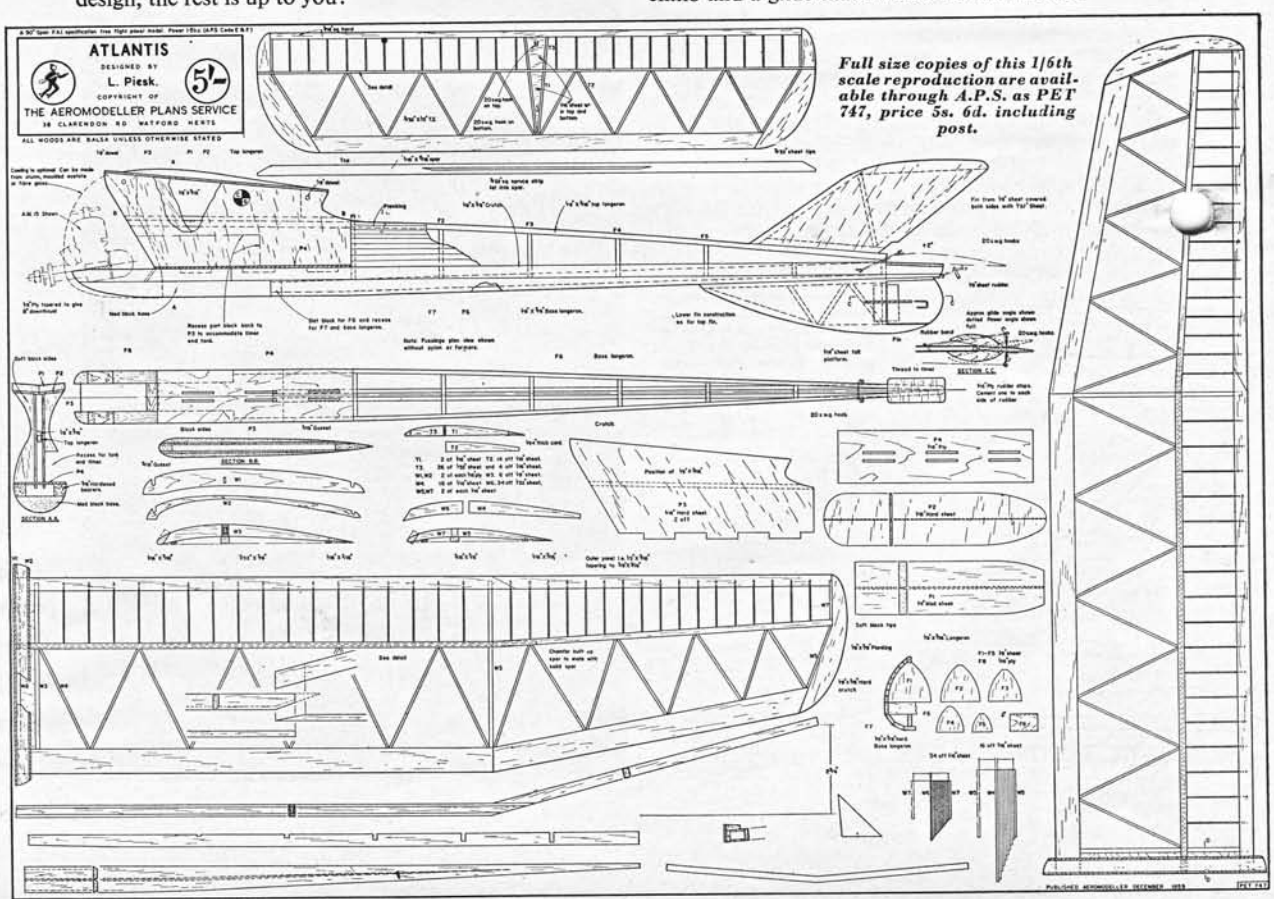
Lothar Piesk's ATLANTIS for 1·5 c.c.

WELL KNOWN FOR his series of contest winning 1·5 c.c. power designs, Lothar Piesk of Germany was voted by us as one of those most likely to win the 1958 World Champs. Such was not to be, for his best model was knocked from his hands by a competing design, and smashed beyond repair. However, nine first places in ten contests, with a still air average of 220 to 240 seconds from a fifteen secs. engine run, is the kind of performance that all power modellers will respect . . . so here's the design, the rest is up to you!

Lothar started this layout in '56, changing shapes as the design progressed, and like many others, he had just reached the "ultimate" when that formula change came along to increase the weight. "Atlantis", the latest in the Piesk line, is now considered the second "ultimate", and no further design alterations are envisaged.

Small in its overall size, still smaller when broken down for transport, and yet capable of knocking all the giants out of competition, it has an incredibly fast rate of climb and a glide that rivals a towline model.



The fuselage is built over a basic crutch with motor mounts, joined by a ply strengthener P.4. Leave the motor mounts longer than shown and trim later. Soft block and angled firewall can now be added to the motor mounts, and the lower fuselage T-spar and F7 fillers added. Make up the pylon assembly in stages, checking for correct angle with the dural wing tongue, then cement wing platform and fill-in firmly in place.

Now add the top planking strips alternately left and right, beginning at the crutch and working upwards. When the cement is well set, sand the whole fuselage to final shape according to the cross-section shown on the plan. Try to keep the weight as low as possible aft of F2. Final thickness of the planking need not be more than $\frac{1}{16}$ in. at the tail.

Add hold-down dowels, tail platform and hooks. Strengthen the dowels with circles of cloth (nylon, silk, linen, gauze, etc.) to prevent them pulling out under tension. Wind a piece of linen or similar material about $1\frac{1}{4}$ in. broad around the fuselage bottom at the firewall to protect this area in landing; the cloth should begin about $\frac{3}{8}$ in. above the motor mounts on each side.

Keep the fin and rudder parts *as light as possible*. The underfin has a moveable rudder with limiting stops, rudder direction depending on the power/glide set-up desired by the builder. A timer-operated auto-rudder requires a stop on both sides. Approximate settings are given on the plan. Cement a $\frac{1}{32}$ in. x $\frac{1}{16}$ in. bamboo strip flat onto the bottom edge of the underfin for protection against damage in landing. Sand the fin parts before cementing to the fuselage.

Original wing construction called for two small boards (one for each wing-half), angled to give the proper tip dihedral. The plan was cut and pinned to the boards, followed by the packing shown on the plan. This method ensures greater accuracy while building and the boards can be used later to keep the wing true between contests. However, one such board would be sufficient for building purposes.

The inboard panels of the wing have a box spar to take the dural wing tongue. Bevel the leading edge about 45 degrees on the underside so that it fits snugly on the board. The trailing edge is butt-jointed at the dihedral break.

Pin the mainspar to the packing and join Rib W3 to the spar at the dihedral angle indicated on the plan. Check for proper alignment by sliding the dural wing tongue through the slot in Rib W3 into the mainspar. Add the forward half-ribs; when dry, add the leading edge. Pin down the trailing edge, making sure there is no tension on it to cause warping later. Set in the rear half-ribs, trimming them to the correct angle at the joints. The tip panel is built in similar fashion. Build up root fitting. The two wing-halves should fit snugly together with the tongue in place.

Preparation and construction of the tail are similar to the wing. To prevent the trailing edge warping, give it a slight undercamber by placing a strip of thin card (about 1/64 in. specified on the original) between the front edge and the building board.

Waterspray the surfaces after covering, and pin to the building board. When dry, apply 2-3 coats of thinned clear dope, followed by 4-5 coats of normal thickness clear plasticised with a few drops of castor oil. Pin the surfaces down between coats, and allow at least 48 hours after the last coats before removing the surfaces from the board.

Weigh all parts, including motor, prop, bolts, etc., and add the required ballast to make up the minimum weight ($16\frac{1}{4}$ oz. for F.A.I.); this ballast is about 1-2 oz. Mount wing and tail on the fuselage and move the motor and ballast on the mounts until the C.G. is correct, then mount the motor.

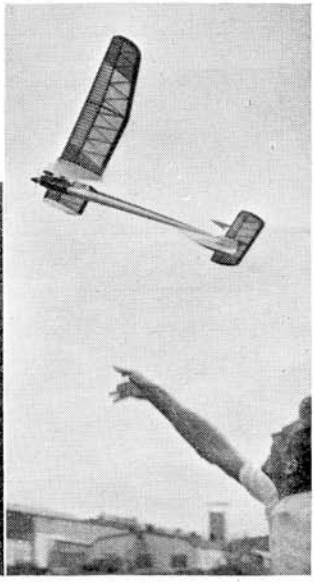
Trimming

After a satisfactory glide (to the right) is arrived at through hand-gliding, try a short flight on low power with about second seconds motor run. The climb should be slightly to the right. Increase power gradually to full revs., correcting with the rudder to keep the right turn from tightening up. Be careful to make only slight changes in the rudder setting, as its effect is quite powerful at higher speed.

Power-stalling is cured with more downthrust; if the climb is too shallow, decrease dowthrust. In wind or strong thermals, this model has a tendency to tighten up to the right in both climb and glide. Slightly more left rudder may be necessary to correct this.

The designer advises that *two* check flights be made before each flying session, both on about 7 seconds run, one on half power and one on full. This applies even after the model has been thoroughly adjusted, and is especially recommended after the initial adjusting.

Lothar Piesk's Taifun Hurricane powered Atlantis on local field tests. Note high standard of workmanship in these pictures.



Wings dismantle for easy transport so that whole model will pack into box about 30 in. long! Model has terrific reputation in Germany is kitted by Graupner in simplified form as the "Atlas". Our review kit needed nose ballast to balance, otherwise passed tests trouble free. Picture below shows different kit wing structure.