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**Availability:** ISIS, Bus ISIS, FleetSIS, Body Builder

**Major System:** ELECTRICAL SYSTEM

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**Other Languages:** [Français](#), [Español](#)

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**Author:** Joe Christopher

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Coding Information

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**Title:** The First Check to make when Troubleshooting any Body Controller or ESC Issue

**Applies To:** All Vehicles with ESCs or Body Controllers

## CHANGE LOG

04/01/2015 - Update link to ProStar Circuit Diagram

## DESCRIPTION

This outlines how to verify the 2007-Current Body Controller is receiving proper voltage and ground inputs to power up properly. The pre-2007 ESC works the same way as the Body Controller. The Connector and Pin information for the ESC can be found at the bottom of the article.

## TROUBLESHOOTING

1. Hook up DLB and monitor these pins in DLB. There should be a check mark next to both the **ignition**, **accessory** and **power feed** signals. Don't go by the voltage number reading in DLB, it isn't accurate. Only look for the check marks. You will probably see that one of these three signals is not getting a check mark beside it.
2. Hook up your break out box to the 1600 connector of the Body Controller and check the voltage on all 3 power pins with a multimeter. For pin numbers, see below.
3. If both 1600 connector pins have voltage, but the problem persists, then you need to load test the two 1600 connector pins through the breakout box with a headlamp using the Body Controller ground circuits.
4. Load test the main battery circuit to the Body Controller J6 power feed stud.
5. Remove Mega-Fuse. Clean it thoroughly and inspect for cracks. Ohm the fuse end to end to insure it is not cracked internally as this has been known to be a problem.

## BODY CONTROLLER SIGNALS TO WATCH

International® Diamond Logic® Builder

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Select Advanced Logic Features Faults Connectors Signals Center Panel Cluster Campaign Messages

ESC RPM 1 RPM 2 RPM 4 RPM 7

Power\_Feed (ESC J6) Mating View Shown

[1]  Power\_Supply\_1\_Signal 14.4 Battery\_Voltage\_Signal 3.998 Battery\_Voltage\_Raw

J6 (Power\_Feed) Power

J4 (1601) Cab

J1 (1603) Hood

J2 (1604) Chassis

J3 (1600) Inside

J5 (1602) Engine

Power Feed to J6

Mega-Fuse

You must be in Diagnostic Mode with the Key ON to check this.

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Select Advanced Logic Features Faults Connectors Signals Center Panel Cluster Campaign Messages

ESC RPM 1 RPM 2 RPM 4 RPM 7

J6 (Power\_Feed) Power

J4 (1601) Cab

J1 (1603) Hood

J2 (1604) Chassis

J3 (1600) Inside

J5 (1602) Engine

[A1]  Accessory\_Signal\_Input

[A2]  AC\_Request

[A3]  RCD\_HVAC\_Ctrl\_Head\_Diag\_Signal

[A4]  Highbeam\_Signal

[A5]  Elec\_City\_Horn\_SW\_Signal

[A6]  Right\_Turn\_Signal\_Switch

[A7]  Left\_Turn\_Signal\_Switch

[A8]  Low\_Washer\_Fluid\_WL\_Signal

[A9]  Wiper\_0\_Signal

[A10]  Wiper\_1\_Signal

[A11]  Wiper\_2\_Signal

[A12]  Park\_Brake\_Switch\_Signal

[A13]  Door\_Switch

[A14]  Flash\_To\_Pass\_Signal

[A15]  Washer\_Pump\_Signal

[A16]  Ignition\_Signal\_Input

0 Primary\_Air\_Pressure [B2]

0 Secondary\_Air\_Pressure [B3]

0 BC\_RCD\_Temp\_In\_Cond\_Signal [B5]

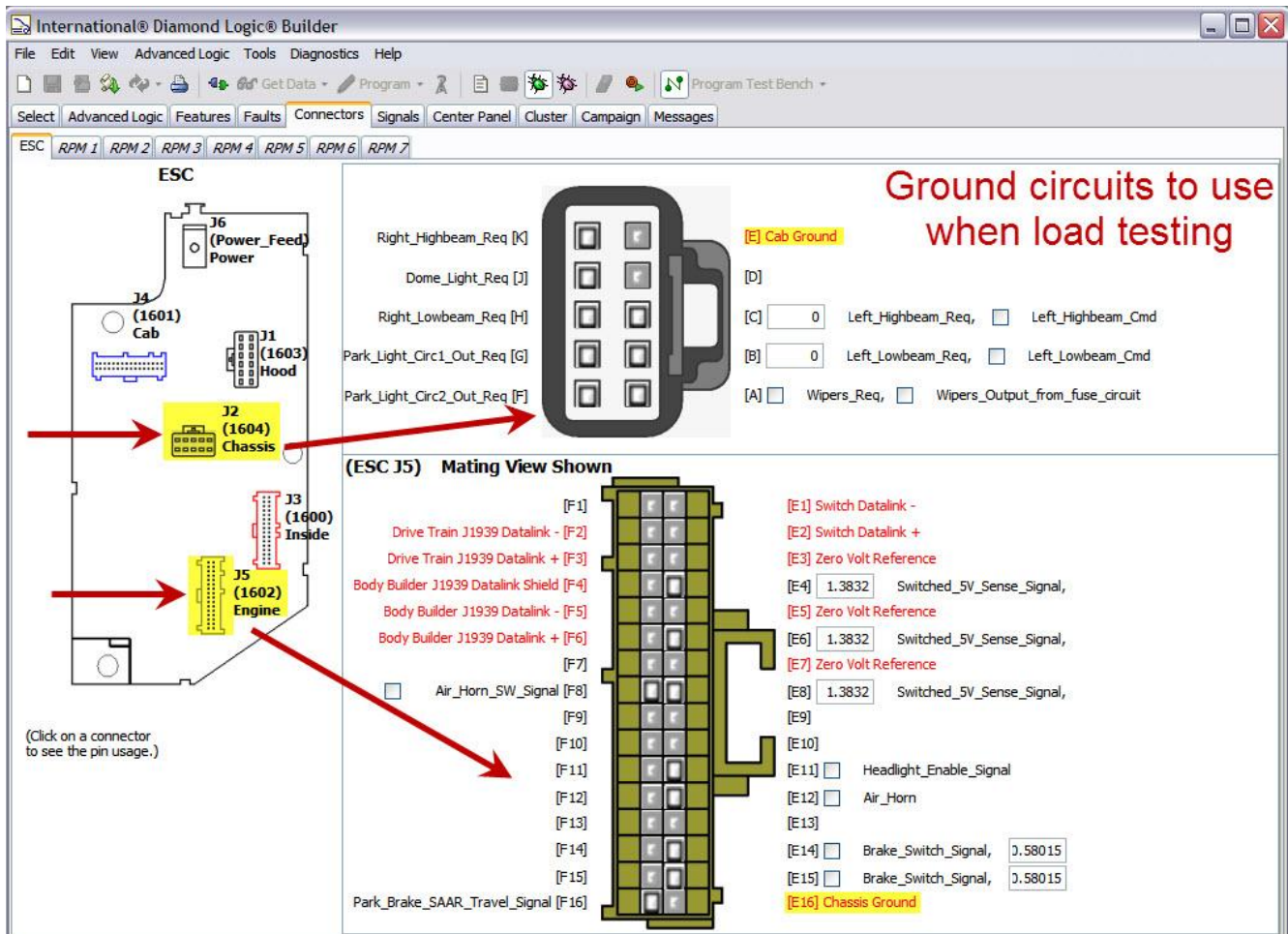
0 Left\_Fuel\_Sensor\_Signal [B9]

0 AC\_High\_Side\_Pressure [B12]

0 BC\_RCD\_Temp\_Out\_Cond\_Signal [B13]

0 Cruise\_Switch\_Signal [B16]

You must be in Diagnostic Mode with the Key ON to check this.



## BODY CONTROLLER CIRCUIT DIAGRAMS

- [PROSTAR / LONESTAR](#)
- [DuraStar / WorkStar / TranStar](#)
- [TerraStar](#)

## ESC SIGNALS TO WATCH

- The ESC works the same way as the Body Controller. Here are the Connector and Pin locations for the ESC

International® Diamond Logic® Builder

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**You must be in Diagnostic Mode with the Key ON to check this**

**Ignition and Accessory Power Feed**

**Ground circuits to use when load testing**

**Main Power Supply from Mega-Fuse**

ESC	Component	Signal / Value
1600 (ESC J4)	[18]	Right_Turn_Signal_Switch
	[17]	
	[16]	9486.3 Secondary_Air_Pressure
	[15]	9486.3 Primary_Air_Pressure
	[14]	Headlight_Enable_Signal
	[13]	Elec_City_Horn_SW_Signal
	[12]	<input checked="" type="checkbox"/> Ignition
	[11]	BUS_Door_Open_Cmd
	[10]	0 BUS_PWL_And_Door_Switch_State
	[9]	
	[8]	
	[7]	Leave_No_Student_Behind_disarm_switch
[6]		
[5]		
[4]	Park_Brake_Relay_Cmd	
[3]	Zero Volt Reference	
[2]	13.35 Bias_Voltage_Signal, 14.272 Bias_Voltage_Raw_Signal, <input checked="" type="checkbox"/> Accessory	
[1]	Chassis Ground	
1604 (ESC J2)	[D]	<input checked="" type="checkbox"/> Ground
	[C]	<input type="checkbox"/>
	[B]	<input type="checkbox"/>
	[A]	<input type="checkbox"/>
	[E]	<input checked="" type="checkbox"/>
Power_Feed (ESC J6)	[1]	<input checked="" type="checkbox"/> Power_Supply_1_Signal

### ESC CIRCUIT DIAGRAMS

- [All Models with ESC](#)

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