

## QUALITY AIRCRAFT COMPONENTS, INC.

16223 - 93rd Street

Bristol, Wisconsin 53104

414-857-7419

*Lutan*  
*warms against him*

### DEFIANT . . . The Ultimate Homebuilt.

After five years of enjoying a "one-of-a-kind" aircraft, Burt Rutan has released the Defiant to the homebuilt market. Built in 1978, the prototype has proven the Defiant to be among the most efficient and safe aircraft in the world today. In late 1981, Burt contacted Fred Keller of Anchorage, Alaska to discuss the possibility of Fred building a Defiant and keeping a complete log with drawings and photographs. Fred agreed, and the result was a beautiful Defiant which was displayed at Oshkosh in 1983. Plans are now available from Rutan Aircraft Factory.

The Defiant is a four-place, canard-type twin using two 4-cylinder Lycoming engines of 150 to 180 HP each. The Defiant is very basic in all of its systems which saves weight, reduces maintenance and increases reliability. It is very roomy inside and visibility from the cabin is superior to production light twins. The fuel system consists of two 58 gallon tanks - one for each engine. Since the two fuel tanks are not interconnected, no pilot action is required for normal operations. The Defiant is a very stable IFR platform with a very solid "big airliner" feel. It holds a desired approach speed with less attention than a conventional twin. Using 160 horsepower engines, time-to-climb to 12,000 feet is 10.3 minutes with full fuel and four adults, and 7.7 minutes with two adults and fuel for 400 NM range. At maximum cruise speed of 184 knots (75% power), total fuel flow is only 17.8 gal./hr. while providing a range of 1044 NM with reserves. At 55% power, range is increased to over 1200 NM with reserves. At equal loading and speeds, the Defiant gets over 50% more miles per gallon than a conventional light twin! In contrast to all other light twins, in which after engine failure a many-step procedure must be accurately followed during which the aircraft control and speed are critical, the Defiant makes no demands on the pilot to follow procedure. The pilot can maintain full aft stick and climb with one engine out or accelerate with one engine out to best climb speed!

### Defiant

#### SPECIFICATIONS

Homebuilt price: \$20,000 to \$40,000

Engine(s) make/model:

Lycoming O320 (2)

Horsepower @ rpm @ altitude:

160 @ SL

Horsepower for takeoff: 160

TBO hours: 2000

Fuel type: 100 Octane

Landing gear type: Partial retractable

Max ramp weight (lbs): 2950

Gross weight (lbs): 2950

Max landing weight (lbs): 2950

Empty weight (std) (lbs): 1600

Equipped weight (as tested) (lbs): 1680

Useful load (std) (lbs): 1350

Useful load (equipped) (lbs): 1270

Payload (full std fuel) (lbs): 580

Fuel capacity (std) (gals): 115

Wingspan: 31 ft 5 in

Wing area (sq ft): 133

Wing loading (lbs/sq ft): 22.2

Power loading (lbs/hp): 9.2

Seating capacity: 4

Cabin doors: 0

Cabin width (in): 46

Baggage capacity (cu ft): 41

#### PERFORMANCE

Cruise speed (kts):

75% pwr: 8000 ft @ 184 best pwr

55% pwr: 8000 ft @ 168 best pwr

Max range (reserve/no reserve) (nm):

55% pwr: 1044

Fuel consumption (gph):

75% pwr: 17.8

55% pwr: 13.9

Estimated endurance (55% pwr) (hrs): 8

Stall speed (gear down) (kts): 64

Best rate of climb (fpm): 1900

Single-engine rate of climb

(fpm): 310 (rear)

Service ceiling (ft): 28,000 +

Single-engine service ceiling (ft): 6500



### Aircraft Comparison Chart

Aircraft:	Defiant	Piper Seneca III	Beech B-55 Baron	Cessna Crusader
Price:	\$30,000 (est)	\$250,000	\$350,000	\$330,000
Cruise (kts):	184	192	182	182
Stall (kts):	64	61	68	61
Range (nm):	1040	765	822	850
Fuel (gph):	18	24	29	28
Climb (fpm):	1900	1340	1670	1480
Service ceiling (ft):	28,000	25,000	19,700	25,000
Takeoff over 50-foot obstacle (ft):	NA	1210	1225	1750
Landing over 50-foot obstacle (ft):	NA	2160	1370	1450
Useful load (ft):	1270	1900	2000	1695
Power loading (lbs/hp):	9.2	10.8	NA	9.9
Horsepower:	320	440	520	520
Prop type:	Fixed	CS	CS	CS
Landing gear type:	Part Retr	Tri/Retr	Tri/Retr	Tri/Retr
Fuel Capacity (gals):	115	123	142	150
Seating capacity:	4	6	6	6



300A1

The plans per RAF, and Fred Keller are **not** for the first time builder. You must have previous builder experience to follow the plans and to build the Defiant.

It is estimated building time is between 2000 to 2500 hours minimum. This is where we can speed up your building time with our subassemblies.

Material kits of epoxy, foam, fiberglass, S glass, filler material, wood, metal, hardware, cable, plumbing, and miscellaneous items for wings and fuselage only will cost \$5985.00 less canopy, landing gear, instruments, electrical, engine and accessory components.

If you have not built an airplane before and don't have the experience but still want to have a Defiant built, we can build it up for you in different stages. To stay in legal FAA limits, we can have you install the electrical, instruments, engines and do the paint finishing projects. Give us a call or send a stamped self-addressed envelope for price quotes.

Many people, when they receive their materials, find that they do not have the time, room, skill, equipment, etc.; or just want their project finished faster. To save you and our shop time and money, we can have you ship the materials that you already have received to us or we can supply them. These are some of the prices for the materials and assemblies listed in our brochure for your project.

• **WING SUBASSEMBLIES**

• Complete Wing Assembly Set .....	\$5390.00
• Wings and Winglet Peel-plyed .....	89.00
• Comm. Antenna .....	39.00
• Loran Antenna .....	29.00
• Right Wing Loran Ground Plane .....	48.00

• **CANARD SUBASSEMBLIES**

• Complete Canard Assembly .....	1988.00
• Canard Peel-plyed .....	48.00
• Navigation Antenna .....	36.00

• **CENTERSECTION SPAR ASSEMBLY** ..... 1149.00

Prices include labor and materials.

Prices are subject to change at any time before your order is received. Payment of 50% or full payment on the placement of your order will secure you a production number. The remaining 50% is paid when the kit is ready for shipment. Kits are then shipped when the balance is received. All freight charges are paid "Freight Collect" by the customer. Call for price of shipping box.

All assemblies that you want vacuum bagged and oven post cured add 20% to listed price of parts.

Any item that you are having trouble locating, engines, nose gears, props, spinner, we may have them in stock or information to other sources.

If enough response is received, we will make the molds and jigs for the cabin turtle deck, engine cowlings and other items that you want built for your project.

Give us a call or send a stamped self-addressed envelope for price quotes on your Defiant, to put it in the skies.