

Express

LINK

NEWSLETTER

July, 2002 - No. 27



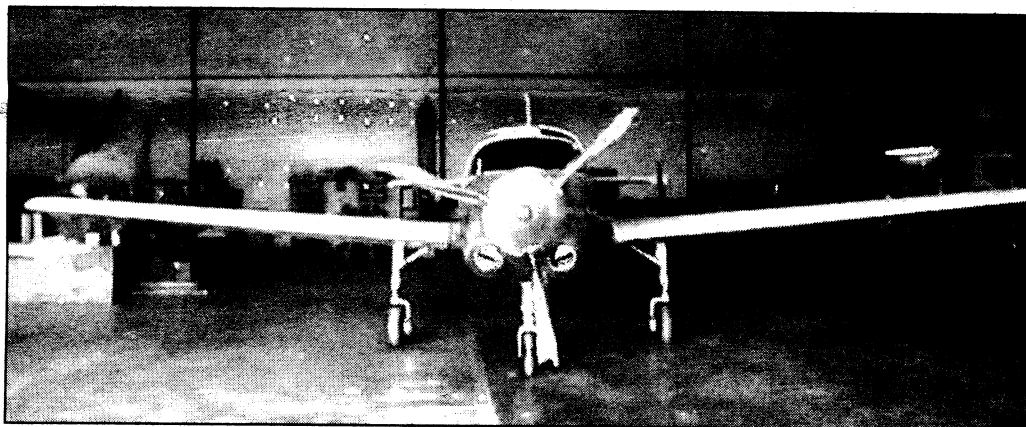
Retract Roll Out!

Long Awaited, Much Heralded Prototype Sees The Light Of Day

Olympia, WA July 3, 2002 - From Factory Sources

As if celebrating it's "independence", the prototype *EXPRESS* RG was "rolled out" of the factory hangar in Olympia, WA, the day before the fourth of July.

Here is what it looked like.



Above: The *EXPRESS* RG ready to begin final finish phase, to be followed by flight testing. Note unusual size and location of induction air scoops— what's up with that??
All photos courtesy of Larry Olson

While there is obviously considerable finish work to be completed. Larry Olson, company President, predicted that the first engine start will occur just prior to the start of Air Adventure 2002. Olson said that he was disappointed that the airplane will not be ready for display at the Oshkosh event this year, but the most important consideration is for the safety of the airplane and pilot(s). Noting that this airframe and engine combination is not just another cookie cutter Series 2000 model, Olson predicted an extensive test flight series to fully explore the characteristics, behavior, safety and reliability of the prototype.

In addition to a dramatic change in engine styles, considerable aerodynamic changes were made to the basic Series 2000 airframe including redesign of the airfoil on the inboard sections of the wing to accommodate the flush retraction of the main gear legs, and changes in the area of

(Continued on page 3)

Take a peek at:

Factory and Web Page Listing	2
Strings Too Short To Save	2
Corvette Power	4
Brakes Break.....	5
Miscellaneous	6
<i>EXPRESS</i> Stuff For Sale.....	7

VISIT THE *EXPRESS* FACTORY WEB SITE: WWW.express-aircraft.com



Factory Telephone And Fax Numbers

The current factory mailing address, shipping address, telephone and fax numbers are:

Mail: P.O. Box 236,

Olympia, WA 98507-0236

Shipping: 5845 193rd Ave., Bldg. 4
Rochester, WA 98579

Tele: (360)352-0560

Fax: (360)352-0553

E-mail: information@express-aircraft.com

Web page: www.express-aircraft.com

Larry Olson - President

Paul Fagerstrom - Executive Director

Gayle Gaston - Administrative Manager

Taylor Smith - Manufacturing Manager

Ted Gaston - Avionics Manager

Shannon Francisco - Assembly Manager

Strings Too Short To Save!

...real and unconfirmed news and rumors which may possibly be of interest to **EXPRESS** builders ...

... **Randy House** is a new builder who is located in Hughson, CA, near Modesto and the CBROS operation. Randy purchased his partially completed kit from a former builder located in the South East part of the country. Randy has visited LVK a couple of times already and has taken lots of pictures.



... Another new builder has surfaced in Fresno, CA. **Doug Shell** who lives and works at the Sierra Sky Park airport in Fresno, purchased the CT kit formerly owned by Jeff Miller. Doug is an experienced builder who has built and flies a very nice Velocity. Doug is already complaining about delays in getting parts from the factory.



... Brother **John** recently used the CBROS EXPRESS to treat his wife Jane to a trip that included stops in Lander, WY, Garden City, Kansas (for weather), Greenville, TX, Austin, TX, El Paso, TX, and Scottsdale, AZ. Altogether they put 22 hours on the Hobbs and said they enjoyed every minute!



... Speaking of the **CBROS EXPRESS**, our airplane is currently in the paint shop at Lampson Field, Clear Lake, CA. We were desperate to complete the painting before we broke the record of Bob Gisbourn's "Desert Storm" for the most time in the air without paint. We're pretty sure we just made it! We won't see it again until the last week in August - just in time for an annual - after which it will go to Olympia for upholstery.

Funny how you get used to having an airplane to fly, and how much you miss it when you don't.

... **Dennis and Irita Warner** have been trying to sell the **EXPRESS** CT built by father/husband Jim, and had a buyer lined up when, on a test flight following a pre-sale annual, disaster struck!

Immediately after touching down on a greaser, the right main fiberglass landing gear leg began vibrating violently and eventually destroyed the Rib G and inboard landing gear brackets and caused stress cracks in rib G in the corners of the hole in the rib. The fiberglass leg did not fail. Dennis noted that he had balanced the wheel and tire, but had made no other changes to the landing gear.

If memory serves, I believe that Jim, who was the first builder to complete an **EXPRESS**, actually used Wheeler facilities to cast his own gear legs. While Jim's gear legs have served for a long time without any problems, subsequent attempts by Wheeler to produce carbon fiber gear legs were a total failure - not even one set was mounted before Jerry Sjostrand, and others, found that they would not even support the weight of the empty airplane. To my knowledge there may be two more sets of early Wheeler "glass" gear legs in use. I believe that Ed Bernard and Hardy Huber are still using them.

Dennis is reviewing his options to replace the gear legs and is leaning toward the new factory aluminum legs as a final fix.

The buyer has indicated that he is willing to wait.



... **Jim Lewis**, who is based in Haydensville, VA, reports success with the installation of a push/pull rudder cable system in his Auriga **EXPRESS**. Builder **Lou Addressi** who lives in New York is a frequent visitor to Jim's workshop, and according to Jim, is somewhat of a "slave driver".

(Continued on page 6)

The **"EXPRESS BUILDERS FORUM"** the web site maintained by Tom Hutchison can be found at: <http://www.express-builder.com>

This page is particularly useful for builders who have specific questions or needs. Not as much general technical information or detailed building tips as the "Help Page".

The **"EXPRESS BUILDERS HELP PAGE"** on the internet visit the URL: <http://www.sierratel.com/jerico>

Jerry Sjostrand maintains this web page specifically for **EXPRESS** builders. A good place to find completed aircraft and major kit parts for sale, as well as some detailed technical building tips.

VISIT THE EXPRESS FACTORY WEB SITE: WWW.express-aircraft.com



... retract rollout

(Continued from page 1)

the firewall to accommodate the installation of the alternate style engine. The modified wing section was subjected to finite analysis to insure structural integrity at the increased speeds expected from the alternate engine.

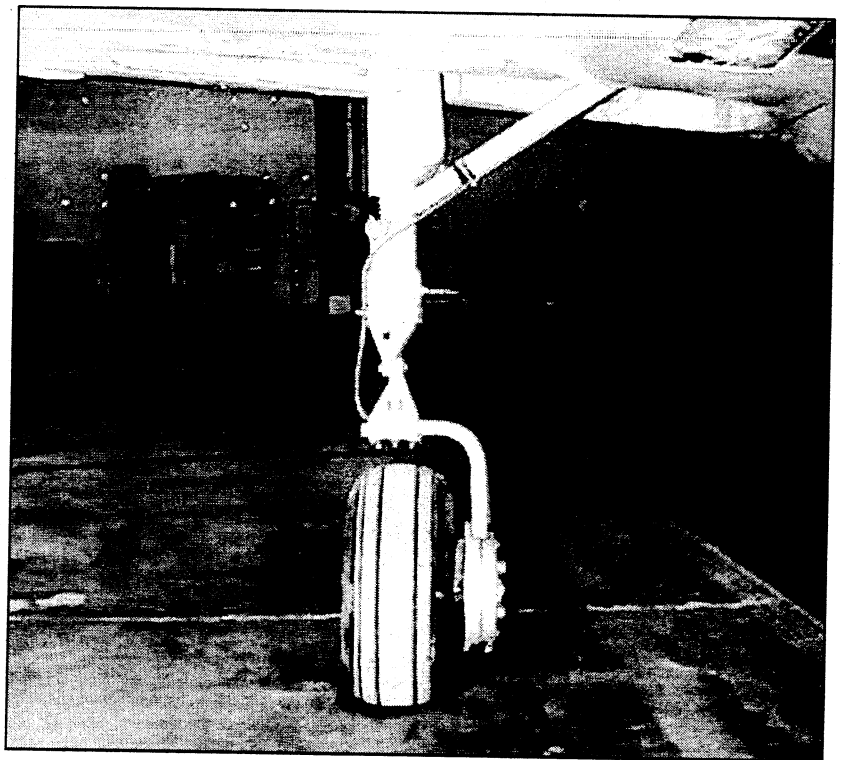
According to company president Olson, construction of the retractable prototype was in response to numerous inquiries as to the availability of a retractable version of the Series 2000 stemming from factory visitors, Sun 'n Fun displays, magazine ads featuring the *EXPRESS* in flight with the landing gear electronically "retracted", and web site visits.

Several customers have already indicated that they are ready to proceed with construction of the new model *EXPRESS* as soon as prototype performance and production tooling are verified.

Landing gear elements of the RG model are shown at right, top: nose gear; bottom: right main landing gear leg and retraction mechanics.

Your editor thanks Larry Olson for his generous cooperation in the preparation of this article.

As the new model moves through the anticipated test flight phase we expect to see additional pictures and performance data.



Top: *Nose gear strut from the right hand side*

Bottom: *Right main landing gear leg, from the front*

VISIT THE *EXPRESS* FACTORY WEB SITE: WWW.express-aircraft.com



California Builder Using V-8 Power Expecting To Develop Over 300 HP

Builder Chuck Stephenson based in Napa, CA brings a new look to the traditional "wine country" image.

Chuck is assembling what is believed to be the first auto engine conversion to be installed in an *EXPRESS* airframe.

Shown here for the first time is the Chevrolet Corvette engine he has chosen to power his CT *EXPRESS*. The pictures on this page, courtesy of Chuck, shows the current level of development of his firewall forward package. The engine has been run extensively on the elaborate engine test stand which Chuck constructed specifically for the V-8.

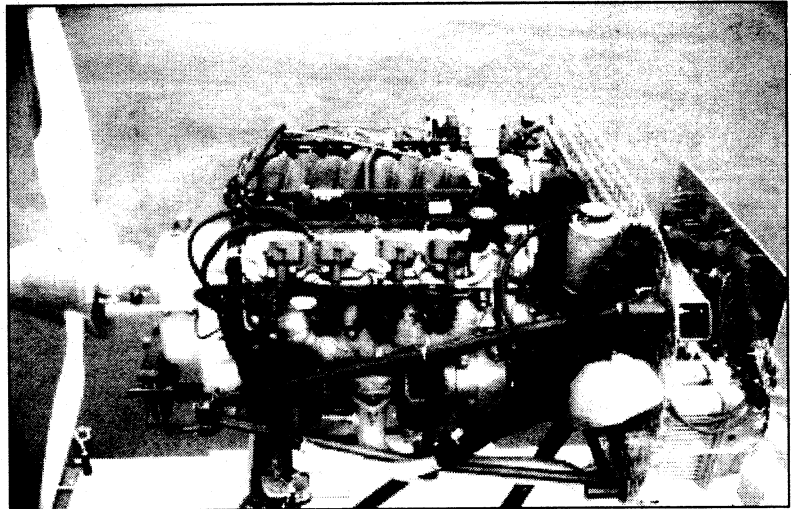
According to Chuck the engine starts easily and runs very smoothly. The engine is basically stock. As such, parts are very easy to obtain and relatively cheap when compared to similar aircraft parts.

As in it's automobile environment, the engine is water cooled. A major reason for the test stand is to fine tune the areas required to let the oil cooler and water cooling radiators work to their greatest efficiency. The water cooling radiator Chuck is using for the test is a standard automotive core and uses the standard engine driven water pump for circulation and a catch tank for possible overflow conditions. As can be seen in the lower picture at the right, Chuck has blanked off all but about 8 inches of the auto radiator.

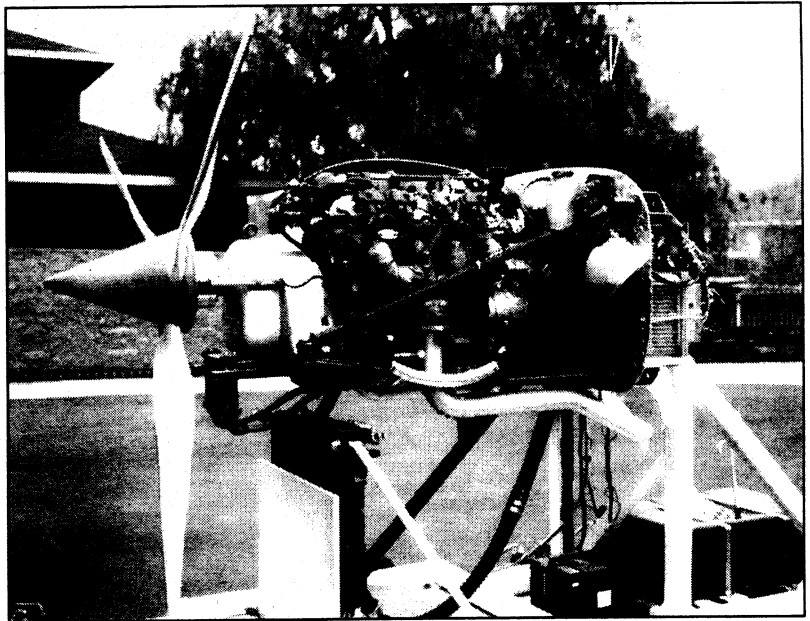
The ignition system is the standard automotive electronic system providing automatic timing.

More detailed information will be included in the next issue.

Anyone else out there working on an auto engine conversion?

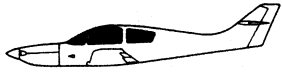


Above: The "mighty" Chevrolet Corvette engine develops abundant horsepower. The engine in this configuration will easily fit in the standard *EXPRESS* cowling.



Above: Sporting a three blade Warp Drive propeller the PSRU turns the prop at the required speeds and does not "whine" like some tend to do. The exhaust system uses the standard 4 into 1 manifold and a single, short tailpipe on each side. A standard *EXPRESS* fitted firewall is engine turned stainless steel.

VISIT THE *EXPRESS* FACTORY WEB SITE: WWW.express-aircraft.com



Caution! Wheels and Brakes Should Be Closely Watched

CBROS Experience With MATCO Products

We have tried to refrain from criticizing specific products that we have used in the construction of our *EXPRESS*, but twice in the first 180 hours of flight on the CBROS *EXPRESS*, serious failures of MATCO furnished products have fortunately not produced an incident, but either failure could have.

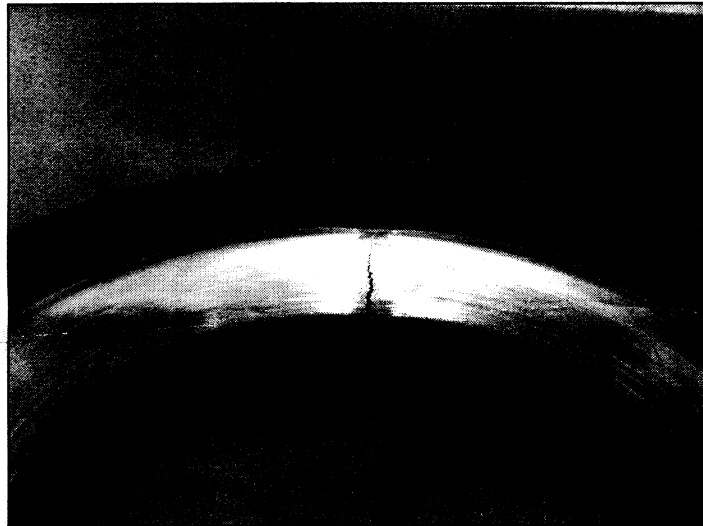
At about 140 hours TT our partner, Peter Becker, was on the return leg of a round trip flight to Seattle with his wife and two children, when they decided to stop at Redding, CA, about 4 hours by car from Livermore, for a break. After stretching legs, etc., they loaded up to depart. They had not taxied far when a loud noise that they could not identify was heard and at the same time the airplane started an uncommanded sharp right turn.

Being the prudent pilot he is, Peter immediately shut everything down and exited the aircraft to discover that the outside of the wheel fairing in the area of the wheel had been "neatly" removed as though by a knife in an area about the size of the wheel. Closer inspection revealed that the outside flange of the wheel had separated from almost two-thirds of the diameter of the wheel and the sharp end had acted like a knife that cut the hole in the fairing. Needless to say, that ended flying for that day. (and several days following)

The airport FBO agreed to help get the airplane off the taxiway and to a location at which repairs could be made. The next day removal of the damaged fairing revealed the faulty wheel and, of course, a shredded tire and tube. The FBO had a tire and tube and CBROS got on the phone to MATCO and ordered a new wheel drop shipped, next day air. A few hours work by the FBO had our *EXPRESS* "back on her feet" and subsequently returned to LVK.

Discussions with the people at

MATCO revealed only that according to them, we had been using an early model wheel (which came with our kit in the early 90's) whose design had later been revised to include a rounded fillet at the junction of the hub with the flange, BUT "they had never heard of a similar failure". They offered no relief for the replacement of the, we say defective, wheel let alone for the balance of the cost of the repairs.



Above: Cracked brake rotor

...But wait, there's more!

At about the 180 flight hour mark, our ever diligent partner, while doing a routine pre-flight inspection noticed a crack developing in the rotor of the left brake. He noted the problem and we agreed to keep an eye on it to see what would develop as the airplane was then busily occupied as transportation. Well, have you ever seen a crack get smaller? I didn't think so - and this one ran true to form. It just got longer and wider. Our decision to replace the rotor was made for us by the imminent trip to Wyoming and Texas planned by brother John.

We had heard that MATCO had made a substantial revision to their system which provided the brakes with more stopping power and longer lasting pads. So, we again "bit the bullet" and

ordered complete replacement sets for each main. During the ordering process we described our problem of the cracking (we say defective) rotor and suggested that perhaps some economic relief might be available for a rotor which failed after only 180 flight hours.

Once again the response was "we've never seen that happen before". We have not yet sent the defective rotor back to MATCO, but plan to and again ask for some kind of credit on a parts bill that ran

to almost \$500. I was fortunate to have to be out of town at the time the brakes were changed, but my brother cheerfully completed the task-which I inspected and signed off as "OK for flight". I will be forever grateful for his work as I was not looking forward to doing it. Something else to ponder: the rotors we removed were different diameters, the cracked one measured 7.95 inches and the other 7.60 inches. Don't know what to think of that!

Brother John returned from his ten day round robin to Wyoming and Texas (and parts in between) and reports that the brakes are working fine-except that on "insistent" braking they "chatter"-and this is without wheel fairings.

Another day, another problem-is that why they call it experimental?

VISIT THE *EXPRESS* FACTORY WEB SITE: WWW.express-aircraft.com

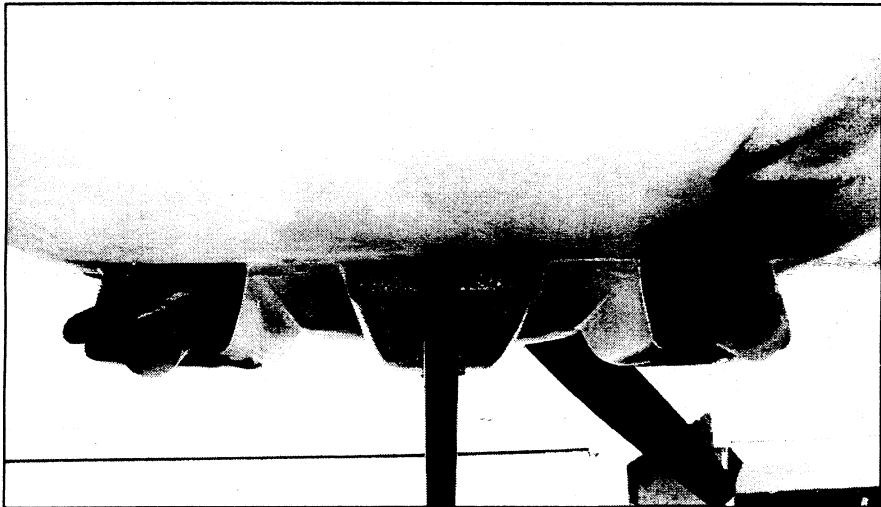
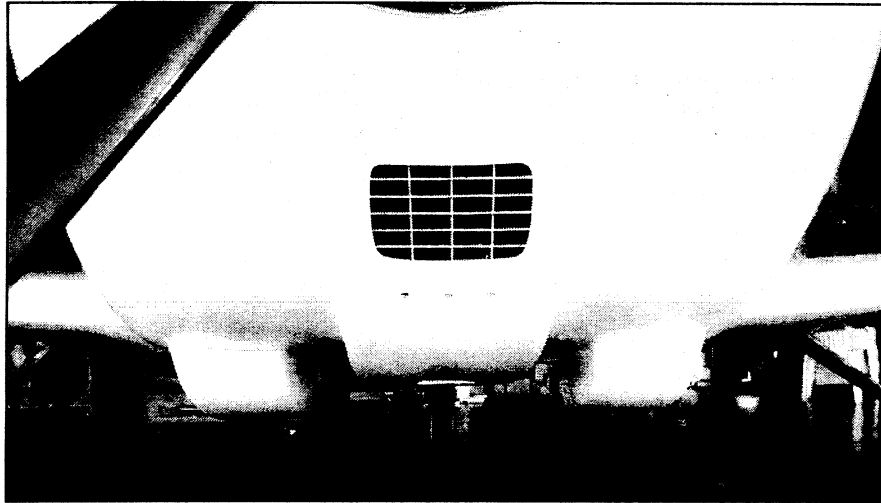


Miscellaneous

...*Strings*

(Continued from page 2)

... **Jerry Sjostrand** recently returned from an extended trip to visit friends in Brazil. He said that he attended an excellent air show and visited a company that is in the business of constructing "experimental" aircraft. Seems like the rules requiring builder participation are significantly different down there. Jerry has his **EXPRESS** completely rebuilt and looking good after his unfortunate landing incident which occurred several months ago.



Left: *Relating to interest on the "Express Builders Forum" web page, the pictures show the CBROS induction air scoop, above and the exit air openings, below. The exhaust outlets measure 6 inches by 4 inches and the center opening is 8 inches by 2 inches. The original factory furnished exhaust headers proved to be too short, causing the bottom of the fuselage to get too warm. Five inch extensions were welded to the end of each header*

Below: *CBROS Main wheel fairings prior to finish filling and sanding. Note "nose cone" added to front of fairing - cosmetic treatment only. NACA scoop provides cooling air to brakes*



VISIT THE **EXPRESS** FACTORY WEB SITE: WWW.express-aircraft.com



EXPRESS STUFF FOR SALE:

COMPLETE WHEELER *EXPRESS* CT KIT FEATURING TIO-540 LYCOMING WITH 3HRS SMOH ON A TEST STAND - MAJOR PART OF FIBERGLASS WORK COMPLETED

Doug McMillan's partially complete CT *EXPRESS* is being offered for sale by his estate.

CBROS is familiar with this particular example, as we worked with Doug on the completion and installation of the empennage. We have made a short video tape of the aircraft in Doug's workshop and will loan either an 8mm or VHS copy to anyone seriously interested in purchasing this project.

One of the most unique features of this project is the adaptation of a turbo charged Lycoming 540 C1A, which was overhauled and test run by Larry Olson at *EXPRESS* Aircraft Technology. The engine is available separately, including engine mount, log books and all accessories.

For details contact CBROS Inc, directly at:

(925)455-1036

E-mail: bnbent@pacbell.net

Fax: 925-606-7534

FOR SALE:

IO-540 Engine mount. Manufactured by EDI. Will not fit certain IO-540 models. Call to find out if yours will fit.
John Kee (803)328-3286

EXPRESS PARTS FOR SALE:

Wheeler *EXPRESS* lower fuselage kit, complete and still in the original crate. This kit component, at the bargain price of \$3,500 F.O.B. Bentonville, AR can easily be combined with other kits to complete acquisition of all five component kits.

Talk to: Charlie Scott

Days: (501)273-2471

Eves: (501)273-1232

E-mail: exp159cs@nwa.quik.com

FOR SALE:

Two each, Wheeler IO-360 (Lycoming) engine mounts. One is fabricated for use with the larger diameter pucks and one requires the use of the smaller pucks.

Wanted:

Engine mount to fit a Lycoming IO-540-C4B5

Call Ralph Kenner at (509)838-6807

FOR SALE

Matched set of original Wheeler *EXPRESS* wings. The left is closed out, with complete documentation. The right is still in the crate.

I am unable to complete the project due to financial limitations. Asking \$7,500. Contact Jim Phelps (volunteer builder on Factory No. 3) 12015 246th Street N.E., Arlington, WA 98223.
Call (360)435-6845

WANTED:

EXPRESS builder Don Adamson needs an engine mount and exhaust system for an IO-360 CONTINENTAL. He is also looking for a set of windows for his *EXPRESS* CT.

If you have what he needs, call Don direct at: (501)676-7529

FOR SALE

Two wings. For details contact Alan Cranmer, 525 El Camino, White Salmon, WA 98672, or E-mail to: cranmer@george.net

FOR SALE

Matched set of original Wheeler *EXPRESS* wings. Almost no work has been completed (less than 5%) on either wing. Asking \$5,000. Located in Edinburgh, Indiana.

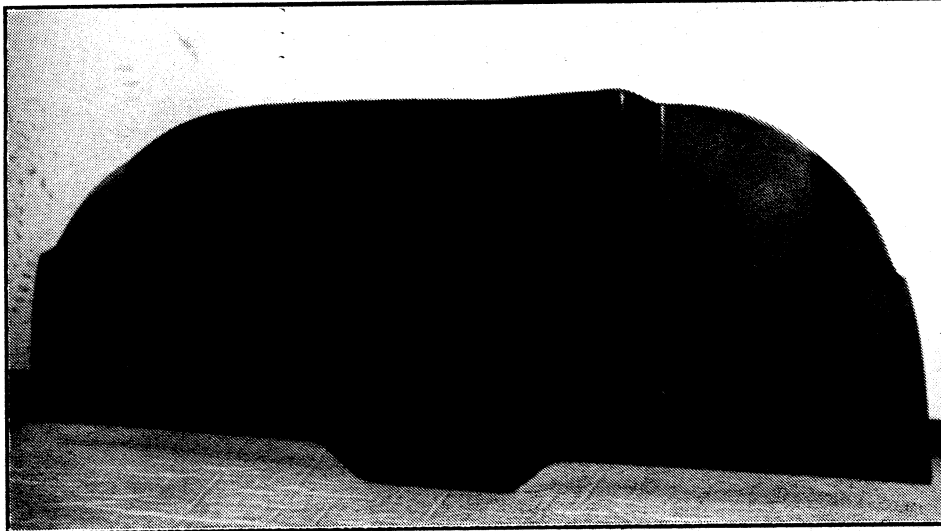
Contact Dick Burton at:
dolphus@compuage.com
Rt. 1, P.O. Box 210.A
Edinburgh, IN 46124

NOTICE!

Unless otherwise noted CBROS, Inc. cannot verify the quality, usefulness or completeness of items offered for sale or trade.

With one exception, the McMillan kit, CBROS is not responsible for "brokering" any proposed sale or trade of any items listed, nor do we require any monetary reward for completed transactions. You are on your own.

Further, we reserve the right to print, or not print, and to edit submissions as we deem fit.



For sale: Molded fiberglass instrument panel blank as produced by CBROS, Inc, provides space for three rows of full sized instruments and space for an audio panel, two radios, a transponder, and a GPS. The panel is furnished with aluminum inserts for the main instrument cluster and circuit breaker panel. Only two left.
For details contact CBROS at (925)455-1036 or bnbent@pacbell.net

VISIT THE *EXPRESS* FACTORY WEB SITE: WWW.express-aircraft.com

Subscription Information: Subscriptions to the *EXPRESS LINK* are based on an 8-issue volume for the subscription price of \$36.00. (Please make checks payable to **Bill Copeland**) Subscriptions entered during each volume will entitle the subscriber to all back issues of the current volume. Back issues from the earlier volumes may be obtained upon request for \$3.00 each, which includes postage and handling.

Documentation: CBROS, Inc. has retained some patterns and templates used in the construction of their CT example. We will be happy to share them with any builder for the cost of copying and postage. If you have a particular need, give us a call at (925) 455-1036 or Fax to (925) 606-7534. E-mail to bnbent@pacbell.net.

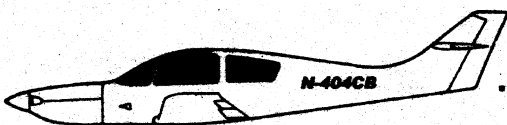
Please be advised that all comments and data regarding the building of the *EXPRESS* kitplane, or any derivatives, presented herein are based upon our own personal experience and may or may not conform to building processes and recommendations provided by the factory. We'll endeavor to advise of any departures from factory recommended procedures, but make no guarantees that we'll get them all.

Any data contained herein is for educational, informational, and entertainment purposes only and not intended to be construed as a replacement for data provided in the factory manuals or drawings.

Usually, any departures from factory specified procedures have been cleared by the factory, but there is no guarantee that this will be the case 100% of the time.

If you have any questions or comments about what we're doing, we'll be pleased to respond to any and all email messages as time allows. The *EXPRESS LINK* is currently produced with the tacit approval of the *EXPRESS* Aircraft Co., LLP, and is published for use as an informal "link" between individual *EXPRESS* builders.

EXPRESS LINK
4863 PRIMROSE LANE
LIVERMORE, CA 94550



..... **EXPRESS LINK - No 27**

17061+8503 01

