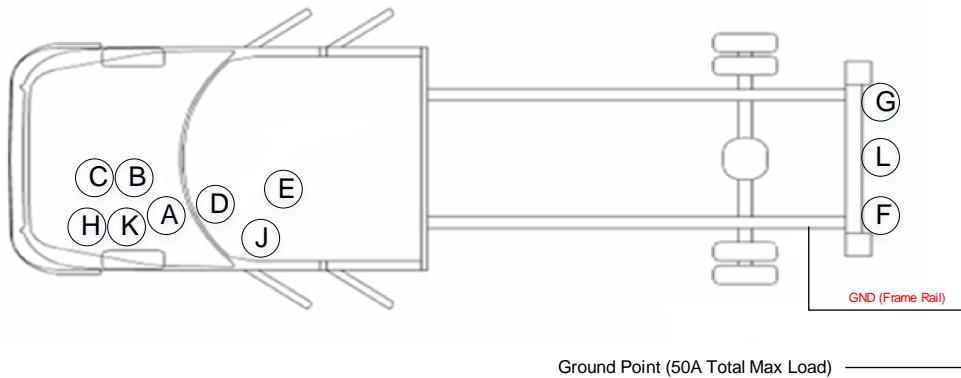
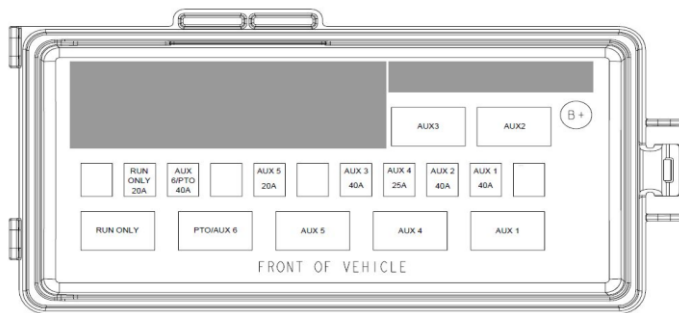


# 2019 UPFITTER SCHEMATIC

## 3500/4500/5500 CHASSIS CABS



- (A) Aux PDC (auxiliary Power Distribution Center-relay/fuse box) Underhood
- (B) 2 Upfitter Connectors (Light and Dark Gray)
- (C) PDC (main Power Distribution Center-relay/fuse box) underhood
- (D) Port Upfitters Connectors, Under Dash Board near park brake bracket / Steering Column
- (E) PTO Connector Wires located underneath vehicle at Transmission Bell Housing, Left (Driver) Side
- (F) Park sense connector
- (F) (G) Vehicle Wiring, Blunt Cut (with Heat Shrink) Rear of Frame
- (H) Blunt Cut (with Heat Shrink) wires underneath the PDC
- (J) VSIM Module located interior of vehicle under dash
- (K) Aux 6/PTO jumper connector, alongside left (Drivers Side) fender inner
- (L) Rear Camera Connector



The auxiliary switch function logic (BATTERY or IGNITION FED, MOMENTARY or LATCHING, LAST STATE) is programmed using the EVIC display in the instrument cluster.

**Max Combined Fuse "rating" allowed for Aux SW 1, 2, 3, 4, 5, 6/PTO, Run Only & Battery is 225A. Fuses can be relocated in box as necessary.**

**Max allowable combined total continuous amperage draw is 135A.**

**Max fuse "rating" in any one location is 40A.**

**\*The upfitter/customer is responsible for placing the correct fuse in the correct location depending on the actual load.**

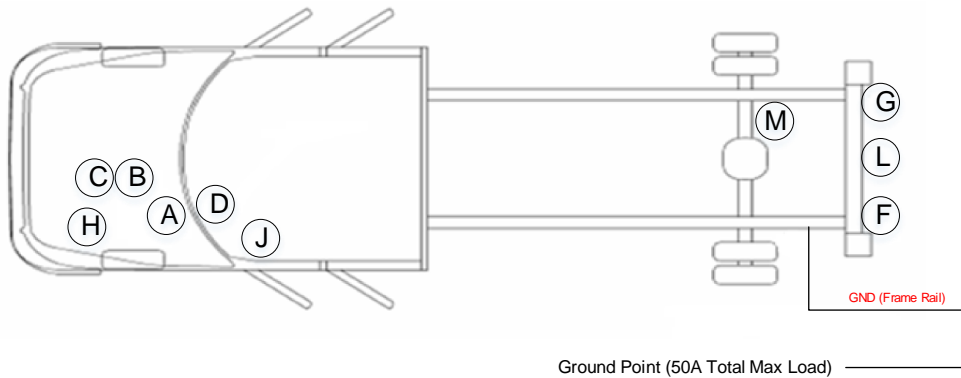
**\*Amperages shown in schematics are for fuses/circuits as installed for the vehicle as sold and will change as fuses are reconfigured.**

MAX ALLOWABLE  
CONTINUOUS AMPERAGE  
DRAW PER FUSE RATING

FUSE RATING	MAX ALLOWABLE CONTINUOUS AMPERAGE
20A	14A
25A	17.5A
40A	28A

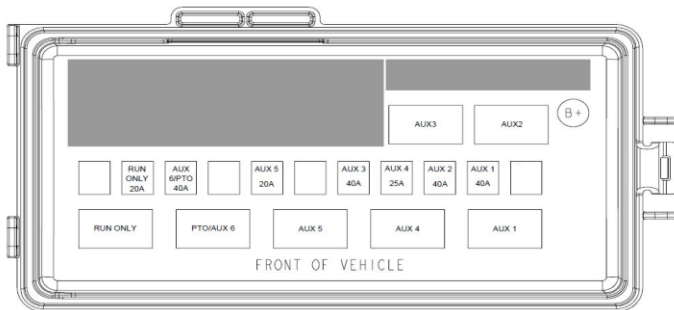
# 2019 UPFITTER SCHEMATIC

## 2500/3500 PICKUP BOX DELETE (XBC) With AUX switches (LHL)



- (A) Aux PDC (auxiliary Power Distribution Center-relay/fuse box) Underhood
- (B) 2 Upfitter Connectors (Light and Dark Gray)
- (C) PDC (main Power Distribution Center-relay/fuse box) underhood
- (D) Port Upfitters Connectors, Under Dash Board near park brake bracket / Steering Column
- (F) (G) Vehicle Wiring, Blunt Cut (with Heat Shrink) Rear of Frame
- (H) Blunt Cut (with Heat Shrink) wires underneath the PDC
- (J) VSIM Module located interior of vehicle under dash if equipped (sales code XXS)
- (M) Blunt Cut (with Heat Shrink) Stop Lamp Signal – CHMSL Feed
- (L) Rear Camera Connector

(A)



**Max Combined Fuse "rating" allowed for Aux SW 1, 2, 3, 4, 5, 6, Run Only & Battery is 225A. Fuses can be relocated in box as necessary.**  
**Max allowable combined total continuous amperage draw is 135A.**  
**Max fuse "rating" in any one location is 40A.**

**\*The upfitter/customer is responsible for placing the correct fuse in the correct location depending on the actual load.**

**\*Amperages shown in schematics are for fuses/circuits as installed for the vehicle as sold and will change as fuses are reconfigured.**

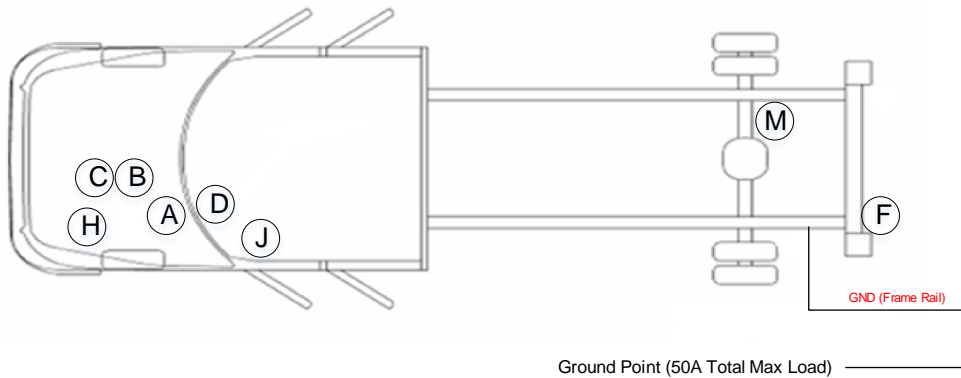
MAX ALLOWABLE  
CONTINUOUS AMPERAGE  
DRAW PER FUSE RATING

FUSE RATING	MAX ALLOWABLE CONTINUOUS AMPERAGE
20A	14A
25A	17.5A
40A	28A

The auxiliary switch function logic (BATTERY or IGNITION FED, MOMENTARY or LATCHING, LAST STATE) is programmed using the EVIC display in the instrument cluster.

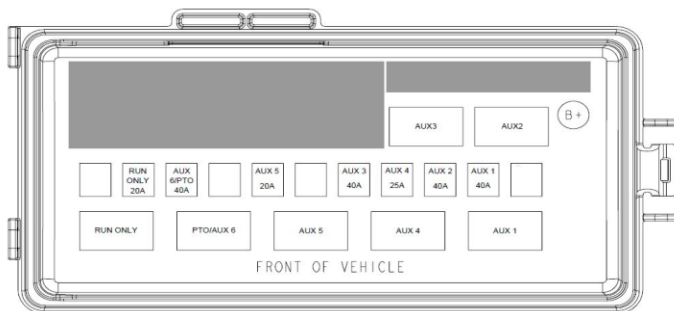
# 2019 UPFITTER SCHEMATIC

## 2500/3500 PICKUP BOX ON With AUX switches (LHL)



- (A) Aux PDC (auxiliary Power Distribution Center-relay/fuse box) Underhood
- (B) 2 Upfitter Connectors (Light and Dark Gray)
- (C) PDC (main Power Distribution Center-relay/fuse box) underhood
- (D) Port Upfitters Connectors, Under Dash Board near park brake bracket / Steering Column
- (F) Vehicle Wiring, Blunt Cut (with Heat Shrink) Rear of Frame
- (H) Blunt Cut (with Heat Shrink) wires underneath the PDC
- (J) VSIM Module located interior of vehicle under dash if equipped (sales code XXS)
- (M) Blunt Cut (with Heat Shrink) Stop Lamp Signal – CHMSL Feed

(A)



**Max Combined Fuse "rating" allowed for Aux SW 1, 2, 3, 4, 5, 6, Run Only & Battery is 225A. Fuses can be relocated in box as necessary.**  
**Max allowable combined total continuous amperage draw is 135A.**  
**Max fuse "rating" in any one location is 40A.**

**\*The upfitter/customer is responsible for placing the correct fuse in the correct location depending on the actual load.**

**\*Amperages shown in schematics are for fuses/circuits as installed for the vehicle as sold and will change as fuses are reconfigured.**

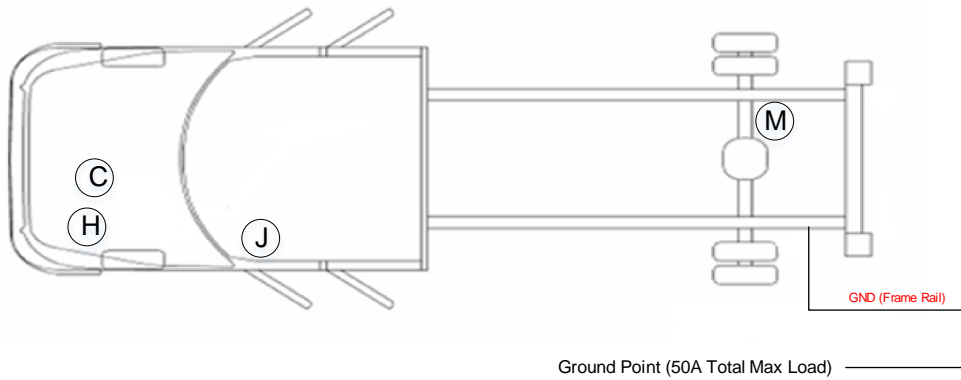
MAX ALLOWABLE  
CONTINUOUS AMPERAGE  
DRAW PER FUSE RATING

FUSE RATING	MAX ALLOWABLE CONTINUOUS AMPERAGE
20A	14A
25A	17.5A
40A	28A

The auxiliary switch function logic (BATTERY or IGNITION FED, MOMENTARY or LATCHING, LAST STATE) is programmed using the EVIC display in the instrument cluster.

# 2019 UPFITTER SCHEMATIC

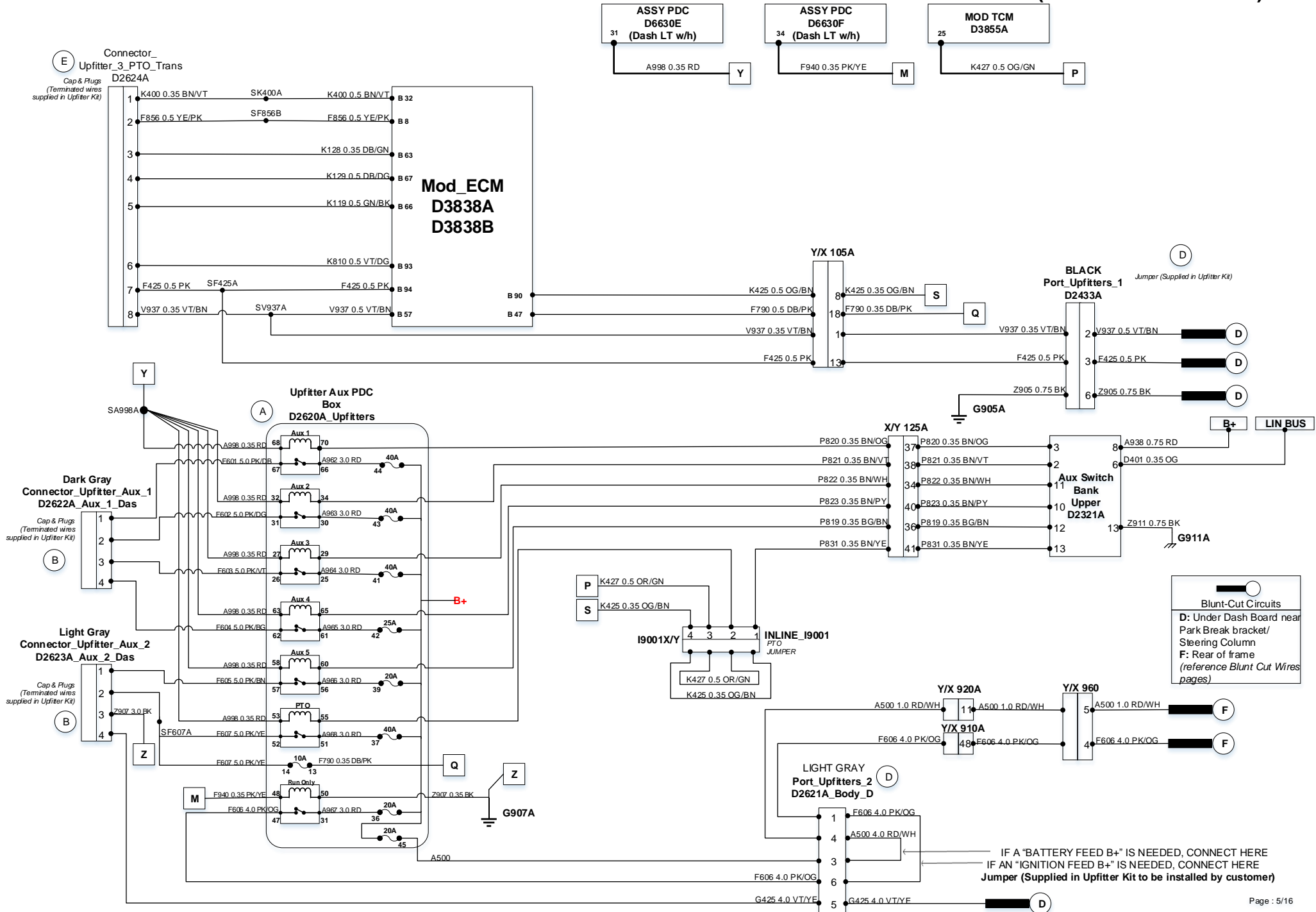
## **2500/3500 PICKUP Without AUX switches (LHL)**



- Ⓒ PDC (main Power Distribution Center-relay/fuse box) underhood
- Ⓗ Blunt Cut (with Heat Shrink) wires underneath the PDC
- Ⓙ VSIM Module located interior of vehicle under dash if equipped(sales code XXS)
- Ⓜ Blunt Cut (with Heat Shrink) Stop Lamp Signal – CHMSL Feed

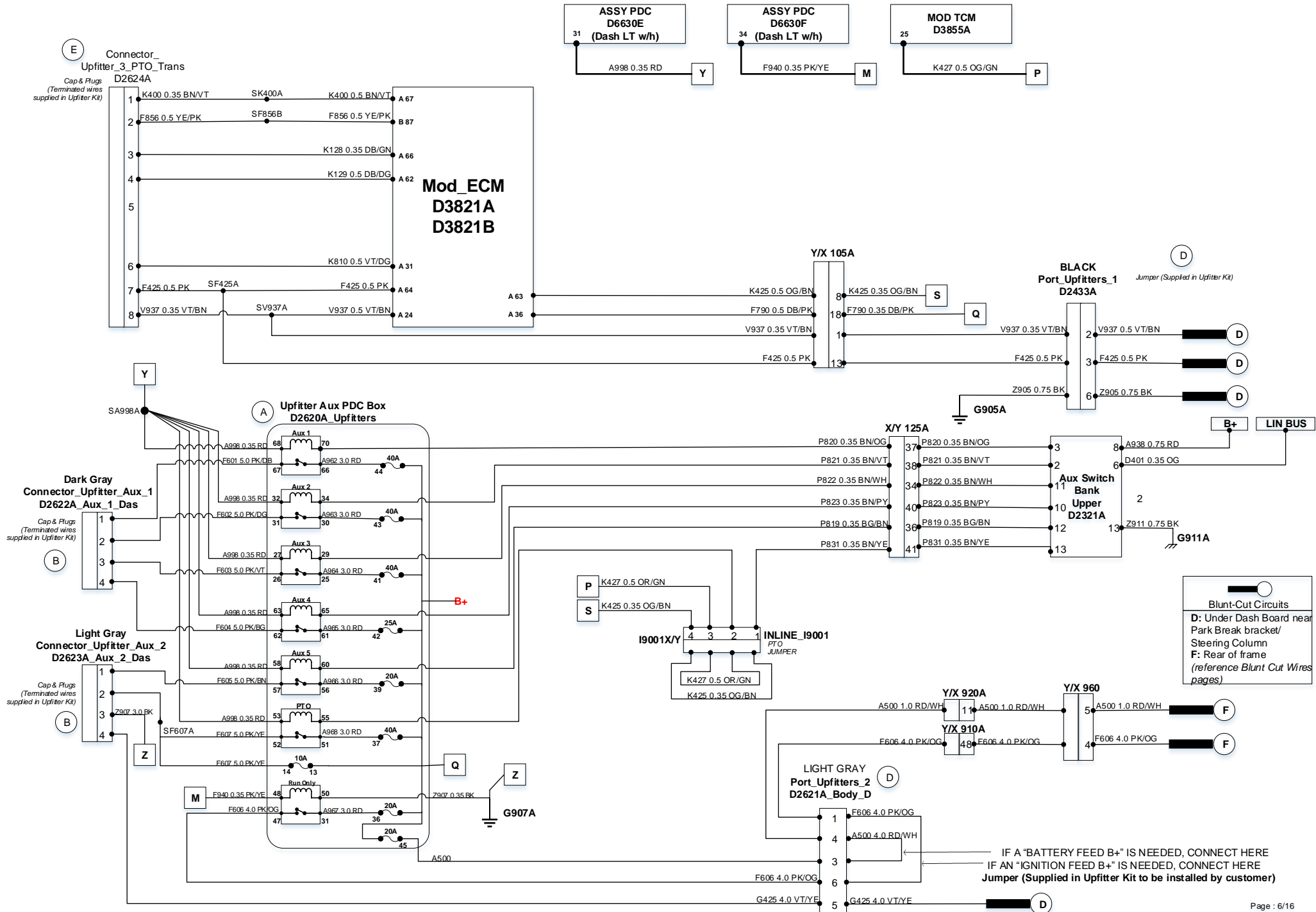
# 2019 UPFITTER SCHEMATIC

3500/4500/5500 CHASIS CAB  
6.7 Diesel Auto Trans w/PTO  
(Sales codes LBN/LBV)



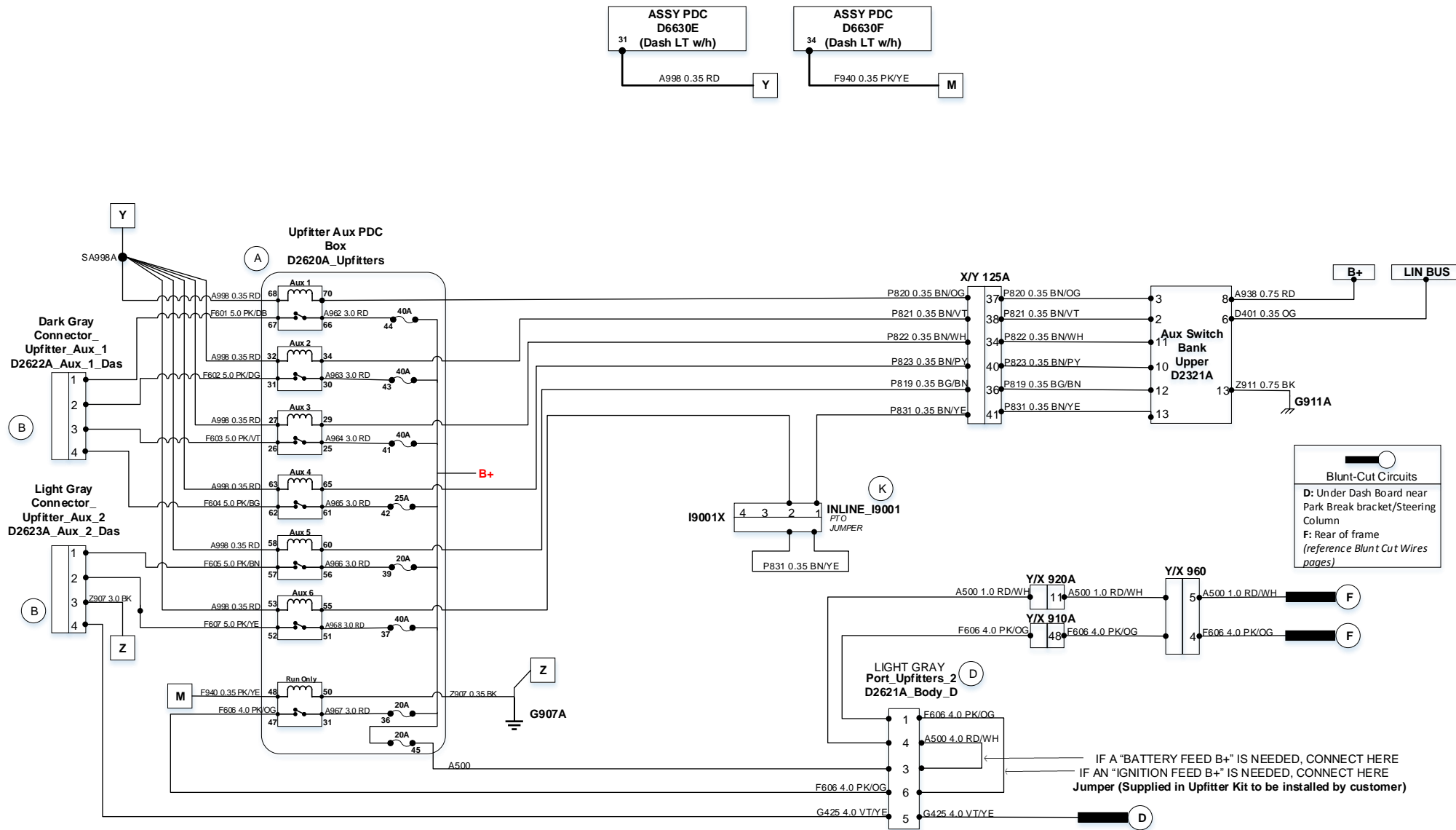
# 2019 UPFITTER SCHEMATIC

3500/4500/5500 CHASSIS CAB  
6.4 Gas Asin Trans (Only)  
w/PTO (Sales codes LBN/LBV)



# 2019 UPFITTER SCHEMATIC

3500/4500/5500 CHASSIS CAB  
NON-PTO



# 2019 UPFITTER SCHEMATIC

## Blunt Cut Wires 3500/4500/5500 CHASSIS CAB

"G" Blunt Cut wires located at Rear of Frame

W750 RD (TRAILER TOW BATT FEED)	<b>G</b> #
W754 DB (TRAILER TOW ELECTRIC BRAKE FEED)	<b>G</b> #
W756 BN (TRAILER TOW PARK LAMPS)	<b>G</b> #
W751 BK (TRAILER TOW BACK-UP LAMPS FEED)	<b>G</b> #
W752 DG (TRAILER TOW TURN/STOP SIG RT)	<b>G</b> #
W753 YE (TRAILER TOW TURN/STOP SIG LT)	<b>G</b> #
W755 WH (Ground)	<b>G</b> #

# The maximum allowable continuous amperage for these Trailer Tow circuits will be found under "ELECTRICAL/WIRING INFORMATION", "ELECTRICAL POWER USAGE", "AMPERAGE CAPACITY PER CIRCUIT".

"H" Blunt Wires located underneath PDC

**(C)**

* <b>H</b>	L177 WH/BR (PARK LAMP RELAY CNTRL) LSD
<b>H</b>	L312 BK/VT (SNOW PLOW FRONT LIGHTNING ENABLE)
* <b>H</b>	L313 BK/GN (SNOW PLOW LOW BEAM RELAY CTRL LT) LSD
* <b>H</b>	L315 BK/BU (SNOW PLOW HIGH BEAM RELAY CTRL LT) LSD
* <b>H</b>	L317 WH/VT (SNOW PLOW TURN RELAY CTRL LT) HSD
* <b>H</b>	L318 VT/BN (SNOW PLOW TURN RELAY CTRL RT) HSD

**H** T754 DG/GY (HARD WIRED REMOTE START SIG)

\*The maximum allowable continuous amperage for these Snow Plow circuits will be found under "ELECTRICAL/WIRING INFORMATION", "ELECTRICAL POWER USAGE", "AMPERAGE CAPACITY PER CIRCUIT".

### VEHICLE WIRING

V937 VT/BN (SPEED CTRL SW RTN)	<b>D</b>
F425 PK (PWR - PTQ SWITCH)	<b>D</b>
Z905 BK (GND - GENERIC 5)	<b>D</b>
G425 VT/YE (PTQ SYSTEM STATUS BULB)	<b>D</b>

\*\*These two circuits become active when the 6 cavity Light Gray connector (Jumper por Upfitter 2) included in the upfitter kit is installed onto the Light Gray connector at location 'D' in the vehicle diagram

** A500 RD/WH (UPFITTER FUSED B+ FEED)	<b>F</b>
** F606 PK/OG (UPFITTER IGN RUN FEED)	<b>F</b>
L56 WT/VT (STOP LAMP SIG/CHMSL FEED)	<b>F</b>

"F" Blunt Cables wires located at Rear of Frame

"D" Blunt Cut wires are part of the Upfitter Pots 1 & 2 Jumpers located under Dash near Park Brake Bracket/Steering Column. Connector (Black & Gray) for these circuits are part of the Upfitter Jumper kit.



# 2019 UPFITTER SCHEMATIC

## Blunt Cut Wires

### 2500/3500 Pickup Box-off (Sales Code XBC)

"M" Blunt Cut wire located at Right (Passenger Side), in the second crossmember from rear to front.

"G" Blunt Cut wires located at Rear of Frame

(M) L56 WH/VT (STOP LAMP SIG/CHMSL FEED)

"H" Blunt Wires located underneath PDC

(C)

\* (H) L177 WH/BR (PARK LAMP RELAY CNTRL) LSD

(H) L312 BK/VT (SNOW PLOW FRONT LIGHTNING ENABLE)

\* (H) L313 BK/GN (SNOW PLOW LOW BEAM RELAY CTRL LT) LSD

\* (H) L315 BK/BU (SNOW PLOW HIGH BEAM RELAY CTRL LT) LSD

\* (H) L317 WH/VT (SNOW PLOW TURN RELAY CTRL LT) HSD

\* (H) L318 VT/BN (SNOW PLOW TURN RELAY CTRL RT) HSD

(H) T754 DG/GY (NOT USED)

\*The maximum allowable continuous amperage for these Snow Plow circuits will be found under "ELECTRICAL/WIRING INFORMATION", "ELECTRICAL POWER USAGE", "AMPERAGE CAPACITY PER CIRCUIT".

VEHICLE WIRING

G425 VT/YE (NOT USED)

(D)

"D" Blunt Cut wires are part of the Upfitter Ports 1 & 2 Jumpers located under Dash near Park Brake Bracket/Steering Column. Connector (Black & Gray) for these circuits are part of the Upfitter Jumper kit.

W750 RD (TRAILER TOW BATT FEED) (G) #

W754 DB (TRAILER TOW ELECTRIC BRAKE FEED) (G) #

W756 BN (TRAILER TOW PARK LAMPS) (G) #

W751 BK (TRAILER TOW BACK-UP LAMPS FEED) (G) #

W752 DG (TRAILER TOW TURN/STOP SIG RT) (G) #

W753 YE (TRAILER TOW TURN/STOP SIG LT) (G) #

W755 WH (Ground) (G) #

# The maximum allowable continuous amperage for these Trailer Tow circuits will be found under "ELECTRICAL/WIRING INFORMATION", "ELECTRICAL POWER USAGE", "AMPERAGE CAPACITY PER CIRCUIT".

\*\*These two circuits become active when the 6 cavity Light Gray connector (Jumper por Upfitter 2) included in the upfitter kit is installed onto the Light Gray connector at location 'D' in the vehicle diagram

\*\* A500 RD/WH (UPFITTER FUSED B+ FEED) (F)

\*\* F606 PK/OG (UPFITTER IGN RUN FEED) (F)

"F" Blunt Cables wires located at Rear of Frame

# 2019 UPFITTER SCHEMATIC

## Blunt Cut Wires 2500/3500 Pickup Box-on W/Auxiliary Switches (Sales Code LHL)

"M" Blunt Cut wire located at Right (Passenger Side), in the second crossmember from rear to front.

"H" Blunt Wires located underneath PDC

(C)

- \* (H) L177 WH/BR (PARK LAMP RELAY CNTRL) LSD
- \* (H) L312 BK/VT (SNOW PLOW FRONT LIGHTNING ENABLE)
- \* (H) L313 BK/GN (SNOW PLOW LOW BEAM RELAY CTRL LT) LSD
- \* (H) L315 BK/BU (SNOW PLOW HIGH BEAM RELAY CTRL LT) LSD
- \* (H) L317 WH/VT (SNOW PLOW TURN RELAY CTRL LT) HSD
- \* (H) L318 VT/BN (SNOW PLOW TURN RELAY CTRL RT) HSD
- (H) T754 DG/GY (NOT USED)

\*The maximum allowable continuous amperage for these Snow Plow circuits will be found under "ELECTRICAL WIRING INFORMATION", "ELECTRICAL POWER USAGE", "AMPERAGE CAPACITY PER CIRCUIT".

\*THESE SNOW PLOW CIRCUITS ARE NOT AVAILABLE ON POWER WAGON

(M) L56 WH/VT (STOP LAMP SIG/CHMSL FEED)

VEHICLE WIRING

\*\*These two circuits become active when the 6 cavity Light Gray connector (Jumper por Upfitter 2) included in the upfitter kit is installed onto the Light Gray connector at location 'D' in the vehicle diagram

\*\* A500 RD/WH (UPFITTER FUSED B+ FEED)

(F)

\*\* F606 PK/OG (UPFITTER IGN RUN FEED)

(F)

"F" Blunt Cables wires located at Rear of Frame

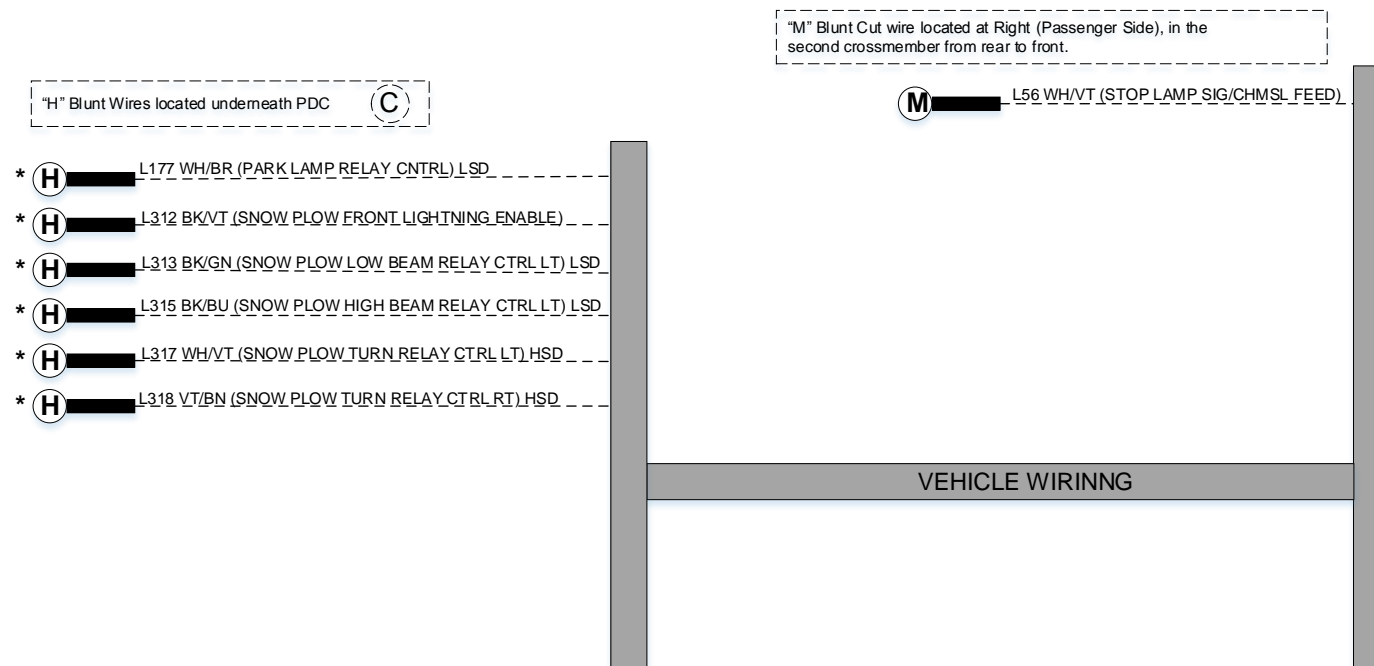
G425 VT/YE (NOT USED)

(D)

"D" Blunt Cut wires are part of the Upfitter Ports 1 & 2 Jumpers located under Dash near Park Brake Bracket/Steering Column. Connector (Black & Gray) for these circuits are part of the Upfitter Jumper kit.

# 2019 UPFITTER SCHEMATIC

## Blunt Cut Wires 2500/3500 Pickup Box-on W/O Auxiliary Switches



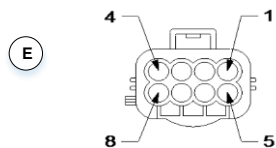
\*THESE SNOW PLOW CIRCUITS ARE NOT AVAILABLE ON  
POWER WAGON

The maximum allowable continuous amperage for these  
Snow Plow circuits will be found under  
"ELECTRICAL/WIRING INFORMATION", "ELECTRICAL  
POWER USAGE", "AMPERAGE CAPACITY PER CIRCUIT".

# 2019 UPFITTER SCHEMATIC

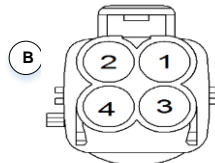
## Upfitter Jumper Harness Only

PTO Connector  
(Wire Insertion End of Up Filter Cap)



1	K400 0.35 BN/VT (ENF – ACCEL PEDAL POS SNSR RTN 2)
2	F856 0.5 YE/PK (ENG – 5V ENGINE SNSR FEED SEC)
3	K128 0.5 DB/GN (ENG – REMOTE THROTTLE SWITCH SIGNAL)
4	K129 0.5 DB/DG (ENG – REMOTE THROTTLE SWITCH)
5	K119 0.5 GN/BK (ENG – MAXIMUM OPERATING SPEED SWITCH)
6	K810 0.5 VT/DG (ENG – ACCELERATOR INTERLOCK SWITCH)
7	F425 0.5 PK (PWR – POWER TAKEOFF SWITCH)
8	V937 0.35 VT/BN (SCS – SPEED CTRL SW RTN)

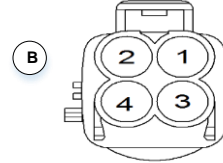
Dash\_Dark Gray  
Connector\_Upfitter Aux\_1  
(Wire Insertion End of Up Filter Cap)



\*Note – Each Circuit can handle maximum continuous current of 28A. Maximum combined load for AUX Switches is 133A  
\*The upfitter/customer is responsible for placing the correct fuse in the correct location depending on the actual load.

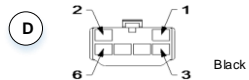
1	F601 3.0 PK/DB (RELAY 1 OUTPUT)
2	F602 3.0 PK/DG (RELAY 2 OUTPUT)
3	F603 3.0 PK/VT (RELAY 3 OUTPUT)
4	F604 3.0 PK/BG (RELAY 4 OUTPUT)

Dash\_Light Gray  
Connector\_Upfitter\_2 Aux\_2  
(Wire Insertion End of Up Filter Cap)



1	F605 3.0 PK/BN (RELAY 5 OUTPUT)
2	F607 3.0 PK/YE (RELAY 6 OR PTO RELAY OUTPUT)
3	Z907 3.0 BK (GND)
4	G425 3.0 VT/YE (Spare Circuit – Pass Thru)

Jumper  
Port\_Upfitters\_1



1	NOT USED
2	V937 0.35 VT/BN (SCS – SPEED CTRL SW RTN)
3	F425 0.5 PK (PWR – PTO SWITCH)
4	NOT USED
5	NOT USED
6	Z905 0.75 BK (GROUND)

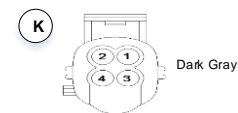
Jumper  
Port\_Upfitters\_2



1	F606 4.0 PK/OR (PWR – ATM UPFITTER IGN RUN FEED)
2	
3	A500 1.0 RD/WH (PWR – BATT – ATM – UPFITTER FUSED FEED)
4	
5	G425 12T VT/YL (Spare Circuit – Pass Thru)
6	

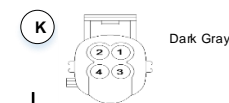
### THESE ARE NORMALLY NOT CUSTOMER REPLACED

Jumper  
PTO  
(Wire Insertion End of Up Filter Cap)



1	K427 0.5 OG/GN
2	
3	
4	K425 0.35 OG/BN

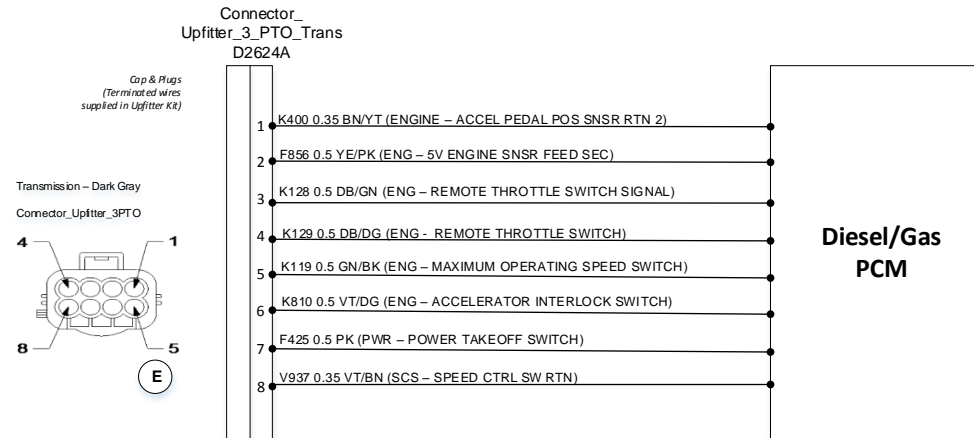
Jumper  
NON-PTO  
(Aux 6) (Wire Insertion End of Up Filter Cap)



1	P831 0.35 BN/YE
2	
3	
4	

# 2019 UPFITTER SCHEMATIC

## PTO CONNECTOR Underneath Vehicle at Transmission Circuit Function and Pin – Out 3500/4500/5500 CHASSIS CAB ONLY



# **2019 UPFITTER SCHEMATIC**

## **Bagged Upfitter Kit Detail 68398184**

\*Upfitter Connection Jumper

\*8 – 12 GA Circuits for Upfitter Aux Connectors 1 & 2

\*8 – 20 GA Circuits for the Transmission PTO Connector

\*2 – PTO/Non-PTO Jumper Connectors

(1) Port Upfitter Gray Connector w/5 wires

(1) Port Upfitter Black Connector w/5 wires

The Vehicle has been equipped to ease the installation of a PTO by allowing convenient access to circuits needed without having to splice into the main harness.

Located left of Main PDC Box and along the left (Drivers Side) fender inner (location K) is a dark gray jumper connector that allows the vehicle function to switch between PTO and non-PTO operation, although this normally need not be accessed by the customer. If required, the jumpers are located in this upfitter kit. If necessary, verify proper jumper usage by reviewing jumper design on previous pages.

In the rear of chassis cabs and Pickups, you can find all required Trailer -Tow circuits, two (2) additional power circuits (1 Battery and 1 Ignition) and a Stop Lamp / CHMSL Feed Circuit.

In the Engine compartment you will find two (2) (A Light Gray and a Dark Gray) Upfitter AUX connectors (location B) which allow easy access to the switch bank and fuse box outputs, mating terminated circuits are included in this kit as needed.

Connectors (Black & Gray) for these circuits are part of the Upfitter jumper kit.

Warning about adding auxiliary batteries:

An auxiliary battery may be used, however a battery isolation unit is not supplied and the auxiliary battery may discharge the truck battery when the engine is not running.

Ground Studs on the chassis/frame may be utilized as a grounding point with a 50A Maximum total load, see “Vehicle Ground Locations” section in the RAM Body Builder Guide, Electrical/Wiring Information.

## WIRE SIZE ABBREVIATION REFERENCE

WIRE GAUGE US (AWG)	WIRE GAUGE METRIC (mm)	WIRE OUTER DIAM (mm)
22	0.35	1.3
20	0.5	1.6
19	0.75	1.9
18	0.8	2
16	1	2.1
15	1.5	2.4
14	2	2.6
13	2.5	3
12	3	3.3
-	4	3.7
10	5	4.2
-	6	4.3
8	8	5.5
-	10	6
6	13	-
-	15	7
-	16	7.9
4	19	-
3	25	9.4
-	30	11
2	32	-
-	35	11.6
1	40	12.4
1/0	50	13.5
2/0	62	-
3/0	70	15.5

# Wire Color Abbreviations

Table 1 - Wire Color Abbreviations

<b>RED</b>	<b>RD</b>
<b>BLACK</b>	<b>BK</b>
<b>BROWN</b>	<b>BN</b>
<b>ORANGE</b>	<b>OG</b>
<b>VIOLET</b>	<b>VT</b>
<b>WHITE</b>	<b>WH</b>
<b>GRAY</b>	<b>GY</b>
<b>YELLOW</b>	<b>YE</b>
<b>DK BLUE</b>	<b>DB</b>
<b>DK GREEN</b>	<b>DG</b>
<b>LT GREEN</b>	<b>GN</b>
<b>LT BLUE</b>	<b>BU</b>
<b>TAN</b>	<b>BG</b>
<b>PINK</b>	<b>PK</b>