



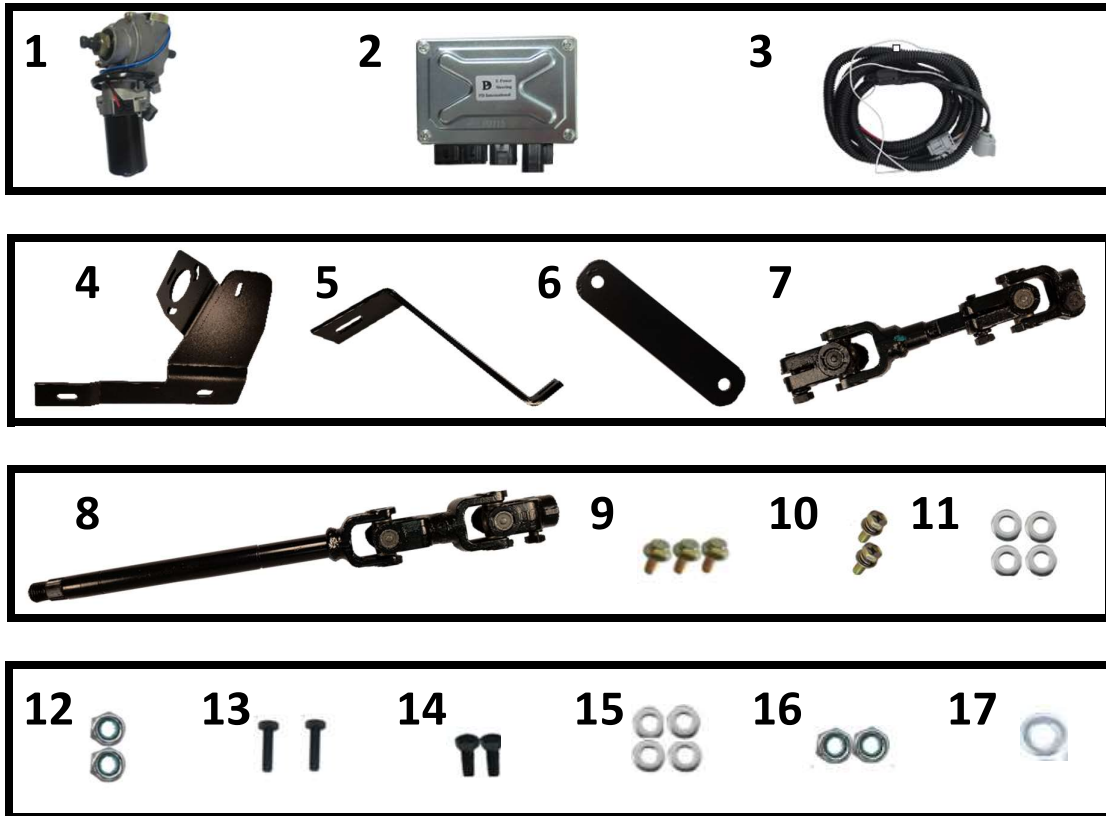
ELECTRONIC POWER STEERING INSTALLATION MANUAL

PEPS - 6001

JOHN DEERE GATOR



Included Components



	DESCRIPTION	QTY.
1.	Motor	1
2.	Control Module	1
3.	Wiring Harness	1
4.	Mounting Bracket	1
5.	Stabilizer Bracket	1
6.	Mounting Clamp	1
7.	Lower Shaft	1
8.	Upper Shaft	1
9.	M8-1.25 x 20mm Lg.	3
10.	M6-1.0 x 15mm Lg.	2
11.	M8 Flat Washers	4
12.	M8-1.25 Nylock Nuts	2
13.	M8-1.25 x 30mm Lg.	2
14.	M6-1.0 x 20mm Lg.	2
15.	M6 Flat Washers	4
16.	M6-1.0 Nylock Nuts	2
17.	Bracket Spacer	1

Removal Procedure

Step 1 Remove Steering Shaft bolt on Steering Rack.

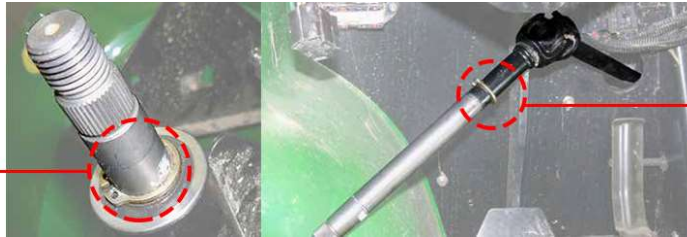
**Steering
Shaft**



Step 2 Remove Steering Wheel and C-Clip from Steering Shaft.

Step 3 Pull Steering Shaft Assembly through Fire Wall and remove C-Clip from Shaft.

C-Clip



**Remove
C-Clip**

Step 4 Remove four Bolts from Dash.

**Remove
Bolts**



Step 5 Remove two Bolts from Glove Box, and one Bolt from Steering Cover; Remove Dash.

**Remove
Bolts**



Installation Procedure

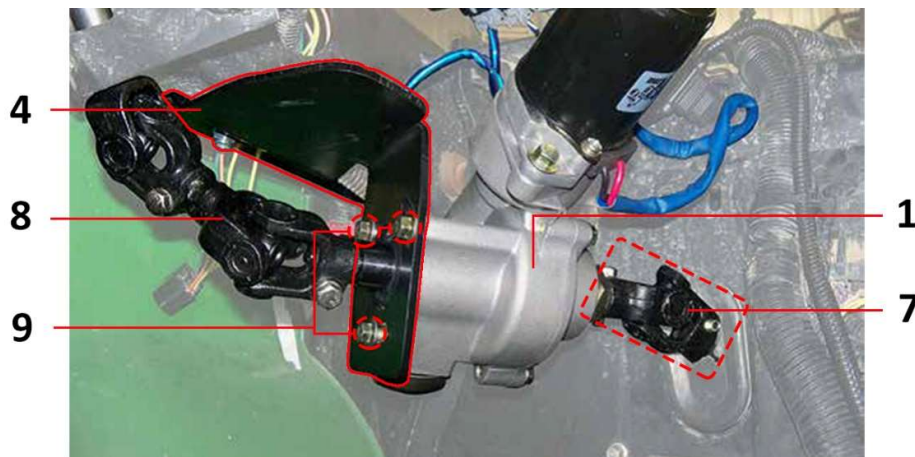
Step 1 Attach Lower Shaft (7) to Steering Rack with stock hardware.



Step 2 Attach Motor (1) to Lower Shaft (7) with supplied hardware.



Step 3 Use M8-1.25 x 20mm Lg. (9) and attach Bracket (4) to Motor (1).



Note – If there are two #4 BOM mounting brackets in your kit as seen below – the correct bracket to use for your installation is the bracket circled #1 below which has no offset on the flange tab.

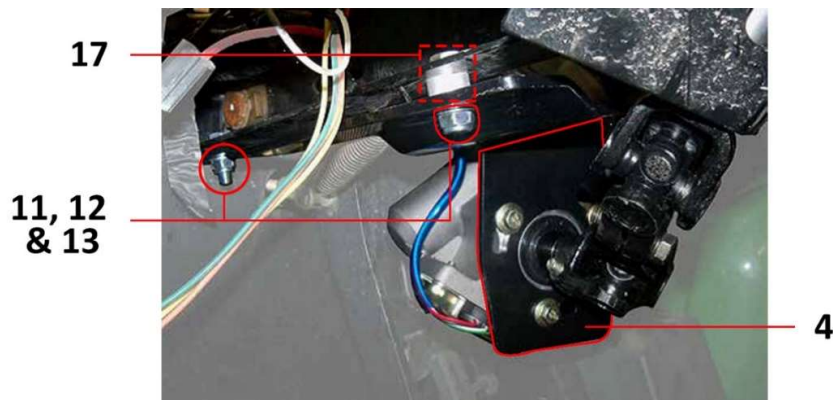


Step 4 Reinstall stock C-Clip onto Upper Shaft (8) and install Upper Shaft (8) to Motor (1) with supplied hardware. Insert Upper Shaft (8) into Steering Column.

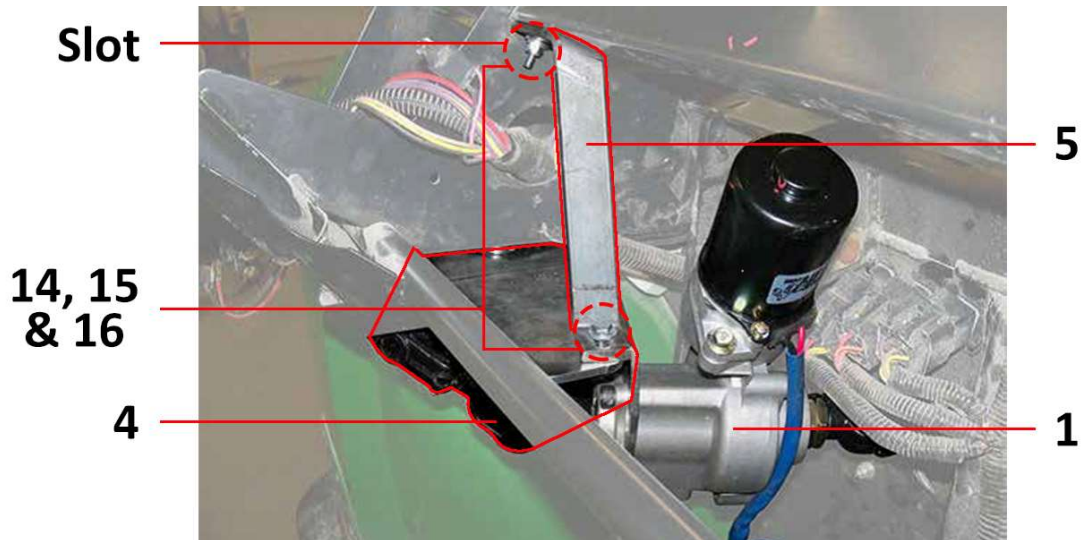


Step 5 Reinstall remaining stock C-Clip to Upper Shaft (8).

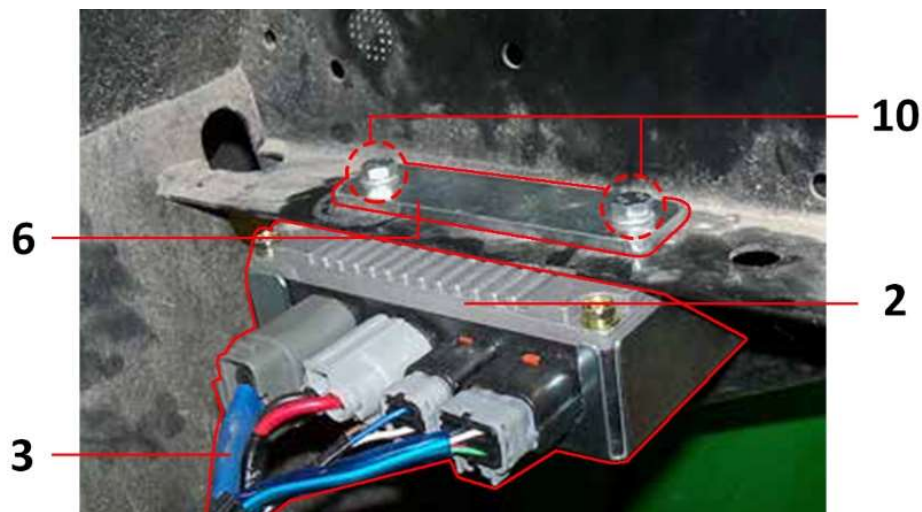
Step 6 Install Mounting Bracket (4) to machine using two M8-1.25 x 30mm Lg. (13), four M8 Flat Washers (11), and two M8-1.25 Nylock Nuts (12). Install Bracket Spacer (17) to hole furthest from Firewall.



Step 7 Install Stabilizer Bracket (5) to Mounting Bracket (4) with M6-1.0 x 20mm Lg. (14), M6 Flat Washers (15), and M6-1.0 Nylock Nut (16). Secure opposite end to slot, located in Frame, with M6-1.0 x 20mm Lg. (14), M6 Flat Washers (15), and M6-1.0 Nylock Nut (16).



Step 8 Locate two holes in Frame and secure Mounting Clamp (6) and Control Module (2) with one M6-1.0 x 15mm Lg. (10). Plug Wiring Harness (3) into Control Module (2).



Step 9 Reinstall Dash and Steering Wheel. Tighten all hardware.

Wiring Procedure

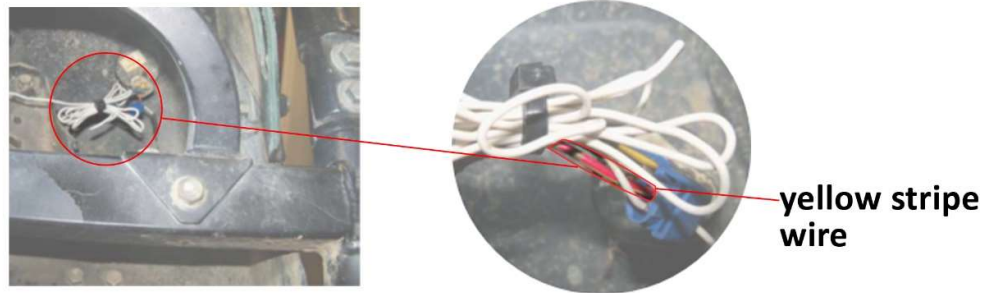
Step 1: Connect the red wire to the positive (+) side of the battery.

Step 2: Connect the black wire to the negative (-) side of the battery.

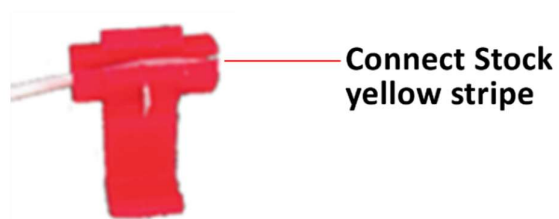


Step 3:

- Locate the ignition switch near driver side frame and find the yellow stripe wire.



- Connect white wire from harness (4) to stock yellow stripe wire with line card (14)



Step 4: Use the connector to make the connections without cutting the power source wire.



ECU Reference

Plug	Function
A	Motor
B	Power
C	Switched 12V Source
D	Torque Sensor

Electronic Fault Diagnosis Table

Start the vehicle and view the LED Diagnostic Light, the light should turn on for one second then turn off, if the light remains on you have an incorrect connection in the system, please consult Electronic Fault Diagnosis Table.

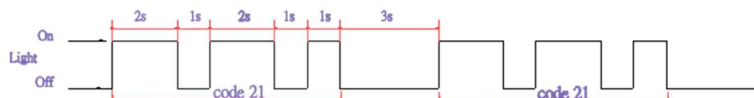


If there is a malfunction with an electronic part, the system will create a code to identify the problem. Each fault codes displays by a series of flashes with a fault light. Fault codes show with a light.

Every fault code is composed of double digits, each double digits is indicated by a series of long and short flashes of light. Each long flash represents a tens digit and is 2 seconds in length and each short flash represents a single digit and is 1 seconds in length. There will be a 3 seconds space between the long flashes and the short flashes.

For example: long flash\long flash \space\short flash represents the code number 21.

Example:



Code	Diagnosis content	fault code wave	Suggestion
21	Main torque sensor disconnection		1.Check sensor wiring harness 2.Replace ECU
22	Main torque sensor output error(voltage is too high or low)		
23	Vice torque sensor disconnected		
24	Vice torque sensor output error(voltage is too high or low)		
25	Main and vice torque difference is too large		
26	Main torque sensor inner fault		Replace ECU
35	Current sensor zero offset is too large		
32	Motor disconnected		Re-insert wire of the motor
33	Current of ECU is over the limit		Replace ECU
34	One side of motor has no assistance		
36	Motor voltage abnormal		1.Check motor wire 2.Check motor plug

System Trouble Shooting

No.	Failure Encountered	Probable Reason	Troubleshooting
1	Steering without assistance	1、connectors of wire have bad contact 2、The fuse is burnt out 3、Relay damage 4、The controller、motor or sensor is damaged	1、Check whether wire connectors are fully inserted 2、Replace the fuse (30A) 3、Replace the relay 4、Reback the motor or the sensor
2	Power is not the same for left and right	1、The median output voltage has deviation 2、controller、motor or sensor is damaged	1、Disconnect motor connectors, loosen the sensor adjustment screw, adjust the sensor position to keep the voltage in $1.65V \pm 0.05V$ 2、Contact with suppliers and replace it
3	when system is on, the steering wheel swings on both sides	1、Motor is mounted backwards 2、controller or sensor is damaged	1、Exchange the position of (thick line) red line and black line at the motor terminal 2、Contact with suppliers and replace it
4	Steering becomes heavy	1. Battery power loss 2. Motor damage (power reduction) 3. Air pressure of the tires (front) is insufficient.	1、Charge battery 2、Contact with suppliers and replace it 3、Inflate tires
5	System has noise	1、Motor damaged 2、Gap of lower steering shaft assembly or mechanical steering assembly is too large 3、Installation of lower steering shaft assembly or mechanical steering assembly loose	1、Replace motor 2、Replace Assembly 3、Check whether the installation screw is tight, adjust.

System Cautions

Electric power steering is a system which highly precision, sensitive and energy-saving, environmental protection and high-performance. In order to ensure the performance of the steering system, and improve the life of the steering system, we must insist on strict compliance with the following rules:

1. Do not dismantle the control box because you may change the parameters of the sensors and create an imbalance between the power to the right and left steering.
2. Maintain a good battery, loss of battery power will result in heavy steering.
3. Pack all electrical connections with dielectric grease where possible to help against corrosion especially in damp humid conditions.
4. Do not tap into the EPS electrical harness for any other aftermarket components. This will affect the power supply to the system and create problems.
5. Connector of the system must be in good contact: avoid laying connectors in damp, high temperature environment to ensure its good conductive.
6. The controller must not be near high temperatures and protected from moisture.
7. When steering your machine and reaching maximum turn angle, do not hold that maximum position for longer than 3 seconds to ensure you do not overheat the electric motor and controller.
8. When motor is working, you must not insert or extract the connector of controller, motor and sensor to protect them from its shocks of the current.