

Express Press

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What an Airplane!!!

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It was one of those beautiful Central Oregon Mornings and we had to get some hours flown off the 300EX (10 to be exact) so that we could utilize the Speed Brakes and Cargo Pod in normal flight conditions cross-country. Even though this is experimental territory, there are certain things the FAA requires of Kitplane manufacturers when they add certain features to their kit, either as options or standard equipment.

Spring was on its way (having just officially been christened via the Spring equinox) and the sun was shining brightly off the huge snow pack on the Cascades. It had been a fierce winter here in Central Oregon and had kept us pretty much grounded a lot of the time, but now it seemed all worth while. To me the distinct changes in seasons are so wonderful, the "purging effect" seems to permeate your whole thinking. You guys that are used to this have to allow me some latitude here. After all, I did spend 40 of my years in Southern California where shades of brown is all you can ever hope for.

Anyway, after turning that LYC IO-540 over (and it does start nicely), I waited until oil temperature got up to about 150 degrees before I started to taxi. Calling flight service here at Redmond is pretty standard. (Yes, there are some surviving FSS stations around, but I have to admit I get tired of them calling us the "Wheeler" *Express*). Run-up done, and 20 degrees of flaps and I was off and rolling on runway 22. After sucking-up the flaps, I made a banked turn over the terminal by Lance Neibauer's window to give him a good look, (his Lexus was parked in his parking lot) and headed for the Three Sisters (part of the Cascade Mountain Range) climbing at 2500 FPM indicating 120 MPH. The boundaries of the area that was designated to our test flying

is within an approximate radius of 25 NM of Redmond. There is a lot of pretty territory within that area, so I started off doing a close looped course between the north and south boundaries, flying straight and level, 7500 ft. going south and 8500 ft. going north. We did not want to get too much speed on the pod right off the bat, so I settled in at 22/2200 squared and indicated 160 on the dial. This was a true of about 180 with a fuel flow of 9 GPH.

After an hour or so of straight and level, I was aching to try some short-field stuff at some out of the way field where nobody existed. Those kinds of fields in Central Oregon are not that hard to find so I set my sights on Madras (an old WW II airbase of B-17's) and settled in on downwind after letting Aces' son drag his Stearman off the runway and head for his dump site. (Remind me to tell you about "Ace" Deamers, the only man I know oftshoot down his own airplane). Well, after I had made one short-field landing utilizing the brakes a little more than I wanted, (those Cleavelands are "real" brakes), I taxied-off and returned for take-off. I noticed that someone was stirring around a Citabria as I taxied by the fuel pumps, but I didn't think much of it at the time.

My short-field take-off amounted to a fairly short run with 20 degrees flaps, full power, and rotation speed of approximately 75IAS. The field elevation is 2414 and it didn't take me long to get 3200 ft. As a matter of fact, I found that with even turning cross-wind mid-field, I had to pull the power back to 20° before I got established on downwind or I would blowright by traffic pattern altitude. Setting 10 degrees flaps at the key position (45 degrees from the numbers) and 20 degrees on base, gave me good control with 12" and 100 IAS on

(Continued on Page 3)

CONTENTS:

| | |
|------------------------------------|---|
| Tech Notes..... | 2 |
| Pilot's Operating Handbook..... | 3 |
| Options Catalog..... | 4 |
| Volunteer Update..... | 4 |
| Tell Your Friends..... | 5 |
| Training Program..... | 5 |
| Builders Take To Wing..... | 6 |

Notes From Our Tech Director

And They Call The New Express "Moriah"

The new *Express* retractable has been designated as the Moriah and will hereafter be referred to as the *Express Moriah*. We have completed preliminary design of the main gear. Also, the nose wheel retract is in the works at this time.

Before we commenced with the completion of Moriah, we carefully reviewed the various attempts of W.T.I. to design the R.G. Express. *Express Design* has decided to design and manufacture the Moriah gear in such a way that allows it to be installed into the fixed gear airframe, thereby vastly improving the manufacturing capability of the airframe.

Engine Systems

Over the years the *Express* has meant many things to many people. However, from the first day, the *Express* has been a very versatile aircraft and *Express Design* intends to continue to make it the most versatile kit plane available. Few, if any, kit planes will have the engine choices available that the *Express* has. Think about it....from 160-200HP 4 cyl. Lycomings; 235-260HP 6cyl. Lycomings; 210HP IO-360 Continental and now, the new 280 hp IO-550 Continental engines.

The new TCM IO-550 promises to be a very clean installation in the *Express*. The new *Express* IO-550 is designed especially for kitplane installation with top mounted forward facing induction system, as well as top forward facing mags that are a joy to service. The starter and alternator are very compact and the oil cooler is bolted directly to the engine. The engine is rated at 280HP at only 2500 RPM so it is very quiet even at take-off. The IO-550 will replace the Lyc IO-540 presently mocked up in our new R.G. Demo *Express*.

The new eight point universal engine mount is presently mounted to a Lyc IO-540 and it fits like a glove. Perhaps the best part of the new engine mount system is that it's generic, meaning, that with simple attachments, the universal engine mount system will accommodate both 4 and 6 cyl. Lyc engines with Dynafocal mounts (simple dynafocal mount rings attach to the basic engine mount frame). Continental engines may be mounted to the bed beam attachment on the universal engine frame structure. The universal mount structure also contains the

provisions for both retracted and fixed nosewheel mounts in addition to both Lyc and TCM engine adaptability. The universal engine mount structure lends itself to alternative engines.

When *Express Design* realized that additional engine mounts to firewall attach points were required, we considered designing individual engine mounts for each engine type and aircraft configuration. However, if you consider that 4 engine types need to be fitted to two airframe models, one could quickly see that eight different engine mounts would be needed. We realize that a universal engine mount system is unique....just like the *Express*.

Trim Systems

The elevator systems on the various *Express* aircraft currently being completed seem to have very little in common, with each builder sizing the trim tab(s) at will. We at E.D.I. are presently evaluating various trim systems and will shortly confirm our recommendation on the trim system.

N300EX

Our factory fixed gear demo has recently been fitted with Precise Speedbrakes and Wingtip Landing/Pulselite Systems.

The speedbrake eliminates the only bad *Express* flight condition. The *Express* simply is heck to slow down with out speedbrakes.

While I have flown many high performance single and multi engine aircraft with speedbrakes, none have benefitted as well as the *Express* from speedbrakes.

The new wing tip landing light utilizes very intense halogen lamps that really light the way and the Precise Flight pulselite system alternately pulses the light from side to side to give a spectacular anti-collision system in the crowded skies of today.

Cargo Rocket

N300EX is presently fitted with our new belly pod cargo system. The new cargo pod is over 3 ft wide by 5 ft long by 11" deep, with a large side door for loading and unloading. The 250 lb. capacity pod allows the C.G. to be moved forward, thereby allowing more aft cabin loading.

The cargo rocket quickly attaches and detaches at the owners's discretion, thereby further expanding the *Express* into a real workhorse.

While I have flown many high performance single and multi engine aircraft with speedbrakes, none have benefitted as well as the Express from speedbrakes.

What An Airplane! *(continued)*

(Continued from Page 1)

on the dial. Just before turn to final, I deployed the speed brakes and I was into a controlled descent at 90IAS and 700 FPM. On short final (1000 yards), I took the flaps all the way down to 30 degrees and settled in at 80IAS and 13". Over the numbers, power was off, IAS was 75 and in another 100 feet touchdown was firm at 60 IAS. Even though I was the only one in the aircraft and I probably only had 50 gallons of fuel on board, I still feel it was a pretty short landing. Well, I was going to be put to the test as I was soon to find out when I taxied back to take-off and the Citabria was ahead of me. The Citabria waited for the Stearman, which had come back for another load and was laboring off the runway again for another drop, then promptly moved down the runway, raised its tail as if in defiance, or challenge, and broke wind, err . . . ground that is. As I wanted for the Citabria to clear, I was that there were a few interested individuals that had climbed into the bleachers at this supposedly unpopulated airfield. Needless to say, the stage has been set and the contest was on. The Citabria then commenced to show all that were watching that were watching that it could drag itself over the stopway only to dump itself on the very edge of the runway and stop in a very short distance.

In my previous landing, I had been planning to stop well before the first turn-off, and had accomplished that feat without too much problem. I then set the last Vasi stanchion as my goal which was a good 100 yards before the first turn-off. My guess is that the first turn-off was approximately 400 yds from the end of the runway. Well from the looks of it the Citabria was landing well before the last Vasi stanchion. My next landing was a touchdown on the numbers with a stop before the last Vasi stanchion, but with more braking than I was comfortable with. The last landing I was to make was going to be my best shot. I waited for the Citabria to clear and establish itself downwind, midfield, and then I took off. After I rotated at 70IAS, turned crosswind behind the Citabria, climbed at 100IAS with flaps still deployed, turned downwind, quickly retarded the throttle, and retracted the flaps, I found myself overtaking the Citabria on the outside, climbing above him and passing the numbers before he had

got there. I extended by downwind and let the Citabria take the first shot. After he landed and took-off again I had turned on base, deployed 20 degrees flaps and had the speed brakes deployed. I went to school on the Citabria and drug the Express over the stopway to land at the edge of the runway.

I then came to a full stop, put the flaps u to the 20 degrees and retracted the speed brakes. I executed a short-field take-off at a rotation speed of 65IAS and guess what? I was off the runway BEFORE the first turn-off. Now, I don't know who won the contest, but would you like to try that in a Glasair or Lancair??? Better yet, maybe you short-field specialist in the Cessna 180's, Maules, or whatever would like to have the cruise speed the Express does.

I went on to extol the virtues of the Express in other ways that day, but I'll save those for next time. All I gotta say is that for you that are old enough to remember, our "Thriller from Redmond" (versus Manila) is expressed similarly to Cassius Clay's (Mohammed Ali) great words as follows:

Fly like a butterfly

Sting like a bee

This is one heck of a an airplane

Don't you agree?

Pilot's Operating Handbook

Since we first mentioned the POH back in December, we have been through three iterations of the document. Mr. Ed Watson out of San Diego has been offering his assistance. He has been a tremendous source in laying out the format of the handbook. One of the areas that has been discussed most is the weight and balance section. We have been conducting flight testing on various CG limits and hope to have this information completed and the handbook printed by Sun N' Fun.

Now I don't know who won the contest, but would you like to try that in a Glasair or Lancair???

New Options Catalog

Our new options catalog will be available at Sun N'Fun and will be ready to ship from the factory by the end of April. To give you a few teasers, we have listed a few prop prices below:

Our new options catalog will be available at Sun N' Fun and will be ready to ship from the factory by the end of April.

| PROP MFG | ENGINE | #BLADES | \$(FOB FACT) |
|----------|--------------|---------|--------------|
| McCauley | TCM IO-360ES | 2 | 4,410.00 |
| McCauley | TCM IO-360ES | 3 | 5,800.00 * |
| McCauley | LYC IO-540 | 3 | 5,800.00 * |
| Hartzell | LYC IO-540 | 2 | 6,656.00 |
| Hartzell | LYC IO-540 | 3 | 8,045.00 |
| Hartzell | LYC IO-360 | 2 | 5,981.00 |
| Hartzell | TCM IO-360ES | 2 | 5,225.00 |
| Hartzell | TCM IO-360ES | 3 | 7,296.00 |
| MT | LYC IO-540 | 3 | 6,900.00 |
| MT | LYC IO-360 | 3 | 6,900.00 |
| MT | TCM IO-360 | 3 | 6,900.00 |

*** In final evaluation stage**

Spinners and governors will be listed in the options catalog.

Another item in the options catalog that should be on everyone's list is the custom *Express* canopy cover provided by the people that make them for everybody from the military to 747's to Lear's. If you come to Sun N'Fun, you will see it on the 300EX.

Price (FOB factory).....\$280.00.

More On Volunteers!

To bring you up-to-date on the volunteer action we have had in the last few months, here is the honor roll:

- 1) Kirke Watkins came up from Florida to help with the windshield and window installation.
- 2) Ray Hoyt came out of the snow at Tahoe and walked into the snow in Redmond and was also a great help on windows and control surfaces.
- 3) Bill Copeland took 10 days off and came out of the warm California environment (even though it wasn't that warm for California) and came up to Redmond to see what the white stuff was all about. Bill single-handedly installed landing lights and speedbrakes (leastwise on the left side of the aircraft). Before he left, he was successful in finding a way to eliminate 3 or 4 days of work by utilizing some templates and jigs that he had made.

In the last few months, we have also received some *Express* Builder visitors that were happy to see the progress we are making and they are;

- 1) Edmond Maudiere (France)
- 2) Dennis Kaas (Georgia)
- 3) George Carhart (Tennessee/Florida)
- 4) Jerry Sjostrand (California)
- 5) Glen Farley (Ohio)
- 6) Mike Nackerman (Ohio)

The honor roll of volunteers continues to grow as Express receives help from builders from Coast-To-Coast.

Tell Your Friends!

We are offering a 10% discount on complete kits starting now until the end of the Sun N'Fun Show (April 24, 1993). There will also be a discounted pricing schedule for those existing builders who still need to complete their aircraft with final parts kits.

Latest Production Schedule

Production of completed kits and/or composite parts is proceeding slower than we would like, nevertheless, we will have complete kits to sell and ship at the show and have been shipping kits 4 & 5 from the factory beginning this month.

Home Built Stability Woes

Have you seen the Aviation Consumer article in the March 1 & 15 issue? The article deals with the lack of inherent stability in some of the kit planes available on the market today. There are some valid issues raised, which should be viewed carefully. Without expressing opinions any further, this article should be read by everyone acquainted and/or interested in the home built market. The extensive engineering that went

into the design of the *Express* early on, has, and will keep the *Express* in a different category of the home built market. Mike is working on a complete weight and balance analysis which will be graphically illustrated at Sun N'Fun.

Sun N' Fun Plans

Come one---come all---to EDI's first major showing on the airshow circuit. We will have lots of goodies to show and talk about. Not only will we have T-shirts and hats; speedbrakes and landing lights; option catalogs, etc., but a brand new demonstrator will be there (The *Express* Loadmaster 3200 - LM 3200) with a knockout paint job, new interior, optional seating and our fantastic cargo pod. We will also have a static display of the drop-in instrument panel which we have been talking about, complete with Terra radios.

The instruments shown on the instrument panel will all be etched with the *Express* name for added pizzaz!

The extensive engineering that went into the design of the Express early on, has, and will keep the Express in a different category of the home built market.

Express Training Program

EDI is pleased to announce the formation of a training program for *Express* builders. It is our intention to provide a program syllabus involving instruction over a 20 hour period. Instruction will take place within the builder's geographical area and will involve a detailed program to not only highlight general aviation safety practices, but to address the specific flight characteristics of the *Express*.

This program will be headed by our newly hired sales/training person, Mr. Tom Casey. Tom is a CFI & CFII and has extensive credentials relating to flying a variety of aircraft over the last 25 years. In 1991 he completed the first ever flight around the world on straight floats. Tom will be at Sun N'Fun to introduce himself and explain the training program in more detail. We will also have a separate flyer going out to all builders explaining the program.

It is our intention to provide a program syllabus involving flight instruction over a 20-hour period

See You At
Sun N' Fun
April 24, 1993

Builders Take-To-Wing

I was present at the inaugural flight of 55EX (Ed, it sure does look like ssssex!) last month at the Medford Airport. Needless to say, Mr. Ed Bernard is one happy *Express* owner. After taking him up in the 300EX and doing some turns, slow flight, and some landings, he became somewhat comfortable. His first flight was uneventful, but very exciting. He departed Medford and flew to the practice area, keeping full power on his newly overhauled engine. He said after about 20-30 minutes, he saw the cylinder head temp and oil temp go down and level off at normal ranges. (Good sign of ring-seat). Ed mentioned that the flight controls were firm, but docile and he immediately felt comfortable with the ease in operating the aircraft. He will have much more to say at Sun N'Fun, so don't miss him!

I also received a faxed report that Martin Jeanette and Ufe Gerstman have been flying their *Express* and as of two weeks ago had approximately 12 hours of time on their new bird. Ufe mentioned some overheating problems and I understand he has gone to a 9-pass oil cooler and has done some cowl flap redesign to alleviate the overheating problem.

The Linn brothers of Culpepper, VA had been awaiting final FAA inspections as of two weeks ago. They are planning to have their plane at Sun N'Fun.

There are many builders approaching completion and will have their planes ready for Oshkosh. Hardy Huber of Novato, CA is fast approaching completion and will be looking forward to flying around the continental US for a year or so before going back to Germany with his *Express*.

COMING NEXT MONTH

For those of you will not be at Sun N' Fun, next month's newsletter will have a complete run-down on the *Express* LM-3200. This "option package" will explain the 3200lb. gross weight increase which is coupled with the use of the big engine (IO-540, IO-550) and other package components. Also, there will be a discussion of EDI's attempt at "Made in USA" which is our approach at deficit reduction in accordance with both the present administration and Rush Limbaugh.

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6

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Don't Miss Sun N' Fun - April 24