



UPS F650 end of frame wiring

Model Years 2019 and newer

NOTES:

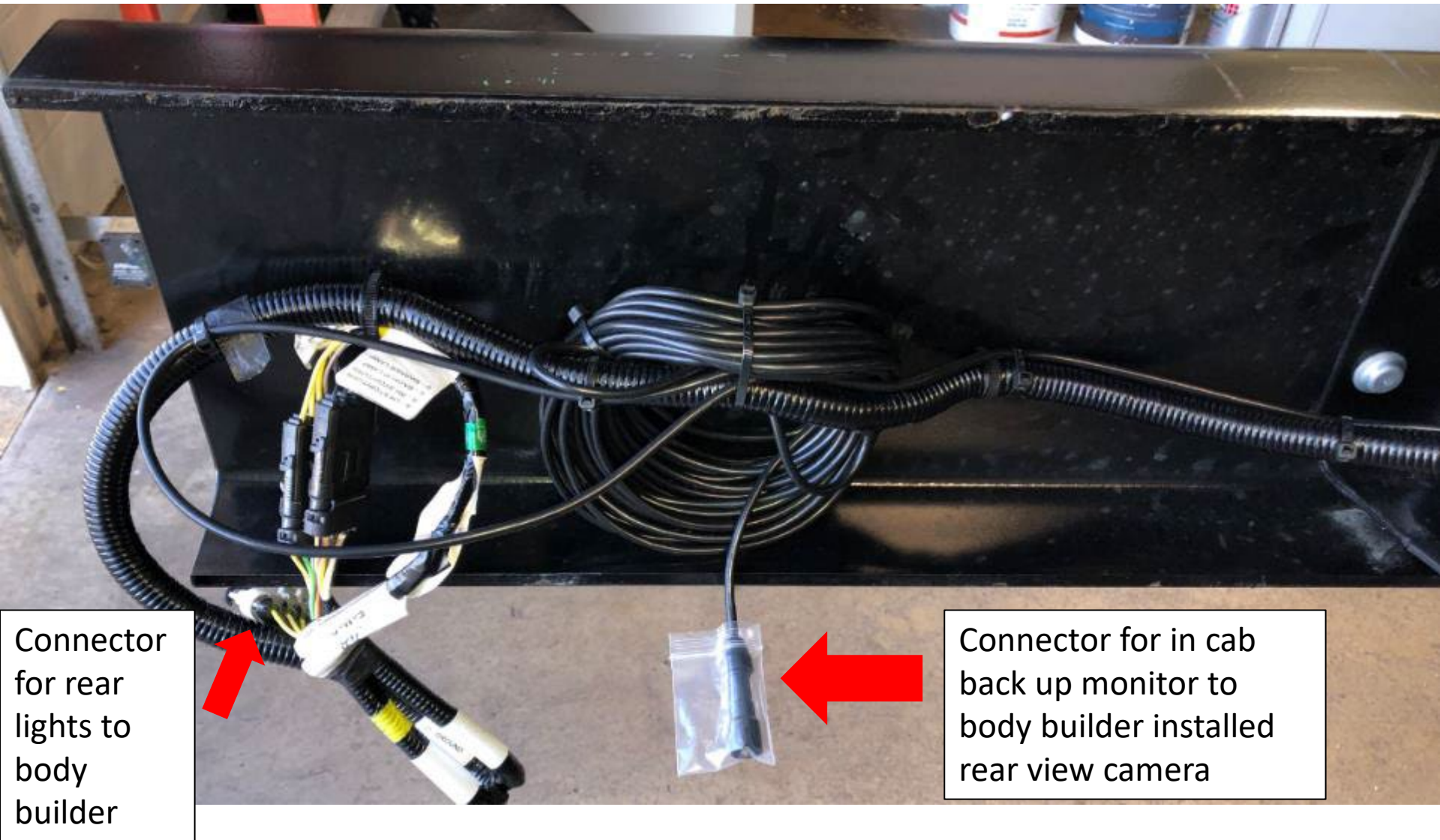
1. This is a special UPS only wiring harness and does NOT correspond to connector C4032, C4035A or C4035B information published in Ford PTS/OASIS Wiring tab.
2. Refer to “F650 Chassis Fuse & Relay Locations” for more detailed electrical information

MY	14406 (end of frame)	14406A (two 4pin to one 5pin adapter)
MY19	KC4S14406LMA	KC4S14406AKB
MY21	LC4S14406LNA	LC4S14406AKA
MY22	NC4S14406LNA	NC4S14406AKA
MY23	NC4S14406LNB	NC4S14406AKA
MY24	PC4S14406LNB	PC4S14406AKA

Model Years 2019 & 2021

(Note Ford did not produce a model year 2020)

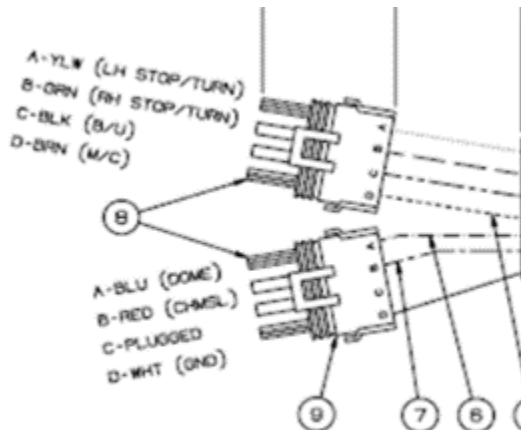
MY 19 & 21 Driver's side end of frame rail – Before Body Builder installation



Connector for rear
lights to
body
builder

Connector for in cab
back up monitor to
body builder installed
rear view camera

MY19 & 21 Connector layout



Connector pinout

Connector # 1

A LH stop/turn
B RH stop/turn
C Backup lamp
D marker lamp

Connector #2

A Strobe
B Blank
C Blank
D Ground

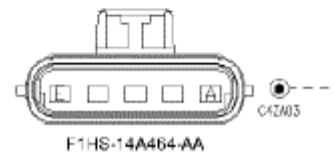
A Backup Lamp
B LH Stop/Turn
C RH Stop/Turn
D Marker Lamp
E Ground

LP_LH_REAR [C42M03]

A	CL558DA	BN/BU	STAD-1.5	VSOBUD	<>
B	CAT06DA	YE	STAD-1.5	VSOBUD	<>
C	CAT09DA	GN	STAD-1.5	VSOBUD	<>
D	CAT17DA	BR	STAD-1.0	VSOBUD	<>
E	RAT08NA	WH	STAD-0.75	VSOBUD	<>

②⑤

F1HS-14A464-AA : F W/P 280 SLD : 1.00
GUST-14A468-AA : TPA : 1.00
HUST-14A624-FA : CONN 5 POS M : 1.00

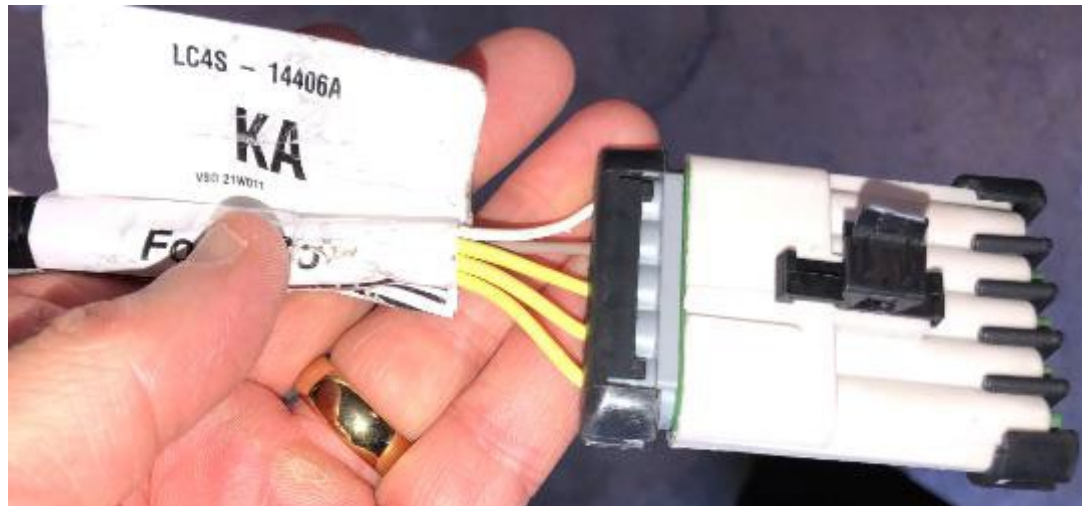


MY19 & 21 Connector to body builder for rear lights

MY19



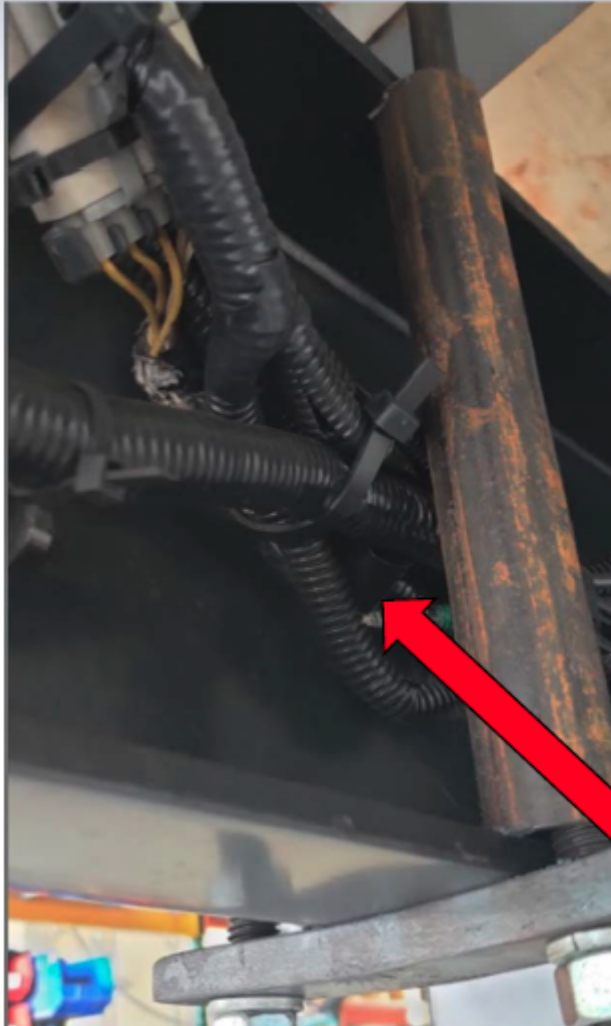
MY21



**Driver's side end of frame rail –
After Body Builder installation
Kentucky Trailer MY19 & 21**



Kentucky Trailer – 3rd brake light module MY 19 & 21



The Stop function was requested to be added to the I.D. cluster on the rear frame header. This was accomplished by adding a Pacer Performance 3rd Brake Light Logic Module. The module is wired to the green and yellow circuits as inputs and sends only the stop signal out as an output.

Logic Module

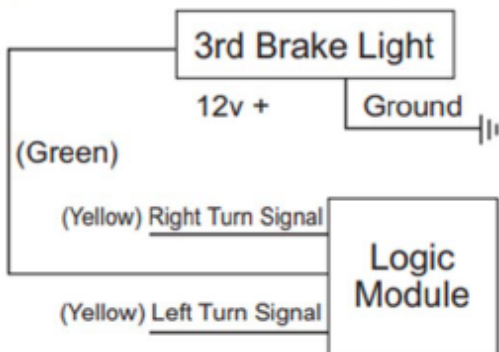


Kentucky Trailer – 3rd brake light module MY 19 & 21



LOGIC MODULE INSTALLATION INSTRUCTIONS PART # 20-702

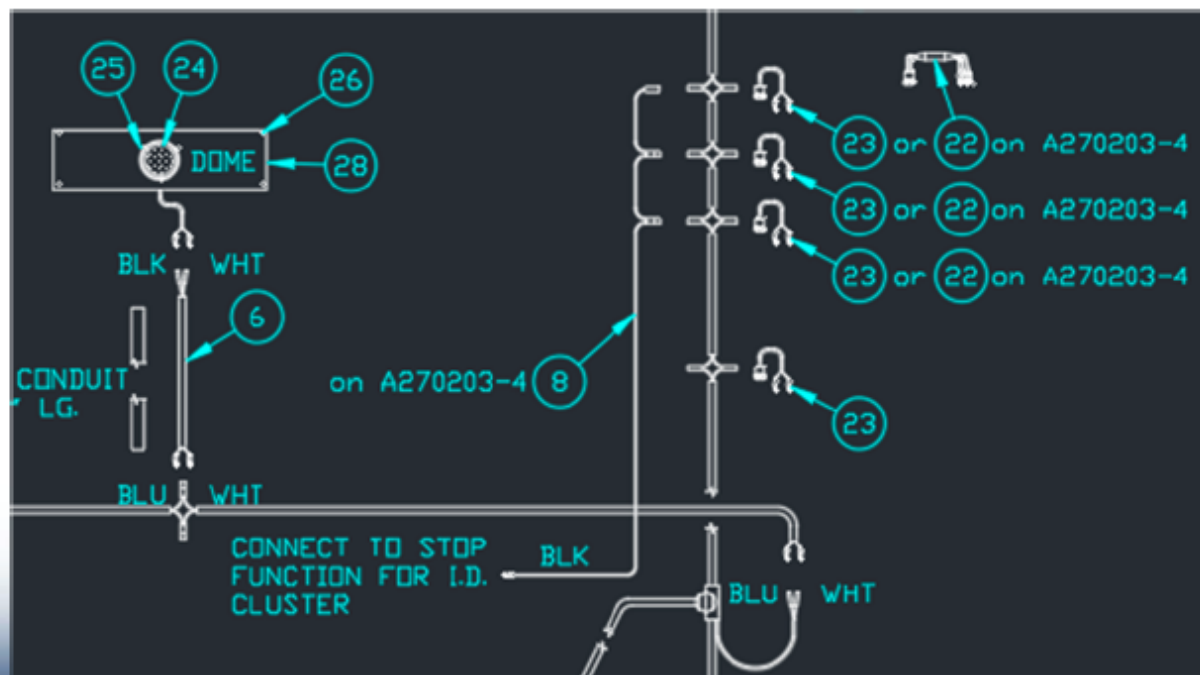
The purpose of the Logic Module is to allow the installation of a 3rd brake light. The module takes the signal from the tail lights and filters out the turn signals, therefore illuminating the 3rd brake light only when the vehicles brakes are applied.



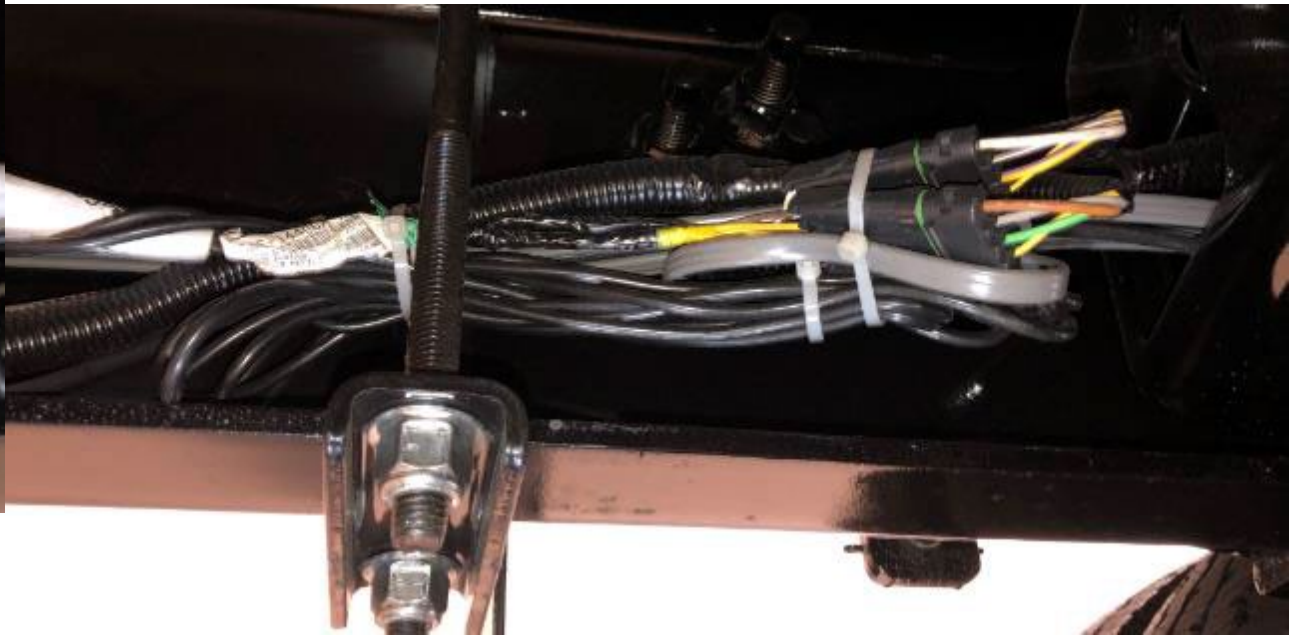
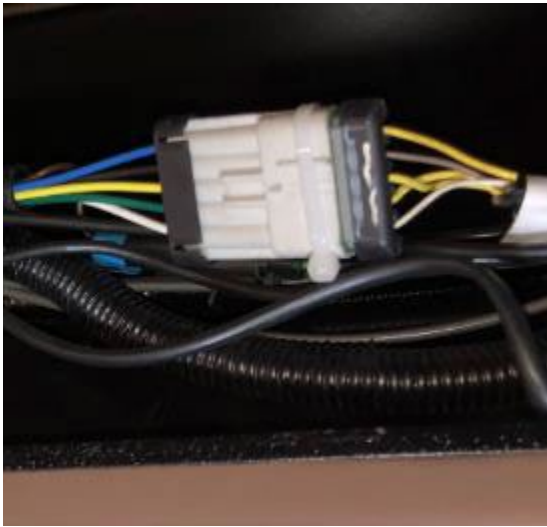
Pacer Performance Products, Los Angeles, CA
800.423.2442 • www.pacerperformance.com

20-702-instructionsheet Rev-01252017

A separate harness (Item #8 below) was run from the module to the I.D. cluster in the header and connected to the dual function I.D. lights installed.



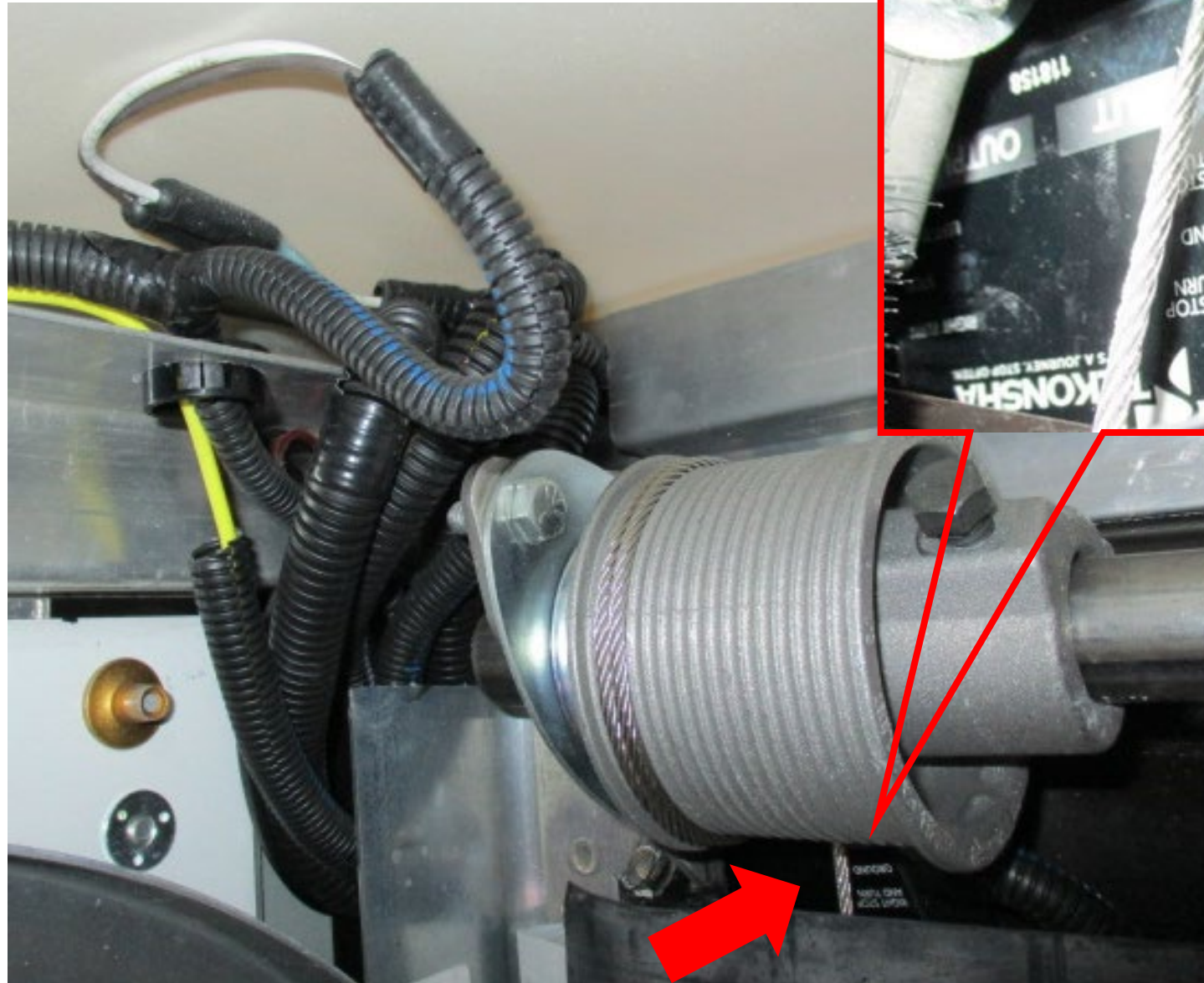
**Driver's side end of frame rail –
After Body Builder installation
Morgan MY 19 & 21**



**Driver's side end of frame rail –
After Body Builder installation
Utilimaster MY 19 & 21**



Utilimaster – 3rd brake light module MY 19 & 21



Strobe Under Dash Connector Info

Under Dash for Strobe

C

D

A

B

BLUNT CUT ID LABEL	
BK/GN	TT ELEC BRK CONT (GND)
BN	UPFIT RLY 4
BN/BU	BCP LP
BN/RD	TT ELEC BRK CONT (BATT)
BN/WH	BB CAV 6
BU	CTO
BU/OG	STOPLAMP SIG
BU/WH	PTO RLY
GN	PTO RPM
GN/BN	UPFIT RLY 2
GN/WH	TRO N
GY/BN	TRO P
BN	UPFIT PASSTHR TO C2-C
VT/BN	BCP SW
VT/GN	UPFIT RLY 3
VT/OG	VS OUT
WH	BB CAV 10
?	UPFIT PASSTHR TO C2-A
WH/VT	PARK BRAKE
YE	UPFIT RLY 1
YE/BU	PTO REQ1 (GAS)
VT/WH	BCPASS3
YE/GN	VREF_C(GAS)
YE/GY	VPWR3
YE/OG	TT ELEC BRK CONT (OUT)
YE/VT	SIGRTN_C

Blank

Ground

Strobe

Blank



These 4 wires are not fused

4-Pin Letters

Model Year 2022

MY 22 Driver's side end of frame rail – Before Body Builder installation: Same as before but additional connector added for 3rd brake light



Connector
for 3rd
brake light

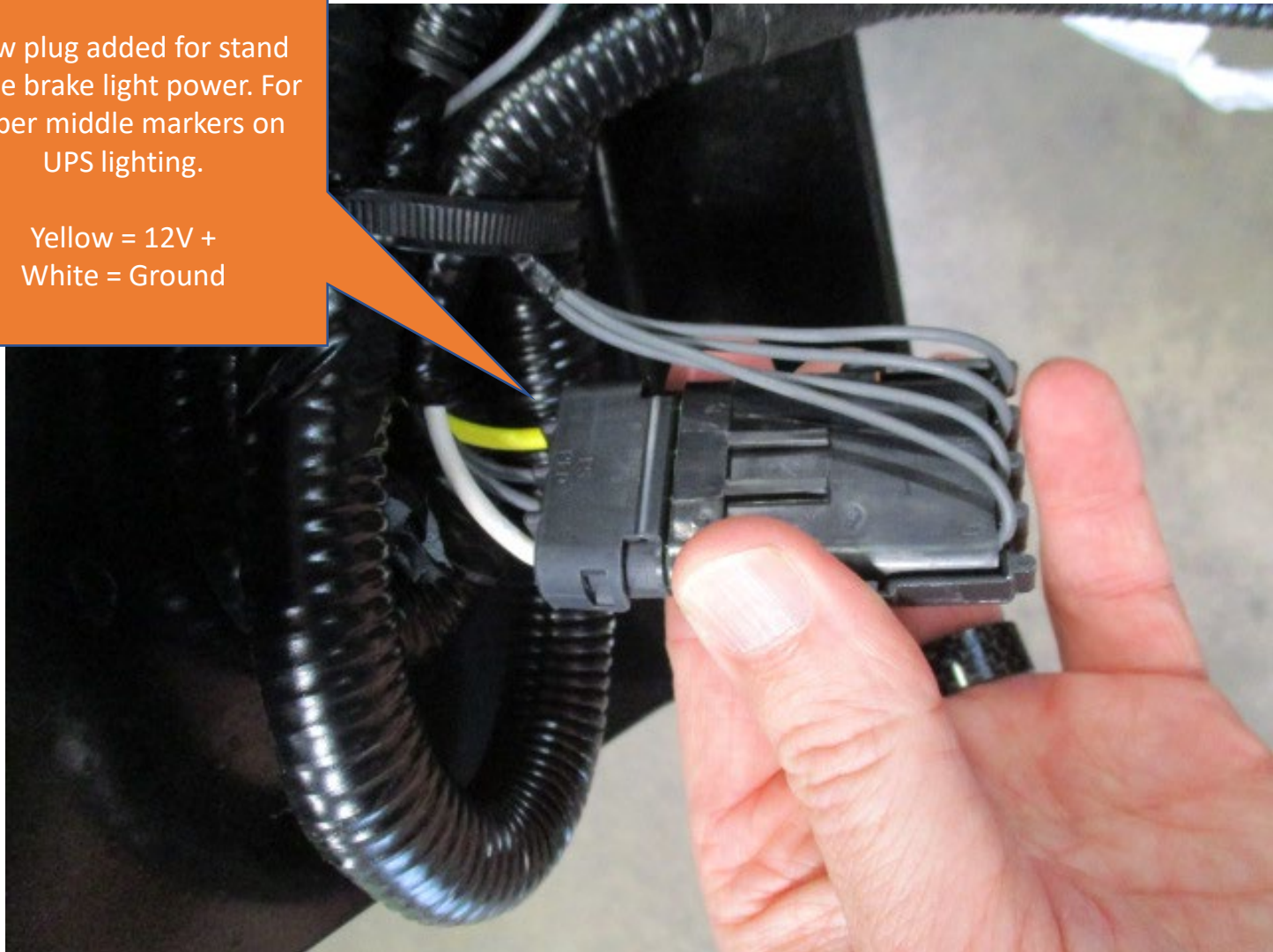
Connector
for rear
lights to
body
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Connector for in cab
back up monitor to
body builder installed
rear view camera

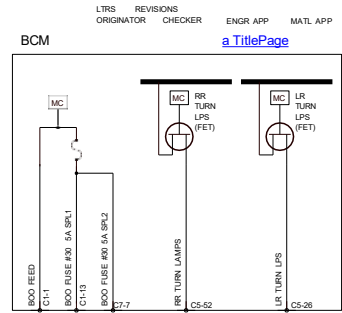
Connector for 3rd brake light

New plug added for stand alone brake light power. For upper middle markers on UPS lighting.

Yellow = 12V +
White = Ground



2022 H567 - TT C23.02 - TRAILER TOW SUBSYSTEM BODY BUILDER WITH BLUNT CUT CIRCUITS FOR TRAILER TOW ENDPOINT



- C4AK04-A OR C4AK05-A**
- 1 - PARK - CAT11C - 3TBD 2.5 BN
 - 2 - RIGHT - CAT09C - 3TAD 1.5 GN
 - 3 - LEFT - CAT06C - 3TAD 1.5 YE
 - 4 - BACKUP - CAT16C - 3TAD 2.5 GY/BN
 - 5 - STOP - MAT50H OR HH 3TBD 2.5 YE/VT
 - 6 - GND - RAT08K - 3TBD 3.0 BK/WH
- C4AK04-B OR C4AK05-B**
- 1 - SPARE - CAC09C 3TBD 2.5 BN/WH
 - 4 - SPARE - CAC10C 3TBD 2.5 WH
 - 6 - GND - RAT09J 3TBD 3.0 WH

XW4T-14A464-DAA

XW4T-14A624-CAA

NOTE: FRONT BODY BUILDER CONNECTOR
REQUIRED FOR TRUCKS WHICH SPECIFY
BEVERAGE JUMPER (14B242 - J1AAE OPTION).

Body
Builder
stop, turn
marker
and back-
up light
connector

REFERENCE N/A		PART MUST COMPLY WITH RESTRICTED SUBSTANCE MANAGEMENT STANDARD WSS499P9999 A1 TO SAFEGUARD HEALTH AND THE ENVIRONMENT		3RD ANGLE PROJ DIMENSIONS ARE IN MILLIMETERS	
DRAFTED IN ACCORDANCE WITH FORD MOTOR COMPANY ENGINEERING CAD AND DRAFTING STANDARDS VERSION 00.0		CAD TYPE CAD LOC CAD FILE		DTM IS MASTER	
X-E3		PHNC4T-70C441-B		SIZE A1	
OPER NO.	UNIT	DRAWING	TITLE:	SHT 1 OF 1	
NA	NA	NA	TRAILER TOW - BASE W/ BODY BUILDER CONNS		
DESIGN	DETAIL	GPICHI	SCALE		
CHECKED	SAFETY	DATE	DIVISION: ESEE		
NA	120217	NA	PLANT: NA		

FORD MOTOR COMPANY

Body
Builder
3" rear
brake
light
connect
or

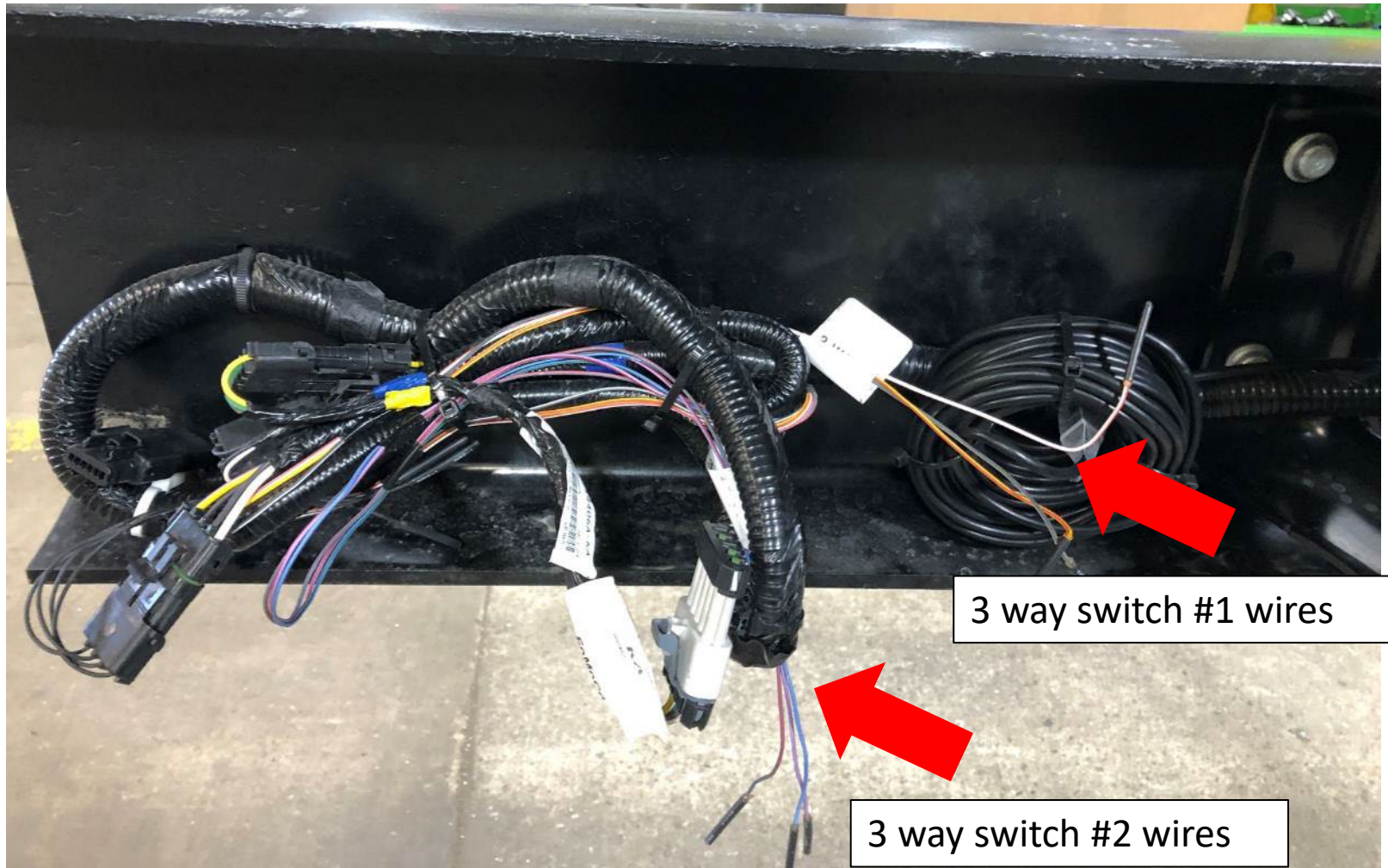
Driver's side end of frame rail – After Body Builder installation Morgan MY22



NOTE: Morgan did NOT use Ford supplied wiring for 3rd brake light.

Model Year 2023

MY23 Driver's side end of frame rail – Before Body Builder installation: Same as MY22 but two 3 wire split looms with blunt cuts added for box and porch light 3 way switches. Cab & body switches installed by body builder.



3 way switch wiring supplied by Ford

The wires originate at harness 14401 at the IP area, and pass through the inline connectors into harnesses 12A581 / 14405 / 14406 respectively, and terminate at the end of frame, where they have some length of extra wire coiled up. Wires are 18Ga with a current rating of 6A.

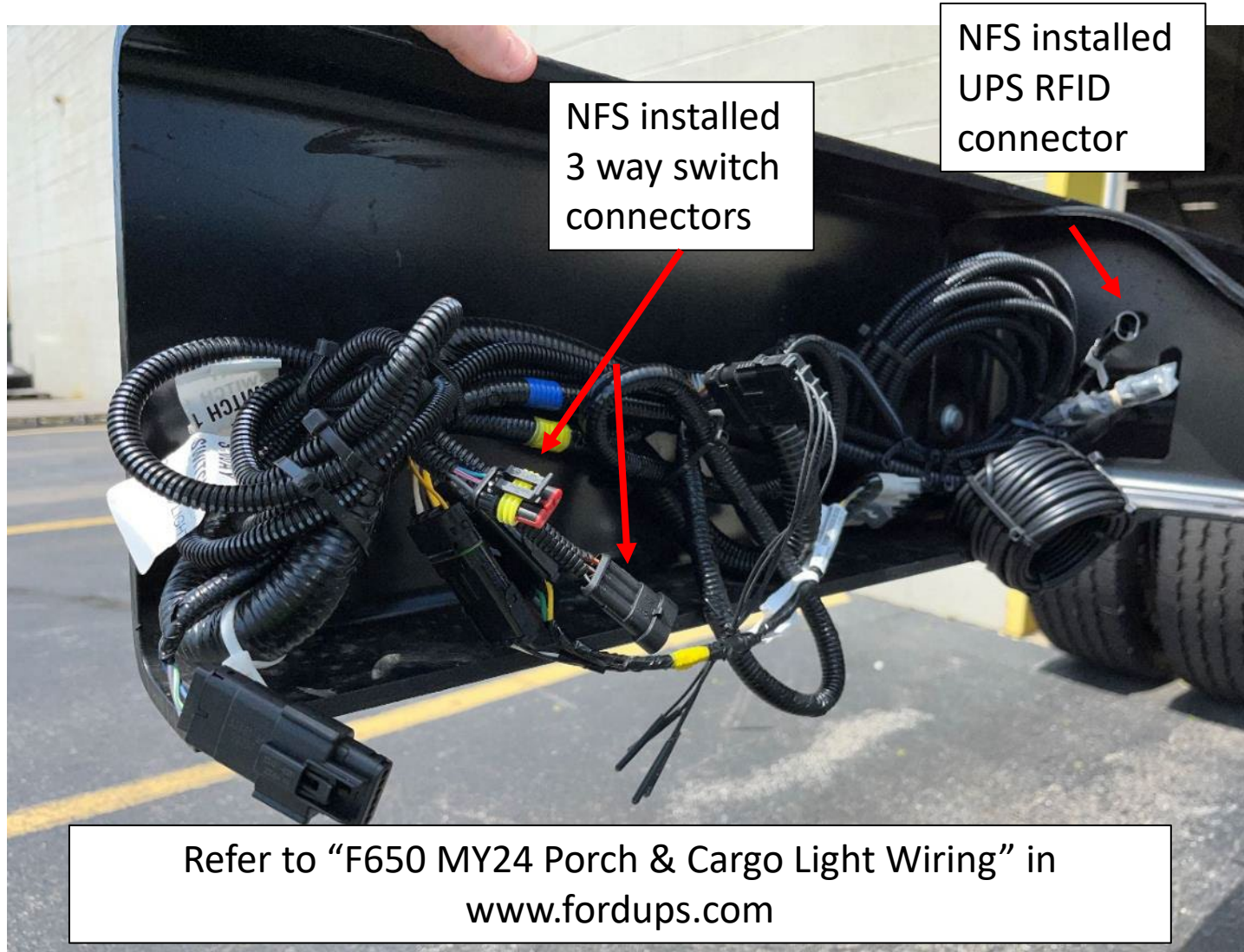
		C12-A2-LE		C12-A1-LIP		C11-S1-F		C11-S2-EC		C44-C1-FR		C44-C2-FF	
BC2CL31	●	BCL31A BU/GN 2TSD 0.75 14401 OPT:VSOUPS	18	18	BCL31B BU/GN 3TSD 0.75 12A581 OPT:VSOUPS	6	6	BCL31C BU/GN 3TSD 0.75 14405 OPT:VSORVC	6	6	BCL31D BU/GN 3TSD 0.75 14406 OPT:VSORVC	●	BC4CL31
BC2CL32	●	BCL32A VT/RD 2TSD 0.75 14401 OPT:VSOUPS	28	28	BCL32B VT/RD 3TSD 0.75 12A581 OPT:VSOUPS	7	7	BCL32C VT/RD 3TSD 0.75 14405 OPT:VSORVC	7	7	BCL32D VT/RD 3TSD 0.75 14406 OPT:VSORVC	●	BC4CL32
BC2CL33	●	BCL33A GY/RD 2TSD 0.75 14401 OPT:VSOUPS	29	29	BCL33B GY/RD 3TSD 0.75 12A581 OPT:VSOUPS	8	8	BCL33C GY/RD 3TSD 0.75 14405 OPT:VSORVC	8	8	BCL33D GY/RD 3TSD 0.75 14406 OPT:VSORVC	●	BC4CL33
BC2CL34	●	BCL34A WH/RD 2TSD 0.75 14401 OPT:VSOUPS	39	39	BCL34B WH/RD 3TSD 0.75 12A581 OPT:VSOUPS	15	15	BCL34C WH/RD 3TSD 0.75 14405 OPT:VSORVC	11	11	BCL34D WH/RD 3TSD 0.75 14406 OPT:VSORVC	●	BC4CL34
BC2CL35	●	BCL35A YE/RD 2TSD 0.75 14401 OPT:VSOUPS	40	40	BCL35B YE/RD 3TSD 0.75 12A581 OPT:VSOUPS	16	16	BCL35C YE/RD 3TSD 0.75 14405 OPT:VSORVC	12	12	BCL35D YE/RD 3TSD 0.75 14406 OPT:VSORVC	●	BC4CL35
BC2CL36	●	BCL36A BK/WH 2TSD 0.75 14401 OPT:VSOUPS	52	52	BCL36B BK/WH 3TSD 0.75 12A581 OPT:VSOUPS	17	17	BCL36C BK/WH 3TSD 0.75 14405 OPT:VSORVC	13	13	BCL36D BK/WH 3TSD 0.75 14406 OPT:VSORVC	●	BC4CL36

**Driver's side end of frame rail –
After Body Builder installation
Utilimaster MY23**



Model Year 2024 &
newer

MY24 Driver's side end of frame rail – Before Body Builder installation: Same as MY23 but NFS installs: 1. Connectors on box and porch light wires at rear frame. 2. Cab switches for box and porch lights. In MY25 NFS installs UPS RFID connector



**Driver's side end of frame rail –
After Body Builder installation
Kentucky Trailer MY24**



**Driver's side end of frame rail –
After Body Builder installation
Utilimaster MY24**



MY25

