

Tech Inspection Form – High School

Item	Spec. Ref.	Check Item	Crew Chief	Tech-Inspect Pass	Fail
Make and Weight					
1	2.1	Chassis make – Factory Tag Number: _____ Make: _____			
2	2.4.1	Frame – (Wheel base greater than 40” and less than 60”)			
3	2.4.1	Frame – (Tire Width between 30” and 55” to the outside)			
4	2.11	Weight – minimum weight 400lbs as raced including driver and all safety equipment			
5	2.1	Weight – (battery pack and mounting hardware are less than 50% of racer less driver) Percentage: _____			
Material and Fastening					
6	2.3.2	Fasteners – (Kingpins, pedal attachment points, steering wheel bolts, and all parts of the brake, throttle and steering linkages shall be cotter pinned or safety wired)			
7	2.3.2	Fasteners – (Distorted thread or expansion type steel lock nuts used in lieu of cotter pins where the nut or bolt is not subject to rotation)			
8	2.3.2	Fasteners – (Nylon fiber lock nuts on every fastener smaller than ¼”)			
9	2.3.2	Fasteners – (Front axle nuts castle type and cotter pinned or nylon and clipped) Nylon nut must not move when turned by hand			
10	2.3.2	Fasteners – (Slip on rear axle hubs secured with a nut and cotter pin) (Crush lock applications must be secured with a cotter pin or purpose made safety clip to prevent the hub from sliding off the axle during operation)			
11	2.3.4	Additional Frame Welds – (TIG Welds ONLY) (Non-painted) (Visual Inspection no cracks)			
Tires and Rims					
12	2.4.5	Tires – Front tires are 4.5/10.0/5 Hoosier Brand			
13	2.4.5	Tires – Rear tires are 7.1/11.0/5 Hoosier Brand			
14	2.4.6	Tires – Tread type “Slicks” and void of any defects			
15	2.4.5	Tires – Direction arrows in proper rotation			
Brakes					
16	2.9	Brake – Pedal is full and firm			
17	2.9.1	Brake – Must have hydraulic braking system that locks both rear wheels			
18	2.9.1	Brake – Linkage pivot pin is cotter pinned, 2” minimum clearance from track surface			
Mechanical Drive and Rear Axle					
19	2.9.2	Guard – Guard employed will prevent “whipping” of a broken chain or belt			

		Steering Control			
20	2.9.3	Steering – No play evident between steering hub and shaft			
21	2.9.3	Steering – Assembly fasteners are castellated and cotter pinned or safety wired			
22	2.9.3 / 2.9.4	Steering – Assembly fasteners are class 5 or better and 3/8" diameter			
23	2.9.3	Steering – Rod ends are jammed with lock nut			
24	2.9.4	Steering – Steering Wheel is attached by a minimum of three cotter pinned bolts to the hub			
25	2.9.4	Steering – Wheel nuts are safety wired			
26	2.9.4	Steering – Steering Shaft hub is attached to a solid shaft by a taper and key. Solid or tubular shaft may be attached to the hub by TIG weld upper or steering wheel side or with a through bolt of at least 3/8" diameter.			
		Seat and Floor Pan			
27	2.9.6	Seat – No cracks or large holes			
28	2.9.6	Seat – Bottom mounted higher than lower edge of frame tubing			
		Impact and Viewing			
29	2.5.1	Bumper – Front bumper secure and conforms to material specifications			
30	2.5.1	Bumper – Front Crushable bumper firmly secured, complete with no cuts, holes or damage			
31	2.5.2	Bumper – Rear bumper secure and conforms to material specifications			
32	2.5.2	Bumper – Rear Crushable bumper firmly secured, complete with no cuts, holes or damage			
33	2.5.3	Side Bars – (Of a "C" type)			
34	2.5.3	Side Bars – (Extends to a minimum of tire center line measured from front to rear tires)			
35	2.5.3	Side Bars – (Prevents damage to the driver and battery pack from side impact)			
36	2.5.3	Side Bars – (Will not promote bumper hooking)			
37	2.5.3	Side Bars – (Has the 6" minimum height bar horizontally above the "C" type bar that makes the base of the side bar) (Will prevent another racer from impacting the driver)			
38	2.5.4	Fairing – Secure and conforms to material specifications			
39	2.5.4	Fairing – Does not exceed the level plane of the top of the steering wheel			
		Battery			
40	2.6.1	Battery – Cells are securely attached within an enclosure or case			
41	2.6.2	Battery – Packs and capacitors limited to 48 volts at any time during race vehicle operation. Voltage Check at Terminals: _____			
42	2.6.3	Battery – Interstate Battery SLA1155 or SLA1156 (12v, 35Ah)			
43		Limits – Total on site energy for racer is less than 12,960 Watt-hours			
44	2.6.5	Limits – Plan to show that racer will be limited to 3,000 Watt-hours per race			

		Pack Installation			
45	2.6.6	Connectors – Quick Connectors are provided if removable packs are used that are rated for the expected amperage draw.			
46	2.6.11	Connectors – Quick Connectors are provided for mounting PEM (PEM mounting location on surface of battery enclosure)			
		Battery Enclosure			
47	2.6.6	Battery Box – Enclosures are securely mounted to the racer and will likely remain in place during an accident			
48	2.6.6	Battery Box – Holes in enclosure are finger safe, sized to prevent objects and personnel from contacting terminals			
49	2.6.6	Box Top – Top of each battery pack is covered by a nonconductive polycarbonate material			
50	2.6.6	Enclosure – Battery cells isolated by an insulating material and mounted to maintain electrical isolation.			
51	2.6.6	Cabling – Pack Cabling secured, grommeted and protected from incidental damage			
		Charger			
52	2.8	Charger – Enclosed and show no sign of open components circuits or damage			
53	2.8	Charger – Cords are grounded to case as measured with ohm meter or continuity checker			
54	2.8	Charger – Equipped with a fuse or circuit breaker			
		Wiring			
55	2.6.7	Wiring – Conductors are insulated and protected from chafing – no exposed conductors			
56	2.6.7	Wiring – Routed to protect from incidental contact and away from moving parts			
57	2.6.7	Wiring – Securely attached to the frame			
58	2.6.7	Wiring – Pass through wiring is protected by insulating grommet or suitable device			
59	2.6.7	Wiring – Terminations appear to be tight and secure. Acceptable terminations are used			
60	2.6.7	Terminals – covered, secured and protected from incidental contact			
61	2.6.7	Testing – Maximum voltage measured from most positive and most negative terminal of battery pack to frame with vehicle in run position is 5 volts or less			
62	2.6.7	Testing – Voltage dissipates to net zero upon application of a 10,000 ohm resistance			
63	2.6.7	Major electrical components are securely mounted			
		Fuse			
64	2.6.8	Fuse – A fuse or circuit breaker is provided between the traction battery and any electrical load			
		Switches and Controls			
65	2.6.9	Switch – Mushroom style emergency stop switch located near or below head rest, is easily recognizable, labeled and reasonably accessible			

66	2.6.9	Switch – Kill switch located on the steering wheel			
67	2.6.9	Indicator – An indicator light is located near mushroom kill switch and turns on when the main contactor is closed			
68	2.6.9	Testing – With the throttle applied and motor is running, and then the kill switch or the emergency stop is actuated, the main contactor coil circuit will open, the indicator light will go out and the motor will stop running			
69	2.7	Throttle – Equipped with a foot-operated throttle potentiometer with two return springs			
70	2.7.2	Testing – Motor comes to stop when the accelerator pedal is released			
		Number and Sponsor Panels			
71	2.10	Number – One number panel on rear (Readable from both sides) OR one number panel on each side of racer, mounted high on cage or frame			
72	2.10	Number – Front and rear panels measure between 7"x9" to 8"x10"			
73	2.10	Number – Highly contrasting and highly visible			
74	2.10	Number – Painted or Mylar stick-on. No taped numbers			
75	2.10	Number – Panels made of substantial material, No sharp edges			
76	2.10.5	Advertising – contains no reference to alcohol, drugs or of a sexual nature and appropriate size and location			
77	2.10.3- 2.10.5	Sponsoring – Sponsor decals are of appropriate size and in appropriate location			
78	2.10.2	School Affiliation – Located on side panel and highly visible			