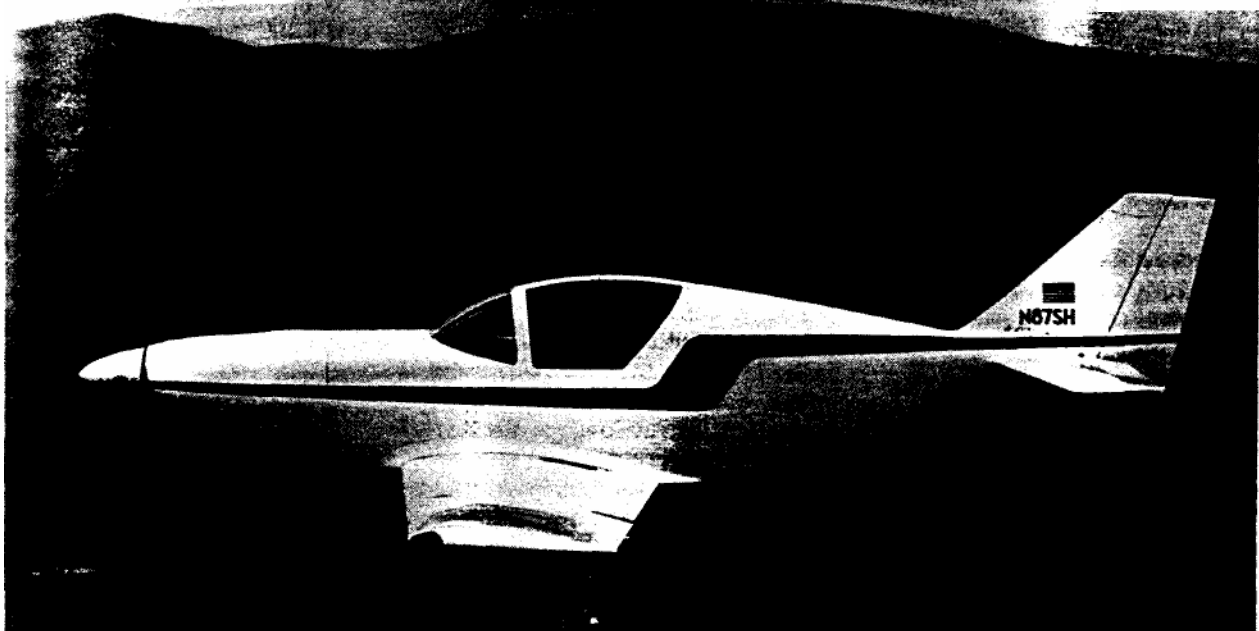


GLASAIR News

Newsletter No. 7

Fourth Quarter, 1982



"... like a glass bullet on the way to someplace else."

-Budd Davidsson
Air Progress, November 1982

RETRACT PROTOTYPE UPDATE (87SH)

We have "finally" completed the inboard main gear doors on the retract and they are working flawlessly. The oleo gear make landings so easy even 150 pilots would have no trouble. Everybody that has flown the plane has loved it. It taxis super and landings and take offs are a breeze. With the gear up the plane just looks exquisite, particularly when you pull up in formation next to it. At first we felt the plane would look stooily on the gear or look like a retrofit when sitting on the ground, but with the gear doors installed it looks like the plane was made from the beginning in this configuration. There's something appealing about the new Glasair RG, it has the look of sophistication.

The new trigrar installation is about 27 pounds heavier than the taildragger and the constant speed

propeller added about 38 pounds. Empty weight for the retract turned out to be 1,007 pounds. Its gross weight will be set at 1,600 pounds.

While flight testing the retract we took the plane up to 150 mph with the gear down and proceeded to slip the plane in both directions. We found no problems with the gear doors either closing, flexing, or fluttering due to the air loads. After flight testing, being satisfied with our results, we decided to set the gear down speed at 135 mph to give a good margin of safety. Initial flight testing at 205 mph indicated airspeed with the gear retracted proved very interesting. We wanted to get a close look at the gear doors in flight so 89SH was used in tight formation. Just as expected there were gaps all around the doors that needed to be fixed either by recontouring the doors or by tightening up the retract linkages. It's amazing how much negative pressure there is pulling the doors open. These forces are also

compounded on the nose gear door by the cowl pressure inside. The nose gear door was sticking down 3/4" at the front and there were gaps of up to 3/8" on the main gear doors.

During flight testing stages there have been many obstacles to overcome such as gear doors not fitting properly, loose linkages, canopies not fitting flush, etc. There are still some cleanups that need to be done at this time and we hope to achieve a cruise speed of 235 mph true at 8,000 feet. Right now we have attained a cruise speed of 231 mph at 8,000 feet pressure altitude. Further cleanups include the elevator counterweights, spinner fit-up, taping the "gaps", tightening the doors, etc. The elevator counterweights actually mismatch the stabilizer by 1/4" at 200 mph. We were somewhat disappointed with our initial 231 mph cruise however the above cleanups should give us what we're looking for. Brien Seeley in his Mooney has claimed a 3 to 4 mph increase by just tightening the gear

doors so there is hope. One thing that has been very encouraging is our fuel consumption rates. The fuel consumption figures given below are at 8,000 feet pressure altitude. Better performance can be expected at higher altitudes.

AIR SPEED (MPH)	GAL/Hr	MPG	RPM
231	10.0	23.1	2750
225	9.2	24.5	2700
216	8.0	27	2400
210	7.2	29.2	2300
200	6.2	32.3	2200

RETRACT KIT PRICING & DELIVERY

The price for the retractable tricycle gear kit is \$3,900.00 and by returning the taildragger parts the price is only \$3,630.00. The retract kit is very comprehensive including everything you will need to complete it. A complete parts list is enclosed. At this time there are two ways you can buy the retract kit. Either you can purchase the kit for \$3,900.00 with a \$300.00 deposit to hold a position on our production line or you can return your unused taildragger parts for a total possible credit of \$270.00 plus \$30.00 to make up the \$300.00 required deposit. If you cannot return all of the taildragger parts unused, credit will be less than \$270.00 and a balance higher than \$30.00 will be required. A 10% handling and restocking charge is required for the return of any taildragger parts. Refer to the enclosed fixed gear refund work sheet for further details on returned parts, credits, and deposits. The \$300.00 deposit is deductible from the total retract kit price making final payment \$3,600.00. Crating and shipping costs are not available at this time.

Production of the retract kit option is now in progress and delivery looks like it will be sometime in March of 1983. The first run of parts will be 74 ship sets. There are many variables that could affect delivery dates. Hopefully we will make the March '83 deadline. We have three associated machine shops and all will be going full tilt. There are

six lathes total including a chucker, turret, and tracer. There are three Bridgeport mills with one being numerically controlled. There is a large Lagun Republic mill with programming capabilities and digital readout on two axis and a German horizontal mill.

We are scheduling the delivery of retract kits to people that have already expressed an interest and people that are in a position to close their wings. Some people have already received kits in which they have wanted the taildragger parts left out with the taildragger parts valued at \$300.00 being a deposit for the retract.

RETRACT INSTRUCTIONS

The retract gear can be retrofitted to a completed wing, however it is easier to install the gear before the upper wing panels are bonded in place. The instructions for the retract are also in progress at this time. We will be mailing preliminary instructions to all who have ordered the retract kit. These preliminary instructions will tell what is to be deleted and added regarding the retract kit. They will be ready in about a month.

OSHKOSH '82

We flew to Oshkosh this year with three Glasairs, 89SH (the taildragger), 87SH (the retract), and 94RB. Roger and Bruce Hamilton (Tom's dad and brother) flew back in their Glasair 94RB along with the two factory planes. Their plane is nicely done and when the three planes landed at any airport across the country a crowd always appeared. An interesting highlight is that Roger and Bruce's airplane has the wing on it that was loaded for the static test of over nine G's. Because the wing was put together for the test with no controls inside, it proved to be quite a challenge installing them after the wing was closed. They managed, however, and the plane looks and flies fine considering that almost every part on the plane was a reject of some sort that they fixed. There were eight Glasairs at Oshkosh this year and to say the least we were tickled. They came from all over the country. There was unmistakable in-

dividuality in each plane with different interiors, instrument panels, trims, canopy seals and latches, modified cooling air exits, auto pilots, etc. Dieter Moenig's plane has a full IFR panel that was made to pivot so that all the instrumentation is readily accessible. Yves Grignon and Chuck Hooper had the nicest finishing gelcoat work. Chuck had all kinds of novel things on his plane. We think his fresh air vents were most unique. John Murphy completely upholstered his interior and claims it's 100% quieter. Johnny had a pretty airplane. Bob McCoy has to take the cake for getting his plane done just in time for the show. He hung a big sign on it back there, "still under construction". He had the most complete panel we've ever seen on a homebuilt. Perhaps the only thing that was missing was a storm scope. An RNAV, DME, HSI, and three axis autopilot with altitude intercept, VOR lock, DG lock, and glide slope tracking were just part of his panel. And believe it or not they all came in handy. When everybody else was trapped because of weather, down in Florida, Hob and Richard Porter flew the plane IFR up to Oshkosh. John Murphy, who also lives down in Florida, left a week or so early to attend another air show prior to Oshkosh, winning an award for his aircraft thereby missing the bad weather.

It seems we ended up with the "dead grass award" this year with the grass completely gone around the retract. It proved to be quite an attraction. We had a booth at Oshkosh this year for the first time and that worked out well for showing parts, manuals, displays, question answering, etc.

The Glasairs there this year consumed pretty much one whole row. When we do get closer to next year's convention let us know if you're going to attend with your aircraft so that we can get an idea of how much space to reserve for Glasairs on the flight line.

We have found the dorm rooms at the university in Oshkosh quite adequate for our needs. With rain being an almost certainty, a nice roof over your head and decent food are hard to pass up. If you're contemplating staying at the dorms next year at Oshkosh get your reservation in now.

EDITORIAL COMMENT BY TOM HAMILTON

Both Ted Setzer and I flew demonstrations throughout the week at Oshkosh. It was tough to get enough flying in because of the weather and amount of time that is allocated to the war birds. It is hoped that there will be a scheduling change next year to allow more experimentals to take part demonstrating in the air show. This could include flybys of all one design, new designs demonstrated, etc. If one has seen the war birds demonstrate one day, it would be nice to see something new the next day instead of the same thing for the whole week. The same goes for the aerobatics. Why not allow more time to what the show is all about, experimental aircraft. Many people come to the show to make decisions regarding building a plane. These are important decisions regarding both time and money. My question is "how many come with the intention of buying a war bird where the prices range over \$300,000". Just the mere thought of fuel consumption per hour is beyond most

home-builders' comprehension. The quality of the time for flight operations could be enhanced appreciably by giving more of what the EAA person, in my opinion, wants to see. If you feel strongly about this issue, write a letter to Tom Poberezny expressing your opinion.

A FREQUENT QUESTION

Recently many people have asked us how the Glasair's performance is affected by rain or bugs on the leading edge of the wing. This is due to a recent problem that has arisen concerning another popular homebuilt design.

Based in probably the rainiest part of the U.S. our Glasairs are often encountering rain. We have found no appreciable effects except the slowing of a few miles an hour due to the increased drag. Other than that it's affected by rain in about the same way Piper or Cessna is; very little. We also note that invariably around here, especially toward the evenings, we end up with a good load of bugs on the leading edge and we have a hard time even noticing their effect. It can

also be noted that one builder flew his airplane and didn't even have the leading edge faired in after laminating it and said it flew fine.

NEW FACILITIES

We've finally finished moving. It's simply amazing how much a little company can accumulate in a few years. Most of the material is in the category of "maybe we'll use that some day". Anyway, we're pleased with the new place and we welcome all to come by on Saturdays and say, "Hi!". The new address is 18701 - 58th Avenue, N.E., Arlington, Washington 98223 and the phone number 206/435-8533. If you're flying in and plan on staying overnight there is a motel two miles away. If you want to come with sleeping bags, we've got a place to bunk and a shower to use. We often times also have overnight hanger space. The airfields are beautiful. Of course anything is better than where we were. We are located on the Arlington Airport, which is an old military airfield with two active runways around 5,000 feet long. The field is uncontrolled, has lights, and they're also working on an instrument approach. The Unicom is 122.7. We are situated on the east side of the north south runway, towards the north end.

PRODUCTION SCHEDULES

Production is again in full swing and deliveries are being made on time. We've reduced our backlog to a reasonable level with delivery times being about 4 months from receipt of order.

DUAL INSTRUCTION

The dual instruction that we provide is working out well. We continue to encourage all to take advantage of this service as long as you comply with the ground rules that have been stated in previous newsletters.

OWNERS MANUAL

The owner's manual is finally complete and is available for \$7.00 which includes postage. It's broken down into ten sections and put into a nice

blue six by eight inch binder. The sections are as follows with a brief description of each section:

1) **Introduction** - foreward. table of contents, etc.

2) **General Info** - this includes items such as complete specs, performance data (both solo and gross) including distances required for landing and take off with and without a 50 foot obstacle. Engine systems, fuel systems, control systems, electrical, etc., are also described.

3) **Weight and Balance** - all calculations are explained with sample calculations given for typical loading conditions.

4) **Normal Operations** - preflight checklists, start up, run up, taxiing, takeoffs, stalls, cruise, fuel consumption, descents, approaches, landings, and shutdown.

5) **Emergency Procedures** - fire. engine failure on take off and in flight, emergency approach and landing, etc.

6) **Operating Limitations** - flight envelope speed limitations, aerobatics, etc.

7) **Initial Systems Checkout** - control movements, main gear, canopies, fuel system, engine and propeller, instrumentation, counterweights, and stall strips.

8) **Flight Test Procedures** - pilot experience, ground test, low and high speed taxi, first flight, envelope expansion, first landing.

9) **Maintenance/Inspection** - composite, plexiglass/time between inspections.

10) **FAA Record Requirements**

NEW ITEMS

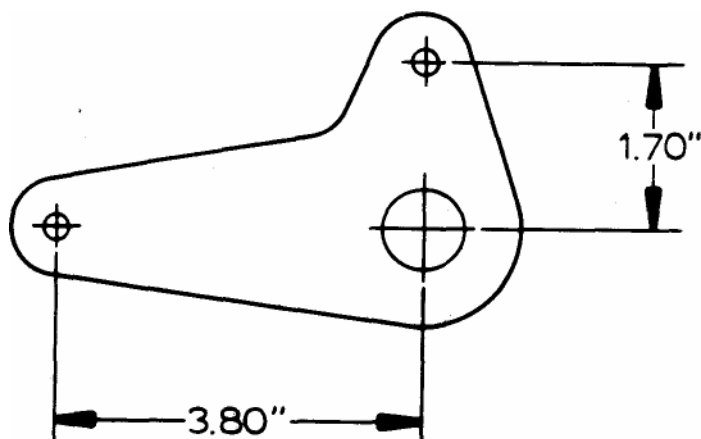
1) **ENGINE MOUNTS** Engine mount tooling for the type 2 dynafocal mount that can accommodate the injected engines is now being completed. It allows those who want to use the twin Comanche engines to do so. Cost of the type 2 dynafocal injected mount is \$20.00 additional due to increased production costs. They will be available beginning January, 1983. If you are interested in this style of mount please contact us for more information.

2) **NEW CARB BOX** We have put together a new carb heat box arrangement which is much easier to install. The new carb heat box has solved the engine roughness problems that we

have experienced using the old carb heat box. Even with the vains in the old carb box there appeared to be a slight roughness every once in awhile depending on carb models. This new box seems to have solved the problem. It is presently on the retract and 94RB, Roger and Bruce's plane, and it works beautifully. The carb heat box is mounted to the bottom of the carburetor instead of on the cowl-ing. This makes it much easier to remove your lower cowling. You don't have to remove the carb heat cable or tube that goes to the heat muff. This box will be standard for all kits that we put out from now on and can be purchased as an option at \$20.00 which is our cost for manufacture.

3) AILERON BELLCRANK CHANGE In an attempt to further harmonize the aileron stick pressure with the elevator pressure we changed the length of one of the arms on the aileron bellcrank on the retract. This would hopefully give more of a mechanical advantage at the control stick and only slightly reduce the roll rate.

To our pleasure the ailerons ended up being delightfully better. This change is best done by shortening the arm of the bellcrank to 1.7" as shown in the figure below. This change will be further described in Revision E.



UPCOMING MANUAL REVISION E

A routine revision to the instruction manuals will be published sometime around the first of 1983 with changes regarding the aileron bellcranks, carb heat box, rudder bellcrank, etc.

MISCELLANEOUS ITEMS

Please Note: There was a misprint on our last order form for optional packages. The sliding canopy hardware kit was listed at I55.00; the actual price is \$115.00. We apologize for any inconvenience this may have caused you.

We continually get asked from prospective Glasair builders for the names and addresses of those currently building a Glasair kit in their local area. People are usually looking for first hand information from builders themselves as well as actually visiting local builders to see the kit and their progress. At the present time we are giving this information out when asked, names and addresses only, but for **any** reason you would rather us refrain from including your name in local builder lists, please notify us and we will drop your name from our lists. At this time, we would like to take the opportunity to thank all of you who have literally become Glasair Sales Reps. You have sold countless kits for us. Thank you very much!

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