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PAZMANY PL-2

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TIME FOR ANOTHER ISSUE of the PL-1/PL-2 Newsletter. It has been a long, slow winter, at least for me, and spring has been arriving in fits and spurts. Last Saturday (March 9) I had some time off, and wonder of wonders, we actually had some good weather!! You know how it usually goes - you get some time to work on or fly the PL and the sky caves in on you. Well, we actually had a beautiful day, with temps. up around 50 degrees F. I only had a little snow to lie in as I reinflated the landing gear struts. Then, two days later, we got about another inch of snow which has completely covered everything again. It seems to be melting off quite rapidly, though, fortunately.

I did get a chance to get the ole Paz in the air for a bit, which was really nice. I hate to admit it, but it was the first time it (and I) had been up since last November, about 3 1/2 months. I think I was rustier than the airplane. Needless to say, such long layoffs are definitely not good for either pilots or airplanes. For the last three months, however, I have been working two different positions with EAA, which came out to around 60 to 70 hours a week. There just wasn't time to do much of anything else except sleep. Things have tapered off considerably now, and I'm back to only one job, that of security in the EAA Museum, which is truly a delight, of course. Meanwhile, I'm going to get in some newsletter writing (and flying!) before things get busy again in the next couple of months.

Speaking of the newsletter, please note the mailing label on the back of the issue. Among other neat things a computer can do is to print a reminder of your last issue - so if yours is getting close, please heed. I plan on this little reminder on each subsequent newsletter so all of you will be constantly informed of how your subscription is going. If you're a very new subscriber, I may not have you in the computer yet, but if you have a typed mailing label, you should have a note as to last issue. Just compare that with the issue number at the top of the page and act accordingly!

BACK ISSUES: Through the kindness of **IVAN DRNASIN** and **D.J. SCHNEIDER**, fellow newsletter subscribers, I now have some additional back issues available. We now have #'s 21, 22, 23, and **ALL** issues from # 36 to present. We are still missing #'s 1-20 and #'s 24-35. If any of you can help out with these missing issues, please do. I will make copies available and return to you the ones you sent me - or if you don't want them to go through the mail, copy them yourself and send me the copies, and I will reimburse you or add to the length of your subscription, whichever you prefer. I'd really like to have copies of <u>every</u> newsletter ever published available to anyone who would like them. For those of you who would like copies of the back issues

Dear Paz - Thanks much for your phone call last mo. and words of wisdom on the newsletter. I hope I have every thing more or less correct in this issue. And by the way, the "last issue" notification does <u>NOT</u> apply to you - I'll make sure you keep getting the newsletter as long as I'm editor, at least. Just keep me informed on things from your end, if you will, please. Thanks - Jack M.

we now have available, drop me a line and I'll see that you get them. Rates are the same as for current newsletter, and if you wish and have sufficient future issues coming, we can delete future issues from your subscription for back issues if you so desire.

One more thing that was pointed out to me by a couple of PLers out there: Please, no more requests for issue # 56! It seems that the newsletter editor at that time made a slight clerical error after printing # 55, and numbered the subsequent issue as #57! By the time he realized the error of his ways, it was too late - so #56 does not, and never did, exist.

Okay, I think that pretty much sorts out the newsletter situation. I believe I have now sent off the back issues I have to those of you who have requested them, but just in case I slipped up, drop me a card and I'll get some more out to you. And I think I screwed up last issue and failed to give **LEE CONLAN** credit for supplying several back issues to me for redistribution to you folks. Lee at one time was the PL newsletter editor, so it stands to reason that he would have some back issues; I really appreciate the help, Lee. Meanwhile, onward and upward with some hopefully useful information for you PL people out there. First of all, way back in January I received a call from **PAZ** himself (thank you for the kind words, sir!) who filled me in on several items I had mentioned in the last newsletter. You might recall that I mentioned a letter from **Bill Mensing**, who has built a PL-4 and (here's the really interesting part) is at work on a **two** place version of the PL-4 - said to be similar to the PL-7. Yes, all this is essentially correct. The PL-7 is basically a two place version of the PL-4, as noted above, and Paz was planning to certificate this design. But have any of you looked into product liability insurance lately? That's the real problem. The way legal decisions have been going for the past several years, any aircraft manufacturer is considered fair game, and even a pilot who displays a total lack of judgment, common sense, and adherence to the regulations will likely collect a huge sum from the manufacturer in the event of an accident and lawsuit. It's not just a matter of product liability insurance being more expensive, or harder to find, it's just well nigh impossible to find at any price. Even designs for amateur built aircraft and kit manufacturers are not free from these worries; all of you have no doubt heard about the demise of the Quickie Aircraft Corp., due to a judgment against them after a totally unqualified pilot had an accident due to pilot error. At least, this is the way I heard it from an EAA staff member at a local chapter meeting recently. It's a shame to see new designs with great potential die on the vine, so to speak, due to such restrictions.

But I'll climb down from my soapbox now and get on with things. Paz's phone call reminded me of something that all you PLers out there might be interested in, and that is a rundown of all of the Pazmany designs. Ever wonder what a PL-3 was, for example? well, you're about to find out.

PL-1: Of course you all know about this one, Paz's first design which led to the PL-2. The PL-1 has the distinction of being the only aircraft designed as an amateur built which has

been built and flown as a military aircraft - the PL-1B, which is essentially a PL-1 with a 150 hp. Lycoming O-320 for power. Several dozen of these were built by several southeast Asian nations and flown quite successfully. If I have room this issue, I have some info on the PL-1 being imported back into the U.S!

PL-2: Basically the same bird as the PL-1, with some design changes to make it somewhat easier for the amateur builder to build. It's a little wider in the cockpit and has a few other minor changes also. You'd have to have some pretty sharp eyes to spot the differences.

PL-3: I asked Paz about this one when we had the Pazmany get together during the '83 EAA Convention. The PL-3 is pretty much identical to the PL-2, as I recall Paz saying, but the FAA had been in touch with him on the possibility of certifying the design for production. There were no problems with the FAA, except that they wanted a different designation for the airplane to distinguish it from the homebuilts. Hence, the PL-3. Why no production? Well, as I recall, Paz didn't indicate any problem with product liability insurance at that time, but the cost of proving that the design met all the FAA standards for production aircraft was prohibitive. Sure is a shame to see really great designs that can't make it into production just due to paperwork and red tape costs.

PL-4: I'm sure you're all familiar with this one too - a low wing, single place, VW powered (at least originally) all metal design. It's quite a departure from the PL-1 - 2 - 3 series; see the photos toward the back of this issue for some examples.

PL-5: No, this is **not** the same as the Ryson Cloudster motorglider that Paz had a hand in. The -5 is a twin boom pusher designed for observation/surveillance work, such as fish spotting, pipeline - powerline patrol, etc. If you've ever seen a fish spotter aircraft, you might be aware of the radio gear they stuff into them for aircraft - ship communications. The PL-5 was designed with this in mind, the first aircraft (so far as I know) intentionally designed for such work. Sorry, but no, I don't have a picture.

PL-6: This is Paz's first excursion into composite structure for any of his homebuilt designs. The configuration is much like the CGS Hawk ultralight, a high wing pusher with the engine mounted at the trailing edge of the wing and a boom from the lower portion of the cabin area, below the propeller arc, for the conventional tail.

PL-7: You'll recall I mentioned this one a couple pages ago when I mentioned another builder working on a two place PL-4. The -7 is Paz's own version of the two place PL-4, and is somewhat different than the other design, in that it was originally planned to be certificated for production (see above gripes about product liability insurance and certification costs).

That's it to the present, so far as I know - but then, there are probably some ideas still floating around in Paz's head that haven't been given a formal designation yet, so we may yet see a PL-8, PL-9, PL-?

Before we leave this subject, there is one thing I'd like to

point out which Paz is extremely proud of, and rightly so: There has **NEVER** been a fatal accident in a Pazmany design. I don't know this for sure, but I suspect that Paz is the most highly experienced designer around who can make that statement. When I talked to Paz a while back, he mentioned that we had lost one of our fellow PL builders and newsletter subscribers in a tragic fatal accident, along with others of his family. Please be informed that this accident occurred in a Beech Bonanza, and **NOT** in a Pazmany design. I hadn't heard any fictitious rumors about this accident, but apparently there were some who had the wrong idea; hopefully this will set it straight. Paz has related the story of one fatality which occurred in a PL-1B, in which the Taiwanese flight instructor suffered a fatal heart attack and his student landed the aircraft safely - but you can't blame that on the airplane or the designer! Let's keep Paz's excellent record intact - don't do nuthin dumb!

FASTER THAN A SPEEDING BULLET DEPT: Last issue I brought up the thought of PL-1 - 2 speeds. Well, blinding speed is not the reason we are building/flying PL's, but nevertheless they really don't do that badly in the speed department. Paz has always been rather conservative in his performance estimates, and this may not be the best thing for plans sales, but at least us builders and pilots can all admire our superior skills when our aircraft beat the designers estimates! There aren't many aircraft of which this can be said. For example, checking the information brochure, the PL-2 with O-235C Lycoming (108 hp. max. continuous) is supposed to cruise at 119 mph. @ 6.1 gal./hr. Mine (with that engine) trues out at 125 mph. at that fuel burn - and that's timed, two way, over several miles of section lines, on a few different occasions. I don't find that the climb rate is as advertised, but this may be due to the prop. I checked the climb rate last time I flew it, and from density altitudes from about 1500 to 3000 feet, I averaged just about exactly 900 ft./min. Of course, it should be a little better right at sea level, but on the other hand I was considerably below max. gross weight too - around 1120 pounds. Mind you, all this is with a rather "dirty" PL-2; no wheel fairings or other goodies.

So much for my airplane - how about someone else's? I have the numbers from **ROSS WHITNEY'S** PL-2, C-GQNW, equipped with a Lyc. O-290D, 135 hp. With wheel pants, the airplane averaged 134.5 mph. on a two way run at 2430 rpm & 20" MAP - in other words, economy cruise. Paz's numbers for econ. cruise show 130 mph. Granted, the wheel pants helped quite a bit; in fact the airplane actually was a bit below Paz's "economy cruise" figures without them. But since the numbers and altitudes were not given with the "book" numbers, I can't say if the numbers are compatible or not. Economy cruise is generally considered something around 65% power or maybe less, and the manufacturers usually get this number by climbing to a density altitude where they can barely get that power setting at full throttle - probably around 8500 - 9500 feet. This is theoretically the most efficient way to fly the airplane, but few of us actually fly at such altitudes and power settings. If you do, I have no doubt that you'll beat Paz's numbers if you have a well built airplane. (That's the only way to build a PL, isn't it?)

This brings up another point: Airframe cleanup. Last issue I mentioned, while talking about the pointlessness of retracting the gear, that according to theory one should get on the order of a 10% airspeed increase with a really clean set of gear strut fairings and pants for all three wheels. With my airplane, the cruise should go from 125 up to 137 mph. Now, there are some other tricks one can try to get a couple more mph. out of it, too. I recall talking to Paz during the above mentioned dinner at the '83 EAA Convention about the possibility of reflexing the ailerons up a few degrees to help get rid of that draggy cusp in the airfoil trailing edge. (Yes, I know it really helps the low speed end of things and gives some really positive stability to the pitch forces in the flare. But it sure is a drag producer when you want to go fast.) Anyway, this is an easy thing to do, by merely shortening up the aileron linkage at the aileron by one or two turns at a time on the rod end. Bear in mind this will effect trim forces somewhat, similar to the difference between having the flaps up or down by a few degrees. Might increase the stall speed a bit too, but it should be a very small amount, like one mph or so. It also should make the ailerons a bit more responsive through the stall. In other words, the effects should be loosely similar to that of washout in the wing. But it should help out by around 3 mph at cruise.

One more minor detail that should help a bit is gap seals in all the control surface hinge lines. No, I haven't gotten around to trying it yet. But this is standard procedure for almost all sailplanes, and it helps glide performance by several percent. Sealing up all the gaps - aileron, flaps, stabilator/antiservo tab, and rudder (rudder seal probably won't have much effect) should help out by another 3 mph or so, maybe even a bit more. These cleanups should be pretty easy to do, and a cumulative 6 - 7 mph is a pretty nice return. Just make darn sure you don't use anything that might come loose, jam controls, or anything of the sort when you experiment with gap seals. Such an occurrence could ruin your whole day. Have I tried them yet? Well, you know how it is about getting around to it. No, not yet. But if the weather stays like this later in the week when I get another day off, I'm going to start experimenting a bit with the above ideas. Expect a report in the next newsletter, along with some numbers on one of the first PL's built, that of **HAROLD PIO.**

WARBIRD DEPT: Here's your chance to own your very own homebuilt warbird! Well, these aren't exactly homebuilt, but they're definitely warbirds, in that they were used as military trainers by several nations. According to the Spring '75 PL Newsletter (Issue #47), at that time there were 60 PL-1Bs in Taiwan, four in South Korea, and one each in South Vietnam, Indonesia, and Japan, each built by their respective governments or military services, as I understand. Some of these aircraft have since been declared surplus and have found their way to the U.S.A., and are up for sale. Last Nov. I received a letter from **JACK TETRICK**, who purchased one of these PL-1Bs imported from Taiwan. He picked it up way back in March of '81 and had to reassemble it. It's strictly a VFR airplane, but has the Lyc. O-320 for power. The numbers work out about as one would expect for an airframe with no appreciable cleanup - gear fairings, etc.

(am I correct in that assumption, Jack?) - he gets 113 knots (130 mph.) at 65%. However, it is a great short field performer - very short takeoff roll and a great climb rate, which is pretty much what you would expect for less than ten lbs./hp. power loading. The aircraft is licensed in the experimental/exhibition category, which theoretically has some additional limitations over and above the amateur built category, at least in the USA. It seems to depend to a great extent on the district office which initially issues the airworthiness certificate and operating limitations, and even the individual official who does the work. Anyway, it looks as though it is entirely possible to legally fly a Taiwanese PL-1B here in the USA after all. At least one person has been doing it for four years now! Put those Taiwanese insignia back on it, Jack, and bring it out to the EAA Convention this year - I'd love to see it parked in with the P-51s and etc.

SHOW AND TELL DEPT: I didn't have room for all the pictures I've received from you builders out there in the last issue, so I'll continue where I left off with some pics from **BOB BRADLEY** of Marblehead, MA. The pictures on pp. 9-11 are of Bob's project (and workshop!). P. 9, top, shows Bob's 20'x30' hangar/workshop in his backyard. The roof is Monsanto #602 plastic, which he says holds up fine - two layers of 6 mil. each have held up 14 inches of wet snow for four y ears! Don't ask him about the six previous roofs of polyethylene or whatever he used before he found this stuff! And the lady in the left picture is of course Bob's wife.

P.9, bottom: You all recognize PL-1/-2 tip tanks, I know - but these are a bit different, since they hold 17.5 U.S. gallons each! Thinking of a round the world flight?

P.10: Note that there are some chordwise gaps in Bob's wings. Quote: "The ten ft. of each outboard wing panel is removeable. Used to say they 'came off' but that shocked people into thinking they would **fall** off! (Careful what you say about your project, guys). Both wing joints total 38 lbs., designed for 12 gs."

P.11: Here we have a couple more shots of Bob's workshop, and a shot each of his panel and engine. I'll quote from Bob's letter again: "Note vertical, shockmounted gyro central panel. Gear includes a NAV-25 loran-C and vertical antenna; radio is a Genave 200B. Compass is remote. Hydraulic flaps; Seven pumps of the handle = 37 degrees. Flaps are rigged so that at 37 degrees an alarm sounds and flaps retract back to 35 degrees max. (I never use all those flaps either! - Ed.) Normal return is with a switch on the panel and a solenoid valve; there is also a manual valve in case of electrical failure. The back side of the flap hydraulic cylinder has a small accumulator (20 psi) for automatic flap retraction when on the ground. The engine (Continental O-200) has no vacuum drive, so the vacuum source is from a 3" venturi installed under the left cylinder bank and taking in ram air through the front of the cowling." (More on that next month when I have room for more of Bob's pictures). Thanks very, very much, Bob, for the nice long letter and pictures of your progress. Sorry it took me so long to get them out to others so they can see how your project is going.

Last, but certainly not least, are a couple pictures of the

PL-4 for you to admire. (See back page.) On the left is **Colin Faulkner's** Cont. 65 powered PL-4. Colin hails from New Zealand, so for those of you on other continents, you may be a bit hard pressed to take a close look at Colin's airplane. The right pic is of **Wade Thomas'** PL-4, along with the PL-4 of an unnamed friend. These two aircraft live in Granada Hills, CA in the USA. Wade's has a 65 Cont., while the other has an 85 Cont.

CLASSIFIEDS

The **CLASSIFIED** section is a **free service** to **all subscribers** to the PL Newsletter. Just let me know if you have something to buy/sell/swap/etc. and I will insert an ad for **one** issue. If you wish your ad to appear in later issues, drop me a line and I'll continue running it as long as you keep after me to run it. By the way, it was pointed out to me (and rightly so!) that I cannot judge the quality of aircraft or parts advertised here from pictures or descriptions, and what might appear to me to be a great deal or a super aircraft may turn out to be just so much junk. In other words, **caveat emptor - let the buyer beware.**

AUSBY ALESHIRE, builder of serial #16, has regretfully placed his project up for sale. Mr. Aleshire has contracted a rather serious eye problem and it is doubtful that he can hold a medical certificate. His project consists of fuselage and vert. surfaces (completed), O-290D2 Lycoming w/spare cylinder, overhauled, engine mount, wing spar, landing gear, Cleveland wheels & brakes, all wing parts, stabilator parts, aileron & flap parts, prop, rudder pedals, control stick parts, fuel tanks, windshield & canopy frame, all plexiglas, all fiberglass parts, and trim control parts - all of the above are completed. He also has all instruments (new and used), all necessary aluminum tubing, hardware, gascolator, fuel selector, sheet metal and rivets, and probably some other odds and ends I missed. Mr. Aleshire is an A&P Mechanic with Eastern Airlines, by the way. This project is to be sold complete - no parting out. Price is $8000 firm. Contact Mr. Aleshire at 1998 Mayflower Drive, Woodbridge, VA 22192. Phone (703)491-6067. By the way, an abbreviated version of this ad is in the March issue of EAA's **Sport Aviation.**

PETE KARMOUCHE is making up a complete set of molds for complete wheel pants and gear strut fairings for his PL-2 (also applicable to the PL-1, of course). Pete is going all the way with a full set of female molds and is planning on making and selling additional sets for any and all PLers who may be interested. And by the way, Pete's venture has the approval of Paz himself. As Pete pointed out, there seems to be no one out there who is selling a truly complete set of pants and fairings for all three gear legs for the PL-1 and -2. I have the plans for the gear fairings from Paz, and was planning on making up a set when I "get around to it" (i.e., probably sometime after the turn of the century). Pete, if you want to go through all that work for me, please put me up high on your list of customers. After seeing the pictures of your project at last year's EAA Convention, I'm sure the quality will be outstanding. If any of the rest of you

are interested, contact Pete at 9 Cranfield Ave., San Carlos, CA 94070. As of this newsletter, Pete didn't have prices worked out yet, but contact him if you're interested so he can get some idea of production numbers and can set up a price schedule.

LEE CONLAN of Homebuilders Aircraft Associates passed along a parts price list which covers one side of a standard sheet of paper. They specialize in all the fiberglass and plexiglass parts necessary for the completion of the PL-1/-2, as well as a few PL-4 goodies. But I didn't see any landing gear fairings listed! Contact Lee at 7858 Arnett St., Downey, CA 90241 for a list.

GUY WAYMEN is looking for a couple of pieces of .080"x5.5"x144" 2024-T3 for his project. If you can help him out, drop him a line at 13327 95th St., Edmonton, Alberta, Canada T5E 3Y3.

U.S. INDUSTRIAL TOOL & SUPPLY CO. was kind enough to put me on their mailing list (to some computers out there I seem to have become the "Pazmany Aircraft Co."). They turn out a 72 p. catalog, and having glanced at it, I believe I can safely say that if you have one of everything in their catalog you will have no trouble building a PL-2, or anything up to a B-52, for that matter. Your main problem would be finding the money to pay for it all. But it sure is a neat catalog! If you want one, give them a call (toll free) at (800)521-4800 in the U.S., or (313)272-4545 for those of you outside the U.S. Mailing address is 13541 Auburn, Detroit, MI 48223.

EASTERN AERO MARINE sent along a catalog of all their life vests, life rafts, survival kits, and etc. For those of you who are planning on enlarging your PL-1 or -2 to carry more than two persons, they offer life rafts all the way up to 46 persons. Something tells me that most of their gear might not be suitable to our needs, but if you want a catalog, contact them at 3850 N.W. 25th St., Miami, FL 33142.

REAL GASKET CORP. has come out with valve cover gaskets for Lycomings and are working on Continentals which they claim are reuseable and are "designed for full TBO." They claim not to need any sealants or cements in their installation. Sounds great if it works, but I can't help thinking that Continental and Lycoming supposedly design all their engine parts for full TBO also, but a sizeable percentage don't make it. But who knows, perhaps these people are on to something. For more info write them at PO Box 14852, Portland, OR 97214.

Well, that about wraps it up for this one. I was going to call this the "winter" issue (previous one was fall '84) but here it is, three days till the first day of spring as I write this. Next issue should be a little quicker to get out, now that I have a bit more time. We'll continue with more PL-1/2 speed reports, the latest word on my mods to our own PL-2, and more on Bob Bradley's (and perhaps other) project(s). Keep up the good work!

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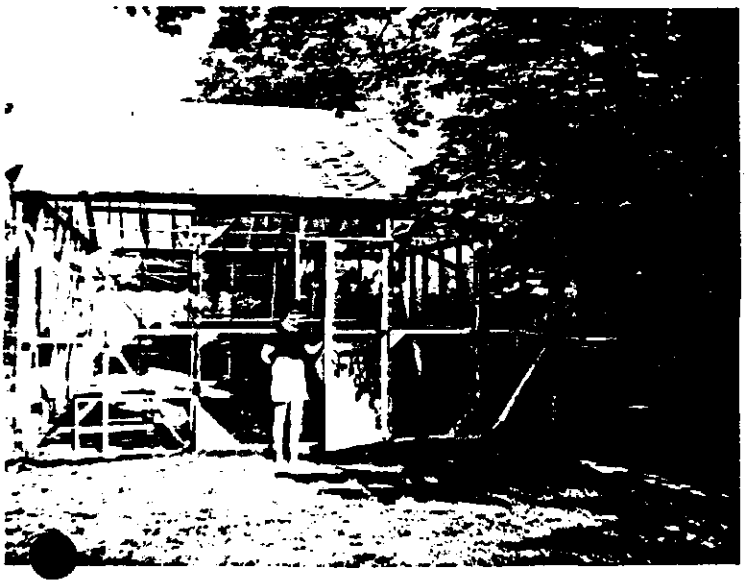

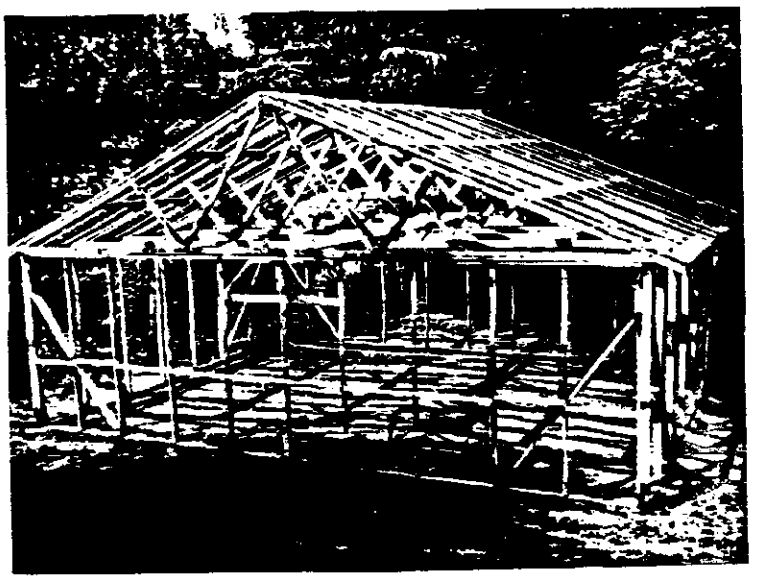

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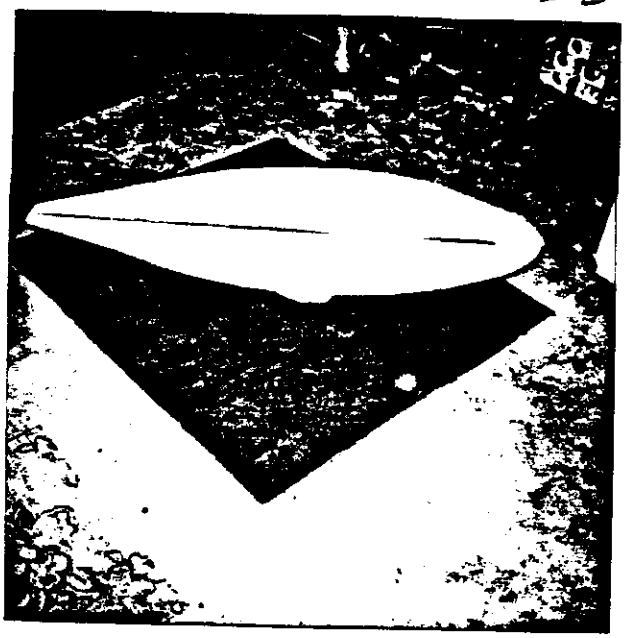

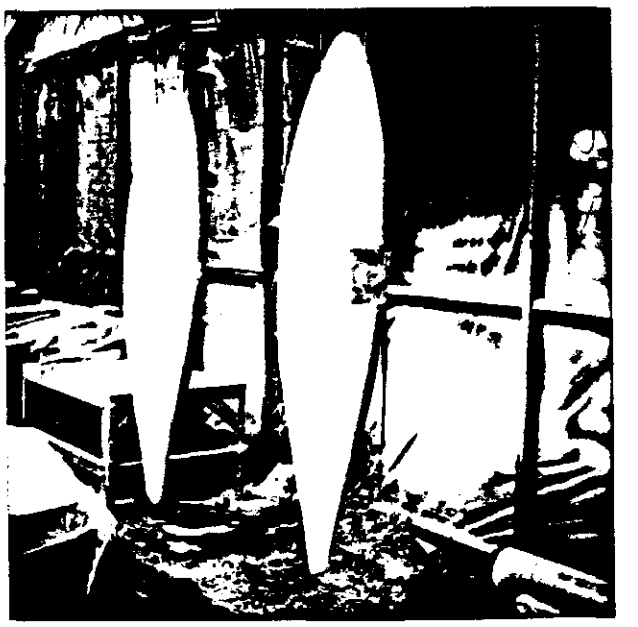

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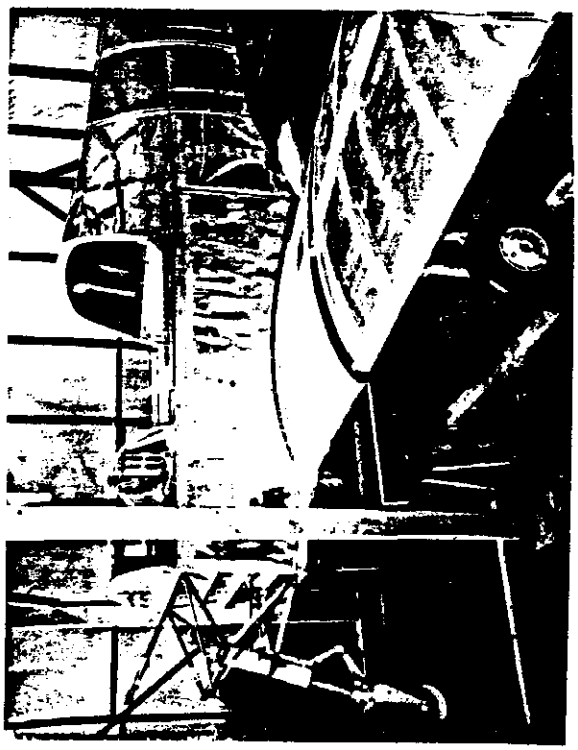

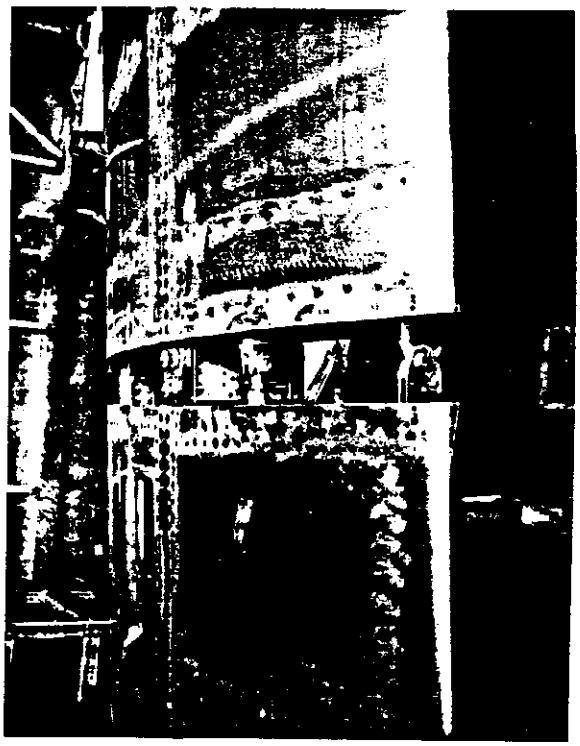

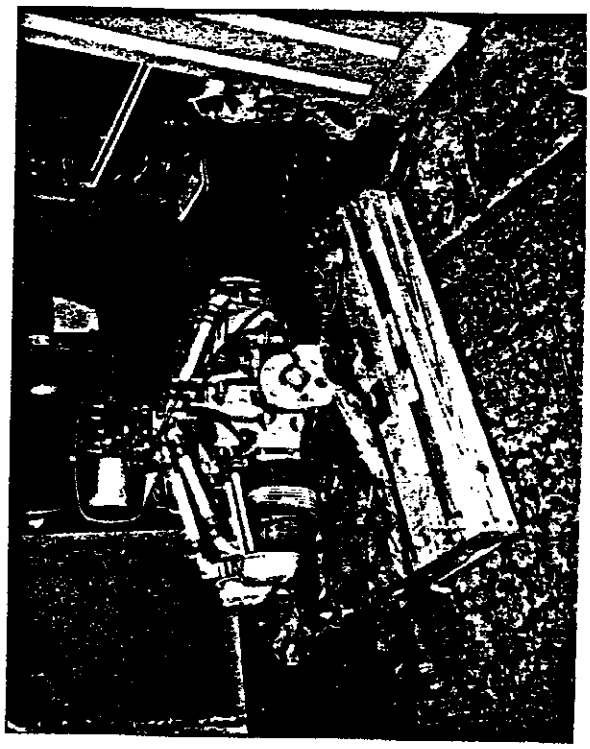

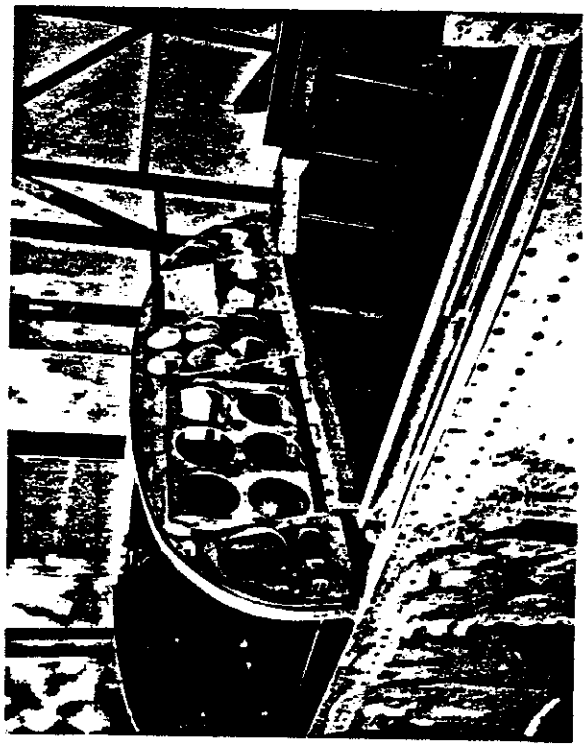

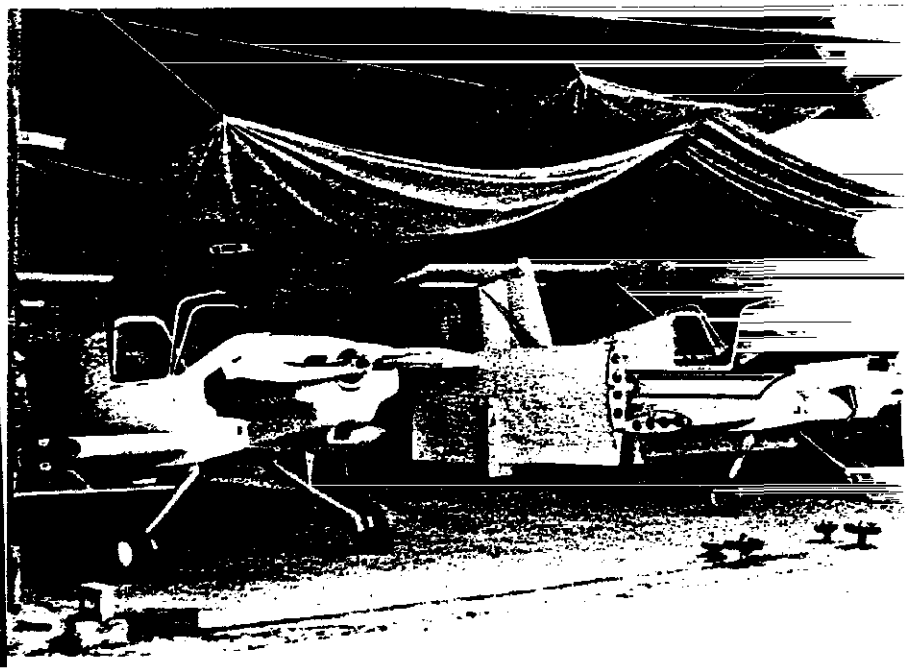

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Your last issue is #N/A