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Sent Motor Mt.  
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MAT5 CHARGER ASSOCIATION  
NEWSLETTER NO.20

15 JANUARY 1991  
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Well it looks like I have been neglecting my duties again, but we are trying.

It has been a rather quiet time for the past few months, I've heard from a few of the members, but the real disturbing thing is that I can not even find a good rumor.

This is what I know of member activities thus far:

Gene Bell, Friendly, WV - Gene is working at cruise speed on his project and may be seeing the light at the end of the tunnel.

John Burris, Jackson, MS - John wrote me a letter and informed me that he is still moving forward on his project. He said he is not moving very fast, but moving. John, it does not matter how fast you work on a project as long as you enjoy working on it.

Glenn Miltenberger, Sloan, IA - Glenn has his Charger in the air and is having a great time. On my trip to and from Oshkosh this year I stopped in on Glenn's strip (sod) and we had the opportunity to fly around the country side together. We sort of woke up the nice small farming community for a while. If you have not had the opportunity to fly around country side and get down and look around, you do not know what you are missing. Glenn also went to EAA Chapter 291 fly-in at Laurel, NE and came home with a trophy for "Most Outstanding Homebuilt" and "Grand Champion".

Dave Davidson is planning to start his around the world trip in his Charger in July if all goes well.

There are also some projects that should be near completion that I have not heard from in a while, Allen Potts and Jack Fowler: how are you doing with your projects, let me know!

Now for some weird news - All you builders are having so much fun that I decided to do it again. I'm in the process of building another Charger. At the present time I am building ribs. I have computer plots of all the different ribs on the Charger. I have made 6 rib jigs and I'm able to make 6 ribs a day. This process works out all right until you have all the butt ribs, tip ribs and tank area ribs built. Then you are down to two a day.

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If anyone is interested in a copy of these drawings, let me know. They are on two "E" size drawings and cost \$2.50 each to print. Also include something for shipping. I would prefer to mail them rolled so there are no folds in the prints when you lay them out.

Other items of interest:

Don Anderson, Mtn View, CA has Charger wing components for sale: ribs, spars, fittings etc. If interested call (415) 968-4596.

On February 24, 1991 EAA Chapter #1 Flabob Airport is having their open house. The evening of February 23 will be the banquet. Ken Brock will be the speaker. He will talk on his experiences, flying his gyrocopter at the South Pole.

Anyone with a flying Charger who may have forgotten to send me a picture and information on your plane, please send it to me. We are trying to compile a listing of flying Chargers. We are not sure how many are out there.

And last but not least - If you have anything that you think would be of interest to the members of the Charger Association, send it to me. It gets harder and harder to think of things to put in the newsletter.

GOOD LUCK AND BE WELL.....

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Well it's that time again to try to put something down in print. I'm a little on the slow side these days, I'm recuperating from surgery for the last eight weeks. I had to have a total hip replacement, but everything is going well and I should be in good shape for Oshkosh. As far as my second project, I haven't done anything on that either.

Jim Chapman from Victorville, CA has his Charger in the air. Congratulations Jim and let us know how it is working out.

Allen Potts sent a few lines and some photos of his project. He said that he did not get a lot of work done this winter; but he hopes to have the plane in the air in 92. Allen also said that they have a flying Charger in Montana. John Wood from Lakeside, Montana purchased Nick Owen's Charger and is very pleased with the plane.

Jim McGinnis, a new Charger Association member, from Stanaway, WA. ((206)847-3806) purchased a Charger from Brandon Harnish and is busy refurbishing it. This is the Charger that I eluded to in previous newsletters that was caught in a flood in Washington. At this time, Jim has it all torn down and is in the process of putting it back together. If anyone is interested, Jim has a standard main fuel tank for sale. He replaced it with a larger main tank.

In the past couple of months, I have received some calls about the Charger and most of the concerns were associated with rigging. There were questions concerning struts, flying wire lengths and general layout questions.

In building the Charger, you have to be careful while building the wings. If you miss the 10 degree sweep, this could cause real problems in rigging. There are a lot of variables, especially in rigging the lower wings: things like: is the fuselage square, is the wing attach fittings located properly and last but not least, do I have the proper sweep on the wing? Measuring the tail post dimension may tell you that the wings are symmetrical, but is the sweep correct? The top wing is a little more forgiving, but remember the total sweep between the two wings must be 20 degrees.

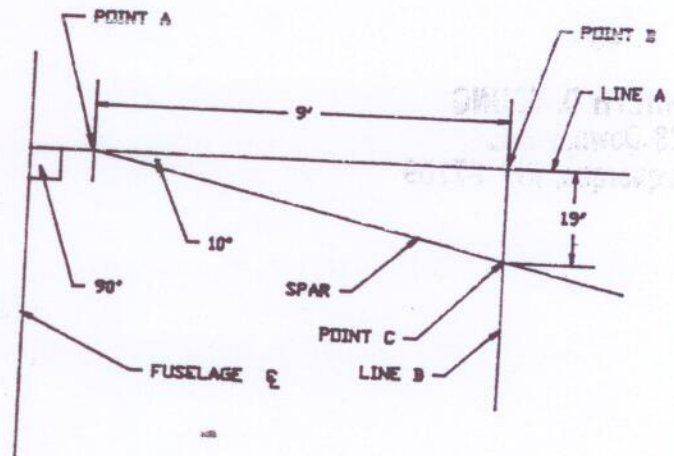
Before firming the wing up and, putting the plywood on, rig the plane and make sure that everything fits properly and that all the dimensions are correct. Some builders actually build the wings attached to the fuselage. This is a good way to do it, if you have the space; but some of the builders are limited in space. The following is a possible solution in laying out the wings.

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The equipment that is needed will be a chalk string line, builders square, scale, plumb bob.

The first line that you put down will be the line that will represent the centerline of the fuselage. Line the fuselage up along this center line. With the wing attached, drop a line with the plumb-bob from the front of the spar at the wing attach fitting (point A).

Then, put a string line (line A) through point A and 90 degrees to the fuselage center line using the builders square. Make this line approx. 10 ft. long. Measure 9 ft. from point A along line A to point B. From point B put a line (line B) at 90 degrees to line A toward the rear of the plane. Then measure off 19 in. and put a point (point C). Then with the plumb-bob against the front spar, adjust the wing until the plumb-bob is over point C. Recheck point A to make sure it is still aligned. If point A and point C are aligned, the spar will be at 10 degrees to the center line of the fuselage.



At this point, you can do the same operation on the left wing or measure point C on the left wing and use tail post dimensions.

This may not be the most elegant way to align the wings; but it is a way that works. No matter how you align your wings, remember that the 10 degrees is with reference to the center line of the fuselage.

If anyone has any comments on this subject, let me know and I will pass it on.

Jack Fowler from Spokane WA. is also moving along on his Charger, but he needs some information. If anyone has any information on motor mount bushings for a Lyc 0320-E26 let him know.

Jack Fowler  
RT #1 Box 358  
Spokane WA. 99204

If everything works out alright, I hope to have my MACH 1 walker at the Biplane flyin at Bartlesville, OK. I hope to see some Chargers there.

GOOD LUCK AND BE WELL.....

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**UPDATE:**

First of all I would like to congratulate Dave Davidson on his attempt to fly his Charger around the world. Dave flew the Charger to Europe via Iceland, Greenland, etc.. He toured around Europe, making a number of friends, while trying to get permission to fly through Russia. After waiting as long as he could, he flew to England and prepared to send the Charger home. Just before he left for England he received permission from the Russians to fly his plane to Moscow but no further, so he decided not to go. This was probably a good decision, because he received permission just a day or so before all the trouble erupted in Russia.

When Dave got to England, he investigated the cost of packing the Charger in a shipping container and sending it home. When he found out how much it would cost, he decided to fly the Charger back across the Atlantic. So Dave is the only person who has flown the Atlantic both ways in an open-cockpit biplane that the pilot has built. Whether this record is recognized, only time will tell.

So again Dave, "congratulations" on another record setting trip and we are glad to see you home safely.

Dave, I'm glad you take these adventurous trips because it gives me something to write

about. Things have been very quiet on the Charger Association front.

**BUILDING AND MAINTENANCE TIPS**  
Central States Newsletter  
By Bob LeMaster

Filling our wheel bearings with grease is a messy job and you are never sure if you have good grease penetration. Pressure greasers are available but expensive for a (1) time per year use. I felt there had to be a better way.

I cut a foot square piece of thin polyethylene, put a large blob of grease in the center, laid the bearing into the grease, then pulled all the sides together and twisted until I had a tight ball of plastic with the grease and bearing inside. I kneaded the ball until I was sure that I had good penetration. I then untwisted the plastic, flattened edges, removed excess grease with a tongue depresser and put the bearing in place.

**PAINTING TIP**  
Painting With Ranthane  
By Dave Nicholson

Prior to painting my plane with "ranthane", I tried to locate the proper paint respirator mask and was referred to "American Optical" in Boston. They make the masks for DeVibis. I was advised by them that NO mask is

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suitable for use with paints containing isocyanates (Hardeners for polyurethanes)! The use of an ordinary mask may filter out some of the solvents in the mist but not the isocyanates. Some painters feel they are okay because they feel no effects while painting. The problem is, the effect is insidious and long term (five years or more) in showing. Then it is too late! Emphysema has set in!

The only safe way to use these products is with a "pressure mask", one that supplies air under pressure to the operator. Something like a fireman uses to enter a smoke-filled room. The object here is not to filter the air in the paint room for breathing, but to supply a source of air to your lungs from a clean source away from the paint mist.

I feel this information is important enough to warrant a "Warning" to anyone contemplating using "Imron, Ranthane, Alumigrip" or any of the "wet look" products that are "two part" type. They all use isocyanates as hardeners.

#### FIXED PITCH PROPELLER INFORMATION

From The Cessna 150-152 News

Manufactures recommended time between blade reconditioning:

#### McCauley:

There is no recommended overhaul for fixed pitch propellers. They shall be reconditioned or repaired as required for blade surface conditions. The propeller mounting bolt torque should be checked at least once a year for metal props. Propeller mounting bolts should be penetrate inspected whenever the propeller is removed from the engine for reconditioning or repair.

#### Sensenich:

Recommended overhaul period for fixed pitch propellers is 1,000 hours. More frequent reconditioning is advised when minor repairs and accumulated scratches and nicks are numerous. I have found that Sensenich propellers gradually tend to bow forward from normal use. Turn the propeller vertically on the crankshaft. Step to the side and visually inspect the blade for straightness. The props bow forward from the mid blade area to the tip. If the bow is quite obvious, the prop is probably bowed forward 1/2" to 1" of its track setting. The prop will still run smoothly, but there is a definite loss of efficiency and performance. This also tends to open up cuts and nicks in the blade face, (black painted side of the prop). This condition is most common on Piper Aircraft with 135 HP to 180 HP engines.

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**MEMBERS PROJECTS**

**Notice**

The only one I have heard from lately is Gene Bell. He gave me a call to tell me that he had the plane all rigged up in the yard and is ready for cover. He could be in the air by next summer.

As for me, I was able to get into the plane about a month ago. I haven't flown in six months and since the surgery it sure felt different. The movement in my leg is a little different than I was accustomed to, but we survived.

As for the second Charger, I have about all the ribs built. I'll probably finish some of the metal work during the winter and continue the wings when it gets warmer.

It is that time of year to update the Charger mailing list. There are 94 names on the mailing list, of which about 20% contribute to the expense of the newsletter. I have been carrying it for a while, but with the costs going up, it is getting expensive.

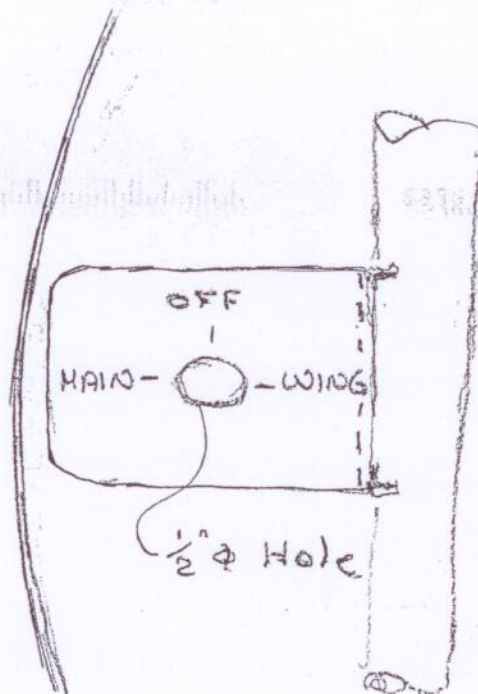
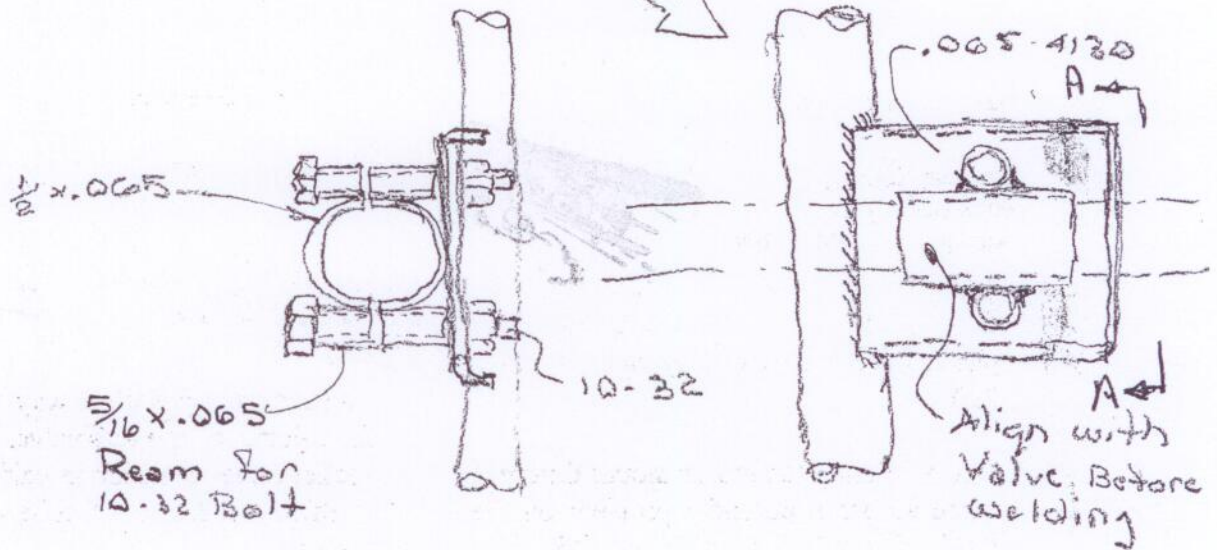
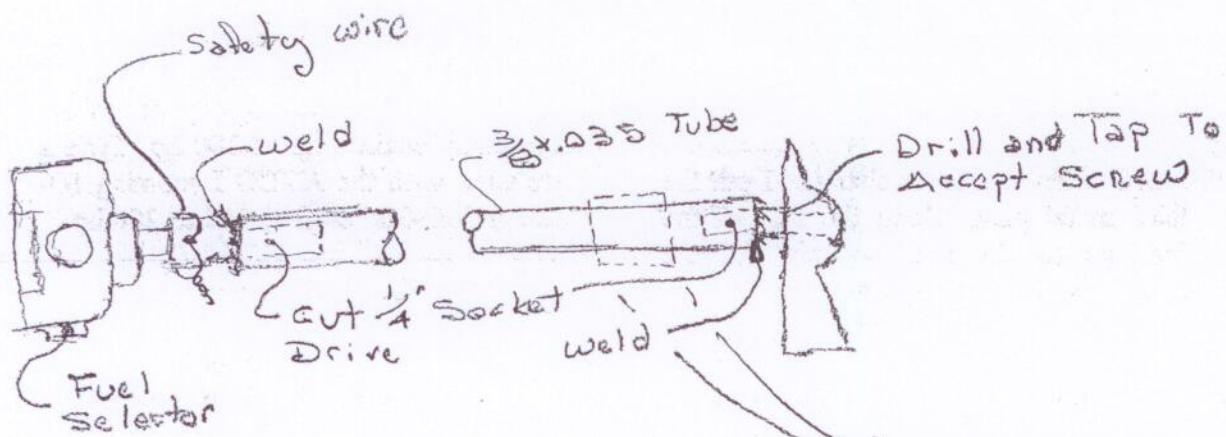
Therefore if you want to continue to be on the mailing list, send me a letter and \$5.00 and we will update the member list.

**FOR SALE**

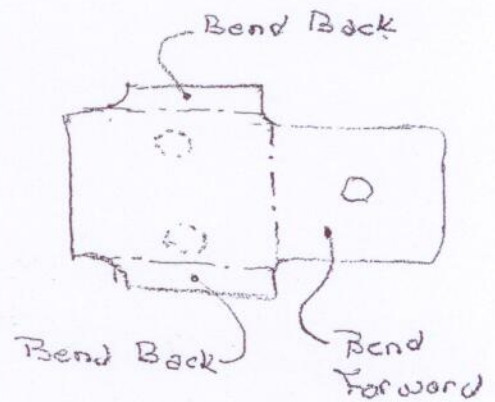
**GOOD LUCK AND BE WELL.....**

Alan Whitehouse from Spokane, WA (509) 448-6424 or (509) 353-3960 is parting out his Charger. The fuselage was built by Ed Marquart. If you need any components, give him a call.

Don Anderson, Mtn. View (415) 968-4598 has wing components for sale: Ribs, spars, fittings, etc. It would speed up your project.



VIEW A-A



BRACKET

Flat Pattern