PTO GENERAL GUIDELINES

- The Ram 3500/4500/5500 Chassis cab models equipped with gas and diesel engines that have the PTO prep option (LBN) have the capability of mounting and controlling a PTO.
- The Aisin AS69RC automatic transmission can use devices up to 60HP and 250 ft lbs torque. While the model, the number, and HP/torque capability of the transmission have increased, the Chelsea 270 and Muncie CS6 models continue to mount to the right side of the transmission as in previous years.
- The G56 manual transmissions are limited in power output only by the PTO manufacturers' maximums. Chelsea 442 (deep mount) series fit this transmission, however on 4x4 models this PTO is very close to the front driveshaft . Muncie Alpha series fits this transmission.
- For 2012 and later a left hand side PTO (option code LBV) will be available as a factory option on 4x2 chassis cab models. This should allow for easier PTO installation on 4x2 models and allow for the shaft driven applications. In this position, Muncie model FA6B is the only PTO that fits. However Chelsea is creating a model as well so contact them for the latest information.

Pump sizes

- The automatic transmission models have been test fit with 19 GPM rated single pumps and tandem 13GPM rated pumps. While these larger pumps have limited clearance to the exhaust system and it has been mentioned as a concern, it should be noted that the diesel exhaust in the PTO area is a double wall pipe which provides significant insulation. In fact, in our testing in over 100 degree Fahrenheit ambient temperatures we never exceeded 200 degrees F on the PTO pump or hoses. The gasoline models have larger clearance envelopes than the diesels. However, the higher heat rejection of the gasoline engine exhaust system requires special care to ensure the PTO pump system is protected.
- The manual transmission models are as follows: The 4x2 models have no particular packaging limitations with respect to direct mount pumps. The 4x4 models are limited by the location of the front driveshaft to approximately a standard 11 GPM rated pump (although larger pumps may have been successfully fitted in the field). However, some customers have had success using bent axis piston pumps (mounted forward) to get substantially higher flows.
- If you have specific PTO and pump fitment questions and can provide the actual PTO and pump combination, we can test fit it and provide pictures and instructions on how to install your specific combination.

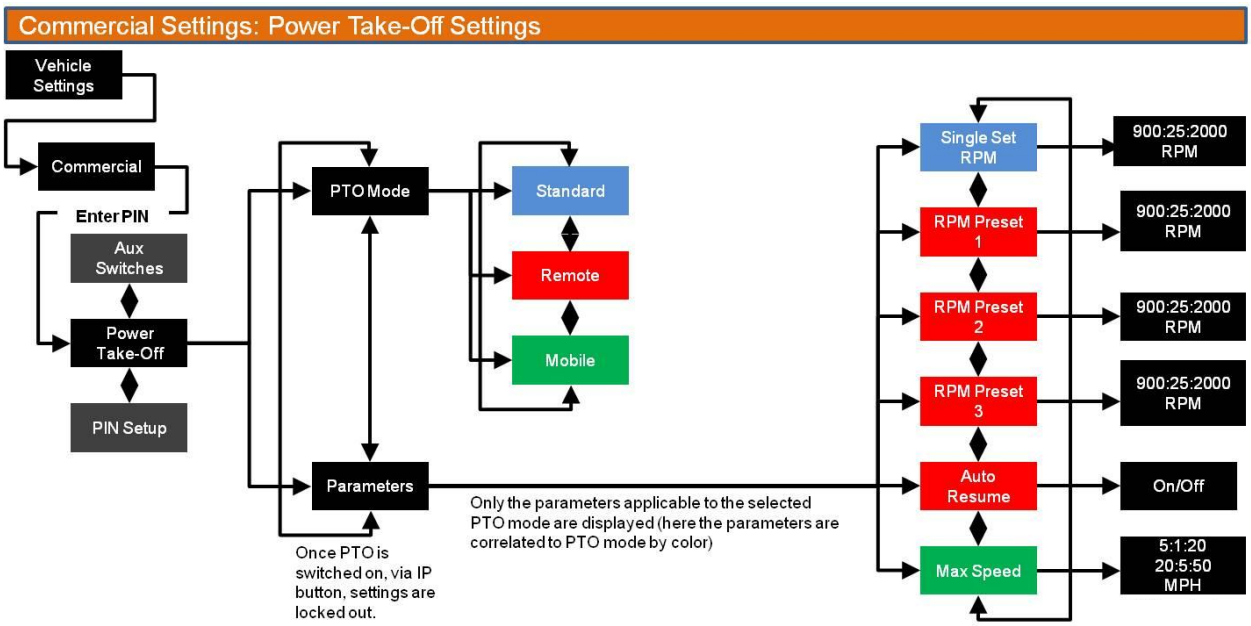
PTO Limitations

Please read this information carefully and call us with any questions before you order a vehicle so you understand the specific capabilities of our PTO system.

- The Automatic transmission PTO is turbine driven not engine driven. What this means is that the PTO will work only with the stationary mode in park, or in mobile mode with the vehicle moving at approximately 7 mph and above or in neutral. Because of this the PTO system is not a suitable system for vehicles like: snow plows, autoloader wreckers, or dump trucks if they are used to dump and spread at a crawling speed. These vehicles are more effective with an engine driven 'clutch pump' type hydraulic pump. Alternatively, Parker-Chelsea makes a product called Stored Energy Management System (SEMS) that allows such applications to function.
- The manual transmission currently has the capability to support a split shaft PTO. Approximately, mid –year the automatic also will have this capability. The EVIC screen in the center of the instrument cluster will have a split shaft programming function that will program the vehicle to shift to direct drive (4th gear) and hold without upshifting. This mode will require an electrical connection to the split shaft unit confirming that the rear driveshaft is disconnected.

Below is the new PTO programming menu contained within the Electronic Vehicle Information Center (EVIC). The EVIC is located between the Speedometer and Tachometer. You will able to access the PTO functions by scrolling to the commercial settings and then to PTO.

- The vehicle will be factory set to stationary single mode with driver adjustable PTO speed. If this is the mode that is needed no change in settings is required.
- The factory (default) pin setting is 0000
- If you require a single set speed, scroll through the PTO/Standard menu to Single Set RPM and set your speed.
- If you require this speed or other settings to be 'locked' so that only approved people can reset the settings. Change the 4 digit PIN code by entering the PIN setup menu. Now only people who have the PIN code can change the settings.
- Once you have the correct modes programmed, you can proceed to the quick start menu on the next page.
- Settings must be made with the key in the run position but with the engine off
- **NOTE: You must use remote mode with an aftermarket switch when using Hard Wired Remote Start/Stop**

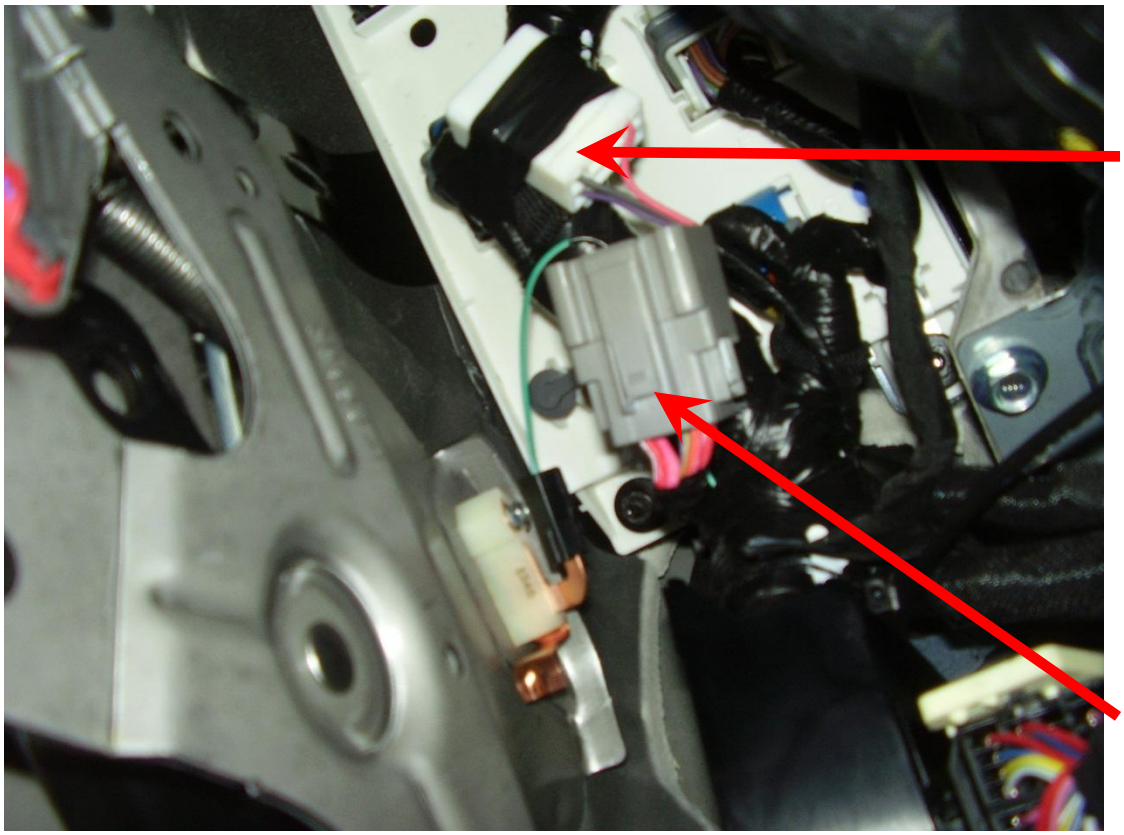


PTO Quick Start Information

This section will give you specific instructions on how to wire a PTO on the 2013 3500/4500/5500 models. The information is tailored toward those familiar with PTO installation on the 2007 to 2012 but can be equally helpful to anyone installing a PTO.

Wire Locations

There are two connectors under the dash which are used. They are the same connectors as previous years, but their locations are altered.



Both of these connectors are located behind the VISM module towards the front of the vehicle. The VISM module is the black plastic module next to the park brake bracket . The view above shows the connectors on a vehicle that does not have a VISM module as it would block the view of these connectors. The white connector is 'tear taped' in place and can be accessed by pulling the connector and tearing the tape without pulling on the wires themselves. The gray connector is tie wrapped in place so the tie wrap must be cut to access the gray connector.

The white connector contains the following circuits:

1. Z907 (Black) PTO switch return **Note: V937 (Violet/brown) does not function for 2013.**
2. F425 (Pink) Remote PTO switch. Connects to Z907 via the upfitter added switch. For remote/multi-speed mode only.

The mate to this connector is the smaller black connector that comes in the upfitter kit plastic bag.

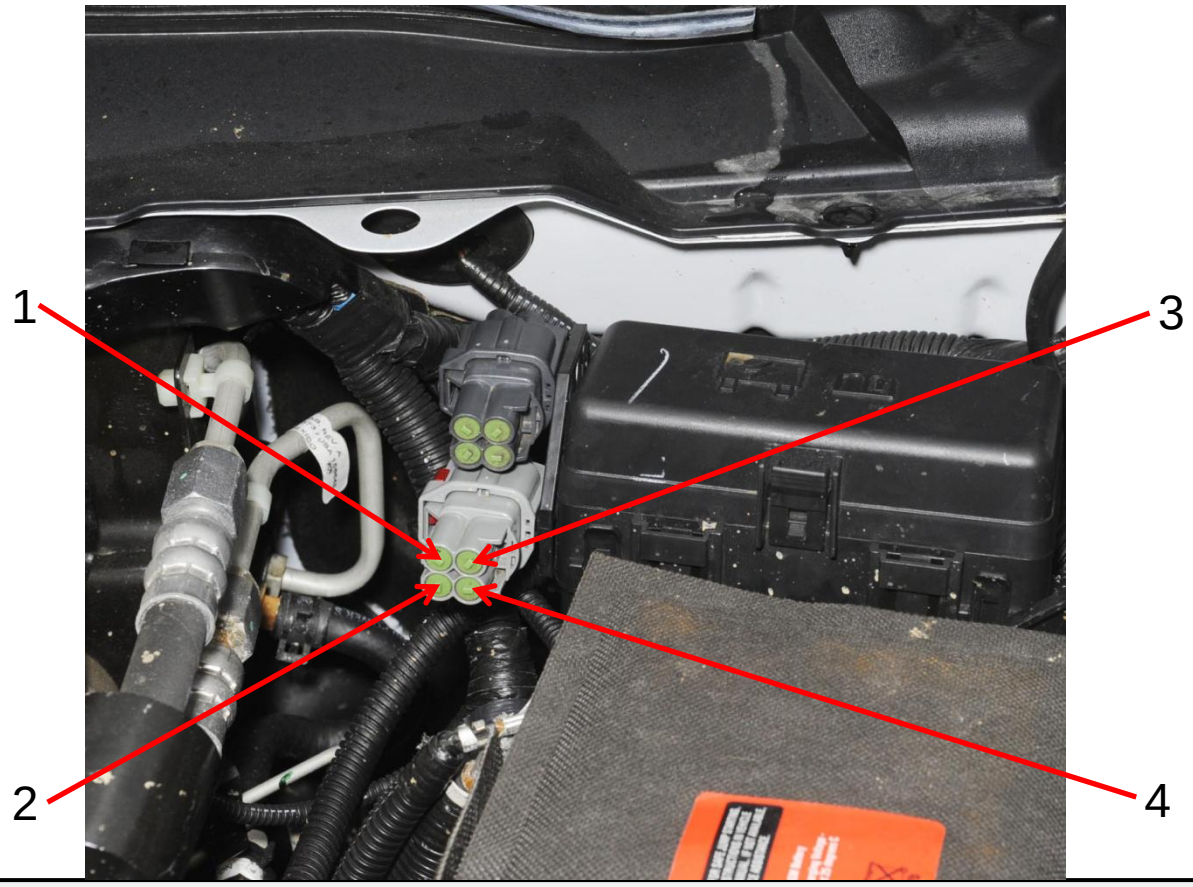
The gray connector contains the following circuits.

1. F922 (Pink/yellow). This typically used for 12V+ ignition feed power for a PTO indicator light if you are not using the in dash switch.
2. G425 this is the pass through wire that comes from the under hood wire you will connect to the pressure switch.

There is a gray mating connector also in the upfitter kit plastic bag.

Note: The ground signal from the pressure switch must be connected to circuit W708 (orange/brown) located on the brown connector of the VISM. If circuit W708 does not see a ground signal, the PTO will turn off in 30 seconds.

See the VISM section for additional instructions.



The light gray connector under the hood shown in the figure above (below the dark gray connector) next to the auxiliary PDC contains the following connections. The Pin numbers below are molded into the surface of the connector. The wires that plug to this connector are also in the upfitter kit plastic bag.

1. Not used for 2013 or later automatic transmission models
2. F928 (pink /yellow) Switched 12 v output that connects to the hot shift solenoid.
3. Z907 (Black) ground
4. G 425 (violet/yellow) PTO indicator light feed. This wire connects to the PTO pressure switch and feeds through the dash to the gray under dash connector mentioned above connects to circuit W708 when the in dash PTO switch is used.

   NOTE: In all PTO modes VISM circuit W708 must see a ground signal either through the PTO pressure switch or a direct ground circuit. If no ground is seen by engine controller, the PTO will turn off after 30 seconds.

PTO Operation

The 3500/4500/5500 Ram Chassis Cab vehicle, when equipped with either the automatic Aisin 6spd or manual G-56 6spd transmissions, will allow for an aftermarket upfit with a transmission driven PTO (power take off). The customer will have the ability to operate the PTO in either a "stationary" or "mobile" mode. Under normal operation the vehicle will go to a 900 rpm when PTO is engaged. By utilizing the cruise switches the idle speed can then be adjusted to between 900 and 2000 rpm's.

Stationary Mode

This feature interacts with the transmission to utilize an auxiliary PTO to drive equipment. Activated by a switch inside the cab, this feature operates only when the vehicle is stationary.

Once active, the engine speed increased by holding the RES ACCEL button on the steering wheel or decreased by holding the COAST button.

This is the factory programmed setting. If you need a single set speed, you will now be able to program it (and disable the cruise switches) via the Electronic Vehicle Information Center (EVIC) screen in the center of the cluster.

Stationary PTO is available only when the vehicle is stationary. When the truck is equipped with an automatic transmission, it must be in Park and the service brake must be released and functional. When the truck is equipped with a manual transmission, the Parking Brake must be Set and the service brake must be released and functional

To operate the PTO in this mode the vehicle must meet the following conditions:

- Be in "park" position (vehicles equipped with automatic transmission)
- PTO switch has been activated
- Parking brake applied (vehicles equipped with manual transmission)
- Clutch not depressed (clutch interlock switch)
- Vehicle must be running
- No transmission, engine, accelerator, brake or clutch switch faults present
- PTO must be correctly installed using the vehicle provided circuits

To operate the PTO via a remote switch the customer must make sure the above conditions are met. It is vital for proper operation that the PTO and remote have been installed correctly paying special attention to ensure the vehicle provided wiring has been connected properly. This is the responsibility of the installer of the PTO and switches/remote system. It is the responsibility of the PTO manufacturer to ensure that their electrical (switches and remote) system is compatible with the vehicle's electrical architecture and software functionality.

Mobile Mode

Mobile mode allows for use of the PTO when the vehicle is in motion. This feature, when activated by the menu available on the Electronic Vehicle Information Center (EVIC) screen in the center of the cluster, will allow you to enter mobile PTO mode when you press the PTO switch on the dash.

When this feature is selected stationary PTO and Remote PTO features are not available.

To operate the PTO in this mode the vehicle must meet the following conditions:

- PTO switch has been activated
- Vehicle must be in “park” position (vehicles equipped with automatic transmission)
- Parking brake must not be applied
- Clutch not depressed (clutch interlock switch)
- No transmission, engine, accelerator, brake or clutch switch faults present
- Vehicle must be running
- PTO must be correctly installed using the vehicle provided circuits

The customer may choose to use the PTO while the vehicle is moving. To do so the PTO function must be activated prior to taking the vehicle out of “park”. This is accomplished by activating the PTO on/off switch. At this point the customer may place the vehicle in a forward or reverse gear and have PTO operation.

The PTO will also function in park and neutral but without an increase in idle speed. However, the accelerator pedal can be used to increase PTO speed. Mobile mode does not provide the exact same capability as a ‘live drive’ i.e. you cannot have PTO capability at zero vehicle speed in drive. However some customers have had success with shifting the vehicle into neutral and allowing the vehicle to coast.

To disengage PTO operation and return to “standard vehicle operation” simply turn the up fitter provided on/off switch to the off position.

Remote Mode Features

Remote mode allows the use of an aftermarket auxiliary switch to actuate the PTO. Presumably this will be from a location other than the cab of the truck, or some automated/relay driven method to turn on the PTO is required.

Remote PTO can be calibrated for one to three selectable engine speeds.

Remote mode also is the only method that accommodates multiple PTO speeds. Up to three different PTO speeds can be programmed. These speeds are programmed via the Electronic Vehicle Information Center (EVIC) screen in the center of the cluster (see page 2). The circuits that enable these multiple speeds are contained in the Vehicle System Interface Module (VSIM). The VSIM module is located under the dash on the driver’s side. The connecting wires are contained in the upfitter wiring kit and VSIM wiring kit. Click here for VSIM section.

Remote PTO feature has a higher priority than Idle Up. If the Remote PTO feature is active the Idle Up switches are ineffective. The Idle Up or Stationary PTO feature cannot be activated until the Remote PTO relinquishes control

To operate the PTO in this mode the vehicle must meet the following conditions:

- Be in “park” position (vehicles equipped with automatic transmission)
- Upfitter provider (on/off) switch has been activated
- Parking brake applied (vehicles equipped with manual transmission)
- Clutch not depressed (clutch interlock switch)
- Vehicle must be running
- No transmission, engine, accelerator, brake or clutch switch faults present
- PTO must be correctly installed using the vehicle provided circuits

Various features provided by the Cummins module

NOTE: these features must be enabled by the dealer

Remote Throttle and Remote Throttle Switch

This feature allows the use of a 0-10K or 0-100K potentiometer to function as a remote throttle. By connecting the circuits K400, F856, and K128 to the each end and the movable center leg respectively, the potentiometer will function as a remote throttle. These circuits are located on a connector on the driver's side of the transmission bellhousing area. The wiring and for this and two functions below as wellas schematics are contained in the upfitters wiring kit delivered with every vehicle. The dealer must enable this feature. Circuit K129 must be connected to circuit V937 to turn on this feature.

Accelerator interlock

This allows the accelerator to be locked out when activated. This feature is often used in conjunction with remote PTO or remote throttle. While active it disables the vehicles accelerator pedal typically for safety reasons. This feature is activated by connecting circuit K 810 to V937and must be enabled by the dealer.

Switched Max Operating Speed

This feature selects a lower maximum engine speed when the switch is on (closed to ground). The lowered engine speed is can be changed. This feature is enabled by the dealer who also will set the maximum speed you require.

Switch Return

Electrical return/ground for switch circuits.

J1939 Interface (Cummins only)

Cummins provides this interface to "gate" certain CAN messages for customer use. It is an industry standard three way connector located underhood, on the driver's side of the engine near the connection to the intake manifold. Messages included are vehicle speed, engine speed, park brake on/off, system voltage – filtered, brake switch status, clutch switch engaged, wait to start lamp status and coolant temp.

PTO Circuit Definition Chart

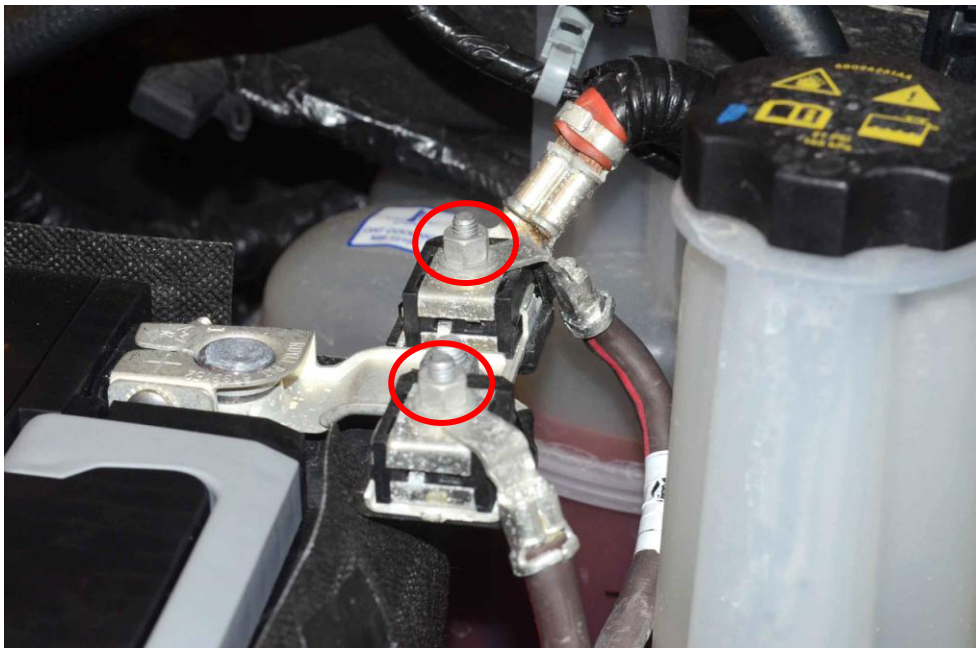
Location E Transmission Bellhousing Drivers Side

The following chart is provided to assist in correctly interfacing the PTO with the vehicle:

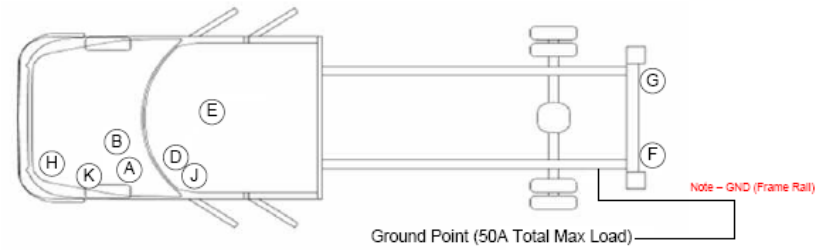
Circuit Name	Type/Gauge/Color	Circuit Functionality	Description	Usage
F856	18T - YL/PK	5V engine sensor feed	5 volt pwr supply to the remote potentiometer (remote's control power circuit). Supplied by the engine controller	Remote throttle control
K400	18T - BR/VT	accel pedal position sensor	Remote's ground (ground to the potentiometer of remote). Supplied by the engine controller. Do not hook to other grounding location	Remote throttle control
K128	18T - DB/LG	remote throttle signal	Remote signal sent to the engine controller. Signal from the remote's potentiometer.	Remote throttle control
K129	18T - DB	remote throttle switch	On/Off switch provided by customer to "turn on/off remote function. Remote switch closes to ground.	Remote throttle control
K119	18T - LG/BK	maximum operating speed switch	Feature selects a lower maximum engine speed when switch is "on". Switch closes to ground. Customer supplied switch.	Max operating speed switch
K810	18T - VT/DG	Accelerator interlock switch	Disable accelerator control of engine by closing an operator installed switch. This switch closes to ground.	Customer supplied switch
F425	18T - PK	Remote PTO Switch	Customer supplied remote PTO on/off switch. Switch closes to ground.	Remote PTO
V937	18T - VT/BR	Non-Functional for 2013	Ground for 2014	Signal Return

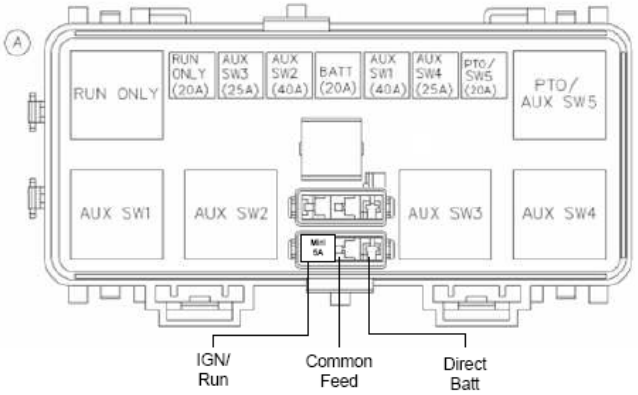
Left (Driver) Side Battery
Do not install wiring / terminals of any kind at this location

Right (Passenger) Side Battery
Do not install wiring / terminals of any kind at these locations



CAB CHASSIS UPFITTER SCHEMATIC





5A Mini Fuse can be swapped between Battery and Ignition. This changes the function of AUX SW1 and AUX SW2 from Battery operated to Ignition/Run operated.

(A) Note – Aux PDC Underhood

(B) Note – 2 Upfitter Connectors

(D) Note – Port Upfitters Connectors, Under Dash Board near park brake bracket

(E) Note – PTO Connector Wires located underneath vehicle at Transmission Bell Housing, Drivers Side

(F) (G) Note – Vehicle Wiring, Heat Shrunk Rear of Frame

(H) Note – Heat Shrink wires located at left/front corner of vehicle under main PDC box forward of battery

(J) Note – VSIM Module located interior of vehicle under dash

(K) Note – Aux 5/PTO jumper connector, alongside left fender inner

2013 3500/4500/5500 RAM Truck Upfitter Schematic

Date: Mar 19, 2013

Notes –

Max Combined Fuse size allowed in box is 190A. Fuses can be relocated in box as necessary.

Max allowable combined total continuous current draw is 133A.

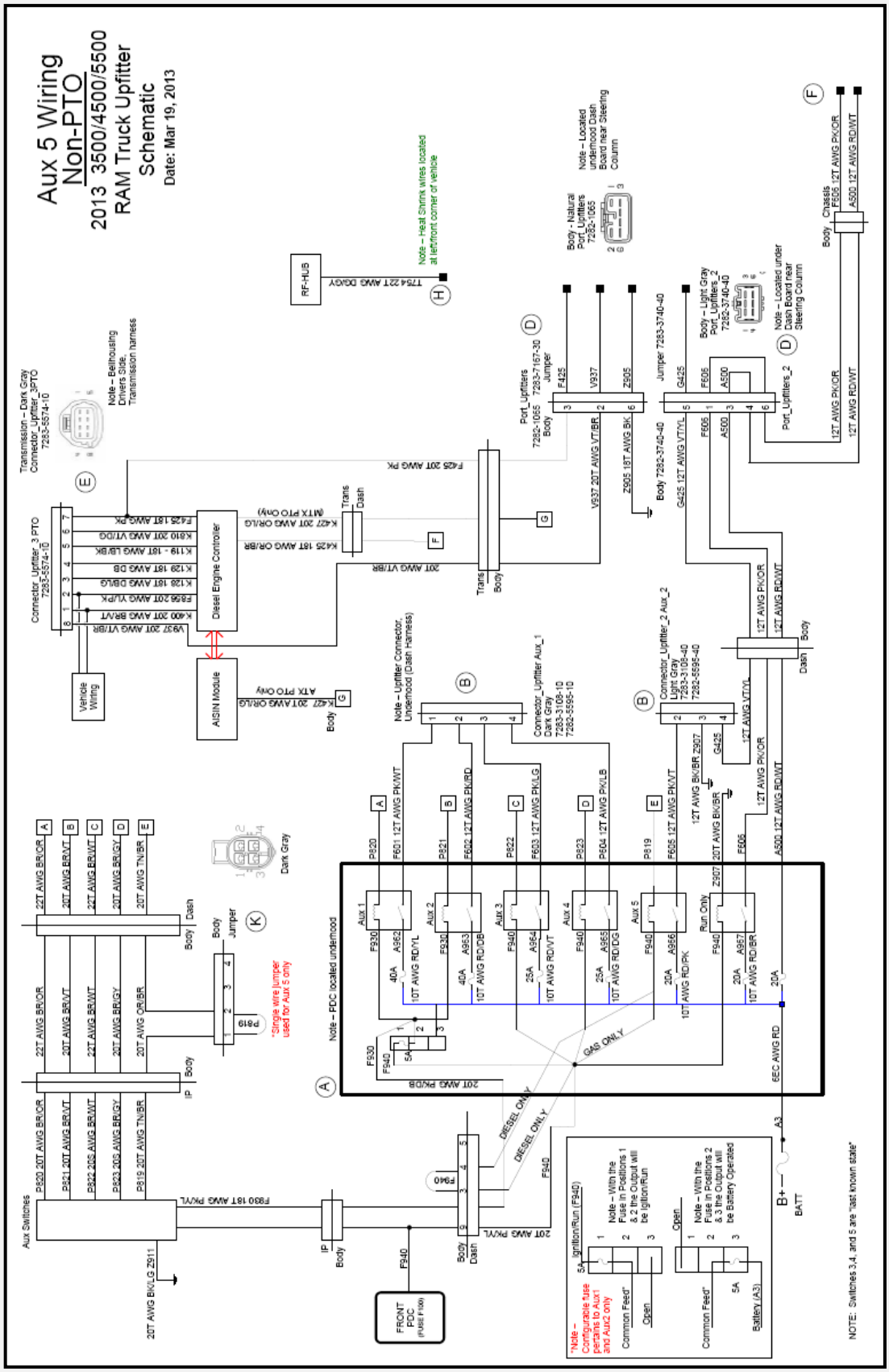
Max fuse size in any one location is 40A.

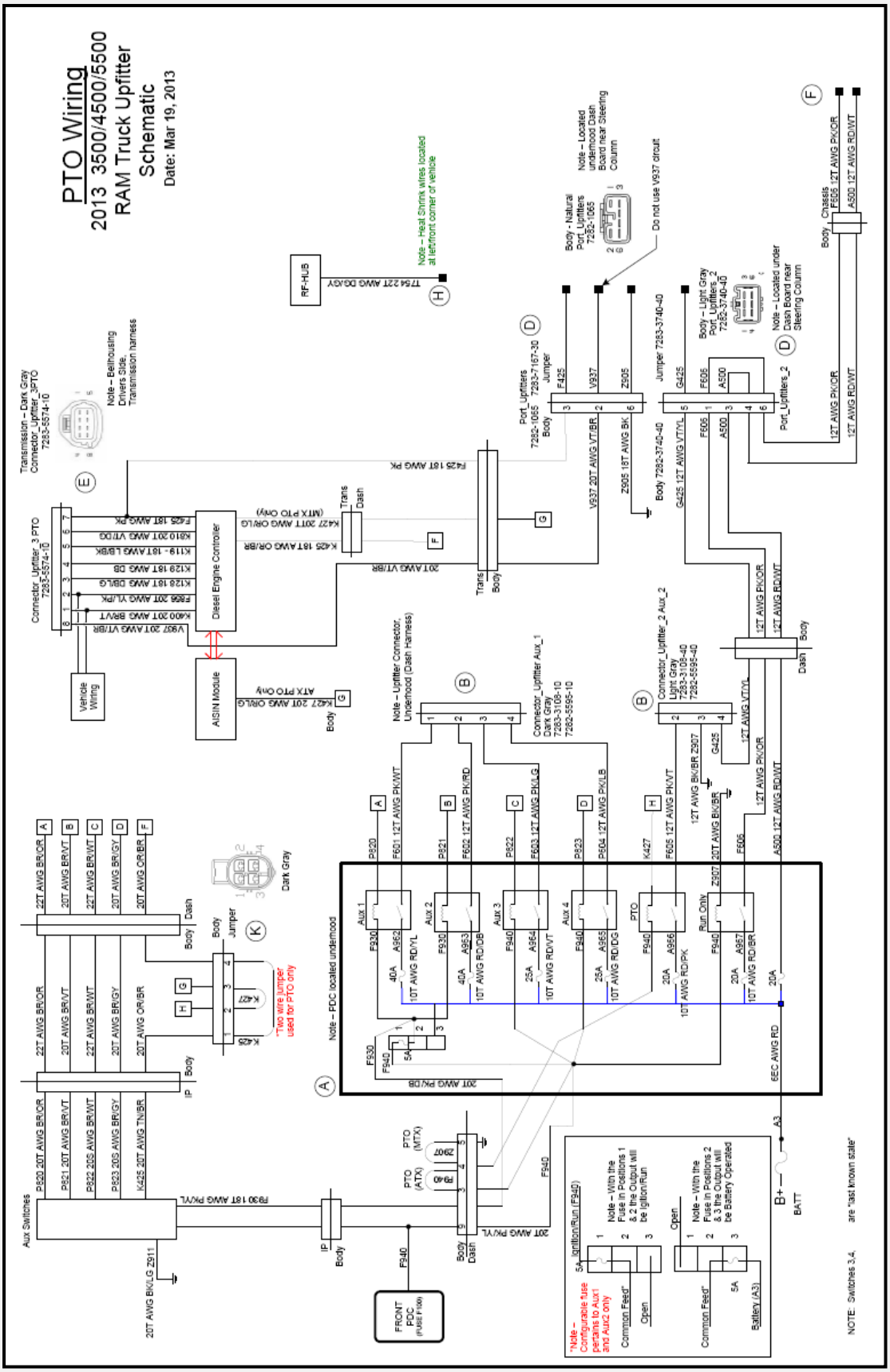
*The upfitter/customer is responsible for placing the correct fuse in the correct location depending on the actual load.

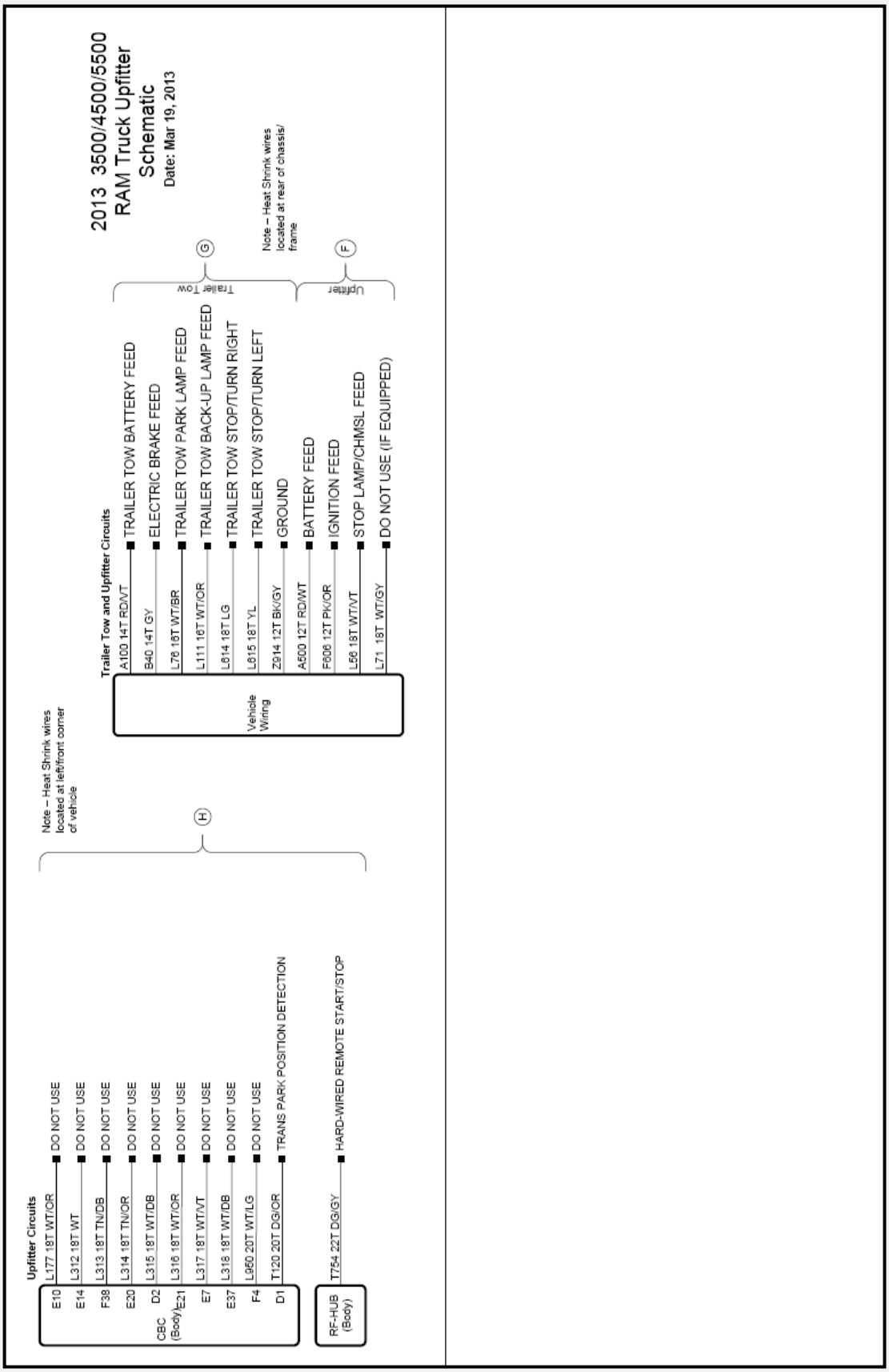
*Amperages shown in schematics are for fuses/circuits as installed for the vehicle as sold and will change as fuses are reconfigured.

MAX ALLOWABLE CONTINUOUS CURRENT DRAW PER FUSE RATING

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


Aux 5 Wiring
Non-PTO
2013 3500/4500/5500
RAM Truck Upfitter
Schematic
Date: Mar 19, 2013
Note – Heat Shrink wires located at left/front corner of vehicle
Note – Located under dash Board near Steering Column
Note – Located underhood Dash Board near Steering Column
Note – Bellhousing Drivers Side Transmission harness
Note – PDC located underhood
Note – Upfitter Connector, Underhood (Dash harness)
*Note – Configurable fuse permits to Aux1 and Aux2 only
*Single wire jumper used for Aux 5 only
Diesel Engine Controller
AISIN Module
Vehicle Wiring
FRONT PDC (Fuse F100)
Aux Switches
Ignition/Run (F940)
Common Feed*
Battery (A3)
B+ BATT
DIESEL ONLY
GAS ONLY
Run Only
Aux 1
Aux 2
Aux 3
Aux 4
Aux 5
NOTE: Switches 3,4, and 5 are "last known state"


PTO Wiring
2013 3500/4500/5500
RAM Truck Upfitter
Schematic
Date: Mar 19, 2013
RF-HUB
Diesel Engine Controller
AISIN Module
Vehicle Wiring
Aux Switches
Note – PDC located underhood
Note – Upfitter Connector, Underhood (Dash Harness)
Connector_Upfitter_Aux_1
Connector_Upfitter_2 Aux_2
Port_Upfitters
Port_Upfitters_2
Jumper 7283-3740-40
Body - Natural Port_Upfitters 7282-1065
Body – Light Gray Port_Upfitters_2 7282-3740-40
Note – Located underhood Dash Board near Steering Column
Note – Located under Dash Board near Steering Column
Do not use V937 circuit
Transmission – Dark Gray Connector_Upfitter_3PTO 7283-5574-10
Note – Bellhousing Drivers Side, Transmission harness
Note – Heat Shrink wires located at left-front corner of vehicle
Connector_Upfitter_3 PTO 7283-5574-10
Dark Gray
"Two wire jumper used for PTO only"
Ignition/Run (F940)
Note – With the Fuse in Positions 1 & 2 the Output will be Ignition/Run
Note – With the Fuse in Positions 2 & 3 the Output will be Battery Operated
Configurable fuse pertains to Aux1 and Aux2 only
Common Feed
Open
Battery (A3)
B+
BATT
FRONT PDC (Inside F1000)
NOTE: Switches 3,4, are "last known state"


2013 3500/4500/5500
RAM Truck Upfitter
Schematic
Date: Mar 19, 2013
Upfitter Circuits
CBC (Body)
E10 L177 18T WT/OR DO NOT USE
E14 L312 18T WT DO NOT USE
F38 L313 18T TN/DB DO NOT USE
E20 L314 18T TN/OR DO NOT USE
D2 L315 18T WT/DB DO NOT USE
E21 L316 18T WT/OR DO NOT USE
E7 L317 18T WT/VT DO NOT USE
E37 L318 18T WT/DB DO NOT USE
F4 L950 20T WT/LG DO NOT USE
D1 T120 20T DG/OR TRANS PARK POSITION DETECTION
RF-HUB (Body)
T754 22T DG/GY HARD-WIRED REMOTE START/STOP
Note – Heat Shrink wires located at left/front corner of vehicle
H
Vehicle Wiring
Trailer Tow and Upfitter Circuits
A100 14T RD/VT TRAILER TOW BATTERY FEED
B40 14T GY ELECTRIC BRAKE FEED
L78 18T WT/BR TRAILER TOW PARK LAMP FEED
L111 18T WT/OR TRAILER TOW BACK-UP LAMP FEED
L814 18T LG TRAILER TOW STOP/TURN RIGHT
L815 18T YL TRAILER TOW STOP/TURN LEFT
Z914 12T BK/GY GROUND
A500 12T RD/WT BATTERY FEED
F606 12T PK/OR IGNITION FEED
L58 18T WT/VT STOP LAMP/CHMSL FEED
L71 18T WT/GY DO NOT USE (IF EQUIPPED)
Trailer Tow
G
Upfitter
F
Note – Heat Shrink wires located at rear of chassis/ frame

Upfitter Jumper Kit
68049501AB

2013 3500/4500/5500 RAM Truck Upfitter Schematic

Date: Mar 19, 2013

PTO Connector
7283-5574-10

K400 (ENG – ACCEL PEDAL POS SNSR RTN 2) 20T AWG BR/VT
F856 (ENG – 5V ENGINE SNSR FEED SEC 20T AWG YL/PK
K128 (ENG – REMOTE THROTTLE SWITCH SIGNAL 20T AWG DB/LG
K129 (ENG – REMOTE THROTTLE SWITCH20T AWG DB/DG
K119 (ENG – MAXIMUM OPERATING SPEED SWITCH) 20T AWG LG/BK
K810 (ENG – ACCELERATOR INTERLOCK SWITCH 20T AWG VT/DG
F425 (PWR – POWER TAKEOFF SWITCH) 20T AWG PK
V937 (SCS – SPEED CTRL SW RTN) 20T AWG VT/BR

Dash – Dark Gray
Connector_Upfitter Aux_1
7283-3108-10
7282-5595-10

*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.

F601 (RELAY 1 OUTPUT) 12T AWG PK/WT
F602 (RELAY 2 OUTPUT) 12T AWG PK/RD
F603 (RELAY 3 OUTPUT) 12T AWG PK/DG
F604 (RELAY 4 OUTPUT) 12T AWG PK/LB

Dash – Light Gray
Connector_Upfitter_2 Aux_2
7283-3108-40
7282-5595-40

F605 (RELAY 5 OR PTO RELAY OUTPUT) 12T AWG PK/TN
Z907 (GND) 12T AWG BK/BR
G425 (POWER TAKEOFF SYSTEM STATUS BULB) 12T AWG VT/YL

Jumper
Port_Upfitters
7283-7167-30

V937 (SCS – SPEED CTRL SW RTN) 20T AWG VT/BR -- DO NOT USE V937 CIRCUIT
F425 (PWR) 20T AWG PK
Z905 (GND) 18T AWG BK/DG

Jumper
Port_Upfitters_2
7282-3740-40

F606 (PWR – IGN RUN 22) (Output – 20A) 12T AWG PK/YL
A500 (PWR – BATT FEED 12) 12T AWG RD/WT
G425 (GGS – POWER TAKEOFF SYSTEM STATUS BULB 12T AWG VT/YL

Jumper
PTO
7282-5543-10
(See Page 9 for Manufacturing Specs)

K427 20T OR/LG
K425 18T OR/BR

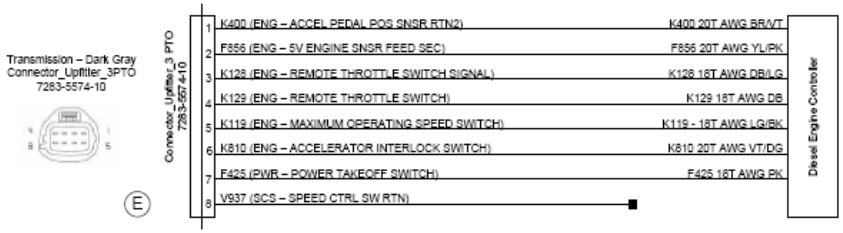
Jumper
NON-PTO
7282-5543-10
(See Page 10 for Manufacturing Specs)

P819 20T TN/BR

Circuit Definition

PTO Connector and Pin-Out
(Transmission Bellhousing, Driver's Side)

2013 3500/4500/5500
RAM Truck Upfitter
Schematic
Date: Mar 19, 2013



Exterior Lighting Modifications/LED

If the rear stop/turn incandescent bulbs are to be replaced with LED's, the rear bulb out detection must be disabled. Refer to the "Exterior Lighting Modifications/LED's" chapter for complete instructions:

www.rambodybuilder.com/2013/docs/cc/dddpextlitmod.pdf

Cab Chassis Upfitter Kit Detail
68209998AB

2013 3500/4500/5500
RAM Truck Upfitter
Schematic
Date: Mar 19, 2013

KIT PN 68209998AB

*Upfitter Connection Jumper
*8 – 12 GA Circuits for AUX Connectors 1 & 2
*8 – 20 GA Circuits for the Transmission PTO Connector
*2 – PTO/Non-PTO Jumper Connectors

The Vehicle has been equipped to ease the insulation of a PTO by allowing convenient access to circuits needed without having to splice into the main harness. Two (2) of the upfitter connections are beneath the steering wheel near the engine compartment grommet (LT Side).

Located left of Main PDC Box and along the fender inner (location K) is a dark gray jumper connector that allows the vehicle function to switch between PTO and non-PTO operation. The required jumpers are located in the Upfitter Kit. Verify proper jumper usage by reviewing jumper design on previous pages.

In the rear of the vehicle, you can find all required T-TOW circuits, and two (2) additional power circuits (1 Battery and 1 Ignition)

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

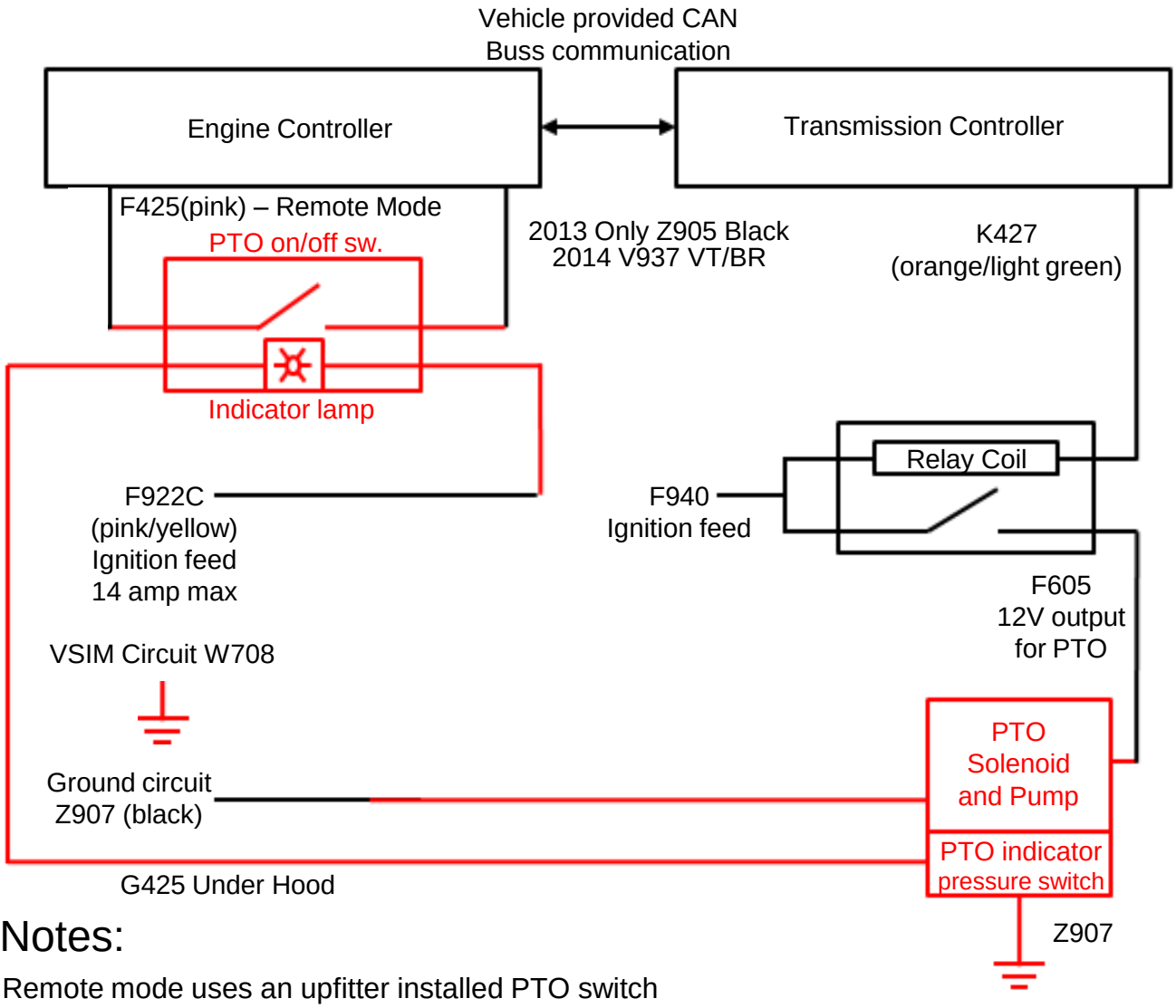
On the upper left (driver's) side of the transmission you will find one (1) Upfitter connector (location E) which allows easy access to the PTO functions. Mating terminated circuits are included in the kit. Use as needed.

The Battery line to the AUX PDC is protected by a wire fuse link.

Warning about adding auxiliary batteries:
An auxilary 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

Aisin Automatic Transmission Remote Mode



Notes:

Remote mode uses an upfitter installed PTO switch
Z905 and F425 are circuits that can be found located under the dash just in board of the park brake pedal

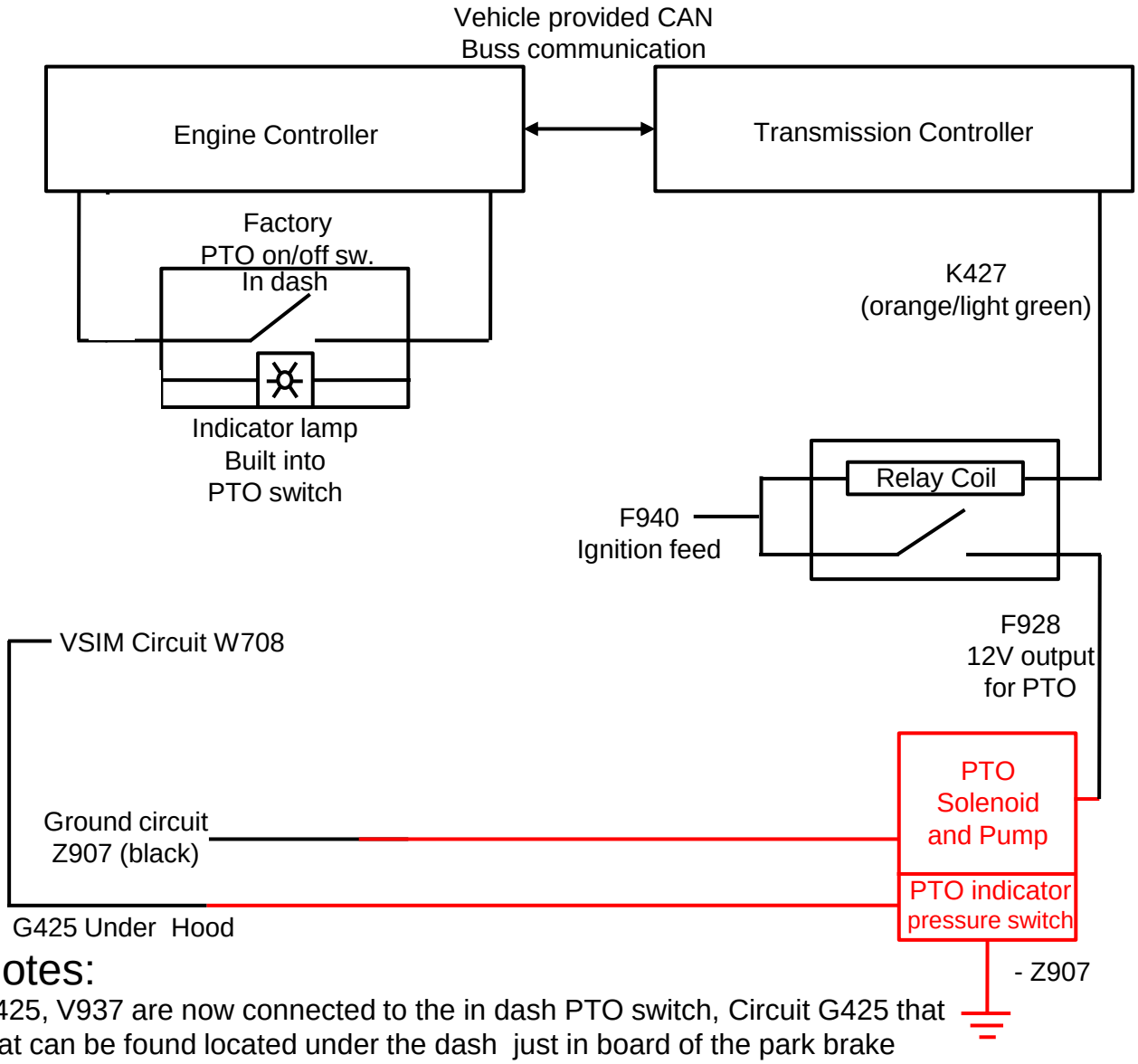
F922C and Z907 can also be found in the same area described above

All other wiring, switches, relays and other components will need to be provided by the PTO installer.

Do NOT externally ground circuit V937 to anything

You MUST permanently ground VSIM circuit W708
See the VSIM Circuit Definition for more information

Aisin Automatic Transmission in Cab Stationary and Mobil Mode



Notes:

K425, V937 are now connected to the in dash PTO switch, Circuit G425 that that can be found located under the dash just in board of the park brake pedal. Must be connected to VSIM circuit W708

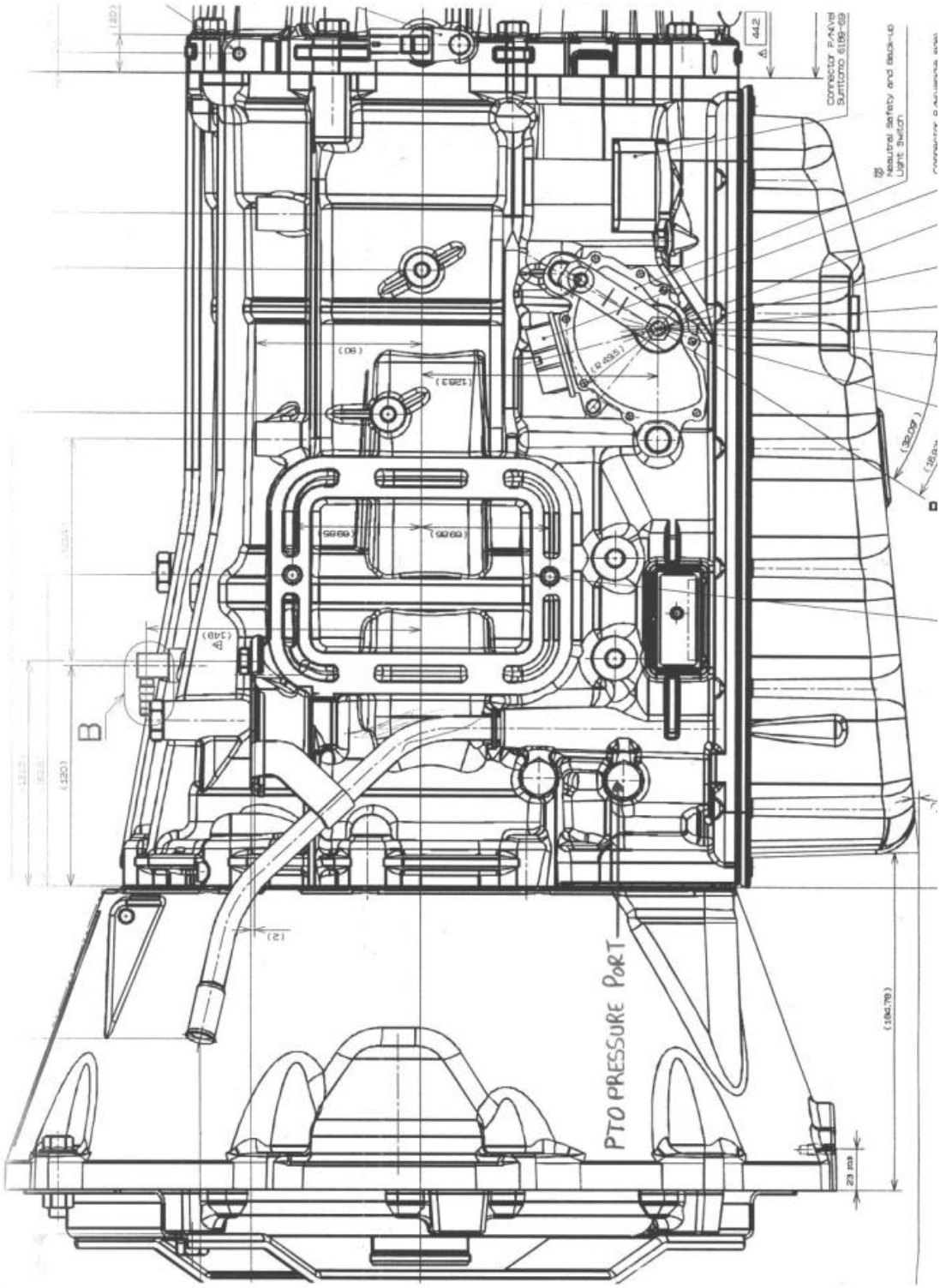
F922C and Z914 can also be found in the same area described above

All other wiring, switches, relays and other components will need to be provided by the PTO installer.

Do NOT externally ground circuit V937 to anything

You MUST connect curcuit G425 to VSIM circuit W708
See the VSIM Circuit Definition for more information

Description of Pressure Ports for the Aisin Transmission. PTO



PTO Installation Alternative

In addition to the current method of PTO installation from beneath the vehicle, an alternative method has been developed that allows the installation from above by removing the PTO patch panel in the floor. The instructions are as follows.

1. Remove the rear package tray located behind the seat from the vehicle.

2. Unbolt the seat and move it to the rear of the cabin where the package tray was removed.
3. Remove the sill guards (rocker panel covers) passenger side to allow the vinyl floor mat to be lifted. They are removed by prying straight up to disengage metal clips.

4. Lift the floor mat and fold it rearward and toward the drivers side to expose the patch panel

5. Remove the fasteners and sealer from around the patch panel. Cut away the sound deadener pad to expose the transmission PTO access.

6. You are now able to install and assemble the PTO and pump through the opening. Note: larger pumps must be inserted through the hole and moved toward the rear of the opening before installing the PTO. The pump is then slid forward to connect to the installed PTO.

7. To assemble, reverse the above procedure using RTV to reseal the PTO floor pan patch panel.