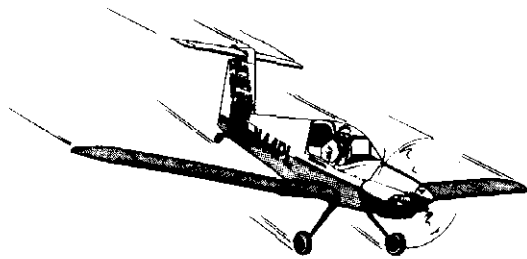


Pazmany PL-4 Newsletter



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PL-4 KITS - the matter of the possible availability of prefabricated parts kits for the PL-4 has been on the "front burner" for the past few months. While previous information about the potential availability of these kits has not been totally complete, we have thought it important enough to give it special attention. We believe that the availability of such prefabricated kits will be a major factor in the determination of how many PL-4's ultimately get into the air. So, the Newsletter has been in close contact with PAZ and the proposed kit manufacturers since the last issue was published. The manufacturer and PAZ have already done considerable background work to bring the kit service to us, and, to convey more clearly just what the kits will contain, a new data sheet and order card have been included in this mailing. The data sheet is a summary of a thick stack of supporting documents that the manufacturer had to develop to get the project to its present status. It is imperative that at least ten full orders (or equivalent) be placed so that the manufacturer can be assured of enough return to pay for the extensive tooling required to prefabricate the 786 different parts that will be provided in each complete kit. We urge you to take advantage of the initially quoted prices because the prices will rise later - aluminum like everything else, is going up in price and these increases must be passed on by the manufacturer.

The manufacturers are very experienced homebuilders and long-time supporters of the EAA. They are associated with a company that produces similar aircraft parts for major airframe firms. They will make very little profit on the kit operation, but they desire to see the PL-4 design be a big success and are therefore willing to exert all of the required effort with little hope of substantial dollar gain. In fact, if PAZ were to try and produce such extensive prefabricated kits as a straight, high profit commercial venture, the tooling costs alone would be prohibitive.

No homebuilt airplane is "tinker toy" simple to build - not the PL-4 or even Jim Bede's BD-5 - the FAA would not permit it to be even if such a kit could be brought to the market place. Experienced homebuilders will tell you that it is most difficult for many people to sustain the requisite personal interest, motivation and dedication for the 3 to 5 years it takes to complete most homebuilt airplane projects. The availability of a prefab kit serves to give that psychological advantage most of us need to successfully finish our projects by reducing by several years the time required for construction. Plus, the visible collection of completed parts, and the investment it represents, should give sufficient impetus to most of us to finish our projects. Of course, we pay for what we get. To save the wear and tear, frustration and time of finding/making materials sources, tools, equipment, etc., plus actual fabrication - we must pay a premium. But, the initial kit prices presently offered, average out to only about \$2.00 per part. You would be lucky to have a commercial firm shear a piece of metal for that amount let alone prefabricate the metal into a useable PL-4 part.

So fellows, we urge you to think this matter through seriously and then act soon if at all possible. If getting a PL-4 in the air is really your objective, then your fastest route to that goal is to purchase the kit. If 10 orders were to be received by 31 December 73, first deliveries could start on/about 1 April 74.

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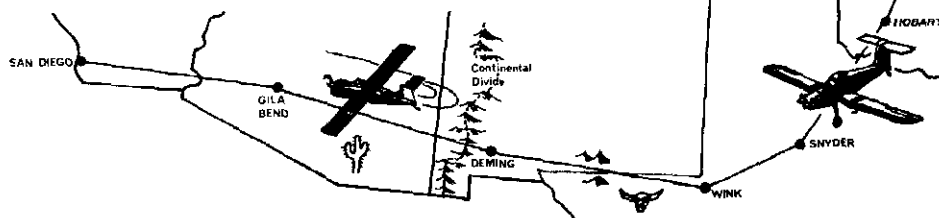
CROSS-COUNTRYING IN THE PL-4A

By Walt Mooney

After returning home from Oshkosh '73 in an airliner, I heard that PAZ's PL-4 had been left at Columbus, Nebraska by the pilot who had agreed to fly it from San Diego to Oshkosh and return. We have a name for people that irresponsible, but it is unprintable so we will leave him nameless and hope to never meet him in person.

The situation looked like an excellent opportunity to combine a good deed for a friend with an interesting activity, so I called PAZ and volunteered to return his little bird home for him. The offer was accepted; PAZ insisted on paying all expenses, so on Friday, August 10, 1973, I caught a flight to Denver and another to Kearny, Hastings, and finally in to Columbus. I got out to the PL-4 after about five hours sleep. The Nebraska Aviation people at Columbus had it all ready to go with full fuel, oil and a charged battery. After a careful pre-flight inspection, which included installing and taping the wing joint fairings, I was ready.

Takeoff was at 1010 for a planned stop at Newton, Kansas, home of Jim Bede's BD-5. Headwinds of about 10 knots were forecast, and as I flew south, I watched the gas gauge and wondered about its accuracy. Finally, I decided to play it safe and landed at Abilene, Kansas at 1240. The plane took 8.0 gallons of gas. Newton would have been easy to make, but I was cautious. Some oil was dripping off the tail end of the fuselage so I took off the cowl to investigate. The engine was completely dry and the only leak appeared to be at the oil cooler mount. I decided to add a quart and check again real soon since I did not know when the leak had started. It was a minor leak and PAZ was aware of it but he had forgotten to tell me about it. I then took off for Newton at 1345 and arrived there 30 minutes later to be greeted by Jim Bede and Burt Rutan. It was great to see them. After a short visit and a careful check of the oil level (it was unchanged and my mind was somewhat relieved) we added 1.2 gallons of gas and I was off for Hobart, Oklahoma at 1450.



ABOUT THE AUTHOR

Walt Mooney is an aeronautical engineer by education and profession; he currently works for the Rohr Industries in San Diego, California. Walt has had a rich twenty-five years of work and fun in aviation - he has an airplane single engine land and seaplane rating plus he is a glider instructor and FAA glider examiner. His 2500 flying hours are divided about equally between power planes and sailplanes. He has assisted in test flying the following aircraft in addition to the PL-4: the Honey Bee, Queen Bee, der Jaeger Biplane, Volkspilane VP-1, Androsson BA-7, and the Cherokee II sailplane. Walt is presently involved in PL-4 flutter testing.

For the Hobart leg I climbed the PL-4 to 8500 feet and enjoyed the scenery flowing past. The winds were still southerly so the ground was not moving by very fast. By this time I had taped my Omaha map to the top of the canopy as a sun shade; at this point in the flight it was more useful up there. Contact navigation is extremely easy in the midwest because almost all the roads go either north-south or east-west, so I was having a great time listening to the smooth purr of the VW engine and cruising along at what turned out to be about 95 MPH TAS but only 85 MPH over the ground. We (me and the PL-4) landed at Hobart at 1745 after two hours and fifty minutes of flight time and refueled with 9.5 gallons of gas. The PL-4 posed for some pictures taken by the airport operator's wife while I checked the weather with the FSS.

Scattered thunderstorms were forecast and in progress to the south and west, but it was apparent that they were well scattered and would prove to be no problem. However, it was getting late and official sunset was 2030 so I determined that I would be unable to make my hoped for destination of Midland, Texas where I had intended to mooch a free meal and room from my wife's sister. So I asked myself how far can we go in two hours and fifteen minutes? After swinging an arc on the map in the Admin building and saw Snyder, Texas was a possibility, a light was lit between my ears. My friends and fellow glider guiders, Charles and Jo Shaw, live there. So, at 1820 we were again airborne and climbing for Snyder, Texas.

There were towering cumulus clouds ahead but all were either slightly left or right of course, and besides, none showed any sign of lightning or rain so we flew a direct line to Snyder. We watched the sun turn into an orange

ball, descend behind the clouds and then reappear between the clouds and the horizon as we crossed the Cimarron River and gradually approached Snyder. It was a race with official sunset and we were on the ground at 2035 after 8:10 hours of total flying time for the day.

I had found the PL-4 comfortable after adding the overhead sun shield. It performed flawlessly; all starts were on the first application of the starter switch, and I was convinced that there would be no trouble crossing the high ground between Texas and California. The airplane trims hands off and most of the flight was spent with arms folded and feet lightly on the rudder pedals to keep an exact heading; even this is not necessary all of the time so that leg relaxing movements can be made from time to time.

Since thunderstorms were possible, the PL-4 was hangared. I bummed a ride into a motel, ordered supper, called my wife to say everything was great and asked her to call PAZ and relay my message. I then visited the Charles Shaws and spent too many hours with them. I overslept my ETO by an hour! I was out to the airport at 0730 and luckily the airport operator was there to pump gas. We put in 8.7 gallons of gas and a little less than a quart of oil to top off the oil sump. By 0800 the PL-4 was climbing into a clear sunny sky headed for Wink, Texas. We climbed to 6500 feet and cruised westward, obviously making better time than the day before. So, for the first time on the trip I turned on the radio to call Wink radio for surface wind and landing data. At 0940 we were at the gas pit; at 0941 the operator drove up to unlock the pumps and fuel us with 7.3 gallons of gas. I was grateful to the FSS man for getting the operator out so early on Sunday.

Wink, Texas to Deming, New Mexico was the next leg of the trip and we climbed to 8500 feet and watched the cloud shadows run along the ground in the same direction we were going - a good feeling. I watched carefully for Texas style check points - salt flats, ranch windmill, dead cow skeleton, horned toad - all those things that point your way in Texas where it is miles and miles of miles and miles! I landed at Deming at 1305 for 2:45 hours of flying only to find it was really only 1205. I reset my watch and was happy to realize that San Diego was probably within range that day. Deming's elevation is about 4400 feet and with the summer heat its density altitude was about 8000 feet. I was grateful for having 8000 feet of runway for my take-off, but with 12 knots of wind, less than 1500 feet of runway was needed. The climb was nothing to brag about but by the end of the runway we had about 150 feet of altitude and ran into a nice thermal that gave us a 1500 FPM rate of climb. The cross wind leg got us up to about 5200 feet so we set off on course and towards another cloud, climbing a couple of hundred feet a minute. Under the second cloud, I did several circles at 1500 FPM and quickly got to 8500 feet. I set off westward, slowing only to climb under the clouds, and speeding up between them a la soaring style. Thirty miles west of Deming I was at 10,500 feet and decided to maintain this altitude on my way as Lordsburg, Cochise Head, Wilcox Playa, and Tucson passed underneath. Indicated airspeed at 10,500 feet was 75 MPH and ground speed was about 105 MPH. Maximum altitude attained under a cloud was 11,000 feet, but 10,500 was where I tried to stay.

Descending to 4000 feet going into Gila Bend, I was aware that this was hot country. I landed at Gila Bend after three hours of flying and filled up with 10.0 gallons of fuel in the 114° heat and high humidity. A look at the charts revealed that at that temperature the 774 foot ASL Gila Bend runway had a density altitude of 5000 feet, and with the humidity, my guess was it was nearer to 6000 feet. With only 2600 feet of runway I did a little computing and concluded that we could make it, but made up my mind to abort the takeoff if I did not have flying speed by the 1300 foot point. Midway down the runway the PL-4 was indicating 55 MPH so it was safe to go, but I held it on the runway to 65 MPH and in ground effect to 75 MPH before I eased it higher. We had 20 feet or so and a good speed margin over the fence and pro-

ceeded to climb westward, covered with sweat and being blown on by outside air vents that felt like they were connected to a furnace. The oil temperature gauge climbed up higher than I had seen it before, but never got to the 250 degree red line, and the cylinder head temperature gauge stayed right in the middle of the green. We climbed up to 8500 feet for the flight home. I checked with Yuma FSS for winds aloft and San Diego weather to be sure a summer fog had not set in along the coast.

The weather was merely hazy, and the last hours were kind of anti-climatic after the takeoff at Gila Bend. I descended gradually to a straight-in landing at Montgomery Field to be greeted by the gas attendant who said, "Walt Mooney, I never know what you'll bring in here!".

Total flying time for both days was 18:35 hours. Total gas burned was 63.9 gallons which works out to 3.48 gallons per hour. The total gas and oil bill was \$35.02 for the flight from Columbus, Nebraska, to San Diego, California! The PL-4 trip was comfortable for the most part; it was low cost and fun! Certainly it was better than anything moving on the highway around Gila Bend. Not everything about the PL-4 is perfect - two things bothered me. First, the compass is mounted on the center of the windshield frame, its easy to see but for me it blocks vision above and ahead; I would rather it be mounted in or on the panel. Second, to add oil requires removal of the top half of the cowling. There are 22 Camloc fasteners that must be removed and adding a quart of oil at an airport will take you 30 minutes: 3 to remove the cowl, 2 to put in the oil, 3 to replace the cowl, and 22 minutes to get rid of the guys that want to inspect the VW installation! I told PAZ I would like it changed.

All things considered, I loved the trip.

WALT MOONEY

PREPARED BY	L. PAZMANY	OCT. 1-73	PAZMANY AIRCRAFT CORP. San Diego, California	MODEL NO.	PL-4A
CHECKED BY				RPT. NO.	
APPROVED BY			ENGINEERING CHANGE NOTICE # 3	PAGE NO.	1

- DWG 4-60-001: Change title to read "Brake" and not "Break"; sorry about that. We do not want anything to break!
In B/M - change AN 320-4-5 Nut to AN 320-12.
Dimension at Section B-B should be .96 instead of .86.
- DWG 4-60-002: In B/M - change stock size (tube wall thickness) from .063 to .065.
On the List of Hardware document, add all items listed in the top part of DWG 4-60-002.
- SUMMARY OF RAW MATERIALS: Page 1 - add: Sheet - Aluminum 2024-T3-48x72x.063 as shown on page 12 of sheet utilization diagram.
- DWG 4-10-008: In B/M - last rivet callout should be BJ3 instead of BJ4.
Change callout for washer to AN 960-8L instead of AN 960-PD8.
- DWG 4-50-001: In B/M - (-33) Tube; change stock size to 3/8"O.D.x.065 wall.
- DWG 4-30-004: In B/M - (-59) Half Hinge; Req. in Column 3 should be "2".
- DWG 4-40-001: In B/M - (-25) Spacer; Req. in Column 1 should be "1".
- DWG 4-50-004: In B/M - AN 5-11A Bolt; Req in Column 1 should be "4".
- DWG 4-40-004: In B/M - (-31) Shaft; Change stock size to 1/4"O.D.x.035 wall.
- DWG 4-30-008: In B/M - AN 960-C6 should be "Washer" instead of "Nut".
- DWG 4-40-006: In B/M and on face of DWG - change Nut MS20365-524 to AN365-524.
- DWG 4-50-003: In B/M and on face of DWG - change Washer AN960-PD416 to AN 960-416L.
- DWG 4-30-002: In B/M - 212-12N Receptacle, Req. 12; change from Column 3 to 1.
Delete - 16 MS 20426 AD4-BB4 Rivets.

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TRAILER PLANS - PAZ has informed the Newsletter that the improved PL-4 Trailer Plans have been completed and are for sale. The price of the Trailer Plans is \$15.00; order direct from PAZ.

CONSTRUCTION MANUAL - PAZ knows that many of you are patiently waiting for this promised Manual and he has done all possible to complete it; the delays have been unavoidable and he asks for your understanding. But, good news - PAZ has just finished the first draft of the Manual and it is currently undergoing editing by your publisher (and wife!). Barring any unforeseen problems, we can hopefully look for the Manual to be printed and for sale about mid-February 1974. Again, we ask that you not send money to PAZ for the Manual until he advertises it as ready and/or we indicate it is ready for sale via this Newsletter. We had several subscribers ask us for an advance copy of the rib making chapter of the Manual. A review of the subject revealed that PAZ could not pre-release sections of the Manual and still maintain compliance with copyright rules; so, we had to cancel the offer. Sorry.

ENGINE POLL - response to the Newsletter engine preference poll seems to be about stopped. The 65-75 H.P. Continental type engine was chosen in a ratio of about 2:1 over the various types of VW engines. One builder indicated an interest in the Wankel rotary engine and another would like to use a small in-line engine to give the cowl a replica look. There seems to be some difference of opinion about the availability of the Continental 65-85 H.P. engines. Some feel they are nearly impossible to find (in whole or parts), while others feel they are relatively available. It is noted that most subscribers that indicated a preference for the Continental engines also indicated they already had an engine. No doubt the availability answer lies somewhere in the middle ground; these engines are certainly not in plentiful supply but they do seem available if you make a serious search of aviation trade papers like TRADE-A-PLANE, Crossville, Tennessee 38555 (6 months subscription for \$2.50). So if you really want an engine, start hunting! Used engines of this type seem to cost from \$500.00 to \$1500.00. We can verify though that all parts for these engines are readily available - see the several advertisements in TRADE-A-PLANE. The firms that sell these parts can also furnish you overhaul/conversion information. Some of you have asked about adding electrical power sources to these engines. Your Newsletter again refers you to PL-4 builder FORREST RICE, Glasgow, Kentucky. Forrest has developed a couple of methods to add a generator/alternator to the A65 engine.

TIE-DOWN RINGS - had a question about adding tie-down rings on the PL-4 wing. PAZ has not designed any such devices yet; he may do so someday but on a low priority basis. PAZ believes the use of gear legs will suffice for short periods; for longer periods, he removes the gap cover fairings and ties a line around the spar. He stows the fairings in the cockpit.

EXTRA DRAWINGS - the Newsletter will make one more plea in PAZ's behalf to try and get those persons that originally paid only \$50.00 for their Plans Set to voluntarily pay another \$10.00. About 60 people still "owe" PAZ the \$10.00 for the extra drawings that were subsequently furnished the early purchasers of the Plans Set. So, for those involved, won't you please help PAZ at least recoup his expenses for these extra drawings?

NEW PARTS SOURCE - the Newsletter contacted the Spencer Aircraft Industries, 8410 Dallas Avenue South, Seattle, Washington 48108 and learned they too are stocking a nearly full line of PL-4 hardware and other useful items. Write to them if you want their catalog.

FLUTTER TESTS - the PL-4 prototype recently underwent extensive flight testing to check for any control flutter instabilities. Absolutely no flutter problems were encountered, which is a further confirmation of the fine design qualities of the PL-4. A more detailed report of these tests will be included in the next Newsletter. The flutter flight test was flown by Pazmany test pilot Walt Mooney.

PARTS SUBSTITUTIONS - PAZ wants to reiterate that only those materials called out on his plans should be used in order to preserve the integrity of his design. The PL-4 is stressed for high "G" loads but only if the parts called for by the design are used. PAZ SEZ he particularly wants to caution against substituting AN hardware when NAS hardware is listed. However, you can substitute NAS for AN hardware if you desire. In some cases, the plans call for AN hardware and of course they can be used in those instances. If you received the early edition of the Aircraft Spruce and Specialty Company's PL-4 Parts List, please be advised they erroneously substituted AN parts for NAS in some instances and you should check your drawings as the final authority.

CLECOES - the Newsletter has received several questions about Clecoes and where to get them. Clecoes are small metal fasteners that are installed in rivet holes to temporarily hold aluminum sheet/parts together during assembly operations. They are inserted and removed using a special Cleco pliers. Clecoes come in various sizes but probably the 1/8" size would be the most used in the PL-4. A set of 50 to 100 would probably be adequate for most builders. One source, with the lowest price known to your publisher, is - Earl's Supply Company, Box 265, Lawndale, California 90260. They sell 100 Clecoes for \$27.50. New pliers cost about \$3.50.

FORUM TAPES - the Newsletter received a letter from David Yeoman, Route 1, Toddville, Iowa 52341. Dave records Oshkosh forums each year and he has over 50 different tapes available to rent or sell. His list includes the Pazmany forums. Part of his small profit goes to the EAA Museum Fund. Send him a stamped, addressed envelope to obtain more information.

LEAD COUNTERWEIGHTS - the Newsletter had a question about counterweight material. The plans call for this material to contain 5 to 7% antimony. You may have wondered - why the antimony? - the antimony acts as a hardner in the lead and makes the counterweights resistant to vibration cracks. Most plumber's supply firms regularly stock this kind of lead. It is a relatively cheap material; your publisher bought 8 lbs. for \$2.80.

CLOSE-UP PICTURES - several subscribers have asked that we publish more close-up pictures of completed and in-process PL-4 parts but we cannot print pictures unless you builders send them to us to share with others. We know from your letters that many of you are well along making parts, so how about sending us some clear, close-up black and white prints (with identification captions, please). We have a few pictures now and hope to get a lot by Newsletter Number 6 so we can make that a "photo" issue.

OSHKOSH '74 WORKSHOP - the Newsletter received good news from RALPH BORDEN, Ramona, California; his plans have been confirmed for a sheet metal workshop at Oshkosh '74. Actually, Ralph will share a workshop tent with LOU SOUNDERLAND, a Thorp T-18 expert, so we can all look forward to some fine demonstrations by these two experienced builders. Of course Ralph will "orient" his part of the workshop toward the PL-4, but he will not abuse the workshop in a commercial sense as others appeared to do at Oshkosh '73.

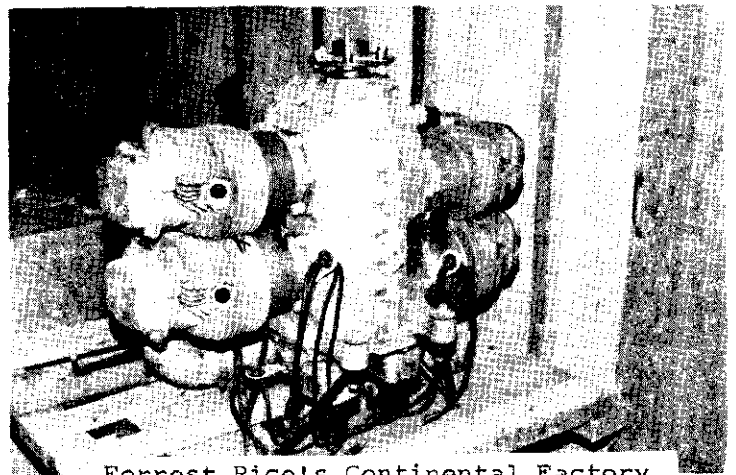
KENTUCKY BUILDER - your publisher made a nice flight (in his Cessna "spam-can") down to southern Kentucky to visit PL-4 builder FORREST RICE. Forrest is an avid builder and a strong supporter of the PL-4. He has been steadily busy on his PL-4 project for about a year and he has about 75% of all individual pieces completed; he will start assembly soon. Forrest does very nice work and he has an enviable workshop - lots of space and almost every conceivable tool and supporting equipment. Forrest also has a zero-time Continental factory remanufactured A65 engine; its a beauty and he already has developed a way to install a small generator or alternator. Forrest has a successful electronics sales/service business and he will soon release advertisements for his inexpensive ADF navigation radio for use in amateur built aircraft. He also is a dealer for the famous ShopSmith multi-purpose shop set. Contact him if you would like data about the ShopSmith.

FOREIGN PL-4's - some exciting developments concerning Nationalist Chinese and Canadian government interest in the PL-4 were recently revealed to the Newsletter. We will try to cover these new developments in detail in future issues of the Newsletter.

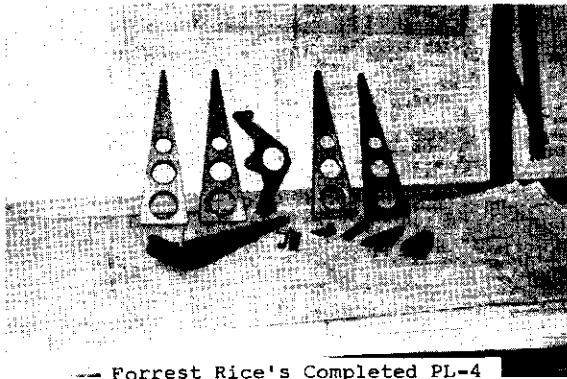
POTPOURRI - the Newsletter wants to give a special welcome to new subscriber W. J. WATKINS, Federal Secretary of the UltraLight Aircraft Association of Australia. He is helping secure Australian government approval of the PL-4 design so that it can be built by amateurs "down under".....also a special welcome to new subscriber ROBERT CARRIERE from Villepreux, France.....the Newsletter has received several indorsements about the merits of the Moto-Shop tool made by the Dremel Manufacturing Company, Dept. 173K, Racine, Wisconsin 53406; all who have it report it to be useful to homebuilders..... JERRY HARRIS, EAA Chapter 9, is an experienced research engineer and he is performing a rather complete mathematical stability analysis of the PL-4 as a personal project; any subscribers interested in this type activity can contact the publisher for more information.....you folks out west are lucky to have RALPH and TINY BORDEN living in your area; Ralph and Tiny regularly entertain new PL-4 builders with hands-on metal work training sessions; they are generous with their time and hospitality and willing to assist any serious PL-4 builders. Ralph informed the Newsletter that he has given so many wing rib making demonstrations using his form blocks that he now has an extra set of wing ribs. If you are interested in buying this rib set please contact Ralph directly; you could not get a better set of ribs!.....JOHN RODENCAL, Wisconsin Rapids, Wisconsin reports he got all of his aluminum stock from the Central Steel and Wire Company of Chicago, Illinois.....the Newsletter wants to thank PL-4 builder GORDON LaCOMBE, Kenosha, Wisconsin for his illustration support he is giving to the Newsletter.....the Newsletter received a nice letter from subscriber R.S. HOOVER, Vista, California; Bob is doing some interesting work with the VW engine.....a report was received that a source for very lightweight tail wheels for homebuilts is: Aviation Industries, 114 Bryant Street, Ojai, California 93023.....your publisher continues to get much PL-4 related mail and enjoys the acquaintances made by these contacts; every effort is made to promptly answer all such mail but lack of time sometimes causes delays, so, do not hesitate to send mail but please do be patient waiting for replies.



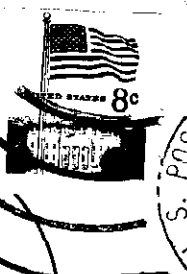
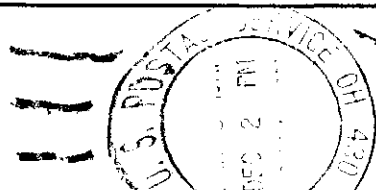
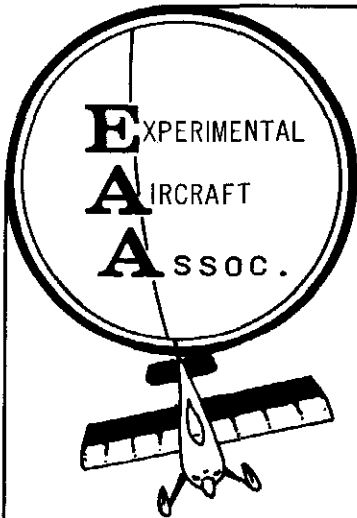
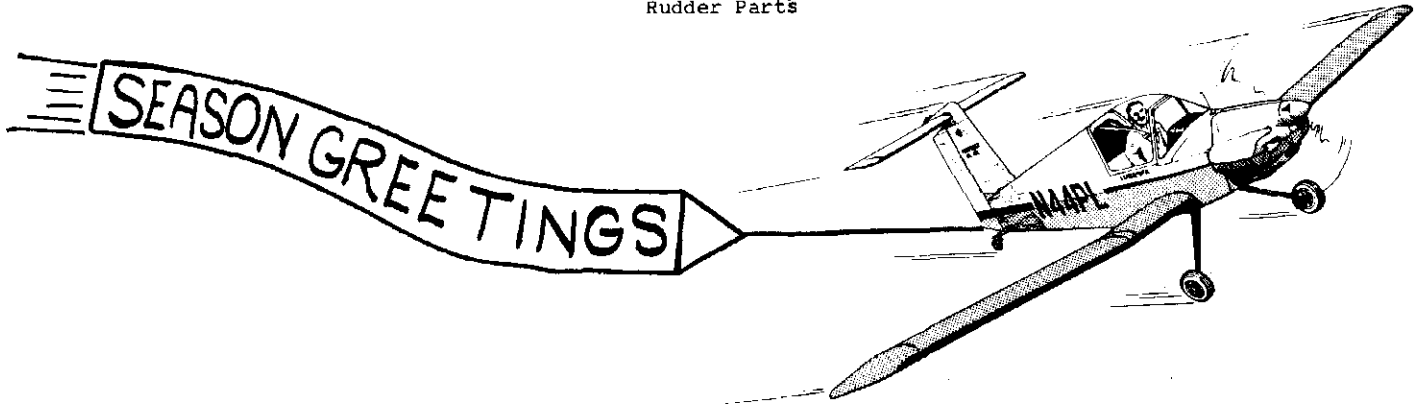
Forrest Rice, Glasgow, Kentucky at his PL-4 Workshop drawing board



Forrest Rice's Continental Factory Remanufactured A65 Engine



Forrest Rice's Completed PL-4
Rudder Parts



DEVOTED TO HOMEBUILT AIRCRAFT AND SPORT AVIATION
ACTIVITIES WITH SAFE AND SOUND OPERATION FOREMOST!

PAZMANY PL-4 NEWSLETTER
c/o 365 Heil Drive
Gahanna, Ohio 43230

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