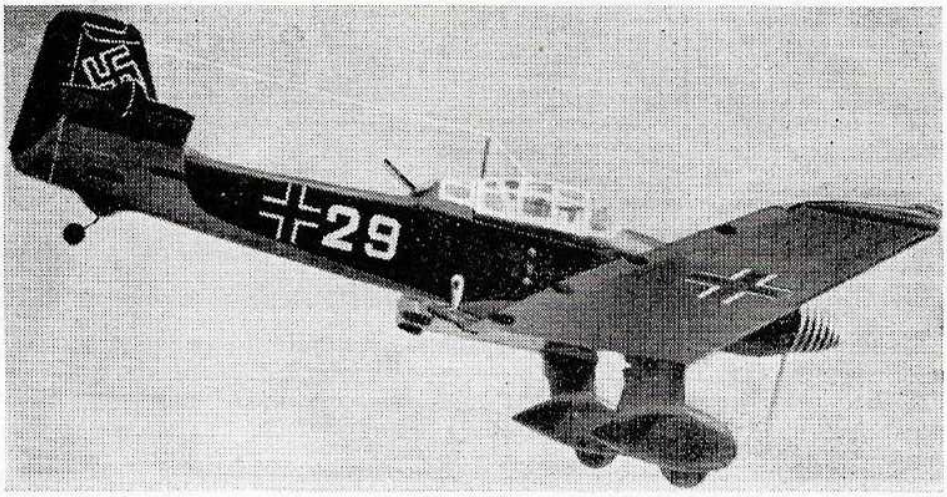
—— from Japan ——
Fujio Arigaya's 41 inch span near-scale model for rudder-only radio control and 1.5 c.c.-2.5 c.c. engines



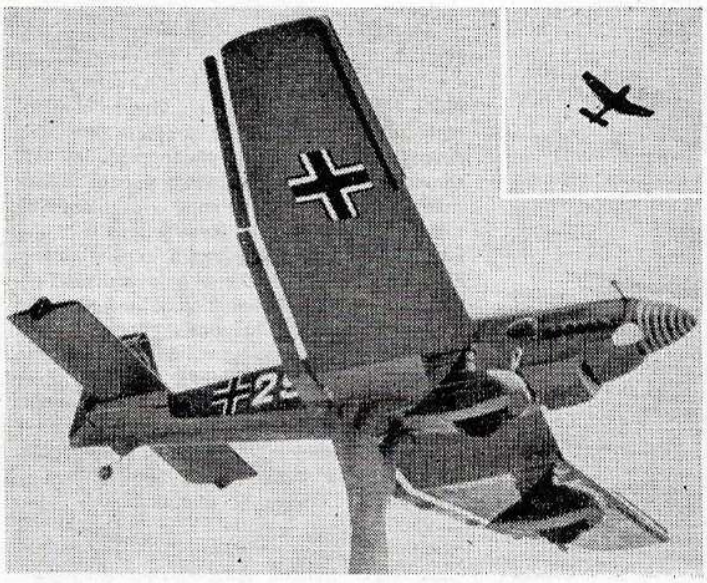
Junkers Ju 87 'STUKA'

NO CLAIM IS MADE for this design to be true to scale in all respects. However, the purists will find that the drawing includes the scale outline indicating the deviations in the tail surface and wing tips.

This Japanese model has already accumulated a fine reputation in its homeland and the designer is renowned for his series of scale and semi-scale projects all of which are operated on single channel. This is one of his earlier and most used creations. It employs a rubber driven compound escapement driving the rudder with 3rd position for a motor control escapement. Other designs from the same school have employed aileron-only control and with the benefit of the later type motorised servos for the single channel Fujio has incorporated as many operations as: ailerons, flaps, motor speed, steering nose wheel and kick elevator, all off one servo!

Fully tested

We specially selected this Ju 87 "Stuka" for the reason that it is so well proven and is surprisingly simple to make in spite of its unorthodox cranked wing appearance.



Dive bomber

The Ju 87 was a German dive bomber used in the earlier years of World War II, and having generous dihedral angles, offers a surprising stability to make it suitable for model flying. Strangely enough, very few free flight models apart from the well established design in Aeromodeller Plans Service* have appeared, yet performance is not in the least hazardous as was that of the full size.

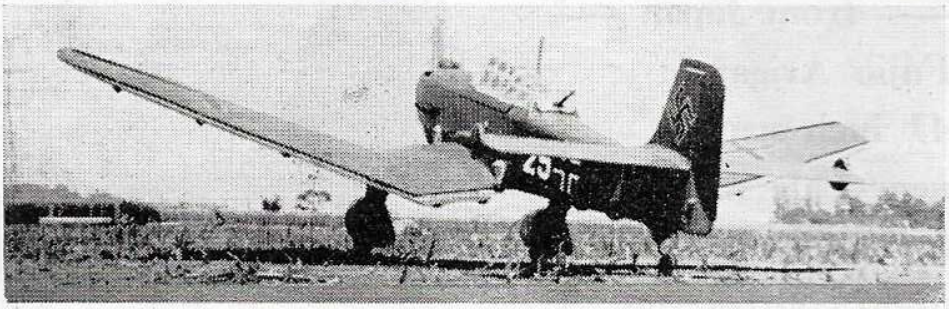
For anyone looking for something out of the ordinary for Radio Control flying, even for local rough field operation, here is a thorough recommendation. It lends itself to a variety of colour schemes and the plan itself is one of the most detailed in our range. One has the option of using anti-stall slots in the wing tip panels, the trailing edge flaps can be used for trimming and the entire wing and undercarriage actually knocks off easily from the underside of the fuselage in the event of minor disaster.

On the full size plan are the developed templates for each of the major components, it also incorporates the basic building instructions. Whilst the original employed a .09 cu. in. glow plug engine, the model will take a full range of engines from the more powerful 1 c.c. diesels through to 2.5 c.c.—if you want something that is "hot".

* *APS Plan FSP/CL675 is for a 34 in. span free flight (.5 c.c.) or control line (2.5 c.c.) scale Ju 87 "Stuka", price 5/- plus 6d. postage.*

(Continued overleaf)

Simplified in cross section and altered in the size of the tailplane, and chord of the wing tip, this "Stuka" by Arigaya becomes a practical local field flyer for simple rudder only operation. Inset flight view at left indicates the spectacular appearance when airborne. Trailing flaps and ailerons are soft wire mounted and can be used for trimming.



This angle emphasises the cranked wing and extra 5 degrees of dihedral for stability safety factor. True scale dihedral is 10 degrees. Plan is reproduced by courtesy of Denpa Jikken Co. Publishers of "Radio Control Technique", Japan.

Whilst the fuselage is of reasonably standard assembly, having flat solid sheet sides with verticals attached prior to assembly on the engine bearers and main bulkheads, the wing demands a different technique to normal.

The cranked wing

One must decide whether or not slots are to be used. We are assured and know from experience with larger designs that they can be of value. Since they should present no difficulty in construction they are therefore recommended. This means that the alternate ribs and false leading edge have to be prepared.

Wing construction starts with the port (left) panel when ribs W4-W9 are glued over the lower trailing edge and the bottom spar. This structure is made more complete by addition of the upper spar, the flap hinges, the top trailing edge and the rear section of rib W3 which is situated at the dihedral break. Spars are left over-long and the cranked $\frac{3}{32}$ in. ply centre section spar is attached to the front face of the spruce spars up to the inner face of rib W4. The free end of the centre section spar is cranked upwards and away from the building board whilst working on the rest of the structure and when all joints are dry, the structure is removed from the board and a repeat procedure for the starboard (right) panel out-board to rib W3 produces another outer wing joined onto the ply spar. When this structure is complete and joints dry, trim the over-length spars at the W3 position and add the pieces of spruce spar to the rear face of the ply spar on the cranked section between the W3 ribs.

The shaped landing gear is secured to the ply spar with bolts and clamped with a slotted hardwood spar using a strong adhesive such as Araldite.

Now to fill in the basic structure of the centre section. The $\frac{3}{16}$ in. spruce spars act as keying points for the rear sections of ribs W1, which can be aligned by eye. Link them with the flat centre panel of the trailing edge and do the same for the nose portion. Then fit ribs W2, aligning carefully by eye and add remaining leading and trailing edges. The entire cranked portion of the wing is sheeted on the top surface with $\frac{1}{16}$ in. balsa and the outboard panels are reinforced from the spars forward with sheet, and strips of capping on the ribs, on the top surface only.

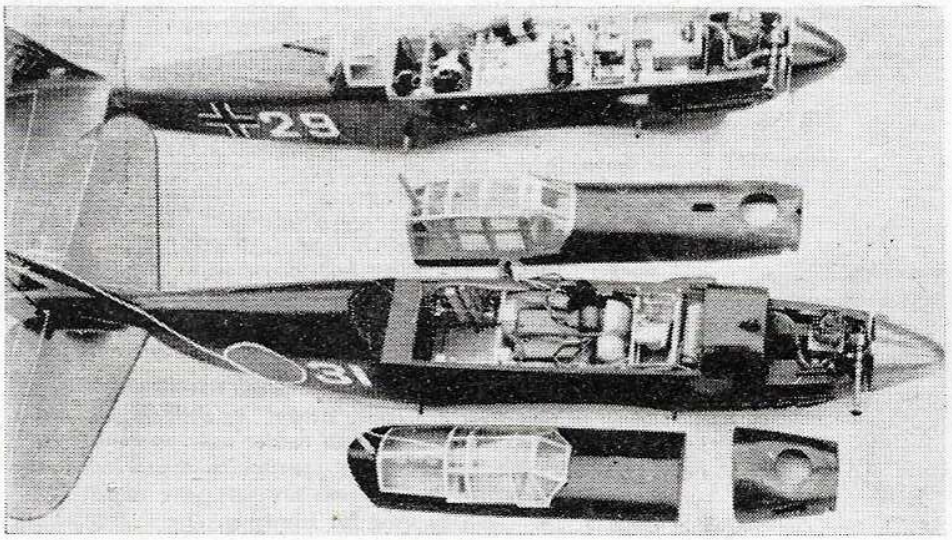
Apart from the cranked wing, the remainder of the structure is perfectly standard. The undercarriage spats can be carved from soft balsa or alternatively moulded in a plastic. This is a matter of modeller's choice but one thing is essential in that one must allow a loose joint for flexibility on hard landings.

Installation of the radio control equipment is clearly indicated on the drawing but the Japanese design allows a push-pull rudder action only. A British escapement would require to be modified with an internal bellcrank to convert the normal torque rod motion to push-pull action. Another alternative would be to modify the rudder to have internal type of angled torque rod lever.

As for the colour scheme, one could employ the desert colouring of light and dark brown mottle camouflage or the European scheme of light green with irregular straight edged dark green patches, or, all-over very dark green upper surfaces. In all cases, use light blue under-surfaces. The APS Scale plan BL2687 (2/10d.) gives further information.

Others wanted?

In presenting this first design from the Arigaya stable, we invite readers to comment on other semi-scale or exact scale single channel models they would like to see added to our range. Dependent upon the response, we can then plan further additions for the future.



NO—Not two of them! This is a foretaste of other semi-scale projects from the Arigaya stable. This photograph at left shows the "Stuka" fuselage in the upper half with the canopy and nose cowling removed to reveal installation of the Enya .09 engine and radio control gear. The fuselage will accept practically every known single channel combination. In the lower half is Arigaya's 'Tony' fighter with similar arrangement. Escapement has in this case been removed from its rails and the cowling for the engine is separated. The 'Tony' is equally attractive and if sufficient readers request, we will endeavour to include this in our future range of plans.