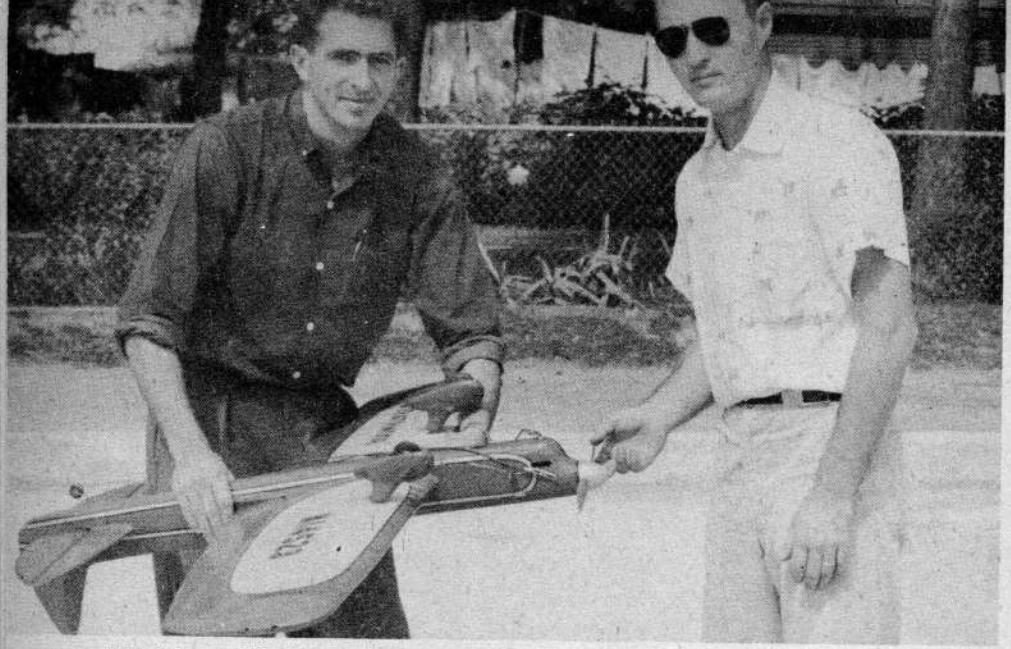
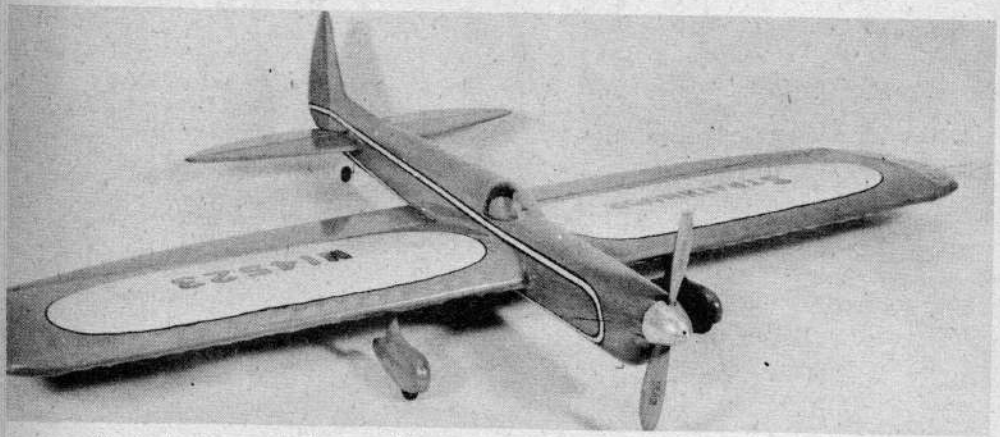


With helper holding the Strathmoor inverted to insure quick, clean start, author flips propeller.

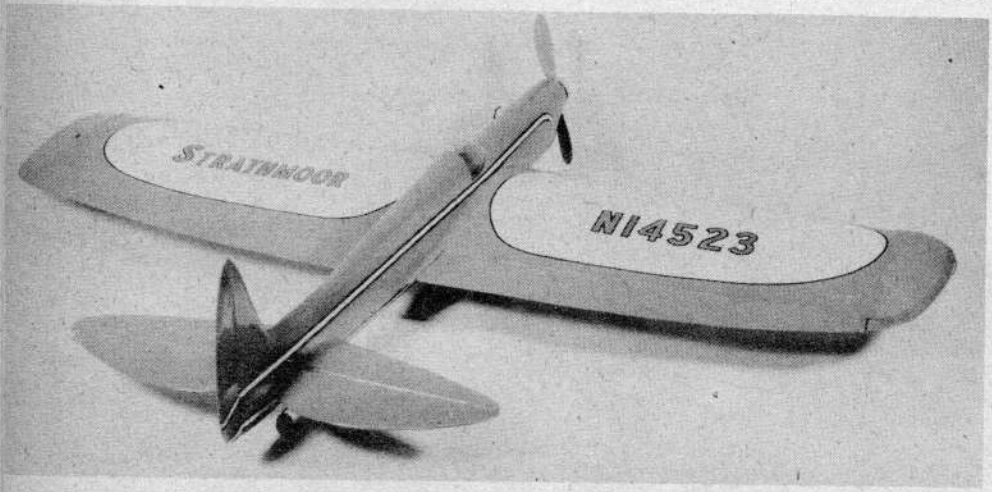
Among Detroit class models, Strathmoor itself has two seconds and a fourth at Nationals.

The "Detroit" Stunter



More wing area and a longer tail-moment arm of the Strathmoor deviate from the "classic" stunt ship flown by almost everybody in recent years. A ship that you can fly year in, year out.

The one-to-one ratio of flap to flipper movement ordinarily frowned on, but author, after Aldrich, makes set-up pay off. Racy lines plus nifty paint job and finish, please the judges.



by ROLLAND McDONALD

The Strathmoor is the most famous of the stunters in the Motor City. These aircraft took more places at the Nats than any others.

► The Strathmoor is an airplane designed to meet the needs of the contest stunt flier who is out to get those few extra appearance points which can make all the difference in today's tough competition.

Let's face it. There isn't a stunt flier in the country that is outstanding enough that he doesn't need every point he can get.

In the Strathmoor, you have an airplane which has been undergoing constant development and improvement since 1952, when I built the first of its type. In this time the Strathmoor has been a consistent winner for me, failing to take home a trophy only twice in the past seven years. Besides having held several Michigan and Indiana state championships, it has taken two seconds ('54 and '58), and a fourth ('57) in three tries at the Nationals.

As some people reading this will know, the Strathmoor is what has become widely known as a "Detroit" design. These people will also know that all "Detroiters" incorporate a novel false rib wing construction, with the main spar built as a part of the fuselage.

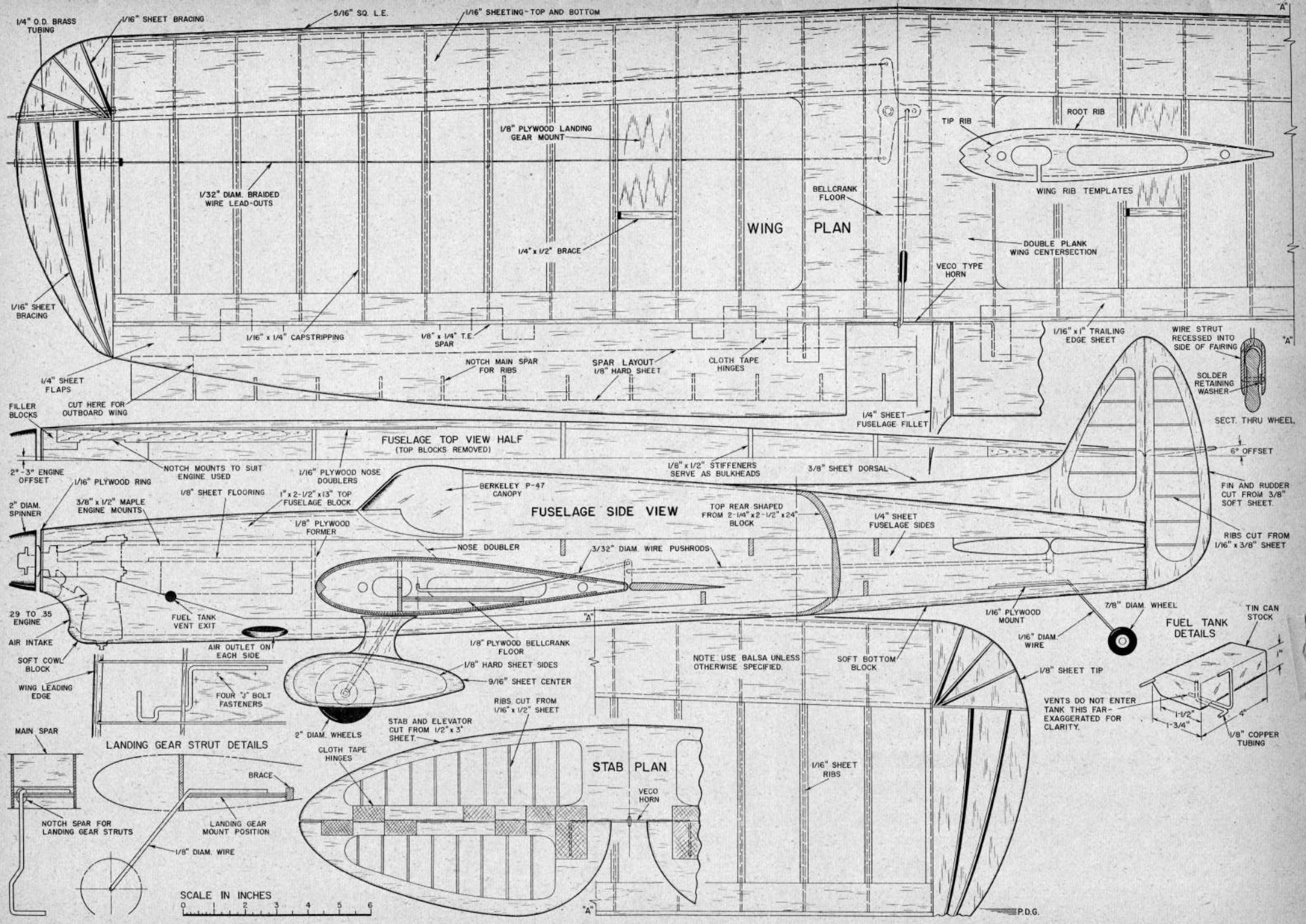
Now don't go away mad. I have changed these plans to the "Nobler" type of "D" tube wing for two very good reasons.

First, with the "D" tube wing, you can bounce the ship off the ground pretty hard and still hope to fly the ship again that day. With the "Detroit" wing, one good belly whopper and you're out of business.

Second, while this construction offers positive alignment of the wing and thrust line (this being my only reason for using it, aside from it being a bit different), it is very difficult to build unless you have calibrated eyeballs or want to build a complicated jig to avoid building in warps. I have also found that I can't seem to explain adequately this wing to a flier who has never seen one before it was covered.

This change in construction has no effect whatsoever on the performance of the airplane, as the airfoil and all other details have not been altered.

Well, down to the business of building the airplane. Since the construction of the Strathmoor is fairly conventional, I won't go (*Continued on page* 45)



FULL SIZE PLANS AVAILABLE. SEE PAGE 60.

The Wonderful Years

(*Continued from page* 41)

improperly shall be disqualified for that flight. In the outdoor competitions all machines must be started facing into the wind. Rule No. 9: Special prizes may be given for stability, excellency of construction, originality of design, and special contests. (See diagram of official landing area of NMAC rules.) Any machine alighting properly within the lines qualified as a flight.

Model airplane contests had become a regular part of inter-school competitions. In May 1910 the seven following schools in New York were holding contests, (69, 77, 78, 1311, 1611, 166, 173).

In June 1910, the Junior Aero Club issued a challenge to all Aero Clubs to enter a model contest and in that same month an American model airplane maker took the first prize at an international meet held in Paris, France.

The hobby was truly international—and is still going strong!

Bulletin Board

(*Continued from page* **42**)

test ships. Editors are: C. R. Goguillot (*Hot Head*) and Barry Haisman (*MMFC Bulletin*). Congrats on a good job.

• • •

Babcock Models is coming out with a crystal-controlled, super-heterodyne, fully proportional system called the "ProSuper." Aim is to get pinpoint selectivity in order to use simultaneously all six new RC channels bunched around 27 megacycles. Babcock envisions "six RC models flying a closed course (pylon race) all at the same time."

• • •

Mid-Western States Championships, in Kokomo, Ind., had some interesting events, we hear. For instance, three-at-a-time combat and a "weirdie" event for "things" that fly but really aren't airplanes. Examples of this were a "flying dust pan", a "free-flight kite" and a "flying out-house." One thing we like—pit crews of winning Rat Racers get medals.

• • •

From Chuck Tracy's Model Aviation column in the Cleveland Press comes the suggestion by Larry Mzik that there be separate indoor record categories for limited ceilings. Point is that only East and West Coast modelers get to fly in blimp hangars, says Mzik. Actually, we hear gripes from Westerners that the only time they get into NAS Los Alamitos is every four years when the Nats are there. Also, what ever became of the blimp hangar at Akron?

Easterners do get into both NAS South Weymouth, Mass., and NAS Lakehurst, N.J.—as a result of steady efforts by modelers to promote Navy help. Mainsprings in this have been Ed Dolby and Tony Becker.

As for stirring up interest via record attempts, suggest maintaining club records, city records or site records. This stirs up plenty of local competition and it's often far more compelling than shooting for national marks.

• • •

And speaking of indoor, the excited cry of, "There's another IRBM!" was recently heard in Hangar No. 6 at Lakehurst during a record trial. What's it mean? Bill Bogart of Baltimore answers, "Into Rafters By Mistake."

• • •

Nordic glider fan Peter Becker, RFD #2, Woodbury, Conn., issues an "emergency call" to modelers in the Waterbury area to help him find a Hobby Grinder. There's no question that this device can easily be converted into an excellent tow-line winch. They're usually found in five and dime stores for about $1.39. Failing all else, try writing the manufacturer to find out who distributes the item in your area. It's made by G. M. Mfg. Co. Inc., 13-08 43rd Ave., Long Island City, N.Y.

• • •

Las Vegas (N. Mex.) Prop Busters write to say they've got a going bunch, fly mostly control line, some RC and FF, hold a monthly club meet and an annual open meet. Interested? Contact Joel Richardson Jr., 747 Lee Drive, Las Vegas, New Mex.

• • •

New gadget on the market for outside-the-circle control line flying. Called "Controlon", it has center pylon with control out beyond circle. Made by Controlon Co., 6913 Sprague Rd., Cleveland 31, Ohio.

The "Detroit" Stunter

(*Continued from page* 12)

into great detail here.

Wing Construction: Cut the two rib templates shown on the plan from light sheet metal. Sandwich 13 pieces of 1/16 x 2 x 10" balsa between the templates, and bolt together with ¼" bolts through the holes shown. Carve and sand down to the templates and you have half of the ribs needed. Note that one of the tip ribs is discarded, as the outside wing is one panel shorter than the inside. Trim the four center ribs down 1/16" to accommodate the center section double sheeting, cut out the main spar and the trailing edge pieces, and you are ready to start construction.

Fasten the lower half of the trailing edge to a flat board. Slip the ribs onto the main spar, cement them firmly to the trailing edge, and install the 5/16" sq. leading edge. Do not cement the ribs to the main spar permanently at this time!

Install the bellcrank floor, cutting out the center of the main spar as necessary to clear the bellcrank. Put on the upper half of the trailing edge and the filler strip. You now can pick the wing up and put on the center section and leading edge sheeting.

Now is the time to check the wing for warps. If you have any, twist the wing straight and block it up in this position. Cement the ribs to the main spar and you will have a straight wing which will stay that way. The wing tips and flaps now are installed, and the pushrod from the bellcrank hooked up. Cement in the plywood landing gear floors, add the cap strips, and the wing is complete.

Fuselage Construction: Start by cementing the 1/16" plywood doublers to the inside of each fuselage side. Notice that

(*Continued on page* 48)

the sides are made of ¼" balsa. This is done to allow for rounding of the sides, which looks much better than the usual slab sides.

Mark the engine beam location and the wing and tail cutouts, using the top of the fuselage sides as a reference line for all dimensions.

After cementing in the engine mounts, tack the cement fuselage sides together at the rear and install the engine. The location of the engine is given to the center line of engine on the drawing. The distance from this point to the spinner is determined by the engine used, and your choice of crankshaft extension, if any.

No firewall is used behind the engine, for the simple reason that it does nothing to stiffen the front end that the engine doesn't do better, and it gets in the way when working on the engine or tank.

Cement in the ⅛" plywood bulkhead just forward of the wing, and the 1/16 x 2" dia. plywood ring behind the spinner backplate. Install the ⅛" balsa gas tank compartment floor between the beams.

Stabilizer and Elevator Construction: The stabilizer and elevators are cut from ½ x 3" soft balsa. Carve and sand to an airfoil shape, tapering the thickness to about ⅛" at the tips. Install a large Veco control horn, and assemble the elevators to the stabilizer. The fin and rudder are made in a similar manner from ⅜" balsa.

Assembly: Assemble the wing in the fuselage, being sure to align it carefully with the thrust line. Install the tail surfaces, at the same time completing the control hookup. Total movement of the control surfaces should not exceed 45° up or down, and the action must be absolutely free with no binding spots or spring to up or down. Freedom from spring is very important when the airplane gets to the top of the circle. Like most large airplanes, you will find the Strathmoor a bit loose on the lines at the top on a calm day. In an extreme case, a spring to up for instance can cause the ship to loop out behind your head in vertical maneuvers. At best, this condition can make smooth maneuvers impossible due to the amount of control changing as line tension varies.

Landing Gear: You may elect to mount the gear in the wing as shown, or you may wish to mount it in the fuselage. Either way is satisfactory, providing you have at least a 10" tread in the fuselage mounted type. You will notice that the wing mounted gear is built in the form of a torsion bar, to cut down on the amount of shock transmitted to the wing. While this gear, with its wider tread, is more stable on the ground, there is also a danger of damaging the wing in a rough landing.

Fuel Tank Construction: The fuel tank is made as shown on the plan from tin can stock, and held in place by "L" brackets soldered to the tank fore and aft. Bolt the tank to the engine mounts with 4-40 bolts.

Build up the cowl and tack on the top and bottom blocks. Carve and sand to shape, cut them off, and hollow out to about ⅛" thickness. Be sure that the wood selected for these blocks is very light, since there is a lot of wood here, and it can make a real difference in the weight of the airplane.

After the blocks are cemented back on, add the fin, rudder and dorsal fin. Build up fillets and fill all cracks with Aero Gloss Plastic Balsa. Note that the fin and dorsal are filletted in to look like a part of the top block.

Build up the wheel pants and fairings, cover the entire ship with "Jap tissue", and you are ready to start finishing. Make no mistake about it, getting a good finish on an airplane takes more work than building it.

Brush about five coats of full body clear dope on the wing and tail surfaces. Filler coats of dope and talc are brushed on all wood areas, and sanded smooth. This process is repeated until all grain is filled. The rest is just painting and trimming.

Ideal flying weight for the Strathmoor seems to be around 45 oz., but I have seen them go as high as 52 oz. and still fly a good pattern. Properly built and well taken care of, the Strathmoor will prove to be a sturdy, reliable airplane which will handle well on windy days as well as calm.

See you at the next contest.

. . . dawn to dusk

(*Continued from page 20*)

or dive (tank 12 in. behind engine) would starve or flood the carburetor. It was also confirmed that, with a Walker regulator installed in the system, the set-up would tolerate fairly wide variations in fuel head, though less than with a float chamber.

Fuel used consisted of five parts kerosene, three parts ether and two parts castor oil, with the addition of two per cent amyl-nitrate. This proved slightly more economical than standard commercial blends, while remaining reasonably tolerant to temperature change. Various other formulae were tried on the assumption that reducing both oil and ether content would increase the calorific value of the final mix, but, even with only 15 per cent each of ether and oil, no appreciable saving was evident. Delving deeper into the subject of economy fuel mixtures, however, may be expected to yield small gains. It has been found that the addition of benzene or nitrobenzene permits a slightly weaker needle setting, showing a measurable improvement in consumption. All experiments with fuels must, of course, be made with due regard to the weight of fuel consumed and not merely its volume, the specific gravity of kerosene, for example, being over 20 per cent more than that of ether. (Editor's Note—Amyl nitrate—not nitrite—is difficult to obtain in the States. The Ethyl Corp. has a Diesel fuel additive, containing amyl nitrate, used in our flight program. The castor-fortified oil was supplied by Castrol; obtainable at any motor cycle shop.)

Engine modifications were simple. The existing backplate was scrapped and a new, solid backplate was turned up and bored through the center with a 1/16 hole. A Fox 29R fuel metering valve was suitably modified by putting a thread on its horizontal nipple and screwing into the backplate and locking with a hexagon nut. A hex nut was also fitted to a new, lengthened, compression screw, so as to obviate any possibility of the compression adjustment altering in flight. The only other work on the engine consisted of polishing the piston head to delay carbon build-up.

The float chamber bowl was turned from clear acetate. The top was made from two layers of 1/8 acetate and one layer of 1/16, cut and filed to the required shapes and cemented together. Holes were drilled and tapped for the mounting screws, inlet and outlet nipples and screw filler cap.

The float was molded in fiberglass, using two layers of 1 in. x .003 woven glass tape and was fitted with a thin disc of aluminum at the top to bear against the needle base. The free-floating, weighted needle was made from the pointed end of a large darning needle, soldered into a brass base. Two aluminum brackets secured the float