FURNACE DSI Sequence of Operation

DO NOT BUMP OR BANG FURNACE. *Furnace failures are hard to diagnose sometimes because of loose wiring, intermittent connections and parts. *If furnace is bumped, etc during testing it may start working breifly and be very difficult to find the real issue. *It is important to "sneak up" on the unit. -Very gently access furnace and use appropriate tools to test for power flow to all furnace components.
Test for 12V- Supply to furnace Test for 12V+ Supply to furnace
There are 2 blue wires connected to furnace, these are control signal wires. One of the blue wires is 12V+ out TO thermostst or control box and the other blue wire is 12V+ FROM thermostst or control box, it is a signal wire going IN to furnace, signaling furnace to start. Sometimes the furnace supplied blue wire 12V+ out is capped, the reason for this is the manufacturer will pickup another 12V+ wire somewhere else in the unit (usually in roof AC area) to send to the thermostat or control box and then to furnace as a signal to start. The furnace only requires a input signal of 12V+ to start. (proper 12V+ and 12V- connection should already have been ran to furnace)
Determine which blue furnace wire has 12V+ out and which one is 12V+ signal in.
Connect a volt Meter to main 12V+ and 12V- supply DURING operation
Turn on thermostat to call for heat
As thermostat calls for heat. (Blue Wires wil be connected either by thermostat, relay inside control box or manually by technician)
Blower powers up
Sail Switch 12V+ voltage pass through (N.O. switch only closes when fan blows sail)
Hi Limit Switch voltage 12V+ pass through (N.C. switch only opens when over temp)
Gas Valve Voltage 12V+ from furnace control board to gas valve
Gas Valve Opens, Gas Flows into burner chamber
Spark from furnace control board to Electrode / Sensor
IGNITION !