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**Section 1B**

Technical Schematics

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This guide is to be used as a reference document only. Please consult your Western Star CAE representative on specific spec'ing needs as the information contained in this document can change without notice.
Frequently Asked Electrical Questions

**Question:** How can I tell from the order if the truck has any body builder connections?

**Answer:** Look at sales code 334 and 353 to determine if supplemental body builder harness options where ordered with your truck.

**Question:** If there is a Body Builder option, what type of interface plug does the option have and where will it be located?

**Answer:** The 4700 offers blunt cut wires at the BOC with an access plate in the floor for body builder connections see page 1A-13/14 and 1B-18/19. The 4800/4900/6900 offer body builder harnesses to the exterior BOC and the End of Frame with std plugs. See page 1B-14 for schematics and details.

**Question:** Where can I find specific transmission information on the truck order and in the Body builder book?

**Answer:** Truck specific Transmission specifications can be located in the truck order under sales code 342 and schematic information can be found using the sales codes found on page 1B-4 of this chapter of the body builder book.

**Question:** Can you obtain wiring diagrams for specific options for serial numbers and any information on dealer optionally installed features?

**Answer:** Specific schematic information can be obtained by serial number is available to our dealers on line via PartsPro and EZ wiring. Use page 1B-4 of this chapter to locate the module location information.

**Question:** Does Western Star utilize the (J1939) CAN-bus data protocol?

**Answer:** Yes remote Start Stop is available using Option code 162-018 based on the engine configuration. Availability would need to be determined by the Sales and Application Engineering groups.

**Question:** Is there any factory provisions for remote Start/Stop?

**Answer:** Yes remote Start Stop is available using Option code 157-004 for the 4800/4900 models. Customer supplied harness with 4 position switch is supplied by customer for this option See Page 1B-12 for more details.

**Question:** How do I get remote Engine Speed Control (ECU)?

**Answer:** This option can be requested on new orders via data code 163-006 or 163-009. If these options are not present, remote engine speed control can also be accessed via the JS19 connector located in the engine compartment and is part of the main engine harness A06-63518. See Pages 1B-13 to 1B-15 for schematic information.

**Question:** Can you get a fast idle interface on the WST?

**Answer:** Data code 148-035 provides a fast idle switch interface tied to the parking brake See schematics on Page 1B-1.

**Question:** Does the 4700 model have the same electrical architecture as the 4800/4900 models?

**Answer:** The 4700 electrical architecture is the same as other WST models but has different pin locations in the front wall. These differences are defined in the pin out charts in chapter 1C dependant on your model and production year.

**Question:** Can you deactivate the brake override circuit so that the 4-way flashers stay on when the brakes are activated?

**Answer:** The instructions to disable the day time running lights are located on page 1A-22.

**Question:** Is there a high amperage option for Plow lights on the 4800/4900/6900 Models?

**Answer:** Yes a plow light package is available using Sales code 329-054 which supplies a separate junction box mounted to the back wall behind the passenger seat. See details and schematics for this option on page 1B-16.

**Question:** Is there a place I can tie into the tail lights without splicing into the tail light harness?

**Answer:** Yes some trucks will be equipped with a capped plug at the bac of cab LH rail that is labeled supplemental trailer cable wiring (shown on P 1B-15) if the 388 Mod option has ordered. If this option and plug is not in the harness Pins #20,33,44,57 and 71 can be been accessed in the Main Chassis Bulkhead. The pinout details for this plug can be found in page 1C-4 dependant on your model and production year.

**Question:** Can you obtain wiring diagrams for specific options for serial numbers and any information for dealer optionally installed features?

**Answer:** Specific schematic information can be obtained by serial number is available to our dealers on line via PartsPro and EZ wiring. Use page 1B-4 of this chapter to locate the module location information.

**Question:** What can I do to prevent the brakes from being activated during a 4-way flash?

**Answer:** The WST electrical turn signal system requires a minimum amperage load from the tail light system. When LED lights are used a resistor needs to be added to increase the load to an acceptable level. See Page 1A-21 for installation information.

**Question:** Does WST offer switches that are ignition controlled that are not rated to 20 amps or relay controlled?

**Answer:** Yes WST offers a (6) optional switch option for this application with 329-071 see page 1A-15.

**Question:** If I need to stop the truck from starting under specific conditions is there a way I can do this?

**Answer:** Yes, tying into the Neutral Safety switch circuit (located in the front wall PDM, see page 1A-7) with a signal controlled relay will stop the truck from starting. The starting schematics can be found in Mod 156 and are specific for each engine Make.
All EPA 2010 LHD Models

Chassis Harness Max Complexity Harness

New electrical systems for 2010 will be shown using a Max Complexity harness layout L06-82534. This new diagram system provides all possible connections that are available on one single diagram. This information provides the connector part number and the Sales Code and or Module number that the option and schematic detail can be found.

How to use this diagram system

- Use the diagram to locate where on the chassis the connections will be located.
- Note: Some locations are approximate due to wheelbase differences.
- Not all connections shown in the diagram will be on any one specific vehicle.

Note: To order new harnesses for service or repair refer to Parts Bulletin 54-018.

See diamond indicators on next page for Harness Breakout Location
All LHD EPA 2010 Models: Front Wall Fwd

Note: Maximum complexity diagrams show all possible connections. All connections will never be present on any one vehicle.
All LHD EPA 2010 Models: Under Cab Rear

Note: Maximum complexity diagrams show all possible connections. All connections will never be present on any one vehicle.
2007 and Earlier uses a Fused connection as shown.

Jumpers for Option Panel
372-036 Dash mounted electrical PTO switch with indicator

Use with Allison Transmission in combination with DDC 13/15/16 Engines.
372-033 Dash mounted PTO controls with indicator light and park brake interlock

**Cummins PTO Installation**

- **PTO SWITCH**
- **12V IGN**
- **PTO 48V**
- **GROUND**
- **Illumination Fuse**
- **PTO Switch**
- **Power Out to Air Brakes**
- **Low Pressure Switch**
- **Illumination Fuse**
- **PTO Switch**
- **PTO 48V**
- **12V IGN**
- **Ground**
- **To be connected to PTO by customer**

**DDC DD13 / DD15 / DD16 Engines Manual Transmission**

- **PTO, ENGINE POWER TAKE OFF**
- **PTO Switch**
- **Aux. Fuse Block Ground**
- **Park Brake Pressure Switch**
- **Park Brake Closed When Park Brake is Applied**
- **Remote ISO Select**
- **Common Powertrain Controller (CPC)**
- **Illumination**
- **See Module 329**
- **See Module 326**
- **See Module 316**

**To be connected to PTO by customer**
Remote Fast Idle Circuits

- Wires 440D, 440F & 440E are spliced into the cruise switch wiring in the dash and run through the front wall at a 40 pin connector pins 11, 9 & 10 respectively.
- Harness P/N A06-74578-000 ties into the 40 pin connector on the engine side of the front wall and ends in a 6 pin connector with wires 440D, 440F, 440E & 440G. (This harness is approximately 51" long.)
- Harness WWS 87208-3428-210 connector PS19_0 will connect to the 6 pin connector and have enough length to route to the end of frame, i.e. this harness is 210" long.

148-070 Engine remote interface with preset fast idle
+ 163-008 Engine remote interface at back of cab with blunt cut wires
163-009 Engine remote interface at End of Frame with blunt cut wires
163-008 Engine remote interface at End of Frame with 6' extra cable

Jumper Harness Installation for End of Frame Remote Idle Control

Ref Drawing D06-57690

Ref Schematic G06-74072
157-004 Manual remote engine start/stop

This solution supplies an internal cab harness that terminated at the Front Wall/Sleeper Harness Bulkhead connection plug. See page 1-8 for pin more details.

- **Start Circuit**
- **Cole Hersee 956-4124**
  - 4 position ignition switch or equivalent
- **Start Request Signal**
- **Ignition accessory**
- **Stop Engine Lamp**
- **Check Engine Lamp**
- **Check Engine Lamp supplied by Body Builder**
- **Ignition**
- **Common Ground**

Body builder supplied harness from front wall connections.

Start enable switch ref 7830-3401 in dash.
End of Frame Engine Remote Interface - 148-071

148-071 Engine remote interface with increment/decrement

163-008 Engine remote interface at back of cab with blunt cut wires
163-009 Engine remote interface at End of Frame with blunt cut wires
163-008 Engine remote interface at End of Frame with 6' extra cable

ref dwg 872B1-3428

TO CRUISE CONTROL IN TRANSMISSION SHIFTER HARNESS (AS REQUIRED)

TO CRUISE CONTROL IN TRANSMISSION SHIFTER HARNESS (AS REQUIRED)
End of Frame Engine Remote Interface - 148-035

148-035 Preset fast idle switch interface for fixed single speed with engine compartment wires and park brake interlock

+ 163-998 No engine opt/rpm controls wiring

Dash Mounted 70 Pin engine connector PENG
4800/4900/6900 Exterior Cab Body Builder Connections

353-053 Vehicle interface wiring with body builder blunt cut wire interface at end of Frame

353-054 Vehicle interface wiring with body builder blunt cut wire interface at back of cab
4800/4900/6900 Plow Light Prep

329-054 (5) Extra switches wired to 9 pole junction box mounted behind passenger seat
Western Star Bodybuilder Book: Revision 3.1

4700 10 AMP Switches & In Cab Connections

- 353-998 No Wiring-vehicle Interface
- 329-1AU (2) Ignition Controlled Extra Switches With Indicator Light, 10 Amps, Wired Between Passenger/driver Seat
- 329-1AV (4) Ignition Controlled Extra Switches With Indicator Light, 10 Amps, Wired Between Passenger/driver Seat
- 329-1AW (6) Ignition Controlled Extra Switches With Indicator Light, 10 Amps, Wired Between Passenger/driver Seat
- 329-1AX (10) Ignition Controlled Extra Switches With Indicator Light, 10 Amps, Wired Between Passenger/driver Seat
4700 Body Builder Cab Access Port

Accessing the cab on the 4700 SF and SB is quick and simple using the floor access plate at the back of the cab. Look for cuts in the floor mat at the center of the cab under this flap is a cover plate which gives you structurally designed access from the chassis into the cab.

Plates can be removed from the unit and mounted at a workbench if desired for better sealing of cab mating harness.

Pre wired switch harnesses can be ordered using the option codes found in section 1A page 1A-1313

Switches can be blunt cut wires or prewired to an independent relay box ready for your body connections.

In cab connections are protected from the weather and corrosion.

Prewired switches are routed on a tray at the driver side floor board. This tray allows you to safely rout wires to the dash inside the cab and eliminates electrical work inside the cab and eliminates ephosteery and interior damage along with assembly time.

Easy Access Floor Plate

Cab Floor access

Pre cut floor mats

Pre wired switch harnesses can be ordered using the option codes found in section 1A page 1A-1313

Switches can be blunt cut wires or prewired to an independent relay box ready for your body connections.

In cab connections are protected from the weather and corrosion.

Prewired switches are routed on a tray at the driver side floor board. This tray allows you to safely rout wires to the dash inside the cab and eliminates electrical work inside the cab and eliminates ephosteery and interior damage along with assembly time.

Blunt cut switch wires coiled behind driver seat

Prewired Switches

In dash interface harness connections

Air Lines

In floor tray cover

In cab easy access harness tray

Cab floor access panel

Pre wired Switches

In dash interface harness connections

Air Lines

In floor tray cover

In cab easy access harness tray

Cab floor access panel

In Cab Vehicle interface Unit

PDM Unit 353-060
353-021 Vehicle interface wiring circuit access box mounted behind/beside passenger seat.
353-059 Vehicle interface blunt cut wiring mounted between driver and passenger seats.
353-060 Vehicle interface blunt cut wiring mounted between driver and passenger seats.
Adding additional equipment such as the vehicle speed when installing a salt/sander spreader with a controlled flow rate at different speeds can be accomplished by adding a second.

Adding a second speed sensor to the rear bearing cover of the transmission after delivery.

You will need to purchase the following parts:

- P/N FUL K4148 (two wire speed sensor)
- P/N FUL X8 0801M (mounting screw)
- P/N A06-26585-000 (adapter harness)

To connect this signal to your system simply cut off the access end of the adapter harness and wire to body harness.

Connects male end to sensor
Cut off female end and wire to body harness

Adapter harness A06-26585-000