SVX 9000 Drive Commissioning Checklist

Pre-Test Checks	
Procedure	**OK?**
1. **TAG & LOCKOUT ALL POWER SOURCES TO THE VFD PER CUSTOMER & COMMISIONER POLICIES**	
2. Visually inspect application to determine preparedness for operation	
3. Incoming power, outgoing motor and control wiring each in their own conduit	
4. Power source and cabling adequate for VFD and connected load	
5. The VFD is clean and free of installation debris, equipment or tools	
6. If installed, remove line and load side cables from VFD	

Ground Check of Incoming Cables **Power OFF – Meter on Resistance**		
Procedure	**Expected Outcome**	**Value**
+Probe to L1 Disconnected Cable / -Probe to Ground	> 1 Megohm to Ground	
+Probe to L2 Disconnected Cable / -Probe to Ground	> 1 Megohm to Ground	
+Probe to L3 Disconnected Cable / -Probe to Ground	> 1 Megohm to Ground	

Ground Check of Motor Cables **Power OFF – Meter on Resistance**		
Procedure	**Expected Outcome**	**Value**
+Probe to T1 Disconnected Cable / -Probe to Ground	> 1 Megohm to Ground	
+Probe to T2 Disconnected Cable / -Probe to Ground	> 1 Megohm to Ground	
+Probe to T3 Disconnected Cable / -Probe to Ground	> 1 Megohm to Ground	

Ground Check of VFD L1 – L2 – L3 **Power OFF – Meter on Resistance**		
Procedure	**Expected Outcome**	**Value**
+Probe to L1 Terminal / -Probe to Ground	> 1 Megohm to Ground	
+Probe to L2 Terminal / -Probe to Ground	> 1 Megohm to Ground	
+Probe to L3 Terminal / -Probe to Ground	> 1 Megohm to Ground	

Static Checks of Converter Section

Static Checks of Converter Section Power OFF – Meter on Diode Test		
Procedure	**Expected Outcome**	**Value**
+Probe to B+ / -Probe to L1	Value should increase until OL is reached	
+Probe to B+ / -Probe to L2	Value should increase until OL is reached	
+Probe to B+ / -Probe to L3	Value should increase until OL is reached	

Static Checks of Converter Section Power OFF – Meter on Diode Test		
Procedure	**Expected Outcome**	**Value**
+Probe to B- / -Probe to L1	0.25vdc – 0.40vdc / +/- 10% Range	
+Probe to B- / -Probe to L2	0.25vdc – 0.40vdc / +/- 10% Range	
+Probe to B- / -Probe to L3	0.25vdc – 0.40vdc / +/- 10% Range	

Static Checks of Converter Section Power OFF – Meter on Diode Test		
Procedure	**Expected Outcome**	**Value**
-Probe to B+ / +Probe to L1	0.25vdc – 0.40vdc / +/- 10% Range	
-Probe to B+ / +Probe to L2	0.25vdc – 0.40vdc / +/- 10% Range	
-Probe to B+ / +Probe to L3	0.25vdc – 0.40vdc / +/- 10% Range	

Static Checks of Converter Section Power OFF – Meter on Diode Test		
Procedure	**Expected Outcome**	**Value**
-Probe to B- / +Probe to L1	Value should increase until OL is reached	
-Probe to B- / +Probe to L2	Value should increase until OL is reached	
-Probe to B- / +Probe to L3	Value should increase until OL is reached	

Static Checks of Inverter Section

Static Checks of Inverter Section Power OFF – Meter on Diode Test		
Procedure	**Expected Outcome**	**Value**
+Probe to B+ / -Probe to T1	Value should increase until OL is reached	
+Probe to B+ / -Probe to T2	Value should increase until OL is reached	
+Probe to B+ / -Probe to T3	Value should increase until OL is reached	

Static Checks of Inverter Section Power OFF – Meter on Diode Test		
Procedure	**Expected Outcome**	**Value**
+Probe to B- / -Probe to T1	0.25vdc – 0.40vdc / +/- 10% Range	
+Probe to B- / -Probe to T2	0.25vdc – 0.40vdc / +/- 10% Range	
+Probe to B- / -Probe to T3	0.25vdc – 0.40vdc / +/- 10% Range	

Static Checks of Inverter Section Power OFF – Meter on Diode Test		
Procedure	**Expected Outcome**	**Value**
-Probe to B+ / +Probe to T1	0.25vdc – 0.40vdc / +/- 10% Range	
-Probe to B+ / +Probe to T2	0.25vdc – 0.40vdc / +/- 10% Range	
-Probe to B+ / +Probe to T3	0.25vdc – 0.40vdc / +/- 10% Range	

Static Checks of Converter Section Power OFF – Meter on Diode Test		
Procedure	**Expected Outcome**	**Value**
-Probe to B- / +Probe to T1	Value should increase until OL is reached	
-Probe to B- / +Probe to T2	Value should increase until OL is reached	
-Probe to B- / +Probe to T3	Value should increase until OL is reached	

Static Checks of DC Bus Section **Power OFF – Meter on Diode Test**		
Procedure	**Expected Outcome**	**Value**
+Probe to B**+** / **-**Probe to B**-**	Value should increase until OL is reached	

Static Checks of DC Bus Section **Power OFF – Meter on Resistance**		
Procedure	**Expected Outcome**	**Value**
+Probe to Ground / **-**Probe to B**-**	> 1 Megohm to Ground	
+Probe to Ground / **-**Probe to B**+**	> 1 Megohm to Ground	

Pre-Power On Checks	
Procedure	**OK?**
1. **CONFIRM ALL POWER SOURCES TO THE VFD ARE TAGGED & LOCKED OUT PER CUSTOMER & COMMISIONER POLICIES**	
2. Reconnect the line and motor cables to proper VFD Terminals	
3. Reconnect all appropriate control wiring to proper VFD Terminals	
4. Visually re-inspect application to determine preparedness for operation	
5. The VFD is clean and free of installation debris, equipment or tools	
6. Remove Tags & Locks from the disconnect supplying power to the VFD disconnect	

Voltage Check of Source Power **Source Power ON - VFD Disconnect OFF - Meter on AC Voltage**		
Procedure	**Expected Outcome**	**Value**
+Probe to L1 / **-**Probe to L2	460 VAC -15% / +10%	
+Probe to L2 / **-**Probe to L3	460 VAC -15% / +10%	
+Probe to L1 / **-**Probe to L3	460 VAC -15% / +10%	
+Probe to L1 / Ground	277 VAC -15% / +10%	
+Probe to L2 / Ground	277 VAC -15% / +10%	
+Probe to L1 / Ground	277 VAC -15% / +10%	
Phase to Phase Balance	Balanced < 5%	
Phase to Ground Balance	Balanced < 5%	

Power On AC Voltage Check of VFD **Source Power ON - VFD Disconnect ON - Meter on AC Voltage**		
Procedure	**Expected Outcome**	**Value**
+Probe to L1 / **-**Probe to L2	460 VAC -15% / +10%	
+Probe to L2 / **-**Probe to L3	460 VAC -15% / +10%	
+Probe to L1 / **-**Probe to L3	460 VAC -15% / +10%	
Phase to Phase Balance	Balanced < 5%	
Phase to Ground Balance	Balanced < 5%	

Power On DC Bus Voltage Check of VFD **Source Power ON - VFD Disconnect ON - Meter on DC Voltage**		
Procedure	**Expected Outcome**	**Value**
+Probe to B**+** / **-**Probe to B**-**	Line Voltage X 1.414 (650VDC for 460VAC)	
+Probe to B**+** / **-**Probe to Ground		
-Probe to B**-** / **+**Probe to Ground		

Power On DC Terminal Voltage Check of VFD **Source Power ON - VFD Disconnect ON - Meter on DC Voltage**		
Procedure	**Expected Outcome**	**Value**
+Probe to Term 1 / **-**Probe to Term 3	10Vdc	
+Probe to Term 7 / **-**Probe to Term 7	24Vdc	