

“The B-25J Mitchell is an excellent scale flyer ...”



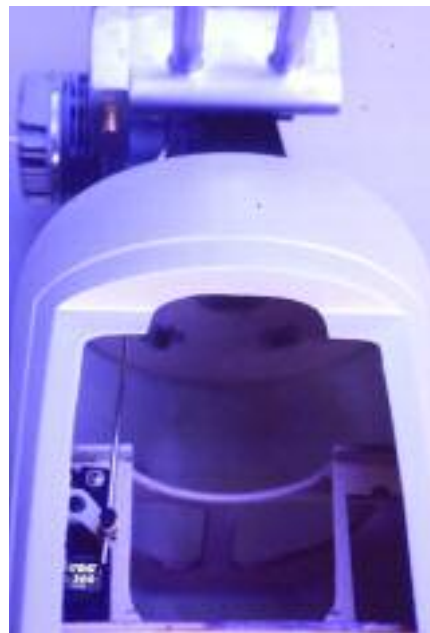
KONDOR MODEL PRODUCTS

# B-25J MITCHELL

## TWIN-ENGINE THRILLS!

ON APRIL 21, 1992, A RESTORED B-25J MITCHELL BOMBER named "Heavenly Body" roared down the deck of the aircraft carrier *USS Ranger* in San Diego Bay in honor of the 50th anniversary of the Doolittle raid on Tokyo. Kondor Model Products has recently added an ARF replica of this stunning B-25 to its line of scale classics.





Each nacelle needed to be trimmed to allow room to install the assembled fuel tanks.



The fuselage provides plenty of room to mount radio and retract equipment.

**IN THE BOX**

The plane arrived in two large boxes that separated the fuselage from the wings and tail feathers. On opening the boxes, my pulse raced with excitement as I examined the flat green and light gray surfaces that had panel lines molded into the fiberglass fuselage and engine cowls.

The kit contains all-wood wings and tail assemblies that come built and covered in a heat-shrink fabric film, and the fuselage, nacelles and cowls are made of fiberglass. It also arrives with a generous supply of hardware, linkages, pushrods, nylon engine mounts and fuel tanks. I was delighted to see a complete set of pneumatic retractable landing gear that includes an air tank, fill valve, connectors, air line and control valve. Kondor also includes a step-by-step, photo-illustrated instruction manual and decal sheets.

I first inventoried all of the parts in the box according to the accessory lists in each

**SPECIFICATIONS**

MODEL: B-25 Mitchell  
 MANUFACTURER: Kondor Model Products  
 WINGSPAN: 83 in.  
 LENGTH: 66.9 in.  
 WING AREA: 6.34 sq. ft.  
 WEIGHT: 16.5 lb.  
 WING LOADING: 41.6 oz./sq. ft.  
 ENGINES REQ'D: two .46 to .61 2-strokes or two .70 4-strokes  
 RADIO REQ'D: 6-channel w/13 servos (elevator, retracts, nose steering, 2 rudder, 2 throttle, 2 aileron, 4 flap)  
 PRICE: \$589

**COMMENTS**

This B-25 receives a lot of attention at the flying field. It can be flown easily by any intermediate warbird pilot.

**HIGHLIGHTS**

- >Great flight performance
- >Complete air-retract system included
- >Plenty of room for radio equipment



A complete air retract system is included.

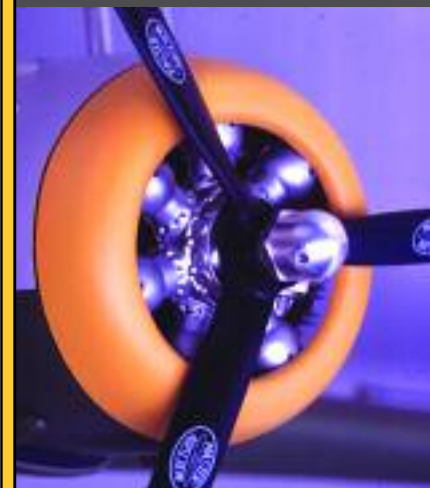
section of the manual. This was an opportune time to sort the hardware by size. I noted that the manual lists 2x35mm screws; that should read 2x30mm. Two of the canopies were cracked beyond use; I contacted Kondor, and it sent replacements. I was impressed by the condition of the fabric film that covered the wings and tail surfaces. They had very few wrinkles, and I easily removed them with a heat gun. If you do this, be careful not to warp the assemblies.

**ASSEMBLY**

>Wings I attached the aileron and flap to each wing half and installed all respective servos as illustrated in the manual. I used a servo for each flap section instead of incorporating one servo and relying on flexible



The author with his B-25J Mitchell.



Top: side-turret machine gun installed and ready for action.

Center: the cylinder engine face adds realism to the engine cowl.

Bottom: machine-gun kit and assembled product.

**DRESSING UP THE MITCHELL**

I ALWAYS LIKE TO ADD AS MUCH DETAIL AS possible to my warbirds, and this B-25J Mitchell is no exception. I bought 1/10-scale WW II figures from Hangar 9 to use as pilots and gunners. I cut these latex figures to size and brought them to life with water-based acrylic paints. To cover the engine cowls' large front openings, I cut two Wing Mfg. seven-cylinder radial engine faces (item no. AC-903) to size. I removed the material between the cylinders to allow sufficient air to flow through the cowl for engine cooling. Last, it didn't seem right not to have a gun barrel sticking out of every opening, so I purchased a Wing Mfg. machine-gun package (PK1001-M), which consists of scale Browning .50-caliber machine guns that must be assembled and painted. Put realism into your B-25: the result is well worth the effort.

pushrods to operate all four flap sections. To achieve perfect alignment and help pin together the wing halves, I inserted a small section of 1/4-inch dowel through holes near the trailing edge of each wing root rib. I used 30-minute epoxy to glue the dihedral brace and wing halves together.

>Engine installation I decided to install two O.S. Max .50 SX 2-stroke engines. Since the centerlines were not marked on the firewall, I had to take some very accurate measurements. I side-mounted the engines to achieve the best operational reliability and then installed a pair of Pitts-style mufflers that fit nicely inside the cowls. After I drilled the engine mounting holes, I coated the back of the firewall with 30-minute epoxy thinned 50 percent with alcohol and allowed it to cure overnight before I inserted the 4mm blind nuts. That helps to prevent the blind nuts from being pulled through the wood when you tighten the engine mount.

>Fuel tanks When I assembled the fuel tanks, I incorporated a third line to use as my fill line. Each nacelle had to be trimmed to allow room to install the assembled fuel tanks. Each fuel tank's neck protrudes through a center hole in the firewall and is mounted with a generous amount of silicone sealant between the tank and the firewall to help damp vibration from the engines. I then installed the pushrod and servo for each engine throttle, making sure that it would not interfere with the fuel tank.

>Retracts Installation of the air-retract system is fairly simple for anyone who has experience with pneumatic retracts. I noticed that not only is the configuration of the nose retract different from the main gears, but the wire strut is also a different length. I like to secure each air-line connection with a small piece of wire looped twice around the air line and over the connector and carefully twisted to prevent air leaks (twist ties with the paper removed work well for this).

>Fitting the cowls I trimmed the cowls to fit over the engines' cylinder heads and muffler exhaust stacks and drilled holes in them to access the carburetor needles. I cut out the PVC exhaust vents and glued them into place around the perimeter of the cowls. Because all of the PVC exhaust vents are green, I painted certain exhaust vents to match by mixing light gray and flat white





## IN THE AIR

My good friend George Schmauch first flew the B-25 while I snapped some in-flight photos. Then I took over the controls to better evaluate the plane's flight performance. The grass runway at our flying field is cut short and is very well maintained.

### CONTROL THROWS

Elevator: ± 0.6 in.; expo: 30%

Aileron: ± 0.6 in.; expo: 30%

Rudder: ± 0.8 in.; expo: 30%

Flaps: -0.3 in. (low); -0.8 in. (full)

### GENERAL FLIGHT CHARACTERISTICS

➤ **Stability:** the B-25 is very solid and smooth at low and high speeds, and the surface controls are responsive.

➤ **Tracking:** the plane tracks straight and true down the grass runway and in the air with minimal rudder input.

➤ **Aerobatics:** the B-25 performs axial rolls at a moderate roll rate, and its

loops are round and fairly tight. I didn't attempt any other maneuvers.

➤ **Glide performance:** because of its high wing loading, the B-25 will only "glide" at low throttle with full flaps, and that results in a smooth main-wheel landing.

**Stalls:** during induced stalls at engine idle, the B-25 would drop a wingtip, yet recovery is fairly quick as soon as you drop the nose and increase throttle.

### PILOT DEBRIEFING

On takeoff, I give the plane as much airspeed as the runway allows before I apply a little up-elevator. The aircraft is very stable as it gains altitude (it required only two clicks of down-elevator to achieve proper trim). The center of gravity seems to be perfect when set at the location listed in the manual. I set it up for landing in usual warbird fashion—full flaps mixed with 5-percent down-elevator and reduce power to  $\frac{2}{3}$  throttle throughout the descent—and that produced a moderate sink rate. The B-25J Mitchell is an excellent scale flyer, and I recommend it for any warbird enthusiast.

enamel paint. I mounted the cowl formers to the firewall and assembled the cowls in place by gluing four pieces of hardwood blocks to each former and securing the cowls to the blocks using no. 4x $\frac{3}{8}$  sheet-metal screws. That is much easier than gluing the former to the cowl and trying to reach the screws that secure the former to the firewall through the front opening of the cowl, as depicted in the manual.

➤ **Fuselage** Mount the main wing on the fuselage as shown in the manual; take your time to ensure a perfect wing-to-fuselage

alignment. The fuselage provides plenty of room to mount radio and retract equipment. When I installed the nose retract, I made the tension in the steering pull-pull cables too taut, and that prevented the retract from locking in place when it was lowered for landings (go ahead; ask me how I know!). A small adjustment to the cables corrected this problem.

➤ **Tail assembly** The tail assembly is pretty straightforward, as illustrated in the instructions. I used miniservos mounted in each vertical stab to control the rudders instead of one servo and flexible pushrods. My main concern was to ensure that all tail-surface areas were aligned with one another and with the main wing. I had to glue a thin strip of balsa to the right side saddle for the horizontal stab to keep it parallel with the main wing. When you cut the slots for the elevator pushrod, start with a very small opening and enlarge only as needed. Too large an opening will allow the pushrod to flex when actuated.

### FINAL PREPARATIONS

After I trimmed the top turret and all of the canopies, I epoxied them into place instead of using screws. The canopies are very fragile, so take your time, and trim them with sharp scissors to avoid introducing cracks.

I then flipped over the plane and used clear film covering left over from a previous project to seal all of the control-surface hinge-line gaps. After I applied all of the decals and highlighted the panel lines with an ink pen, I sealed all of these surfaces with a very thin layer of Top Flite LustreKote flat clear spray paint.

I balanced the model without adding any additional weight; I simply repositioned the receiver battery pack in the front nose section. I ran approximately five tanks of fuel through each engine on the bench. A dead engine on a twin can be extremely tricky for even the most seasoned pilot!

### CONCLUSION

This plane should be assembled and flown by an intermediate or advanced warbird flier. This is a fantastic-looking ARF with very good flying characteristics. Take your time building this beautiful model. I have approximately 70 hours of assembly time invested in this plane, and it really shows on the ground as well as in the air. I get lots of compliments on the plane's appearance and flight performance from fellow fliers at the field. Kudos to Kondor Model Products on producing such an outstanding model. ✈

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

## GEAR USED

**RADIO:** Futaba 9C transmitter and 138DP receiver; Hitec servos (7 HS-635MG—flaps, steering, throttles; 2 HS-625MG—ailerons; 2 HS-85—rudders; 1 HS-5645MG—elevator; 1 HS-81—retracts)

**ENGINES:** O.S. Max .50 SX 2-strokes w/Bisson Pitts-style mufflers

**FUEL:** Wildcat 80/20 blend

**PROP:** Zinger 11x8 2-blade

