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<td>ECN 9000- Update ETM 51 and relay 1 wiring.</td>
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<td>Engineering markup; added page 6.</td>
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<td>Added sheets 2 and 5 of 99905633</td>
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<td>20140407</td>
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<td>Added MY2014 for Dodge, corrections for Cummins MY2013</td>
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**Section 1**

**EFM Kits & Vehicle Installation**

**EFM (70146433)**

**EFM Layout**

![Diagram of EFM layout with relay points and connections](image)
EFM Wiring
## EFM Installation Kit (51717388)

<table>
<thead>
<tr>
<th>ITEM</th>
<th>PART #</th>
<th>DESCRIPTION</th>
<th>DETAILS</th>
<th>QUANTITY</th>
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<tbody>
<tr>
<td>1.</td>
<td>70146433</td>
<td>ENGINE FUNCTION MODULE</td>
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<tr>
<td>2.</td>
<td>77044575</td>
<td>CONNECTOR</td>
<td>PACKARD WP 6CAV MALE/SHR</td>
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<td>PACKARD WP 3CAV FEM/TWR</td>
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<td>77045888</td>
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<td>PACKARD WP 14-16GA FEM</td>
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<td>7.</td>
<td>77045887</td>
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<td>PACKARD WP 14-16GA MALE</td>
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<td>8.</td>
<td>77044676</td>
<td>PLUG</td>
<td>PACKARD WP/METRIPACK</td>
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<td>9.</td>
<td>79085317</td>
<td>TOOL-CONT. REMOVAL</td>
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<tr>
<td>10.</td>
<td>51714048</td>
<td>WIRE ASSEMBLY</td>
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<td>51715791</td>
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<td>12.</td>
<td>89044235</td>
<td>WIRE</td>
<td>14GA WHT STRD GPT</td>
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<td>FEMALE BRANCH</td>
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<td>SPRSPADE 1 8STUD</td>
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<td>77041008</td>
<td>SWITCH-PRESSURE CONTROL</td>
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<td>70394092</td>
<td>DECAL-CAUTION BRK/COMP</td>
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<td>17.</td>
<td>70394069</td>
<td>CABLE SEAL</td>
<td>PACKARD WP/MP</td>
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<td>18.</td>
<td>77044556</td>
<td>DIODE</td>
<td>2.2 AMP/247V</td>
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<td>19.</td>
<td>99903412</td>
<td>MANUAL - EFM INSTALLATION KIT</td>
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<td>CONNECTOR PIN, INTL EF M</td>
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Cat CT660/680 (99905582)

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<th>VALUE</th>
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<tr>
<td>74281</td>
<td>Ambient Temperature Override</td>
<td>ENABLE</td>
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<tr>
<td>98372</td>
<td>Auxiliary Engine Start Engine Selector</td>
<td>DEF MOUNT CAP</td>
<td></td>
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<tr>
<td>75623</td>
<td>Auxiliary Engine Speed Control - Ramp Up/Down Step</td>
<td>25.0</td>
<td>RPM</td>
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<tr>
<td>75512</td>
<td>Auxiliary Engine Speed Control - Enable/Disable</td>
<td>0</td>
<td></td>
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<tr>
<td>75612</td>
<td>AUX Engine Speed Control - Enable/Disable APS</td>
<td>4PS Override HSEC Set</td>
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<tr>
<td>75613</td>
<td>Auxiliary Engine Speed Control - Engine Speed With VSS Fault</td>
<td>1500.0</td>
<td>RPM</td>
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<tr>
<td>75643</td>
<td>Auxiliary Engine Speed Control - Engine Speed Throttle Down PDC Plate</td>
<td>780.0</td>
<td>RPM/5</td>
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<tr>
<td>75021</td>
<td>Auxiliary Engine Speed Control - In Cab Mode</td>
<td>IN REVERSE</td>
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<tr>
<td>75051</td>
<td>Auxiliary Engine Speed Control - In Cab Operator Interface</td>
<td>ENABLE</td>
<td></td>
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<tr>
<td>75082</td>
<td>Auxiliary Engine Speed Control - Maximum Engine Load</td>
<td>100.00</td>
<td>percent</td>
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<tr>
<td>75072</td>
<td>Auxiliary Engine Speed Control - Maximum Engine Load Time</td>
<td>9.00</td>
<td>s</td>
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<td>75082</td>
<td>Auxiliary Engine Speed Control - Maximum Engine Speed</td>
<td>1150.0</td>
<td>RPM</td>
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<tr>
<td>75072</td>
<td>Auxiliary Engine Speed Control - Maximum Vehicle Speed</td>
<td>5.00</td>
<td>MPH</td>
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<td>75083</td>
<td>Auxiliary Engine Speed Control - Maximum Engine Speed</td>
<td>1000.0</td>
<td>RPM</td>
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<td>75051</td>
<td>Auxiliary Engine Speed Control - Idle</td>
<td>REMOTE OPERATION ONLY</td>
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<td>75052</td>
<td>Auxiliary Engine Speed Control - Present Engine Speed 1 (Set)</td>
<td>1150.0</td>
<td>RPM</td>
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<td>75052</td>
<td>Auxiliary Engine Speed Control - Present Engine Speed 2 (Present)</td>
<td>1000.0</td>
<td>RPM</td>
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<td>75063</td>
<td>Auxiliary Engine Speed Control - Present Engine Speed 3</td>
<td>1200.0</td>
<td>RPM</td>
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<td>Auxiliary Engine Speed Control - Present Engine Speed 4</td>
<td>8.0</td>
<td>RPM</td>
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<td>Auxiliary Engine Speed Control - Present Engine Speed 5</td>
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<td>Auxiliary Engine Speed Control - Ramp Rate</td>
<td>200.00 (See Mode 1)</td>
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<td>Auxiliary Engine Speed Control - Remote Pedal Enable</td>
<td>DISABLE</td>
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<td>Auxiliary Engine Speed Control - Speed Controlled to Engine Load</td>
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<td>75032</td>
<td>Auxiliary Engine Speed Control - Vehicle Speed Limit</td>
<td>5.00</td>
<td>MPH</td>
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Cummins / Paccar Engines (MY2011 – MY2012) (99904944)

NOTES:

1. Engine start not used on Predator.
2. Plug all unused cavities with Packard plug #12010300 (IMT # 77044893). Cap all unused connectors on EFM.
USE A PC EQUIPPED WITH CUMMINS "INSITE" SOFTWARE OR CONTACT A CUMMINS DEALER TO CONFIGURE ECM PARAMETERS. INTERFACE HARDWARE BETWEEN THE PC AND THE ECM MUST BE ABLE TO COMMUNICATE USING A J-1939 CAN PROTOCOL.

CUT AIR LINE THAT DOES NOT HAVE AIR SUPPLY TO THE PARKING BRAKE.

TO 1L-CJ100-A PARKING BRAKE GROUND

IF TRUCK IS EQUIPPED WITH AIR BRAKES

GROUND

TO PIN #3

1L-CJ300-A

1L-CJ300-B

CUT EXISTING WIRE RUNNING TO PIN #3 IN TWO. CONNECT TO ENGINE FUNCTION MODULE.

TO PIN #39

1L-CP301-B

ENGINE CONNECTOR 1 (60 PIN)

ENGINE CONNECTOR 2 (60 PIN)

OEM PORT (60 PIN)

OEM PORT (60 PIN CONNECTOR ON ECM) CONNECTOR VIEW IS FROM THE BACK SIDE OR WIRE INSERTION SIDE OF THE CONNECTORS.
**Cummins / Paccar Engines (MY2013 – present) (99905765)**

**NOTES:**
1. Engine start not used on Predator.
2. Plug all unused cavities with Packard plug #12010300 (IMT # 77044893). Cap all unused connectors on EFM.
USE A PC EQUIPPED WITH CUMMINS "INSITE" SOFTWARE OR CONTACT A CUMMINS DEALER TO CONFIGURE ECM PARAMETERS. INTERFACE HARDWARE BETWEEN THE PC AND THE ECM MUST BE ABLE TO COMMUNICATE USING J-1939 CAN PROTOCOL.

1L-CJ300-B → To Pin #5
1L-CJ300-A
CUT EXISTING WIRE RUNNING TO PIN #5 IN TWO AND CONNECT TO ENGINE FUNCTION MODULE

1L-CP301-A ← To Pin #2
1L-CP301-B ← To Pin #4

OEM PORT
(96 PIN CONNECTOR ON ECM)

CUT AIR LINE THAT DOES NOT HAVE AIR SUPPLY TO THE PARKING BRAKE

TO 1L-CJ100-A
PARKING BRAKE GROUND

IF TRUCK IS EQUIPED WITH AIR BRAKES
GROUND
Dodge 4500/5500 (MY2012) (99905317)

For Dodge 4500/5500 4 x 2 with 6.7 L Cummins engine, automatic transmission

WARNING:
1. Disconnect battery cables (negative first, then positive) before doing any electrical work on vehicle.

NOTES:
1. PTO Connector (Under dash white connector) - The mating connector is part of the Dodge upfitter kit.
2. The blunt cut wire with heat shrink is located near the auxiliary box in the engine compartment.
3. Wait 10 seconds between engine start and engine stop.
4. See the Dodge BodyBuilder website to program with engine start/stop and engine speed functions. WWW.DODGE.COM/BODYBUILDER/YEAR.PDF
For Dodge 4500/5500 4 x 2 with 6.7 L Cummins engine, manual transmission

WARNING:
1. Disconnect battery cables (negative first, then positive) before doing any electrical work on vehicle.

NOTES:
1. PTO Connector (Under dash white connector) - The mating connector is part of the Dodge upfitter kit.
2. The blunt cut wire with heat shrink is located near the auxiliary box in the engine compartment.
3. Wait 10 seconds between engine start and engine stop.
4. See the Dodge BodyBuilder website to program with engine start/stop and engine speed functions. WWW.DODGE.COM/BODYBUILDER/YEAR.PDF
For Dodge 4500/5500 4 x 2 with 6.7 L Cummins engine, automatic transmission, installed on an IMT Predator body

**WARNING:**

1. Disconnect battery cables (negative first, then positive) before doing any electrical work on vehicle.

**NOTES:**

1. PTO Connector (Under dash white connector) - The mating connector is part of the Dodge upfitter kit.
2. The blunt cut wire with heat shrink is located near the auxiliary box in the engine compartment.
3. Wait 10 seconds between engine start and engine stop.
4. See the Dodge BodyBuilder website to program with engine start/stop and engine speed functions. [WWW.DODGE.COM/BODYBUILDER/13.PDF]
Dodge 4500/5500 (MY 2011) (99904929)

For Dodge 4500/5500 4 x 2 with 6.7 L Cummins engine, automatic transmission

WARNING:
1. Disconnect battery cables (negative first, then positive) before doing any electrical work on vehicle.

NOTES:
1. PTO Connector (Under dash white connector) - The mating connector is part of the Dodge upfitter kit.
2. The blunt cut wire with heat shrink is located near the auxiliary box in the engine compartment.
3. Wait 10 seconds between engine start and engine stop.
4. See the Dodge BodyBuilder website to program with engine start/stop and engine speed functions. WWW.DODGE.COM/BODYBUILDER/YEAR.PDF
Dodge 4500/5500 (MY 2013) (99905633)

2013 Dodge 4500/5500 (Auto/Man Tran)

**EFM Kits & Vehicle Installation**

**Factory Installed PTO Switch Will Not Stay Active After Shutting the Engine Down Remotely. Only Upper Switches #3 and #4 Come Back on After a Shut Down.**

**Diagram Description:**
- **EFM**
- **CJ-100**
- **CP-301**
- **CP-301**
- **CP-600**
- **CP-601**
- **CP-602**

**Notes:**
1. PTO Connector (Under Dash) ... Color in the Dodge Kit.
2. **Check** Refer to Your Section on the Website.
3. **Plug** Wire Ends Underneath the Fuse Box.
4. **Position** #4 on the Dark Gray Bulkhead Wire.
5. **Please** Wait 10 Seconds Between Engine Start and Engine Stop.
6. **Please** Refer to the Dodge Bodybuilder Website for Programming the Engine Start/Stop and Engine 
   Speed Functions with this Setup. You Will Need to Use the 
   Remote Speed Program on the Dash for Engine Speed.

**Plastic:**
- **CJ-301**
- **CJ-201**
- **CJ-301**
- **CP-602**

**Wiring Diagrams:**
- See Note 2 before Proceeding.
- If Vehicle Has LED Tail Lights, Permanently Attach This Wire to Ground.
- **Required for PTO Operation**
- **Required for Elevated Idle During PTO Operation**

**Warning:** Battery Cables (Negative First, Then Positive) Must Be Disconnected Before Doing Any Electrical Work on Vehicle.

[Diagram Image]
Dodge 4500/5500 (MY 2014 – present) (99905766)

2013 Dodge 4500/5500 (Auto/Man Tran)

EFM

FOR:
2014 TO CURRENT DODGE 4500 / 5500
4X4 WITH 6.7L CUMMINS ENGINE AND
AUTOMATIC TRANSMISSION.

FACTORY INSTALLED PTO SWITCH WILL NOT STAY ACTIVE AFTER
SHUTTING THE ENGINE DOWN REMOTELY. ONLY UPTFIT SWITCHES
#3 and #6 come back on after a shut down.

1. PTO CONNECTION (UNDER DASH RIGHT CONNECTOR) THE
MAINNO CONNECTION COMES IN THE DODGE UPTFITTER KIT.
2. PLEASE REFER TO VIEW SECTION ON DASH RIGHT.
3. BLUNT CUT WIRES ARE UNDERNEATH THE Fuse BOX
LOCATED ON THE DRIVERS SIDE OF THE ENGINE
COMPARTMENT.
4. FUSE IS IN POSITION #4 ON THE DARK BROWN BULLEHEAD
CONNECTOR.
5. PLEASE WAIT 10 SECONDS BETWEEN ENGINE START AND
ENGINE STOP.
6. PLEASE REFER TO THE DODGE UPTFITTER KIT FOR
PROGRAMMING THE ENGINE START/STOP AND ENGINE SPEED
FUNCTIONS. WITH THIS KIT YOU WILL NEED TO USE THE
REMOTE SPEED PROGRAM ON THE DATA FOR ENGINE SPEED.
http://www.rambodybuilder.com/2013/ccv/combo.pdf

SEE NOTE 2 BEFORE PROCEEDING.

IF VEHICLE HAS L.E.D. TAIL LIGHTS:
PERMANENTLY ATTACH THIS WIRE TO GROUND.

WARNING: BATTERY
CABLES (NEGATIVE FIRST,
THEN POSITIVE) MUST BE
DISCONNECTED BEFORE
DOING ANY ELECTRICAL
WORK ON VEHICLE.
2014 to present Dodge 4500/5500 (Auto/Man Tran) Remote Start

Connect Wired Remote Start (WRS) button (or jumper wire) to allow opening/shutting the up-fitter circuit connected to EFM.

For rotary ignition system insert a valid FOB/K into the IGN and turn it to the RUN position.

For Keyless Go ignition system turn the ignition to RUN state by pushing the Start/Stop button.

Press and hold brake pedal;

Move the shifter out of Park

Press and hold TWRS button

Move the shifter to Park

Release TWRS button

Within 30 seconds of releasing TWRS button:

Move the shifter out of Park

Press and hold TWRS button

Move the shifter to Park

Release TWRS button

Release the brake pedal

For rotary ignition system turn the FOB/K back to OFF position and remove it.

For Keyless Go ignition system turn the ignition OFF by pressing Start/Stop button.

Once the brake pedal is released, the state of the wired remote start feature will toggle (i.e., if previously disabled it will now be enabled, or if previously enabled it will now be disabled. The immobilizer indicator in the cluster will blink at one Hz rate to indicate the status of the Wired Remote Start feature. If the procedure enabled the feature, the indicator will blink for four seconds; if the procedure disabled the feature, it will blink for two seconds. The EFM will control this blinking by setting the RHUB_21ImmHilReq — 3h for four or two seconds depending on the feature is enabled or disabled.

REQUIRED WIRING CHANGE FOR REMOTE START/STOP

BEFORE

AFTER
NOTES:

1. Engine start not used on Predator.
2. Plug all unused cavities with Packard plug # 12010300 (IMT # 77044893). Cap all unused connectors on EFM.
3. PTO switch is interlocked with the parking brake. If the parking brake is disengaged, the PTO will disengage.
4. See 99904889 - 5 (photos) for Ford connector C250 location and wire locations.
5. For ground connection to 77045925, use chassis ground only.
6. The engine must be at least 20 degrees F before speed control will work on a diesel engine, and 140 degrees before speed control will work on a gas engine.
7. The transmission oil must be at least 20 degrees F before speed control will work.
8. If any driver controls are activated (for example, the service brake is bumped with in SEIC mode), the engine must be shut off and restarted for SEIC to work again.
Ford SD - Diesel Automatic with Upfitter Switches (MY2012-present) (99905321-1)

---

**PTO SWITCH**
- Relay #1
- Eng Start
- Eng Stop
- Relay #2
- Eng Stop
- Relay #3
- E-BRAKE

---

**PTO ENGAGE/ SPEED CTRL**
- Relay #4

---

**PTO GROUND**

- Imt Harness, Predator Only

---

**IGNITION**
- 15 Power
- 85 Ignition

---

**GROUND**
- 86 Ground

---

**YELLOW**
- CANH
- RPM1
- RPM2
- RPM3
- +12V
- GND

---

**GREEN**
- CANL

---

**Etms1 Electronic Throttle Control**
- 77441246 (RPM1)

---

**Chassis Ground (Note 5)**
- 77041847 (Set to 5 sec)

---

**CDC 64 (White/Blue)**
- 77041847 (Set to 5 sec)

---

**PRIOR TO SIII Dominator**
- Ground (Pin 85) for J5 Amp Relay That Controls Interlock Power.

---

**FOR SIII Dominator**
- To PTO Wire on Mt Chassis Harness That Controls Interlock Power.

---

**Cir Ca08 (Brown) 15A Fused**
- Output from Aux 4 Switch.

---

**Fuse #5 On PDJB**
- (See Ford Owner's Manual)

---

**Spare Relay #5**
- Spare

---

**Spare Relay #6**
- Spare

---

**View Looking Into Obd-Ii**
- Connector Located On Lower Dash On Driver's Side

---

**Chassis Wire (White/Brown)**
- PTO

---

**pto-wire (kelvin)**
- PTO

---

**pto-wire (kelvin)**
- PTO

---

**pto-wire (kelvin)**
- PTO

---

**pto-wire (kelvin)**
- PTO

---

**pto-wire (kelvin)**
- PTO

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**pto-wire (kelvin)**
- PTO

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**pto-wire (kelvin)**
- PTO

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**pto-wire (kelvin)**
- PTO

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**pto-wire (kelvin)**
- PTO

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**pto-wire (kelvin)**
- PTO

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**pto-wire (kelvin)**
- PTO

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**pto-wire (kelvin)**
- PTO

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**pto-wire (kelvin)**
- PTO

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**pto-wire (kelvin)**
- PTO

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**pto-wire (kelvin)**
- PTO

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**pto-wire (kelvin)**
- PTO

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**pto-wire (kelvin)**
- PTO

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**pto-wire (kelvin)**
- PTO

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**pto-wire (kelvin)**
- PTO

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**pto-wire (kelvin)**
- PTO

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**pto-wire (kelvin)**
- PTO

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**pto-wire (kelvin)**
- PTO
Ford SD - Diesel Automatic without Upfitter Switches (MY2012-present) (99905321-2)
Ford SD - V10 Gas Automatic with Upfitter Switches (MY2012 - present) (99905321-3)
Ford SD - V10 Gas Automatic without Upfitter Switches (MY2012 - present) (99905321-4)

- **PTO SWITCH**
- **RELAY #1**: ENG START
- **RELAY #2**: ENG STOP
- **RELAY #3**: PTO ENGAGE/SPEED CTRL
- **RELAY #4**: E-BRAKE
- **EFM MODULE**

**Ground Connections**:
- **BATTERY**
- **GROUND (PIN 85) FOR 70AMP RELAY THAT CONTROLS INTERLOCK POWER**
- **GROUND (PIN 85) FOR 70AMP RELAY THAT CONTROLS INTERLOCK POWER**
- **FORD CKT CDC64 5A MAX BLUNT CUT (WHT/BLU)** (SEE PAGE 5)

**Wiring Connections**:
- **BATTERY**
- **PTO GROUND (IMT HARNESS, DOM ONLY)**
- **E-BRAKE** (BLUE/WHT (POS 7))
- **FORD C250 CONNECTOR (SEE 99905321-5)**
- **TO GROUND (IMT HARNESS, DOM ONLY)**
- **TO PRESSURE SWITCH**
- **TO GROUND**
- **TO PTO PRESSURE SWITCH**
- **TO PTO PRESSURE SWITCH**
- **TO PTO SOLENOID**
- **CHELSEA 2004 PTO HARNESS**
- **PTO RELAY**
- **PTO WIRE (WHT/BLU)**
- **PTO WIRE (GREY/BLU)**
- **PTO WIRE (GREY/GRN)**

**Additional Information**:
- **REV. K OR NEWER FOR 2012**
- **ETM51 ELECTRONIC THROTTLE CONTROL (77441246)**
- **RPM1**
- **RPM2**
- **RPM3**
- **12V**
- **GND**
- **VRPM**

**Note**: For pre-SIII Dominator, ground (pin 85) for 70Amp relay that controls interlock power. For SIII Dominator, to PTO wire on IMT chassis harness that controls interlock power.

**Diagram Notes**:
- VIEW LOOKING INTO OBD-II CONNECTOR LOCATED ON LOWER DASH ON DRIVER'S SIDE
- BATTERIES OR GREEN/WHITE (POS 7) CUT AND EXTEND EACH HALF OF WIRE TO ENGINE STOP RELAY
- TO PTO WIRE ON IMT CHASSIS HARNESS THAT CONTROLS INTERLOCK POWER
- TO PTO WIRE ON IMT CHASSIS HARNESS THAT CONTROLS INTERLOCK POWER
- TO PTO WIRE ON IMT HARNESS, DOM ONLY
Ford SD Installation Photos (99905321-5)

1. LOOSEN SCREWS UNDER STEERING COLUMN.
2. C250 IS LOCATED ON LEFT SIDE OF STEERING COLUMN.

IGNITION: CDC64 (WHT/BLU)
IN CAB UNDER DRIVER'S SIDE INSTRUMENT PANEL NEAR ENGINE BULKHEAD

PTO CIRCUITS - DIESEL
PTO RS1 (YELLOW/GREEN)
PTO RS2 (BLUE/ORANGE)
PTO_RELAY (BLUE/WHITE)
PTO_RPM (GREEN)
PTO_REF (WHITE/BROWN)
PTO RTN (GRAY/VIOLET)
BCP_SW (VIOLET/BROWN)
BCP_LAMP (BROWN)

PTO CIRCUITS - GAS
PTO (YELLOW/GREEN)
PTO_OK (BLUE/WHITE)
PTO_RPM (GREEN)
PTO_ENGAGE (BLU/ORG)
NOTES:

1. Engine start not used on Predator.
2. Plug all unused cavities with Packard plug # 12010300 (IMT # 77044893). Cap all unused connectors on EFM.
3. PTO switch is interlocked with the parking brake. If the parking brake is disengaged, the PTO will disengage.
4. See 99904889 - 5 (photos) for Ford connector C250 location and wire locations.
5. For ground connection to 77045925, use chassis ground only.
6. The engine must be at least 120 degrees F before speed control will work.
7. The transmission oil must be at least 20 degrees F before speed control will work.
8. If any driver controls are activated (for example, the service brake is bumped with in SEIC mode), the engine must be shut off and restarted for SEIC to work again.

Ford Superduty (MY2011) (99904889)
Ford SD - Diesel Automatic with Upfitter Switches (MY2011) (99904889-1)
Ford SD - Diesel Automatic without Upfitter Switches (MY2011) (99904889-2)
Ford SD - V10 Gas Automatic with Upfitter Switches (MY2011) (99904889-3)

PTO SWITCH
- RELAY #1
- ENG START
- ENG STOP
- SPEED CTRL
- PTO ENGAGE/SPEED CTRL
- E-BRAKE
- RELAY #5 EFM MODULE
- IGNITION
- 15POWER
- 86 CANH (YELLOW)
- 87 CANH (GREEN)
- SHIELD
- GND (BLACK)
- CANL
- +12V
- REF
- RPM PTO
- RPM1
- RPM2
- RPM3
- VRPM
- REV. F FOR 2011
- PTO GROUND (IMT HARNESS, DOM ONLY)
- PTO PRESSURE SWITCH CHELSEA 2004
- PTO HARNESS A BPTO SOLENOID
- TO GROUND (PIN 86) CHASSIS IGNITION RELAY
- SPLICE IN WITH CHASSIS IGNITION.
- WIRE (YELLOW/ORANGE) (SEE DWG. 99904034)
- GND (PIN 85) FOR 70AMP RELAY THAT CONTROLS INTERLOCK POWER.
- (SEE DWG. 99904034)

CIR CAC08 (BROWN) 15A FUSED OUTPUT FROM AUX 4 SWITCH.
- FUSE #5 ON PDJB (SEE FORD OWNER'S MANUAL)
- BLUE/RED OR GREEN/RED (POS 4) CUT AND EXTEND EACH HALF OF WIRE TO ENGINE STOP RELAY
- FORD C250 CONNECTOR (SEE 99904889-4)
- BLUE/RED OR GREEN/RED (POS 4) GROUND (PIN 85) FOR 70AMP RELAY THAT CONTROLS INTERLOCK POWER.
- (SEE DWG. 99904034)
- PREDATOR ONLY PTO GROUND WIRING
- PTO GROUND (IMT HARNESS, DOM ONLY)
- E-BRAKE BLUE/WHT (POS 7)
- FORD C250 CONNECTOR (SEE 99904889-4)
- BLUE/RED OR GREEN/RED (POS 4) GROUND (PIN 85) FOR 70AMP RELAY THAT CONTROLS INTERLOCK POWER.
- (SEE DWG. 99904034)

ETM51 ELECTRONIC THROTTLE CONTROL (77441246)
- RPM1
- RPM2
- RPM3
- VRPM
- REV. F FOR 2011

CIR CAC08 (BROWN) 15A FUSED OUTPUT FROM AUX 4 SWITCH.
- FUSE #5 ON PDJB (SEE FORD OWNER'S MANUAL)
- BLUE/RED OR GREEN/RED (POS 4) CUT AND EXTEND EACH HALF OF WIRE TO ENGINE STOP RELAY
- FORD C250 CONNECTOR (SEE 99904889-4)
- BLUE/RED OR GREEN/RED (POS 4) GROUND (PIN 85) FOR 70AMP RELAY THAT CONTROLS INTERLOCK POWER.
- (SEE DWG. 99904034)
- PREDATOR ONLY PTO GROUND WIRING
- PTO GROUND (IMT HARNESS, DOM ONLY)
- E-BRAKE BLUE/WHT (POS 7)
Ford SD - V10 Gas Automatic without Upfitter Switches (MY2011) (99904889-4)

- **Engine Function Module (EFM) Manual**
  - MY 2011 - Present (Manual # 99905297)

**Schematic Diagram**

- **PTO Switch Relay #1**
- **Eng Start Relay #2**
- **Eng Stop Relay #3**
- **Engage/Speed Ctrl Relay #4**
- **E-Brake Relay #5**
- **EFM Module**

**Wiring Details**

- **Blue/Red or Green/Red (POS 4)**
  - Cut and extend each half of wire to engine stop relay.

**Connector**

- **Ford C250**
- **IMT 77041500**

**Ground**

- **Pin 85**
  - Can be used for 70amp relay that controls interlock power.
  - See DWG. 99904034

**PTO Switch Relay #1**

- **Relay**
- **Eng Start**
- **Eng Stop**
- **Engage/Speed Ctrl**

**PTO Engage/Speed Ctrl Relay #4**

- **PTO Engage/Speed Ctrl**
- **PTO Pressure Switch**

**Grounding**

- **Pin 87a**
  - Brain GND (Black)
  - See 99904034

**Battery**

- **12V**
- **+12V**

**ETM5 Electronic Throttle Control**

- **7741246**
- **RPM1**
- **RPM2**
- **RPM3**
- **VRPM**

**View Looking Into OBD-II Connector**

- **Located on Lower Dash On Driver’s Side**

**Chevy 2004**

- **PTO Harness**
- **PTO Solenoid**
- **PTO Pressure Switch**

**Wiring Colors**

- **Yellow**
- **Green**
- **Black**
- **Orange**
- **White**
- **Red**

**Diagrams**

- **Ground (Pin 85) for 70amp relay that controls interlock power**
- **Chassis Ignition Relay**
  - Splice in with chassis ignition wire (Yellow/Orange)
  - See 99904034

**Electrical Connectors**

- **FWD-Ckt CDC64**
  - Blunt cut (Yel/Org)
  - See 99904889-5
Ford SD Installation Photos (MY2011) (99904889-5)

1. LOOSEN SCREWS UNDER STEERING COLUMN.
2. C250 IS LOCATED ON LEFT SIDE OF STEERING COLUMN.

PTO CIRCUITS
- PTO RS1 (YELLOW/GREEN)
- PTO RS2 (BLUE/ORANGE)
- PTO_RELAY (BLUE/WHITE)
- PTO_RPM (GREEN)
- PTO_REF (WHITE/BROWN)
- PTO RTN (GRAY/VIOLET)
- BCP_SW (VIOLET/BROWN)
- BCP_LAMP (BROWN)
- IGNITION (YELLOW/ORANGE)