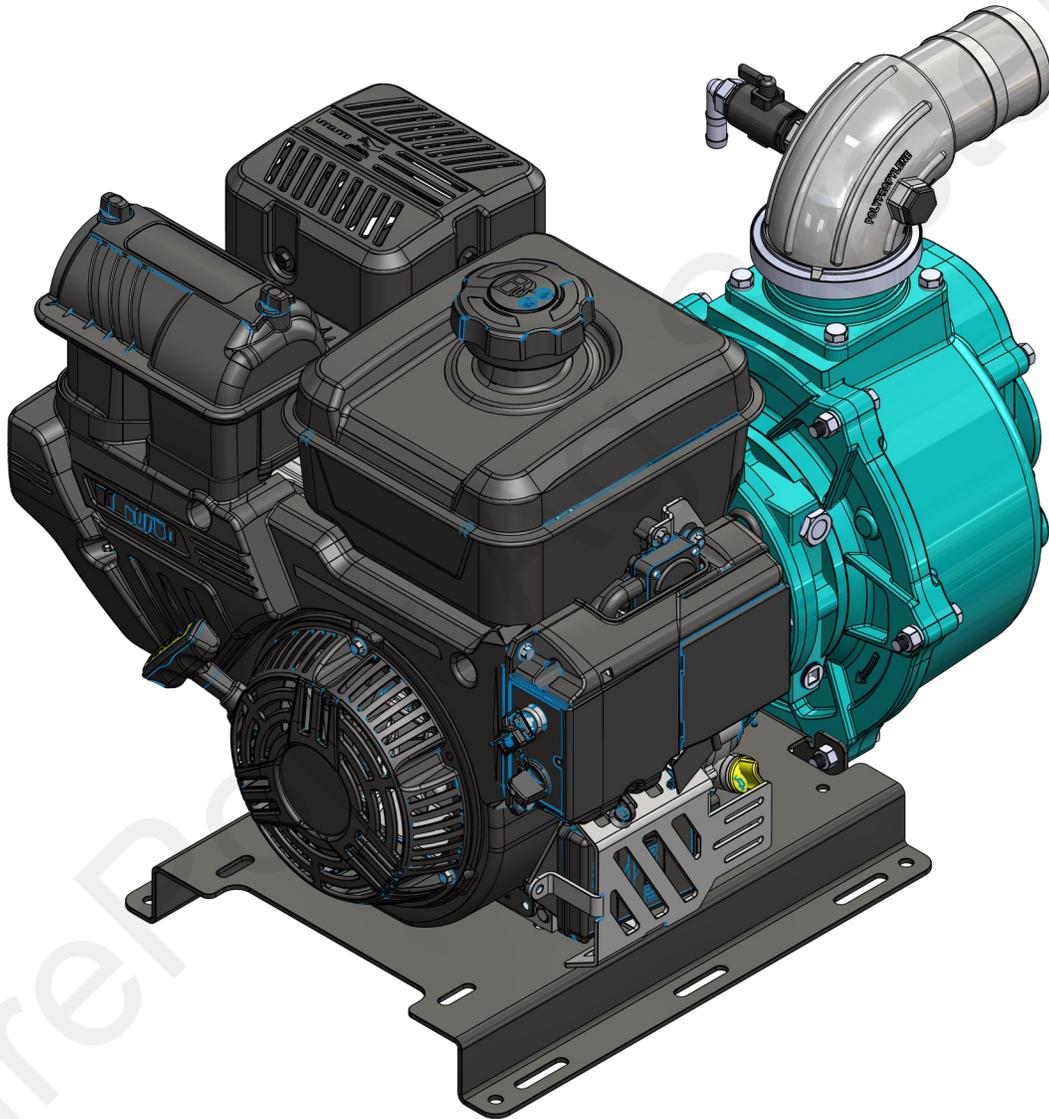


396-6544Y1

Vanguard 400EFI Gas Engine 3" Cast Iron John Blue Pump



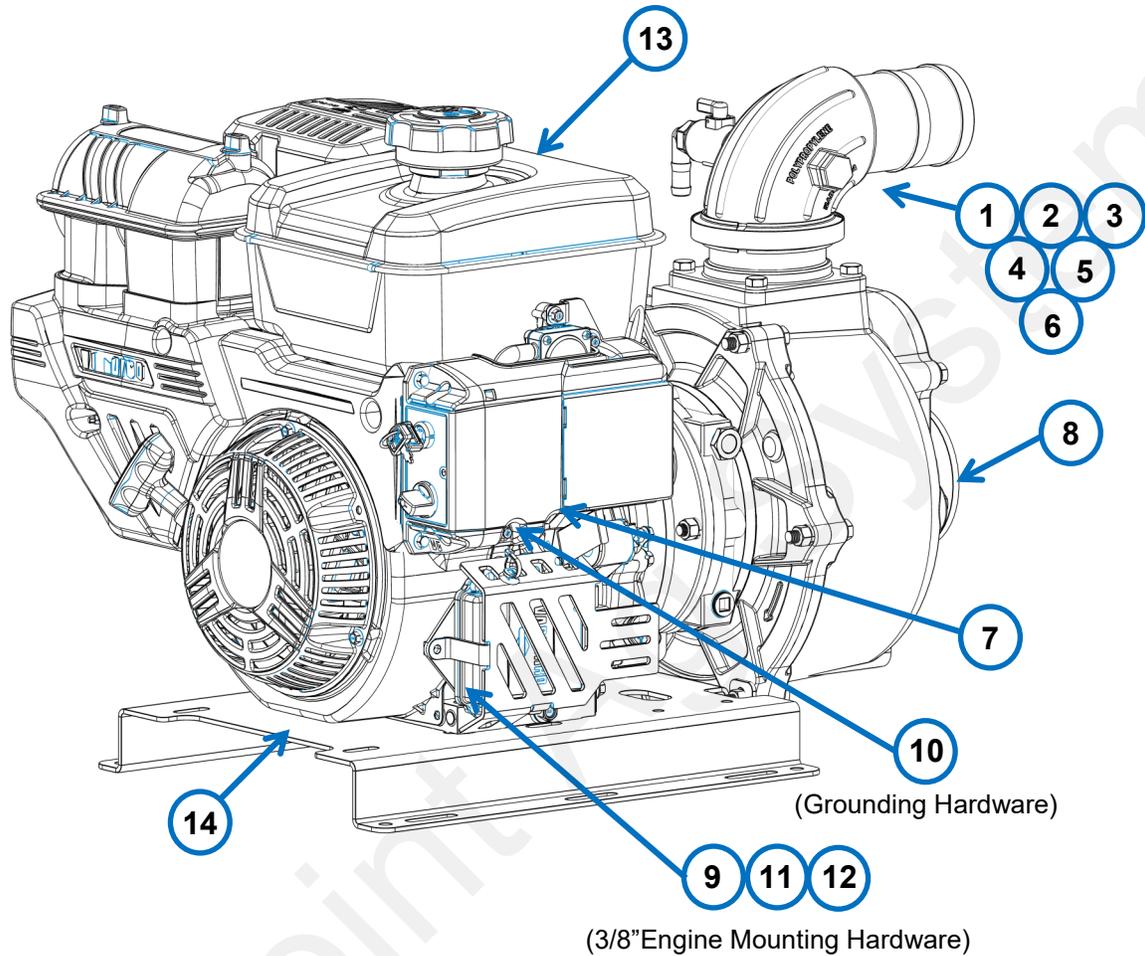
Fill the engine with oil prior to operation!

Read this manual and the operation and maintenance manual for the Vanguard engine and John Blue pump in their entirety prior to operation. Failure to follow warnings and instructions may result in serious personal injury or death.



290-05-6409Y1

John Blue 3" Cast Iron Transfer Pump, Vanguard 400 EFI/ETC 14.0HP Parts and Dimensions



Item No.	Part Number	Description	Qty
1	100-050PLUG	1/2" Pipe Plug	1
2	101-050050-90	1/2" MPT x 1/2" HB - 90 Degree	1
3	102-050050LVMTV	1/2" MPT x 1/2" FPT Micro Valve	1
4	105-300BRBSWPG90	3" Manifold x 3" HB - 90 Degree Sweep with 1/2" Tap	1
5	105-300G-H	3" EPDM Manifold Gasket	1
6	105-FC300	3" Manifold Clamp	1
7	208-05-6482Y1	QuickDraw Vanguard Engine Control Harness	1
8	290-05-SP-3350-BS-FLG	John Blue, 3" Cast Iron Self-Priming Transfer Pump (Pump Only)	1
9	300-060200-5	3/8" x 2" Hex Head Bolt - G5	4
10	323-M6	M6 Flange Nut	2
11	321-06	3/8" Nylock Nut	4
12	330-06	3/8" Flat Washer	8
13	364-25E3370034F1	Vanguard 400EFI/ETC, 14.0HP, 12V Elec Start, 20A Charging	1
14	400-4785Y1-RV	John Blue - iGX390 Pump Mounting Base Plate	1
15	291-05-122319MOB	1 Quart Mobil Super 10W30 For Transfer Pumps	1

Vanguard 400EFI Gas Engine



Vanguard 400EFI Specifications

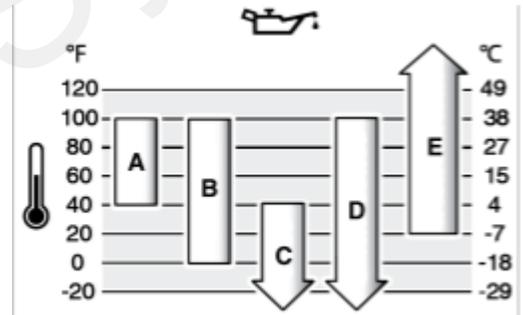
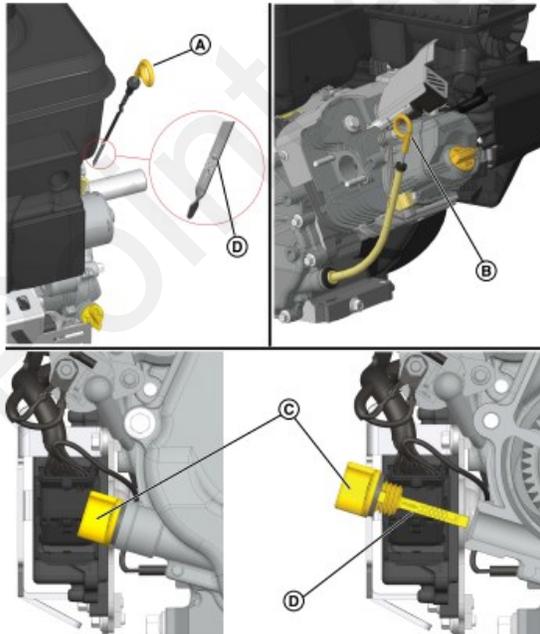
Engine Type: Air-Cooled 4-Stroke OHV
 Displacement: 24.898 ci (408 cc)
 Net Torque: 19.5 ft-lb @ 2,500 RPM
 PTO Shaft Rotation: Counterclockwise
 Charge Coil: 20A
 Oil Capacity: 1 US qt
 Fuel Tank Capacity: 6.4 US qts
 Dry Weight: 87 lb
 Dimensions: 21.3" x 14.3" x 18.6" H

Engine Oil - FILL PRIOR TO OPERATION

Use the provided oil to fill the engine prior to operation, or use the recommended oil by the manufacturer. 10W-30 is recommended for general use. Other viscosities shown in the chart may be used when the average temperature in your area is within the indicated range.

To fill the Engine:

1. Remove the engine oil fill cap (C).
2. Add oil into the oil fill cap until dipstick (A,D) reads correct oil level.
3. Replace engine oil fill cap.



A	SAE 30
B	10W-30
C	5W-30
D	Synthetic 5W-30
E	Vanguard Synthetic 5W-30

DO NOT USE E85 ALTERNATIVE FUEL IN YOUR VANGUARD ENGINE!!

Always refer to your Vanguard owner's manual for a list of recommended fuel and the current approved additives.



Vanguard 400EFI Parts & Operation



Compare the callout letters in Figures 1, 2 and 3 to the engine controls¹ in the list that follows:

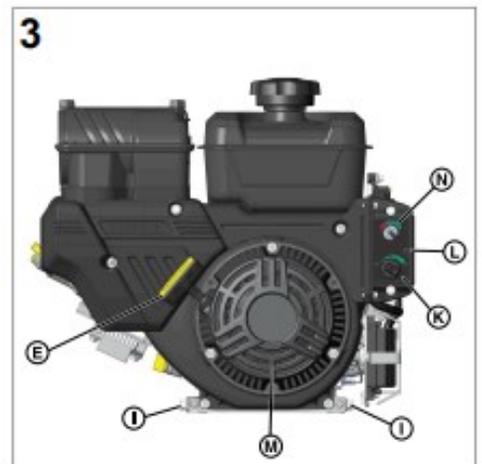
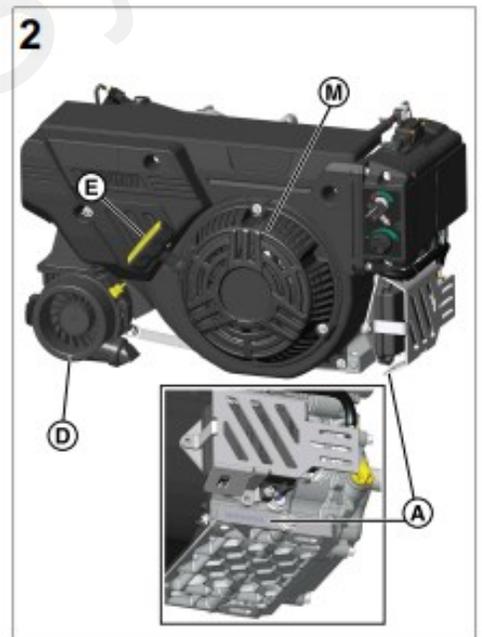
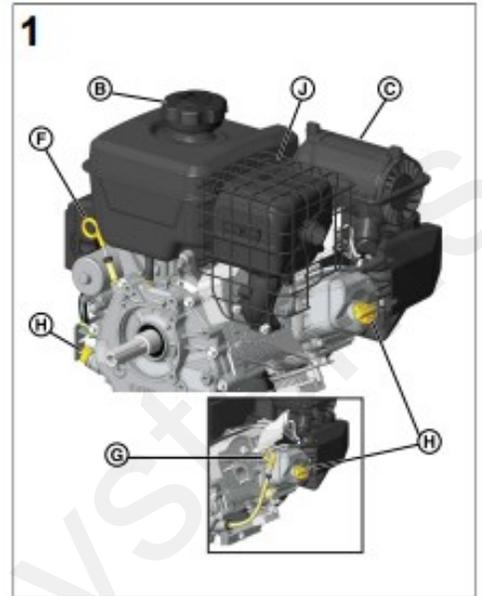
- A. Engine Identification Numbers **Model - Type - Trim**
- B. Fuel Tank and Cap
- C. Air Filter, High Mount
- D. Air Filter, Low Mount
- E. Starter Cord Handle
- F. Oil Dipstick, Upper
- G. Oil Dipstick, Lower (if installed)
- H. Oil Fill
- I. Oil Drain Plug
- J. Muffler, Muffler Guard (if installed), Spark Arrester (if installed)
- K. Electronic Throttle Control (if installed)
- L. Check Engine Light (if installed)
- M. Blower Housing Cover
- N. Key Switch (if installed)

Operation and Maintenance

Refer to your Vanguard owner's manual for safety information, operation and maintenance of your engine and technical information.



SCAN ME



John Blue SP3350-FLG 3" Centrifugal Transfer Pump



SP3350 Pump Specifications

Max Flow: 400 GPM

Max Pressure: 64 PSI

Flow @ 25 PSI: 365 GPM

Max Speed: 3,600 RPM

Plumbing Size: 3" Manifold Flange Connection

Housing: Cast Iron Self Prime

Maintenance

- Inspect the seal reservoir fluid level using the sight window - it should be above the middle of the window.
- If dirty, replace the fluid by draining and replacing with a 50/50 mixture of ethylene glycol antifreeze and water. The recommended service interval for this fluid is 100 hours.
- If the fluid in the seal reservoir becomes cloudy or loses fluid after use, the impeller side seal is leaking and should be replaced.
- Inspect the pump frequently for any leaks form the housing gaskets or shaft seal.

Storage & Winterization

****IMPORTANT - KEEP AIR OUT OF THE PUMP AND KEEP IT FROM FREEZING****

- Keep air out of the pump! This is the only way to prevent corrosion. Even for short periods of storage, the entrance of air into the pump causes rapid and severe corrosion. Freezing temperatures can cause the fluid or water to freeze internally to the pump, which can cause severe damage to castings.

To prevent excessive corrosion of the pump's cast iron components:

- Flush pump thoroughly with 5 to 10 gallons of a solution that will neutralize the liquid last pumped (refer to chemical manufacturer instructions). Fill the pump with clean water and DO NOT DRAIN. Keep pump sealed to exclude air by placing plugs in the suction and discharge lines to keep pump full. For long-term storage (more than 2 weeks), use straight RV-antifreeze (which has a corrosion inhibitor) to fill the pump after flushing.

To protect pump from freezing:

- Flush pump per instructions above and IMMEDIATELY fill pump with straight RV-Antifreeze. Place plugs in suction and discharge lines to keep pump full and exclude air.

For full Parts and Instruction Manual, scan the QR Code to the right.

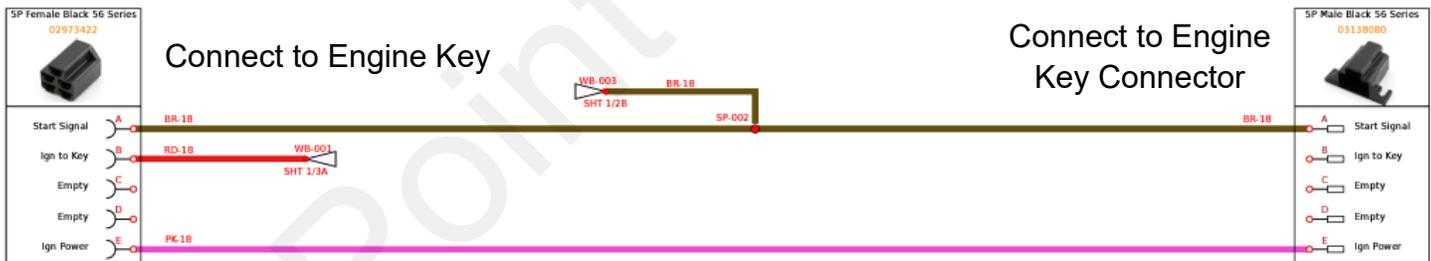
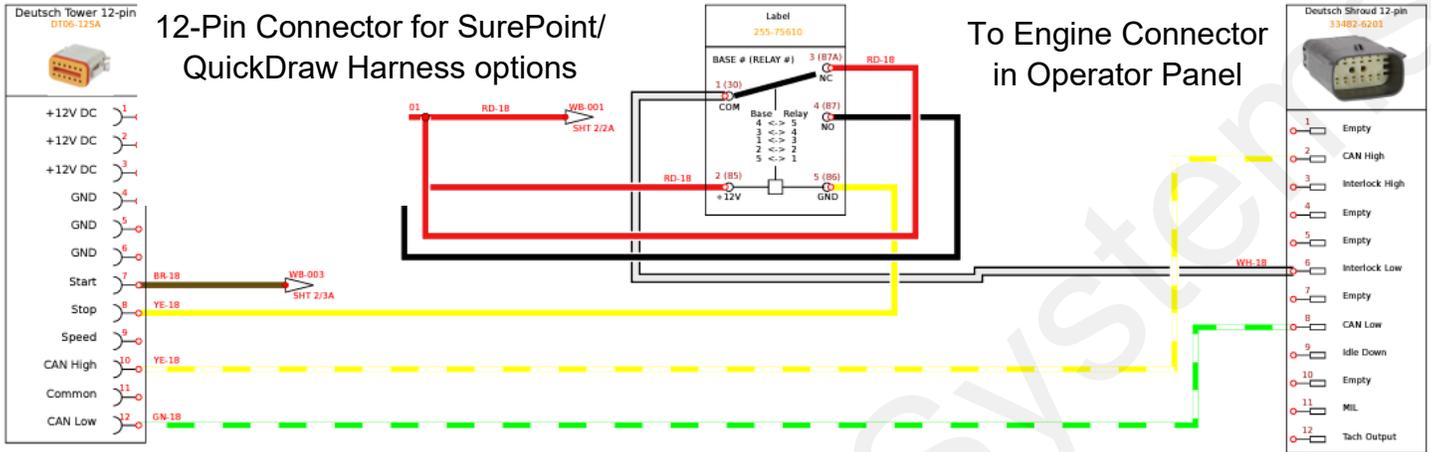


SCAN ME

Pre-Installed Wiring Harness Diagram

208-05-6482Y1

QuickDraw Vanguard Engine Final Harness



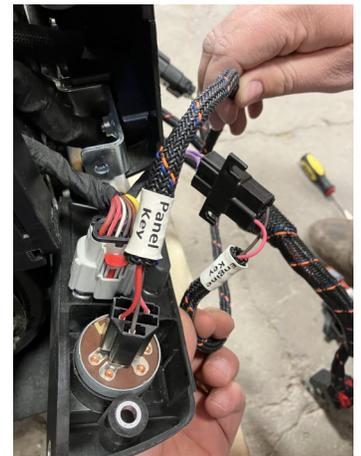
Starter Solenoid



Motor Ground



Engine Key Connection



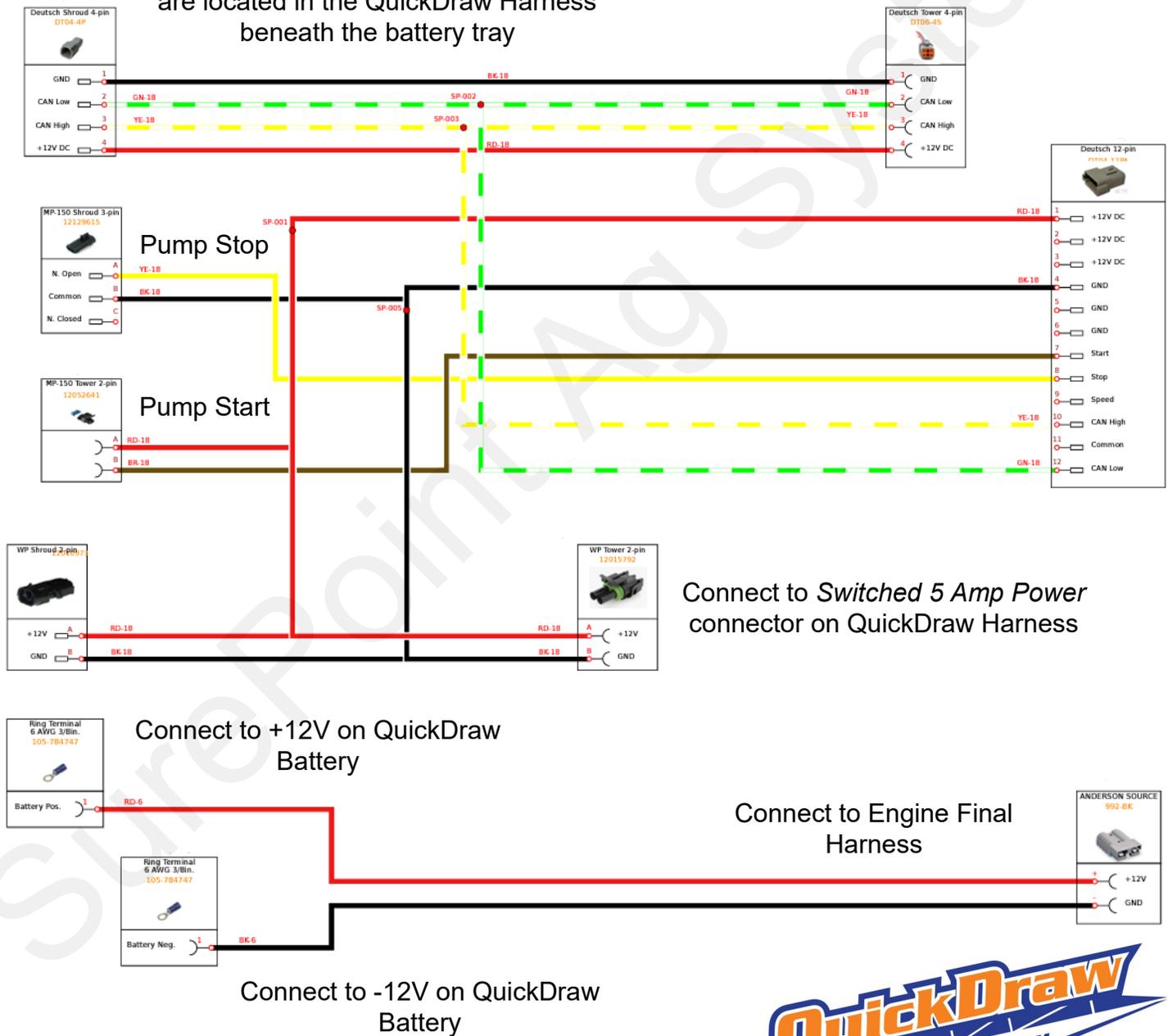
606-03-500200

3" Cast Iron Pump, Vanguard 400 EFI/ETC Motor with QuickDraw Harnessing

208-05-6490Y1

QuickDraw Vanguard Engine Control Harness
Connect 12-Pin Deutsch connector to pre-installed pump final harness

Pump Start & Pump Stop connections are located in the QuickDraw Harness beneath the battery tray

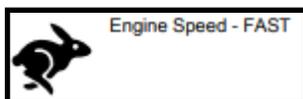
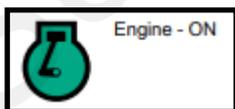
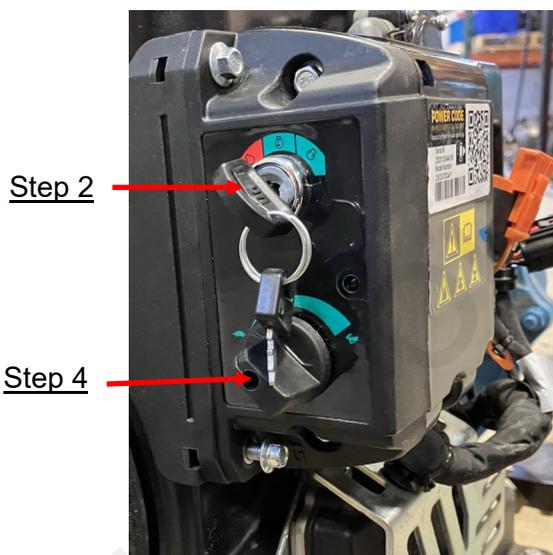


Vanguard 400EFI Engine QuickDraw Connections and Pump Operation

Pump/Engine needs to stay within 15' of QuickDraw. If distance is greater, either use a dedicated power harness from battery to motor starter or install secondary battery near to pump. Extending harness is not recommended due to current loss. Damage or failure to operate properly may occur.

Pump Start Operation (QuickDraw Operation):

1. Check the oil level. If it is below the upper limit, fill with the recommended oil to the upper limit.
2. Move the fuel valve lever to the **OPEN** position.
3. Turn the engine switch to the **ON** position.
4. The pump will start when the QuickDraw Batch is started., and stop when the batch is completed.
5. To adjust the engine RPM, use the electronic throttle control on the Engine Control panel.



QuickDraw Connections

1. Route 208-05-6490Y1 harness inside the QuickDraw cabinet and connect the *Pos* and *Neg* ring terminals to the battery.
2. Connect the 150MP shroud (*Pump Stop*) to the connector labeled ***Pump Stop***. There may be a dust cap on the connector that needs to be removed.
3. Connect the 150MP tower (*Pump Start*) to the connector labeled ***Pump Start***.
4. Connect the 2-Pin WP Tower (*Power In*) to the connector labeled ***Switched 5A Power***.
5. In the QuickDraw controller system settings, change the ***Pump Start Mode*** to **MOMENTARY START**.