

HP-24

A single-seat high-performance sailplane designed for construction in the home workshop environment. The wing is based on a spar built with pultruded carbon fiber strips. The rest of the wing features composite sandwich construction. The fuselage and vertical fin is molded GRP. The cockpit has been specifically sized to provide comfortable seating for a 6'2", 240 lb pilot, and to accommodate pilots up to 6'6" and 300 lbs.

HP-24 Specifications

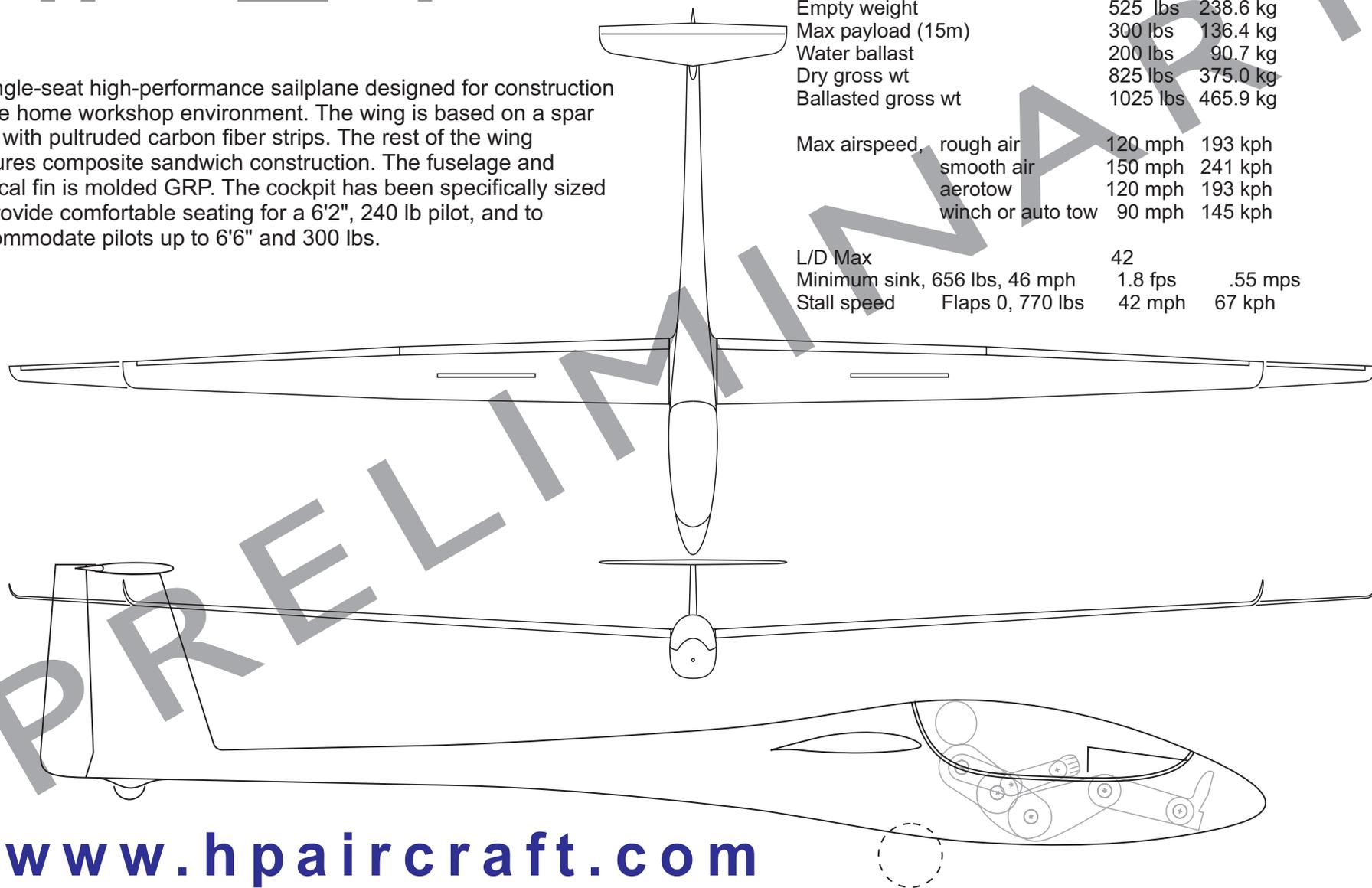
Span	49.2ft/59ft	15.0 m/18.0 m
Length	22.9 ft	6.98 m
Height	52.1 in	1.22 m
Wing Area	108.0 sq ft	10.02 sq m
Aspect ratio	23.0	
Dihedral	3.1 degrees	

Flaps -5 to 15 degrees

Empty weight	525 lbs	238.6 kg
Max payload (15m)	300 lbs	136.4 kg
Water ballast	200 lbs	90.7 kg
Dry gross wt	825 lbs	375.0 kg
Ballasted gross wt	1025 lbs	465.9 kg

Max airspeed, rough air	120 mph	193 kph
smooth air	150 mph	241 kph
aerotow	120 mph	193 kph
winch or auto tow	90 mph	145 kph

L/D Max	42	
Minimum sink, 656 lbs, 46 mph	1.8 fps	.55 mps
Stall speed Flaps 0, 770 lbs	42 mph	67 kph



www.hpaircraft.com

HP-24 Sailplane Project

Bob Kuykendall 1 September 2006

The HP-24 project is an attempt to develop and manufacture a modern, high-performance kit sailplane for construction in the home workshop environment. The wing is configured for 15-meter span, with optional 18-meter span extensions. Provisions are available for up to 200 lbs of water ballast.

The HP-24 is the logical extension of the HP/RS series sailplanes designed by Richard E. Schreder, and leverages on the arrangement and design of the HP-18 sailplane.

The cockpit of the HP-24 is specifically designed with a wide range of pilot sizes and shapes in mind. The cockpit is designed around an average pilot height of 6' 2", with accommodation for a wide range of both larger and smaller pilots. We believe that better comfort and reduced fatigue will result in a better soaring experience, and improved overall performance by the pilot.

The wing construction will be relatively conventional female-molded sandwich technology.

Production kits will have wings supplied with the main spars and upper and lower surfaces already bonded together. The right and left fuselage shells will be bonded together. The

builder will only have to install the control system parts, and build and install the control surfaces to finish the wing.

The production HP-24 kit will include all of the parts and assemblies required to manufacture a flyable aircraft, with the exception of paint, instruments, and some hazmat-controlled resins.

Standard features:

- Pre-assembled wing panels and fuselage shells
- 15-meter wing, standard tips
- Nose-pivot 1-piece canopy
- Automatic control hookups
- Pre-assembled wing panels and fuselage shells

Typical Options:

- Winglets
- 18-meter span extensions
- Provisions for Tost tow hitches (nose or CG)
- Ballast dump valves

The base sailplane kits are expected to cost around \$17,500 US in Y2K dollars, excluding instruments, 18-meter tips, winglets, and other options. For more info, and the latest updates on the HP-24 project, see:

www.hpaircraft.com/hp-24

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