

Our class was going through the Dells results and started making a list of things that have gone wrong. I thought it would be nice if we compile a master list. So here is your chance to add your own or things you have seen. Just copy list, past in response and add the problem.

flats
blown fuse
loose electrical connections
chain comes off
broken steering (tie rods or frames)
brake drag
loose spokes
wheel falls off
hook up batteries reverse polarity (poof)
crash and burn
tie rod bolt falls out
one bad battery
primarily we have had loose connections
solder that melted at the connections that caused them to come off
blown fuse that maintained continuity
wire chafe that caused a short in our low voltage switch on the contactor
I forgot we also sheered a key off on our motor last year at FVTC.

I saw a small nut get sucked into an eTek motor (from the field magnets)

brake caliper fell off

battery cover fell off

bent wheel

one dead battery killed the whole pack

Additional things I have seen:

tacoed rim
chafed wires causing shorts
poor alignment causing stability problems, eventually part failures
second driver does not fit in vehicle
no or improper throttle return spring
throttle pot over-rotated to full power when throttle released
motor wired backwards

Common problems I see in inspection at competitions:

loose connections
driver not real sure of controls or procedures
not all drivers there or not prepared for inspection (no helmet, ballast)

To avoid many of these problems I would suggest making a check list. Start with our inspection form and add to it. Add lots to it; there is not a check for tight connections, for example. Have more than one student go through it individually, one may catch something someone else missed.

Good Advice Erick.

I often chuckle now when I look back 3 years ago when I asked a student to check all of the nuts to make sure they were snug as we were loading the trailer. He was a husky kid and grabbed a long box ended wrench to tighten the nuts. The first nut he wanted to make sure was extra tight was the one on the Etek motor, you know, the brass one connected to the brushes. Well you guessed it, he snapped it off flush with the plastic housing. The kids learned a lot about motors that day as we rewired the brushes and put in a zinc coated steel bolt instead. You know.... zinc does not really conduct electricity all that well. By the end of the race the kids were wondering why the bolt was still not polished and bright any more. They figured it out when they discovered the plastic housing that held the bolt melted. I guess it was a good lesson learned by all.

Any other stories that need to be told??? I have a couple of funny ones dealing with fiberglass bodies I will tell later after others have had a chance to tell theirs.

Regards

Damon

Ok - here is the current list... I might make a poster of this and put it in my classroom. I like the "Tacoed" rim (I have a photo of that)

- flats
- blown fuse
- loose electrical connections
- chain comes off
- broken steering (tie rods or frames)
- brake drag
- loose spokes
- wheel falls off
- hook up batteries reverse polarity (poof)
- crash and burn
- tie rod bolt falls out
- one bad battery in pack
- primarily we have had loose connections
- solder that melted at the connections that caused them to come off
- blown fuse that maintained continuity
- wire chafe that caused a short in our low voltage switch on the contactor
- sheered a key off on our motor last year at FVTC.
- small nut got sucked into a eTek motor (from the field magnets)
- brake caliper fell off
- battery cover fell off
- bent wheel
- one dead battery killed the whole pack
- "tacoed" rim
- chafed wires causing shorts
- poor alignment causing stability problems, eventually part failures
- second driver does not fit in vehicle
- no or improper throttle return spring
- throttle pot over rotated to full power when throttle released
- motor wired backwards

student used an aluminum pop rivet for a motor gear key

hand throttle control hooked on pants while getting into vehicle (never keep vehicle powered up when exiting or entering vehicle)

loose connections

inspections - driver not real sure of controls or procedures

inspections - not all drivers there or not prepared for inspection (no helmet, ballast)

over tighten motor lug

battery box fasteners

connection on shunt was loose - caused power to turn on and off. It melted the stud on the shunt and tore out the freewheel from the inconsistent wheel torque

Ok, here's the one that will become legend...

During inspection, battery cable starts on fire while driver is in the car. The fire also fries the brake cable. This is two and half hours before the first heat. Team takes the car back to a local shop and return 10 minutes before the heat is scheduled to go off. Passes brake inspection and makes the heat.