

RCM PRODUCT REVIEW

BUTTERFLY Josh Harel Models

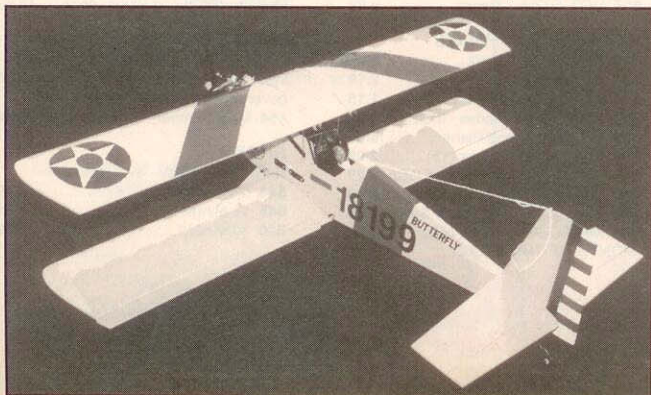


The Butterfly (or Parpar) imported by Josh Harel Models is a 4-channel mini-biplane for .10 to .26 R/C engines. It comes in a 37" x 6-1/4" x 2-1/4" corrugated carton. All parts are either packaged or rubber banded into building sections, and the level of prefabrication is so high that it's evident there are practically no "cut-to-fit" requirements. Mating edges are prebeveled; hinge slots are precut; pushrod ends are prebent in three dimensions; holes for cabane struts are predrilled and the cabane struts are even prebent to shape! The prefabrication is so high that the Butterfly can be built, covered, decorated, and ready to fly in less than 20 shop hours. It's an **ideal first R/C biplane!**

Construction:

Plans for the fuselage and tail are on a 27" x 35" sheet; plans for the wings (upper and lower wings are identical in construction with ailerons on the lower wing only) are on a 13" x 39" separate plan. An 11-page how-to build booklet is also included but not really needed. The plans include isometric drawings and the total piece count is so low it's hard to make any sort of building mistake if the plans are studied a few minutes. Please be aware that it is common for the paper, on which the plans are printed, to often expand/contract as moisture works on the paper ... most kit builders know this. The Butterfly parts are precisely machine cut to shape and should be assembled using the plans only as a guide. Simple jigs are provided to hold the wing's leading edge in place during construction ... clever! We started with a 1 oz. bottle of UFO Hot Stuff (thick) and a 1 oz. bottle of UFO Hot Stuff (thin).

The prefabricated parts of this kit fit so well that each bottle of UFO Hot Stuff was **over** half full when the Butterfly was finished.



SPECIFICATIONS

Name	BUTTERFLY (or PARPAR in Hebrew)
Aircraft Type	Mini-Biplane
Imported By	Josh Harel Models 286 Hawthorne Ave. Derby, Connecticut 06418, (203) 732-0532
Mfg. Sug. Retail Price	\$65.00 plus \$5.00 P&H
Available From	Direct from Importer
Wingspan	38 Inches
Wing Chord	6-1/2 Inches
Total Wing Area	490 Sq. In.
Fuselage Length	33-1/4 Inches
Stabilizer Span	16-1/2 Inches
Total Stab Area	65 Sq. In.
Mfg. Rec. Engine Range	.10-.26
Rec. Fuel Tank Size	4 Oz.
Rec. No. of Channels	4
Rec. Control Functions	Rud., Elev., Throt., Ail.
Basic Materials Used In Construction	
Fuselage	Balsa w/Plywood Doublers
Wing	Balsa
Tail Surfaces	Balsa
Building Instructions on Plan Sheets	Yes
Instruction Manual	Yes (11 pages)
Construction Drawings	Yes

RCM PROTOTYPE

Radio Used	Airtronics Infinity 600
Engine Make & Disp.	Brat .25 2-stroke
Tank Size Used	Sullivan SS-4
Weight, Ready to Fly	45 Oz. (2 Lbs. 13 Oz.)
Wing Loading	13.24 Oz./Sq. Ft.

SUMMARY

WE LIKED THE:

Under 20 hours of shop/building time, world class prefabrication, outstanding flight performance.

WE DIDN'T LIKE THE:

No problems.

This reviewer has serious respiratory/allergy difficulties, and the UFO (user-friendly-odorless) Hot Stuff solves breathing problems. The matching Hot Stuff "Spray 'N Cure" accelerator is perfume-free. These products make no-smoke and no-smell building a pleasure. There are some very subtle nice features in the Butterfly kit. The black nylon engine mount is prebeveled on its rear surface to give right thrust. The engine mounts at a 45° angle for easy muffler clearance. The fuel tank mounts high in the fuselage for proper feed in upright/inverted flight. There's a forward compartment (under the fuel tank) and a rear compartment (behind the lower wing's trailing edge) so receiver/battery can be located for easy/correct balancing as needed. The landing gear is in **precisely** the correct position for flying from pavement. It can be



easily remounted forward if you fly from short low-resistance grass.

Covering:

This cute little biplane adapts nicely to the bright colorful decorating of the Stearman PT-17 of years ago. Yellow MonoKote was used with one of the new 21st Century Coverite irons (see page 48 of RCM's June '94 issue) as the heat sealing tool. Then we cut broad red strips of MonoKote, turned the iron's temperature down a bit and proceeded to decorate. A 4-1/2" blue disc was cut. A 4" white disc was cut and every 72° was marked around the edges so when the marks were connected, the white star resulted. A 1-1/2" red disc was cut and with red over white over blue we achieved our WWII emblems ... easy! The rudder was covered with 1/2" wide strips of red/white/blue. Black vinyl numbers/letters came from the stationery store. The engine area got two coats of black K&B paint brushed in for fuelproofing as did the cockpit area. Black MonoKote completed the forward fuselage area and J'TEC instruments and a pilot completed the cockpit. The windshield comes prebent to shape and we slit small neoprene fuel line with scissors to fit the bottom edge of the windshield and UFO'd the tubing to the windshield, then the tubing/windshield to the fuselage.

Engine:

A reliable older Brat .25 2-stroke engine turns the Master Airscrew new Scimitar 9 x 6 at 13,100 rpm and idles at 2500 using Powermaster's Golden Break-In Fuel. Four ounces is carried in a Sullivan SS-4 tank in the Butterfly. Sullivan 1-3/4" Skylite wheels are used and six Hobbico #64 rubber bands hold on each wing.

Radio:

This is the 4th model dialed into my Airtronics Infinity 600's memory and a full-size 600 mAh pack is carried. A mini servo is suggested for the ailerons due to space; standards are fine elsewhere.

Flying:

The fun is in the flying and this is a great-performing agile/acrobatic biplane with the .25 2-stroke engine. With controls as specified (they even tell you which holes to use on output wheels/horns!) the model is real docile and predictable in flight. I think a .10 engine may be too small except at sea level and with gentle care. A .15 or .19/.20 2-stroke is a fine choice. The O.S. 26 4-stroke has the same usable power as the O.S. Max 15. If your thumbs are a bit above average in flying talents, the 2-stroke .25 gives maximum flying fun. Some engines may require slight Dremeling/beveling on inside edges of the engine mount. Balance per plans is easily obtainable. Rudder throw is 3/4" each side of center; we have 3/8" of "up" and 5/8" of "down" elevator (easily set in the Infinity's memory) and we started off with about 3/8" of aileron travel from center. After initial flights, we "punched up" aileron travel to 100% for greater sensitivity and got 7/16" of up aileron and 1/4" of down, thanks to slight aileron differential at the output wheel.

Our test model, with initial control travels per plans, is a docile dream to fly. With

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Specifications

RADIO: 4 channel
ENGINE: 25-45 2-cycle
40-60 4-cycle
.05 Geared to high perf. elec.
WING SPAN: TOP 49.5 in.
: BOTTOM 37.80 in.
WING AREA: 635+ Sq. in.
WING LOADING: 18 oz. at 4 lbs.
AIR FOIL: Clark
"Y" Flat Bottom
LENGTH: 37 in.
Rudder to Cowl
FLYING WGT.: Approx. 4 lbs.

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aileron travel increased we find this model does all you can probably do. It does knife-edge take-offs (roll right and apply left rudder immediately after leaving the ground) with only partial rudder and no aileron input required. Consecutive loops are simple as are consecutive square loops. Avalanches (a loop with an inside snap roll on top) are a "snap" to do. Only slight down elevator is needed for low inverted passes. Only one outside loop can be done because the wing is flat bottomed and the side slips are simply beautiful! Upright and inverted spins are easy entry and exit. The inverted flat spin recovery is a bit slow, so be careful!

Conclusion:

Butterfly is a great (and simple building) first biplane. Try it and we think you'll like it.

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