

**VersaGuard PRO Console  
OEM Guide**

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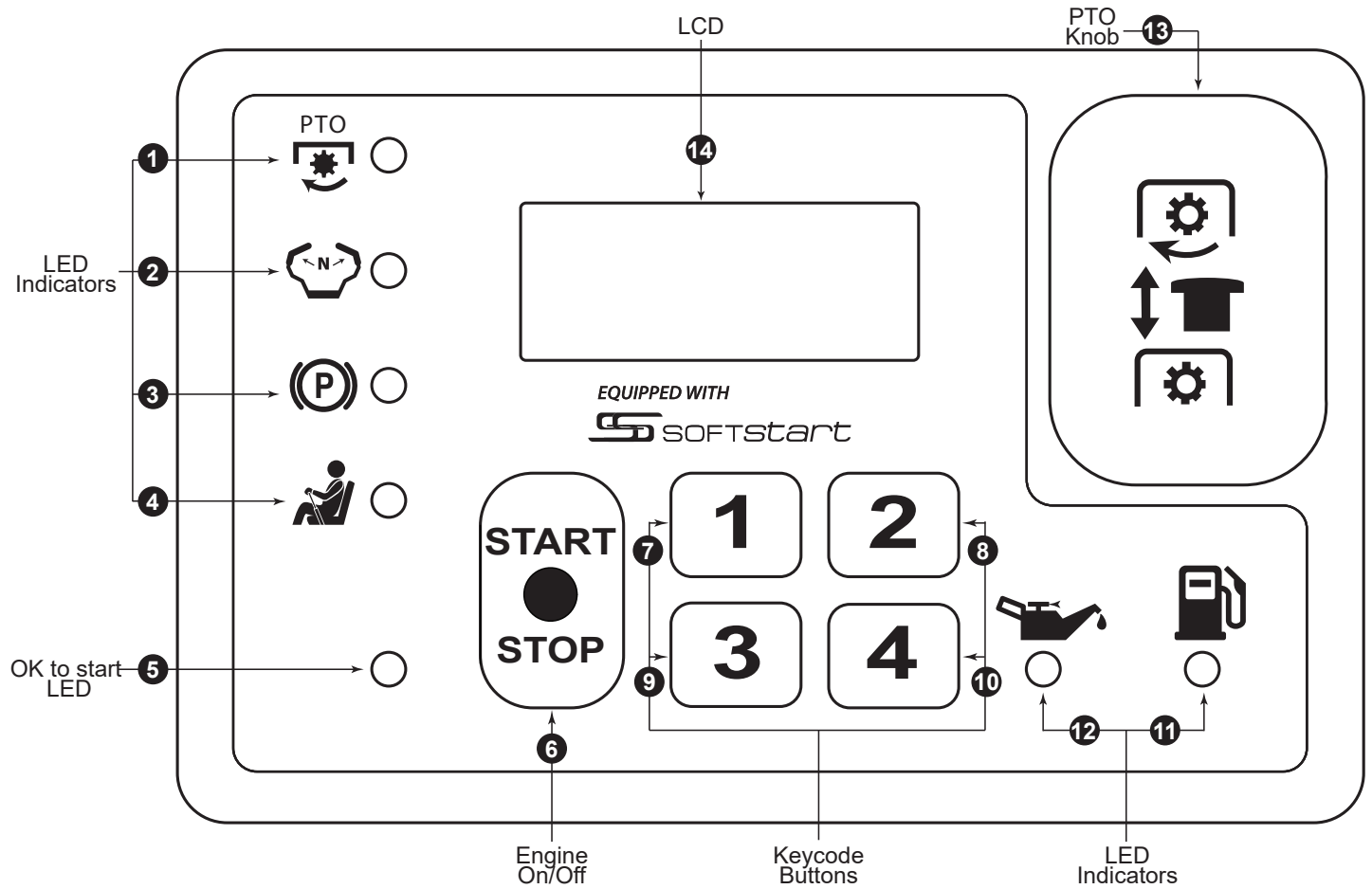
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# VersaGuard PRO Console System

OEM Guide

Important Note: This manual contains instructions for all VersaGuard PRO Console functions and features. (Your Console may not be equipped with all features, functions or buttons as described.)

## 1 FUNCTION OVERVIEW



### 1.1 LCD INFORMATION CENTER

DISPLAYS	
Engine hour meter	non-resettable
Tachometer	shows engine RPM
Volt meter	with HIGH/LOW warning
Service Alerts	informs what to service and when
Single fuel tank level	shows fuel level while the console is unlocked

**1.2 LED INDICATORS** - Equipment condition status indicators (11), (12) and operator interlock indicators (1), (2), (3), (4), alert the operator when necessary.

**1.3 KEY CODE BUTTONS** - Click buttons (7), (8), (9), (10) to unlock and power up console.

## **2 OPERATION OVERVIEW**

**2.1 UNLOCKING THE CONSOLE** - Enter the key code to power up the console and enable specific functions such as starting and stopping the engine, engaging the PTO, etc.

**2.1.1** Enter your key code using the key code buttons (7), (8), (9), (10) to unlock and power up the console system (the default key code is OEM assigned but may be changed – see section 2.4 “Personalizing Your Key Code”.) As you enter the key code it is displayed on the LCD (14) always showing the 5 most recently entered digits.

NOTE: If the incorrect code is entered the LCD (14) flashes: “WRONG” “CODE”.  
Reenter correct code.

## **2.2 STARTING AND STOPPING THE ENGINE**

**2.2.1** After the console is unlocked, the following conditions must be met in order to start the engine:

- a. Operator must be in the seat.
- b. Parking brake must be applied.
- c. Drive levers must be in their neutral position.
- d. PTO knob must be in the down position.

If all of the above conditions are met, the “OK to Start” LED (5) lights green, indicating the engine is safe to start.

If any of the above conditions is not met, the corresponding indicator LED (1-4) lights solid red to indicate the conditions are not met and the “OK to Start” LED (5) lights red to indicate the engine is not safe to start.

NOTE: If the operator remains in the seat with the engine off, the console remains powered up and ready to start for 15 minutes. Once the operator exits the seat the console powers down in 15 seconds.

**2.2.2** Press and hold down the START/STOP button (6) to crank the engine. Release when the engine starts.

NOTE: You may feel there are two switches located under the START/STOP button – both must be pressed to start the engine. Only one is required to shut off the engine.

**2.2.3** To shut off the engine simply press the START/STOP button (6) once.

## **2.3 PTO OPERATION**

**2.3.1** To engage PTO, lift Knob (13) to up position.

**2.3.2** To disengage PTO, push Knob (13) to down position.

## **2.4 PERSONALIZING YOUR KEY CODE**

**2.4.1** Record your new key code (1 to 12 digits) for safe keeping. Only a dealership service call can reset a forgotten code.

**2.4.2** Engine must be stopped & console unlocked with PTO Knob (13) down.

**2.4.3** Hold KEY CODE BUTTONS one (7) and two (8) down for three seconds until the display (14) shows "CHNGE""CODE" followed by a blank screen.

**2.4.4** Enter the new key code into the console. If more than 12 digits are entered the display (14) shows "FULL".

NOTE: The display always shows the 5 most recently entered digits.

**2.4.5** After entering the new code, pull the PTO Knob (13) up. If the new code is unusable then the display (14) shows: "BAD""CODE". If this occurs, push the PTO Knob (13) down and return to step 1 with a different code.

NOTE: If the user does not enter a code and pulls the PTO Knob (13) up, the display shows: "EMPTY""CODE".

**2.4.6** If the new code is usable, the console prompts the user to re-enter the code again by displaying: "ENTER""CODE""AGAIN". Reenter the code used in step 4, then push the PTO Knob down (13).

**2.4.7** The console confirms that the two key codes entered in steps 4 and 6 match. If they do match, the console saves the new unlock code and displays “SAVED” “CODE” before returning to the previous display mode. If they do not match the console displays “NO” “MATCH” and the user must return to step 1.

NOTE: If no input is received for 10 seconds the console displays the message “TIME” “OUT” before returning to the previous display mode, retaining the previous unlock code.

**2.5 MECHANIC’S KEY CODE** - The mechanic’s key code is OEM assigned and allows dealerships the ability to power up the console as well as start and operate the mower. This makes it convenient for dealership servicing where mower pickup and delivery is required and the dealership does not know the owner’s personalized key code.

A console powered up by the mechanic’s key code will remain active for 15 minutes after engine shut down, and then power down. Power down is indicated by all LEDs (1), (2), (3), (4), (5), (11), (12) being shut off. The mechanic’s or user code can then be entered to unlock the console.

NOTE: The dealership technician can power down the console and exit the mechanic’s mode at any time by simultaneously depressing key code buttons two (8) and three (9) for three seconds while the engine is off.

**2.6 GENERAL CARE** - The Versaguard console is a completely sealed instrument designed to withstand exposure to outdoor environments. Pressure washing of the console face is acceptable when water spray pressure does not exceed 2000psi while using a 30 degree or greater nozzle tip (fan spray) at a distance no closer than 12”. Oil, gasoline, chemicals and detergents spilled on the console should be wiped off immediately with a clean dry cloth.

Never use abrasive or corrosive cleaning products on the console.

**2.7 INTERLOCK SAFETY LOGIC** - This section describes the console interlock safety requirements for specific operations. LEDs (1, 2, 3, 4) flash to indicate the cause when a function is prevented or interrupted due to interlock safety logic, and can light solid to indicate the system is not safe to start.

## **2.7.1 WHILE THE ENGINE IS NOT RUNNING**

### **2.7.1.1 STARTING THE ENGINE:**

- a. Operator must be in the seat.
- b. Parking brake must be applied.
- c. Drive levers must be in their neutral position.
- d. PTO knob must be in the down position.

## **2.7.2 WHILE THE ENGINE IS RUNNING**

### **2.7.2.1 PUTTING THE MOWER INTO DRIVE:**

- a. Operator must be in the seat.
- b. Parking brake must be off.

### **2.7.2.2 EXITING THE SEAT WITH MOTOR RUNNING:**

- a. Parking brake must be applied.
- b. Drive levers must be in neutral position.

### **2.7.2.3 OPERATING THE PTO:**

- a. Operator must be in the seat.

**2.8 BYPASSED OR FAILED SAFETY INTERLOCK SWITCH DETECTION** - While monitoring the safety interlocks, the console identifies interlock switches that have failed closed or have been bypassed closed. When the console detects a failed or bypassed switch it slowly flashes the corresponding indicator LED and flashes "SEAT"/"BRAKE"/"DRIVE"/"INTLK"/"FAULT" on the LCD (14). The console allows the equipment to continue operating normally for a short time after detecting a potentially faulty switch to allow the equipment to return to a service area, locking out engine operation after this time is exhausted.

To clear this error, replace or repair the faulty interlock switch and open the switch while the console is unlocked.

**2.9 SERVICE ALERTS** - Service alerts remind the operator to perform specific maintenance tasks based on equipment run time. While the console is unlocked, click key code button 1 (7) once to enter service alert display, and again as needed to select the desired alert to display. The display returns to engine hour meter after 30 seconds of inactivity.

**2.9.1 TO RESET A SERVICE ALERT:**

- a. Begin with the console unlocked. The console must be unlocked to reset a service alert.
- b. Select the service alert to reset by clicking keypad button 1 (7) until the LCD shows the desired service message.
- c. Press and hold keypad button 1 (7) for 6 seconds.
- d. Release the button when the LCD shows "00000"

**2.10 ALARMS**

**2.10.1 LOW OIL ALARM** - If the oil pressure switch closes for ten seconds while the engine is running the console displays "OIL" "PSI" on the LCD (14) , flashes the low oil alarm LED indicator (12), and shuts down the engine. The alarm is reset when the engine is restarted, or when the console goes to sleep.

The alarm may also be configured to lock out the PTO but leave the engine running. In this configuration the alarm is immediately reset when the oil pressure switch opens.

**2.10.2 LOW VOLTAGE ALARM** - While the console is unlocked if the system voltage is below 12.0 V for 90 seconds the console displays "LOW VOLTS" and the current system voltage. This alarm is reset when the system voltage rises above 12.0 V or when the console goes to sleep.

**2.10.3 HIGH VOLTAGE ALARM** - While the console is unlocked if the system voltage is above 15.0 V for more than 2 seconds the console displays "HIGH VOLTS" and the current system voltage. This alarm is reset when the system voltage drops below 15.0 V or when the console goes to sleep.



**2.11 PRELOADING HOURS** - This function allows a mechanic to set hour meter or timer time on a new console to match those stored on the console to be replaced. Hour meter or timer times cannot be reduced using this function.

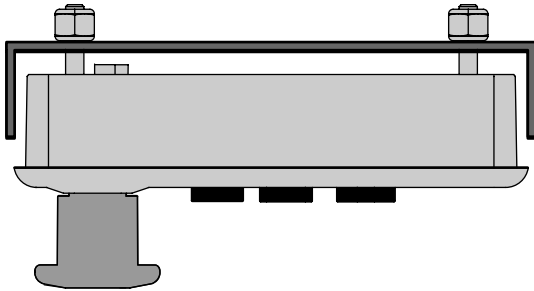
- a. Unlock using mechanic's key code.
- b. Use key code button 1 (7) to select hour meter mode.
- c. With PTO knob down, press and hold keycode button 1 (7) for 5 seconds, until the display shows "SET".
- d. Use key code button 2 (8) to raise the new time and key code button 4 (10) to lower the new time
- e. When the desired time is shown, hold key code button 1 (7) for 5 seconds to save the new time.
- f. When the display shows "SAVED" the new time has been saved to internal storage. If the button was released too early, or if the new time is not different from the current time, the display reads "NO CHNGE" to indicate that the new time was not saved.

**2.12 CONSOLE DIAGNOSTICS** - When a fault is detected by the console it is displayed on the LCD (14) as a numeric code. Below is a chart of the error codes and potential sources.

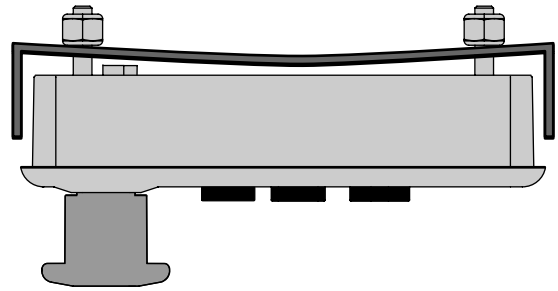
ERROR CODE #	DESCRIPTION
10	Continuous PTO clutch current too high – check PTO clutch coil resistance.
11	Function inhibited because continuous system current too high.
12	Check battery condition and connections, check starter solenoid wiring for shorts.
13	Check battery condition and connections, check PTO and PTO wiring for shorts.
14	Check battery condition and connections, check fuel solenoid and fuel solenoid wiring for shorts.
15	Check headlight wiring for shorts.
16	Check battery condition and connections, check deck motor and wiring for shorts.
17	Check battery condition and connections.
18	Check battery condition and connections, check starter and fuel solenoid connections for shorts.
19	Check battery condition and connections, check PTO and PTO wiring for shorts.
20	Check battery connections, check fuel solenoid and wiring for shorts.
21	Check battery connections, check headlight wiring for shorts.
22	Check battery condition and connections, check deck motor and wiring for shorts.
23	Check battery condition and connections, check all wiring for shorts.
24	Excessive system current.
25	Check PTO current.
26	Excessive system current.
27	Excessive system current, check headlight.
28	Excessive system current, check for binding deck lift or problem with motor.
29	Excessive system current.
30	Console internal fault.
39	Console internal fault, some or all power functions inhibited.
40	Console internal fault.
41	Console internal fault.
42	Check PTO wiring.
43	Check PTO wiring.
44	Low PTO on current, check PTO wiring and connections.
45	Console internal fault.

**2.13 CONSOLE INSTALLATION** - Consoles are supplied with a mounting bracket and two lock nuts. Tighten nuts to 16 In-Lb (+/-2 In-Lb). Do not over tighten.

**CORRECT** nut torque

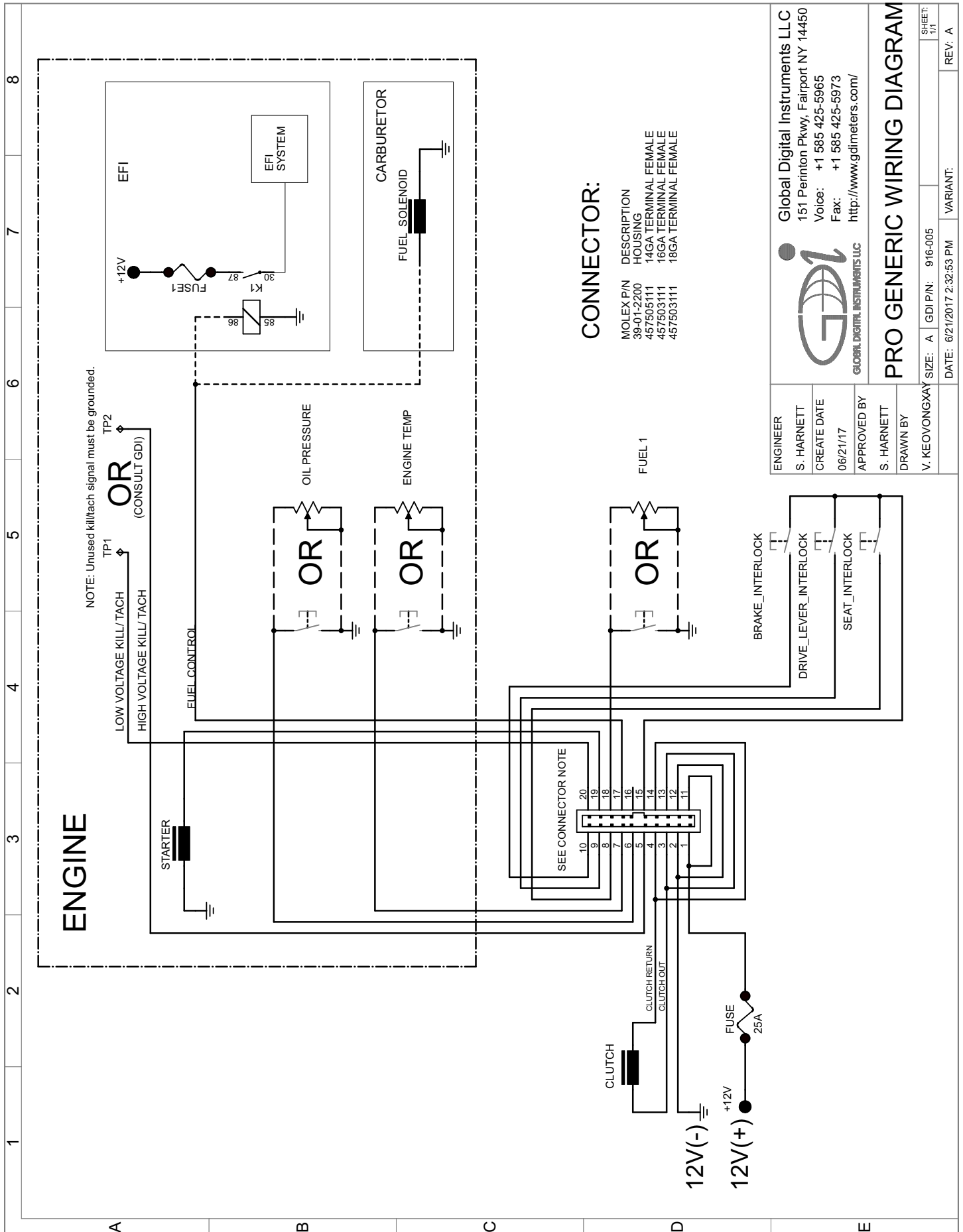


**INCORRECT** over tightening causing bowing of bracket

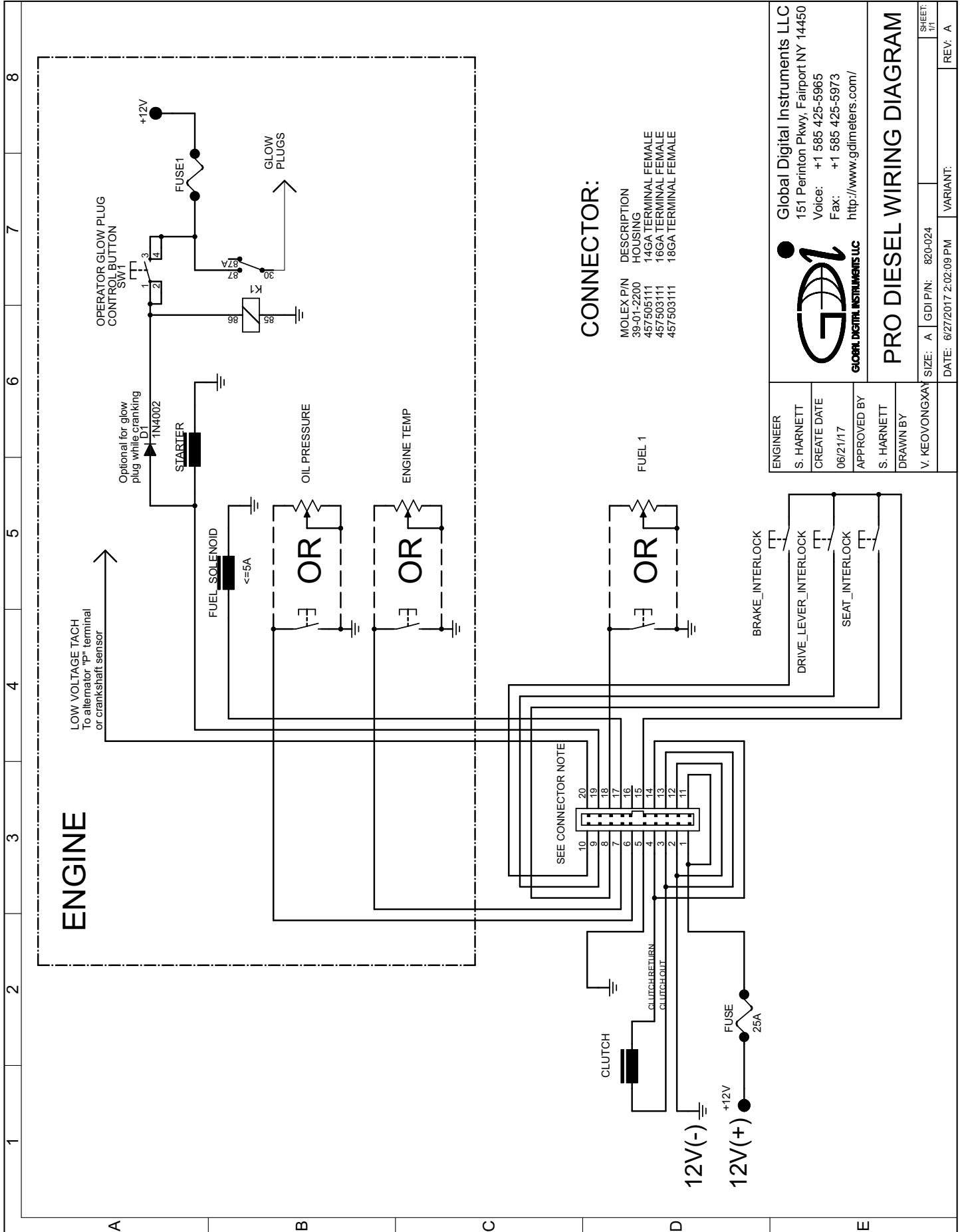


**2.14 ENGINE ELECTRONICS INTERFACE** - It is highly recommended for OEMs to communicate with their engine suppliers the importance of not changing the engines electrical system in any manner after the OEM has proven out console interface and started mower production. Changes may directly affect the consoles operation of the mower and result in OEM production line downtime. Engine suppliers should be informed by the OEM of the importance of communicating any proposed electrical changes in advance along with providing engine samples to test for console interface compatibility.

### 3.1 CARB & EFI WIRING DIAGRAM




### 3.2 DIESEL WIRING DIAGRAM



#### CONNECTOR:

MOLEX P/N	DESCRIPTION
39-01-2200	HOUSING
457505111	14GA TERMINAL FEMALE
457503111	16GA TERMINAL FEMALE
457503111	18GA TERMINAL FEMALE

 <p>Global Digital Instruments LLC 151 Perinton Pkwy, Fairport NY 14450 Voice: +1 585 425-5965 Fax: +1 585 425-5973 http://www.gdimeters.com/</p>	
ENGINEER	S. HARNETT
CREATE DATE	06/21/17
APPROVED BY	S. HARNETT
DRAWN BY	V. KEOVONGXAY
SIZE: A	GDI P/N: 820-024
DATE: 6/27/2017 2:02:09 PM	VARIANT:
SHEET: 1/1	REV: A

### PRO DIESEL WIRING DIAGRAM