

EXPRESS PRESS

January/February 1994

Vol. 1 No. 8



A Publication of **EXPRESS DESIGN, INC.** - P.O. Box 609 - Redmond, OR 97756 - Phone:(503)548-2723 - Fax:(503)548-2949

At the request of
EXPRESS
Builders. . .

10 pages. . .

. . .of more engi-
neering informa-
tion in this edi-
tion of *Express*
Press.

Schematics . . .

Builder's sugges-
tions. . .

Motor mount de-
tails. . .

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FROM THE TOP

By

David Ullrich
President ED



When 'DB' attended the recent Northern California **EXPRESS** builders Group meeting they all requested more engineering and options information in future *Express Press* editions. In that light I'll use just a few lines to say:

(1) The **MORIAH** prototype has yet to feel air under her wings, but she's getting closer. The full instrument panel has been installed, control cables are in, engine in, the retract gear engineering is out of the computer, and there are holes in the lower skin of the wings. In addition, most of the prototype landing gear hardware has been fabricated. Progress has been much slower than anticipated due to the never-ending unexpected critical EDI commitments to the **EXPRESS** Builders, i.e: engine mounts, **EXPRESS** deliveries, Builder Manual updates and revision, etc.

(2) Will we make it to **Sun-N-Fun** with the **MORIAH**? I sure hope so. . . but probably not. I know a lot of you "out there" are anxiously waiting to see the **MORIAH** completed. Hang in there. . .

(3) Jim Warner is here at the EDI factory doing all he can do get the **EXPRESS** Demonstrator and the **MORIAH** ready for the 1994 Airshow and Fly-In season. N540ED will be all dressed up in a new sporty paint job. Wait 'till you see her!

SEE YOU ALL AT **CAL AERO EXPO,**
PHOENIX 500, or **SUN-N-FUN**



BUILDER'S SUPPORT

By

Jim Warner



While my wife, Irita, and I were on our way home from Riverside, CA, in our **EXPRESS** (N119NC), we ran

into some weather near Tehachapi Pass, along the foothills of the Sierra's. Scattered CUNIMs were building the area, but we still had 50+ visibility. Near Fresno we had to pass under a cloud, not a big one- with just light rain dropping out of it- but no lightning.

I could have gone around it, but I told my wife I'd like to fly through the rain and see what the laminar flow wing would do in light rain.

The first thing we noticed was static on the radio, and the rain was getting heavier. The next moment my wife let out a yelp, and jumped away from the door, with an arc of static electricity following her. As she moved to the left, the arc jumped over to me. Then I got zapped on the knee by the cowl flap handle.

"I don't like this. . ." Irita said between clenched teeth. But old Cool Jim relied, "No big deal. . ." (But down inside I was also saying, "I don't like this either." Oh, sure, we made it home OK, but there are lessons to be learned from this: (Cont. Pg. 6)

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EXPRESS BUILDER PROFILE

JOEL BIGGS

Joel Biggs is a transplanted New Jersey resident now living in Punta Gorda, Florida with his sweet wife, Dolores, and he has a long history of flying a variety of airplanes. He says he's 65, which from the perspective of your editor, places him at a wonderful advantage of all you younger **EXPRESS** builders. . . .

Joel began his flying career in 1969 after he entered the US Army in 1950 and got involved with the Korean War. He has flown the Grumman TR-2, and Tiger AA-5B, accumulating over 2500 hours of time. He and his present **EXPRESS** partner, Don Ellis, have also owned and flown the F4U-4 Corsair, and a homebuilt Scorpion Helicopter.

Joel has served in the Civil Air Patrol for over 23 years. He is an active Mission Pilot for search & rescue, fire-watch, and "sundown", where he covers over 100 miles of coastline, watching for distressed boats.

Joel and Dolores enjoy sailing their 30' Hunter sloop when Joel can take a break from his **EXPRESS** project. He also enjoys crewing for sailboat racing when he has any "open time".

Joel and his partner began to build their **EXPRESS** in September, 1991 and this spring he arrived at the point where his garage can now be used to house his motorcycle and car, he has his **EXPRESS** in a hanger with the wings on, in hanger 74, Charlotte County Airport.

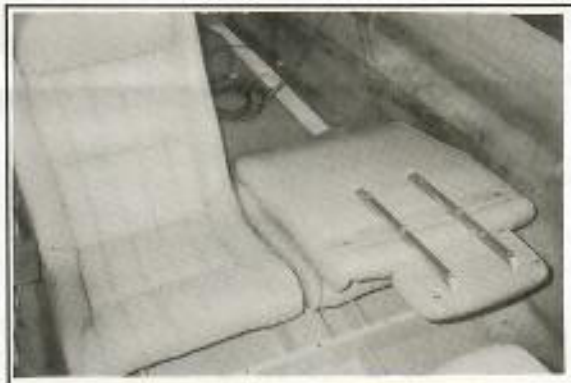
Joel's **EXPRESS** will be powered by a Continental IO-360EA, which is the 6-cylinder, 210 HP engine popular with many **EXPRESS** builders.

Joel's **EXPRESS** will also have a full IFR panel, with NARCO avionics which include, Auto Pilot, Tracking GPS, and a 4-passenger intercom. He's also installed the Precise Flight

Speedbrakes and Pulselite system for the landing lights.

Joel has also installed a few extra "goodies" in his **EXPRESS** that go a long way toward making life more pleasant, and his aircraft a little more functional. He has accordion blinds on the rear windows, a folding rear seat for easy access into the luggage compartment, and a folding desk/table for the L/R seat.

Any **EXPRESS** builders, fellow EEA's, or prospective **EXPRESS** builders who happens to be in the Punta Gorda neck-of-the-woods are invited to stop by and see Joel and enjoy a lot of good hanger-talk about airplanes. Joel says he speaks "Express" fluently. . . .



Joel Biggs folding rear seat in his **EXPRESS**.

Joel also has a set of excellent drawings showing the details for his folding seat & mounting, schematics for avionics, trim relay, flaps, and the rear desk/table hardware. Write to him if you would like copies.

Now that Joel has moved his **EXPRESS** to the hanger there's room for the car in the garage once again, and Harold, the Biggs' Schnauzer, doesn't know what to do with all the room to play in.

*Joel has installed a few extra "goodies" in his **EXPRESS** that go a long way toward making life more pleasant, and his aircraft a little more functional.*

. . . and he says he speaks "Express" fluently. . .



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SALES STUFF

by

David "DB" Breuner

Director of Sales

Sales activity has continued on an upbeat note. We just shipped two complete **EXPRESS** kits to our dealership in Epernay, France. European interest in the **EDI EXPRESS** has been exciting.

Three new complete kits were shipped in mid-February to Southern California, and Phoenix, Arizona.

Our delivery time continues to be approximately 60 to 90 days on a complete kit. We also continue to build and ship **EXPRESS-BUILD KITS** as fast as we can.

EDI has made preliminary commitments to attend the following Airshow events. The **EXPRESS** Demonstrator will be at all the shows.

CALL AND SCHEDULE A DEMO RIDE NOW!

CAL AERO EXPO Pomona County Fairgrounds, Los Angeles - March 5-6. The Expo this year will be a Fly-in/Air Fair held at Brackett Field. Over 200 Show Planes, Experimentals, Antiques, and Warbirds will be attending.

A Southern California **EXPRESS** Builder's Group meeting will be held on Saturday, March 5, at Lionell Holley's house, 7 pm; 340 E. County Hills Dr., La Habra, 90631 Home Phone: (714)879-7948, or: Dave Holley (son) at work number (714)738-7733. You had better be there!!! Mrs. Holley is making her famous **COOKIES** and **BROWNIES!**

PHOENIX 500 AIR RACES/FLY-IN. Williams Air Force Base, Phoenix, Arizona. March 18 thru 20. This will be a spectacular event, featuring the **AIR FORCE THUNDERBIRDS**, Experimental aircraft, Air Fair, and all the other events that makes Airshows exciting and fun. **EDI** will have an indoor booth with the **EXPRESS** Demonstrator on static display in the Experimental revue area. A local builder's group meeting will be held. Details will be available at the show.

SUN-N-FUN FLY-IN. Lakeland, Florida. April 10 thru 16. Last year we had five **EXPRESS** airplanes on the flight-line. We want another great turnout this year. **Joel Biggs** and **Glen Parks** are going to try and have their **EXPRESS** in the air by then. Anyone else ready to fly...??

CALL AND SCHEDULE YOUR DEMO RIDE- NOW!

Watch for future **EXPRESS PRESS** editions and additional airshow updates

WE CAN'T WAIT TO SEE ALL YOU GUYS AND GALS



*The Southern California **EXPRESS** BUILDER'S GROUP will meet on Saturday, March 5, at Lionell Holley's place...*

*On the weekend of March 18 - 20 the Arizona **EXPRESS** BUILDER'S GROUP will meet in Phoenix.*

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TECH NOTES

by

Mike McDaniel

EDI Technical

Director

As kit-planes continue to grow and fill the market, EDI needs input from the EXPRESS Builders to provide direction to our Vendors regarding future needs

FAR Part 23 Production Aircraft companies are able to provide Vendors very concise specifications regarding engine and propeller models. Since these aircraft components are specifically included in the FAA Type Certificate and Type Certification Data Sheet, Part 23 actually dictates the major components listing for the manufacturers.

FAA Regulations for kit-planes allow YOU - the manufacturer/builder - enormous latitude to change the original design and components in any way you may choose. (Provided acceptable methods and practices are followed.)

This "freedom" of kit-plane building does present a problem for Vendors. . . The major engine, propeller and other component manufacturers would like a forecast of EXPRESS Builders needs - at least a year in advance.

In an effort to provide our major component Vendors with a rough estimate of future demands, we request that you make several copies of the EXPRESS INFORMATION REQUEST form enclosed. Then periodically review your progress and needs for your EXPRESS, and send us updates as needed.

Please note: This information is vital for EDI to supply good service and pricing on major items required for your EXPRESS.

Even if you are not going to purchase a new engine, propeller, or other major components immediately, please indicate your intentions regarding used or rebuilt components. This will give our Vendors plenty of lead-time.

The following information is required by EDI for in order to better serve the EXPRESS builders:

(1) How many EXPRESS builders would like to purchase the PMA Engine (Cont IO550G clone engine)?

(2) How many builders would like to purchase the new, two-blade, wide-cord McCauley propeller? (Which is currently allowing 400 MPH+ speed from the Questair.)

[This propeller is currently only available for Continental engines. (The engine EDI is using in the MORLAH) However, if enough interest is generated from EXPRESS Builders who plan to use a Lycoming, McCauley would consider building the propeller to fit the various Lycoming engines.]

Please send this information to EDI at your earliest convenience. Thank You.

OPTIONS CATALOG

The second edition of the EXPRESS OPTIONS CATALOG is about ready to hit the street. Look for it at Sun-'N-Fun. (We had to redo the catalog to add more tools and accessories for EXPRESS builders - AND get the price list up-to-date.)

The information you submit will help EDI to keep the Express Options Catalog up-to-date.

THANK YOU!



Please answer the following questions. . .

How many EXPRESS Builders would like to purchase a Continental IO550G, or a two-bladed, wide-cord McCauley propeller. . . ?

PLEASE FILL IN THE EXPRESS POLL ON PG. 8

This information will help EDI to serve you better.

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TECH NOTES

By
Mike McDaniel
EDI Technical
Director

In the September, 1993 *EXPRESS PRESS*, I mentioned the revisions, and new parts necessary to make the *EXPRESS FT* main landing gear stronger, and safer. Since that time there have been several phone calls asking more more clarification on the landing gear revision.

In addition, there has also been some confusion over the nose-gear mounting hardware, and questions about the strength of the nose-wheel strut to withstand a hard landing. The early Wheeler design nose-wheel tried several designs, but experience with *EXPRESS FT*'s flying today demonstrated that a solid mount is strong and safe.

(There was damage to one nose-wheel assembly, but that *EXPRESS*

hit a ditch across a grass runway during a down-wind landing. No nose-wheel airplane could handle that type of punishment.)

In order to clarify the landing gear assembly as it is today, I have enclosed the following drawings.

MAIN LANDING GEAR STRUTS

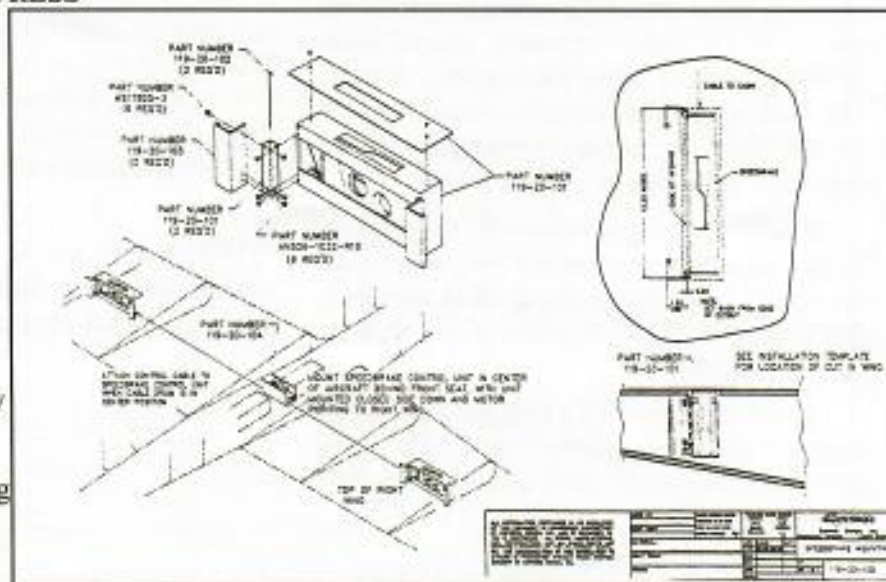
As many of the *EXPRESS* builders know, EDI has been replacing all of the older, Wheeler (fiberglass.) main gear struts with pre-bent, hi-strength spring steel struts. If, for some reason you have not received the steel struts please notify EDI immediately. The cost for the steel struts are \$750 + shipping.

SPEEDBRAKE INSTALLATION

Due the fact that the Precise Speedbrake is mounted to the top *AND* bottom wing skins, the wings should be closed out before beginning Speedbrake installation in the *EXPRESS FT* or *MORIAH*

Jerry Sjostrand has documented the Speedbrake Installation on his *EXPRESS*, and has a complete set of installation photographs which he has available to any *EXPRESS* builder who would like to view them. These, together with the EDI installation drawings, wing cut-out template, and hardware kit, will smooth out the installation of the Speedbrakes in your *EXPRESS*. (If anyone else would like to send along installation hints, drawings, etc, please feel free to do so. . .)

If EXPRESS Builders have the old, Wheeler-supplied fiberglass landing gear struts, notify EDI and make arrangements to replace the old struts with the new, EDI- designed spring steel main gear struts.



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AIRCRAFT LIGHTING & SAFETY

Pilots of the *EXPRESS* have found it to be a very fast airplane, and speed is wonderful when everything is going right. But in today's crowded airspace around airports speed can be a hazard. This is especially true if two aircraft are closing on each other, and neither pilot senses the other is in the immediate airspace. The best way to keep out of a situation like that is to practice the "SEE AND BE SEEN" code of safety.

The *PRECISE FLIGHT PULSELITE* system is a very good accessory to help your *EXPRESS* to be seen. This system will pulse your landing lights - left/right/left/right. . . The landing lights are the most powerful lighting system, on your *EXPRESS*. Why not use them for collision-avoidance?



Safety studies have shown that a pulsing light will stand out and be noticed more readily than a steady light, especially against background lighting of large cities and busy airports. The wide separation between landing lights on the *EXPRESS* are perfectly spaced for a very noticeable light pattern - day or night.

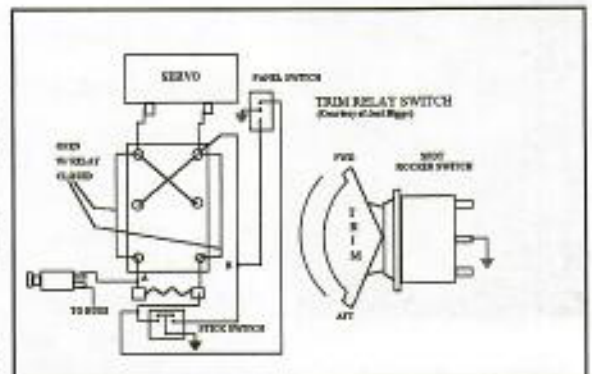
Pulsing the landing lights will also give longer life to the lamps, in that they never reach the hot, or cold critical phase when operating. *PRECISE PULSELITES* are a win-win situation for your *EXPRESS*.

Joel Biggs, Don Pugh, Bob McCann, Ralph Kenner, Joe O'Neal, and the Copeland Brothers have "seen the light", and installed Pulselites on their *EXPRESS*.



TRIM RELAY SWITCH SCHEMATIC

(Courtesy of Joel Biggs)



BUILDER'S SUPPORT (Cont. from Pg. 1)

- (1) Don't go flying in close proximity to thunderstorms.
- (2) Other *EXPRESS FT's* have flown through rain without any problems, but I believe we flew close to the charged CUNIMs, and the heavy rain carried the static electricity into the aircraft- and occupants.
- (3) Tie all metal parts together with a common ground. This can be accomplished with a light weight, #24 (or smaller) copper wire. Then terminate the common ground by installing static electricity wicks on the on the trailing edge of the elevator and/or ailerons.

NOTE: this is not for lightning protection, but will reduce the buildup of static electricity on the metal parts of your *EXPRESS*.



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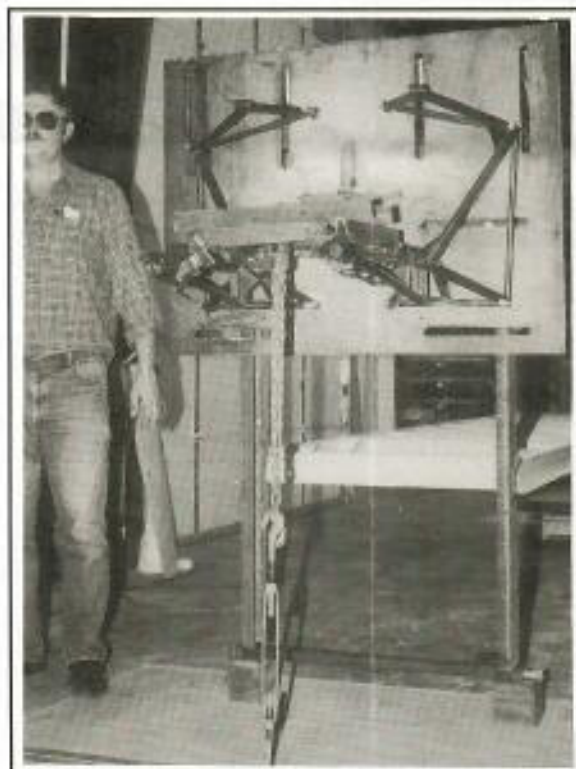
EDITOR'S CORNER

By

Jim Anderson-Editor

The new Universal **EXPRESS** motor-mount has been static-tested to FAR Part 23 criteria. It's

been said that one photo is worth ten thousands words. Well here it is . . .



Mike McDaniel, *EDI* Technical Director, designed the motor mount to accept all the aircraft engines suggested for use in the **EXPRESS FT**, and **MORIAH**.

Mike and the engineering staff did everything they could to destroy it. In the photo you can see how they chained it to the floor, and used the stout turnbuckle to place the necessary

strain on the mount, and then used the long steel storage rack as a lever where the measuring scale is located on the far end.

EXPRESS BUILDER'S MANUAL REVISIONS

It has become clear to **EDI** that it's time to establish a system for keeping track of revisions in the **EXPRESS BUILDER'S MANUAL**. In order to maintain order, and justification for any revisions, we have settled on a three-person clearing panel before authorized changes and/or revisions are made. Jim Warner, **EDI** **EXPRESS** Builder's Support Representative, Mike McDaniel, Director of Technical Services, and David Ullrich, President of **EDI**, are the three people who will authorize a revision.

HOWEVER, you may (and please do!) submit any changes or suggestions you think are important for the **EXPRESS**.

(Incidentally, only those builders who have a signed purchase agreement with **EDI** will receive the Master Revision Log and future revisions. This is the only method **EDI** has to keep an accurate record of who is a builder, and should be receiving revisions and Service Bulletins.)

There's an old African proverb that states, "It takes a whole village to raise a child." That's the way it should be within the Express Family. If you feel you have ideas that work for you, and are worthwhile toward making your **EXPRESS** safer, and/or smooth out a building phase, please submit it for review.

The Revision Master Log should be placed in the front of your manuals. Remove the pages affected, and replace with the revised pages.

The new Universal EXPRESS motor-mount has passed the FAR Part 23 tests

EXPRESS *Builder Manual Revision notices and record log is ready for your manual. If you have a Builder #, and did not receive your Revision log and current revisions, please notify EDI.*



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EXPRESS BUILDER'S COMPONENT & ACCESSORIES POLL

NAME _____ DATE _____

BUILDER # _____ ARE YOU CURRENTLY BUILDING?Y/ N/
EXPECTED COMPLETION DATE _____

WHEELER KIT PURCHASED?Y N DATE _____ HOW MANY _____

Item	Model	New Used	Purchased Yet? Y/N	Date Rqrd
Engine				
Prop.				
Prop Gov.				
Spinner				
Avionics				
Other				

Comments and/or Suggestions:

Please take the time to fill out the enclosed, EXPRESS BUILDER'S COMPONENT POLL. The more information EDI can obtain, the better we can serve you. . .

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EXPRESS FEATURE

Meet

RACHAEL SHOCKEY

EDI Purchasing Agent

Rachael Shockey is a very talented woman, wife, mother, purchasing agent, aircraft mechanic, clothing designer, and all-around-good-person. But she didn't get there by accident. It took helpful parents, a great deal of personal incentive, and goal-setting at an early age.



Rachael and her Dad in the family Cub

Rachael comes by her love of airplanes first hand. Her Dad, Joe Hitch, took her flying when she was a small child, which most often hitches kids up to airplanes really early in life. Rachael carried her love of airplanes with her into Sacramento City College, where she earned her FAA, A&P Certificate and Aeronautics Degree in 1976. She was only the third woman to graduate from the flight mechanic school at SCC, from the time it had been founded in 1930.

Rachael didn't stop there. She went on to Ventura Community College and earned another degree in Liberal Arts. Then she

went over to California State University (CSUN) at Northridge, CA (after a short stint with the US Navy) and got a good start on a Business Administration Degree. If all goes along as planned (and we have a hunch it will), Rachel will finish her business degree with Linfield College, OR.

While Rachael was doing her time with Uncle Sam in the Navy, she met and married her husband, Steve. They have two neat children, a girl, Jamie Lyn (named for a favorite soap-opera star), and Garrett (named for a very famous jet engine).

At EDI we bank on Rachael to ship what you want, when you want it, and give you the best deal for your money.

Rachael is a wife, mother, purchasing agent, aircraft mechanic and clothing designer. . .

. . . with a degree in Aeronautics & Liberal Arts, and an FAA A&P Certificate. . .

. . . and helped her dad and younger brother rebuild a PT-17 Stearman when she was 16.



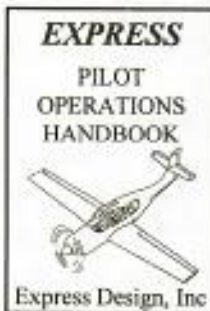
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EXPRESS FT & MORIAH PILOT'S OPERATION HANDBOOK



The **EXPRESS** Pilot's Operation Handook is getting closer to reality. Ed Watson author of the **EXPRESS POH**, traveled up from California recently and spent a couple of days at **EDI** Head quarters going over the flight and performance details of

the **EXPRESS** with Mike McDaniel and Dave 'DB' Bruener.

Ed is a Voulnteer's Volulnteer. The POH is a labor-of-love, something he enjoys doing just for the good will he creates. If all goes as expected, there's a good chance the POH will be available in time for Sun-'N'-Fun.



The MORIAH is coming. . .

