



**2018 HYDROMOBILE - TECHNICAL INSPECTION FORM (TEAM COPY)**

University		Attempt (Note the time)			Vehicle #
		1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	
Team		4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	

**PENALTY**

	Subject	Missing/Violation	Before Race	After the Race	Conclusion
Penalty	Domestic Components				
	(Example: wiper, seat, headlight etc.)				

**PHYSICAL SPECIFICATION & HARDWARE**

Test	Value	Compatibility		NOTES
		✓	X	
Test	Vehicle dynamic testing	Time		
	Speedometer	Functional		
Physical Specification	Vehicle height	At least 1 m above ground level		
	Minimum height	Height of the vehicle from the ground must be a minimum of 10 cm		
	Vehicle measurements	Should fit within the lines drawn at the technical inspection		
		Technical drawing should be provided with a separate page		
	Cockpit (for driver and passenger)	A minimum height of 85 cm and width of 65 cm will be checked by emergency evacuation performance and visually		
	Vehicle body	Hood for access to other components		
		From the top view: no open regions, the wheels inside the body Fragile windows / sharp ends / protruding edges etc.		
	Door	50 cm x 80 cm frame can pass through the door		
	Door mechanism	Fixed to the body with a safe connecting element		
Can be opened from outside/no possibility of unintended opening				
Wheel width	A minimum of 70 mm			
Flag	A minimum of 20 x 30 cm			
Hardware	Windscreen	Transparent windows that do not shatter during collisions		
	Wiper	Working properly		
	Rearview mirrors	On both sides of the cockpit		
		with a minimum reflection area of 50 cm <sup>2</sup> Driver can see the text shown		
	Horn	Able to sound 3 second continuously		
	Headlights	2 headlights		
Seen from a distance of 25 m				
Safety Hardware	Fire extinguishers	1x2 kg or 2x1 kg		
	Roll bars Roll cages	One roll bar in the front and one roll bar at the rear		
		A minimum yield strength of 200 MPa		
		Roll bar perpendicular to the bottom of the vehicle		
		The front roll bar starts at least 3 cm above the steering wheel		
		The rear roll bar starts at least 5 cm above the helmet		
		Closed and rolled pipe or box profiles		
		Independent from the chassis		
	Tow bars	Welding/bolts used according to specified rules.		
		One in the front and one at the rear		
	Steering wheel	With a minimum internal diameter of 20 mm, made of steel		
		Closed form		
	Safety Belts	Fixed at four or five points, compatible with FIA standards		
Driver outfit and equipment	Compatible with FIA standards			
Seat	Driver seat is compatible with FIA standards, fixed to the chassis			
	Passenger seat is compatible with FIA standards, fixed to the chassis Makes an angle of at most 30 degrees with the normal axis of the chassis			

TEAM:

**ELECTRICAL SAFETY & BATTERY (TEAM COPY)**

	Value	Compatibility		NOTES	
		✓	X		
<b>Electrical Safety</b>	Electrical cable connections	No bare cable/proper insulation			
	Overcurrent breaker	In the power conditioner circuit, on main power line, and with proper rated values			
	Joule meter connection	No extra battery apart from the main battery package			
<b>Battery</b>	Battery type	Li-Ion, Li-Polimer			
	Battery management system	Temperature sensors			
		Temperature test for battery cell			
		Electrical measurement			
	Battery temperature measurement	Flasher, buzzer and temperature indicator			
	Battery datasheet	Must be presented			
		All the data should be available			
Battery box	Hood for access to battery package				
	Proper material				
	Proper design				
Fixing battery box	Fixed properly with bolts and nuts, grade 8.8 and a min. diameter of 8 mm				
Safety wall	Proper material				
<b>Test</b>	Brake lights	At least 1 brake light			
	Brake test	Seen from a distance of 25 m			
		Functional			
	Steering	Functional			
	Brake system	Dual-circuit hydraulic			
Emergency Evacuation (driver and reserve driver)	No longer than 20 seconds, without help				
<b>Sticker</b>	Emergency stop button	2 buttons, one inside and one outside the vehicle			

**HYDROGEN SYSTEM SPECIFICATIONS (TEAM COPY)**

<b>Fuel Cell/Hydrogen</b>	Fuel cell	A maximum output power of 3 kW			
	Pressure safety valve	At least 1 valve, enough to evacuate all gases			
	Gas flow safety valve	Follows the output of the metal hydride hydrogen cylinders			
	Thermocouple	On the surface of the metal hydride cylinders			
	Flasher	A minimum diameter of 4 cm			
		A minimum height of 5 cm			
		Red and rotating with a reflector			
	Temperature indicator	Electrically connected to flasher			
		Alert when the temperature is 10 °C above operating temperature			
	Metal hydride cylinders	Outside the cockpit			
		With a protective shield			
		With resistant belts or clamps			
	Hydrogen line	Max 15 bar			
Not passing through the cockpit					
Globe valve	Proper valves, fittings brass and pipes used				
	On the hydrogen cylinders-fuel battery line				
Hydrogen sensors	A stainless steel or brass, of 316 quality				
	In the driver cabin				
		Alert in the event of 2% hydrogen presence in volume			

**DOMESTIC PRODUCTS & TECHNICAL DESIGN REPORT**

	Sub-Component	NOTES
<b>Report</b>	<b>1. Motor</b>	
	<b>2. Motor driver</b>	
	<b>3. BMS</b>	Datasheet of battery Technical drawings of BMS Battery mapping scheme Explanation of the algorithm Q and A
	<b>4. EMS</b>	
	<b>5. Emb. Rech Unit</b>	
<b>Domestic sub-components</b>	<b>6. Battery Pack.</b>	
	<b>7. Elec. Dif. App.</b>	
	<b>8. VCU</b>	
	<b>9. Fuel Cell</b>	
	<b>10. Fuel Cell Cont. Sys.</b>	
	<b>Optional sub-component</b>	
	<b>Other report notes</b>	Original Design

Final Evaluation Notes

Academic advisor signature

Jury signature