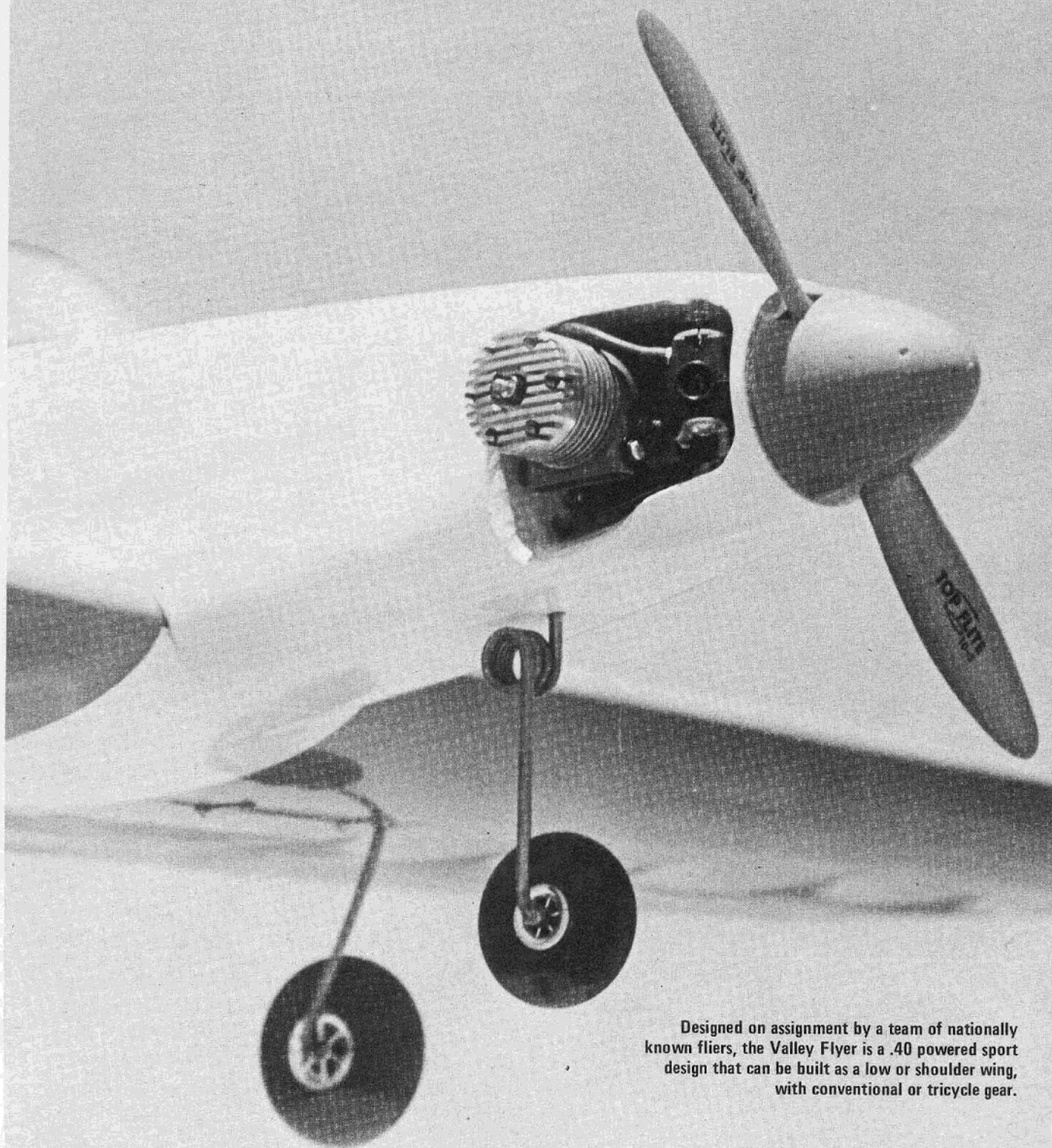


# VALLEY FLYER



Designed on assignment by a team of nationally known fliers, the Valley Flyer is a .40 powered sport design that can be built as a low or shoulder wing, with conventional or tricycle gear.

DESIGNED BY LARRY LEONARD • BILL NORTHROP • JOE BRIDI • DON BUTMAN • BOB UPTON • EARL HARTING • WHIT AND BOB STOCKWELL • NATE RAMBO • DICK SONHEIM.

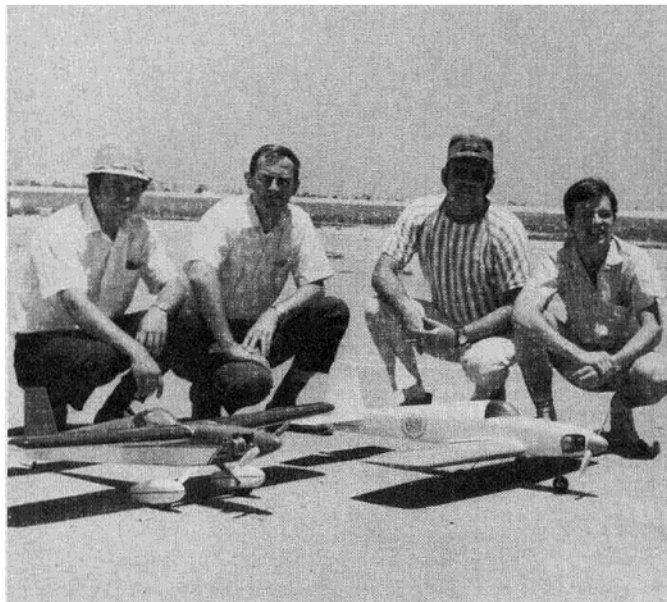
TEXT BY NATE RAMBO

To fully appreciate the Valley Flyer you should first realize that it is not the usual product of one mortal man. Rather, it is the product of a group of experts detailed to design and build an R/C model just for you, the RCM reader. Responsibility for the whole business must be credited to RCM's Contributing Editor, Dick Sonheim. When Dick was elected 1970 president of the San Fernando Valley Flyers R/C Club, he assigned a team of experts from the club to design an airplane for RCM. The driving philosophy was that the club was poor and could use the proceeds which Dick would choke out of Dewey for the article. Well, at any rate, that was the idea.

There is little argument that the club members Dick assigned to design and build this airplane were real honest-to-goodness experts. Larry Leonard, Bill Northrop, Joe Bridi, Don Butman, Bob Upton, and Earl Harting, and the Stockwell crew were just a few of the talented modelers that Dick assigned to the team. But of course every organization must have a problem child. That's where I come in. Dick assigned me to act as glorious leader and get the whole gang of experts headed in the same direction. Furthermore, Dick put absolutely no stipulations or restraints on the job. Great!

So off to work we went. And when you get a group of knowledgeable people together and all have a common objective, things really move fast and decisive action can be taken. During our first work session it took only five hours and 32 cans of beer for all those super-duper experts to come to one universal agreement. Each and every one agreed, without exception, that he liked girls. There was no further agreement. One expert wanted a pattern ship, another a Formula 1 racer, another a scale job, and so forth. Then of course there was "Wild Bill" Northrop who was having Big John Biplane fantasies and hallucinations throughout the entire first meeting.

All I can say is thank goodness for Earl Harting who finally came up with the design concept which



Larry Leonard, Nate Rambo, Bob Upton, and Whit Stockwell pose with both versions of the Valley Flyer.

the experts, who had gathered together for that first meeting, ultimately merged into the Valley Flyer. Earl proposed that the design be a sport type model which could be built as either a low-winger or high-winger and as either a tail dragger or a trike gear job. A few sketches proved the whole business could be achieved with one set of parts and a little ingenuity.

The Harding design proposal was soon agreed upon. Thereafter, it was unani-

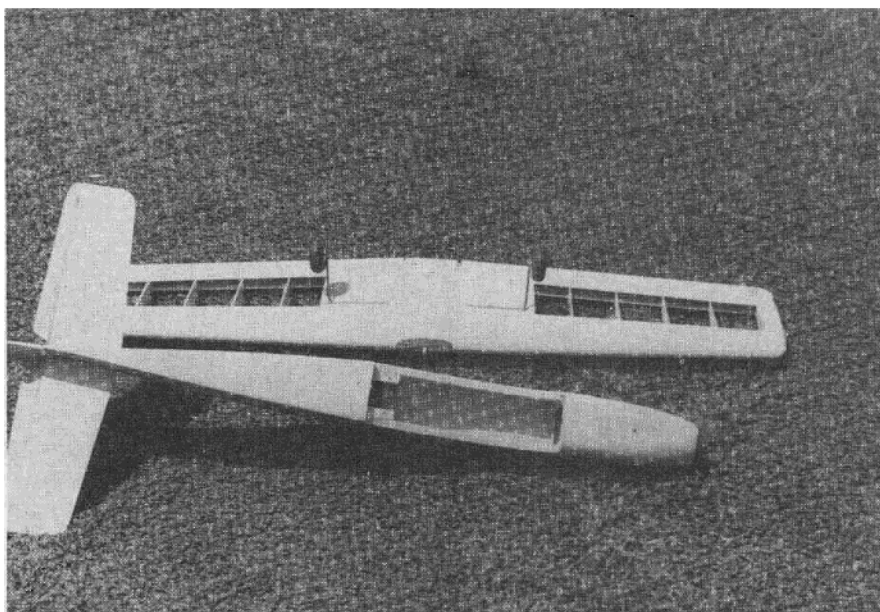
mously decided that the ship should look like a real airplane, be small enough to transport assembled, and be designed around the new K & B .40 sport engine which was soon to be available.

Finally a lot of hard work and thought by a talented group of people bore fruit and the Valley Flyer model was born in the two shapes shown here. Both have been flown by a long list of both experts and beginners who have been favorably impressed.

The ship is not a beginner's flight trainer. On the other hand, it is not tricky. For one thing the thick Bridi Sun Fli type airfoil section gives either version of the Valley Flyer a very docile stall. Slow flight characteristics are particularly evident in the shoulder wing version where the prop wash wets a lot of highly curved wing section and provides a respectable amount of lift at low air speeds.

While on the subject of flying, even Jim Kirkland would have a ball with either version of the Valley Flyer. Both designs are very nimble and very quick. For those flyers who have the knack of doing knife edge flight, powerful rudders and large side areas permits knife edge from horizon to horizon.

Like to try and build a Valley Flyer? The construction is so straightforward that little need be said. Select the version you like before or after cutting the parts. About the only difference is that the location of the stabilizer slot must be reversed when going from one version to the other. (High stabilizer on low wing version and vice versa.)

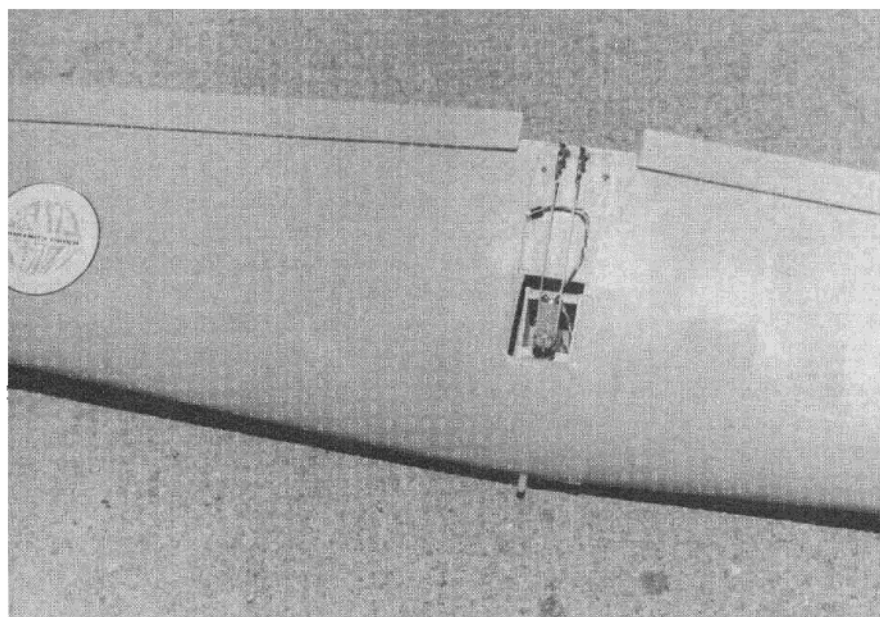
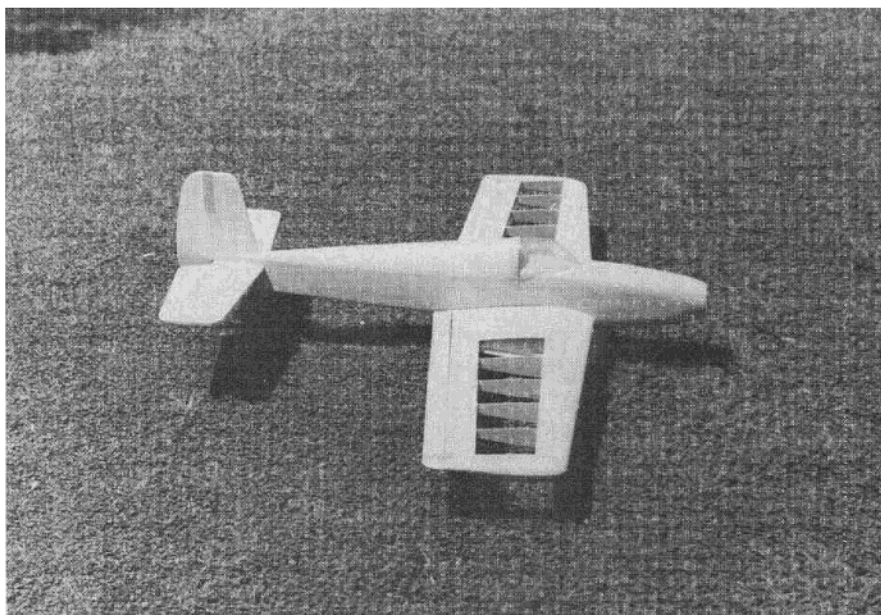


place between the sides, etcetera. Put the firewall in with plenty of glue and support it with scrap balsa reinforcement side doublers, tying it securely in place. Attach the unshaped soft balsa nose, top, and bottom blocks that will later provide the fuselage with its personality. The plywood ring which faces these blocks against the spinner should be epoxied into place. Next, build up the turtle deck as shown on the plans. When all the glue is dry, shape the fuselage with a razor plane and sanding block.

Let's diverge a little from the building details. Talking about all this gluing and wood assembly brings up adhesives. I use about

While choosing the configuration, decide which landing gear version titillates (?) your fancy. There is no use cutting landing gear blocks for the wing of the shoulder winger because the aluminum gear will be mounted on a plywood platform which should be cut with the rest of the parts. Also, if you decide on a tail dragger, don't bother to cut the hardwood nose gear blocks which will not be needed.

Now to the actual assembly of the airframe. I refuse to fill up paper telling how to build a box type fuselage. It would insult my intelligence. On second thought...pick up the glue bottle, glue the bulkheads in



the same glues and adhesive techniques that the experts use. My own personal Valley Flyer, the shoulder winger shown on the cover, was built with three types of adhesives. Most of the internal wood joints were bonded using good old white glue. I buy this by the quart at the hardware store for about \$1.75 and apply it using a small squeeze bottle. Unless you are very careful, white glue will leave a joint which is impossible to sand. Therefore, I always shift to a regular model cement (such as Testors white label) for any place where large surface joints are concerned. My third type of adhesive is epoxy. Devcon, Hobby-

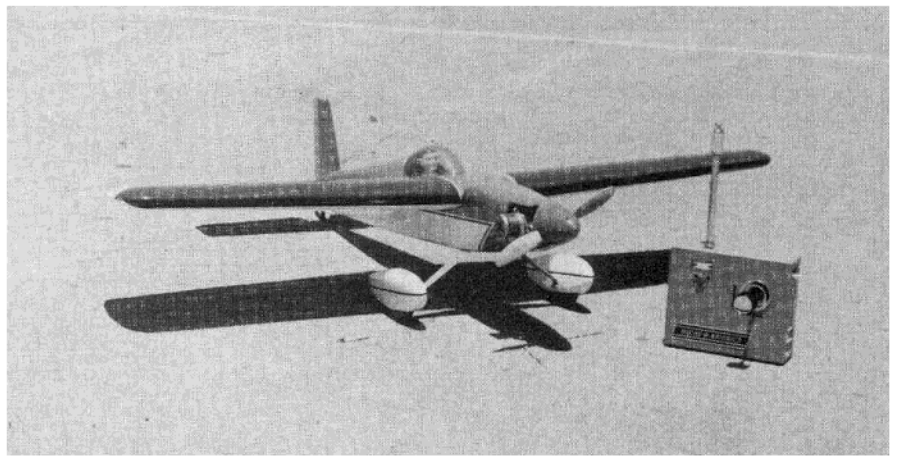
Poxy #1, or a similar epoxy is mandatory for those high stress areas such as around the firewall. The epoxy is also about the best thing going for securing those pesky plastic canopies.

Like the fuselage, the wing is simple enough to knock out. After building foam wings for the last five years, the experts re-discovered the built-up structure. Joe Bridi's Sun Fli technique is used here. One-fourth inch holes are drilled in the ribs and the wing is assembled on two ¼ inch rods from the hardware store. (RCM Wing Jig). First slide the ribs on the rod. Then glue the spars, leading edge, and trailing edge in place. All of the wing sheeting is applied with the rods squarely resting on two parallel wooden blocks. (Flip the wing inverted or upright as required.) The rods and blocks guarantee that the wing is assembled straight. Before removing the wing from the rod/block jigs be sure to put 1/16 inch sheet webs between the upper and lower spars. This structurally closes the leading edge into a torsionally rigid "D" tube and absolutely prevents wing warping. Static condition warps make you curse a ship for not "tracking" through the loops.

If you build the shoulder wing version, screw the wing in place with nylon bolts prior to installing the canopy bulkhead and canopy. This insures a good fit between the canopy assembly and fuselage turtle deck.

There is little more to be said about assembly so here's a word on equipment installation. The Valley Flyer has enough space for big servos such as the old PCS servos or the reliable Kraft KPS-9's. I installed KPS-9's across the fuselage and used wheel outputs on staggered sides. Earl Harting took the opposite approach and installed one of the mini-sized radio systems and had room to spare.

Irregardless of which radio you use, make the actual installa-



The shoulder wing, tail-dragger version of the Valley Flyer. K & B .40, Micro-Avionics radio.

tion a neat one. A particular point of workmanship to watch when installing a radio is to make the pushrods go straight. No Zee's, please. Even though the VF is a small ship, make up a pair of rigid pushrods using ¼ inch dowels or fiberglass arrow shafts with 1/16 inch music wire ends or commercial clevis assemblies. Another point on the equipment installation is to keep the control surface movements small compared with bigger ships. This is particularly true of the aileron movement.

When you choose an engine for this ship try to go the .40 class route. Frankly, a .19 probably won't fly the Valley Flyer and give the flyer much satisfaction. If you can't afford a new K & B .40 sport engine or some other nice shiny mill, be

nice to one of your pylon racing buddies and see if he won't throw you one of his old 1965 vintage .40's which has long been outmoded.

If you want to really glamorize your Valley Flyer, pick up some plastic parts like wheel pants and cowl cheeks. Install these and you will suddenly put some real personality and bounce into the finished ship.

Finish the ship off the way you like. For information, the little shoulder wing on the cover of this magazine was covered with MonoKote. Only ten hours labor was involved which makes the hand-rubbed lacquer finisher wonder if the old-fashioned techniques are worthwhile.

Read enough? Start building and fly the VF in about 10 days. □

View of radio installation in Valley Flyer. Adequate room for most systems.

