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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

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

- 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.
- 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.
- 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.
- Load test the main battery circuit to the Body Controller J6 power feed stud.
- 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

The screenshot shows the International Diamond Logic Builder software in Diagnostic Mode. The main workspace displays the 'Power_Feed (ESC J6) Mating View Shown'. On the left, a wiring diagram shows the ESC J6 (Power Feed) Power connector connected to various vehicle components: J4 (1601) Cab, J1 (1603) Hood, J2 (1604) Chassis, J3 (1600) Inside, and J5 (1602) Engine. On the right, a live data view shows the 'Power_Supply_1_Signal' with a value of 14.4, 'Battery_Voltage_Signal' with a value of 3.998, and 'Battery_Voltage_Raw'. A photograph of the engine compartment shows the Mega-Fuse and the Power Feed to J6 connector. Red arrows and text annotations highlight the diagnostic mode requirement and the specific components being checked.

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

ESC

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

[B1] Primary_Air_Pressure

[B2] Secondary_Air_Pressure

[B3]

[B4]

[B5] BC_RCD_Temp_In_Cond_Signal

[B6]

[B7]

[B8]

[B9] Left_Fuel_Sensor_Signal

[B10]

[B11]

[B12] AC_High_Side_Pressure

[B13] BC_RCD_Temp_Out_Cond_Signal

[B14]

[B15]

[B16] Cruise_Switch_Signal

Ground circuits to use when load testing

ESC

J6 (Power Feed) Power

J4 (1601) Cab

J1 (1603) Hood

J2 (1604) Chassis

J3 (1600) Inside

J5 (1602) Engine

[E] Cab Ground

[D]

[C] Left_Highbeam_Req, Left_Highbeam_Cmd

[B] Left_Lowbeam_Req, Left_Lowbeam_Cmd

[A] Wipers_Req, Wipers_Output_from_fuse_circuit

(ESC J5) Mating View Shown

[F1]

[F2] Drive Train J1939 Datalink -

[F3] Drive Train J1939 Datalink +

[F4] Body Builder J1939 Datalink Shield

[F5] Body Builder J1939 Datalink -

[F6] Body Builder J1939 Datalink +

[F7]

[F8] Air_Horn_SW_Signal

[F9]

[F10]

[F11]

[F12]

[F13]

[F14]

[F15]

[F16] Park_Brake_SAAR_Travel_Signal

[E1] Switch Datalink -

[E2] Switch Datalink +

[E3] Zero Volt Reference

[E4] 1.3832 Switched_5V_Sense_Signal,

[E5] Zero Volt Reference

[E6] 1.3832 Switched_5V_Sense_Signal,

[E7] Zero Volt Reference

[E8] 1.3832 Switched_5V_Sense_Signal,

[E9]

[E10]

[E11] Headlight_Enable_Signal

[E12] Air_Horn

[E13]

[E14] Brake_Switch_Signal, 0.58015

[E15] Brake_Switch_Signal, 0.58015

[E16] Chassis Ground

(Click on a connector to see the pin usage.)

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

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 CIRCUIT DIAGRAMS

- [All Models with ESC](#)

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