

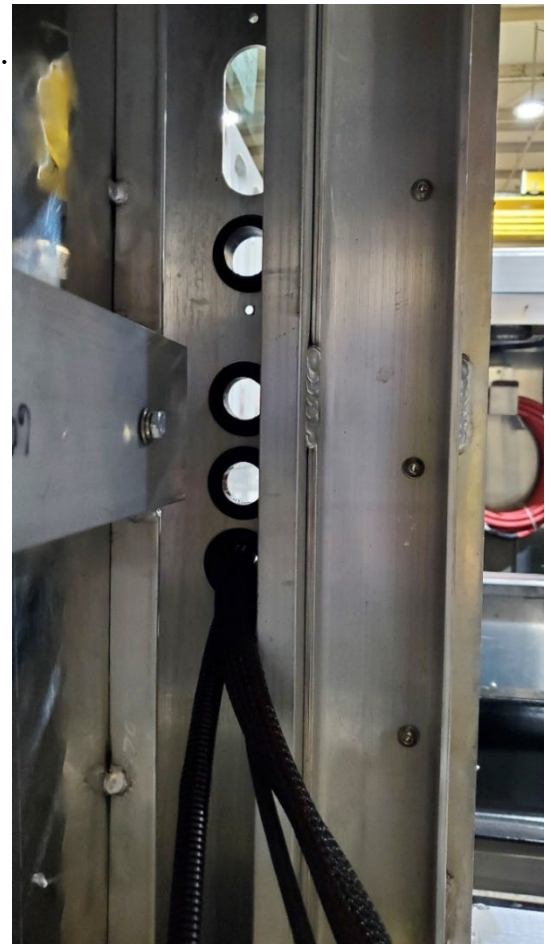
Date	Feb 17, 2023
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SUBJECT: Junction Box Details
PURPOSE: Integrated Wrecker – Final Installation & Dressout

Junction Box Area

Wires entering the front toolbox pass-through section and in the junction box area include:

- Positive (+) and Negative (-) Battery Cables
- PTO harness
- Part number **0311793 2SP INTEGRATED HARNESS**
- Part number **0311787 HARNESS RH TOOLBOX WIRING 2012**
- Part number **03028390 CABLE, ETHERNET EXTENSION, 50'**
- Part number **03008849 HARNESS, CAB TO JBOX**
- Part number **03017442 HARNESS TUNNEL BOX** (if applicable)
- Lightbar / Pylon wiring when a tunnel box is mounted.
- Chassis lighting cable.
- (2) conductor wire for bumper mounted marker lights.
- (2) conductor wire for M6 light on hood or grill.

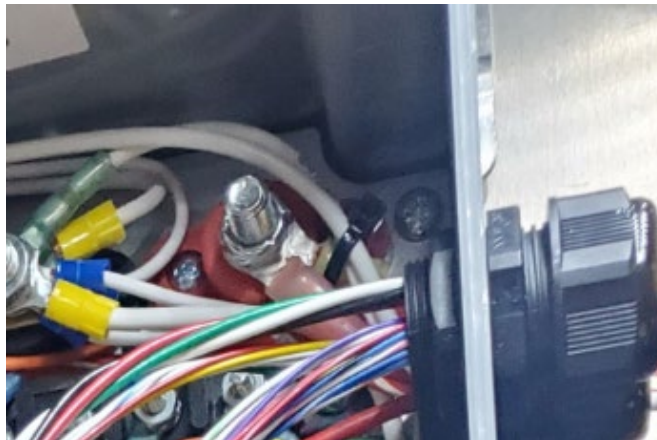


Junction Box Area (cont'd)

As described in the Battery Connections document, connect battery power to the +B stud on the center of the panel.



Add an additional 4ga. battery cable from the B+ Whelen stud to the red stud in the top right corner of the junction box.



Battery ground connects to the ground bus bar in the top left of the junction box.



Junction Box Area (cont'd)

Connect the PTO harness to the CEM16 PTO Output on spare stud in the junction box.



Part number **0311787 HARNESS RH TOOLBOX WIRING 2012** is brought across the subframe and into the toolbox through the larger opening at the top. Connect it to the mating connector hanging off of the junction box.

These harnesses also connect to mating connectors on the junction box leads

- Part number **0311793 2SP INTEGRATED HARNESS**
- Part number **0311809 INTEGRATED LH 2SPEED/FREE**
- Part number **0311810 INTEGRATED RH 2SPEED/FREE HARNESS**
- Part number **0311786 HARNESS LH TOOLBOX WIRING 2012**



Junction Box Area (cont'd)

Whelen Keypad ethernet extension cable connects to part number **03029449 CABLE, CORE-R J4 RJ12 TO RJ45** which plugs into the CORE-R module at J6. Make a service loop below the panel with any extra cable. Secure the looped wires with zip ties and clamp.



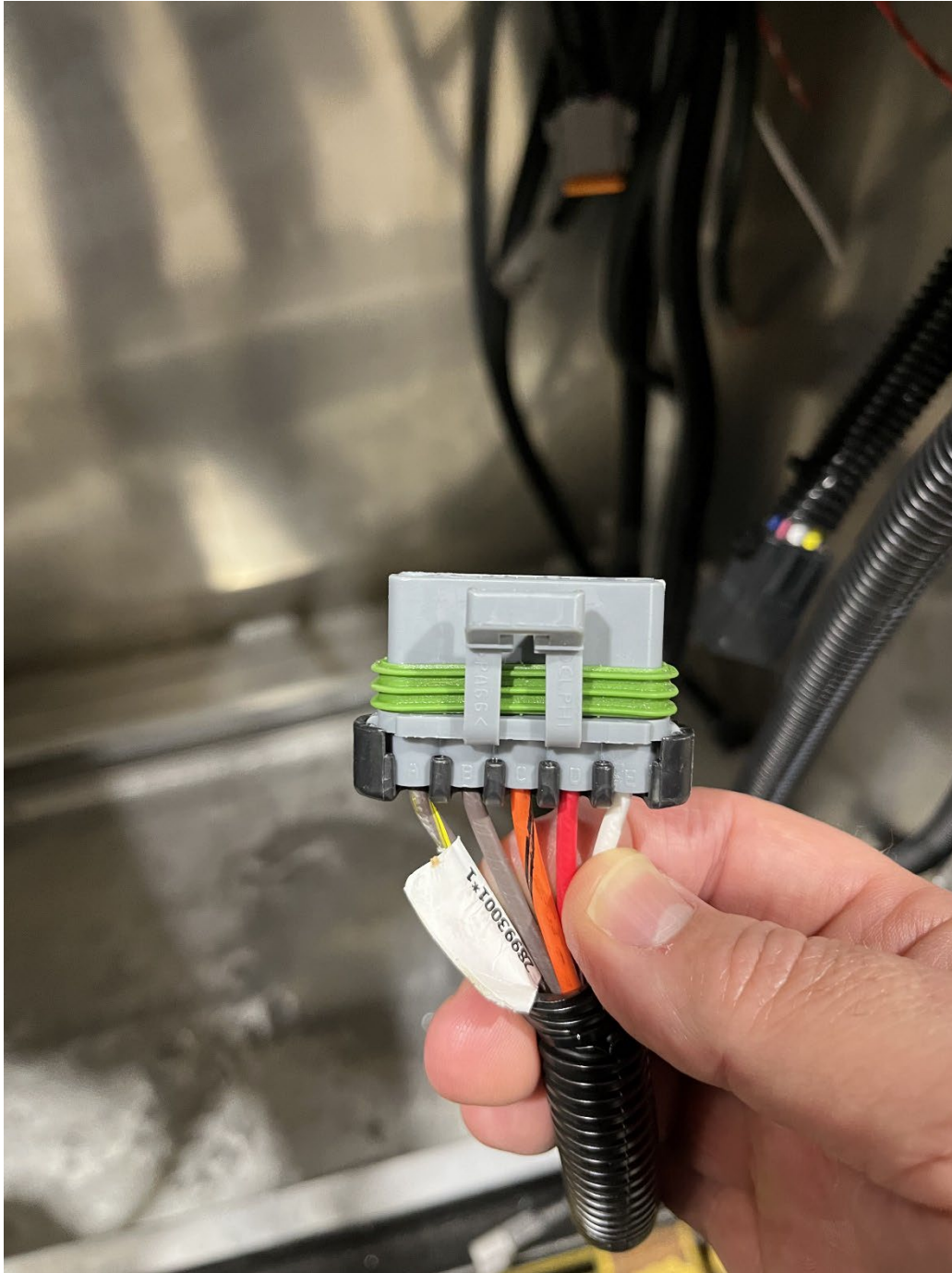
Junction Box Area (cont'd)

Chassis Lighting cable on a temporary mounted chassis will be delivered wired to the junction box. Remove these wires from the junction box and splice them to the Whelen CORE-R Input J3 connector.

Core-R Inputs				
Plug Position	Label	Wire Color	Miller Wire Color	Description
J3-1	Battery	Red (+)	Red	12V-24V Battery +
J3-2	Left Turn	Wht/Brn (+)	Yellow/Green	Chassis body builder
J3-3	Right Turn	Wht/Red (+)	Green/Yellow	Chassis body builder
J3-4	Brake	Wht/Org (+)	Red/Black	Chassis body builder
J3-5	Marker	Brn (+)	Brown	Chassis body builder
J3-6	Ground	Blk	White	Battery Ground
J3-7	Ignition	Red/Wht (+)	Red/Yellow	Ignition Sense Input
J3-8	Reverse	Org (+)	Blue	Chassis body builder
J3-9	Photo Cell	Yel (+)	Violet	Optional
J3-10	E-Stop	Grn (+)	GS Color is BLUE	GS remote E-stop Active High

Junction Box Area (cont'd)

A Marker Flasher Box is not used with the Whelen system. Apply some electrical tape across the mating face of the connector to prevent accidental short to the terminal:



Junction Box Area (cont'd)

Route the Keyless Entry and Marker Flasher leads coming off the junction box up through the wire chase to the toolbox wall towards the cab.



Junction Box Area (cont'd)

Optional: mount the Keyless Entry Box and connect to the mating lead coming from the junction box.

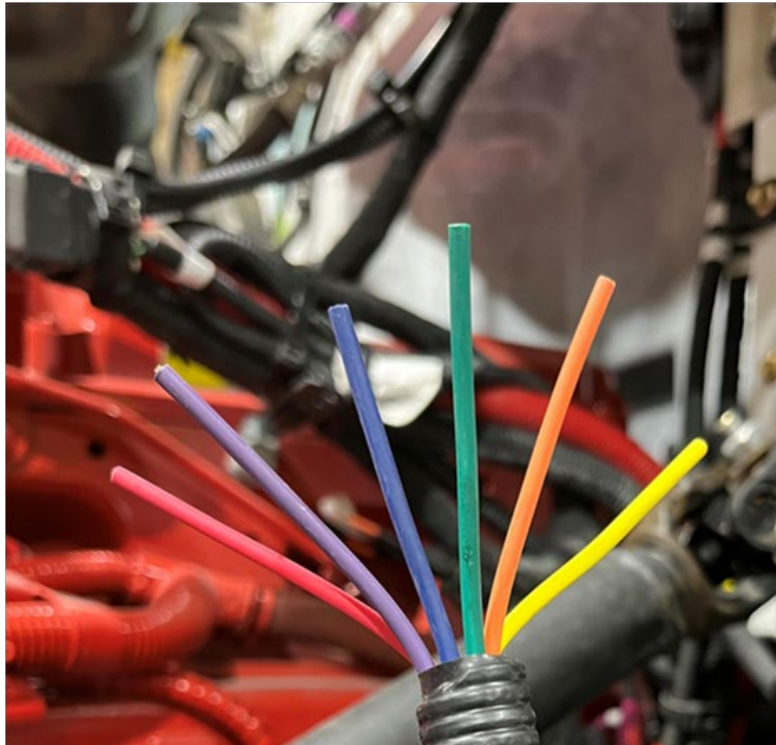


Junction Box Area (cont'd)

Part number **03008849 HARNESS, CAB TO JBOX** is already installed when the truck ships from Miller. This harness extends from the cab firewall and is rolled up behind the cab. This harness will route into the cab and back to the junction box to be wired to the appropriate functions.



Junction Box Area (cont'd)



03008849 CAB CONNECTIONS

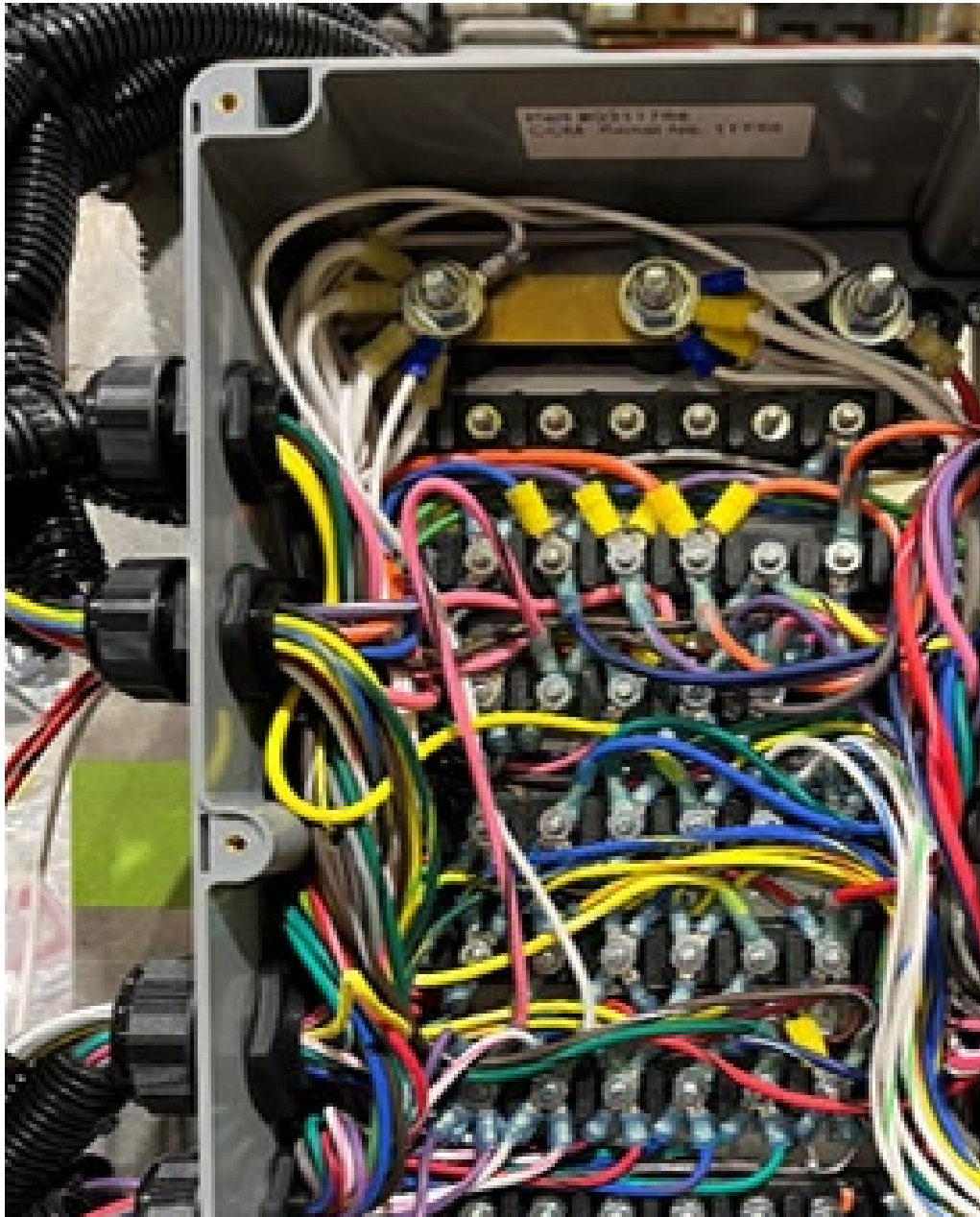
- RED – connect to ignition source behind the dash
- ORANGE – pull out of the loom and leave outside the firewall to connect to the PTO solenoid which is mounted on the firewall. The other side of the PTO should be wired to a good ground.
- BLUE – connect to the blue wire (CAM 2) on the camera harness. This is the reverse sensing wire for CAM 2 to activate.
- PURPLE, GREEN, and YELLOW are not used. Heat shrink the ends of each wire. Leave these behind the dash in case the customer wants to add anything later.

03008849 JUNCTION BOX CONNECTIONS

- In the junction box, connect the RED wire to a spare stud along the top row. This will be your ignition source in the junction box.
- Connect the ORANGE wire to the same spare stud as the Whelen PTO output. This should also be an ORANGE wire.
- Connect the BLUE wire to the REVERSE stud #23.
- PURPLE, GREEN, and YELLOW wires are not used. Heat shrink the ends of each wire and leave them secured in the junction box.

Junction Box Area (cont'd)

After installation of all connections in the junction box, ensure that each nut is securely tightened. Tighten the gland connectors on both sides of the box to prevent water intrusion. All unused wires should have the ends covered with heat shrink tubing.



Install the junction box (hand tighten) lid to secure all of the cables and to seal the box.

Junction Box Area (cont'd)

Add edge-guard to the protective panel. Install the protective panel (hand tightening the screws to prevent damaging the panel) over the Whelen Distribution panel. Ensure that the wires are not pinched in this process.



Junction Box Area (cont'd)

After all wiring connections have been completed and functions checked, install the two-piece plates with grommets. Apply RTV sealant around all wire entry holes.

