

# Club Car IQ - Flight Systems FX503 Conversion Troubleshooting



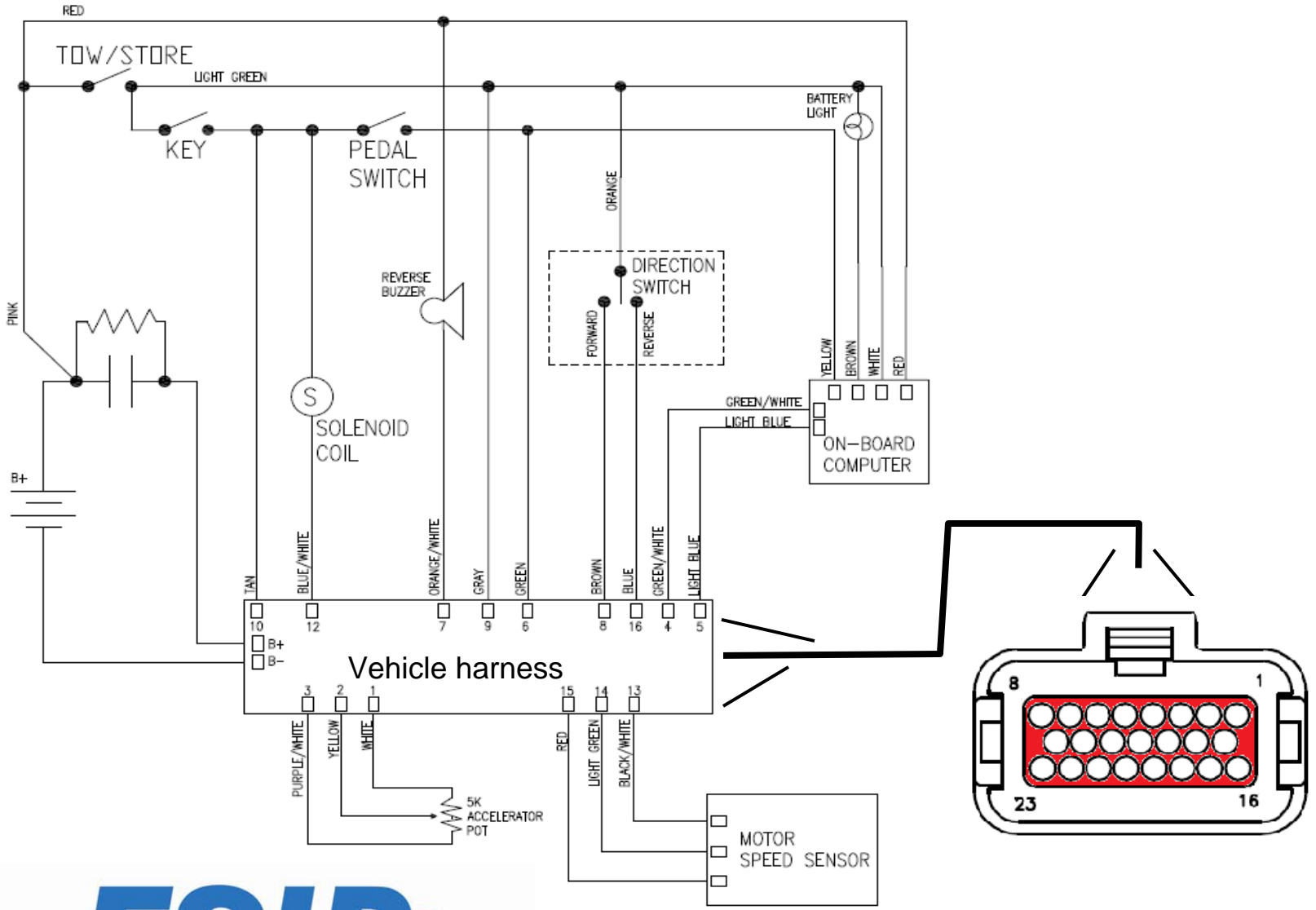
## **NOTE:**

Please use the forward (▶) and back (◀) buttons to navigate.



Begin





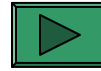
GENERAL WIRING DIAGRAM

Next



## TECHNICAL ASSISTANCE

Solenoid Does Not Close



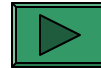
Solenoid Closes But No Travel



Vehicle Travels in reverse when in forward direction, and in forward when in reverse direction.



Solenoid closes and vehicle runs a few feet then quits



**PRIOR TO CONTINUED TROUBLESHOOTING THE  
FOLLOWING STEPS MUST BE TAKEN**

1. POSITION THE CART ON LEVEL GROUND AND BLOCK FRONT TIRES TO PREVENT VEHICLE FROM ROLLING.
2. ELEVATE THE DRIVE TIRES FROM THE GROUND.

My vehicle is safely lifted from the ground.



Back

1. Tow/Run switch in the “Run” position.
2. Key switch in the “ON” position.
3. Forward/Reverse selector in “Forward” direction.
4. Place Foot pedal switch in fully accelerated position.







Back

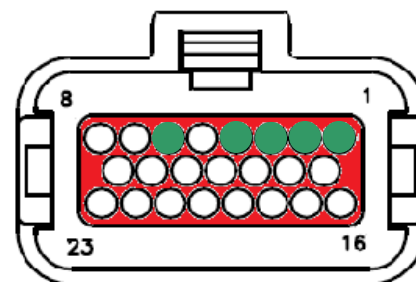



OK

Unplug the 23-pin connector on your FX503 controller, then using a digital voltmeter with the black probe on battery negative, battery positive should be measured on the following pins of the replacement controllers 23-pin wiring harness.

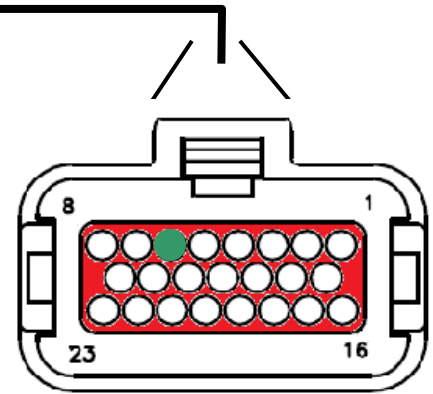
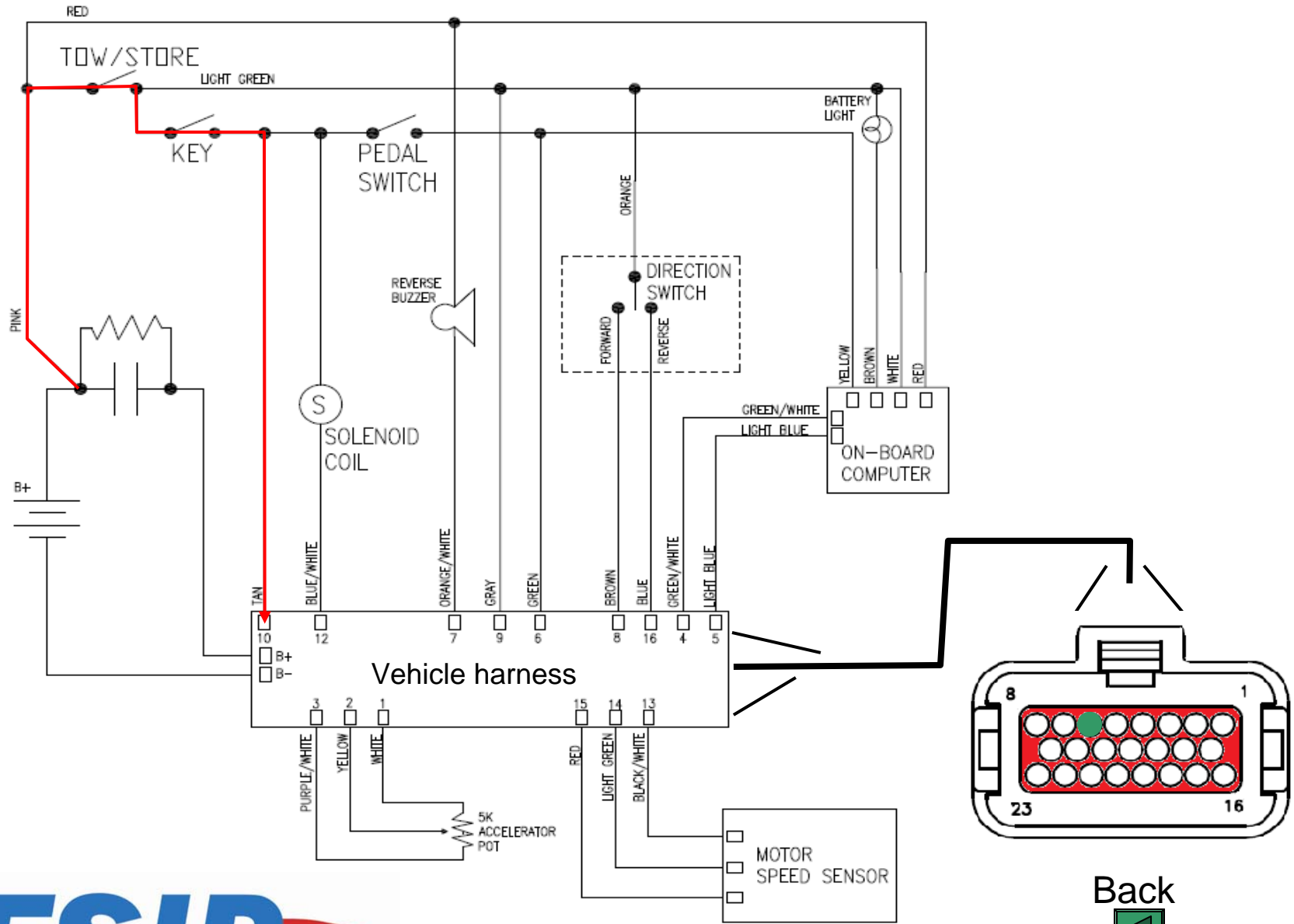
**If you are missing battery voltage at any of the below points click the arrow of the corresponding wire.**

- PIN 6 
- PIN 4 
- PIN 3 
- PINS 1 AND 2 



All of these wires measure battery positive. 

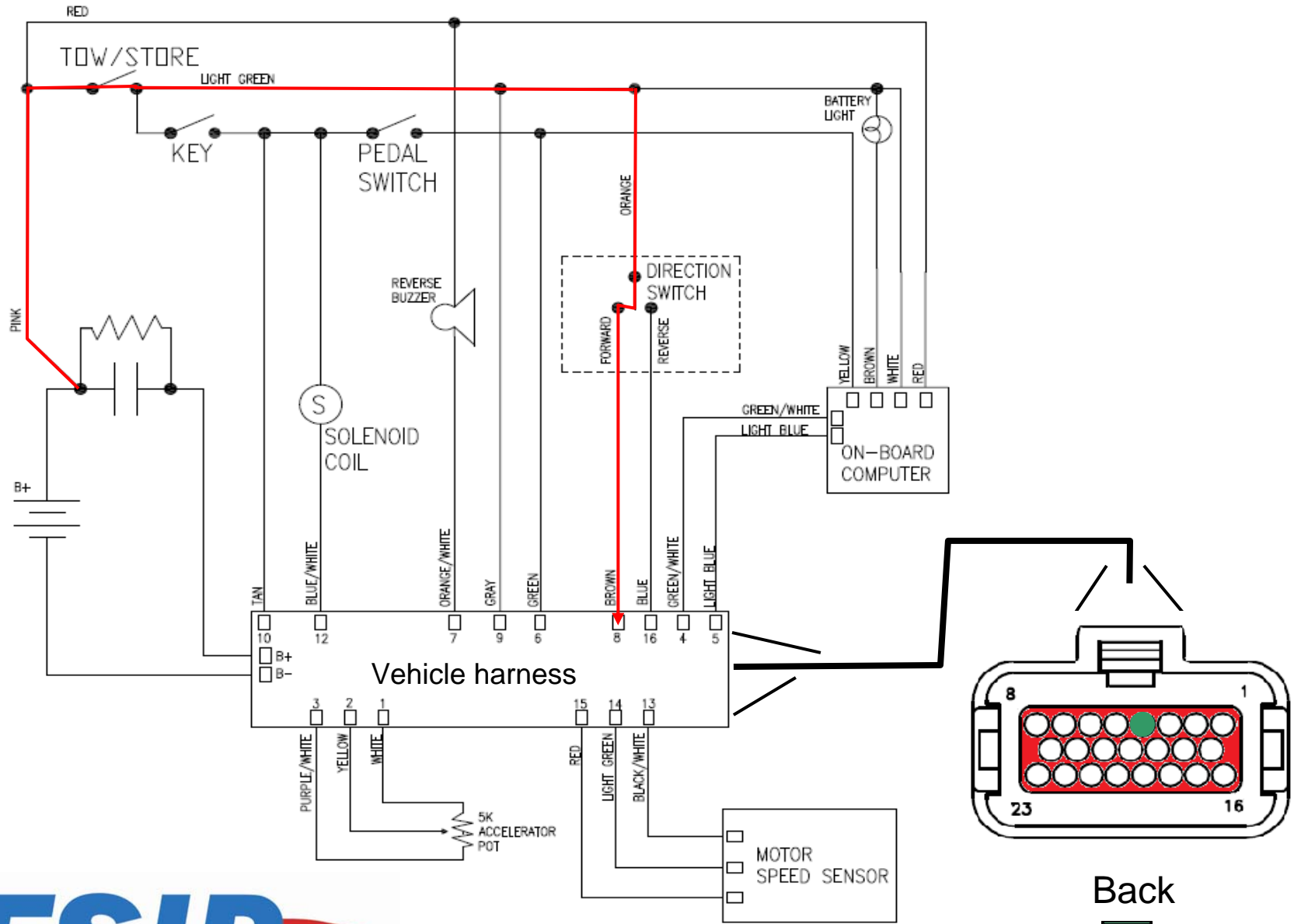




Back

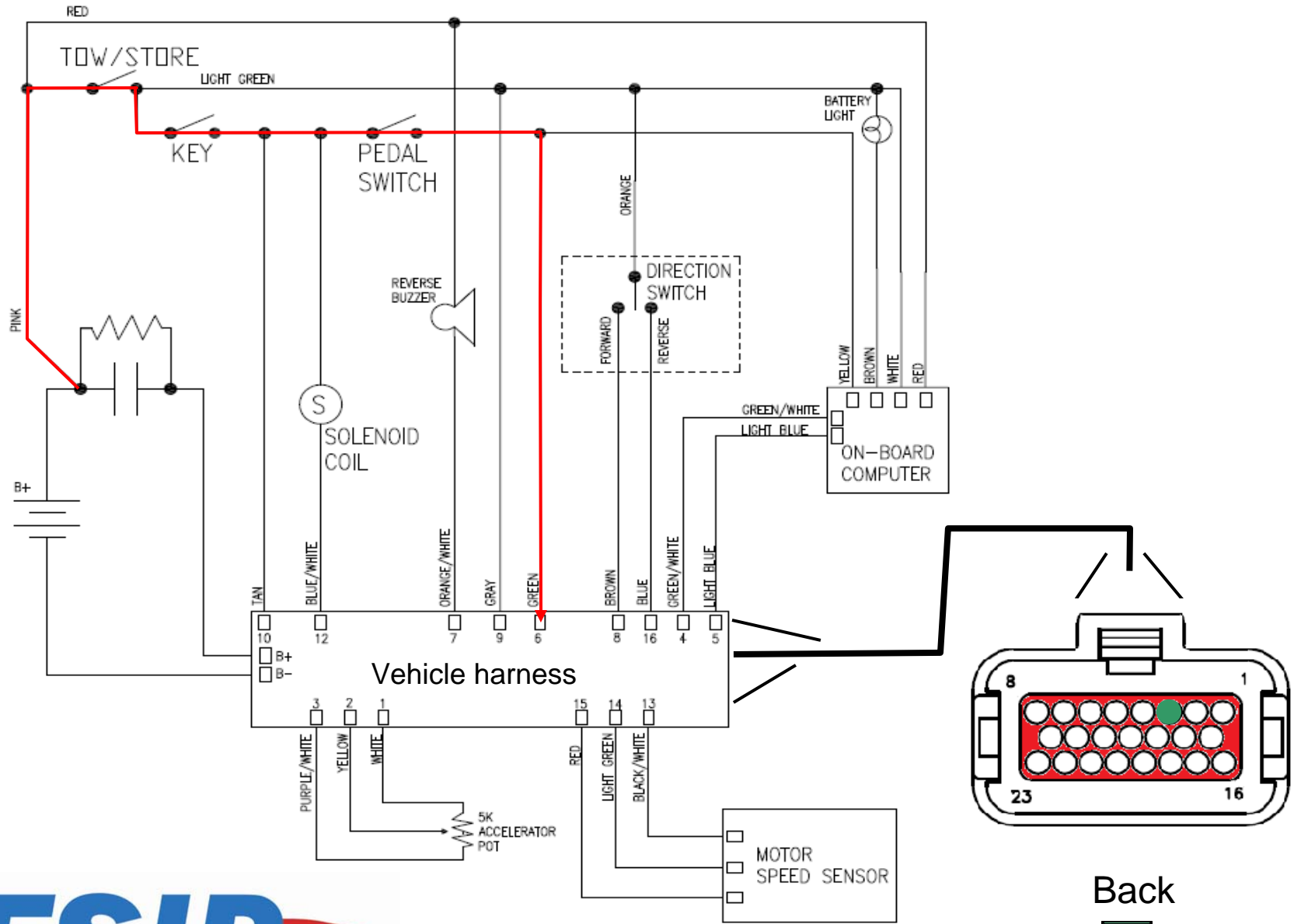


Pin 6 is supplied through your Run/Tow switch AND your Key Switch, verify this connection.



Pin 4 is supplied through your Run/Tow switch AND your Direction Switch, verify this connection.



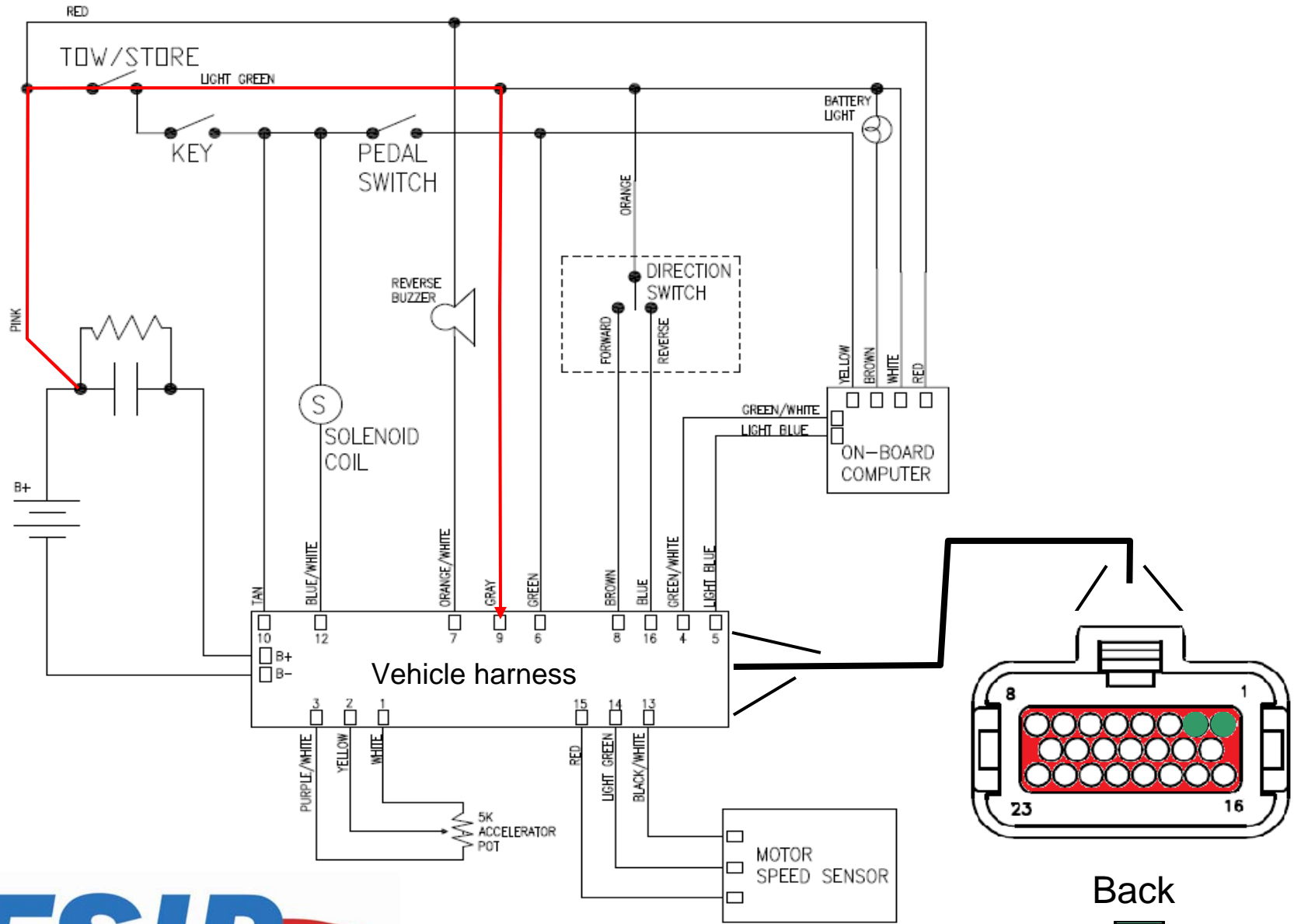


Back



Pin 3 is supplied through your Run/Tow Switch, Key Switch, and your Foot Pedal Switch verify this connection.





Pins 1 and 2 are supplied through your Run/Tow Switch verify this connection.

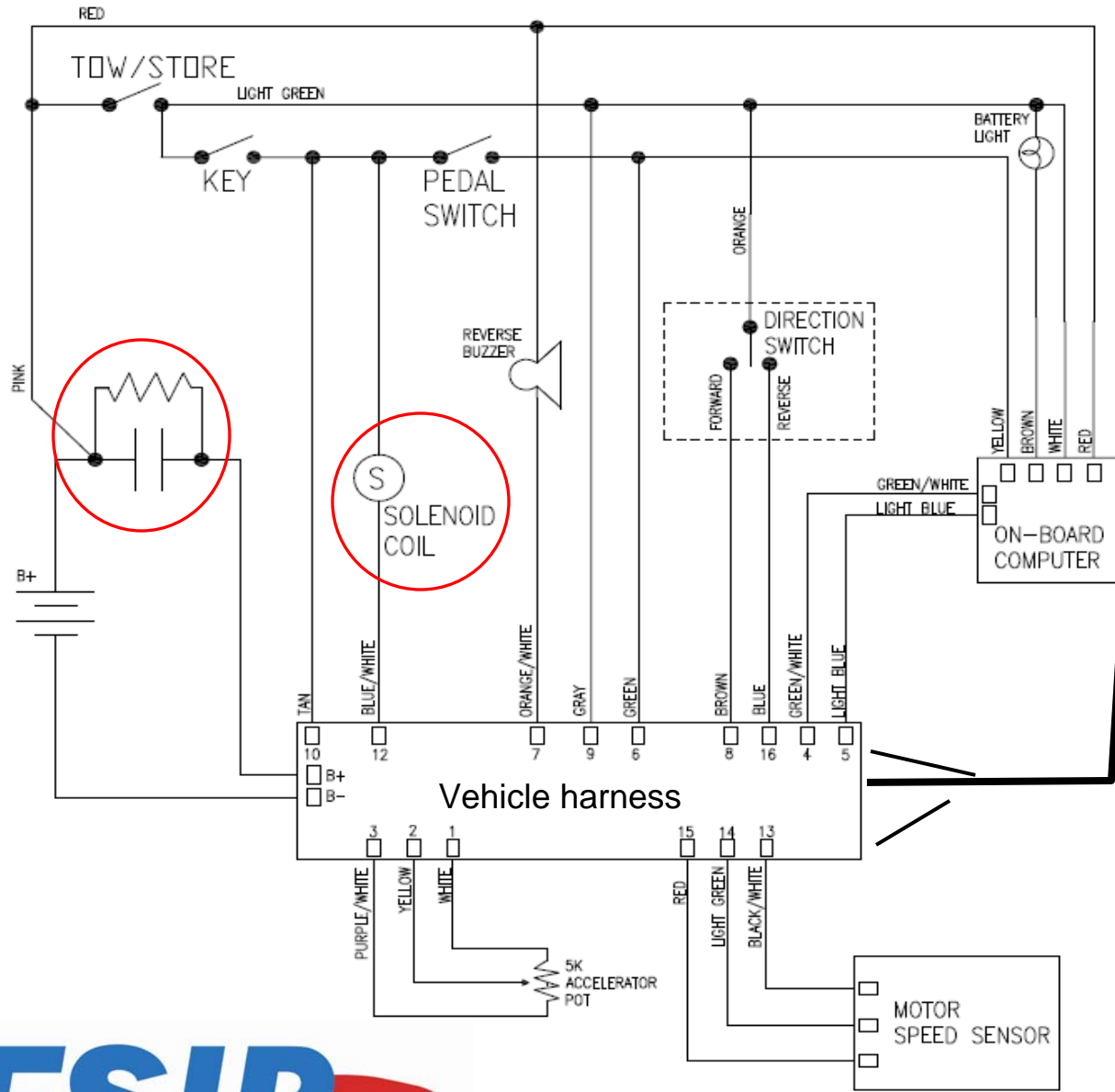


Is your dash-mounted battery warning light illuminated?

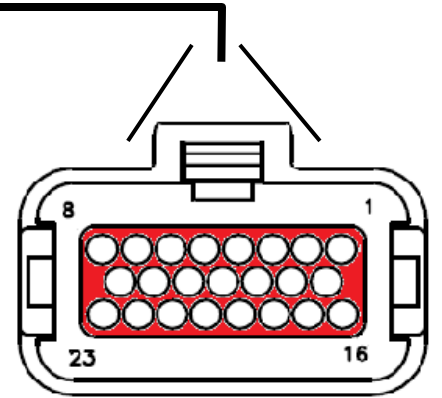
YES

NO





**The solenoid is closed by the following steps**

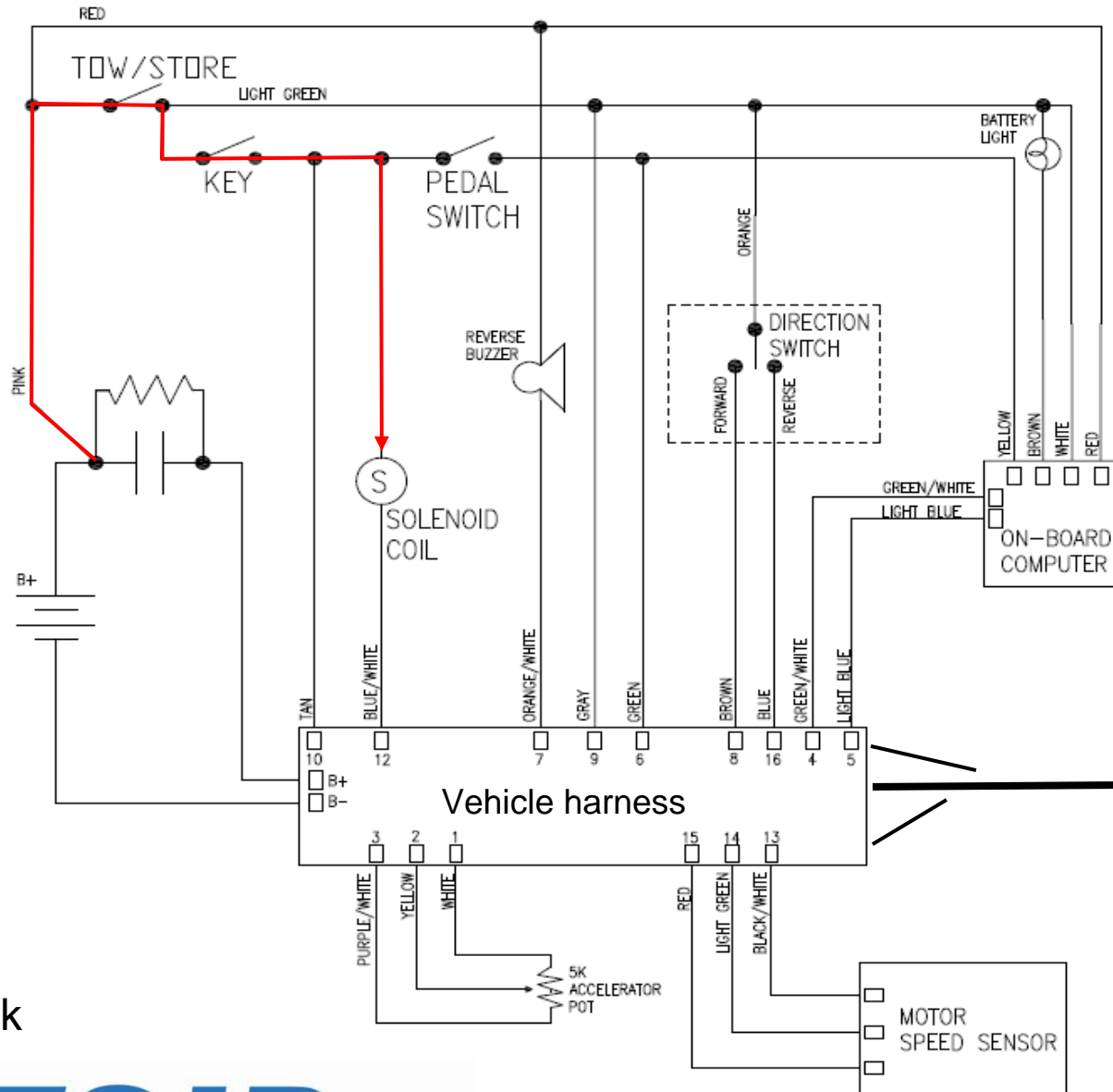


Next

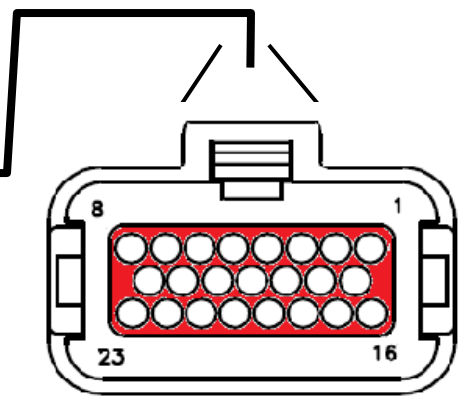


 Back





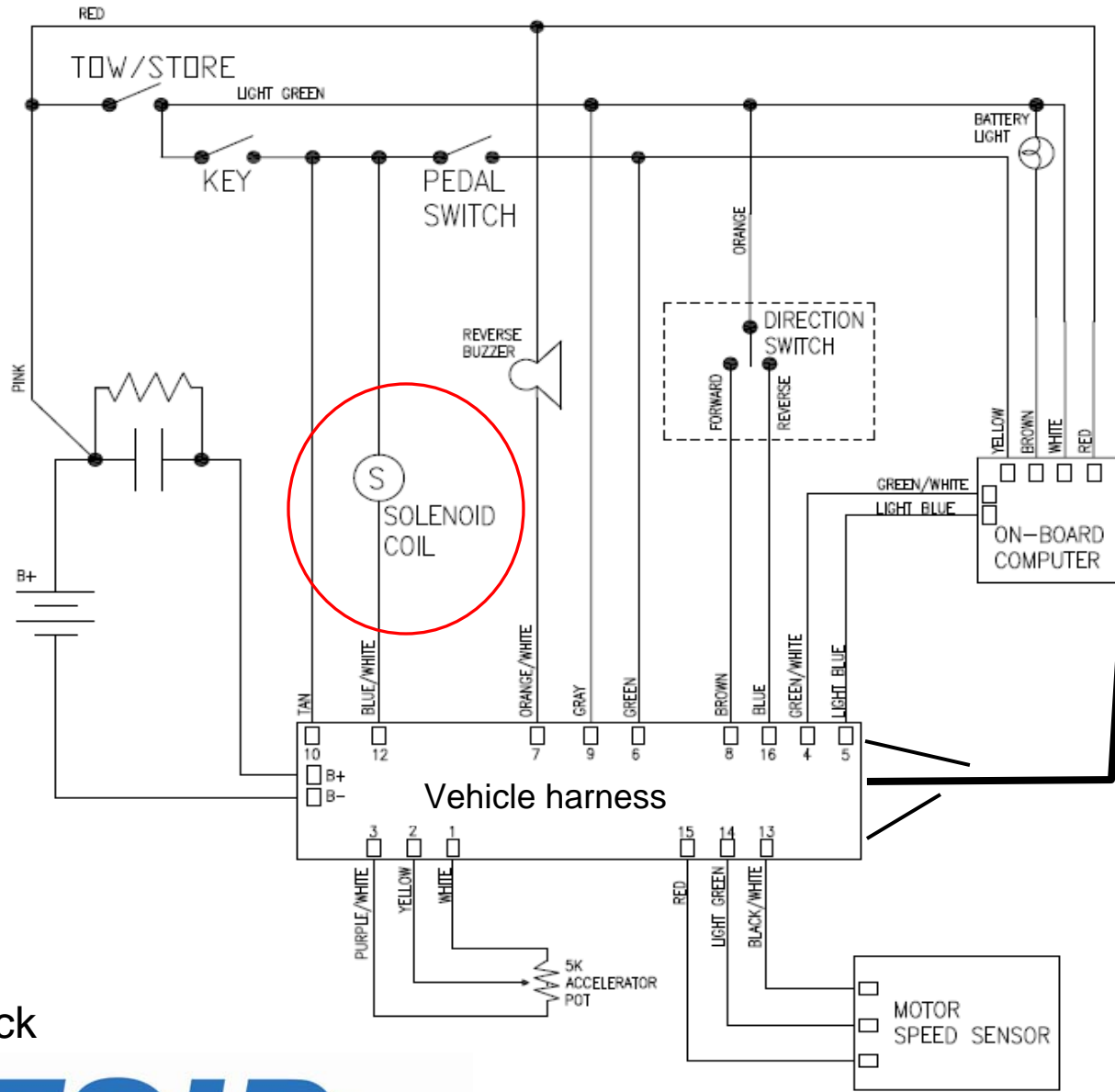
First battery positive is supplied to the solenoid coil through the Tow/Run Switch and the Key Switch.



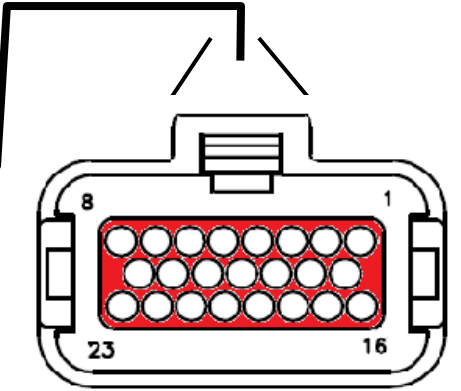
Back

Next





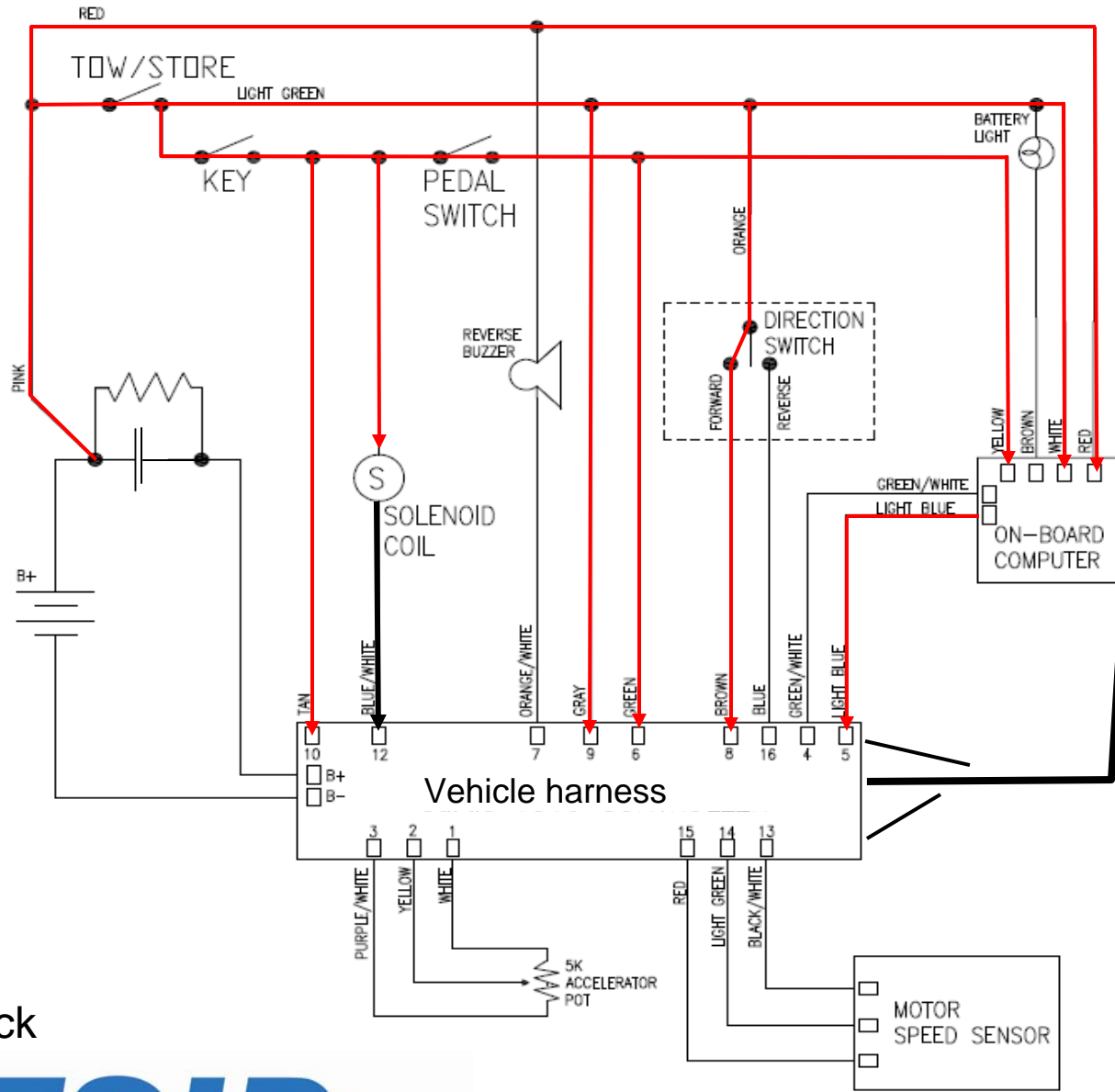
At this point battery positive should be measured on the Light Blue wire attached to the solenoid.



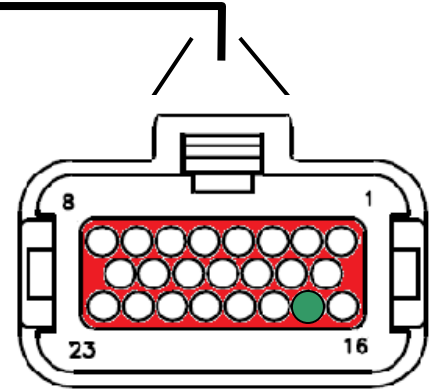
◀ Back

Next ▶





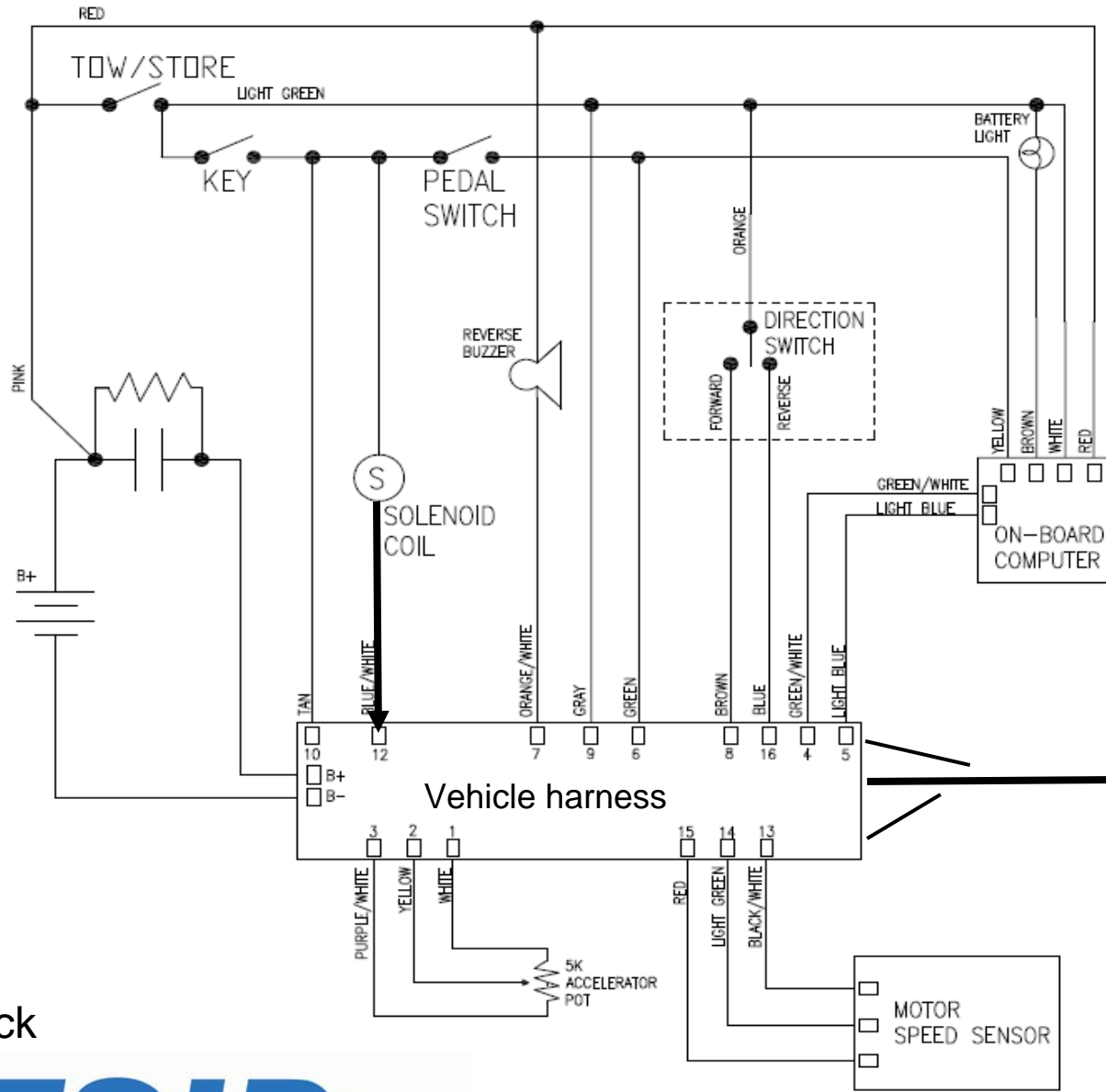
The solenoid is closed by Pin 17, the Blue/White Wire being pulled to ground only when all required inputs are connected to battery positive.



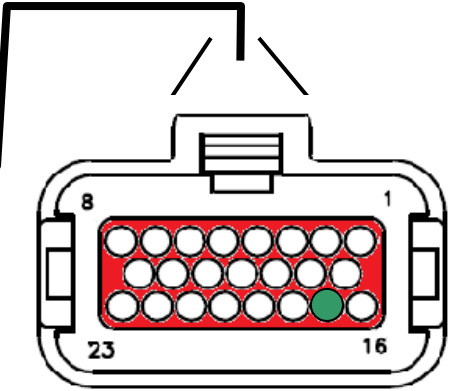
◀ Back

Next ▶





Verify that the Blue/White wire is pulled low to activate the solenoid.



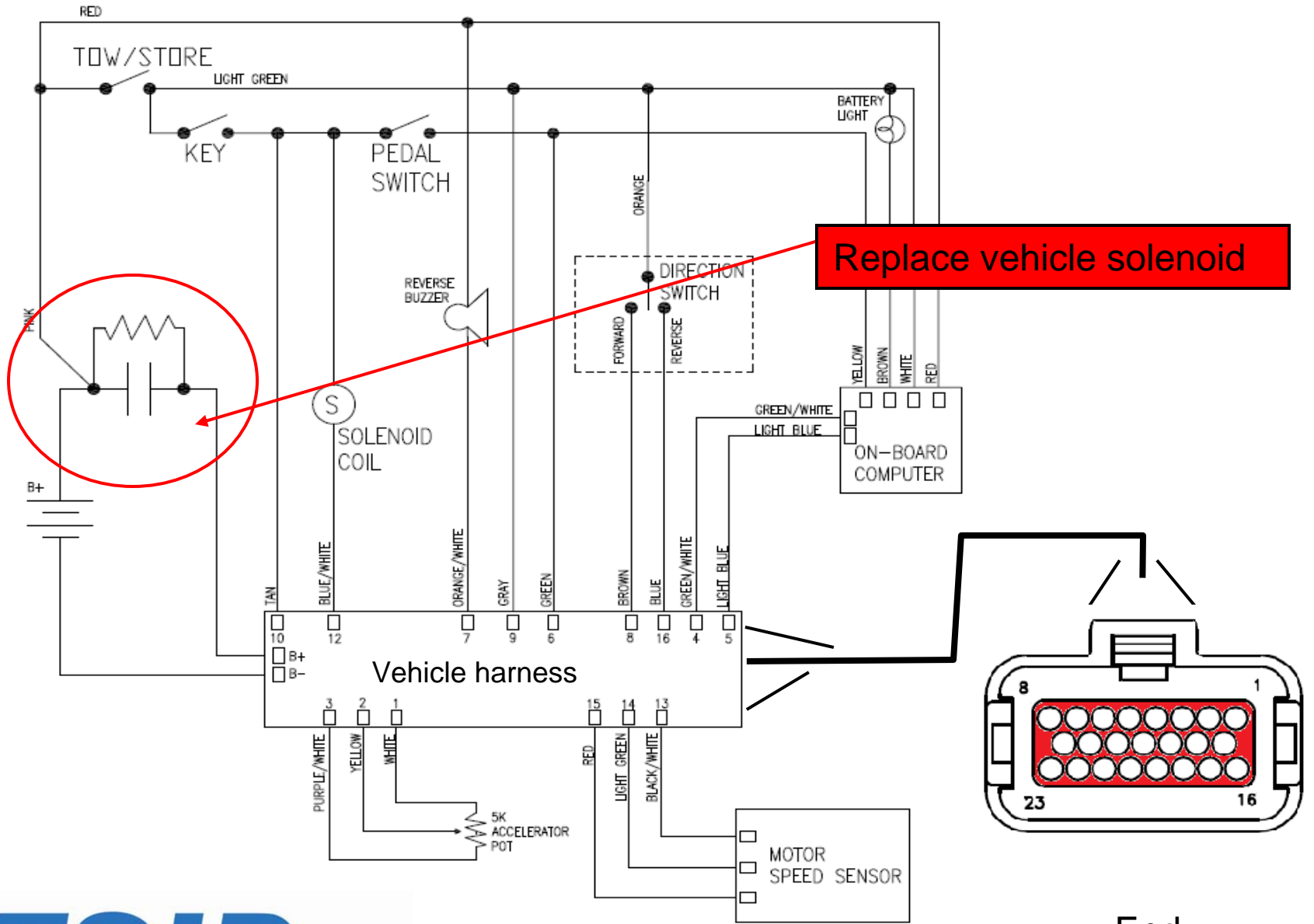
◀ Back



Pin 17 is NOT being pulled low

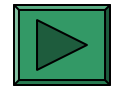
Pin 17 is being pulled low





◀ Back

End ▶



Your controller is not working to OEM specifications. Contact Flight Systems Industrial Products at 1-800-333-1194 to have your controller remanufactured.



End

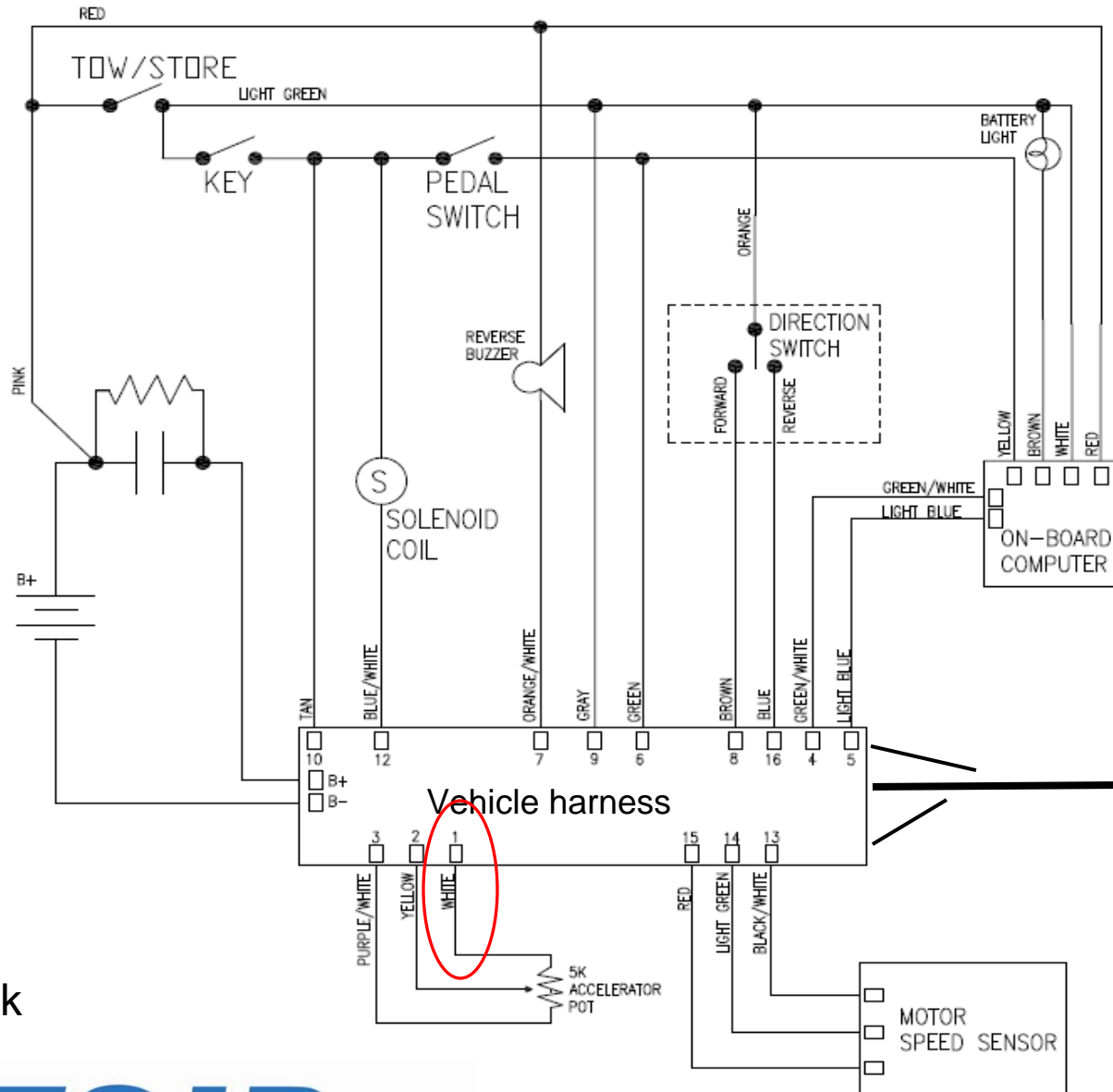


1. Tow/Run switch in the “Run” position.
2. Key switch in the “ON” position.
3. Forward/Reverse selector in “Forward” direction.

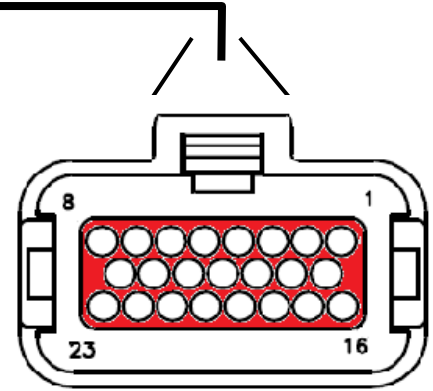
OK



Back



Measure the voltage of the White Wire at Pin 1. This point should measure approximately 0V.

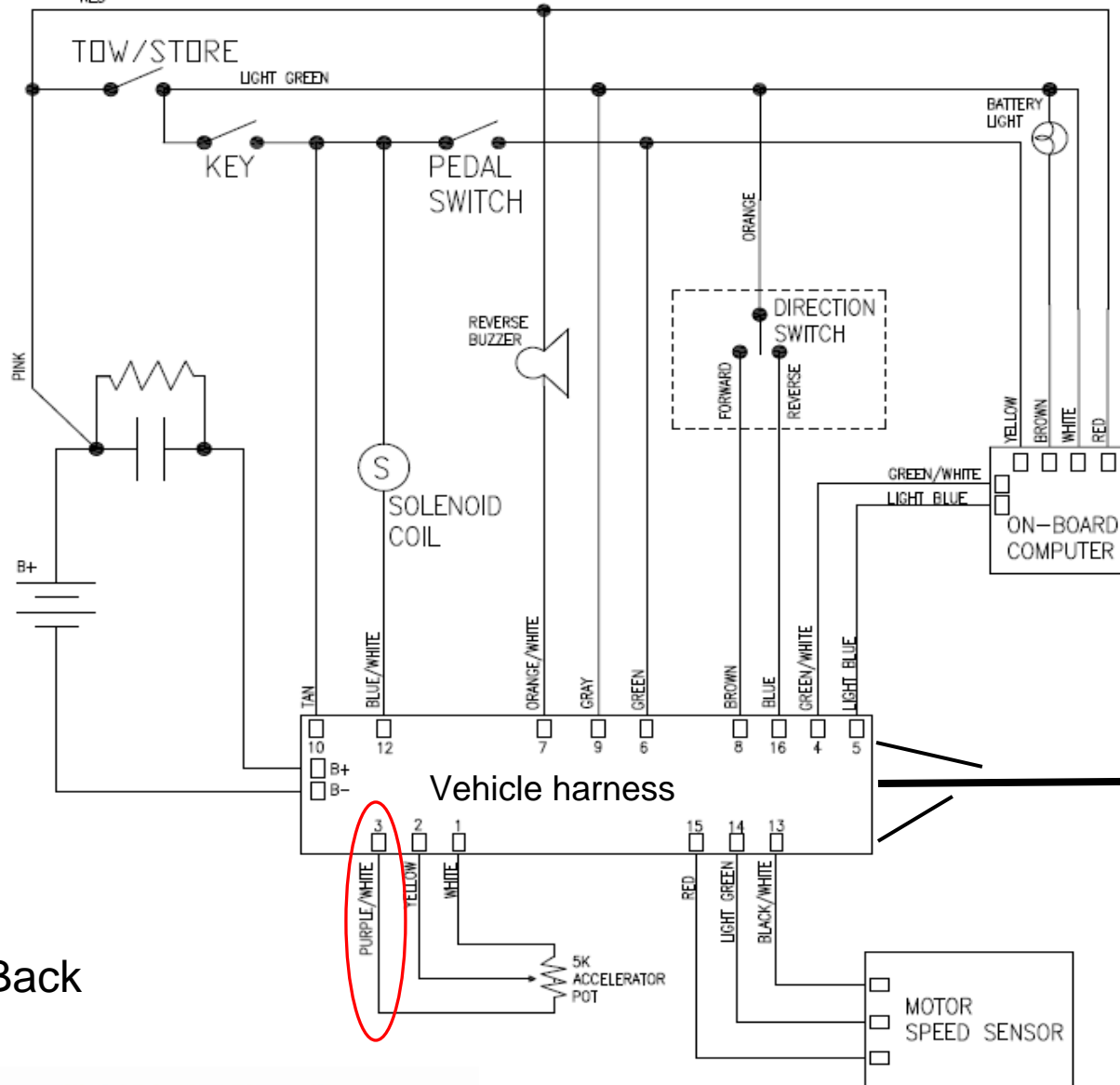


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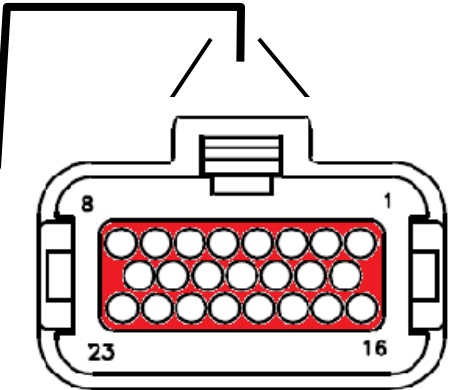


Pin 1 measures 0V.

Pin 1 does not measure 0V.



Measure the voltage of the Purple/White wire at your accelerator, this point should measure 5V.

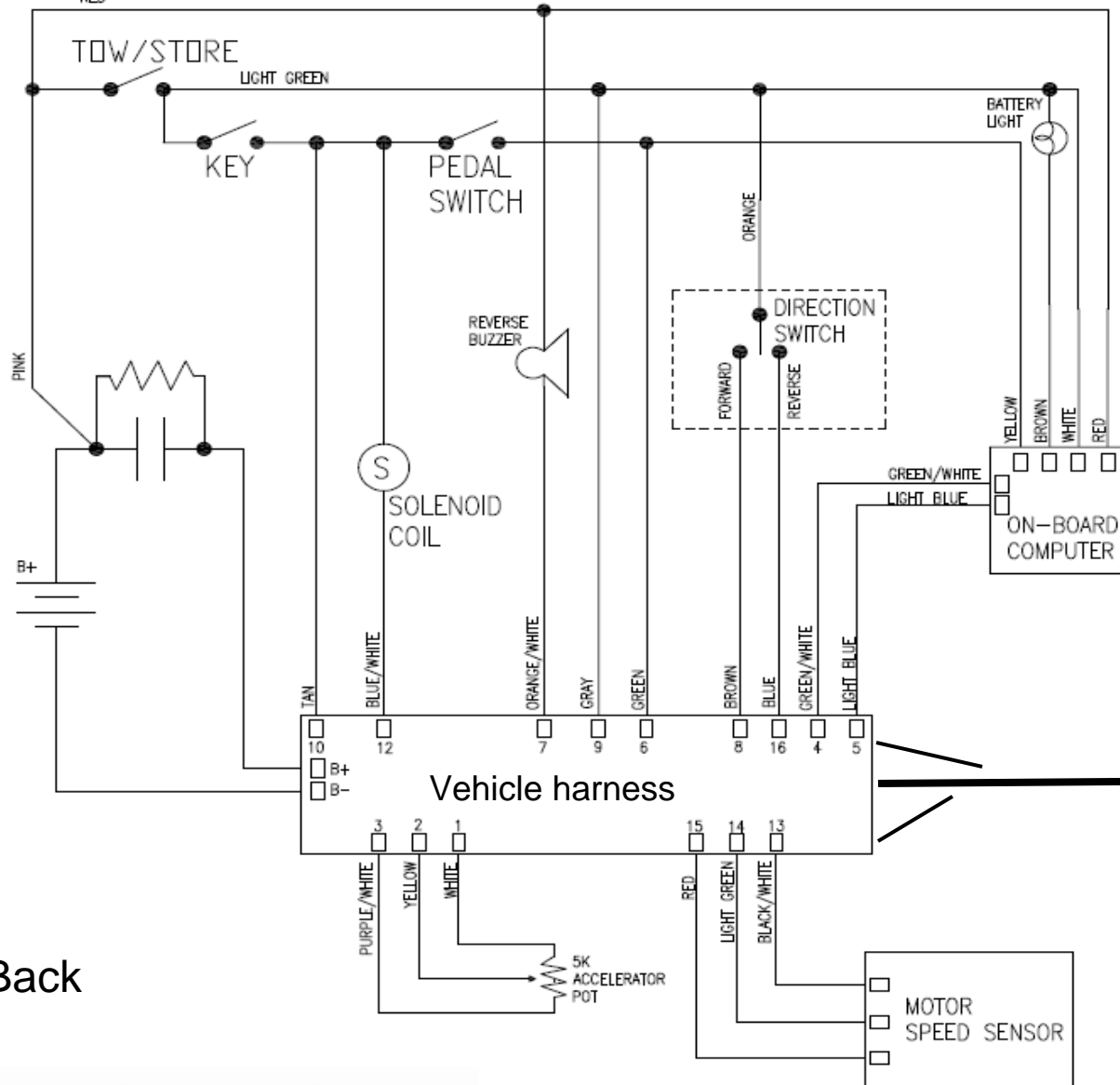


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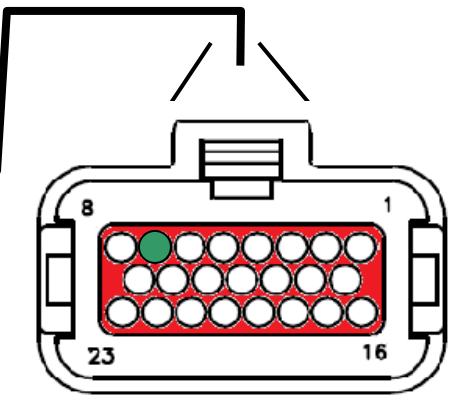
This point does not measure 5V.

This point does not measure 5V.





Measure the voltage of Pin 7 of the FX503 controllers 23-pin connector, this point should vary from 0V-5V as the accelerator pedal is depressed.

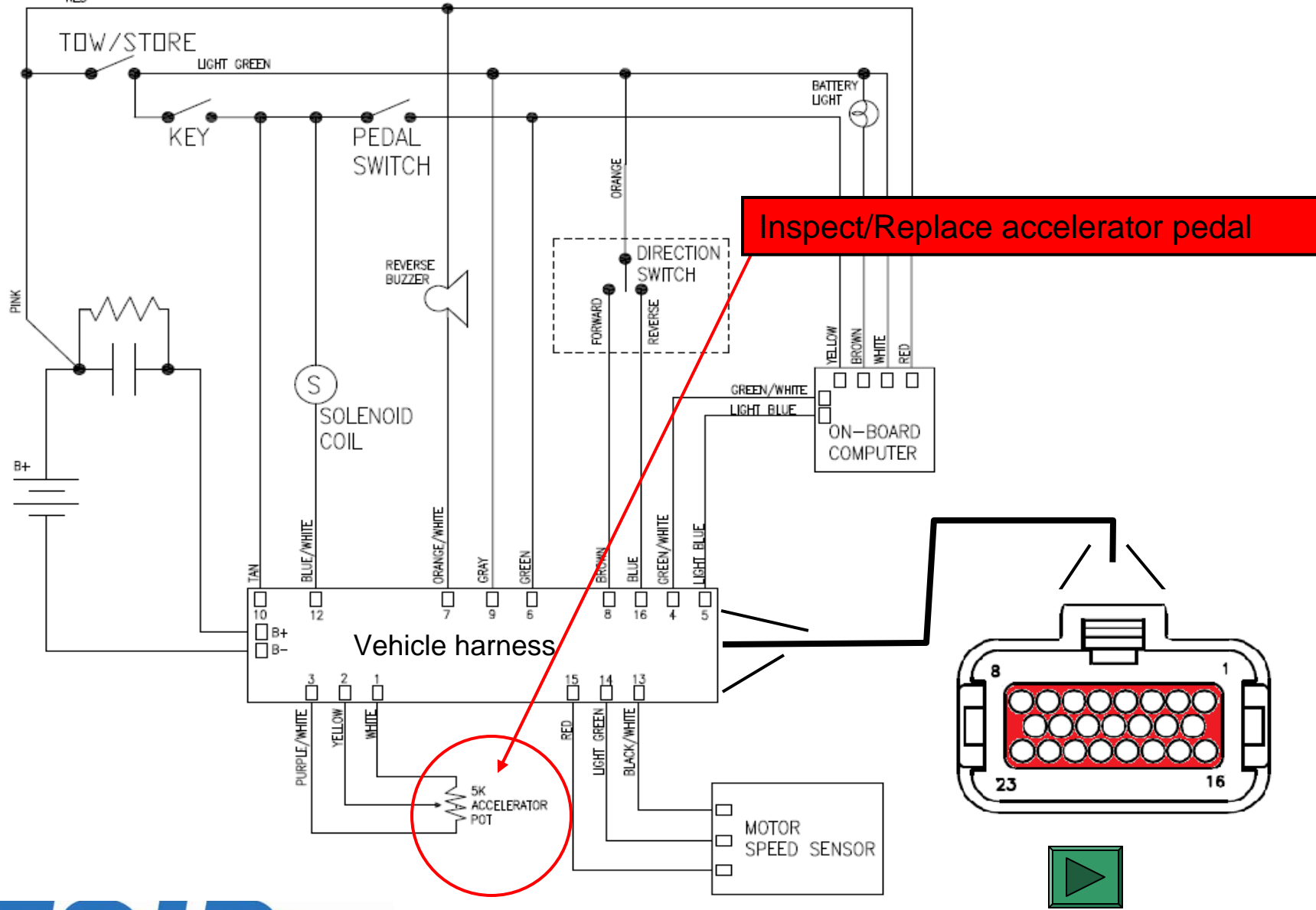


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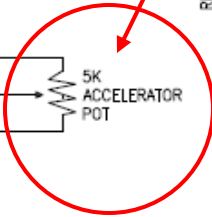


Pin 7 does vary between 0V-5V when moving the accelerator pedal.

Pin 7 does not vary between 0V-5V when moving the accelerator pedal.



Inspect/Replace accelerator pedal



Back

Swap positions of the F1 and F2 cables on your controller, this will correct travelling in the wrong direction.



End



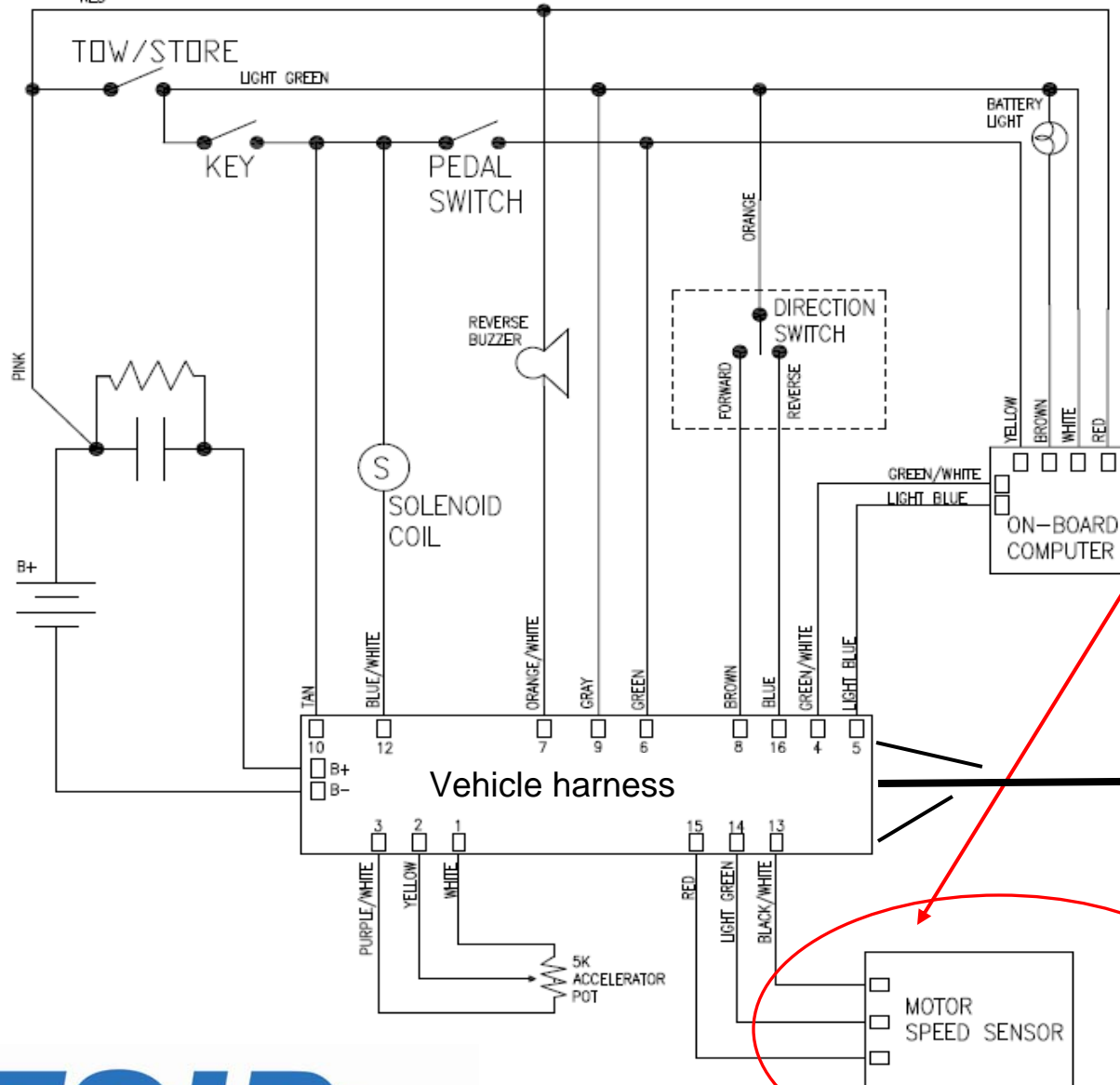
 Back



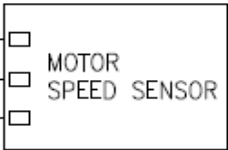
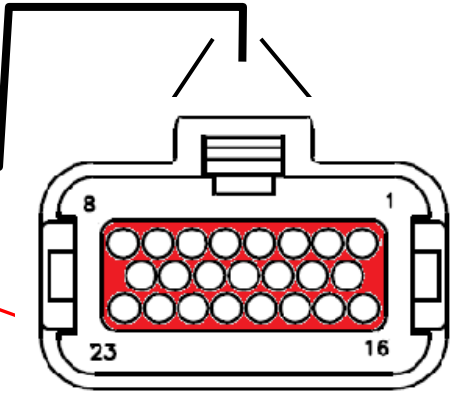
This indicates your battery state of charge is low, please re-connect your vehicle charger until battery warning light is extinguished.



Back



This fault may be caused by your motor speed sensor.



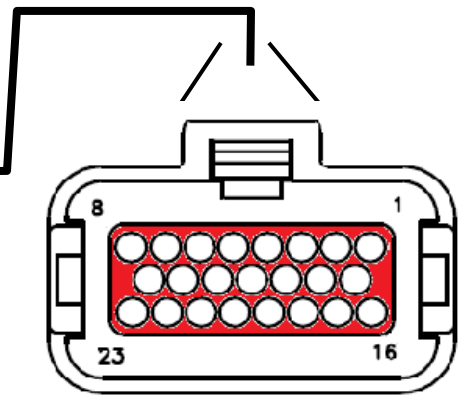
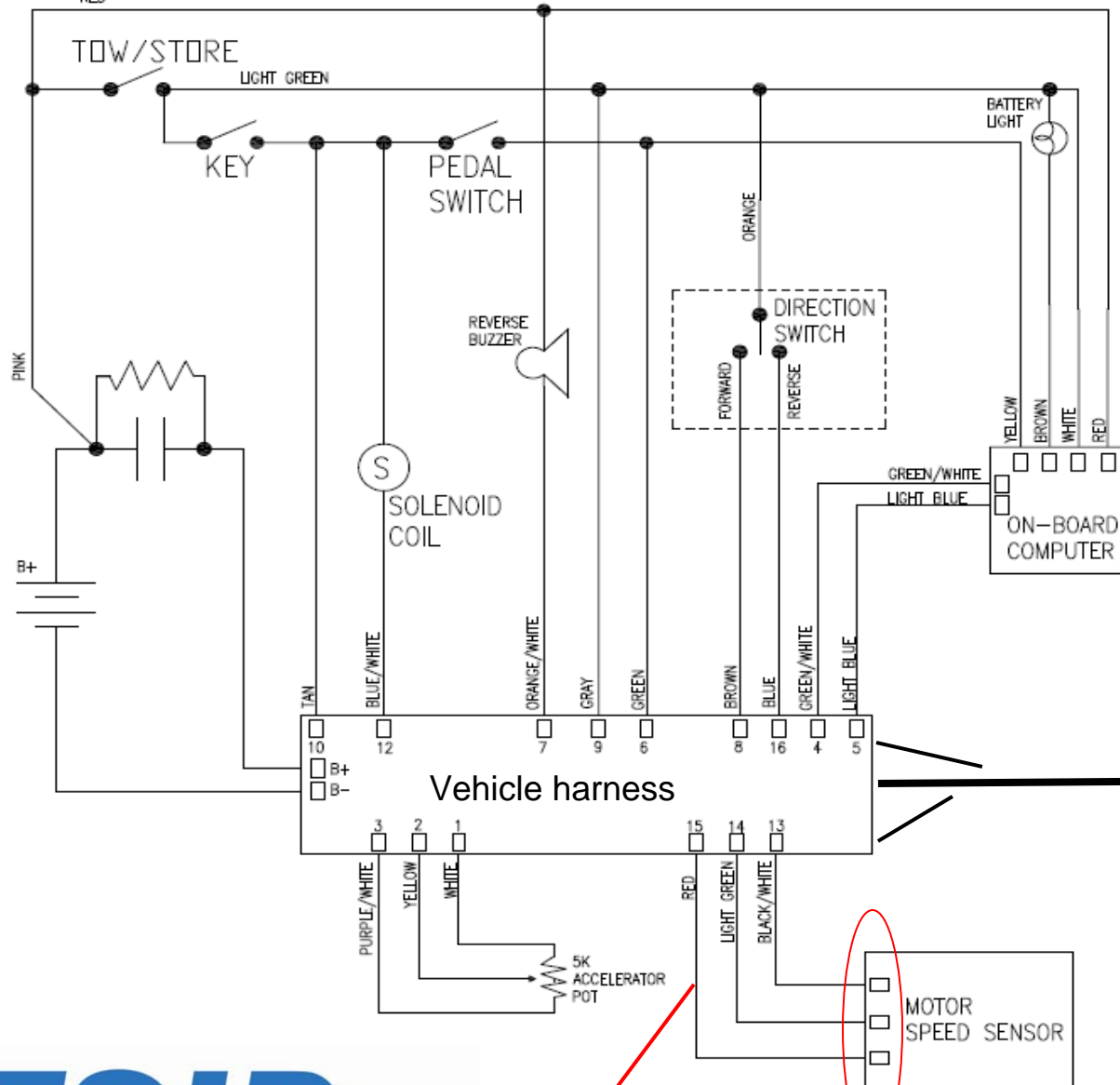
Testing the motor speed sensor

Back



1. Turn the vehicle Key Switch to the off position.
2. Tow/Run Switch in the Run position.
3. Forward/Reverse Switch in the Neutral position.





 Next

**Disconnect the three-pin connector at the motor speed sensor**



Using a digital voltmeter measure the voltages of the following pins of the motor speed sensor wires.

1.

Black/White Wire



2.

Red Wire



3.

Light Green Wire

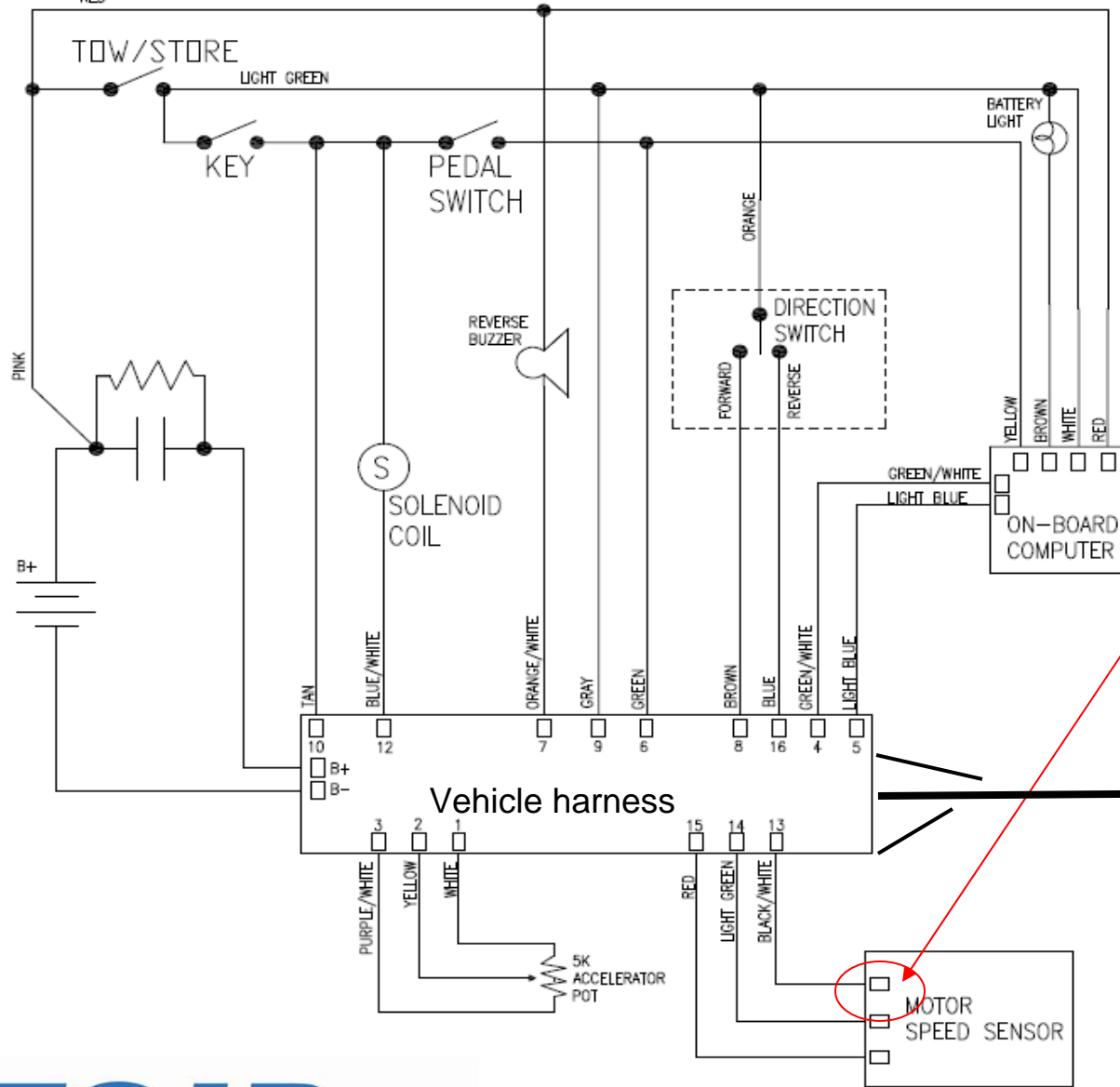


If all of the above tests are found to be within tolerance replacing the motor speed sensor should return vehicle functionality.

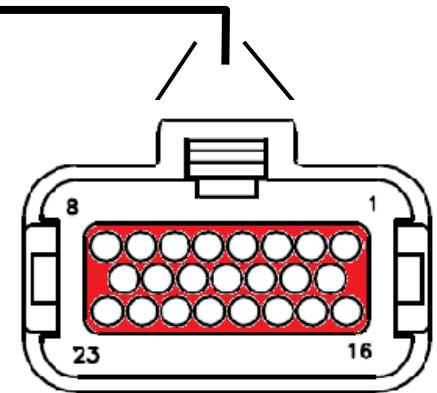


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With the Black meter probe on the B- connection of the controller the Black/White wire should measure approx 0 volts.



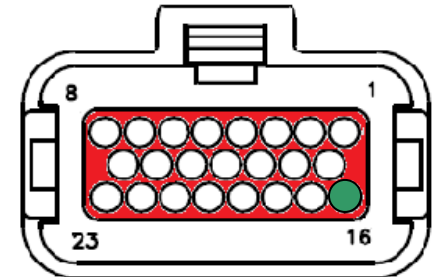
The Black/White wire measures approx. 0V.



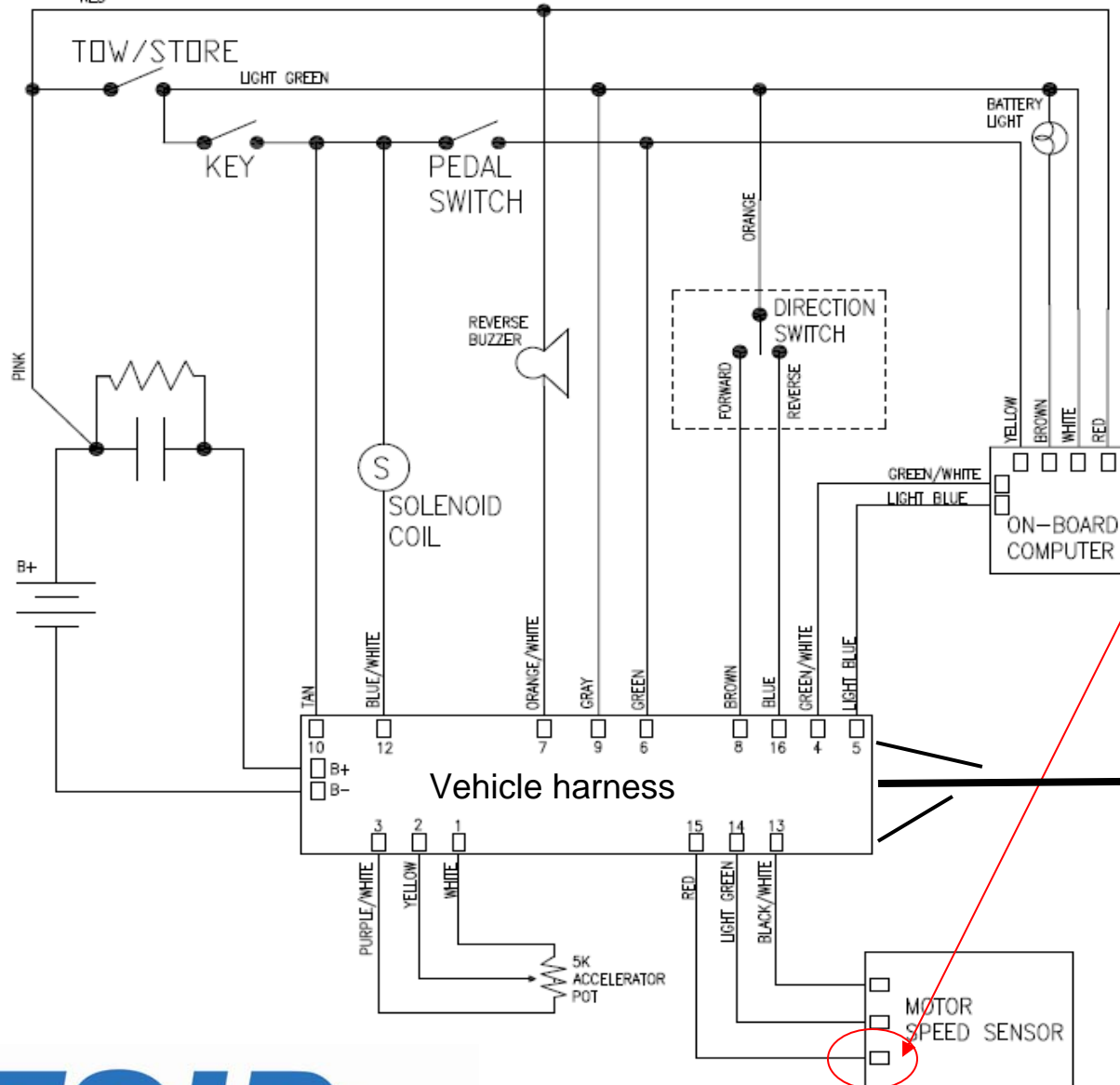
The Black/White wire measures other than 0V.

Verify the continuity of the Black/White wire from pin 16 of the FX503 controllers 23 pin connector to the three pin connector at the motor speed sensor and replace wire if necessary.

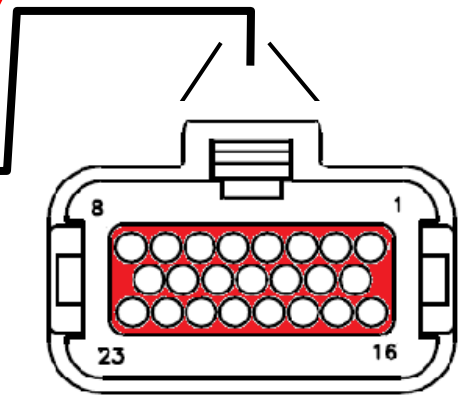
Continuity is ok



Back



With the Black meter probe on the B- connection of the controller, the Red wire should measure approx 12 volts.



The Red wire measures less than 11V.



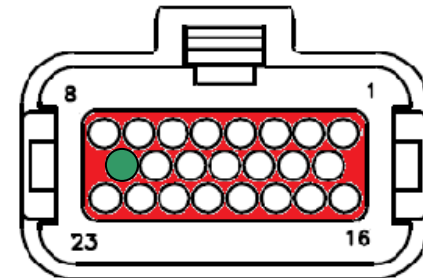
The Red wire measures more than 11V.



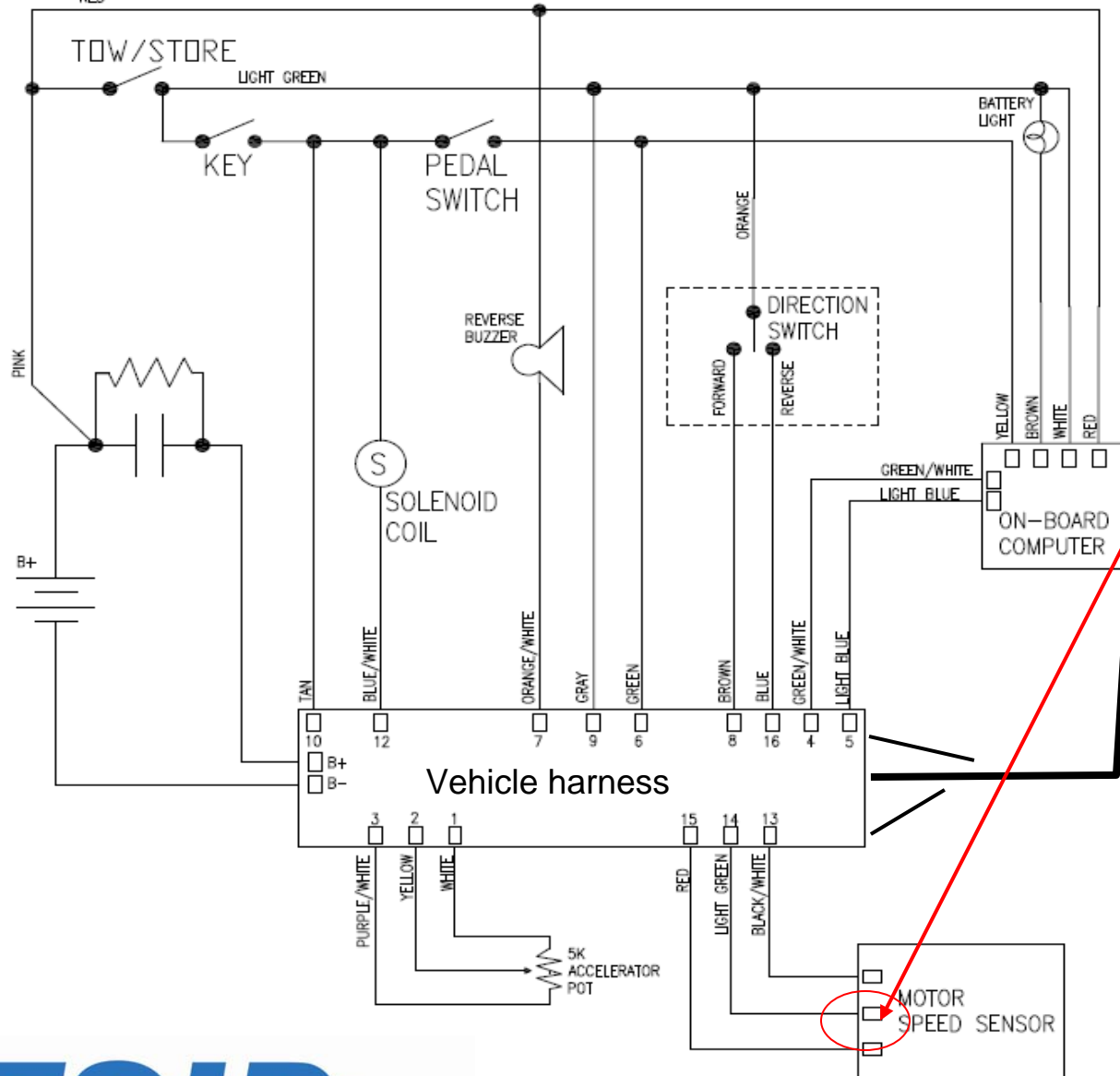


Verify the continuity of the Red wire from pin 15 of the FX503 controllers 23 pin connector to the three pin connector at the motor speed sensor and replace wire if necessary.

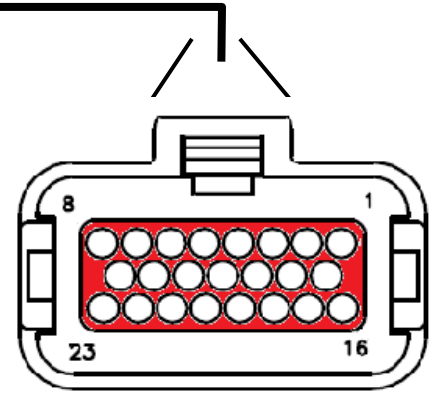
Continuity is ok



Back



Plug the three pin speed sensor plug back in, with the Black meter probe on the B-connection of the controller, the Light Green wire should measure approx 4.6-4.9 volts. (May have to slowly turn drive wheel manually)



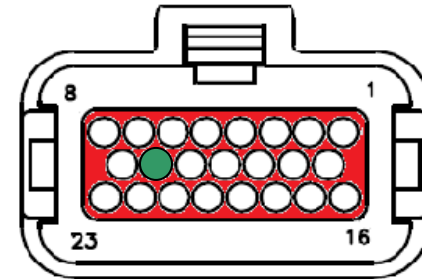
The Light Green wire measures less than 4.4 volts.



The Light Green wire measures 4.6-4.9 volts.

Verify the continuity of the Light Green wire from pin 14 of the FX503 controllers 23 pin connector to the three pin connector at the motor speed sensor and replace wire if necessary.

Continuity is ok



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