Tech Tip

Blue Bird VISION

POWERED by PROPANE

From your friends at New York Bus Sales

Complaint - **When starting the bus the engine cranks and then stops as if the starter has disengaged**

Cause - **The wiring for the ignition is set so that when oil pressure is sensed at 6 PSI that power is dropped from the ignition circuit. This is done so that the engine starter cannot be engaged while the unit is running. When it is colder, the oil heavier and engine may crank longer which causes the oil pressure to build and sends a signal to cut out the ignition circuit causing the issue.**

Correction - **Seeing as the Blue Bird ignition circuit requires you to always turn the key to the off position before trying to start the unit again we can remove the signal being sent to the PCM by following the steps below-**

Step #1 – Locate the oil pressure switch – it is plumbed in above the oil filter on the left rear corner of The motor (Figure #1)

Figure #1

Figure #2

PLEASE NOTE – The engine ground strap is located in that same location and if you see that there is the possibility of it contacting the terminals of the pressure switch as in Figure #1 we recommend that it be tie out of the way as in Figure #2 using a zip tie.

Step #2 – Locate the red wire on the oil pressure switch (Figure #3), it is labeled "DRL POWER" and cut the wire. The end that goes toward the loom should be sealed with a heat shrink butt connector to prevent corrosion. The end of the red wire going to the oil pressure switch should be attached to a new 18 gauge wire with a heat shrink butt connector. (Figure #4)

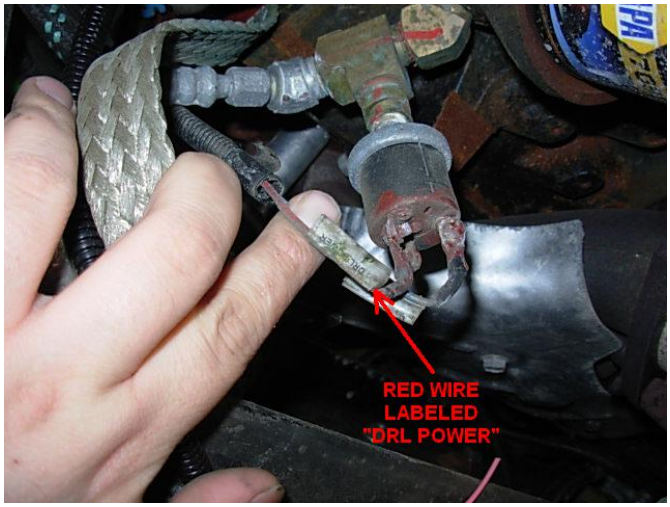


Figure #3

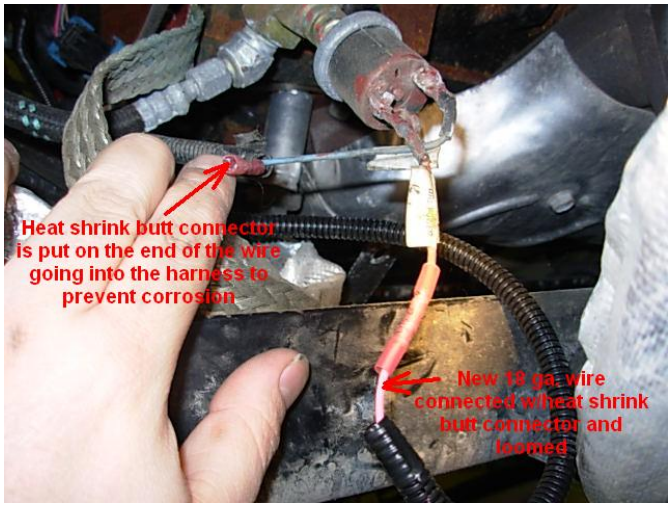


Figure #4

Step#3 – The wire should be loomed, and run behind the engine block along with the other harnesses, away from the exhaust, up to where the shifter cable enters the bus at the top of the PDU box. Zip ties should be used to secure the wire to other wiring harnesses. A drip loop should exist in the wire where it leaves the engine compartment to prevent water from being drawn into the bus. (Figure #5)

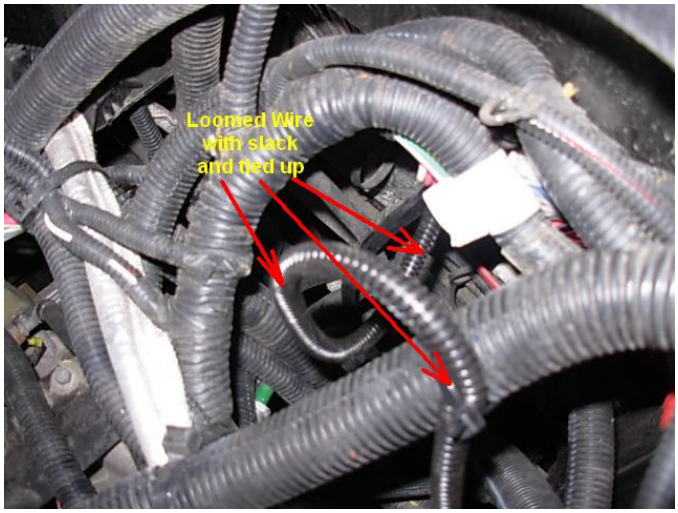


Figure #5

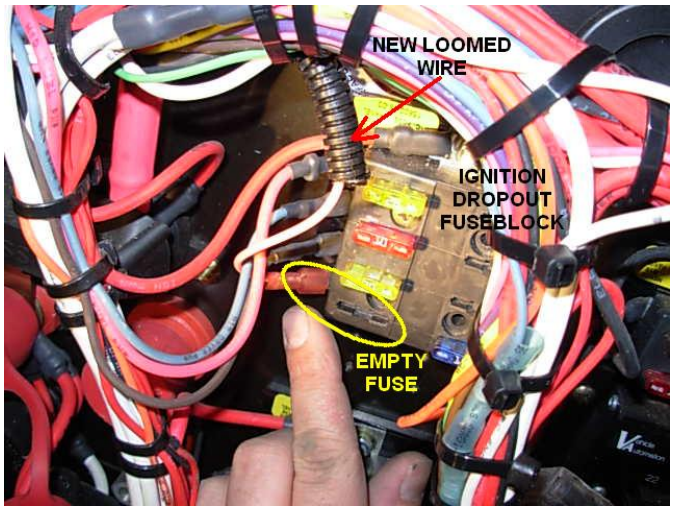


Figure #6

Step #4 – The new wire can be connected to any empty fuse location in the upper left hand (ignition dropout) fuse block of the PDU box. (Figure #6)

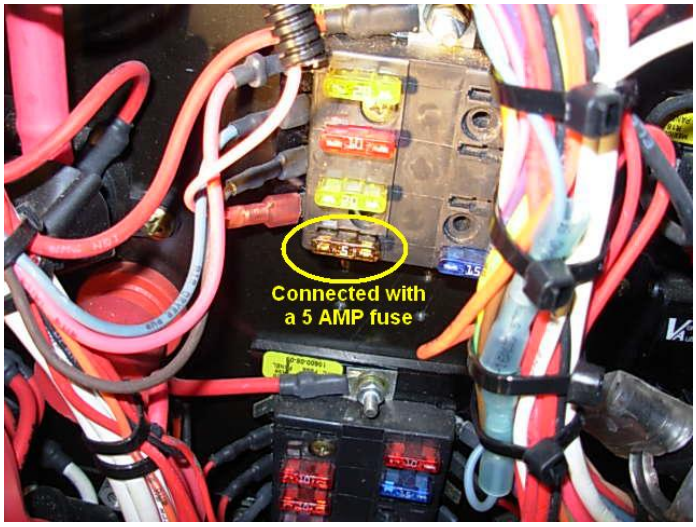


Figure #7

Step #5 – Install a 5 AMP fuse (Figure #7)

Step #6 – Test that the connections are correct by starting the engine and releasing the parking brake. If the daytime running lights work, then the connections are correct.

UPDATE – 4/4/12 (NO START)

Occasionally, the oil pressure switch can stick in the closed position, due to moisture contamination and cause a no start condition. If the oil pressure switch is corroded or faulty, it should be replaced to ensure proper operation of the DRL system.

The system can be rewired to prevent hard start and no start conditions due to the oil pressure switch. Power was previously sourced from a 12V circuit which remains powered up during cranking. The power supply should be moved to an 'ignition dropout' power source, which does not have 12V present during cranking.

It is recommended to install a new pair of wires between the pressure switch and the PDU, since the original wiring may be corroded near the pressure switch, and also through various recalls and service updates the wiring has been modified more than once.

Procedure:

Run a pair of 18 gauge wires in split loom between the PDU box and the oil pressure switch, which is located on the left side of the engine on the bottom, near the frame rail. The wires are typically red and blue. Be sure to carefully route the new harness, and wire tie it away from exhaust and moving engine components. At the pressure switch, connect the wires to the common (C) and normally open (N.O.) terminals. The normally closed (N.C.) terminal will remain unused. Make the connections with heat shrink sealed ring terminals, and once the connections are made, spray an anti-corrosive material on the connectors.

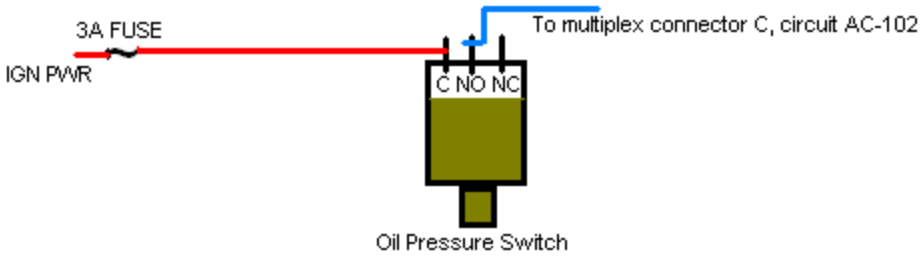
A good 'pass-thru' to get the harness into the PDU box is where the shifter cable enters. Some caulking can be removed to gain access, and should be replaced following this procedure.

Locate the multiplex module in the PDU, and locate connecter 'C'. Once you have found the correct connector, locate the wire labeled AC-102, which can be either red, or blue, depending on the

manufacture date of the unit you're working on. Cut the wire approximately 3-4 inches from the connector at the multiplex. Tape the wire that goes back into the wiring harness, as it will not be used anymore. Using a butt connector, connect the new blue wire to AC-102, at connector 'C' for the multiplex.

You will now have one wire left. Locate the 'IGN PWR' fuse panel in the PDU. Of the two fuse blocks on the left hand side, this will be the upper fuse block, which typically has 6 circuits. If there is an unused circuit, you may connect a spade connector on the remaining wire, and connect it to the fuse block in an empty location. If there is not an empty location, an inline fuse holder must be installed, and connected to the small power stud at the top of the IGN PWR fuse panel. Protect the circuit with a 3A fuse.

To test the circuit, start the engine, and release the parking brake. The DRLs should work.



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