

ADVENTURE NEWSLETTER #1

September 1979

Published by

Mead Engineering Company

P.O. Box 354

Colwich, Kansas 67030

GOIN' PLACES The Adventure prototype, N36 ME, attended the 1979 Oshkosh bash, flew the L-B-F 500 race, and had an all around great time. Weather permitting, we plan to attend the Tullahoma, TN flyin at the end of September and the Sun-n-Fun gathering in Lakeland, FL next march. Other than those two biggies, no firm plans have been made.

1979 L-B-F 500 The Lowers Baker Falck 500 is an annual Oshkosh related event started in 1978. The race is a closed course, low altitude affair covering an official distance of 500.4 statute miles. The contest is a weighted combination of speed and fuel consumption. Each contestant is allowed a limited amount of fuel with which to complete the course and a speed bonous is awarded for burning less than allowed. The full race results for 78 are in the november 78 issue of Sport Aviation and the 1979 results are scheduled for ~~november~~ ^{OCTOBER} of this year. The L_B_F 500 seems like a great opportunity for a designer to demonstrate the performance of his machine in a controlled and impartial environment. This annual event could eventually help to eliminate a lot of the inflated advertising claims that we've all seen in the past.

Adventure participated in the 1979 contest with very pleasing results. Adventure was the lightest airplane in the race and burned less fuel than anyone else and still managed to place third in overall speed for the 500 mile course. A tabulation of the race results follows so you can draw your own conclusions.

TYPE AIRCRAFT	TOTAL TIME Hr:Min:Sec	FUEL USED Pounds	SPEEDS		
			Overall	Fastest Lap	Fuel Corrected
Bonzo	2:31:52	102.6	197.7	202.5	203.1
Cassutt	2:34:38	96.6	194.7	197.0	206.1
Adventure	2:50:17	90.6	176.3	184.0	193.7
Long E Z	2:58:42	124.9	168.0	171.5	175.1
MustangII	2:58:53	124.1	167.8	170.0	175.7
VariEze	3:02:25	111.9	164.6	169.2	184.7
VariEze	3:07:07	101.8	160.5	163.7	166.7
K R 2	3:29:46	116.1	143.1	146.1	159.0
T-18	3:39:24	119.7	136.9	207.2	149.2

It should be noted that the speeds for the overall race are from a standing start to a flying finish. The speeds are based upon the official course distance of 500.4 miles but it is impossible to fly the course without covering at least 5 to 10 extra miles.

PERFORMANCE Adventure's preliminary performance data shown in the information kit and in some early data sheets, was shown for the prototype with bare wheels and no gear leg fairings. Wheel fairings and a nose strut fairing were installed just before Oshkosh and provided a significant increase in speed. Faired and unfaired data are shown below.

	No Fairings	Main Wheel and Nose Strut faired
Top speed	180 mph	188 mph
75 % Power Cruise	175 mph	184 mph
55% Power Cruise	154 mph	162 mph
Equivalent Parasite Area	1.60 Ft ²	1.38 Ft ²

FLIGHT TEST PROGRAM Flight testing of the adventure is virtually complete. The prototype has completed both the high speed flutter qualification and spin testing with satisfactory results. Freedom from flutter has been demonstrated at speeds up to 225 mph which will establish the design's red line airspeed at 210 mph (V_{ne}).

Initial spin testing has been completed with good results. These initial tests were conducted to establish the departure susceptibility, departure characteristics, and incipient spin characteristics of the Adventure. This program was not intended to clear the adventure for intentional spinning. The program does demonstrate a satisfactory level of safety to allow me to publish plans in good conscience. The testing done to date shows that the Adventure is easily and promptly recoverable from incipient spins and spin entries with normal recovery techniques. Within the scope of the program the Adventure is an unqualified success.

When the Adventure is held into the stall with back stick pressure, the nose tends to bob up and down slightly, and if prolonged the aircraft will roll off in one direction 10 to 20 degrees and stop. If you use rudder to correct the bank angle, the airplane responds rather abruptly by rolling about 20 to 30 degrees in the opposite direction. Further attempts to raise the low wing with rudder will result in slightly larger overshoots in roll each time until the bank angle gets near 90° and the elevator pulls the nose down through the horizon. These characteristics are similar with flaps 0°, 15°, and 45°. The roll excursions tend to be a bit larger with the flaps down than with 0° and the final rolloff will come a bit sooner. If you stay ahead of the rolling motion with rudder from the first indication of stall, it is quite easy to keep the airplane level indefinitely. Releasing the back pressure on the stick stops all of this pitching and rolling nonsense instantly.

Spin entries were made by approaching the stall with neutral ailerons and ball centered. As the stall was reached full rudder was applied in the desired direction of the spin. The pro-spin controls were held for one full turn before recovery was attempted. The spin entry in Adventure looks very much like the spin entry of a Cessna 150. The initial motion is almost all roll followed by the nose dropping through the horizon to a steep nose down spin attitude. Reversing the rudder and simultaneously releasing the back pressure on the stick stops the spin almost instantly. less than 1/8 turn was required to stop the spin and enter a recovery dive.

AEROBATICS Aileron rolls and one turn spins are the only aerobatics that Adventure has performed, so far. Spins are not approved at this time and I don't expect to pursue a full blown spin program in the near future. I plan to allow loops and rolls in combination but no snap maneuvers, spins, or outside maneuvers are planned.

PLANS It looks like plans will be available in December. The plans format will be similar to the Vari Eze and Quickie plans with lots of words and sketches and a few engineering drawings. The plans will initially cost 100 dollars. The powerplant installation, finishing techniques, etc will be included in the basic plans.