

## FORMULA HYBRID ELECTRICAL INSPECTION CHECK SHEET 2010

Team	Team #		Note	
Tester	Date		Time	
Title	Rule Ref	Complies	Test	Notes
<b>Physical Examination</b>				
No Exposed Connections	4.2			
Wire	4.3			Wire marked & rated for voltage and temperature
HV Insulation	4.3			Rated for temperature, documented
Conductor Sizing	4.3			
Strain Reliefs	4.3			
Sharp Edges	4.3			
Conduit	4.3			Orange LNMP or equivalent
Grounded Exposed Heat Sinks	4.3			Test with Ohm Meter
		<b>Complies</b>	<b>Test</b>	
<b>Brake Overtravel Switch</b>	3.2.5.2			Check installation and (multiple) operation
		<b>Complies</b>	<b>Test</b>	
<b>Master Switches:</b>	3.4.10			Three required - min 60mm diameter, (Cockpit min 25mm) latching type
Left Side				Check installation and operation
Right Side				(both engine and electric)
Instrument Panel				Check Driver Accessibility in Harness
		<b>Complies</b>		

Title	Rule Ref	Complies	Test	Notes
<b>Maximum Voltage</b>	4.5			400V ac rms or dc maximum, any two points, operating or not
Max. Operating Voltage			<b>Volts</b>	High Voltage is defined as >30V
<b>Running in Rain</b>	6.2.1/4.1.3	<b>Complies</b>	<b>Test</b>	
Physical Protection				Review all high voltage areas
30 second water spray				Top, front, sides, 30 seconds each. Not a stream.
<b>High Voltage Isolation</b>	4.1	<b>Complies</b>		
Physical Segregation				Check segregation of HV and control circuits
				Examine PCB creepage distances if non-commercial
<b>Ground Fault Detector</b>	4.1.1	<b>Complies</b>	<b>Test</b>	
Bender 486				Must be this model or approved alternate
Test OK	4.1.2			Test multiple points to ground with 40K resistor box

**Comments**

Title	Rule Ref	Complies	Test	Notes
<b>Accumulator</b>		<b>Complies</b>	<b>Test</b>	
Approved Type	4.5			Must be battery or capacitor
Manufacturer				
Part Number				
Official FH Capacity				
Quantity				
Total Capacity				W-Hrs
Manufacturer				
Part Number				
Official FH Capacity				
Quantity				
Total Capacity				W-Hrs
Normally Open Relays	4.6			No voltage outside box when energized.
	<b>Rating</b>		V / A	
Fuse or Circuit Breaker	4.6			Not Required per box (not as clear as it could be)
Multiple Containers	4.6			Two relays OK if connected by conduit
Leakage Test Port	4.6			
LED or analog meter	4.6			
Voltage Decay	4.6			Must decay to < 30V within 10 seconds
Mechanical Robustness	4.7			
Fireproof Material	4.7			Between driver and ESU
Live Part Insulation	4.7			Nomex between live parts and conductive parts of container
High Voltage Label	4.7			Required on each container
Hydrogen Venting	4.7			Required if Accumulator vents H2 under normal charge

Title	Rule Ref	Complies	Test	Notes
<b>Warning Strobe</b>		<b>Complies</b>	<b>Test</b>	
Indicates vehicle is energized	3.1.5			Mounted to highest point on roll bar
<b>Low Voltage Circuits</b>		<b>Complies</b>	<b>Test</b>	
Grounded to frame	4.8			Visual or voltmeter
Properly Fused	4.8			
Segregated and Isolated	4.8			
<b>Charging Equipment</b>		<b>Complies</b>		
Safety Inspection	4.9			No open connections
HV Stickers	4.9			
<b>Safety Equipment</b>		<b>Complies</b>		
Cable Cutters	Appendix H			
Gloves	Appendix H			
Accumulator MSDS	Appendix H			
Special Equipment	Appendix H			If called for in MSDS
Safety Glasses	Appendix H			
SAE-Required Fire Extinguishers	Appendix H			Qty 2, 2 lb or 1.75 Liter (AFFF) 10BC or 1A 10BC, w/ pressure or charge gauge
Special Fire Extinguishers	Appendix H			If identified. Two required
Chemical Spill Cleanup Kit	Appendix H			Must have absorbent available
<b>Comments</b>				
<b>Overall Acceptance</b>		<b>Signature</b>		
<b>OK to Run in Rain or on Wet Track</b>		<b>Signature</b>		