



KONDOR MODEL PRODUCTS

P-38J

The beautiful forktailed devil

“
Its detailed scale
looks and
solid flight
performance
MAKE IT A
MUST-HAVE”

TO CELEBRATE THE PRODUCTION OF 5,000 P-38 LIGHTNINGS, Lockheed painted the 5,000th P-38J fire-engine red. This plane also had “Yippee” painted on the undersides of its wings in big white letters. In it, Lockheed test pilots Milo Burcham and Tony Levier made some remarkable flight demonstrations. To show that the P-38 was not the unmanageable beast it was rumored to be, they flew slow rolls at treetop level with one prop feathered. Their exploits did much to quell the fears of pilots who viewed the P-38 as a handful to fly. This beautiful demonstration plane has been nicely reproduced by Kondor Model Products with its P-38J Yippee ARF, which is available in three color schemes. Let’s take a look at it.



THE KIT

The inboard wings, tail booms and cockpit are all made of fiberglass, and the outer wing panels, the rudders and the stabilizer are made of wood and covered with red heat-shrink covering. The comprehensive hardware package even includes a full air-retract landing-gear kit with a steerable nosewheel.

► **Wing assembly** As I usually do with an ARF, I began with the wings: I attached the flaps and installed the flap servos in the servo trays. The inboard wings both have flaps that require hinging, but my Yippee did not have any pre-cut hinge slots. I used the supplied Robart hinge points for the flaps. To make cleaner holes for them and because the wings and flaps are made of fiberglass, I drilled three small holes inboard on each wing and on the flaps. You need a gap between the bottom of each wing and the top of each flap for the control-horn backing plate to clear.

Now it's time to mount the inboard wings on the center pod and tail booms. An

aluminum tube runs through all the components and is epoxied into place.

I worked on the outer wing panels next. I hinged the ailerons using the supplied CA hinges, and then I attached the aileron servos to the servo trays and installed them in the wing. I mounted the control horns, installed the servo linkage and tested it.

► **Fuselage** At this point, you assemble the two booms, the cockpit and the inboard wings. You will need a big work area, so clear everything off your workbench!

The retracts were a snap to put in; all the hook-ups needed for installation are provided, and the instructions tell you how to install them.

Before you install the two supplied fuel tank, you need to know which engines you'll use so that you can route the throttle linkage next to the fuel tanks to suit them. I cut 10, 2x2-inch squares of foam for each tank, pushed the tanks into place and installed a dowel above and below them to secure them. You may find this assembly

SPECIFICATIONS

- MODEL:** P-38J Lightning
- DISTRIBUTOR:** Kondor Model Products
- TYPE:** scale ARF
- LENGTH:** 60 in.
- WINGSPAN:** 86 in.
- WING AREA:** 865 sq. in.
- WEIGHT:** 16.5 lb.
- WING LOADING:** 44 oz./sq. ft.
- ENGINES REQ'D:** 2, .40 to .46 2-strokes or .52 4-strokes
- RADIO REQ'D:** 7-channel with 13 servos (2 aileron, 1 elevator, 2 rudder, 2 throttle, 4 flaps, 1 retracts, 1 steering)
- PRICE:** \$550

COMMENTS

The plane is a quick build, and the parts fit well.

HIGHLIGHTS

- Great looks
- Included air retracts
- Comprehensive hardware package



Each retract has a fiberglass cover. After the retracts were installed, I cut out the exit openings.



4-STROKE ENGINE RCV 91-CD ENGINE

FOR THE YIPPEE, I WANTED TO TRY SOMETHING new (to me), so I chose the revolutionary RCV 91-CD 4-stroke engine. This engine offers power and performance in a small package and has fewer moving parts than conventional 4-strokes; in fact, it has only one more part than a conventional 2-stroke.

The cylinder in the RCV 91-CD rotates around the piston because it's suspended between two bearings that allow it to rotate. A gear at the back of the crank meshes with a gear at the base of the cylinder. When the piston moves up and down in the cylinder, it turns the crankshaft that, in turn, rotates the cylinder around the piston.

At the top of the cylinder is a port that rotates and comes into alignment with three radially arranged ports—the inlet, ignition and exhaust ports. This simple valve arrangement allows the RCV 91-CD to cycle through a conventional 4-stroke progression: induction, compression, power and exhaust.

I ran both engines for an hour to break them in, and I noticed that the longer they ran, the less fuel they consumed. By the time I had finished break-in, they responded from 2,400rpm to 6,000rpm without hesitation when I opened the throttle quickly. I was impressed by the low vibration and how smoothly the RCV engines ran on the bench. After I had installed them on the P-38, I found out just how great this engine really is. Both engines had a reliable idle (very important for a twin) and a smooth transition to full throttle. They provided plenty of power, and I was easily able to perform all of the maneuvers that the full-size P-38 could do. This innovative engine is definitely worth considering for your next .91-size project.



IN THE AIR

My P-38 Yippee was balanced to the manufacturer's recommendations, as were all the control throws. Each RCV 91-CD 4-stroke has a Master Airscrew 12x6, 3-blade prop, and I broke in both for about an hour. I connected a custom-made glow-plug igniter to both engines so that I'd be guaranteed a reliable idle. The model's first few flights were on days on which a 6- to 7mph wind blew straight down the runway.

CONTROL THROWS

Elevator: $\pm\frac{3}{4}$ in. (high); $\pm\frac{1}{2}$ in. (low); expo: 0%

Aileron: $\pm\frac{3}{4}$ in. (high); $\pm\frac{1}{2}$ in. (low); expo: 0%

Rudder: $\pm 1\frac{1}{4}$ in. (low); expo: 0%

Flaps: $-\frac{5}{8}$; flaps were set up on dial control

GENERAL FLIGHT CHARACTERISTICS

➤ **Stability:** this plane is very stable at low and high speeds.

➤ **Tracking:** on the ground and in the air, its tracking is outstanding.

➤ **Aerobatics:** the P-38 Yippee will do all the maneuvers that

the full-size plane does.

➤ **Glide performance:** because of its high wing loading, I did not attempt any deadstick landings. The glide performance at low throttle was very good, though.

➤ **Stalls:** when it stalls, the P-38 drops a wing, but its recovery is very fast once the nose is pointing downward.

PILOT DEBRIEFING

The P-38 Yippee serves up an excellent flight performance that any pilot will appreciate; it offers stable, slow flight and solid, precise high-speed flight. Adding exponential to soften the center stick improves straight and level flight, especially when flying with high rates. I had to add $\frac{1}{4}$ inch of downtrim; when you assemble the P-38, I recommend that you adjust the stabilizer's incidence so that your plane won't need as much down-trim. The roll rate greatly improves when rolls are flown with high rates. On low rates, the roll takes a long time and requires the help of the rudder; on high rates, they are fast.

easier if you wait to attach the booms to the inner wings at this point rather than when specified in the instructions. Why? It's much easier to work with the individual booms than with the completed fuselage.

I installed the stabilizer by removing the covering from where it fits into the slots at the end of the booms. I applied 30-minute epoxy to the bare wood, slid the stabilizer into place and, after checking its alignment with the rear

of the wing, I set the assembly aside to dry.

I centered the rudder pushrods in each boom and cut slots where they exit in line with the rudder control horn. Next, I hinged the rudders into place, and I ran into a slight problem: there weren't any hardwood blocks in the vertical stabilizers on which to mount the rudder hinges. I cut two $\frac{3}{8}\times\frac{3}{8}$ -inch hardwood blocks, drilled a hole in the center of each, put each block into place with the pin hinges, and the rudders went on easily.

The outer wings are not glued into place but can be removed for ease of transportation. I glued two alignment dowels into each outer wing root—one at the front and the other near the rear. These dowels guarantee that the wing will always be correctly aligned when it's attached to the fuselage. The wings are held in place by a hook and a rubber band inside each boom.

I routed four sets of servo extensions (ailerons, flaps, throttle and rudder) through each boom and the inner part of each wing to the receiver, which is in the cockpit. After installing all the servo extensions in the cockpit, I installed the elevator servo there. The elevator is controlled by a pull-pull system that exits at the rear of the cockpit and extends to the elevator control horns.

It was then time to bolt the two engines to their mounts. Be sure that the engines are installed so that there are $4\frac{3}{4}$ inches between the back of the prop and the firewall. I test-fit the cowls, cut out the exhaust ports and mounted the cowls on the firewalls. I finished the fuselage by installing the servo that operates the nosewheel steering; this is also a pull-pull system.

➤ **Final assembly** The canopy is held by four small screws. I screwed the fiberglass hatch covers to the underside of each boom. The third hatch cover goes on the main fuselage. Make a cutout for the nosewheel before you attach it to the fuselage. With everything checked and balanced, my fork-tailed devil was ready for the flying field.

FINAL THOUGHTS

As I gazed with pride at my new P-38J Lightning, I knew that the assembly work had been well worth the payoff. Its detailed scale looks and solid flight performance make it a must-have. Kondor Model Products really put a lot of effort into producing this ARF. ✦

See the Source Guide on page 151 for manufacturers' contact information.

GEAR USED

RADIO: Airtronics RD8000 transmitter and receiver, 13 Airtronics 94102Z standard servos

ENGINES: RCV 91-CD 4-strokes (2)

FUEL: Wildcat 15%

PROP: Master Airscrew 12x6 3-blade

