

V-mar CAP-232

by Gary Childers

MODEL NAME:
CAP-232

MANUFACTURER:
VMAR Products -
Richmond RC
Supply Ltd.

TYPE:
Sport Scale
Almost Ready To Fly

WINGSPAN:
64"

WING AREA:
656 sq in

WEIGHT:
6.5 - 7.5 lbs.
(Review model
6.3 lbs)

WING LOADING:
22.17 oz/sq ft

LENGTH:
53 inches

**NO. OF CHANNELS
REQUIRED:**
Four
(four or five
servos depending on
aileron option)

**ENGINE SIZES
RECOMMENDED:**
.61 - .75 2-stroke
.70 - .90 4-stroke

AIRFOIL TYPE:
Symmetrical

**TYPE OF WING
CONSTRUCTION:**
Built-up
balsa/ply/hardwood



“Ready to fly in 8 hours.” Sure, right! That’s what the ad stated. I must tell you I was skeptical that I could be at the flying field within eight hours of opening the box. Well, let me tell you, it only took six hours and 55 minutes to complete this model!

WHAT’S IN THE BOX?

The VMAR CAP-232 is well made and has a pleasing finish which wouldn’t be easy to duplicate. The 20 page instruction manual is chock full of black and white photos and the assembly is laid out in an orderly fashion.

When you open the large box, you’ll find a nicely packed airframe that’s about 90-percent complete. VMAR has included all the hardware necessary to complete the model, including aluminum motor mount, Dubro clevises, lightweight wheels, spinner, and fuel tank. A plastic universal servo mount, pushrods, pilot, and canopy are pre-installed. Wood selection and construction were excellent with only one poor or questionable joint. I noticed the stabilizer leading edge was very weak and contacted Richmond RC by email and told them of the problem. Within two days, I received a response informing me that there had been no other complaints at this time, but the engineering staff at the factory had redesigned the stabilizer to ensure no problems occurred in the future. I was then sent a newly designed replacement by priority mail. Talk about customer satisfaction!

KIT REVIEW

RADIO INSTALLATION AND PRE-FLIGHT

What a pleasure! Pre-installed in the fuselage is a plastic servo tray adjustable to any standard sized servo. All you have to do is insert the servos, install the servo mounting screws, and tighten the tray slider screws. With the exception of the throttle control, the installed steel pushrods run through nylon tubes, are pre-cut and include clevises on both ends.

VMAR thought ahead when they designed the receiver and battery pack mounts. The receiver and switch mount is in a special plywood box on the left side of the fuselage. There is enough room to install any modern receiver, including its padding and the switch mounts behind the receiver.

The instructions provide a chart of the recommended control deflections, both low rate and high rate. However, the instructions failed to list the recommended flap deflection for those using flaperons. I set mine up at approximately 60 degrees, which seems to work just fine. If you happen to forget the maximum allowable deflections while at the field, VMAR has printed the maximum deflections by each control surface.

With the radio and engine installed, the center of gravity was nearly perfect at almost three inches behind the leading edge. I added a heavier spinner, which moved the CG to exactly 3-1/8 inches, recommended for first flights. All-up weight came in at 6.3 lbs., which is actually below the published finished weight – something rare to see in ARF’s.

KIT REVIEW

FLIGHT PERFORMANCE

Takeoff and Landing:

After a brief taxi around the airfield, I headed the CAP-232 into the wind and slowly advanced the throttle. After approximately 100’, (our field is 4,500’ high) a little up elevator was all that was needed to lift off; just a touch of right rudder was necessary to keep the CAP on track down the runway. The CAP immediately banked right, but three clicks of right aileron and rudder corrected the problem. I found all controls very crisp even at slow speeds. With the CG at the forward location, stalls are noticeable and strait forward, but with the CG at the far aft position, it’s difficult to determine when the CAP is about to stall.

The CAP controls like any other high performance airplane during the landing phase; just keep the speed up and nose slightly down until you’re over the threshold, and begin your flare at about three feet. For its frontal area, the CAP bleeds off speed rather slowly. I found the flaperons functioned beautifully, decreasing the landing speed considerably, but the nose pitched down quite steeply when the flaperons were set past 30 degrees to 60 degrees. To compensate, I just mixed in 10 percent up elevator over the full flaperon deflection range and the problem was eliminated.

High Speed Handling:

The CAP controls well at high speed and stays exactly where you put the nose. Tracking at all speeds is precise and smooth. Control response on low rate is immediate and smooth. High rate produces very quick roll rates that will make your head spin – not something for the faint hearted!

Slow Flight Characteristics:

At slow speeds, you will find the large control surfaces work right up to stall speed. Slow speed turns require a small amount of rudder input to prevent unwanted yaw,

which seems to be a little more apparent in right turns. The large rudder allows beautiful cross-wind handling that must be seen to be believed.

Aerobatics:

The CAP was designed for aerobatics. Under skilled hands, the CAP will perform any maneuver in the book with ease. Inverted flight requires very little down elevator and knife edge flight is simple with the assistance of the large rudder. You will find inside and outside maneuvers are easy to control. I discovered aileron rolls are nearly axial and snap rolls smooth when the nose is pointed up about 10 degrees upon entry. The CAP has no problems completing spins and hammerhead stalls, and recovery is easily accomplished. I’m convinced that any pilot with low wing experience will have few problems making the CAP perform like a pro. This CAP was made to fly and you’ll simply love to fly it!

CONCLUSION

The plethora of ARF’s available today makes finding a quality, good flying plane a challenging task. I found the VMAR CAP-232 to be a well made ARF that went together easily and flies extremely smooth – true value for your money! Customer support is top-notch. ➤



Hits:

- “Power Module” makes engine and fuel tank mounting and maintenance a breeze.



- Pre-mounted universal servo tray and pre-constructed receiver and battery compartments make radio installation simple and quick.
- Double pinned hinges on all control surfaces.
- Flight performance will keep even the most advanced flyers happy.

Misses:

- No instructions for mounting cowl, and some instructions in the manual are inaccurate.
- Instrument panel decal a little large causing lower panel to lift and curl.