THE BIPLANE
THE PILOT
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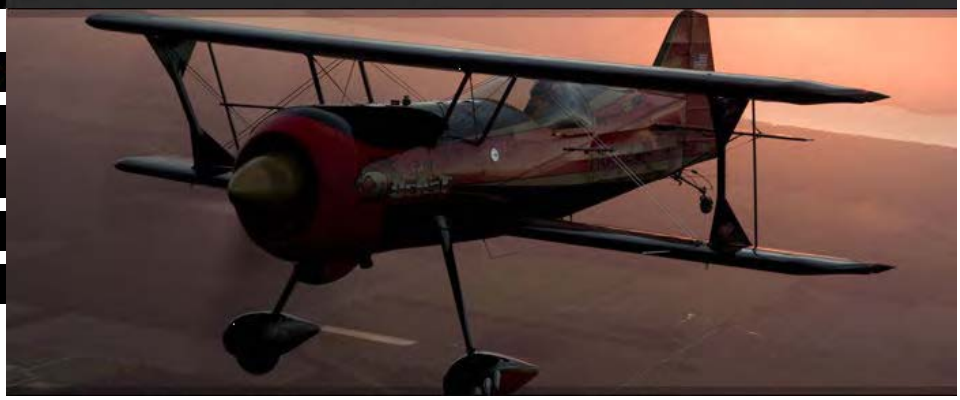


The Biplane

The Beast is a highly modified design with it's roots stemming from the Pitts Model 12 biplane. While most Model 12 aircraft have 2 seats, the Beast has been modified to be a single place aircraft. This reduced the weight of the basic aircraft substantially, and eliminated some of the drag associated with the two-place canopy.

Jim Kimball Enterprises of Zellwood, Florida set a goal of having a piston powered biplane with a greater than 1:1 thrust to weight ratio. I am proud to announce that this goal was obtained with the Beast! How? First of all with excruciating focus to detail in the construction, materials and methods used to build the Beast. Carbon fiber, titanium, and magnesium were used to keep the aircraft light yet strong. However, years of hard core aerobatics has proven that a welded tube truss fuselage is hard to beat.

So steel construction was used in the Beast with various enhancements of modern materials and bracing to guarantee maximum strength. The wings are constructed with wooden spars and ribs. Carbon fiber wing tips finish the primary structure of the wings.

The heart of any aircraft is its engine. The goal in building the Beast was to produce as much thrust as possible without adding weight. The Russian Vedeneyev M14P, 9 cylinder radial engine was selected as the perfect fit for the Beast. However, while the M14P is a great engine, Monte Barrett of Barrett Precision Engines (BPE), knew he could make it better. How? First of all, BPE added fuel injection. Next, BPE knew the existing pistons and piston rings were inefficient. So new pistons were created with higher compression, and a new ring design. This created more horsepower (less friction) and eliminated most of the "blow by" typical with the "normal" M14P. Another improvement that BPE made was in the gearbox. The M14P is a geared engine with a ratio of .658:1. This gearbox appeared to be inefficient and robbing horsepower. BPE used their magic and cleaned up the gearbox, sending this wasted horsepower to the propeller where it produces thrust. Long story short...BPE created 50 additional horsepower by making a good engine...

GREAT!

Below are the actual stats on this incredible engine:

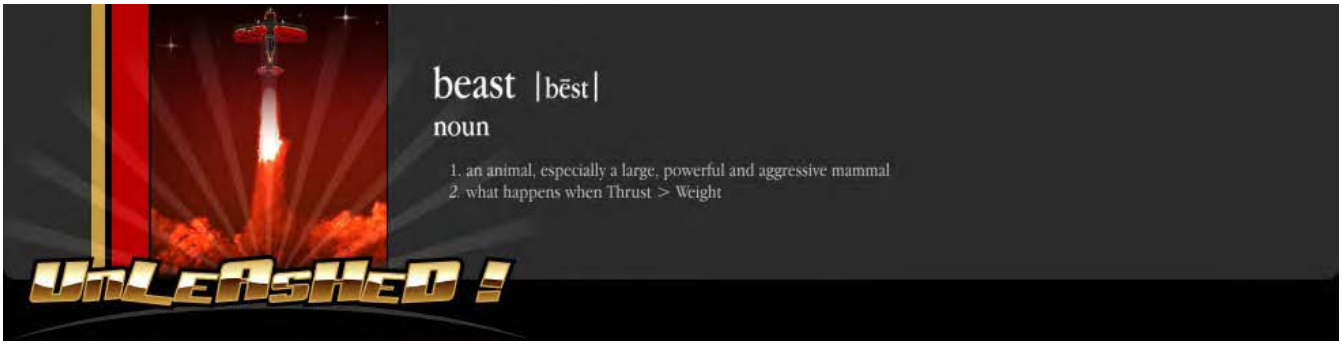
The Engine

Manufacturer	Vedeneyev, Russia
Custom Built by	Barrett Precision Engines, Tulsa, OK USA
Model	M14P
Type	9 cylinder Radial, internally supercharged

Displacement	620 cubic inches, 10 liters
Stock HP	360
Current HP	412

Special modifications:

- BPE designed Pistons and rings
- BPE special process on internal gears
- API Fuel Injection system
- Air compressor delete
- 35 amp B&C alternator
- Spark Plug and wire upgrade



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