

## FORMULA HYBRID ELECTRICAL INSPECTION CHECK SHEET 2009

Team	Team #		Note	
Tester	Date		Time	
Title	Rule Ref	Complies	Test	Notes
<b>Physical Examination</b>				
No Exposed Connections	FH-2.2			
Wire	FH-2.3			Wire marked & rated for voltage and temperature
HV Insulation	FH-2.3			Rated for temperature, documented
Conductor Sizing	FH-2.3			
Strain Reliefs	FH-2.3			
Sharp Edges	FH-2.3			
Conduit	FH-2.3			Orange LNMP or equivalent
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Grounded Exposed Heat Sinks	FH-2.3			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>	3.4.9			Three required - 60mm diameter, 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>	FH-2			600V 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>	5.2.1/FH-2.1	<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>	FH-2.1	<b>Complies</b>		
Physical Segregation				Check segregation of HV and control circuits
				Examine PCB creepage distances if non-commercial
<b>Ground Fault Detector</b>	FH-2.1.1	<b>Complies</b>	<b>Test</b>	
Bender 486				Must be this model or approved alternate
Test OK	FH-2.1.2			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	FH-2.5			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	FH-2.6			No voltage outside box when energized.
	<b>Rating</b>		V / A	
Fuse or Circuit Breaker	FH-2.6			Not Required per box (not as clear as it could be)
Multiple Containers	FH-2.6			Two relays OK if connected by conduit
Leakage Test Port	FH-2.6			
LED or analog meter	FH-2.6			
Voltage Decay	FH-2.6.4			Must decay to < 30V within 10 seconds
Mechanical Robustness	FH-2.7			
Fireproof Material	FH-2.7			Between driver and ESU
Live Part Insulation	FH-2.7			Nomex between live parts and conductive parts of container
High Voltage Label	FH-2.7			Required on each container
Hydrogen Venting	FH-2.7			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	FH-2.8			Mounted to highest point on roll bar
<b>Low Voltage Circuits</b>		<b>Complies</b>	<b>Test</b>	
Grounded to frame	FH-2.9			Visual or voltmeter
Properly Fused	FH-2.9			
Segregated and Isolated	FH-2.9			
<b>Charging Equipment</b>		<b>Complies</b>		
Safety Inspection	FH-2.10			No open connections
HV Stickers	FH-2.10			
<b>Safety Equipment</b>		<b>Complies</b>		
Cable Cutters	FH-3			
Gloves	FH-3			
Accumulator MSDS	FH-3			
Special Equipment	FH-3			If called for in MSDS
Safety Glasses	FH-3			
SAE-Required Fire Extinguishers	FH-3			Qty 2, 2 lb or 1.75 Liter (AFFF) 10BC or 1A 10BC, w/ pressure or charge gauge
Special Fire Extinguishers	FH-3			If identified. Two required
Chemical Spill Cleanup Kit	FH-3			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>		