
a progress report for friends of the Windecker Eagle

Five in The Air – 250 to Come!

The Windecker Eagle, with more cabin space and higher speed than its direct competitors, could be back in production as soon as 1979. This is good news to hundreds of pilots who have been waiting for this high performance single-engine business aircraft.

When certified in late 1970, the Eagle promised to revolutionize small aircraft production. The first all-composite aircraft, it offered the owner new levels of comfort and control, plus a relief from the frequent inspections for fastener fidelity and metal fatigue. Seven years after its introduction, it is still faster than the latest 285 HP models in production, and engineering modifications are expected to raise its top speed to 225 mph.

The economical performance of the Eagle is also unmatched, as it cruises at just over ten gallons per hour fuel consumption while producing over 200 miles per hour true air speed. Nineteen miles per gallon while carrying four persons, is a goal sought by other aircraft manufacturers, and some automobile builders, too.

Now, Jerry Dietrick has acquired the molds and equipment to manufacture the Eagle. The all-important

Type Certificate has been reissued in Jerry's name, and he is operating the NUF plant, producing the kind of non-woven unidirectional fabric that is the sinew and strength in the Eagle's muscle.

Dietrick has announced work on a Master Manufacturing Engineering Plan to take full advantage of the production efficiencies offered by all-composite construction. The second step in this bold plan is the identification of sufficient buyer enthusiasm to permit him to go ahead with production.

The plan to put the Eagle back in production seems ambitious to some, impractical or impossible to others, and long overdue to the pilots who have been waiting for this beautiful aircraft since the day of its announcement.

To get an explanation of the plan to put more Eagles in the air, we interviewed Jerry Dietrick, and filled the next two pages with his answers to some of the many questions that are asked him daily about how one man can hope to build aircraft, where others have failed.



One of Jerry's Eagles on the ramp at the Richmond, Virginia Byrd Airport.

Jerry Dietrick, the man behind the Eagle

G. P. Dietrick is a professional engineer who earns his living by selling industrial equipment as a commissioned sales representative. There are some Dietrick-built machines in the field, too, results of customer needs that could not be fulfilled by his regular suppliers. Dietrick Sales and Service operates out of Florence, Kentucky, a Cincinnati suburb, where Jerry

also makes his home.

Jerry started his engineering career when he graduated from the University of Cincinnati with a degree in Mechanical Engineering. College had followed his first flying career, photo reconnaissance for the U.S. Air Force in the Pacific during World War II.

An interview with Jerry Dietrick about the EAGLE

Q. Just why are you trying to get the Eagle back in production?

A. The Eagle is a superior aircraft, well ahead of its time. I started with the idea of acquiring additional aircraft to allow downtime on 4198G for minor modifications. I soon realized that it will be another ten years before the aircraft industry offers the same speed, comfort, efficiency, and safety in single engine aircraft. There are hundreds of businessman-pilots waiting for this aircraft, stymied only by a disagreement among Windecker's financial backers.

Q. If a well-financed corporation couldn't sustain production, how can Jerry Dietrick do it?

A. I'm not alone in my enthusiasm for the Eagle, and I won't be alone in putting it back in production. You must realize that there is much more to this project than just building aircraft — it's a whole new era in General Aviation Manufacturing. Windecker's all-composite aircraft was ahead of its time, and unproven. Now, when the industry is starting to consider composites for the first time, we can show five production aircraft with over 8000 hours of productive business flying as proof of the concept.

Q. Won't you face the same problems that stopped Windecker?

A. No. They spent 20 million dollars getting the Eagle Type Certificate, and the backers lacked enthusiasm for investing more in a marketing program. I have acquired the Type Certificate, the molds, and the engineering. I'm twenty million dollars ahead of the original Windecker program, and about thirty million dollars ahead of the next company trying to get a Type Certificate for a composite aircraft.

Q. If it's that easy, why haven't you produced Eagle Number Eight yet?

A. I didn't say it would be easy. I'm ahead of the next composite aircraft by five years and a lot of investment, but I still need to finance production and develop a marketing organization.

Q. Will dealers help finance production?

A. No, the distribution organization is too complex a problem to address at this time. There are enough businessmen-pilots out there to produce enough orders to get Eagle production started again. After we're producing aircraft, we'll worry about future distribution.

Q. How many buyers do you need?

A. We're planning on 250, and this should take us through the first three years of production.

Q. What is your timetable?

A. 1978 will be devoted to the Master Manufacturing Engineering Plan, and to collecting Letters of Intent to Purchase. We're not anticipating a move into production facilities before early 1979. If everything works, we'll roll out some planes in 1979, then

complete the first 250 during calendar 1981.

Q. What if you can't sign up those 250 buyers?

A. If the enthusiasm isn't there, then I'm wrong, and I can go back to trying to wear out three Eagles. Since I don't think I can accomplish that in my lifetime, I could consider producing Eagles in a foreign country. That's far less attractive than supplying the American businessman-pilot, so we're counting heavily on signing up those 250.

Q. How will you finance production?

A. We have a twenty million dollar project to form the basis for the production company. I'll devalue this to \$12,500,000 and combine with investors on a 51%-49% basis, maintaining operational control. Invested capital of \$6,200,000 will produce interest income that will be used to complete the Manufacturing Engineering Program.

Q. Will the Eagle be built in Midland, Texas again?

A. Probably not, but we intend to locate in the Southwest Region of the Federal Aviation Administration, because that's where the original certification was granted. Even at this early stage, we've been approached by some cities in the region, and we should be able to select an area that's ideal from the standpoint of both plant space and labor force.

Q. When will you select your site?

A. When the Manufacturing Engineering Plan is complete, we'll be able to identify plant size, equipment, and manpower required. This will help us select a community with a favorable industrial development plan.

Q. When will you start taking orders?

A. Letters of Intent to Purchase are being taken now, to help identify the buyer interest we can expect.

Q. What about deposits?

A. We'll ask the buyer to back his letter of Intent with a deposit in his own bank. That deposit will not be transferred to the company until the production organization and production plans are complete. Even then, the deposit will be secured in an escrow account, so that the buyer cannot lose his deposit if we cannot deliver.

Q. What's the price, and how much is the deposit?

A. It would be folly to predict the price in the face of the present inflation, but you can be sure it will be competitive with the current "top-of-the-line" singles. A deposit of \$10,000 will probably work out to be about 10% by the time we're ready to build.

The Businessman-pilot

Q. You mention that your prospective buyer is the businessman-pilot, will you explain exactly who that takes in?

A. The businessman-pilot is the real backbone in general aviation. He's the man who runs a non-aviation business, or works for a non-aviation company, but depends on the mobility and efficiency that flying his own aircraft brings to his business. He flies enough to have an instrument rating and keep it current. The pilot of particular interest is the one who really prefers single-engine aircraft to twins, because he can afford to fly alone in the single and still beat the cost of driving or flying on scheduled airlines.

Q. Why aim only at that businessman-pilot?

A. First, there are enough of them around. The probability of finding a receptive audience is higher than with any other class of pilot. The weekend fun pilot doesn't really need the economy and comfort, and he may not have enough time in the air to appreciate the subtler advantages of the Eagle. Corporations generally opt for jets, or twins at a minimum, although they would be smart to outfit their "fly-alone" travelers with singles. There may be some interest from small charter operations because of the low maintenance and economy of the Eagle, but the individual businessman, we think, will be the basic Eagle pilot in the next round.

Q. What about Doctors, Dentists, other types with adequate funds but not daily reason to fly?

A. There are a lot of professional men whose daily job keeps them in one city who still fly enough to fit into the interested category, and I call them businessman-pilots, too. There is no intent to restrict purchase of the Eagle. Our fascination with the businessman-pilot is purely because he has the experience to recognize the Eagle advantages, and he has the economic need to support the purchase.

Q. Won't the so-called businessman-pilot want his plane right now?

A. Of course, but the only way he'll ever get an Eagle is to get on the priority delivery list. He can fly his present aircraft, or buy one currently in production to fill in until his Eagle is built, and trade when the time comes. Those who do not have the patience to wait a year, or perhaps two years for the high numbers, will wait until the second round of production starts. We really think that there are 250 buyers who will back their intent with a down payment and go along with the timetable we establish.

Modifications to the Eagle

Q. You rate the Eagle as being ahead of today's production aircraft, then mention that you're making some modifications. Please explain why this ideal aircraft needs more work?

A. The Eagles have been flying for seven years, piloted by professionals. All this flight time has proven that the Eagle comes up to its promise. But, it would be rare that seven years experience wouldn't expose some possible improvements, and it has. We have already improved the speed by changing exhaust stacks, and are re-engineering the wheel wells to get a few more knots. The basic structure stays the

same, it's still years ahead of all the others. Door seals and locks are under study, and we're planning to add autopilot, and upgrade the instrumentation.

Q. Autopilot? You've been flying seven years without autopilot?

A. I've personally flown 34 years without an autopilot, the last five years in Eagles without autopilot. None of the original Eagles were equipped with autopilot because it has a three-axis trim, and can be flown practically hands-off. On a recent trip East from Los Angeles, one of our Eagle enthusiasts flew N4198G for six hours and ten minutes before stopping for fuel. He claimed he was less fatigued than 4 hours in the singles he usually flies with autopilot assist. He also had almost an hour's supply of fuel in the tanks!

Q. What about the future modifications? More power? Exotic wing? Six place? A twin, perhaps?

A. Success of the Eagle project will spawn a lot of ideas, and we are as imaginative as the next group. Right now, the concentration is on Eagle I. Only when full production is achieved will we talk about major options. I'll put the engineers to work on new aircraft when the manufacturing plan is working efficiently.

Q. Why try to build the Eagle yourself? Why not team up with an existing manufacturer?

A. That would be great for sales, because they have distribution, but it would not be good for manufacturing. Every existing aircraft manufacturer has extensive investment in aluminum fabrication facilities and experienced metal working personnel. You couldn't expect them to give high priority to composite construction.

I plan to recruit a good management team experienced in composites. They will operate under my direction and we'll only build the all-fiberglass Eagle.

Unlike most industrial production, this is a no-debt operation at this time. I'm investing time, and I have invested considerable cash in acquiring the Eagle facilities, but there are no debts. We can start manufacturing with an obligation to produce aircraft against down payments that won't be collected until the aircraft is delivered.

We don't need to worry about a marketing organization until we are in full scale production. As the first 50 Eagles get out on the ramps of America's airports, we'll have a lot of distributors asking for a position in future production.



Dr. Leo Windecker inspects the new interior on N4198G during a Dietrick visit to Midland, Texas.

Why The Eagle?

We asked Jerry to explain why the Eagle seems to capture the affections of pilots who fly it.

Q. What is so outstanding about the Eagle that inspires such dedication?

A. Just looking at it intrigues the pilot, because it says: "Aerodynamic efficiency". Flying it captures you. The more hours you put in, the more you learn how advanced the Eagle really is.

Q. What kind of performance are you talking about?

A. When first built, the Eagle was compared to the top-of-the-line single. Today, you can compare the first production Eagle with the 10,000th issue of that top-of-the-line single, and Eagle is still ahead. Eight inches more shoulder room in a cabin two feet longer and it flies 5 mph faster and 300 miles farther. Do you realize the Eagle can fly non stop Miami to the Virgin Islands. How many singles do you know that can do it?

Eagle is more stable in turbulence than an aluminum aircraft; has three-axis trim, responsive controls, and many safety features that an aluminum aircraft can't offer.

Q. That question of safety. Please explain.

A. First, there's the complete absence of fasteners in airframe structure. No skin riveted to ribs. Eagle is a one-piece fuselage and tail assembly, with one-piece wings bolted on at the root. You need never worry about the security of thousands of fasteners.

Next, Eagle was built with 20% more strength than needed, because the certification authorities regarded composite construction as a "new technology" so they required an additional 20% safety factor.

The fuel system has a safety factor, too. You can't run a tank dry by forgetting to switch. Fuel flows

from both tanks with no fuel selector valve. And, the 84 gallon capacity can give you up to seven hours in the air, with legal reserve.

Antenna icing, that winter hazard that can ring in your ears or put you completely out of communications, just can't happen in the Eagle. Antennas are "indoors", a feature made possible because the fiberglass-epoxy structure is transparent to radio frequency energy.

An Eagle won't deteriorate in the way a metal structure can. There's no corrosion to worry about, and no metal fatigue to concern you after years in the air.

Q. Those are good reasons to fly the Eagle, but isn't building it a complex procedure?

A. That's the second big appeal about the Eagle. The manufacturing technique is different, not more complex. You mold a complete half of the fuselage in one operation. It takes a different kind of skill, but each molded part is exactly the same as all the others.

Q. If building Eagles is different, isn't it hazardous to go against the grain, so to speak, and do things different from the established, successful manufacturers?

A. That's what I mean about opportunity! The existing manufacturers have not been able to shake loose from their "established" systems, even in the face of demonstrably superior technology. Here's a single engine aircraft, seven years old, that's still ahead of current manufacturers. If they start today, it will take them years to catch up with the Eagle. We have a Type Certificate, and all the equipment to produce an aircraft, now. That can't be matched in the near future!

Eagle I Specifications

Gross Weight (lbs.)	3400	Top Speed (mph)	210 +
Empty Weight (lbs.)	2150	Cruise Speed (mph)	204 +
Wing Loading (lbs./sq. ft.)	19.3	75% power @ 7000 ft.	
Power Loading (lbs./HP)	11.9	Optimum Range (statute miles)	1230
Engine		84 gallons, 45 min. reserve	
Continental	10-520C	Rate of Climb (ft./min. @ S.L.)	1220
BHP @ 2700 RPM	285	Service Ceiling (ft.)	18,000
Propeller		Take-off	
Two Blade, Constant Speed		Ground Run (ft.)	855
Diameter (inches)	84	Over 50 ft. Obstacle (ft.)	1690
Fuel Capacity (gallons)	84	Stall Speed, power off	
		Flaps Up, Gear Up (mph)	71
		Flaps Down, Gear Down (mph)	66

Jerry Dietrick will be happy to talk to you about getting on the Eagle delivery priority list. Write or call and he'll put you on the mailing list for future copies of Tailfeather.