Station	Grade	Comments
Array		
Driver / Passenger Registration		
Driver / Operations		
Lights & Vision		
Body & Sizing		
Electrical		
Battery Protection		
Mechanical		
Dynamics		
Support		

PENALTY	REGULATION	VALUE

Date & Time Received	

ΓΕΑΜ: #

Station	Driver 1 (required)	Driver 2 (required)	Driver 3	Driver 4
Driver Name (Driver Registration)				
Driver Color Tag / Security Marker (Driver Registration)				
Dynamics Restrictions? (Dynamics)				

TEAM: #	
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Station	Passenger 1	Passenger 2	Passenger 3	Passenger 4
Passenger Name (Driver / Passenger Registration)				
Passenger Color Tag / Security Marker (Driver / Passenger Registration)				
Station	Passenger 5	Passenger 6	Passenger 7	Passenger 8
Station Passenger Name (Driver / Passenger Registration)	Passenger 5	Passenger 6	Passenger 7	Passenger 8

TEAM:	#
Vehicle Class (Reg 7.) Single Occupant / MOV / Grandfathered	

Regulation	Driver 1 (required)	Driver 2 (required)	Driver 3	Driver 4
Driver Name				
Driver Color Tag / Security Marker & Ballast Weight				
Driver Color Tag / Security Marker				

Regulation	Comments
Tire Pressures & Speed Limitations	
Common Ballast (weight and location)	
Battery Box Seal	

TEAM:	#
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Regulation	Grade	Comments
Solar Array Output		
Voltage		
Amperage		
Power		

Station Manager:
Entrance: Array disconnected from battery.

TEAM: #

Regulation \ Driver	Driver 1	Driver 2	Driver 3	Driver 4
11.1.A Driver is registered with HQ (has ID), is 18 or older with valid DL				
11.3.A Driver Helmets – Type/Rating –Snell M95 / DOT / ISO motorcycle				
11.3.B Driver Shoes – Valid shoes				
9.7, 9.7.A, 11.2, 11.3.C Driver Ballast – Each driver ballasted to 80 kg (176 lbs)				
9.7.B – Common Ballast				
Driver Weight / Ballast Weight (driver weight includes driving clothes and shoes but not helmet)				
Color Tag / Security Marker				

Regulation	Grade	Comments	
11.1.A.2 Driver Req. – max of 4, min of 2			

TEAM:	#
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Regulation \ Passenger	Passenger 1	Passenger 2	Passenger 3	Passenger 4
11.1.B Passenger is registered with HQ (has ID), is 18 or older				
11.1.B.2 Also a driver?				
11.3.A Helmets – Type/Rating –Snell M95 / DOT / ISO motorcycle				
11.3.B Shoes – Valid shoes				
9.7, 9.7.A, 11.2, 11.3.C Passenger Ballast – Each passenger ballasted to 80 kg (176 lbs)				
Passenger Weight / Ballast Weight (passenger weight includes driving clothes and shoes but not helmet)				
Color Tag / Security Marker				

Regulation	Grade	Comments	
11.1.B.1 Passenger Req. – max of 8			

TEAM:	#
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Regulation \ Passenger	Passenger 5	Passenger 6	Passenger 7	Passenger 8
11.1.B Passenger is registered with HQ (has ID), is 18 or older				
11.1.B.2 Also a driver?				
11.3.A Helmets – Type/Rating –Snell M95 / DOT / ISO motorcycle				
11.3.B Shoes – Valid shoes				
9.7, 9.7.A, 11.2, 11.3.C Passenger Ballast – Each passenger ballasted to 80 kg (176 lbs)				
Passenger Weight / Ballast Weight (passenger weight includes driving clothes and shoes but not helmet)				
Color Tag / Security Marker				

Station Manager:
Entrance: All occupants report with ballast material, helmet(s), proper
Station Grade:
Blue = Pass / Penalty / Bridging Document Required Yellow = Needs improvement / Dynamic Test Ready
driver/passenger uniforms Station Grade: Green = Pass Blue = Pass / Penalty / Bridging Document Required

	Driver 1	Driver 2	Driver 3	Driver 4
Regulation \ Driver				
	Passenger 1	Passenger 2	Passenger 3	Passenger 4
10.3.G.9 Roll Cage – 50 mm clearance b/w roll cage and helmet, 30 mm				
clearance b/w padding & helmet				
The second secon	Passenger 5	Passenger 6	Passenger 7	Passenger 8
	Driver 1	Driver 2	Driver 3	Driver 4
	Dilver I	Diver 2	Diver 5	Bliver 4
	P	P	P	P
	S	S	S	S
				Passenger 4
9.6 Egress				
no wheel chocks, unassisted – 10 sec fully out of solar car (primary), 15 sec	P	P	P	P
(secondary)				
	S	S		S
	Passenger 5	Passenger 6	Passenger 7	Passenger 8
	P	P	P	P
	r	r	r	r
	S	S	S	S

TEAM: #

Regulation	Grade	Comments
11.3.E Water/Fluids – plan for water/fluid provision (1L min / per occupant)		
11.4.A, 11.4.C Radios/Communication – Driver in radio contact with team, hands free		
11.4.B Cell Phone in solar car – hand's free and fixed mounting		
9.7.C Ballast Carriers – one per occupant within 300 mm of hip point		
9.7.E Ballast Access – located in solar car, and visible		
9.7.D Common Ballast Box – Equipped and sealable?		

	Station Ma	nager:
	Entrance:	
		All occupants report with driver/passenger uniform
		radio communication
	Station Gra	ade:
		Green = Pass
		Blue = Pass / Penalty / B
		Yellow = Needs improve
		D - 1 E - 11 / C - f - 4 - 11

All occupants report with ballast material, helmet(s), proper driver/passenger uniforms with fully assembled solar car and radio communication

Grade:

Blue = Pass / Penalty / Bridging Document Required Yellow = Needs improvement / Dynamic Test Ready Red = Fail / Safety Hazard

	Driver 1	Driver 2	Driver 3	Driver 4
Regulation \ Driver				
9.5.B Forward Vision - ground @ 8 m,				
6.4 m above @ 12.2 m ahead, 100°				
side to side, 75 mm letters @ 3m front,				
50 mm letters @3m side				
9.5.E Rear Vision - 15 m back, 30° L/R				
single reflex image				

Regulation	Grade	Comments
9.5.E Rear Vision – camera fixed in		
position, view screen viewable in normal		
driving position		
Lighting / Signals		
9.4.A Lighting – DRL/Headlamps; white,		
visible 30° L/R, 15° up at 30 m, 25% of		
vehicle width from CL, front extremities,		
no farther back than 175 mm		
9.4.B Lighting – Front Turn; amber, visible		
30° L/R, 15° up at 30 m, 25% of vehicle		
width from CL, front extremities, no		
farther back than 175 mm		
9.4.C Lighting – Side Marker, amber,		
visible 60° F/B, 15° up at 30 m, between		
20-30% back from front of vehicle		
9.4.D Lighting – Brake; red, visible 30°		
L/R, 15° up at 30 m, 40% of vehicle width		
from CL, no farther forward than 175 mm		
9.4.E Lighting – Rear Turn; red/amber,		
visible 80° out, 45° in, 15° up at 30 m, 25%		
of vehicle width from CL, rear extremities		

TEAM:	#
9.4.F Lighting – High Mount Brake; red,	
visible 30° L/R, 15° up at 30 m, high	
mounted rear of vehicle canopy (700 mm	
above ground)	
9.4.G Lighting – BPS Trip; white, visible	
30° L/R, 15° up at 30 m, high mounted rear	
of vehicle canopy (700 mm above ground)	
9.4.H. – Front turn, Side Markers, Rear	
Turn – Emergency Hazard format	
9.4.I Horn – sound level b/w 75-102 dB @	
15 m, permanently mounted, steering	
wheel operated. Duration for 5 min	
potential	
Station Mana	ger:
Entrance:	
	Driver in fully assembled solar car
Station Grade	•
Station Grade	Green = Pass
	Blue = Pass / Penalty / Bridging Document Required
	Yellow = Needs improvement / Dynamic Test Ready
	Red = Fail / Safety Hazard
	Neu – Pali / Salety Hazaiu

TEAM:	#
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Dimensions and Body	
9.1 Solar Car Dimensions – Max. Dimensions L =	
5.0 m, W = 2.2 m, H = 1.6 m	
9.3 Ground Clearance – 50 mm	
8.1.I Charging Configuration – all portions carried	
by solar car (stands, supports, cables etc)	
8.I.K & 9.2 Operational Configuration – body	
remains fixed (no reorientation/tilting) when	
moving under its own power	
9.5.C & 9.5.D Windshield – shatter resistant,	
method to clear rain, distortion free	
9.9.A Solar Car Numbers – approved color, 50 mm	
background, 250 mm high, 120 mm wide, 40 mm	
brush stroke, 25 mm spacing, visible from 3 m at	
1.8 m above ground	
9.9.B Institution Name – displayed on car with	
approved abbreviations and more prominent than	
any team sponsor logo/name, no disruptive or	
offensive graphics. Visible from 3 m at 1.8 m above	
ground	
9.9.C Event Logo –space (200 mm H x 300 mm W) on both sides, visible from 3 m at 1.8 m above	
ground	
9.9.D National Flag – displayed on both sides of car	
by windshield (min size 70 mm x 40 mm)	
9.9.E Front Signage – space (600 mm x 150 mm	
projected) with event logo included and institutional	
name	
Distance from front of car to driver's headrest	
(identify value)	
· · · · · · · · · · · · · · · · · · ·	
Cockpit	
7.1.A, 10.3.B.1 Single Occupant Class Number of	
Occupants – Max. of (1)	
7.1.B, 10.3.B.2 Multi-Occupant Class – Number of	
Occupants	
10.3.B.3 Seating Position – seat forward facing	
10.3.B.4 Back and Head Restraint – top of head	
restraint 800 mm (MOV front seats, Single-	
Occupant), 750 mm (MOV rear seats)	
10.3.B.5, 10.3.B.6 Occupants heels below hip point,	
angle between shoulders, hips, knees >90 deg	
10.3 C Occupant Space Check	

TEAM:	#
10.3.D Belly Pan – full isolation and ability to	
support 80 kg. Occupants torso and limbs above	
lower element of chassis	
10.3.G.8 Padding – roll cage padded around head	
meeting SFI-45.1/FIA 8857-2001 A or B or better,	
coverage of 50% or more.	
10.3.G.8 Headrest – headrest provided with 20 mm	
thick padding, secured	
9.5.F Outside Air Circulation – cockpit vents /	
intake vents, fan if from wheel vents	
9.6.B Egress – Can be opened from both inside and	
outside, no tape used at egress point	
9.6.B.3 Egress Opening – 25 mm wide stripe, and	
external canopy release marked "Open" 20 mm	
Operational Requirements	
9.8 Data logger – position for exposure to sky and	
fixed in position	
Vehicle Weight and Tires	
Vehicle Weight	
LF - RF-	
LR- RR-	
Total:	
10.2.A, 10.2.B Tire Sets – tire configurations meet	
loading requirement, min 4 points of contact	
10.2.C Tire Ratings – weight <wheel rating=""></wheel>	
tires inflated w/in manf. rating	
tube-type tires need tubes	
US DOT or similar	
10.2.D Wheel/Rim – profile matches bead	
requirements of tire	
Tire Set Configuration NOTES:	

TEAM: #	
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Regulation \ Driver	Driver 1	Driver 2	Driver 3	Driver 4
	Passenger 1	Passenger 2	Passenger 3	Passenger 4
9.5.A Visibility – eye height = must be 700 mm or greater				
	Passenger 5	Passenger 6	Passenger 7	Passenger 8

Station Man	ager:
Entrance: Station Grad	Driver and Occupants in fully assembled solar car
Station Grac	Green = Pass Blue = Pass / Penalty / Bridging Document Required Yellow = Needs improvement / Dynamic Test Ready Red = Fail / Safety Hazard

TEAM:	#
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Regulation	Grade	Comments
8. Power – Solar array is present, no non-solar		
power sources		
8.2.A Battery Max weights	(201)	LIED (IOL)
Li-S (15 kg) Li-ion / Li Polyr	ner (20 kg)	$_{\text{LiFePo}_4}$ (40 kg) $_{\text{max}}$ 8.2.B. (Other)
8.2.A.2 MOV Battery Exemption		Battery Weight:
8.4.D Battery Ventilation – pull from exterior		Duttery Weights
vent, operates with battery switch		
Fan can operate from supplemental if BPS trips		
8.4.E External Cooling – not permitted unless		
powered by main battery / unless emergency		
8.4.A, 8.4.C Battery Enclosures – isolated w/ 1		
$M\Omega$ to frame, non-conductive, labeled		
8.6.C External Power Switch – location,		
marking, operation, rated for load		
8.9 Electrical Shock Hazards – protected and		
marked w/ 10 mm labels		
8.2.B., 8.2.D Other Storage Techniques –		
Power condensers or flywheels		
8.4 Battery Removal – batteries can be removed		
8.4 Battery Removal – MOV exemption		
8.4.G Impound Box – lockable box, no external		
hardware		
5.2.D & 8.2.A Storage Batteries – match		
submitted approval form		
8.2.A Battery Pack Weight		
8.4.B Battery Mounting - secured		
8.2.C Supplemental Batteries – radios, meters,		
driver fan, main power switch, horn only, BPS		
momentarily, fans in BPS trip, BPS Strobe,		
BPS Fault Driver Indicator		
8.2.C.2 Supplemental Battery Location – In		
battery enclosure		
8.5 Main Fuse - < 200% Ip or 75% of wire capacity, first in series		
8.5.B Branch – other wiring sizes off main bus		
are properly fused		
8.5.C Voltage Taps – fused or current limited		
8.6 Power Switch – manual switch capable to		
interrupt Ip, 10 mm labels, normally open		
81.I.1 Electrical Connection – between array		
and car are carried internally		
8.7.A Cable Sizing – proper size for Ip		
8.8.B Accelerator – zero return, brake shutoff		
on cruise control		
8.8.A Control – driver has sole control		
8.8.C Cruise Control – driver activated only,		
automatic deactivation		

TEAM:	#
	Station Manager:
	Entrance:
	Fully assembled car
	Station Grade:
	Green = Pass
	Blue = Pass / Penalty / Bridging Document Required Yellow = Needs improvement / Dynamic Test Ready Red = Fail / Safety Hazard

TEAM:		#				
BPS - OVER VOLTAGE (OV) TEST						
☐ String ☐ Module ☐ Cell – Test Level		☐ Pass ☐ Fail				
Nominal Voltage: Vnom @ Wax Voltage: Vmax @ Vmax @ PS Max Trip: Vmax_tr Delay	°C °C ip	BPS V Resolution: Bit BPS V Range: VDC BPS Sample Rate: S/s BPS Disconnect Delay: s				
BPS - UNDER VOLTAGE (UV) TEST						
☐ String ☐ Module ☐ Cell – Test Level		☐ Pass ☐ N/A ☐ Fail				
Nominal Voltage: Vnom Min Voltage: Vmin BPS Min Trip: Vmin Filtering Delay	@°C @°C trip	BPS V Resolution: Bit BPS V Range: VDC BPS Sample Rate: S/s BPS Disconnect Delay: s				
BPS - O	VER CU	URRENT (OC) TEST				
☐ String ☐ Module – Test Level		☐ Pass ☐ N/A ☐ Fail				
Max Current (charge): ImaxMax Current (discharge): ImaxBPS I Trip(charge): ImaxBPS I Trip(discharge): Imax	@ °C _trip	BPS I Range: VDC				
☐ Filtering ☐ Delay	r	a				
	R TEM	PERATURE (OT) TEST				
String Module Cell – Test Level (Charge) / (D	•	☐ Pass ☐ N/A ☐ Fail				
Max Operating Temperature: / _ BPS T Trip: °C Tmax_trip_charg BPS T Trip: °C Tmax_trip_disch	ge					
Regulation	Grade	Comments				
8.6.B Fault Dash Indicator illuminates on BPS trip						
9.4.G.2 BPS Trip Strobe illuminates on BPS trip						
Station Manag	er:					
Entrance: Fully assembled car / battery pack and BPS Station Grade: Green = Pass Blue = Pass / Penalty / Bridging Document Requir Yellow = Needs improvement / Dynamic Test Rea Red = Fail / Safety Hazard						

Regulation	Grade	Comments
5.2.B Mechanical Report – Vehicle		
matches structural report		
8.4.B Battery Enclosures – structurally		
sound and properly secured to chassis		
9.7.C, 9.7.D Ballast Carriers – structurally		
sound and properly secured to chassis		
10.1 Body panels and array – securely		
fastened to prevent unintended movement		
10.1.C Array Attachment – 2 independent		
methods		
10.2.A Wheel Configuration Acceptable		
10.2.B Wheels – Wheels meet the		
minimum requirements		
10.8 Towing Hardpoint – accessible for		
forward towing		
Occupant Cell	•	
10.1.A Covers and Shields – all moving		
parts protected against contact. Occupants		
shielded from steering linkage and other		
moving parts		
10.3 Occupant Cell – designed for		
protection, will not cause undue strain		
10.7.A Steering Wheel – continuous		
perimeter steering wheel. Ref. Appendix A		
10.3.E Safety Belts – commercial 5 pt. that		
meets FIA D 280.T, SFI 16.1 or SFI 16.5,		
proper positioning of attachment points,		
properly attached with nuts and bolts		
(10.3.E.3)		
10.3.E.1, 10.3.E.10 5-point (min) safety		
belt (FIA/SFI)		
10.3.E.4, 10.3.E.5, 10.3.E.6 shoulder belt		
placement		
10.3.E.4, 10.3.E.7 lap belt placement		
10.3.E.4, 10.3.E.8 submarine belt		
placement		
10.3.E.9 Safety belt chaffing through seat		
10.3.F.1 Crush Zone – 150 mm structural		
zone by occupant's torso		
10.3.G Roll Cage – designed to encompass		
occupants in all directions, integral part of		
chassis, deflect array, metallic		
10.5.E & 10.5.F Pedal Placement - brake		
pedal activation, spacing between pedals,		
right foot activation		
8.8.B.1 Accelerator Pedal Placement - right		
foot activation & right of the brake pedal		

TEAM: #

Steering								
10.1.B Clearance – moving parts are interference free								
10.1.B, 10.7.D Steering Static Test – can turn lock to lock while still, no excessive play in steering								
10.7.B Steering stops – in place and functional								
Brakes								
10.5.G Hand Brakes – if equipped – lock-to-lock use without repositioning hands								
10.5, 10.5.A Brakes – dual independent and balanced co-reactive								
10.5.B Brake Pads – contact area > 6.0 cm ² , initial thickness >= 6.0 mm, full contact with rotor								
10.5.D Brake Lines – appropriately sized and constructed								
10.5.H Mechanical Rear Brake – Volume limiting valve – locked out								
10.6 Parking Brake – lockable, independent equipped with working		VEH	VEHICLE WEIGHT =					
parking brake (must hold 10% of vehicle weight in both directions), non-tire contact style		FOR	FORWARD PULL: REAR				R PULL	:
Hardware								
Critical Areas (Reg 10.4.E)	Steering	Brakes	Front Suspension	Rear Suspension	Seat/Safety Harness	Drive Train	Battery Box	Ballast Box
10.4 - Critical Areas do not use friction or press fit assemblies								
10.4.A Bolts – SAE grade 5, M 8.8 or AN/MS on critical systems, two threads beyond nut, no shaved heads								
10.4.B Securing Bolts – safety wire, cotter pins or flex-loc nuts								
10.4.D No plastic luggage type buckles or single push release straps								

TEAM:	#
Fastener/Hardware Notes:	
I usterier/IIII uwure 140tes.	
10.4 C.C. and D. 4 Fords All 1	
10.4.C Securing Rod-Ends – All rod-ends secured with jam nuts	
-	
Station Manag	er:
Entrance:	
Zintunee.	Vehicle disassembled at station
Station Grade:	
	Green = Pass
	Blue = Pass / Penalty / Bridging Document Required Yellow = Needs improvement / Dynamic Test Ready
	Red = Fail / Safety Hazard

Regulation	Grade	Comments				
U-Turn Test						
10.7.C Turning Radius – any portion of the car <200 mm above ground is within 16 m wide lane		RIGHT TURN: LEFT TURN:				
Figure-8 Test						
10.2.A Tire and Wheel Requirements – all wheels must remain on the ground 10.1.B no body work shall contact moving structural members						
10.9 Dynamic Stability – vehicles must exhibit sufficient stability during test 10.9.A Figure 8 – vehicle must negotiate Figure-8 course in less than 9 seconds per		TIME FOR FIGURE-8:				
side w/o hitting cones or showing signs of instability						
Braking Test	T					
10.9 Dynamic Stability – vehicles must exhibit sufficient stability during test						
10.5.C, 10.9.D Braking Performance – vehicle must decelerate from >= 50 km/h (31 mph) at > 4.72 m/s² to a complete stop w/o excessive veering or signs of instability (mechanical braking only)		TIME: SPEED:				
Three-Wheel Cars with Rear Brake						
10.5.H Performance – hold car with Front.		VEHICLE WEIGHT =				
Wheels elevated, dry pavement, forward pull >=15% of weight		FORWARD PULL:				
10.5.H.3 Volume Limiting Value – locked out						
Slalom Test						
10.9 Dynamic Stability – vehicles must exhibit sufficient stability during test						
10.9.C Slalom Test – Negotiate slalom course within appropriate time (11.5 s)		TIME: SPEED:				
High Speed Stability						
10.9 Dynamic Stability – vehicles must exhibit sufficient stability during test						
10.9.B Stability at Speed – Maintains constant speed in a 3.5 meter lane		SPEED:				

TEAM:		#
	Station Man	nager:
	Entrance:	
		All drivers & passengers report to station with car, Green,
		Blue, or Yellow from Driver Registration, Driver Operations,
		Body & Sizing, Mechanical, Electrical, BPS
	Station Grad	de:
		Green = Pass
		Blue = Pass / Penalty / Bridging Document Required
		Yellow = Not available at this station
		Red = Fail / Safety Hazard

Regulation	Lead	Chase	Scout	T&T	Other	Comments
Support Vehicles (12.4, 12.4.A – 12.4.E)						
All vehicles registered with ASC HQ						
Max 15 passenger van						
Roof mounted amber lights						
GPS for observer viewing						
Storage racks are secure and safe						
Support Vehicle Graphics (12.4.F)						
Organization Name						
Solar Car Number on both sides & rear (at least 250 mm tall, with a 40 mm brush stroke)						
Solar Car Number on top passenger's side of windshield (at least 150 mm tall)						
Event Logo – provided on-site (both sides of each vehicle and trailer)						
Solar Car Caravan Sign						
Radio Communication (12.5)						
Communication with solar car driver, which observer can monitor						
Hand's free comm. for all vehicle drivers						
Separate CB channel for ASC communications in all vehicles on route						
Safety Equipment (minimum requireme	nts) (3.1.)	B.1, 12.4.	A – 12.4.	D)	,	
Certified, stocked First Aid Kit						
ABC Fire Extinguisher						
Safety Vest (1 per person in vehicle)						
4 Orange Cones (minimum 12" high)						
2 Orange Warning Flags						
Battery MSDS, Spill Kit, and method of containment of battery fires / 40 kg of sand						
Shovel / Spade for applying sand						
Battery handling PPE						

TEAM: #	
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Safety Officer and Demonstration		Comments		
3.1.A.1 Safety – Team Safety Officer				
Name:				
3.1.A.3, 3.1.A.4 Safety officer provides				
proof of First Aid and CPR training				
3.1.A.2 Safety office is not a Solar Car				
Driver, Solar Car Passenger, Support				
Vehicle Driver, Team Manager				
3.1.A.5 Location of Safety Officer in				
Lead/Chase				
Demonstration of roadside safety				
procedures by team (role play)				

Station Mana	ger:
Entrance:	
	All team vehicles with all equipment.
	Lead and chase vehicles with all equipment and team
	members who will be in those vehicles; safety officer must
	be present
	•

Station Grade:

Green = Pass

Blue = Not available at this station Yellow = Not available at this station

Red = Fail / Safety Hazard