# **Diamond Logic® Electrical System**

**Dump Truck Solution Features** 



#### **BODY LIGHTING**

- 08HAA BODY BUILDER WIRING To Rear of Frame, With Stop, Tail, Turn, and Marker Lights Circuits, Ignition Controlled Auxiliary Feed and Ground, Less Trailer Socket
- 08HAB BODY BUILDER WIRING Back of Cab at Frame, Includes Sealed Connectors for Tail/Amber Turn/ Marker/ Backup/Accessory Power/Ground and Sealed Connector for Stop/Turn
- **08HAE** BODY BUILDER WIRING Rear of Frame; Includes Sealed Connectors for Tail/Amber Turn/Marker/ Backup/Accessory Power/Ground and Sealed Connector for Stop/Turn
- **08HAU** BODY BUILDER WIRING INSIDE CAB; Includes Sealed Connectors for Tail/Amber, Turn/Marker/Backup/Accessory, Power/Ground, and Stop/Turn

### REMOTE ENGINE SPEED CONTROL

- 12VGA Remote mounted body builder interface wiring for engine speed control with N13 engines
- **12VZA** Remote body builder interface wiring for engine speed control with N9, N10 and MaxxForce DT engines. Additional features include speedometer and tachometer signals.
- 12VXT Sets the engine to a stationary variable mode.
- 12VXU Sets the engine to a stationary preset mode.
- 12XAT Remote mounted body builder interface wiring for engine speed control with Cummins ISB engines

### **EXHAUST REGEN INHIBIT**

• 07WZX - Exhaust regeneration inhibit switch, momentary, resets when key off.

### **WORK LIGHT ACCOMMODATION**

- **08WMA** SWITCH, TOGGLE, FOR WORK LIGHT Lighted; on Instrument Panel and Wiring Effects for Customer Furnished Back of Cab Light
- **08TMH** SWITCH, AUXILIARY Accessory Control; for Wiring in Roof, With Maximum of 20 Amp Load with Switches In Instrument Panel

### **HIGH AMPERAGE SWITCH**

• **08XBK** - Control one auxiliary load up to 40 Amps with a factory-installed switch for a high Amperage load such as a light bar. Power available in "IGNITION" or "ACCESSORY" key states.

### AIR ACCESSORY CONTROLS

• **08WGA / 08WGB / 08WGC / 08WGD / 08WKM** - Provides 1 / 2 / 3 / 4 / 6 normally closed air solenoids to be used as a pilot air source. Includes latched switch in cab; air is available only with key in "IGNITION" or "ACCESSORY" positions.

### PRE-TRIP EXTERIOR LIGHT INSPECTION

• **08WPZ** - Pre-trip inspection will cycle exterior lamps, except back-up lights.

#### **HEADLIGHTS ON WITH WIPERS**

• **08WRB** - Headlights will automatically turn on if windshield wipers are turned on.

### WINDSHIELD WIPER SPEED CONTROL

• **08WGL** - Force wipers to slowest intermittent speed when park brake set and wipers left on for a predetermined time.

#### **HEADLIGHTS**

• 08WXB - Warning Buzzer sounds when Head Light Switch is on and Ignition Switch is in "Off" Position

### PARK BRAKE ALARM

• **08WXD** - Electric horn sounds in repetitive manner when vehicle park brake is "NOT" set, with ignition "OFF" and any door opened.

#### THEFT DETERRENT SYSTEM

60ACX - Limits vehicle mobility by requiring a pre-selected code to be entered to drive vehicle.

#### JUMP START STUD

• **08WBW** - Provides remote jump start stud on the outside of the battery box that eliminates the need to remove the battery box cover when jump starting is required.

#### **BACK-UP ALARM**

• **08THB** - Provides a 102 dBA audible alarm when a vehicle is operated in reverse gear.

#### TWO-WAY RADIO WIRING EFFECTS

Both 08REA and 08RGA provide radio power and ground directly from the battery to minimize electrical noise on the line.

- **08REA** 10' wiring coil under the instrument panel for optimal radio placement.
- **08RGA** Wiring in the center of the header console in the cab.
- 08RCB CB radio accommodation package, header mounted, includes power source and two antenna bases with wiring.
- 08RBK Dual CB antennas

#### **AUTOMATIC NEUTRAL**

 13WUA – Allison WT transmission shifts to neutral when parking brake is engaged and remains in neutral when park brake is disengaged.

### SPARE INPUT/OUTPUT FOR AUTOMATIC TRANSMISSIONS.

- 13WUC Remote body builder interface wiring and software programming for Allison automatic transmissions
- 13WUR ALLISON SPARE INPUT/OUTPUT for Dump/Construction with Two-Speed Axle or Auxiliary Transmission (RDS).
- 13WYL Allison Performance Programming in Primary and Allison Economy Programming in Secondary

### TRANSMISSION TCM LOCATION

• 13WYH - TRANSMISSION TCM LOCATION Located Inside Cab.

### **ELECTRIC BRAKE ACCOMMODATION**

- 08HAG ELECTRIC TRAILER BRAKE/LIGHTS Accommodation Package to Rear of Frame; for Separate Trailer Stop, Tail, Turn, Marker Light Circuits; Includes Electric Trailer Brake Accommodation Package with Cab Connections for Mounting Customer Installed Electric Brake Unit, Less Trailer Socket
- 08HAH ELECTRIC TRAILER BRAKE/LIGHTS Accommodation Package to Rear of Frame; for Combined Trailer Stop, Tail, Turn, Marker Light Circuits; Includes Electric Trailer Brake Accommodation Package with Cab Connections for Mounting Customer-Installed Electric Brake Unit, Less Trailer Socket

### TRAILER CONECTIONS

# Air Brake Accommodation with 7-Way Socket for Lighting

• **08THU** - TRAILER SOCKET 7-Way; With Battery Fed Circuit to Center Pin, With 30 Amp Fuse and Relay Controlled by Switch With Indicator Light on Instrument Panel Fed from Hot Battery Feed, When Parking Brake is Applied, Not Wired Thru Key Switch.

- **08TME** TRAILER CONNECTION SOCKET 7-Way; Mounted at Rear of Frame, Wired for Turn Signals Independent of Stop, Compatible With Trailers That Have Amber or Side Lamps.
- **08TMG** TRAILER CONNECTION SOCKET 7-Way; Mounted at Rear of Frame, Wired for Turn Signals Combines With Stop, Compatible With Trailers That Use Combined Stop, Tail, and Turn Lamps.
- **08TMN** TRAILER CONNECTION SOCKET {Phillips STA-DRY} 7-Way; Equipped With ABS Feed, Mounted at BOC and End of Frame Locations.

### **Auxiliary Trailer Connections**

- 08THG AUX. TRAILER SOCKET 7-Way; with Battery Fed Circuit to Center Pin, with 25 amp Fuse and Relay controlled by Switch with Indicator Light on Instrument Panel fed from Hot Battery Feed (not wired thru Key Switch)
- 08THH AUX. TRAILER SOCKET 7-Way; with Battery Fed Circuit to Center Pin, with 25 Amp Fuse and Relay controlled by Switch with Indicator Light) controlled by Accessory Side of Key Switch, Switch mounted on Instrument Panel
- **08TKK** Trailer Aux Feed Circuit for Electric Trailer Brake Accommodation / Air Trailer ABS; with 30 Amp ABS wiring to make 08HAG or 08HAH interchangeable between electric and air trailer brakes.

# **PTO CONTROLS**

In determining which PTO accommodation is appropriate, you must determine the type of PTO that will be added:

- Transmission Mounted
- Engine Mounted
- Transfer Case Mounted

All of Navistar's PTO accommodation packages are appropriate for transmission mounted PTOs, as well as transfer case mounted PTOs. If your customer wants to add an engine-mounted PTO, feature code 60ABE is the correct feature code to order.

In addition, you must determine the type of PTO engagement that will be added. Navistar has released feature's to accommodate the five most popular PTO engagement types:

- Electric engagement
- Air (clutched/non-clutched) engagement
- Hydraulic engagement
- Cable/Lever engagement
- Constant engagement

### PTO CONTROLS AND HOURMETER

- **16WLM** HOURMETER, PTO for Customer Provided PTO; Indicator Light and Hour meter in Gauge Cluster Includes Return Wire for PTO Feedback Switch.
- **13WDH** BODY BUILDER Transmission Wiring Installed wiring for transmission/PTO controls for Allison 2000, 2100, 2200, 2400, 2500 series transmission only
- 13WDN PTO CONTROL, DASH MOUNTED For Customer Provided PTO; Includes 2 Independent Illuminated Switches, 2 Electric/Air Solenoids, Piping and Wiring
- 13XAA PTO CONTROL, DASH MOUNTED For Customer Provided PTO; Includes Switch, Electric/Air Solenoid, Piping and Wiring
- 60ABA BDY INTG, PTO ACCOMMODATION for Monitoring Cable Shift Engaged PTO, With Indicator Light and Audible Alarm in Gauge Cluster (requires 1 Remote Power Module input)
- 60ABB BDY INTG, PTO ACCOMMODATION for Muncie Lectra Shift PTO Engagement and
  Disengagement, With Switch Mounted on Dash; Includes Indicator Light and Audible Alarm in Gauge
  Cluster (requires 1 Remote Power Module input & 1 output)

- 60ABE BDY INTG, PTO ACCOMMODATION for Electric over Hydraulic PTO, Does Not Include Solenoids, With Switch Mounted on Dash, Includes Audible Alarm and Indicator Light in Gauge Cluster, (Requires 1 Remote Power Module input & 1 output)
- 60ABK BDY INTG, PTO ACCOMMODATION, Accommodation for Electric over Air Non Clutched PTO Engagement and Disengagement, Does not Include Air Solenoid, With Switch Mounted on Dash, Includes Audible Alarm and Indicator Light in Gauge Cluster (requires 1 input & 1 output)
- 60ABL BDY INTG, PTO ACCOMMODATION, Accommodation for Electric over Air Clutched PTO Engagement and Disengagement, Does not Include Air Solenoid, With Switch Mounted on Dash, Includes Audible Alarm and Indicator Light in Gauge Cluster (requires 1 input & 1 output)
- **60AKG** Body Integration, PTO Accommodation for (3) Latched rocker switches, one for PTO switch and two generic switches to control (3) 30amp relays, with programmable parameters.

### **Remote Power Modules and Associated Features**

Remote power modules are the gateway to body integration. Each remote power module includes 6 power outputs and 6 switch inputs. Customers should inform their International dealer or body builder company if they intend to utilize this form of body integration on their vehicle.

- 60AAA BDY INTG, REMOTE POWER MODULE (1); Up to 6 Outputs & 6 Inputs, Max. 20 Amps. Per Channel, Max. 80 Amps. Total (Includes 1 Switch Pack With Latched Switches), Mounted Back of Battery Box on DuraStar Series and Under Cab, Left Rear on WorkStar Series.
- 60AAB BDY INTG, REMOTE POWER MODULE (2); Up to 6 Outputs & 6 Inputs each, Max. 20
   Amps. per Channel; Max. 80 Amps Total per Power Module (Includes Switch Packs with 12 Latched Switches), Mounted Back of Battery Box on DuraStar and Under Cab, Left Rear on WorkStar.
- 60AAD BDY INTG, REMOTE POWER MODULE (2) {SPECIAL} Mounted Under Cab or On Battery Box; Max. 20 amps. per Channel; Max 80 Amps Total per Power Module; Includes 1 Module With Switch Pack with 6 Latched Switches and 1 Module With Hardware Only, Mounted Back of Battery Box on DuraStar Series and Under Cab, Left Rear on WorkStar Series.
- 60AAG BDY INTG, REMOTE POWER MODULE (1) Mounted Inside Cab behind Driver Seat on DuraStar and WorkStar Series Up to 6 Outputs & 6 Inputs, Max. 20 Amps. per Channel, Max. 80 Amps. Total (Includes 1 Switch pack with 6 Latched Switches)
- **60AAH** BDY INTG, REMOTE POWER MODULE (2) Mounted Inside Cab behind Driver Seat on DuraStar and WorkStar Series; Up to 6 Outputs & 6 Inputs each, Max. 20 Amps. Per Channel, Max. 80 Amp. Total (Includes 2 Switch Packs with 12 Latched Switches)
- 60AAJ BDY INTG, REMOTE POWER MODULE (3) Mounted Inside Cab behind Driver Seat on DuraStar and WorkStar Series; Up to 6 Outputs & 6 Inputs each, Max. 20 Amps. Per Channel, Max. 80 Amp. Total (Includes 3 Switch Packs With 18 latched Switches)
- 60AAK BDY INTG, REMOTE POWER MODULE (2) SPECIAL; Mounted Inside Cab behind Driver Seat on DuraStar and WorkStar Series; Up to 6 Outputs & 6 Inputs each, Max. 20 Amps. Per Channel, Max. 80 Amps. Total (Includes 1 Module With Switch Pack containing 6 Latched Switches and 1 Module With Hardware Only)
- 60AAL- BDY INTG, REMOTE POWER MODULE SPECIAL(3); Mounted Inside Cab behind Driver Seat on DuraStar and WorkStar Series; Up to 6 Outputs & 6 Inputs per module (3 modules with Hardware only)

# Enhancements for additional functionality, using Remote Power Module features:

- 60ACE Dual Output Switch, control one auxiliary load up to 40 Amps with a factory-installed switch
  connected to two Remote Power Module outputs for a high Amperage load such as a light bar. Power
  available in "IGNITION" or "ACCESSORY" key states. (requires 2 Remote Power Module outputs)
- **60ACG / 60ACH** Switches Interlocked to Vehicle Speed, 1 or 2 switches that will disengage a body feature if the vehicle exceeds a certain MPH or other parameter.
- 60ACS / 60ACT / 60ACU Replaces 1 / 2 / 3 latched switches with momentary switch(s) that provide control of body equipment from the cab and a location on the body for features such as cabinet lights and other body lights.

- 60ACW I/O EXPANSION HARNESS (for Diamond Logic Builder) In-Cab Wire Harness (DLB)
   Program Only, Includes a Harness with five blunt cut Wires routed on lower left of Instrument Panel.
   Two ground active inputs and two (.5Amp) Relay Driver outputs are provided
- **60AJE** BDY INTG, REMOTE THROTTLE When ground is applied to the Remote Power Module input, the engine ramps to the first preset speed and maintains that speed as long as the input is held at ground. Removing ground from the Remote Power Module input returns the engine to idle.
- **60AJK** BDY INTG, INDICATOR LIGHTS (2); 1 for Body Up, 1 for Gate Open, Includes Audible Alarm, Programmable Mode for Various Switch Actions. (Requires 2 Remote Power Module Inputs).
- 60ACY BDY INTG, VEHICLE IDLE Shutdown, with programmable timer to shutdown engine cab electrical power, default parameter is 90 seconds

### ADDITIONAL INDICATOR LIGHTS

60AJR, 60AJS, 60AJT & 60AJU
60AJV, 60AJW, 60AJX & 60AJY
60AJX, 60AKA, 60AKB & 60AKC
Red indicators lights. (1,2,3 & 6)
Green indicators lights. (1,2,3 & 6)
Amber indicators lights. (1,2,3 & 6)

## Utilize Diamond Logic® Builder software to custom program features, such as the following:

- Low hydraulic level indicator
- Hydraulic oil over-temperature indicator
- Hydraulic oil filter clogged indicator
- Low/hot hydraulic oil PTO shutdown
- PTO shutdown override switch
- Set up body lights to work with Pre-trip light inspection
- Tarp wind/unwind control
- Rear tail gate unlock/lock
- External Regen warning
- Control auto chains
- Unlock power door locks w/ parking brake
- Floodlights