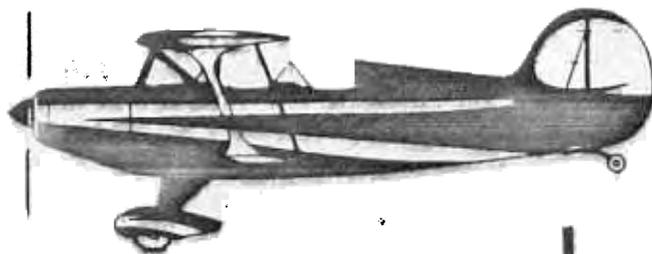


# SKYBOLT NEWS

12026 S. TOMI DRIVE  
PHOENIX, AZ. 85044  
602-968-2556



SERIES #3, VOL. 5  
APRIL 1978

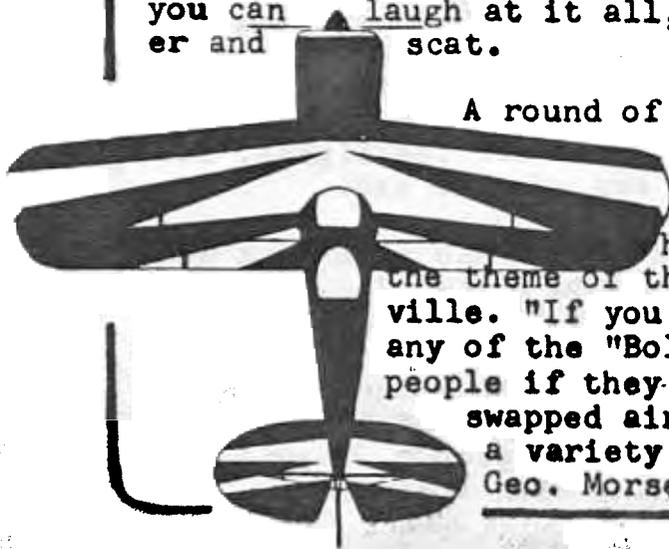
Copyright 1978 H.G. McKenzie  
All Rights Reserved

FIRST CLASS MAIL

TO:

## HANGAR FLYING with MAC

The Skybolt Fly-In at Porterville, Calif. on Apr. 29th and 30th is only a memory now but a pleasant one I'm sure, for all who attended. We had the airport to ourselves and the 14 "Bolts" that were present appeared to be twice their number as the snarling props cut up the ozone late Fri., all day Sat. and up to departure time on Sun. On Sun., our never to be argued with Mother Nature served up a dish of low ceilings that delayed departure for some. If you are equipped like Doc Hall of course, you can laugh at it all, file IFR, build a fire in the boiler and scat.



A round of applause is due for Marsh Freeman who un-selfishly dedicated his time along with his family and Crate 38 to make the Fly-In a success. Marsh had some signs made up which stated the theme of the entire reason for being at Porterville. "If you haven't had a ride in a Skybolt, ask any of the "Bolt Owners". " If you own a "Bolt", ask people if they want to take a ride". "Bolt" owners swapped aircraft and compared notes. There were a variety of engines from 180 to 260 hp. and Geo. Morse was there with his Alum. V-8 power-

ed Skybolt sporting a beautiful engine installation and tuned exhaust. The sound of Olds engine must have been the origin of Webster's definition of S-M-O-O-O-O-O-O-T-H. The tach. in his bird now shows 142 hrs. So far, not one problem with the gear reduction has reared it's ugly head. Some earlier cooling problems at high power have been cured with a Corvette radiator and a new cowling. At the present, he is pulling about 200 hp. out of the V-8 but the objective is still 260 hp.

For the biggest part, most of the Skybolts were from Southern California and the Southwest such as Paul Muench of Albuquerque, New Mexico along with Ken Sweester of Deming, N.M. However, the guy with the longest ride was Bob Morus, 40 Washington Ave., Cedarhurst, N.Y. 11516. Other visitors from around the country included LaMar Steen from the Denver, Colo. area with his wife Dixie and their party who arrived in a Commanche. LaMar had to be back home on Monday so it was mandatory that he make the trip in an instrument equipped aircraft.

A word of thanks goes out to John Konop the airport mgr. John must certainly be a pilots pilot. A group thank you was presented to John on Sat. as a formation of Skybolts flew over head to help with the dedication ceremonies of a pylon mounted Navy F- that was presented to the City of Porterville and now graces the entrance to the field.

On Sat. night the banquet was held at the Paul Bunyan Motor Lodge and attended by approx. 70 people. Dr. Jim Mandley held forth with a session on his aerobatic experiences in the Skybolt that he built several years ago. It's from the trials and tribulations of the early Bolt builders that many of the modifications have come, such as the Dynamically Balanced Elevators which Jim pioneered. After Jim's excellent talk, your's truly, Old Loud Mouth, held a session on modifications to the Skybolt. Towards the end of Jim's talk the subject of Aileron Balance came up and that being a favorite subject of mine I couldn't help taking the bit in my mouth. The session lasted until approx. 10:30 when I quietly turned off the lights, so I wouldn't wake the audience, and went to bed.

Marsh has graciously sent me a set of his negatives which I have had re-produced in black and white. They appear on a separate insert in this issue of the "News".

Last but not least, 2 Stardusters Too's attended the Fly-In and since they were welcomed it just goes to prove that Skybolt Builders are nice people. They'll tolerate anyone who has a machine with 2 wings.

P.S.--- Lest I forget. Every meeting of a group of people has it's moments of humor. Porterville was no exception. To make a long story short, Marsh had made up some "GAG TROPHIES" one of which would go to the person who had made the "Biggest Mistake" in the building of his Skybolt. The prize went to a fellow aeronut whom I know would rather remain anonymous. He sold his Skybolt fuselage and wings and bought a set of plans for a Starduster. He won the prize hands down.

#### CORRECTION REQUIRED

Please correct your April 1977 issue as follows. On Page 3 we see a drawing (Fig.#2). At the lower R.H. corner of the drawing, change the wording to read "TOP VIEW OF LOWER LEFTHAND AILERON". At the bottom of Page 3 on the 3rd. line up, change the word outboard to "INBOARD". On Page 4 please change the last sentence of the 1st. paragraph to read " Aluminum Slave Strut Brackets mount on the OUTBOARD side of the Lower Inboard Aileron Hinges and the INBOARD side of the UPPER INBOARD AILERON HINGES. My apologies to any and all that may have been inconvenienced by my feeble mind trying to sort out all of the Inboards and Outboards in the offending issue of the News.

#### AILERON BALANCING TIP

After having mailed the last issue (March) of the Skybolt News I was at my local Tire Dealer's shop getting some new shoes put on my van in preparation for my trip to Porterville when something caught my eye. While having my aluminum wheels balanced with the new tires in place, I noticed the weights that the mechanic was using. It was a long coil of pre-marked flat lead that is called "Tape-A-Weight". On one side of the strips that he was cutting to use on my wheels, was a self adhesive coating. The strips are approx. 3/4" wide and 1/8" thick. Just the thing for our aileron balancing act. For those who have a touch of Scotch in their veins ( Ancestry I mean), you will find that the Tire Shops save their old weights that have been removed from customers wheels and sell the lead to metal re-claimers. The old weights can be easily melted down and re-poured for our purpose at minimum cost. I expect that a buck, or two at the most will buy all the weight that you will need for your entire project. Don't tell the man that you want to use the lead in an airplane. Tell him it's to hold down your Aunt Matilda's flower pot.

SOME TIMELY NEWS---GOOD OR BAD? --(Depends on your viewpoint)

I've said it before and I'll say it again. The construction of a airplane and the Skybolt in particular, IS NOT an in-expensive project in respect to total cost. Even though we wind up in most cases with a better than factory built aircraft at 1/3 the cost, it's still a lot of money. If a builder can complete his project in 1 year, which is the exception, he can do so at present day prices with some inflation thrown in. However, most custombuilts take 3 to 6 years to complete. Therefore, due to inflation, the project that started out in the range of 9 to 12,000 dollars can easily reach 12 to 16,000 dollars over a period of 5 years. The best savings bank that I have in my shop is my steel rack which escalates in value at approx. 10% per year. I couldn't get that kind of interest on my money at any bank in the country. It sure would be nice if we could plunk down our money and buy all of the necessary material that we need, at one time, at the start of the project. With respect to the builders responsibilities to his family, this is seldom possible. He therefore scrimps and saves over the long time span only to feather the nest of inflation. This all leads to my point which is this. Make all of your major purchases as soon as you possibly can even if you have to borrow the money from a lending institution to do so. If you are faced with as much as 18% interest, it's more like 12%, you'll still save money on total cost of the project. You will also have the materials at hand when you need them instead of wasting time and money scurrying around trying to locate necessary things as they become needed.

In the past 45 days I have received 4 new sets of price sheets for my steel catalog alone. 2 of them have reflected in price increases of one item. 4130 sheet steel. Tubing went up in Jan. approx. 6% and another increase will probably passed on to us in mid-year or shortly thereafter. Stits Products have not had a price increase in 2½ years. How much longer do you think they can hold out? I doubt that you can expect the same prices after June 15 and the price increase will be approx. 15%

At Firebolt Aircraft and Supply Co., Inc. we have been trying to publish a catalog ( photo illustrated) with the price next to each item. Every time that we think we are ready to go to the plate maker, something changes. Therefore, the catalog will be delayed until July 1st when it will be mailed to all of our friends. It will contain a separate price sheet so that we will not have to frequently re-publish the entire catalog. At the same time, we will mail out new Price Lists for Starfire Aviation.

## LANDING GEAR SAFETY RINGS

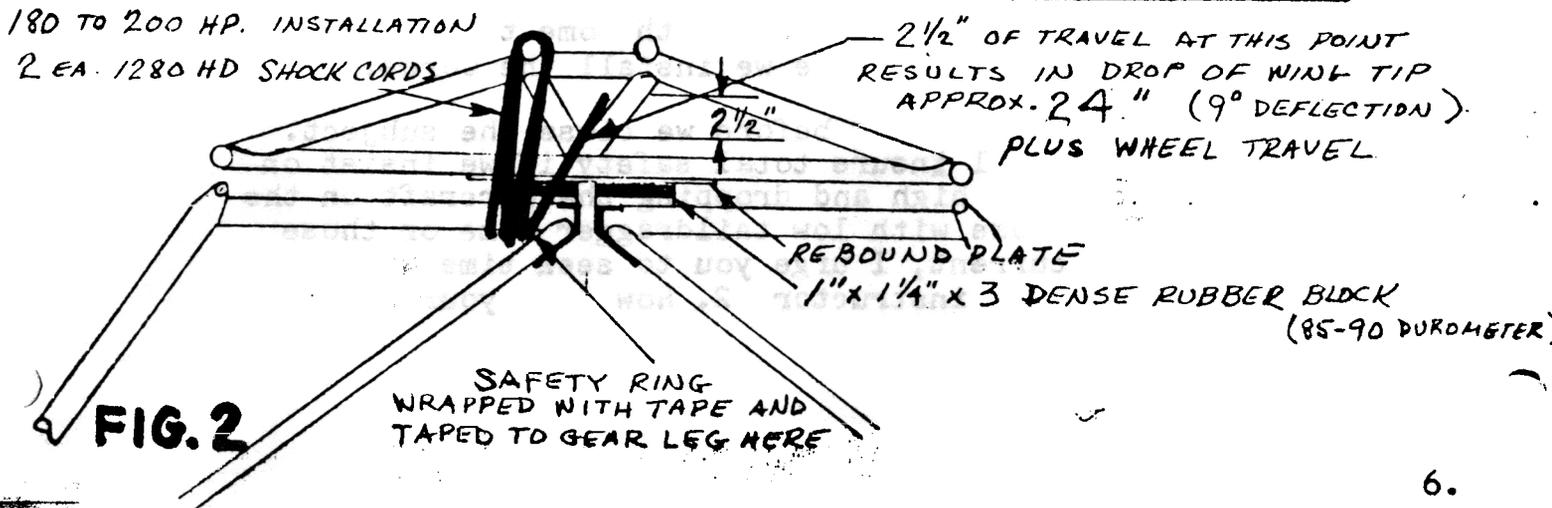
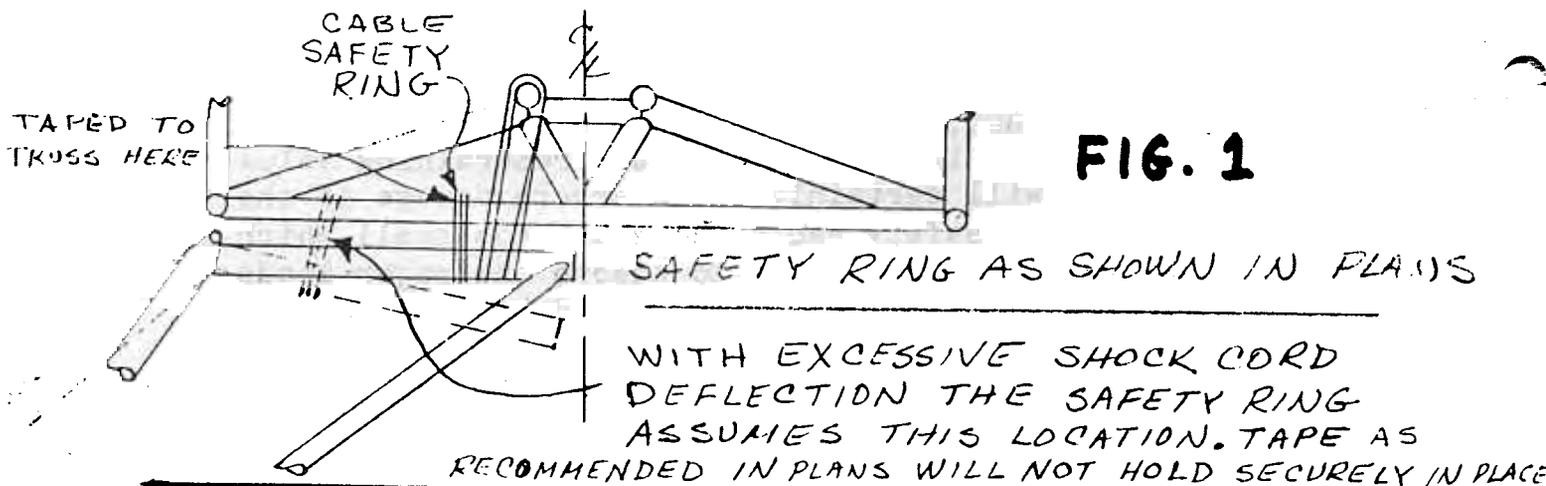
The plans show 3 turns of 1/8" control cable formed into loops that go around the Shock Cord Tube of the landing gear and the main cross member of the Shock Cord Truss (Sta. 13). This is a Safety Cable to prevent the total collapse of the landing gear in case of a failure of one or both Shock Cords. 2 safety cables are used. One for each side of the landing gear assembly. Please look at the plans and envision what will happen if the Safety Cable is installed as shown. Extreme flexing of the shock cords are going to force the safety cable to slide towards the outboard end of the Sta. 13 crossmember and will be totally in-effective. See FIG.#1. Further, it is extremely important that the diameter of the loops of the safety cable be large enough to allow the landing gear to operate through a normal range of flexibility without the safety cable imposing un-due loads on the Sta. #13 crossmember. I am aware of 2 cases where the Shock Cord Truss assembly has failed under extreme heavy landing loads. At this time I do not know all of the facts regarding the 2 Skybolts involved. Was it Shock Cord Truss fabrication quality? Was it due to the Safety Ring installation with loops too small? Was it due to the assembly being asked to absorb loads too high for the design? These questions in the mind of this writer are un-answered at this time, BUT, I am sure of one culprit and it's this. 3 turns of 1/8" cable and it's restraining value of 6000 lbs. will certainly cause severe damage if the diameter of the safety cable loops are too small which would allow the safety cable to absorb the major loads that the shock cords themselves should be bearing. In FIG.#2 you will see a better method of installing the Safety Cables. Please note that there is only 2 turns of cable. Secondly, please make note that the Safety Cables are installed BEFORE the Shock Cords are put in place. The Safety Cables are held in place on the shock cord tube of the landing gear with some tape just to keep them positioned while we install the Cords.

A few more observations before we close the subject.  
1. No design will insure total safety if we insist on leveling off too high and dropping the aircraft on the runway. For those with low taildragger time or those who are not current, I urge you to seek time with a qualified flight instructor. 2. How well your engine

accelerates when called on to do so in emergencies may well decide how safely you will land if you have leveled off too high. Does it cough or hesitate when you quickly apply the throttle? If it does, I urge you to make the necessary repairs or adjustments to the carburetor. 3. Since most carburetors are set for idle speed and mixture at the altitude of the home base of the aircraft I must ask you the following question. What do you do when landing or taking off from fields of higher elevation? Do you shove the mixture control into full rich? This could well be your un-doing. A prudent pilot will use the mixture control for best engine operation at all altitudes. If you are flying from the relatively flat lands of the eastern part of the U.S. to attend a fly-in out in the western part of the states it would be a good idea to bone up on high altitude and mountain flying technique.

LEARN TO "GREASE IT ON" THE RUNWAY AND YOU WON'T SPEND YOUR SPARE TIME RE\*BUILDING FUSELAGES, WING TIPS OR YOURSELF.

All of the above has a definite bearing on landing gear and total design integrity.



FUEL PRESSURE REQUIREMENTS ( PRESSURE CARBS AND FUEL INJECTORS)

The fuel inlet pressure to the Carb. or Fuel Injector is determined by the manufacturer of the type of system you choose to employ. Therefore, the engine driven fuel pump or an Auxiliary pump must be able to meet the pressure requirements, The most common engine driven pumps in use today are those of the diaphragm type. We will first get the Float type Carb out of the way by noting that the press. requirement is 3 to 5 lbs. (psi) with 4 psi being optimum. The pump required for the Lyc. O-320 , O-360 and O-540 series is a model number #40295 manufactured by AC.

Since most Skybolts are equipped for inverted flying, the proper engine driven pump or Aux. pump depends on whether we are using a Pressure Carb. or a Fuel Injection system. From the Bendix Co. service manual we find that the Press. requirements are as follows.

PS-5B -- 10 to 14 psi. ----- PS-5C -- 10 to 15 psi.max.

Our local Carb. overhaul shop tells us that 9 to 12 psi. will do the job. The AC Fuel Pump (engine driven) to use with the Press. Carbs. is a model number #40595

Before we go on to the Fuel Injectors let us explore a few other requirements. It is vital that for safe operation we install a Fuel Pressure Gauge. For all three systems we should employ an Auxiliary Fuel Pump of some type whether it be manually or electrically operated. The Aux. Pump must meet the Pressure and capacity requirements of the system.

Fuel Pressure Gauges can warn us of impending fuel pump failure. We must exercise caution if the Gauge shows a lower than normal pressure, an inter-mittent low pressure or large fluctuations of the needle. The Pressure Range of the Gauge is as follows.

- Float Type Carb. . . . . 0 to 10 psi.
- Pressure Type Carb. --- 0 to 20 psi.
- Fuel Injectors ----- 0 to 30 psi.

You will notice that I have specified Gauge Pressure Range higher than the normal pressures by approx. 5 psi. This is very important since fuel pressures higher than normal can cause dangerous flooding of the carb. or possibly damage diaphragms or seals. It is possible for a fuel pump to over-pressurize although this is not common.

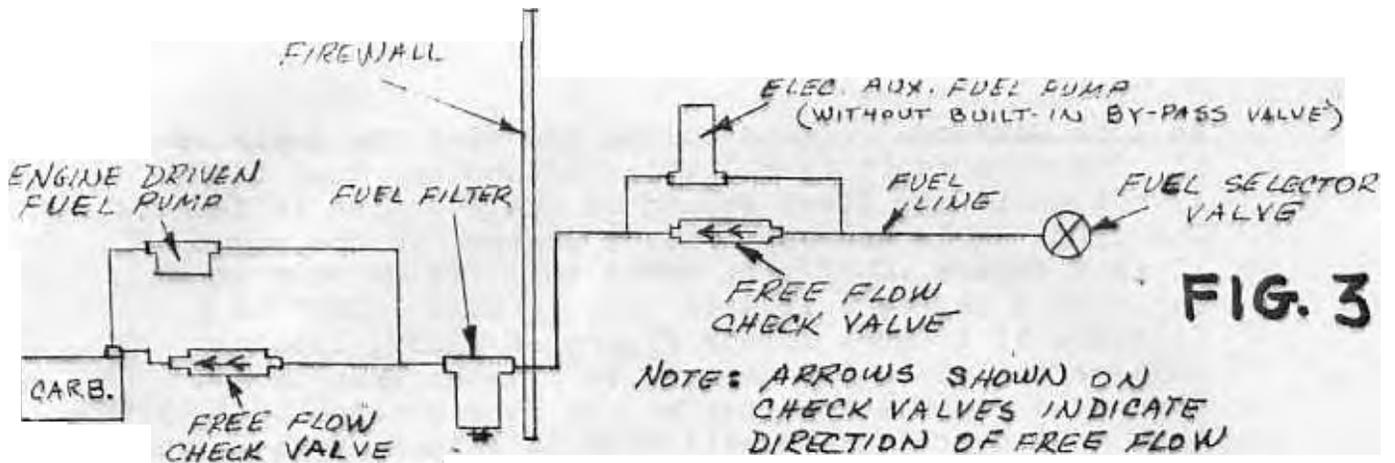
The Fuel Pressure requirements for a Bendix Fuel Injector as used on most Lycoming engines depends on the Model Number of the Injector and are as follows.

Model Number	----	Inlet Press.
RSA-5AD1		20 psi.
RSA-7AA1		25 "
RSA-7DA1		26 "
RSA-10AD1		26 "
RSA-10DB1		25 "
RSA-10DB2		27 "

AUXILIARY FUEL PUMPS (ELEC.) AND FREE FLOW CHECK VALVES

Most approved type aircraft Elec. Aux. Fuel Pumps are designed with a BY-PASS valve built into the body of the pump. This built in valve is a check type valve which allows fuel to freely flow through the pump but prevents the pump from pressurizing the inlet side of the pump, the purpose of which is obvious. Consequently, when the Aux. pump is not being used, the engine driven pump can draw fuel without restriction. Some builders are using automotive type Aux. Elec. Pumps in the Float Type Carb. and Pressure Carb. systems including this writer. There is nothing wrong with the decision to do so PROVIDED you install a FREE FLOW CHECK VALVE across the inlet and outlet of the Aux. pump since most automotive elec. pumps DO NOT have built-in BY-PASS VALVES. The builders who are using fuel injected engines will have to use an Aircraft Type Elect. Aux. Pump since the injector will require approx. 25 psi. pressure and to my knowledge there are no automotive type pumps available that will put out the required pressure. Elec. Aux. Pumps for the injected systems (aircraft type) cost approx. \$135 to \$140.

The builder who is using engines equipped with Float Type Carbs. should by all means install a FREE FLOW CHECK VALVE between the inlet side of the carburetor and the outlet side of the Gascolator or Fuel Filter. Keep in mind that the Free Flow Valve must be kept at no greater height in the system than the fuel inlet to the carb. to achieve the best possible gravity flow of fuel in case of an engine driven fuel pump failure. Of course we will not get gravity fuel flow if the level of the fuel in the main tank is below the level of the the fuel selector valve or the main fuel line. HOWEVER, we can get gravity flow if there is a wing tank installed and there is fuel in the tank. Regardless of the insignificant virtue of gravity fuel flow in the Skypolt, a Free Flow Check Valve installed between the Carb. and the Gascolator will allow un-restricted fuel flow around a failed engine pump with any system. The Aux. pump or Wobble pump will not have to force fuel through the engine pump. See FIG.#3 for Free Flow Check Valve installation.



### ACCURATE ANGLES WITHOUT AN EXPENSIVE MACHINISTS PROTRACTOR

Many times during a construction project we feel the need of an accurate adj. protractor with which to set an angle such as the angle of incidence or dihedral. Using the chart that is displayed in FIG.#4 you can beat a machinists protractor all to heck. In fact, you can set the dihedral as an example, within 1/32 nd. of a degree or 1.875 minutes on the geometric clock. THERE IS NO WAY THAT YOU CAN MATCH THIS TYPE OF ACCURACY WITH AN EXPENSIVE ADJUSTABLE PROTRACTOR.

Lets persue the case of the missing dihedral. First of all we level the lower wing with a spirit level. From the butt end of the front spar we measure outboard 90 1/8" (90.125) which should be the inboard face of Rib Station 90 1/8. The inboard face of this rib is actually 89 1/2" from the center of the bolt that mounts the front spar to the fuselage. We keep this figure (89.5) as the multiplier for the problem we are about to solve, namely, how high will we have to raise the wing at Sta. 90 1/8" in order to achieve an angle of dihedral of 2 1/2 degrees. The answer is 3.911 inches. .911 inches is actually 29/32" plus .005" We forget the .005" and raise the wing from the level position 3 29/32". In order to be as accurate as mentioned above (1/32 nd of a degree) we must measure up on the back face of the spar 3/4" at sta. 90 1/8 which is the same height as the wing mounting bolt hole center and the point about which the wing pivots as we raise it to set the dihedral. Use a drafting pencil or one with a very sharp point to make the index mark from which we will measure. With the wing level, measure from our index mark to the floor and record the figure. To this figure we add 3 29/32". You would have to miss-read your ruler .049" (just over 3/64") in order to produce an error in dihedral of 1.875 minutes of 1 degree. Not bad for a homebuilt.

Now lets see how we read the chart on FIG.#4 that produced the figure of 3.911 or the amount of rise in 89.5". First

we look down the lefhand column and find the depth of 1". The term "depth" is a little misleading. Next to the 1" column is the first column of draft angles in degrees. The first angle we come to is 1/2 degree. To the right of 1" is a figure .0087". It means this. If we have an angle of 1/2 degree, it will rise or fall .0087" in a distance of 1 inch. To the figure of .0087, lets add .035 or the rise of 2 degrees in 1 inch. When we add these two figures together we now have a total of .0437" that a 2 1/2 degree angle will rise in 1 inch. Next we multiply .0437 by 89.5" and we get 3.91115. We drop the 1115 and elect to go with the nearest fraction which is 29/32" or .90625. You will find this chart most helpful in your shop.

DEPTH	DRAFT ANGLE PER SIDE (DEGREES)																DEPTH	
	1/2°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	15°	20°	25°		30°
1/32	.0003	.0005	.001	.0016	.002	.0027	.003	.0038	.004	.005	.0055	.006	.0066	.008	.011	.014	.018	1/32
1/16	.0005	.0011	.002	.0033	.004	.0055	.007	.0077	.009	.010	.011	.012	.013	.017	.023	.029	.036	1/16
3/32	.0008	.0017	.003	.0049	.006	.008	.010	.0115	.013	.015	.0165	.018	.020	.025	.034	.044	.054	3/32
1/8	.0011	.0022	.004	.0066	.009	.0109	.013	.015	.018	.020	.022	.024	.027	.033	.045	.058	.072	1/8
5/32	.0014	.0028	.005	.008	.011	.014	.016	.019	.022	.025	.027	.030	.033	.042	.057	.073	.089	5/32
3/16	.0016	.0033	.006	.0098	.013	.016	.019	.023	.027	.030	.033	.036	.040	.050	.068	.087	.108	3/16
7/32	.0019	.0039	.008	.011	.015	.019	.023	.027	.031	.035	.039	.042	.047	.059	.080	.102	.126	7/32
1/4	.0022	.0043	.009	.013	.018	.022	.026	.031	.035	.040	.044	.049	.053	.067	.091	.117	.144	1/4
32	.0025	.005	.010	.014	.020	.024	.030	.034	.040	.045	.049	.055	.060	.075	.102	.131	.162	9/32
5/16	.0027	.0055	.011	.016	.022	.027	.033	.038	.044	.050	.055	.061	.066	.084	.114	.146	.180	5/16
11/32	.003	.006	.012	.018	.024	.030	.036	.042	.049	.055	.061	.067	.073	.092	.125	.160	.197	11/32
3/8	.0033	.0066	.013	.020	.026	.033	.039	.046	.053	.060	.066	.073	.080	.100	.136	.175	.217	3/8
13/32	.0035	.007	.014	.021	.028	.035	.043	.050	.057	.064	.071	.079	.086	.108	.148	.188	.234	13/32
7/16	.0038	.0077	.015	.023	.031	.038	.046	.054	.062	.069	.077	.085	.093	.117	.159	.204	.253	7/16
15/32	.0041	.008	.016	.024	.033	.041	.049	.058	.066	.074	.083	.091	.100	.125	.171	.219	.270	15/32
1/2	.0044	.0088	.018	.026	.035	.044	.053	.061	.071	.079	.088	.097	.106	.134	.182	.233	.289	1/2
17/32	.0046	.009	.019	.028	.037	.046	.056	.065	.075	.084	.093	.103	.113	.142	.193	.247	.306	17/32
9/16	.0049	.0099	.020	.030	.039	.049	.059	.069	.079	.088	.099	.109	.120	.151	.205	.262	.325	9/16
19/32	.0052	.010	.021	.031	.042	.052	.062	.073	.084	.094	.105	.115	.127	.160	.218	.277	.343	19/32
5/8	.0055	.011	.022	.033	.044	.055	.066	.077	.088	.100	.110	.120	.133	.167	.227	.291	.361	5/8
21/32	.0057	.011	.023	.035	.046	.057	.068	.082	.092	.104	.115	.127	.140	.176	.238	.306	.379	21/32
11/16	.006	.012	.024	.036	.048	.060	.072	.085	.096	.109	.121	.133	.147	.183	.250	.321	.397	11/16
23/32	.0063	.013	.025	.038	.050	.063	.075	.088	.101	.114	.126	.139	.153	.193	.261	.335	.415	23/32
3/4	.0065	.013	.027	.039	.053	.066	.079	.092	.106	.119	.132	.146	.159	.201	.273	.350	.433	3/4
25/32	.0068	.014	.028	.040	.055	.068	.081	.096	.110	.124	.137	.152	.166	.210	.284	.364	.451	25/32
13/16	.0071	.014	.029	.043	.057	.071	.085	.100	.115	.129	.143	.158	.173	.218	.296	.379	.469	13/16
27/32	.0074	.015	.030	.045	.059	.074	.089	.104	.119	.134	.149	.163	.180	.228	.307	.393	.487	27/32
7/8	.0076	.015	.031	.046	.061	.077	.092	.107	.123	.139	.154	.171	.186	.234	.318	.408	.505	7/8
29/32	.0079	.016	.032	.048	.063	.079	.095	.111	.128	.144	.160	.176	.193	.243	.329	.422	.523	29/32
15/16	.0082	.017	.033	.050	.066	.082	.098	.115	.132	.149	.165	.182	.200	.251	.341	.437	.541	15/16
31/32	.0085	.017	.034	.051	.068	.084	.101	.119	.137	.153	.170	.188	.208	.260	.353	.452	.558	31/32
1	.0087	.0175	.035	.052	.070	.087	.105	.123	.141	.158	.176	.194	.213	.268	.364	.466	.577	1
	1/2°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	15°	20°	25°	30°	

## UPPER WING CONSTRUCTION ( PART 2 )

When we signed off in last months issue of the News we had just finished gluing the spar splice with the spars in position on the wing table.

AT THE TIME YOU GLUED THE SPAR SPLICE I ASSUME THAT YOU MADE UP TEST BLOCKS FROM EACH BATCH OF GLUE AND RECORDED THE DATA ON THE TEST BLOCKS. DATE, TIME, BATCH NUMBER ETC.

BEFORE ANY FURTHER UPPER WING CONSTRUCTION IS ATTEMPTED AND YOU ARE CERTAIN THAT THE GLUE HAS CURED PROPERLY, TEST THE TEST BLOCKS FOR GLUE STRENGTH. IF EVERYTHING APPEARS NORMAL AT THIS POINT, WE CAN PROCEED.

The clamps holding the spars to the racks can now be loosened and the ribs slipped on the spars. Check and re-check at this point to make sure that the proper ribs are in the proper place and that none have been turned upside down ( Heaven forbid ). Once again clamp the spars in their proper place using the index lines made earlier. Re-check the spars for leveling.

Stop for a moment and re-read Page 9 of the Jan.'78 issue regarding the drill blocks and marking of center lines etc. You can now proceed with marking the necessary lines on the front and aft faces of the spars. When it comes to marking the rib stations on the spars remember that the dimensions as given in the plans for these stations are at 90 degrees to the longitudinal center line of the fuselage and cabane struts. It won't be difficult to establish the first couple of rib stations but as we go further outboard it would be nice to have the help of a friend who can hold the tape at the cabane centerline as you layout the rib stations. DO NOT TRY TO LOCATE RIB STATIONS BY MEASURING FROM RIB TO RIB IN A PROGRESSIVE MANNER. MEASURE EACH STATION FROM THE CABANE CENTERLINE. If you use the progressive method you are sure to end up with the tip ribs in the wrong location because you are progressively adding error into each measurement.

Now that all marks and lines have been established you can use your 33 and 37 drill blocks and make the holes for the drag and anti-drag wires.

From here on to completion of the upper wing, we go step by step the same as we did on the lower wings. Get the compression members and associated ribs and blocks installed first. Then proceed to the other ribs.

COMING IN MAY ISSUE: SINGLE PLACE CANOPY (PART 1) ELECTRICAL  
 FIXTURE, FUSELAGE CONSTRUCTION (PART 1) ELECTRICALLY OPERATED  
 ELEVATOR TRIM AND IT'S SAFETY REQUIREMENTS.

CLASSIFIED AND SWAPS :

FOR SALE: CONTACT JOSEPH PRISALAC , FARKAS PLACE,  
 PITTSBURG, PA. 15218

STEEN'S GEAR FITTINGS\*\*\*\*\* \$75.00  
 KERBIE-J TAIL KIT WITH TRIM\* \$260.00  
 KERBIE-J CABANE KIT\*\*\*\*\* \$120.00

FIREBOLT AIRCRAFT AND SUPPLY CO., INC. 910 S: HoHoKam DR.  
 BLDG. #109, TEMPE, AZ. 85281 Phone Area Code 602-968-2556  
 offers the following.

HARDWARE KITS, all the nuts and bolts needed for basic  
 construction of the fuselage and wings.  
 You SAVE approx. 40% ----- \$ 96.50

AN FITTINGS, for fuel lines, oil lines and other  
 plumbing needs ----- 20% off  
 AXLES w/TUBULAR NUTS, axles are centerless ground 45.00 set  
 HEAT TREATED LANDING GEAR BOLTS ( Front only )--- 7.00 pair  
 T-88 EPOXY, A super nice adhesive for wings and  
 other things.----- \$15qt. Prepaid  
 CANTILEVER LANDING GEAR PLANS ----- 15.00 set  
 STITS FABRIC AND COATINGS----- 20% off

( Current Skybolt News subscribers only )  
 4130 TUBING AND SHEET STEEL, FUSELAGE KITS, CABANES,  
 "I" STRUTS, LANDING GEAR ETC. TUBING KITS FOR EVERYTHING.

3 LEAF TAIL SPRINGS, 6" or 9" mounting -----19.00 ea.  
 10 ft. VERNIER CONTROLS, for trim or servo-trim---- 39.50 ea.  
 15 ft. " " " ----- 44.50 ea.  
 1/4"-28 "TEE" BOLTS, for mounting straps, fuel tank-- 1.75 ea.  
 STAINLESS FUEL TANK STRAPS, (Blanks) 1"x48"--(4)--- 14.00 set  
 DUKES 3 WAY AIRCRAFT FUEL SELECTOR VALVES, makes  
 remote mounting easy, can be cable operated 125.00 ea.  
 FUEL TANK FILLER NECK GASKETS, MOLDED RUBBER - 2.75 ea.  
 WING TIE DOWN BRACKET KIT w/PIP PIN RINGS----- 16.50 set  
 AILERON HINGE BRACKETS, set of 8, the hard to fab  
 brackets that mount on the aileron spars. 6  
 short and 2 long w/ bushings. Pierced. Ready to weld 32.50 set  
 ALUMINUM SLAVE STRUT BRACKETS, for forward mounted  
 slave struts. Formed w/bearings in uppers--- 60.00 set  
 TAIL GROUP RIBS includes dynamic balance and trim  
 tab ribs. Now includes 2 20" hinge plates  
 for mounting piano hinge on trim or servo tabs 60.00 set  
 PIANO HINGE, NEW, EXTRUDED MS20001-P3 (open width 1 1/4")  
 6 ft. length 27.50 (others get 31.00). Less than  
 full length, 6.00 per ft.

NOTE: THIS ONLY A PARTIAL LIST OF SUPPLIES FOR THE  
 CUSTOM BUILDER AND SKYBOLT BUILDERS IN PARTICULAR.