

Ag Leader[®] **Technology**



SureDrive™ Generator (200-amp)

**Generator Kit
Installation Instructions
PN: 2006520-ENG REV. A**

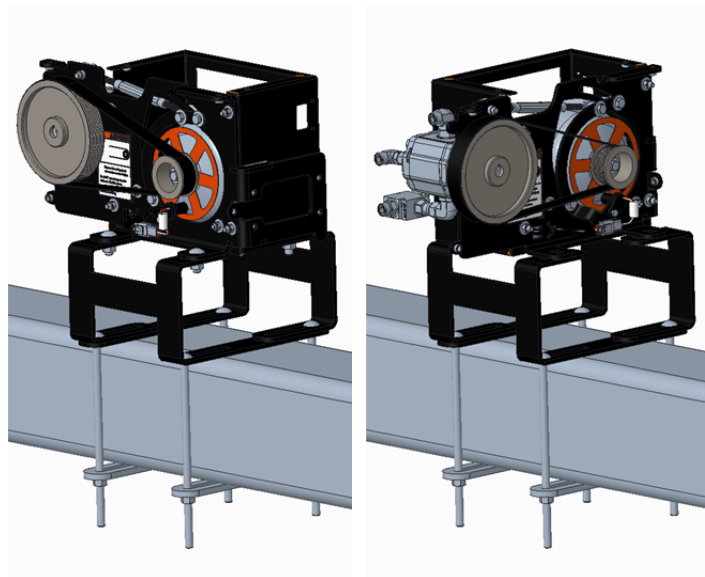
Installation Overview

Required Parts

Part Number	QTY	Description
4004364	2	Bracket - valve block, strap
4004836	1	Battery box - group 24
4004837	2	Bracket - generator mounting
4005077	1	Bracket - generator battery tray
4005187	1	Cable - PCM I/O
4005593-2	1	Cable - Alternator Power Output
4005594-2	1	Cable - Alternator Ground Output
4005595-4	1	Cable - Generator Battery
4005738	1	Generator - 200A
*2002001-25750	4	Hex Head Bolt - 1/4 x 7.5"
*2002001-31075	4	Hex Head Bolt - 5/16 x 3/4"
*2002021-50125	4	Carriage Bolt - 1/2 x 1-1/4"
*2002051-50	8	Hex Nut - 1/2"
*2002071-25	4	Flat Washer - 1/4"
*2002071-31	4	Flat Washer - 5/16"
*2002071-50	8	Flat Washer - 1/2"
*2002121-0507	4	Carriage Bolt - 1/2-13 x 7"
*2002121-0512	4	Carriage Bolt - 1/2-13 x 12"
*2002121-0514	4	Carriage Bolt - 1/2-13 x 14"
**4101510 Or **4101511	See notes	Power Distribution Box Kit - 3 Sections Or Power Distribution Box Kit - 6 Sections
***4101515	See notes	Hydraulic Tee Kit into SureForce
* Hardware can be located in Generator Hardware Kit P/Ns 4101243-22		
** Power Distribution Box Kits should be ordered based on number of planter power sections		
*** Kit Required only if generator is sharing hydraulic circuit with SureForce downforce system		

Installing Power Cables, Distribution Box and Battery Tray

1. Remove belt shield and alternator shield to access mounting points, save bolts for reinstallation.
2. Mount generator to toolbar using provided brackets and carriage bolts (various lengths of bolts are provided for additional mounting flexibility).
 - **IMPORTANT:** Be careful not to over-tighten carriage bolts. Over-tightening can bend the brackets securing the generator.
 - **NOTE:** Generator can be mounted in any orientation. Keep hydraulic hose routing in mind when choosing orientation.

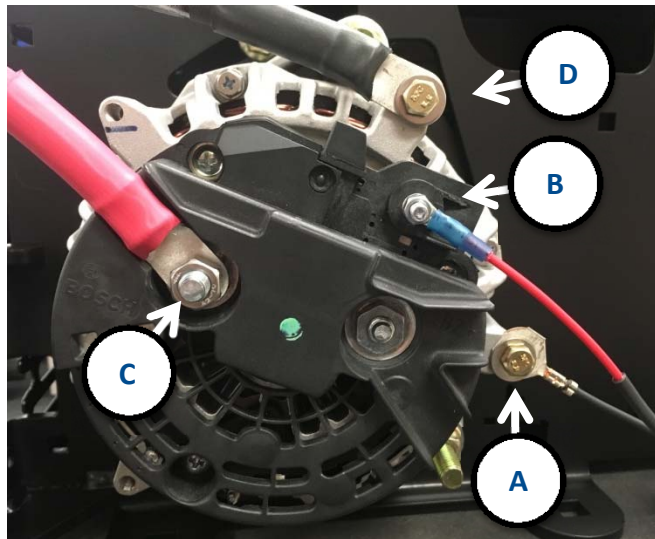


3. Locate the following cables for connection to alternator:

- 4005593-2 – Alt. Power
- 4005594-2 – Alt. Ground

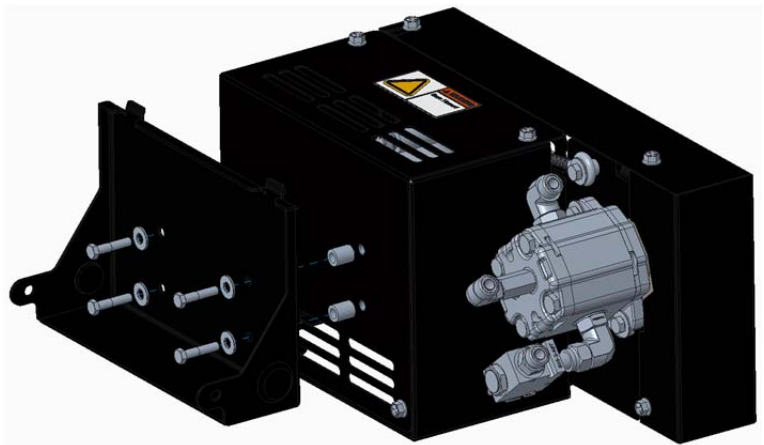


4. Connect power cables to alternator using original alternator hardware.
 - 4005024 – Generator Sensors (Factory Installed)
 - (A) Chassis Ground - Black Wire
 - (B) Alternator Enable (D+) - Red Wire
 - 4005593-2 – Alternator Power (C) Alternator Power
 - 4005594-2 – Alternator Ground (D) Alternator Ground
5. Route Alternator Power and Ground cables out of the box through the hole to the left of the alternator.
6. Reinstall all shields.



7. Remove bolts on side of Power Distribution box to separate front from back, save bolts for reinstallation.

8. Attach the back of the power distribution box to either side of the generator using (4) 5/16" x 1-1/2" bolts, flat washers, and spacers.



10. Reattach front of Power Distribution Box and hold into place with bolts previously removed.

11. If desired, PCM may be mounted to the top of the distribution box by removing the (2) bolts and attaching module with (2) 3/16 x 2-1/2" and flat washers (not shown).



12. Attach the battery tray to the side of the generator using (4) 5/16" x 1-1/2" bolts, flat washers, and (4) spacers.

13. Attach battery box to tray with (4) 1/4" x 7-1/2" bolts.

14. Install battery (not provided).

- A group 34 battery recommended
- A group 24 battery will also work



Connecting Remaining Cables



15. Connect large red wire from alternator and red wire from Battery Cable to the Power Stud using 3/8" nut and lock washer. Cover terminals with boot on battery cable.

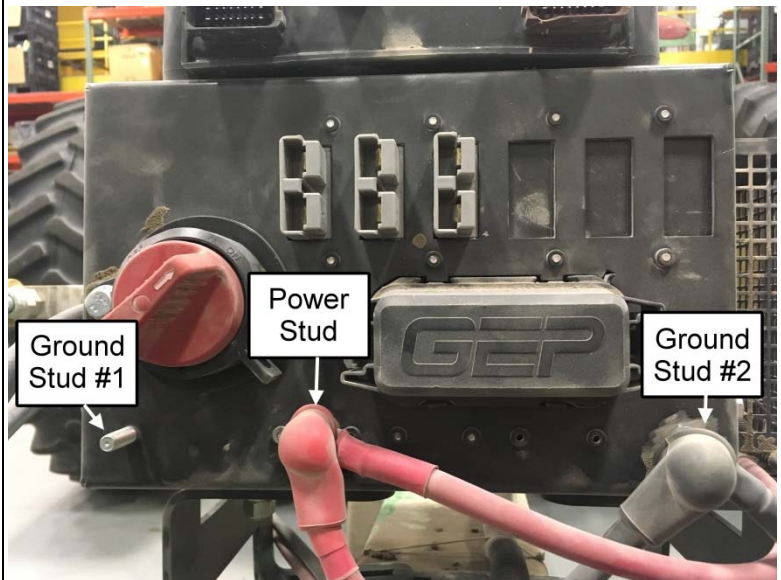
16. Connect large black wire from alternator and black wire from Battery Cable to either Ground Stud #1 or Ground Stud #2 with 5/16" nut and lock washer. Cover terminals with boot on battery cable.

- **NOTE:** Ground Cables can be attached to the same stud or separate studs depending on necessary cable routing.
- **NOTE:** Use nut provided in hardware kit to hold cables in place, the nut already installed on Ground Studs are required to provide additional electrical contact area.

17. Route opposite end of battery cable, and attach the black wire to the negative terminal and red wire to the positive terminal of the battery.

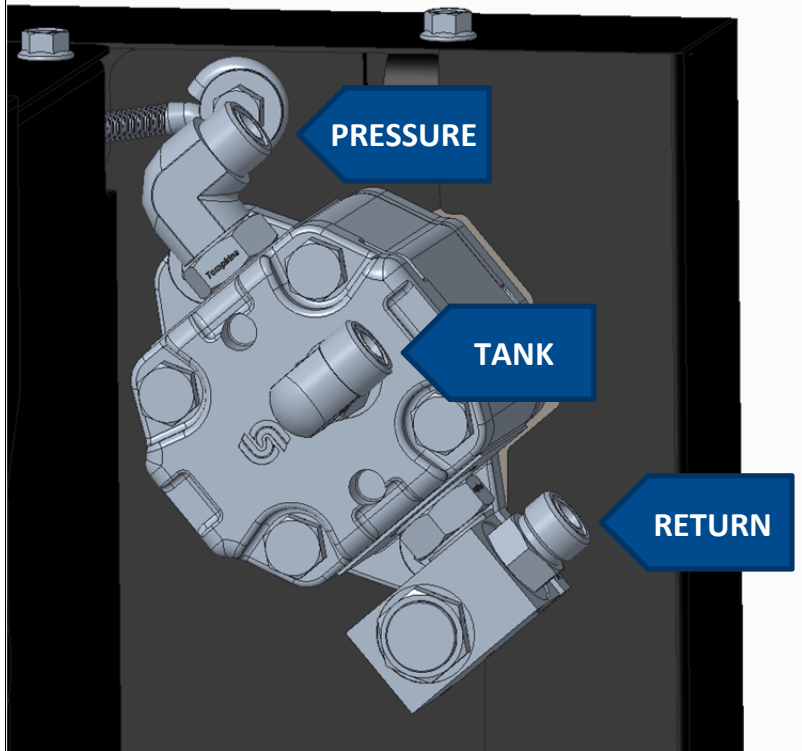
18. Connect 2-pin connector on the Battery Cable to the 2-pin connector on the Generator Sensors Cable inside generator box.

19. Install battery box cover.



Hydraulics

1. Attach hydraulic hoses to generator.
 - **PRESSURE**
 - **RETURN**
 - **TANK (or Case Drain or Zero-Pressure Return)**
 - **NOTE:** Fittings may be configured slightly different from shown, refer to markings on motor to verify correct ports.
2. Route **PRESSURE** and **RETURN** hoses to hitch, ensuring enough slack where planter folds and avoiding points that may pinch, wear or damage hose.

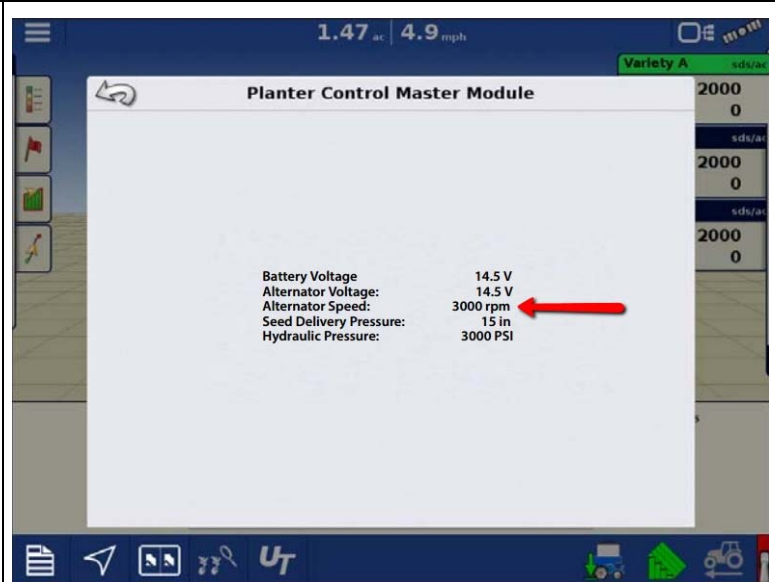


3. If planter seed delivery or vacuum fans, or other devices are utilizing the **TANK/ZERO-PRESSURE RETURN** connection on the tractor, the **TANK** hose should be connected to an existing line.
4. If Downforce System is installed, install Run Tees on the input/Tractor side of the main valve block and connect the hoses coming from the generator to one port of the run tee and the hoses to the tractor to the second port.
 - **NOTE:** Reference Tee into Generator instructions (P/N: 2006513-ENG) for further clarification.

IMPORTANT: For hydraulic motors, the pressure hose should be connected to the **Retract** port of SCV, so float position can be used to safely turn off spinning motors. Return hose can be connected to the **Extend** port of the same SCV or to a motor return port.

Generator Start-Up Procedure

1. Before engaging generator hydraulic source, set the hydraulic flow to a minimum output (< 1 GPM). If SureForce is installed on same hydraulic circuit needle valve (gold knob on hydraulic motor) should be completely shut.
2. Enter the Planter Control Master Module diagnostic screen to view the alternator speed.



3. Engage generator hydraulic source.

- **NOTE:** Steps 4 and 5 are for systems with SureForce on the same circuit only; if the generator does not share a hydraulic circuit, adjust tractor flow to set desired speed.
4. Set tractor hydraulic flow to max flow. Slowly open the needle valve until desired RPM is reached.
 5. Once desired RPM is reached, tighten the bottom knob to lock the needle valve setting in place.
 - **NOTE:** Recommended operating Alternator RPM under no load is between 3500 and 4000 RPM (4000 RPM \approx 6 GPM), when fully loaded alternator speed will drop
 - Down force input pressure will need to be above 2200 psi when on same hydraulic circuit as Generator.
 - Battery Voltage and Alternator Voltage should be within the range of 13.5 V to 15.5 V when charging. The Alternator Voltage will normally be equal or slightly higher than the Battery Voltage.
 - Operating alternator higher than 6500 RPM may cause damage to the hydraulic motor.

Important: When powering down generator, **ALWAYS** put SCV to "FLOAT" position for at least 10 seconds before disengaging SCV. This ensures hydraulic motor does not come to a sudden stop which will damage the motor.