

HOBBY LOBBY

V-DIAMOND

SPECS

MODEL: V-Diamond
MANUFACTURER: Hobby Lobby
TYPE: electric pusher sport plane
SMALLEST FLYING AREA: large soccer field
IDEAL FOR: intermediate to advanced fliers
WINGSPAN: 36 in.
WING AREA: 248 sq. in.
READY-TO-FLY WEIGHT: 28 oz.
WING LOADING: 16.3 oz./sq. ft.
FLIGHT DURATION: 10 min.
PRICE: \$86.40

If you are feeling the need for speed, the Hobby Lobby V-Diamond twin-tail electric pusher plane is a great choice. It has the looks of a jet trainer with the simplicity of an Axi brushless motor for power. The beautifully finished V-Diamond is built of laser-cut balsa and plywood, assembles quickly and flies smoothly and solidly.

SCOREBOARD

- ⊕ Excellent quality and parts fit.
Attractive jet-like looks.
Outstanding flight characteristics.
- ⊖ None.

YOU NEED

- ✦ 4-channel transmitter and receiver
- ✦ 3 micros servos, 2 servo extensions
- ✦ Brushless motor
- ✦ ESC
- ✦ Li-poly pack



PUSHER PLANE WITH JET PERFORMANCE



WORLD EXCLUSIVE!



The fuselage has ample room for the nose-gear servo and radio equipment.

IN THE BOX

Since the V-Diamond is so highly prefabricated, there aren't many pieces in the box. The one-piece wing is already joined, and the torque rods for the ailerons have been installed. The other main airframe components include the film-covered fuselage, twin booms, battery hatch, ailerons, stabilizer and elevator. In addition, the laser-cut motor mount has a mounting-hole pattern to fit an Axi 2212/20 motor. All the required hardware such as pushrods, clevises, steerable nosewheel and CA hinges are included. The 7-page instruction manual is photo-illustrated and easy to follow. Before I start construction, I usually use my iron to remove any wrinkles, but this was unnecessary with the V-Diamond. The brightly colored heat-shrink film covering was flawless and had no wrinkles.

WING ASSEMBLY

I started the wing assembly with the hinging of the ailerons. First, I applied a little 5-minute epoxy to the factory-drilled holes in the aileron for the torque rod. Then, I inserted the CA hinges in the pre-cut slots in the wing and ailerons and applied thin CA. The manual erroneously instructs you to use epoxy for the hinging of the control surfaces. I epoxied the plywood mounting plate in next for the single aileron servo. I mounted the Hitec HS-55 servo and fabricated the two aileron pushrods. After I had

removed the covering for the wing-mounting screw hole, the wing was complete.

FUSELAGE & TAIL FEATHERS

I mounted the wing onto the fuselage with the 3mm screw and verified the alignment to the wing. I made a mark on the wing 258mm from the fuselage centerline for the tail booms. Next, I slid the two booms onto the wing and temporarily installed the horizontal stabilizer, which has a tab that slides into a slot in the boom. I then placed the assembly on a large Hobbico cutting mat and used the grid lines to align the wing, fuselage, booms and horizontal tail. I double-checked the alignment by measuring from each wingtip to the aft edge of the booms to make sure that they were equal. After I was satisfied, I marked the booms' location on the wing and removed the covering inside the marks with a hot knife. Using 30-minute epoxy, I glued the booms to the wings and the horizontal stabilizer to the booms and rechecked the alignment. After the epoxy had set, I hinged the elevator in the same way as I did the ailerons.

I installed the tricycle landing gear next. I inserted the nose-gear wire into the factory-installed nylon mounting block

FEATURES

A terrific-looking sport twin-tailed pusher plane with jet-like looks, the V-Diamond features laser-cut, all-wood construction and is finished in an attractive, brightly colored iron-on film. It is highly prefabricated and assembles quickly.

and added the tiller arm. The main gear legs fit into slots in the wing, and nylon straps secure them. I then installed the wheels and wheel collars. The laser-cut motor mount is assembled and installed next. I used medium CA to glue it together. The interlocking pieces form a very strong and rigid mount. The instructions show the Axi motor mounted externally to the motor mount with a radial mount. The Hobby Lobby website shows an alternate method, which does not require the radial mount and results in a cleaner installation. I used this method to install the motor in the mount and secured it with a couple of 3mm bolts. The elevator servo is mounted on two hardwood blocks, which I epoxied to the underside of the stabilizer. I then installed the elevator control horn and prepared the elevator pushrod by installing the nylon clevis.

POWER SYSTEM

The Axi 2212 fit the motor mount perfectly. You could use another equivalent motor, but you might have to drill mounting holes in the appropriate locations. I used a 2100mAh, 3-cell Li-poly that fits in the battery compartment in the forward section of the fuselage. I had to trim some of the former to accommodate the pack. A slightly smaller pack would fit without trimming. The Jeti Advance PLUS 18A

brushless controller is mounted in the fuselage radio compartment. I used Deans Ultra Plugs to connect the battery to the ESC. The

The interlocking laser-cut motor mount is very sturdy.



GEAR USED

DRIVE SYSTEM: Axi 2212/20 outrunner; Jeti Advance PLUS 18 brushless ESC

RADIO SYSTEM: Hitec Optic 6 transmitter; Hitec HS-55 servos; Hitec Micro O5S receiver

BATTERY: PolyQuest "Twenty" 3-cell, 11.1V, 2100mAh Li-poly



With the 2100mAh Li-poly, the plane balanced without the addition of any lead weights.

battery compartment hatch is held in place with Hobby Lobby magnets, and that makes battery changes very easy and convenient. To install the magnets, I drilled holes in the fuselage and hatch and epoxied them into place.

RADIO GEAR & FINAL ASSEMBLY

I used Velcro to mount the Hitec micro-receiver in the fuselage. Hitec supplies a bobbin to wind the extra antenna wire, and that allowed me to keep the antenna in the fuselage. A 12-inch extension connected the elevator servo to the receiver. I ran the extension out through the motor mount and used yellow electrical tape to secure it

TIP



Tape the elevator servo lead and its extension to the airframe so that it won't get tangled up in the prop.

to the trailing edge of the wing so that it wouldn't foul the prop. I installed the nose-gear steering servo next and connected it to the tiller arm using the supplied pushrod and linkages. I made an instrument panel using an image I downloaded from the Web. Using my inkjet printer and self-adhesive white-label paper, I applied the graphic to the cockpit. I installed the Hobby Lobby pilot figure with Shoe-Goo and the pre-trimmed canopy with Pacer Formula 560 Canopy Glue. Check and adjust the control throws and the center of gravity (CG) as shown in the manual, and you're ready to fly; all the graphics and trim are already applied for you.

FINAL THOUGHTS

The Hobby Lobby V-Diamond is a high-quality, all-wood ARF that looks terrific and unusual. The bright yellow color scheme stands out and helps you track



THE V-DIAMOND IS CAPABLE OF ANY SPORT-TYPE AEROBATICS

IN THE AIR

The delta-wing V-Diamond has a wide speed envelope: from slow nose-high approaches to high-speed passes down the runway centerline. With the steerable nosewheel, a hard-surface runway is ideal. Because the grass on the field used for the flight test hadn't been mowed in some time, I hand-launched the V-Diamond. With the help of my assistant, the plane was up and away after a level toss. You will need someone to hand-launch the plane for you because launching requires you to use two hands to grip the plane without getting your hand in the prop.

CLIMB PERFORMANCE The Axi motor pulls the plane at an impressive angle. It isn't quite vertical, but the plane gets small very fast. There is a left-turning tendency during takeoff because of the engine torque, so some right aileron is required to compensate.

FLIGHT STABILITY The V-Diamond has excellent stability and flies very solidly. It has nearly neutral stability with a slight tendency to over-bank in turns. I used about half of the recommended control throws for the ailerons and elevator and found that this suited my flying style.

PILOT RECOMMENDATIONS The bright yellow model looks awesome in the air, especially when you are making a high-speed pass and pull into a vertical climb. Stalls are gentle and straight ahead. The plane can be slowed for realistic nose-high landings on the main gear with the nosewheel held off the runway.

PERFORMANCE HIGHLIGHT The V-Diamond is capable of any sport-type aerobatics that require aileron and elevator. Loops are nice and round, and rolls are axial. Inverted flight requires only a little down-elevator. It flies fast, but not so fast that any intermediate pilot with aileron experience can't safely handle it. The twin-tail V-Diamond just may be your ticket to joining the jet set.

the plane in the air. Hobby Lobby says it takes about 4 hours to build this plane, but I built mine in well under that. Now, intermediate and advanced pilots can

have the thrill of flying a jet without the associated expense and complexity. ☉

See the Source Guide on page 96 for manufacturers' contact information.