE

1. Turn the ignition switch to the **ON** position.
2. Measure the resistance between pins 14 (G) and 09 (WU) of the DLC.

•Is the resistance less than 10,000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<T8>>

T8 : CHECK THE CAN - FOR SHORT CIRCUIT TO GROUND

1. Turn the ignition switch to the **OFF** position.
2. Measure the resistance between pins 14 (G) and 04 (BK) of the DLC.
3. Measure the resistance between pins 14 (G) and 05 (BK) of the DLC.

•Is either resistance less than 10,000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<T9>>

T9 : CHECK THE CAN - FOR SHORT CIRCUIT TO ACCESSORY SWITCHED GROUND

1. Turn the ignition switch to the **ACC** position.
2. Measure the resistance between pins 14 (G) and 08 (WR) of the DLC.

•Is the resistance less than 10,000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<T10>>

T10 : CHECK THE CAN - FOR SHORT CIRCUIT TO IGNITION SWITCHED GROUND

1. Turn the ignition switch to the **ON** position.
2. Measure the resistance between pins 14 (G) and 01 (WU) of the DLC.

•Is the resistance less than 10,000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

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NO short circuit fault found in CAN circuit. CHECK DTCs for possible module fault.

U : CHECK THE SCP NETWORK CIRCUIT

U1 : CHECK FOR CORRECT BUS TERMINATION IN THE SCP + NETWORK

1. Measure the resistance between pins 02 (Y) and 05 (BK) of the DLC.

•Is the resistance between 90 and 150 ohms?

-> **Yes**

TERMINATION is correct. Check for DTCs indicating a module or circuit fault. Refer to the DTC index.

-> **No**

Goto <<U2>>

U2 : CHECK THE SCP NETWORK + AND - FOR SHORT CIRCUIT TO EACH OTHER

1. Measure the resistance between pins 02 (Y) and 05 (BK) of the DLC.

•Is the resistance less than 90 ohms?

-> **Yes**

A short circuit to each other in the SCP network will mean the disconnection of the modules and tracing the short by traditional methods.

-> **No**

Goto <<U3>>

U3 : CHECK THE SCP + FOR SHORT CIRCUIT TO BATTERY

1. Measure the voltage between pins 02 (Y) and 16 (NW) of the DLC.

•Is the voltage greater than 3 volts?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<U4>>

U4 : CHECK THE SCP + FOR SHORT CIRCUIT TO IGNITION POSITIVE

1. Turn the ignition switch to the **ON** position.

2. Measure the voltage between pins 02 (Y) and 09 (WU) of the DLC.

•Is the voltage greater than 3 volts?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<U5>>

U5 : CHECK THE SCP + FOR SHORT CIRCUIT TO GROUND

1. Turn the ignition switch to the **OFF** position.
2. Measure the resistance between pins 02 (Y) and 04 (BK) of the DLC.
3. Measure the resistance between pins 02 (Y) and 05 (BK) of the DLC.

•Is either resistance less than 10,000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<U6>>

U6 : CHECK THE SCP + FOR SHORT CIRCUIT TO ACCESSORY SWITCHED GROUND

1. Turn the ignition switch to the **ACC** position.
2. Measure the resistance between pins 02 (Y) and 08 (WR) of the DLC.

•Is the resistance less than 10,000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<U7>>

U7 : CHECK THE SCP + FOR SHORT CIRCUIT TO IGNITION SWITCHED GROUND

1. Turn the ignition switch to the **ON** position.
2. Measure the resistance between pins 02 (Y) and 01 (WU) of the DLC.

•Is the resistance less than 10,000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<U8>>

U8 : CHECK THE SCP - FOR SHORT CIRCUIT TO BATTERY

1. Measure the voltage between pins 10 (U) and 16 (NW) of the DLC.

•Is the voltage greater than 3 volts?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<U9>>

U9 : CHECK THE SCP - FOR SHORT CIRCUIT TO IGNITION POSITIVE

1. Turn the ignition switch to the **ON** position.
2. Measure the voltage between pins 10 (U) and 09 (WU) of the DLC.

•Is the voltage greater than 3 volts?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<U10>>

U10 : CHECK THE SCP - FOR SHORT CIRCUIT TO GROUND

1. Turn the ignition switch to the **OFF** position.
2. Measure the resistance between pins 10 (U) and 04 (BK) of the DLC.
3. Measure the resistance between pins 10 (U) and 05 (BK) of the DLC.

•Is either resistance less than 10,000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<U11>>

U11 : CHECK THE SCP - FOR SHORT CIRCUIT TO ACCESSORY SWITCHED GROUND

1. Turn the ignition switch to the **ACC** position.
2. Measure the resistance between pins 10 (U) and 08 (WR) of the DLC.

•Is the resistance less than 10,000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<U12>>

U12 : CHECK THE SCP - FOR SHORT CIRCUIT TO IGNITION SWITCHED GROUND

1. Turn the ignition switch to the **ON** position.
2. Measure the resistance between pin 10 (U) and 01 (WU) of the DLC.

•Is the resistance less than 10,000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

NO circuit fault found in SCP circuit. CHECK DTCs for possible module fault.

V : CHECK THE ISO DATA CIRCUIT

V1 : CHECK THE BIDIRECTIONAL CIRCUIT FOR SHORT CIRCUIT TO BATTERY

1. Measure the voltage between pins 07 (O) and 16 (NW) of the DLC.

•Is the voltage greater than 3 volts?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<V2>>

V2 : CHECK THE BIDIRECTIONAL CIRCUIT FOR SHORT CIRCUIT TO IGNITION POSITIVE

1. Turn the ignition switch to the **ON** position.

2. Measure the voltage between pins 07 (O) and 09 (WU) of the DLC.

•Is the voltage greater than 3 volts?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<V3>>

V3 : CHECK THE BIDIRECTIONAL CIRCUIT FOR SHORT CIRCUIT TO GROUND

1. Turn the ignition switch to the **OFF** position.

2. Measure the resistance between pins 07 (O) and 04 (BK) of the DLC.

3. Measure the resistance between pins 07 (O) and 05 (BK) of the DLC.

•Is either resistance less than 10,000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<V4>>

V4 : CHECK THE BIDIRECTIONAL CIRCUIT FOR SHORT CIRCUIT TO ACCESSORY SWITCHED GROUND

1. Turn the ignition switch to the **ACC** position.

2. Measure the resistance between pin 07 (O) and 08 (WR) of the DLC.

•Is the resistance less than 10,000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

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-> **No**
Goto <<V5>>

V5 : CHECK THE BIDIRECTIONAL CIRCUIT FOR SHORT CIRCUIT TO IGNITION SWITCHED GROUND

1. Turn the ignition switch to the **ON** position.
2. Measure the resistance between pin 07 (O) and 08 (WR) of the DLC.

•Is the resistance less than 10,000 ohms?

-> **Yes**
REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**
Goto <<V6>>

V6 : CHECK THE SERIAL INPUT CIRCUIT FOR SHORT CIRCUIT TO BATTERY

1. Turn the ignition switch to the **OFF** position.
2. Measure the voltage between pins 15 (W) and 16 (NW) of the DLC.

•Is the voltage greater than 3 volts?

-> **Yes**
REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**
Goto <<V7>>

V7 : CHECK THE SERIAL INPUT CIRCUIT FOR SHORT CIRCUIT TO IGNITION POSITIVE

1. Turn the ignition switch to the **ON** position.
2. Measure the voltage between pins 15 (W) and 09 (WU) of the DLC.

•Is the voltage greater than 3 volts?

-> **Yes**
REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**
Goto <<V8>>

V8 : CHECK THE SERIAL INPUT CIRCUIT FOR SHORT CIRCUIT TO GROUND

1. Turn the ignition switch to the **OFF** position.
2. Measure the resistance between pins 15 (W) and 04 (BK) of the DLC.
3. Measure the resistance between pins 15 (W) and 05 (BK) of the DLC.

•Is either resistance less than 10,000 ohms?

-> **Yes**
REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for

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normal operation.

- > **No**
Goto <<V9>>

V9 : CHECK THE SERIAL INPUT CIRCUIT FOR SHORT CIRCUIT TO ACCESSORY SWITCHED GROUND

1. Turn the ignition switch to the **ACC** position.
2. Measure the resistance between pin 15 (W) and 08 (WR) of the DLC.

•Is the resistance less than 10,000 ohms?

- > **Yes**
REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.
- > **No**
Goto <<V10>>

V10 : CHECK THE BIDIRECTIONAL CIRCUIT FOR SHORT CIRCUIT TO IGNITION SWITCHED GROUND

1. Turn the ignition switch to the **ON** position.
2. Measure the resistance between pin 15 (W) and 08 (WR) of the DLC.

•Is the resistance less than 10,000 ohms?

- > **Yes**
REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.
- > **No**
NO circuit fault found in SCP circuit. CHECK DTCs for possible module fault.

W : P1649; ECM FLASH PROGRAMMING CIRCUIT MALFUNCTION

W1 : CHECK THE ECM FCCP CIRCUIT FOR SHORT CIRCUIT TO GROUND

1. Measure the resistance between DLC, pin 12 (U) and GROUND.

•Is the resistance less than 10,000 ohms?

- > **Yes**
REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.
- > **No**
Goto <<W2>>

W2 : CHECK THE ECM FCCP CIRCUIT FOR SHORT CIRCUIT TO BATTERY

1. Measure the voltage between DLC, pin 12 (U) and GROUND.

•Is the voltage greater than 3 volts?

- > **Yes**

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REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<W3>>

W3 : CHECK THE ECM VFP CIRCUIT FOR SHORT CIRCUIT TO GROUND

1. Measure the resistance between DLC, pin 20 (W) and GROUND.

•Is the resistance less than 10,000 ohms?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

Goto <<W4>>

W4 : CHECK THE ECM VFP CIRCUIT FOR SHORT CIRCUIT TO BATTERY

1. Measure the voltage between DLC, pin 20 (W) and GROUND.

•Is the voltage greater than 3 volts?

-> **Yes**

REPAIR the short circuit. For additional information, refer to the wiring diagrams. Test the system for normal operation.

-> **No**

No fault found in the flash programming circuit. RECHECK the DTCs.