Rebel Notes

Note: The following is an answer to an email by Dale Mogk.

Subject: Glen-L Rebel
Date: 8-7-03

> Hi,
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> I'm considering building a Rebel and was looking for some feedback on
> the boat. I'd appreciate anything you could tell me about it. I got
> your name off the builder registry and I see that you built the boat
> about 20 years ago.
>

Hello Steve,

Yes, my best friend, my brother, and I built a Glen-L Rebel starting in October of 1985. We had a good time building it and it really did take a lot of work. It was, and still is, very satisfying. By the way, you are the very first person to contact me about building this boat - I've been listed on the Glen-L site for a couple of years now.

> Some of my specific questions include:
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> How long did it take to build it?

From the time we bolted the strong-back to the garage floor to the time we put the boat in the water was almost exactly 9 months. It you're looking for the number of man-hours we put into the project, I'm not sure I can help you there. Most weeks during this time we put about 2-3 man-hours per weekday and around 15-25 man-hours per day on the weekends.

> How much did the materials cost?

Keep in mind that the materials for the hull itself are really not a large percentage of the cost of completing an operating boat. There's instruments, steering, lights, fuel tankage, and just all kinds of other little items. With all that in mind, we just simply refused to keep penny-by-penny tabs on the cost of building the boat - but at the end of it all we figured a ball-park cost of 8,500 US$ in 1986 (it would probably be more than double that now).

> Did you scratch build it or buy some of the kits?

We bought the frame kit, fasteners, fiberglass and epoxy-shield/coat from Glen-L and everything else from a really good marine lumberyard down in the Los

Angeles marina area. Also, we lived close enough to the Los Angeles area that we decided to get a trailer and go get all the necessary stuff ourselves.

> How does it handle/perform compared to a "store bought" glass boat?

Well, I can tell you how it performs but, as I don't have a whole lot of experience with store-bought boats, I don't have much in the way of comparisons.

As we decided to build this particular design because we wanted to ski behind it, we elected to use oak for all the internal non-frame structure. Therefore, it's a little heavy compared to other Rebels out there. With the motor/prop we put on it (see the answer to the next question) it gets "out of the hole" fairly well and we can get about 33 mph with a skier through a competition slalom course. The wake is very easy on the skiers with a gentle roll to it and a nice table-top behind the motor. Without a skier we can red-line the motor at about 36 mph. Even so, you must keep in mind that this boat has a pretty flat bottom and driving through a wake from a deep-v can really jar your kidneys. When we are out on the lake we generally ski in the mornings while the winds are calm and the deep vees are still at the dock. In the afternoons we drink a beer or two and watch all the idiots do strange things to themselves and generally watch the show.

Glen-L strongly recommends a "turn fin" under the keel and we agree that it's necessary. But the coolest thing is that you can turn it in such a way to get the fin out of the water and just kinda slide around a curve. It's a real blast.

The spray around the bow while cruising along is very distinctive. While watching the boats on the lake from the shore everyone knows which boat is ours.

> What size motor did you put on it?

This is another long story in itself. We somehow became enamored with the various Mercury "Mark" series motors produced in the mid-to-late 1950's. Probably because the Rebel just looks like a 50's ski boat, even with the varnish still drying in the mid 80's. We scrounged around our area for all these motors we could find. What we finally came up with was a Mercury Mark 78 motor. The problem we had with this was that the power head was wasted. Handily, we also had a Merc 700 power head that fit just fine. The Mark 78 motor we had was what is called a "Direct Reversing" motor. This means that, if you want to reverse your motor thrust, the motor must actually be stopped and then started in reverse. This only works with 2-stroke cycle engines and can cause some nervous moments around the dock, but has worked well for us. In the process of re-building the motor we bought out our local Mercury dealer of all the remaining shelf-stock parts for these motors. The pistons were so tight we went through a couple of car batteries getting it started for the first time (with the lower unit in a trash barrel filled with water - the 2-stroke oil was really thick, the pictures of it

are surreal). On the other hand, we couldn't get the big-end rod (needle) bearings quite tight enough and it rattles a bit down there. We de-rated the red-line rpm from 5800 to 5400 rpm or so.

It took us a long time to find the right prop for the set-up. Eventually, we located a Volvo/Penta, left hand rotation, 3-bladed prop that has really worked well. Getting the boat out of the hole with a skier on the rope takes a little longer than I would want but then the acceleration kicks in and can pull the rope right out of the skiers hands. A steady hand on the throttle is required.

The bottom line is that we got the biggest motor at the least weight. Two of us can lift and move the motor so it really can't weigh more than about 120 lbs. A brand-new motor of this type was rated at 77 hp so I figure that we're getting a little over 70 out of it. On the other hand, it is a two-stroker with little in the way of sound suppression so it's kinda loud and smelly. As far as the boat is concerned, the transom will only handle so much weight and power. You gotta watch out for that.

> How difficult is the building process?

Actually, the boat wasn't that difficult to build. Don't get me wrong, there is a lot of bending, clamping, screwing, and gluing going on - but there were always two of us and often three to get the job done. The real problem spot was the boat sides just forward of the transom - called the tumble home on the SK type hulls. It's a pretty severe bend for 1/4" plywood. We used lots of boiling hot water and clamps (can't have too many clamps) to get the job done. Sanding the bottom smooth after finishing the fiber-glassing took forever. But that's pretty standard on a glassed hull.

> How has maintenance been on the boat?

Well, there's not a whole lot of maintenance to do on a hull that's made of mahogany, oak, marine grade plywood and a lot of epoxy. We chose to do the Glen-L epoxy encapsulation (and this added some weight, too) so the interior of the boat doesn't actually get wet. We did pick up some dings in the first few years and we were forced to leave her outdoors for a couple of winters. We pulled off the Z-Spar paint after 6 or 7 years, cleaned things up, rounded off a few edges a little more than they were and then put new paint back on just like it was.

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> The info page on the website doesn't tell me much about the boat. I
> gather that it's sheathed in fiberglass, but if you can describe the
> boat construction to me I'd be very appreciative.

The hull is built upside-down. The first thing to do is get a fairly stout strong-back and bolt it to the concrete floor - this is a 2x6 or 2x8 that the frame-holders are

attached to so the sheer-clamps and chines can be bent to shape around the frames. The bending can distort the hull shape, so care must be taken. Next the frame holders are built and attached to the strong-back. Then the frames are attached to the holders. Notch the frames for the sheer-clamp, chines, and keel. The documentation shows that the long pieces should be spruce, mahogany, or oak (listed in order of lowest to highest weight/strength and highest to lowest susceptibility of rot). Attach the sheers, chines and keel plus the stem and transom knee. The hull is skinned starting with the sides, then the anti-trip chines, and the bottom last. Also, the documentation does not say that the builder MUST fiberglass the hull. Prudent builders do fiberglass the hull, though. It saves on hull maintenance in the long run. But, boy - it's a lot of work. It seems like the sanding never ends. Eventually, we decided that enough was enough. It was.

When the bottom is finished, turn the hull over - this will require the help of friends. Plan a barbecue. Turn it over before you tap the keg. Try not to drop it. Level it and square it up again after removing the strong-back and frame holders. Build the top framework into the hull. Add the top plywood - we used spiral-cut mahogany plywood and eventually finished it with clear Z-Spar and it really put the boat over the top in the "beautiful" department. The top was not fiberglassed as it would tend to ruin the beautiful mahogany. Install the seats and other interior woodwork. Sand it some more. Paint it. Now that the hull is done, install all the necessary goodies. Here is where you put in lots of hours and not much visible progress occurs. Steering, electrical system, gauges, fuel tank, conduits, hoses, and deck fittings fall into this category. Not everything is listed, of course.

Now, build your trailer. Getting an off-the-shelf trailer for this boat is unlikely. The hull must be supported properly so it doesn't distort in the future. We used Glen-L's 1000 trailer plans. This is another long story... Also, the cost of building the trailer isn't included in the cost figure mentioned above.

Before you actually put the boat in the water, back it down the launch ramp and stop just before contacting the water. You only need to tap the Champaign bottle against the bow - don't try to break the bottle on the bow as your boat may suffer for it. Pop the cork and enjoy. Now launch the boat. Note the looks of envy on the faces of the large crowd of spectators.
We did.

>
> *Thanks a lot.*
>
> *Steve Morris*

> *Ottawa, Canada*
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I'm sure that this helps. But, just the same, do not hesitate to drop me a line if more clarification is needed. If I need to look at something, our boat is about 25 ft over there from where I am now.

Note the two CC: recipients. Mark is my "partner in crime" and Barry is a Glen-L rep who I want to see this email. He can edit this if he wants and add it to the Rebel pocket on the web site.

Building your own boat (or plane or whatever) can be one of the most frustrating and satisfying things you can do.

Good luck,

Dale