

Tech Tips 007

A help series

Dedicated to the dissemination of Detail model building methods and techniques.

Materials and methods presented here are not intended as the best or only solutions to the modeling challenge(s) discussed, rather as methods and procedures which have a proven record of success in actual use. Please keep experimenting with new materials and techniques as this is the only way to expand the fields of knowledge.

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self contained solar launcher plus.

Several years ago, on a brisk October morning I arrived at the launch site in Manassas, Va. The site is about an hour and twenty minutes from my house in Washington D.C.

I parked the car in the lot and went about the business of lugging all my "stuff" the 30 yds. to a convenient picnic table. On the third trip to the car I discovered I had left the 12 volt battery setting in the basement. Oh well, I thought I'll just drag the "stuff" back to the car and launch using the car battery. Twenty minute Later, assembling a porta pad and..... Where are the launch rods? As you can guess no rockets were flown that day.

At some point in my conversation with myself on the 75 minute ride home. I muttered something about self contained and/or solar launchers, No more leaving essential "stuff" at home for me. Well the more I thought about it the More I Thought About IT. Hey! This could be a PROJECT.

For the next few nights I doodled and rough sketched different layouts for my new creation: How Large should it be? How to keep "everything" together? Where to store 36" launch rods, and where to keep 35' of control wire.

The basic design was a 12"x12"x8" wooden launch deck clad in 16 and 18gauge stainless steel. The entire deck pivots for azimuth adjustment. Altitude adjustments are made by loosening a pressure/friction screw mounted in the stainless steel blast deflector /rod holder base. The deflector base has friction fit holes with 8/32 brass thumbscrews for 1/8", 3/16", 1/4", and 5/16" rods. The launch deck is fitted with angle clips to accept my tower (an add on accessory), and a 1/4" clear Lexan Hinged top. The top also serves as the solar panel mounting base.

The legs are 40"long 2"x2"x 1/8" square alum. tubing, connected to the 10"dia. x 1/4" bronze swivel base plate by 2"x1/4" alum. angle clips. The legs are adjustable by 3/8" stainless steel bolts and wing nuts. Each of the three legs has been converted into a storage compartment by adding internal wooden blocks and bottom hinged alum. doors with steel thumb screws. One contains the 1/8", 3/16" and 1/4" stainless steel launch rods and 1/2" wooden cable stuffer dowel in a wooden prespaced holder to dampen the rattles. The others two legs contain the 35'of 16/2 control cable with a custom fitted slide in hand held controller, and a pair of #4 stranded copper external battery leads with copper lugs and battery clips, for the times I DO remember the heavy duty battery.

I decided to try to make the electronics package a "works in a drawer" type. Everything is mounted on a slide out board: Lights, temp display, select and discharge switches in the front, volt meter, more lights, power supply selection switches and solar cell input jack in the rear. During the design stage I just could not bring myself to leave the system with only a single power source, I felt it should have a couple of backups. The primary source is a 12volt, 50ma solar panel which charges a 56,000 uf 16v capacitor. Secondary sources are onboard 12volt. "AA" battery pack, and an external drop for a 26amp or higher gel cell or wet cell battery. Why all the options? Well: as Mister Cluster I couldn't leave the launcher as a single motor only system now could I? Igor, I Must have more power!!!! A 40amp. power relay independent circuit was designed and incorporated. Yes, Igor, MOOORE POWER!!! MOOORE CLUSTERS HA! HA!HA!. I'm sorry, that's another story... The completed unit folds up and either stands upside down on it's clear 1/4" lexan lid/solar panel holder for transport, or can lay on its side. With the legs extended the working height is 44"; no more aching neck and grass stained pants. It is heavy at 40lbs., but I can launch just about any model I care to fly. the wooden parts were stained and clear polyurethane coated just for looks. a D.C.. voltmeter and local temp. gauge have also been added just for fun.

OK, if you use the relay, long launch rods and/or an external battery the thing isn't exactly self contained. but it sure is fun to use. I will included a wiring schematic on request; if you are inclined to tinker. As a closing thought: Shouldn't your launch system be at least as interesting as the models you fly? While you are out retrieving your models it's the launch system standing there alone representing our hobby.

keep em flyin