Diamond Logic® Electrical System

Changes for 2007

- Instrument Panel
- Wiring Architecture
- Electrical Components
- Electrical Body Connections
- Diamond Logic Builder Software
Diamond Logic® Electrical System

New Instrument Panel

- New Gauge Cluster Design
- More Switches Below Gauge Cluster
- Center Panel Application Indicator Lights
- Fuse/Relay Panel Now Inside Cab
- New Electrical System Controller
- Air Solenoids Modules (on frame)
Gauge Cluster
Gauge Cluster Switches

Switch Positions: Left & Right of Steering Column

These switch positions operate with Key Off
Application Indicator Lights

Located in Center Switch Panel
Fuse/Relay Panel

Located in the Cab
Passenger Side
Electrical System Controller (ESC)

(with kick panel removed)
Air Solenoid Modules

- Up to four 4 packs per Vehicle
- All 12 Volt High Side Activated
- Normally Open or Normally Closed
- 7 Pack Solenoid No Longer Available
Multiplexed Data Link Architecture

- **ATA J1708 LINK**
  - Remote Engine Speed Control Module
  - Remote Power Modules

- **J1939**
  - Diagnostic Connector
  - New 4 Pack Air Solenoids
  - New 4 Pack
  - New Cluster
  - 5 Wires for Each 4 Pack

- **POWER TRAIN LINK**
  - New ESC
  - Air Solenoids
  - New Cluster

- **SWITCH LINK**
  - Remote Power Modules

- **BODY LINK**
  - Remote Engine Speed Control Module
Electrical Wiring

Chassis Harnesses
Driver side
Two 76 way connectors.

• First connector feeds the forward chassis components

• Second connector feeds center and rear chassis components
Electrical Wiring

Harness Pass Through (Passenger Side)

- Feed to power train
- Feed to dash accessories, like wipers, AC sensors.
2007 Electrical Changes Review

- **Electrical System Controller:** New
- **Gauge Cluster:** New
- **6 and 12 Pack of Switches:** Unchanged
- **Remote Power Module:** Unchanged
- **Steering Wheel Switches:** Unchanged
- **Remote Engine Speed Controller:** Unchanged
- **Door Pods** Unchanged
- **Auxiliary Switch & Gauge Pack** Unchanged
- **Aware Telematics Gen 1** Unchanged
- **4 Pack Air Solenoid** High Side Driven
- **7 Pack Air Solenoid** Cancelled
Electrical Body Connections

08HAB Body Lighting Connections Unchanged For 2007

Body Lighting Connections Unchanged For 2007

Tail Light Connector

Electric Trailer Brake Wiring

Grote Tail Lights
Electrical Body Connections

Battery Connection
In Engine Compartment:
Mega-fuse located on Driver’s Side

Battery, Ignition and Accessory Feed Connections in Cab
Electrical Body Connections

Outside Cab Ground Connections

Inside Cab Ground Connections
Electrical Body Connections

Located along the driver side frame rail next to the ABS module

J1939 Connections, Air Brake

J1939 Connections, Hydraulic Brake

Engine Speed Control Wires

Allison Transmission Connectors
Electrical System Controller (ESC)
Connections for Body Companies:

Park Brake: High Side Drive, .5 amps,
Connector J4: Pin F1

Dome Light: High Side Drive, 10 amps,
Connector J2: Pin J

Work Light: High Side Drive, 10 amps,
Connector J1: Pin G

Stop Light: High Side Drive, .5 amps,
Connector J4: Pin 15
**Significant Changes**

- 595XXX Features are accessible in DLB by Vehicle Model Type. (For example 595 codes that are specifically designed for Pro-star will not be accessible on a Dura-Star.)

- Feature Descriptions have changed in many cases. Get familiar with the new wording. See 595 Feature Cross Reference Guide.

- Gauge Cluster now has two switch positions for use with factory switches or custom logic switches. These two new gauge cluster switches operate with Key Off.
**Significant Changes**

- Universal relay drivers are all 12 volt active drives.

- Universal relay drivers 13, 14, 15, 16 conflict with trailer lighting and body lighting features.

- All Application Warning Lights, except PTO, are now switch pack warning lights, (i.e. Boom Not Stowed, Outriggers Down, Body Up, Gate Open, etc)

- Work Light and Mirror Heat use different 595 codes when the switch is located the left side of the gauge cluster versus being located in the switch packs.
Diamond Logic Builder Software

• Left or Right Fog Light
• Left or Right Fog Light Current Signal
• Left or Right High Beam Command
• Left or Right Low Beam Command
• Left or Right Mirror Heat Current Signal
• Inlet Temperature of DOC (diesel oxidation catalysis)
• Inlet Temperature of DPF (diesel particulate filter)
• Outlet Temperature of DPF (diesel particulate filter)
• Particulate Trap Active Regeneration Status
• Actual Engine Percent Torque
• Universal Air Relay Driver 2 thru16
• Aux Inputs 01 thru 16
• Aux Inputs 16 Bit 1 & 2
• Aux Outputs 01 thru 16
• Aux Outputs 16 Bit 1 & 2

New Signals Available When Writing Ladder Logic
Where to Find the Signal

- Left/Right High Beam, Low Beam, Fog Light Signals are available as READ signals in the **ADVANCED** Tab

- “Actual Engine Percent Torque” are available in **ADVANCED** Tab

- “Transmission Requested Range” are available in **TRANSMISSION** Tab

- 15 Universal Solenoid/Relay Drivers available in **CHASSIS** Tab

- A “Data link” Signal Tab is available in DLB for use with interfacing the Diamond Logic Electrical System with other Vendor supplied components that communicate on J1939.
Changes for 2007

Refer to the Body Builder Electrical Guide S08300 for detailed descriptions of each electrical feature.

View Information from the Body Builder Resource Center website at: www.internationaldelivers.com/bodybuilder

For Technical Assistance and Support, Contact 1-800-336-4500