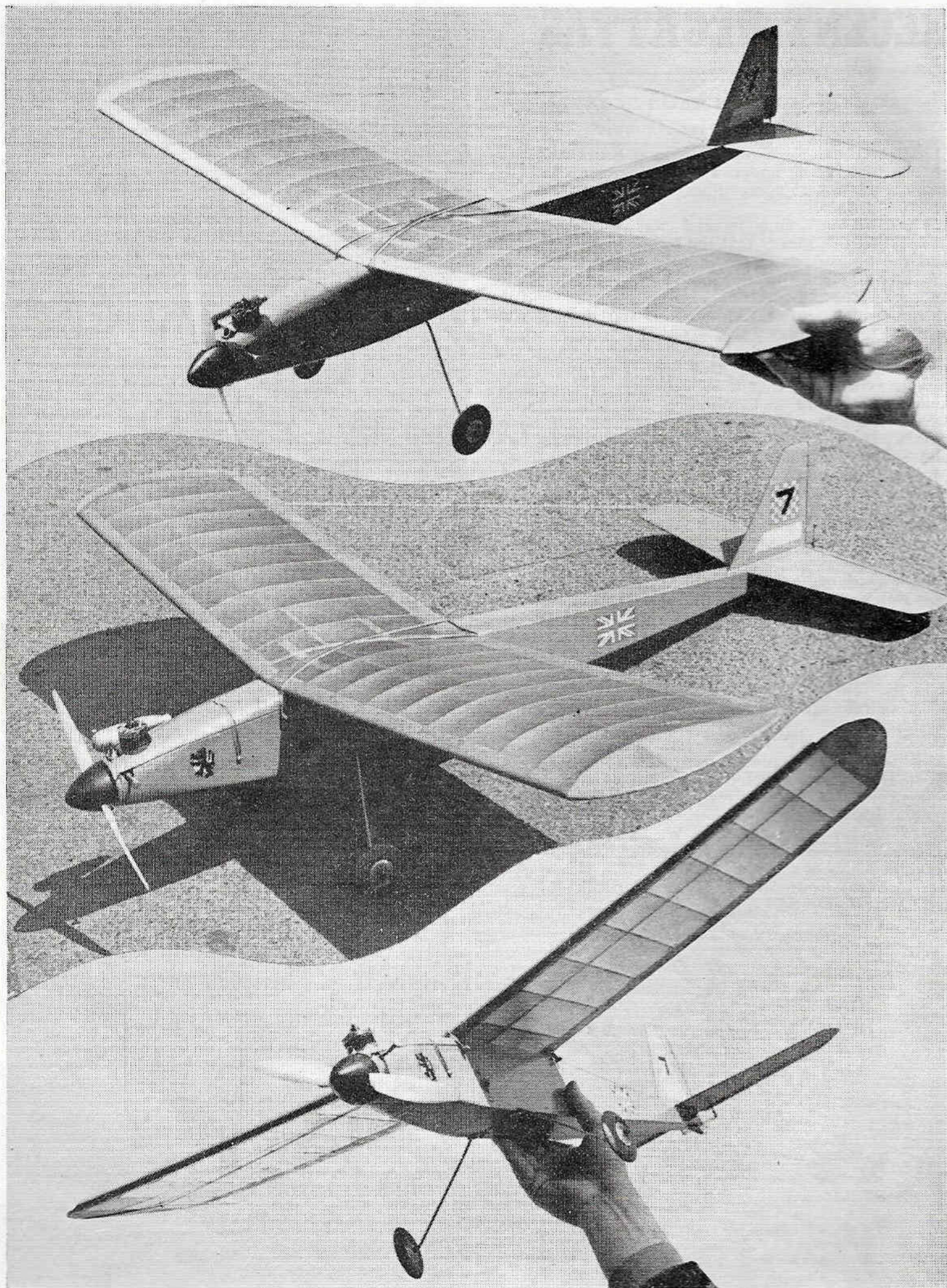




PHLEET PHOOT

—by—
BILL GRUNDY

Pulse proportional model for 1.5 to 2.5cc engines

THE simple appearance of this little model is rather deceptive; it actually embodies all the best features of Galloping Ghost design. Although few people realise it, the most important feature of such design is light weight. Nothing ruins the performance of G.G. models so effectively as weight. Firstly, then, this one is built lightly, but with more than adequate strength. The original fuselage emerged almost unscathed, after being planted eight inches into the turf from five hundred feet up; this unhappy situation arose when a too-thin wing, aimed at even higher speeds, broke up in mid-air, following half an outside loop! Secondly, because high speed was the prime objective, the fuselage frontal area has been kept low. There is just adequate room to house the radio gear; in the original an RCS superhet with a transistor amplifier, and Mighty Midget, were used.

Wing dihedral is fairly high, because this, whilst not affecting the flying speed, does give quick response to rudder control. It is common to find people overlooking the necessity for reasonable dihedral, when

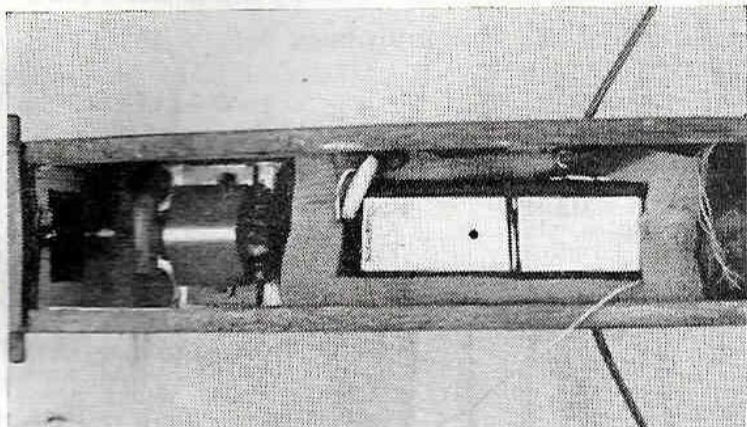
rudder alone is used for steering. Many G.G. racers are notably lacking in rudder response and, consequently severely hampered in racing where quick cornering is most essential. The tail surfaces are of soft wood, because of the need to keep the tail end sufficiently light to permit correct C.G. location, without the addition of lead ballast.

Power on the prototype model has been provided by an O.S. 15, which gives a sparkling performance, to put it mildly. If you feel capable of handling a missile, try a Cox Special up front. Take-off with an O.S. 15 is accomplished in about five feet, so with a Cox one may expect V.T.O! For gentle relaxed training or sport flying, the *Phleet-Phoot* will perform happily on 0.09 engines, but do avoid that lead-lined balsa that gets left at the back of the rack at every model shop in the country!

This design uses every good feature of G.G., not the least being the narrow-chord elevator and high pulse rate. At full up, the rate does not go below

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FULL SIZE PLAN, PRICE 8s. 6d. post free from RADIO MODELLER offices.



Photos show the installation of the equipment in "Phleet Phoot".

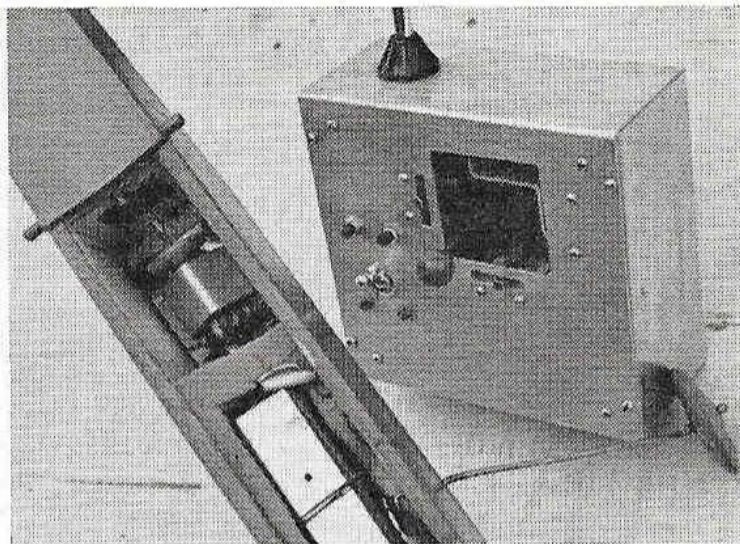
Phleet Phoot

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four cycles per second. Full down is about fifteen cycles per second, but is not critical. Ten c/s is adequate but, if your radio link will work, you can use even twenty c/s maximum. The narrow chord elevator alone would prevent "gallop" but, combined with a minimum of four c/s, it becomes impossible for the model to react to the pulse rate sufficiently for any effect to be seen.

The use of a superhet receiver made it imperative to have a "clean", noise-free servo. This was accomplished by fitting an aluminium plate under, and a clamp strip over, the Mighty Midget motor. A pair of 0.01 capacitors were connected, one from each motor bush, to the clamp strip, which was then earthed to the receiver negative.

The switching amplifier used was a very simple type, and operated from a centre-tapped 7.2 volt DEAC, which also supplied the superhet receiver. 3.6 volts each way were considered necessary, in view of the slight loss which occurs through a switching transistor. If the motor current is excessive, a resistance can be wired in series with the motor. This



would normally be a 10 ohm resistor. The actual valve used should be selected to give a maximum motor current, on full- or no-signal, of 400 mA.

The switcher is operated from the output load of a transistor receiver. The load should be a 1 Kohm value and the slugging capacitor at the output end of the receiver, must be reduced to the smallest value which will "fill in" the tone suitably. Also, it is an advantage to use the highest tone modulation that your receiver will accept, as this permits a smaller slugging capacitor, and hence more faithful following of the pulse shape. An RCS Superregen Ten receiver, without the reed bank, has proved excellent for driving a switching amplifier of suitable type. By drilling a few holes in the blank region of the PC board, it is possible to build the amplifier on there.

The actual construction of *Phleet Phoot* is quite simple and straightforward, so needs no detailed description here. All you have to do is nip down to the Post Office, send off your order for a full size plan, call in the model shop on your way back for some extra balsa and glue and you're in business!