



## CONSTRUCTION OF THE WeCoHe PANTHER AUSFÜHRUNG G -PART 5

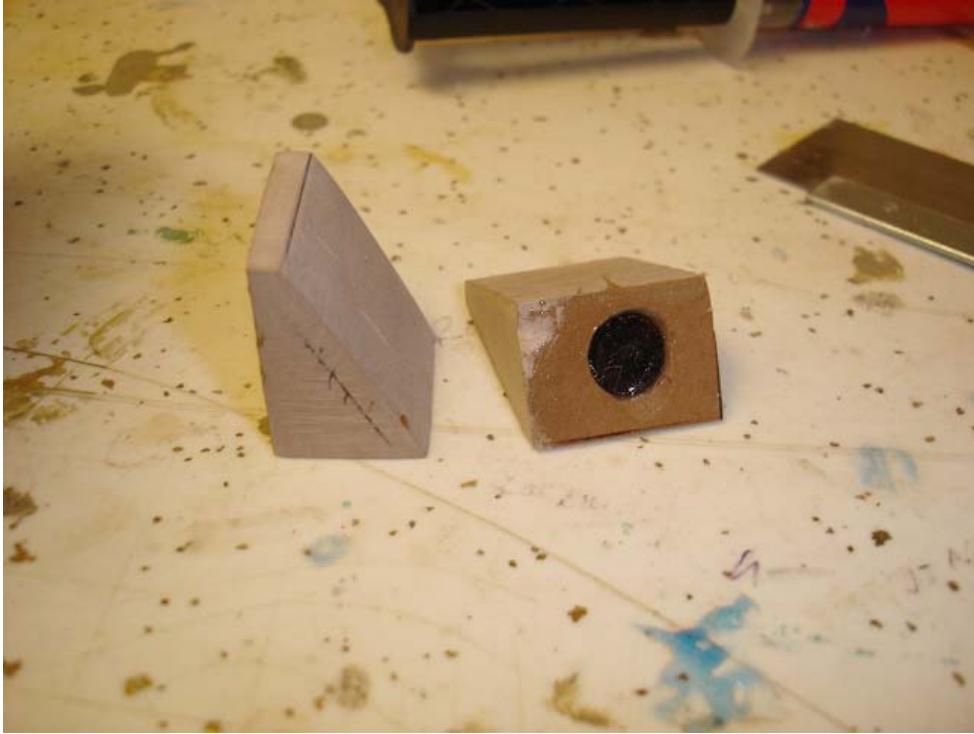
### Application of Rare Earth Magnets

A while back Brian Stark had told me about using rare earth magnets and described some of these applications, but it was late that I threw it into the back of my mind and filed under 'other'. About a month later Dave Merriman showed me how he replaced dogbones on the drive shafts on one of his subs. I was shocked of how much strength the little magnets had in that application and immediately thought, 'I got to get me some of these!' These magnets come in a variety of shapes, sizes, and coatings. A hidden benefit of getting a bag of these, is that if anyone that comes into your shop demanding attention from the little time you have to spend modeling, just hand them the bag, and they'll forget all about what they came in their for. I ordered about \$15 worth and got about 60 different magnets. In the photo below are a few of the variety I ordered with a variety of coatings available on them, even plastic.



Some of the varieties and shapes of the rare earth magnets.

My intention with the magnets in this vehicle is to facilitate the means of access, while keeping the hull tight at the same time. Because this is a radio controlled vehicle, installing magnets can be a recipe for a headache if not done correctly due to possible signal interference. I placed the magnets within pieces of Renshape-40 foam, machining out hole in the bottom's center, and epoxied them in. The pieces of foam were shaped to fit inside the aft end of the tank's panniers and conformed to the inside of the side hull plates with a 60° angle.



**Magnets installed inside the high-density foam**

I want the back end of this tank to be tight and not wobble or unseat. If it does it may destroy some of the filling and zimmerit work that is being done. I epoxied two pieces of tin on the back inside portions of the pannier. Then placed the foam pieces with the magnets installed on them and placed them on the tin pieces without gluing them.



**Plates installed on top of the panniers towards the Panther's rear.**

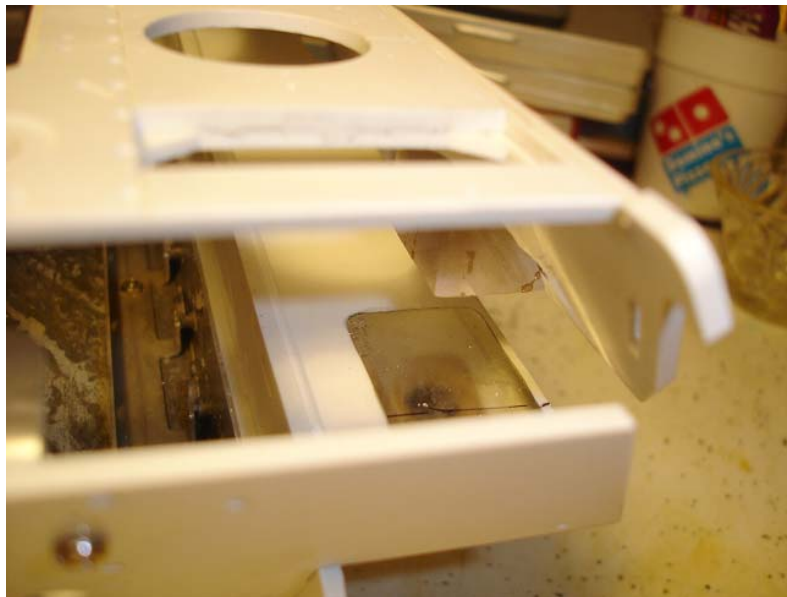


**The foam fitted in place flush against both the hull side and seated on the tin plate.**

Once in place, and also ensuring that all of the pieces and parts that are yet to be installed will also not be interfered with the foam mountings, a number of rubber bands are wrapped around the hull to ensure a tight fit and then the foam pieces are permanently glued with epoxy to the inner sides of the hull. Not taken lightly, there's a lot to contend with installing these pieces where they are. Some things didn't work out. The foam was actually the third design I drafted up.



**Foam pieces glued to the inner sides of the hull. The foam needed to not only connect the two hulls together, but they had to fit between all the items that go into this hull. Some are apparent, some not. It's a good idea to mock up the items or draw them out.**



**From the rear you can see how the not only how the magnet will lock the two halves of the hull together, but the foam will also provide additional supporting strength for the upper deck.**

Taking a break away from the work on the hull, the turret I've been doing off an on in stages when I take a break from hull work which I'm primarily focused on. Since the styrene was CNC-cut and the pieces have right angles, the base of the turret was also in this condition, and since the turret is angled, the plate requires that the inside angles be cut in order to fit the piece within the turret. Following this, 3mm pan screws were installed initially for alignment, and then removed one by one while the holes were countersunk and flat head screws installed. When countersinking here, I made sure that the results left the heads of the screws well submerged below the surface of the lower plate. The turret has a lot of weight to it that will hamper proper operation of the traverse mechanism as-is. I'm looking at using opposing sheets of Acetal to assist in decreasing drag.



**The inside rim of the lower plate has been cut to conform to the inner turret sides, and the screws are being installed.**





**Screws heads installed below the surface of the plate.**

***Jake***

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