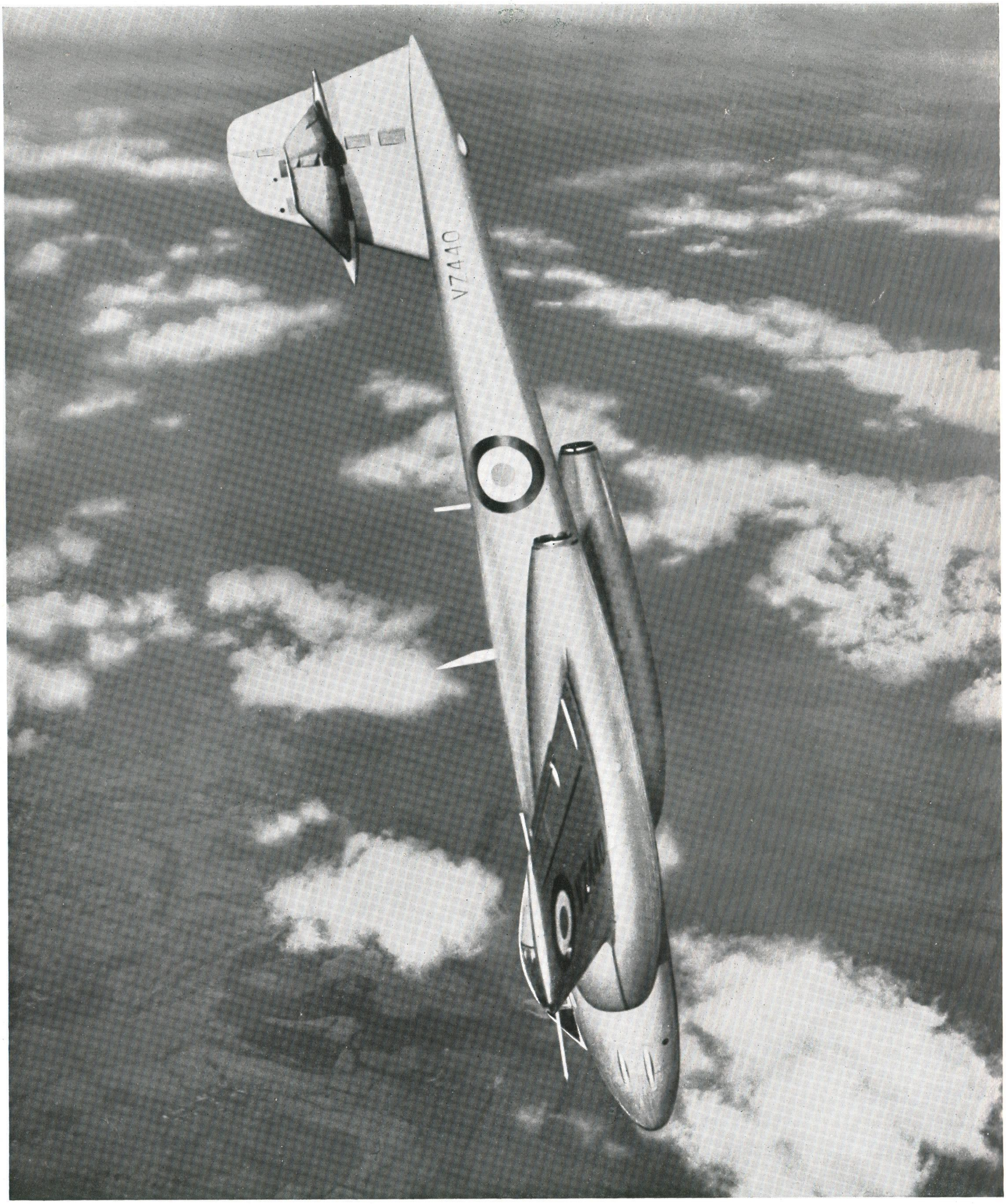
THE INTER SERVICES

AIRCRAFT RECOGNITION

Journal



Vol. 4 JULY 1950 No. 11



METEOR

Fighter by Gloster

JULY 1950 Vol. 4 No. 11

THE INTER SERVICES

AIRCRAFT RECOGNITION JOURNAL

The Inter-Services Aircraft Recognition Journal is a monthly publication prepared and produced by the Assistant Chief of Air Staff (Training), Air Ministry, in collaboration with the Ministry of Supply—Controller of Supplies (Air)—Air Technical Publications. Contributions and correspondence should be addressed to the Editor, Inter-Services Aircraft Recognition Journal, Air Ministry, Room 405, Richmond Terrace, Whitehall, London, S.W.1.

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Russian Aircraft and *The Journal*

IN no scientific field, with the possible exception of that of atomic energy, is the " Iron Curtain " so thick, high, double-riveted and impenetrable as that thrown round Russian aviation progress. New Soviet laws, introduced in 1947, made it a capital offence for even the most innocent details of military equipment to be published without going through the fine filter of official censorship. This super-security, inconceivable to those breathing the air of Western freedom, has naturally created a demand for more up-to-date information of Soviet aeroplanes than that supplied by the official Russian news services. We are all bored to tears with their " hand-out " photographs of gliders and ancient PO-2 biplanes.

Demand will always create a supply—as any Oxford Street nylon pedlar will tell you—and since the war ended, a considerable regiment of Russian aircraft has appeared in the world's press together with many facts about the Soviet Air Force and its aircraft. Publication of those facts and illustrations have too often intrigued readers of the *Journal* to the extent of causing them to seize the nearest pen and literally tear us limb from limb for being so tardy with information and illustrations on Russian aircraft, pointing out that " if they (the press) can get the information, surely you can ".

The straight answer is that we can't. No official publication such as the *Journal* publishes anything without being absolutely certain of its facts. This is not to suggest that everyone else publishes their Russian information without checking the facts. It simply means that, so far as we are concerned, certain facts cannot be confirmed officially. Since aircraft recognition is a matter of facts we generally shy away from anything unconfirmed. If we use anything that is doubtful you cannot see the text for a welter of " possibles ", " probables ", and " maybes ".

In the interests of recognition-training we must also mention that it is a comparatively simple task for a reasonably experienced aeronautical illustrator to produce a convincing looking new aircraft from imagination. In doing so he also has a sporting chance of hitting upon an actual design. For example, it would not be surprising if an artist, asked to produce illustrations of half a dozen imaginary swept-wing jet fighters of advanced design, did not fail to come out with at least one that had a passing resemblance to, say, the Hawker P.1052 regardless of the fact that he may have had no knowledge of the P.1052's existence.

It is also quite possible that this *Journal* may at some future date come out with an illustration of a Russian aircraft type bearing resemblance to one which other organs of the press have previously printed. It does not necessarily follow that we have been slow in getting out our material. We must remind all readers that the *Journal's* object is not to compete with the press but to teach aircraft recognition.

We are delighted at the interest shown by everyone in Russian aircraft and the affairs of the Soviet Air Force, but we are concerned that so much time should be devoted by enthusiasts in pursuit of matters relating to Russian aircraft and the Soviet Air Force upon which we are unable to give information. Without suggesting in any way that all information they acquire from other sources is either inaccurate or unreliable, we do suggest that all those actively engaged in learning aircraft recognition should pay most attention to the material which comes to them through official sources or through the medium of the *Journal*. If they do so, much time, correspondence and telephone calls will be saved by both readers and editorial staff. Readers may be sure that we shall publish anything and everything pertaining to recognition of " Iron Curtain " aircraft that comes our way, provided it is useful to recognition and there is no official doubt whatever about its reliability.



Seahawk

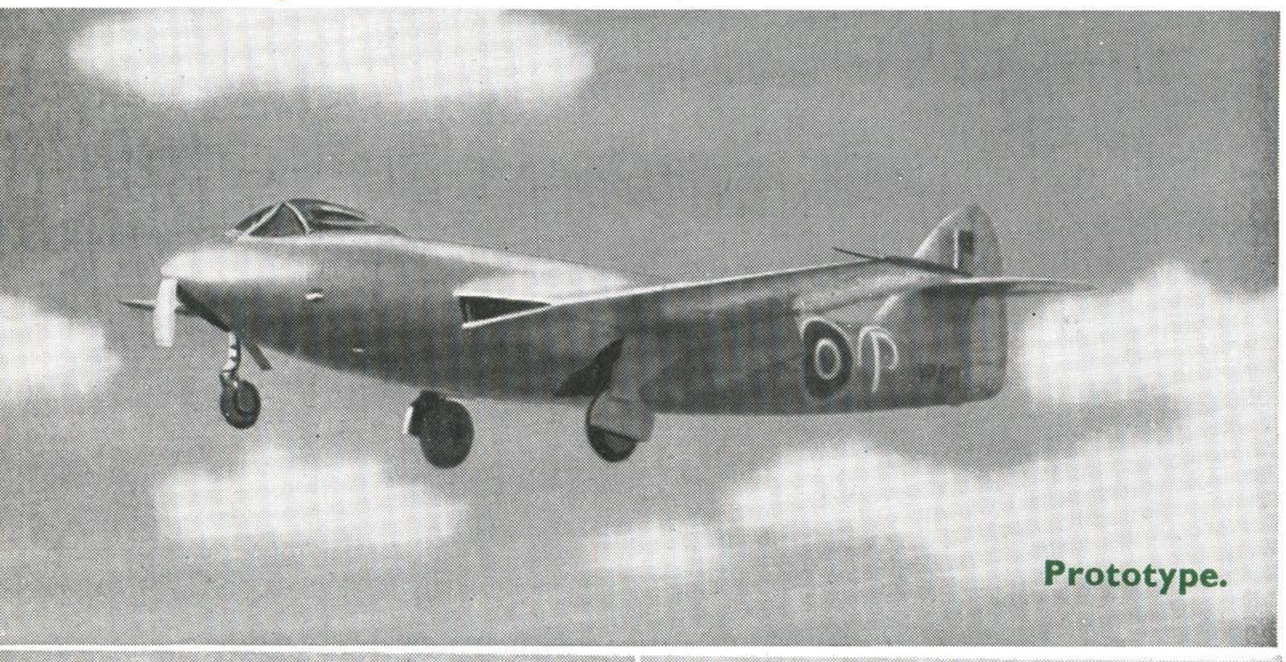


A fleet beauty——

by R. W. THOMAS, B.Sc.

THE first Hawker jet-propelled aeroplane to fly was the P.1040 which made its first flight on 2nd September, 1947. This was really the first prototype of the Seahawk, although it carried no naval equipment and did not have folding wings. It was closely followed by two other prototypes, VP413 and 422, which were built to the specification for a naval fighter, N.7/46, and although they are externally very similar to the P.1040, they are both fully navalised with folding wings and deck arrester hook.

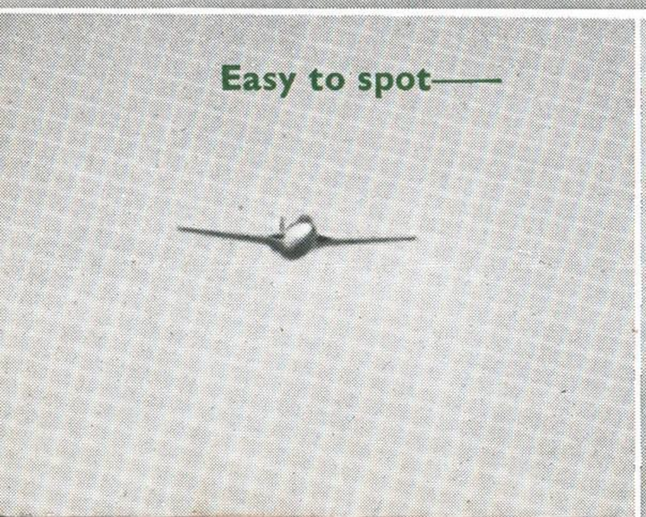
The N.7/46 is now in quantity production for the Royal Navy as the Seahawk. These will be very similar to the prototypes, except for a slight extension of the wing and tail-plane span. This is to ensure that the wing loading is kept down despite the increased weight of naval equipment which has had to be added. The photographs accompanying this article are of the third prototype and do not show these larger surfaces, but the changes will not be very obvious in the air. The wing may appear rather more tapered and the tailplane will have squarer tips. The following description refers to the production Seahawk.



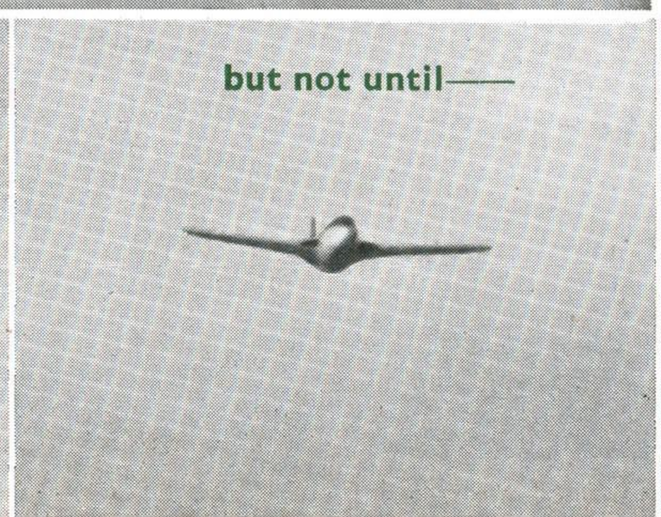
Prototype.

It is a single-seat interceptor fighter designed mainly for naval use but the design allows for a fixed wing to be incorporated (as in the P.1040) if required. The Seahawk is fitted with a Rolls-Royce Nene 4 gas turbine giving a static thrust of about 5,000 lbs., and this engine is installed in the fuselage. Air intakes are fitted in the leading edge of the wings on each side of the fuselage and the jet exhaust is bifurcated so that the exit pipes are in the wing roots. This arrangement gives more space in the fuselage for the installation of other equipment. The complete engine can be removed vertically from the fuselage through a built-in access door.

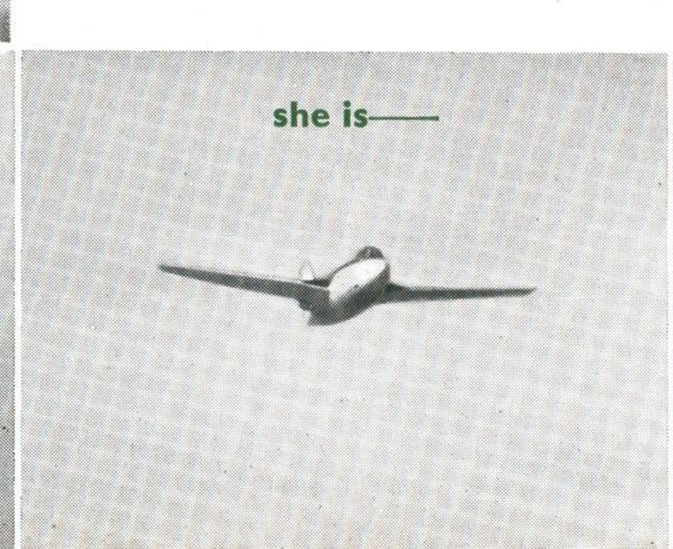
The Seahawk is of all-metal construction, the nose and centre fuselage portions being of semi-monocoque design, while the rear section of the fuselage is a pure monocoque. The tailplane is high set on the fin to clear the jet exhausts. The front and rear spars of



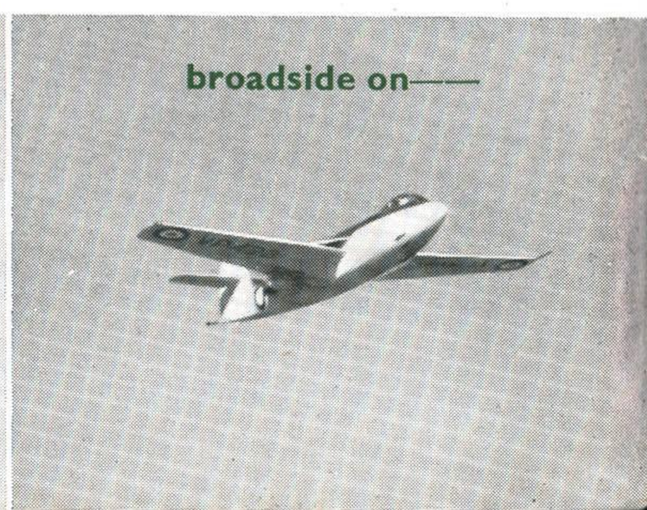
Easy to spot——



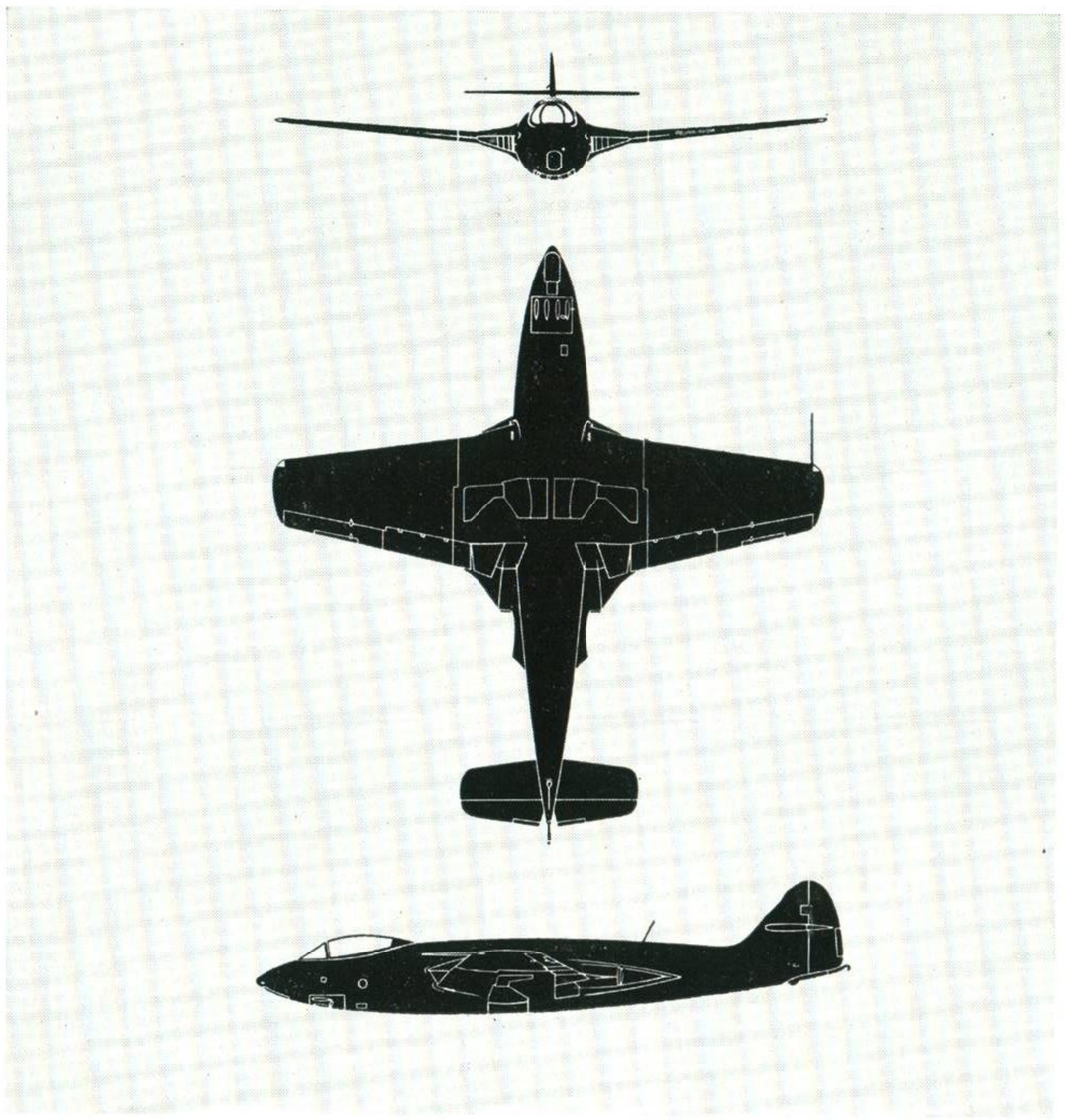
but not until——



she is——



broadside on——



the stub wings are arched round the engine bay, and the outer wings, which can be power-folded, are attached by means of two fittings. The outer wings have heavy gauge metal skin covering so that the internal wing construction can be as simple as possible. Top and bottom surface split flaps are fitted.

The Seahawk is equipped with an hydraulically operated nose wheel undercarriage, the main wheels of which retract inwards. The armament is four cannon under the nose, and full radio equipment is carried. Other installations include a Martin-Baker pilot ejection seat, electrically-operated sliding cockpit cover and provision for Ratog and catapulting. An arrester hook is fitted in the extreme tail. The cockpit is fully pressurized.

The main points by which the Seahawk may be recognized are the slim clean fuselage with only the rather small fin and rudder and the cockpit cover breaking the top line. It has a midwing with a very obvious thickening towards the roots in the head-on view. In the plan view the jet outlets and fairings aft of the trailing edge are apparent. Otherwise, the wing is slightly tapered with nearly square tips and is placed well back along the fuselage. Drop tanks may be carried.

In conclusion should be mentioned the Hawker P.1052 which has been developed from the P.1040. It has the same fuselage and motor but has a swept-back wing.



Ready for "striking down"

Tail surfaces are a legacy from the P.1040. Only two prototypes are flying, both experimentally, but, although it has the same power available as the P.1040, it has a considerably higher speed. The first prototype flew for the first time in November, 1948.

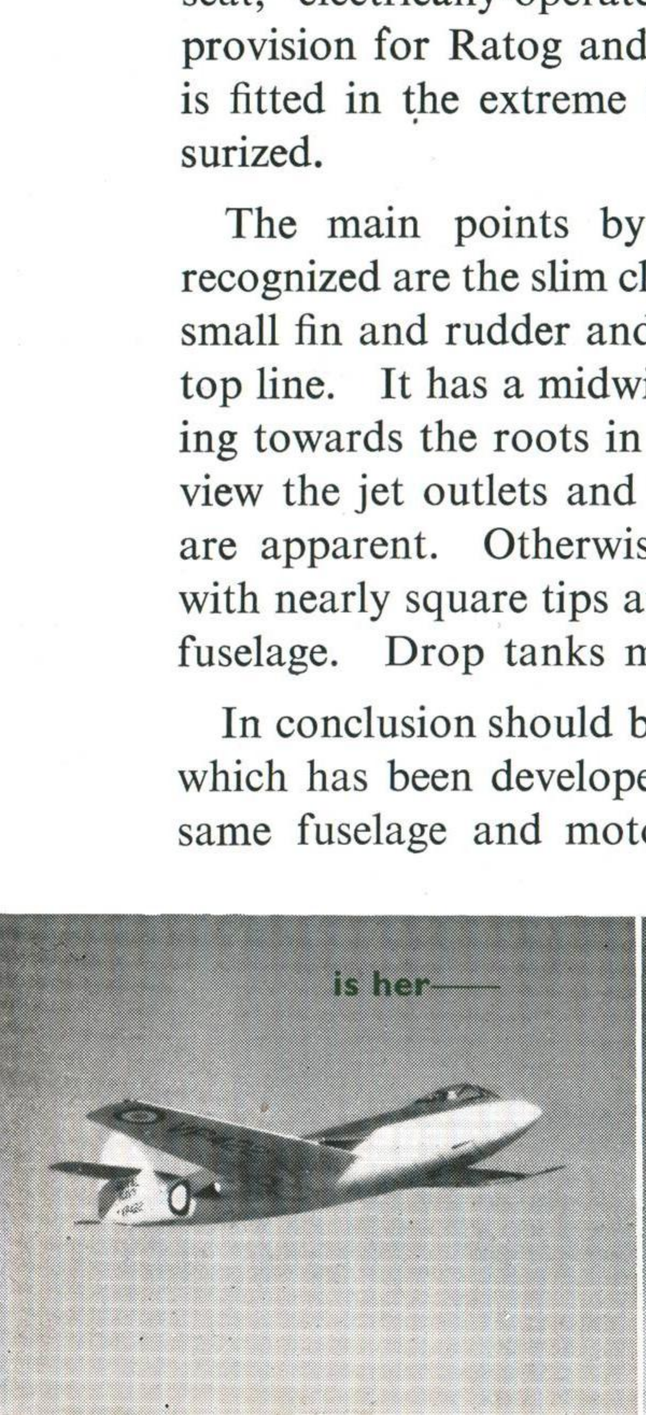
(The P.1081, with swept-back flying surfaces, is just flying as we go to press.—Ed.)

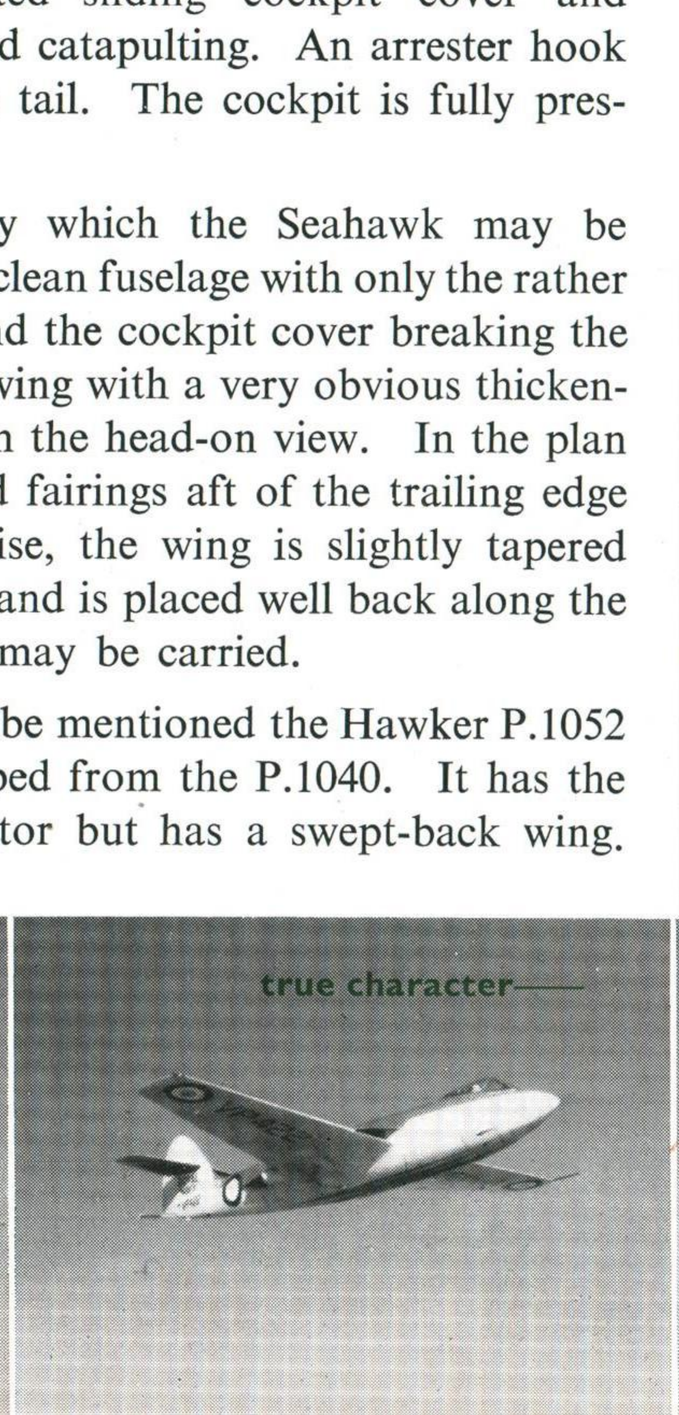
Dimensions

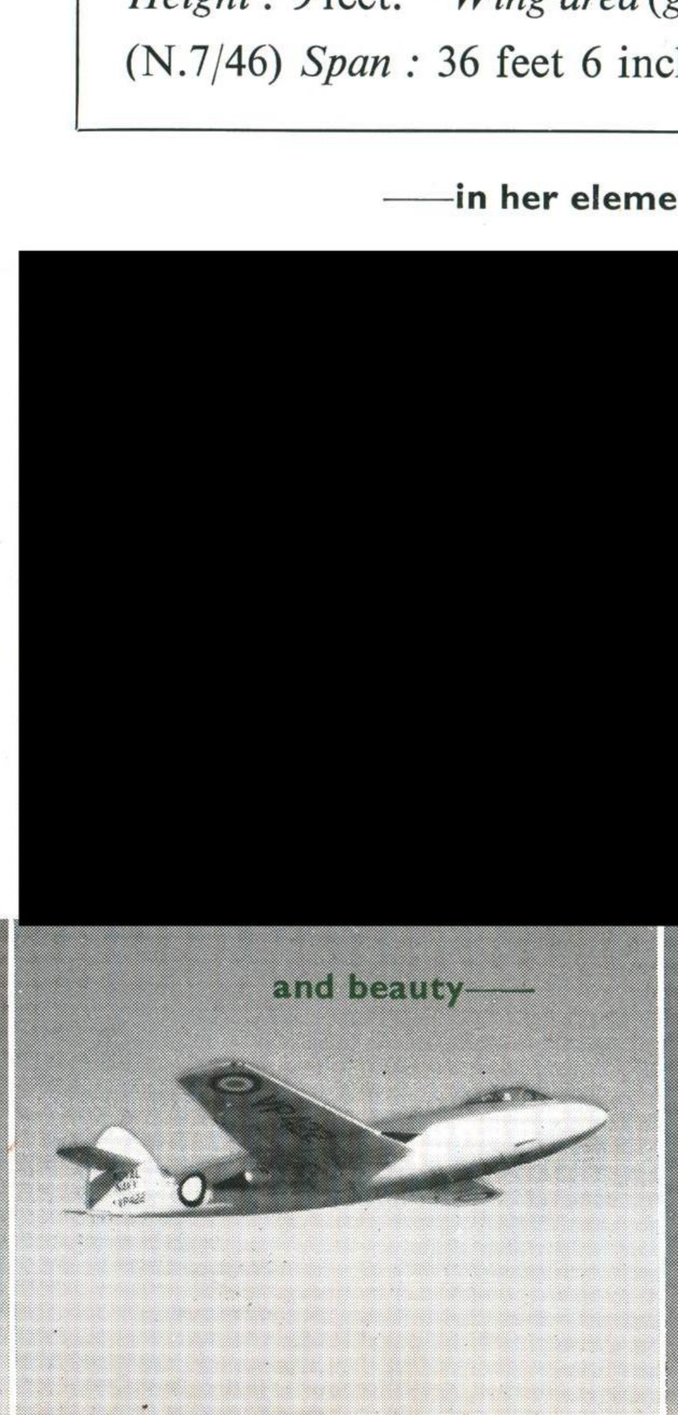
Seahawk F Mk. 1

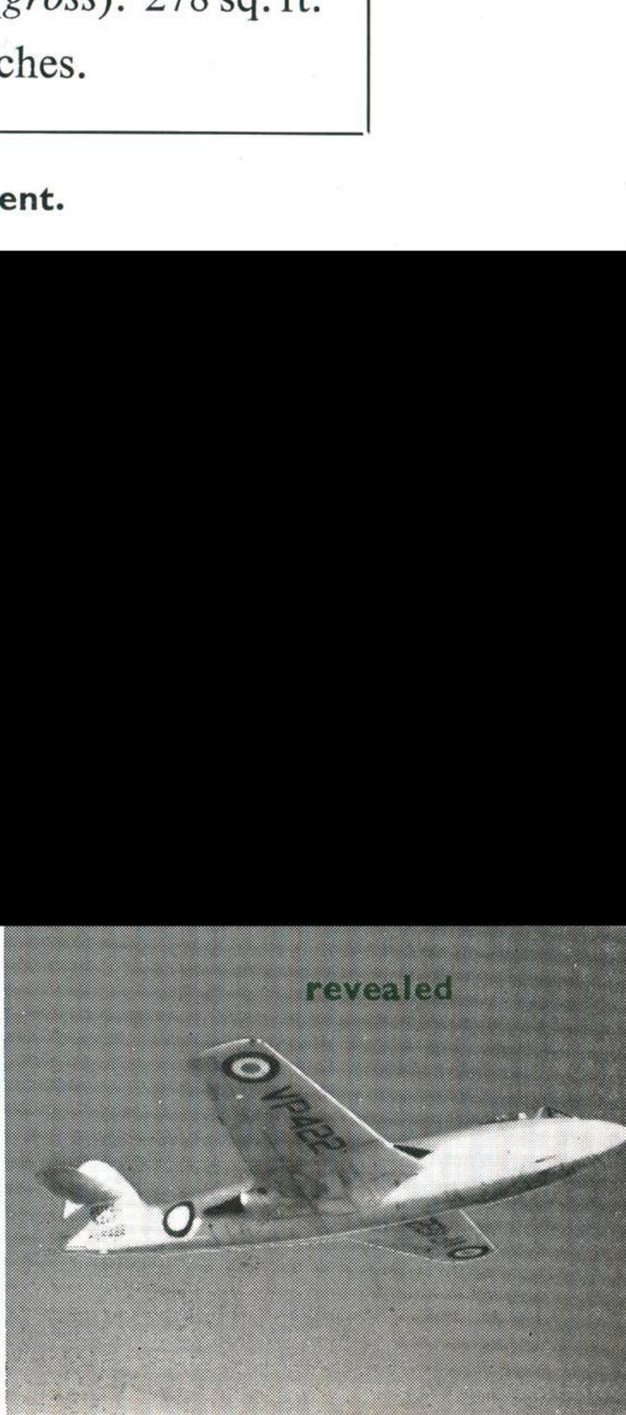
Span : 39 feet. *Length :* 39 feet 8 inches.
Height : 9 feet. *Wing area (gross):* 278 sq. ft.
(N.7/46) *Span :* 36 feet 6 inches.

——in her element.



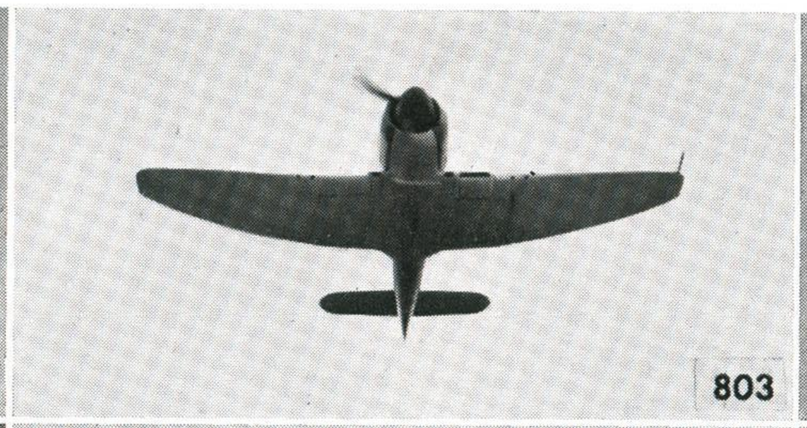


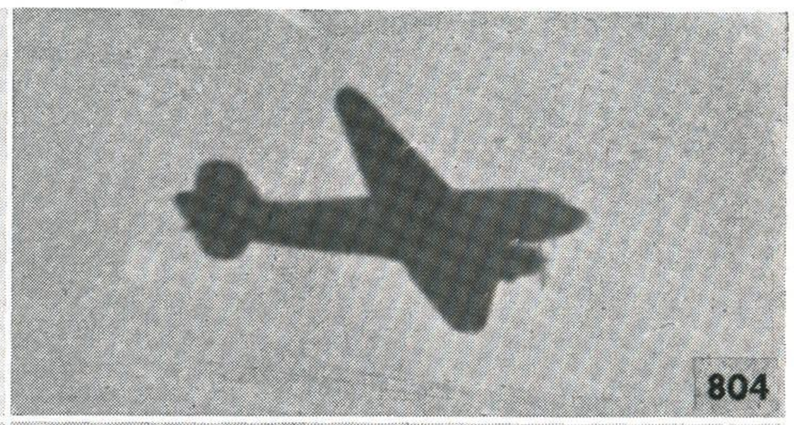




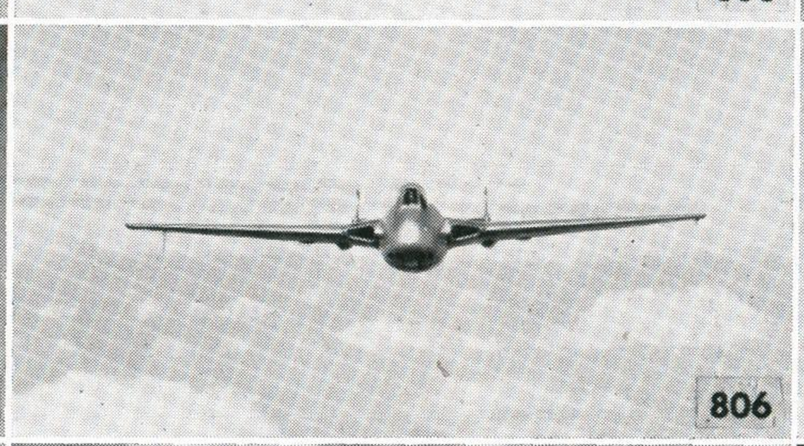
ELEMENTARY SPOTTING

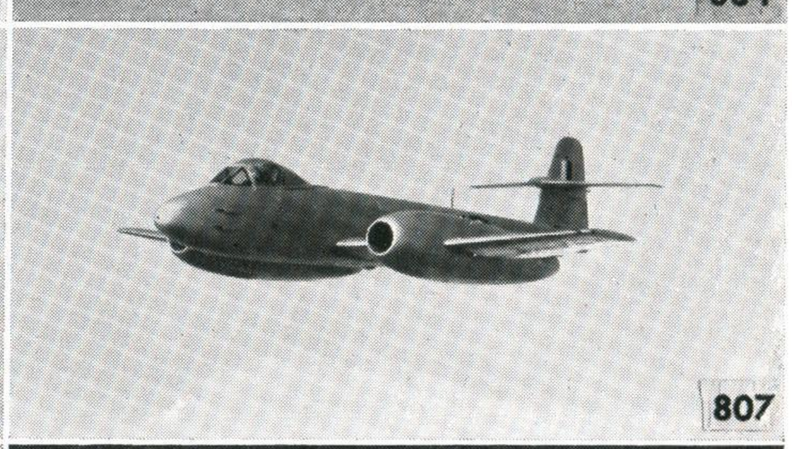

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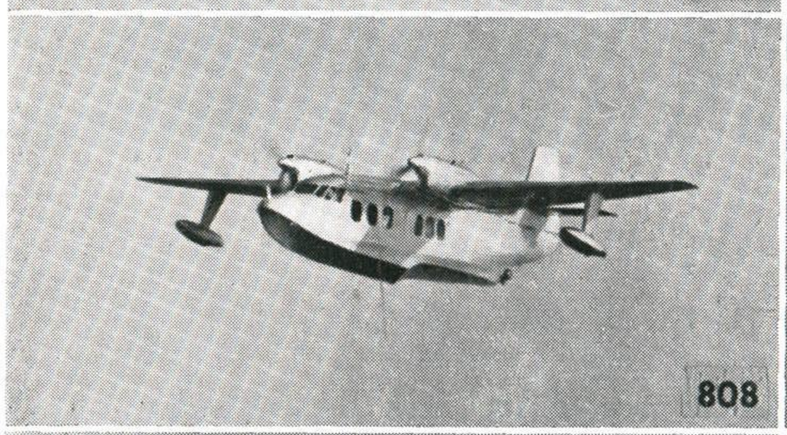

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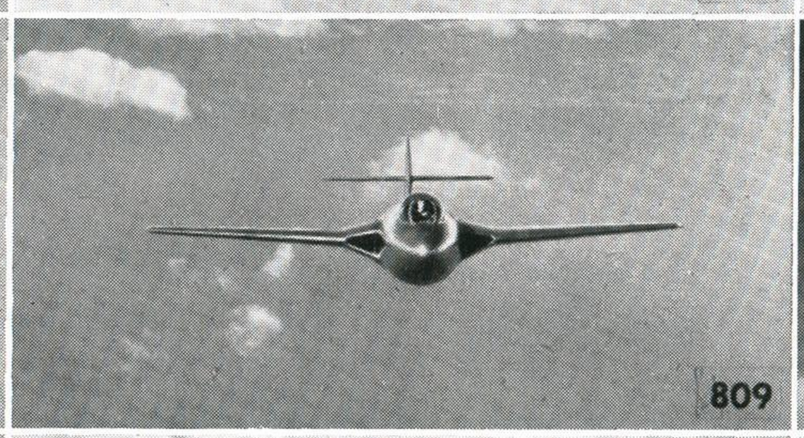

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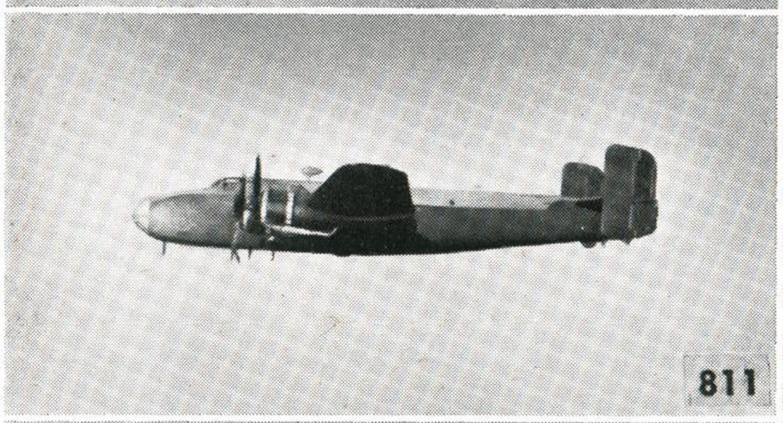

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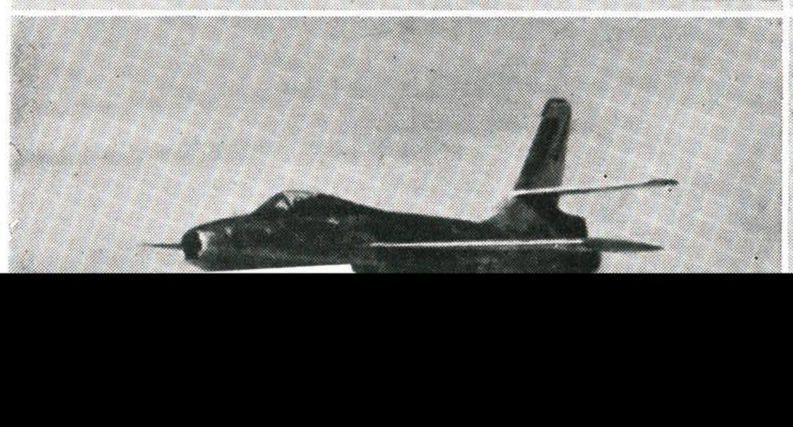

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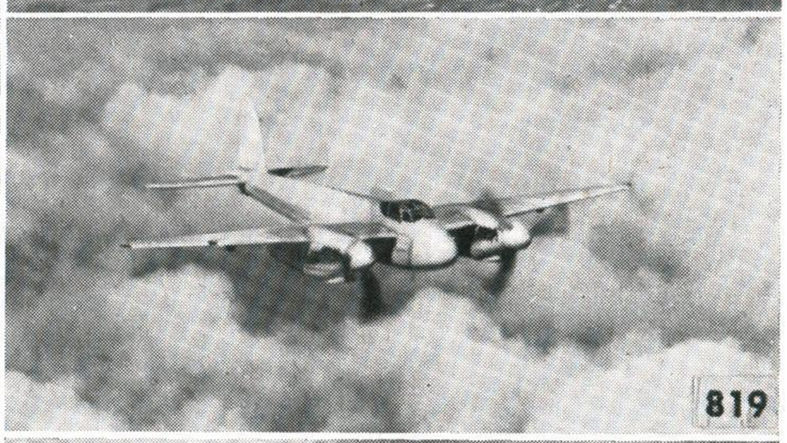

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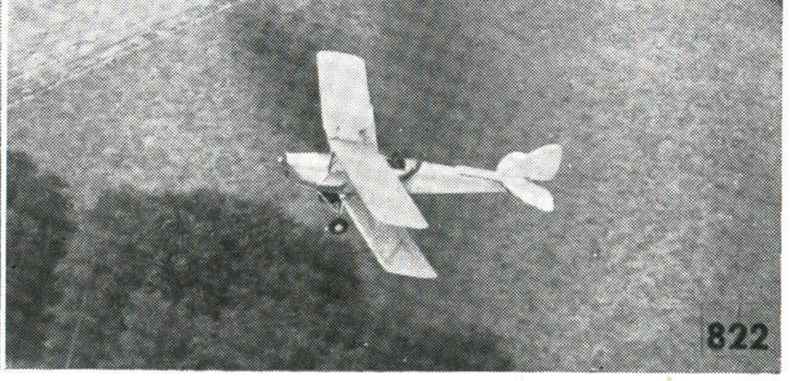

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CHARACTER STUDY

No. 6—THE MIG-9

MESSRS. MIKOYAN AND GUREVITCH have produced from the Kremlin stables a smooth little creature that looks like a float detached from a seaplane which has been equipped with wings and tail and told to fly.

The MIG-9—remember the "9" by thinking of the float and the word "chine" which is the ridge on a float or boat—is a jet-powered mid-wing monoplane. Its wings are nondescript tapered affairs, with slight dihedral and slightly rounded tips. The tail unit is nondescript, too, with its sharply tapered planes and fin, and the shallow rounded rudder.

But the fuselage is the characteristic item to which most attention should be given, as it is individual and spot-worthy from almost every angle. The float-step effect serves to cut the aircraft into two visual halves—a deep heavy front which ends in a distinct step aft of the jet nozzles, and a slender rear portion. This slender portion is accentuated by the raking fin. The aircraft is therefore very distinctive in its forward bulk, and even in a rear, fighter-pilot's view, this heaviness is evident in a kind of boot-shaped perspective

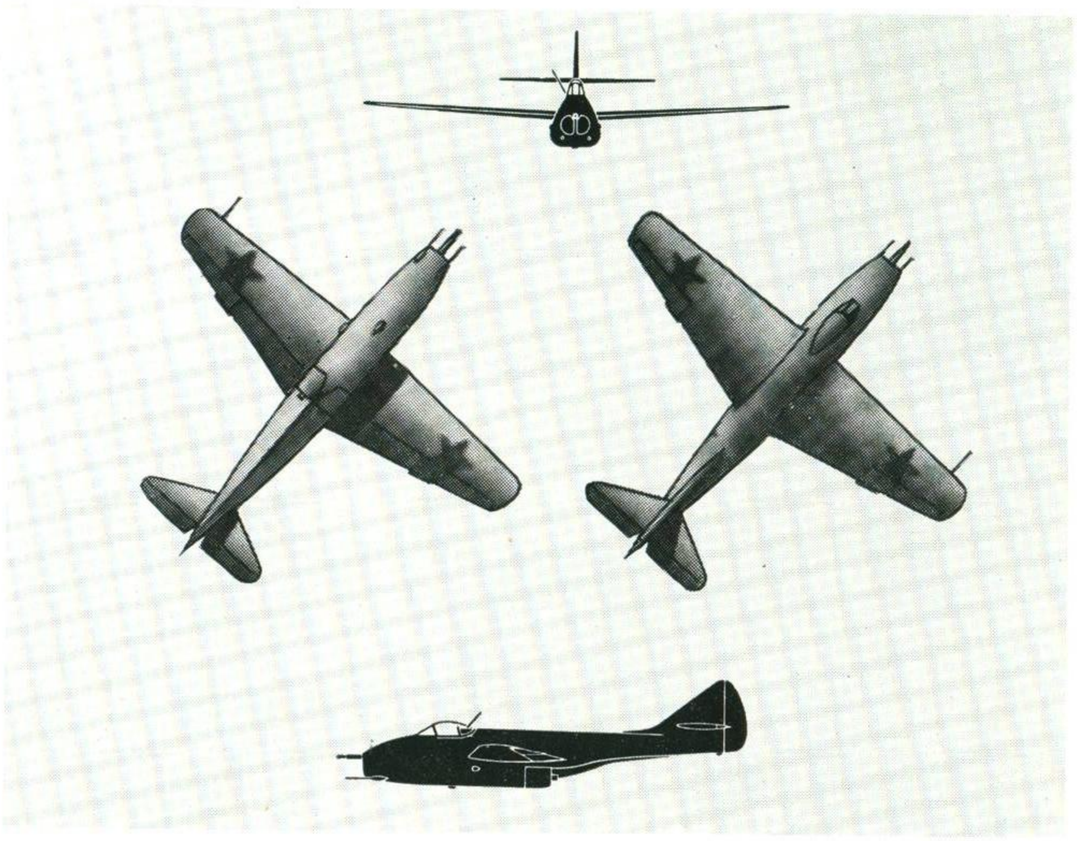
An analysis of the forward heavy bulk shows a peculiar combination of shapes. The section is bluntly triangular with a broad shallow-curved base. The long cowling for the side by side turbines gives a nearly flat belly and a long straight base line from the side view. The transition from the forward bulk to the tail is first abrupt, where the nozzles are, and then a strong curved instep.

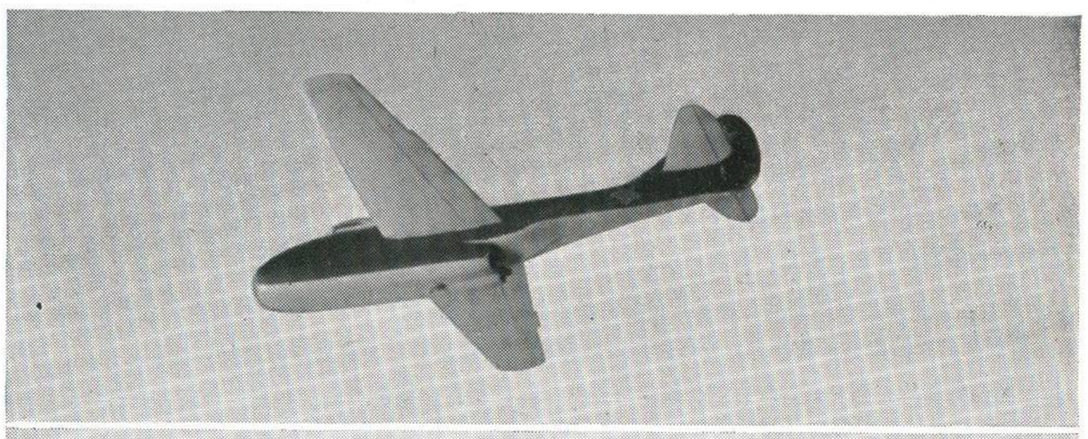
One view is difficult—the plan. If the lighting is right, and if seen from below, the step will stand out clearly half-way along. If seen from directly above, the MIG-9 looks like some other aircraft and only intimate recognition acquaintance will help, chiefly by way of the stumpy nose.

There is no helpful ancestry to finish off this study of the Kremlin's plump-nosed gremlin and it is not known when it first flew. Basic dimensions are given below and the speed, although unknown accurately should be about 600 m.p.h.

Span : 40 ft. 6 in. *Length :* 36 ft. 0 ins.

C. H. GIBBS-SMITH

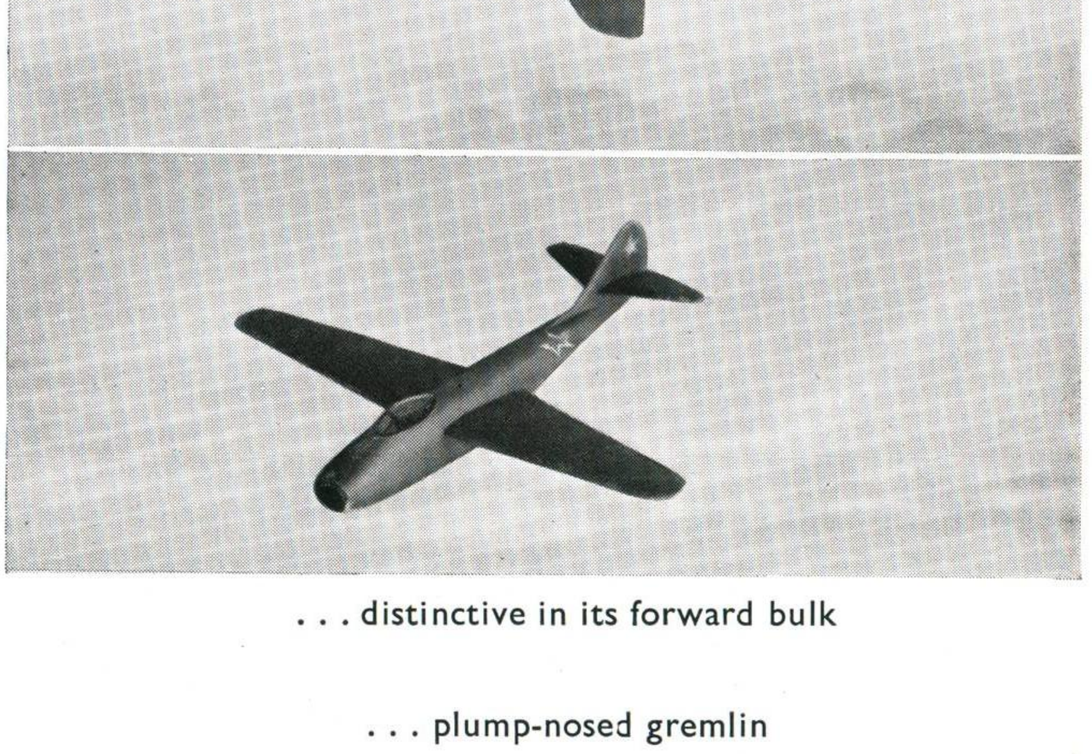


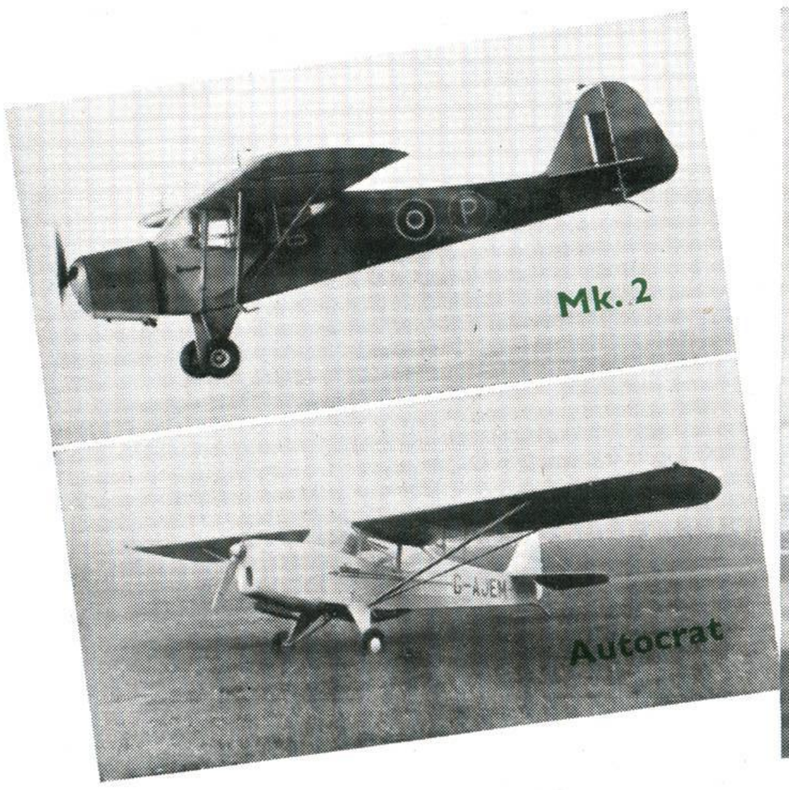




. . . distinctive in its forward bulk

. . . plump-nosed gremlin









ASSORTED AUSTERS

by Obs. Roy McLeavy, R.O.C.

THE versatile series of Auster A.O.P.s and their many civil offspring are now flying in eight countries.

To trace briefly the full "Auster Story", it is necessary to return to the days foreshadowing the war, as the pattern of events leading to the Auster's inception in 1941 is closely interwoven with the previous history of the parent firm.

November, 1938, saw the founding of Taylorcraft Aeroplanes (England) Ltd., whose prime object was the construction of Taylorcraft two-seat lightplanes under an agreement with two firms in the United States. Production began early in the following year with the Taylorcraft Model C, modified to suit club and private owner requirements in this country, and powered by a Lycoming "flat four". The design quickly became popular due to its low price, robust construction and ability to operate from confined spaces.

Later, in 1939, a more powerful version fitted with a Cirrus Minor engine was proposed and became known as the Model D. A small production batch of these appeared in 1940 and aroused the interest of the Army, who were badly in need of small aircraft to perform A.O.P. duties. Two Model Ds were then subjected to a severe programme of testing with an accent on landings and take-offs from fields simulating as near as possible airstrips to be used by A.O.P.s under service conditions. More than 1,100 landings were made with one aircraft and 1,212 with the other, facts which illustrate the extent of these trials. Damage was sustained by an under-carriage leg of one aircraft during the tests, but after a new half had been fitted the machine accomplished a further 885 landings without incident.

On successfully completing these tests, the Model D was modified to meet the heavier demands of service use, and the new variant was ordered for the Army late in 1941. It was renamed Auster 1 and the first production model flew in the following May. Starting in this guise, the aeroplane set forth on a long and distinguished military career that began while serving with 651 A.O.P. squadron of the First Army in North Africa, and continued through Burma, Sicily, Italy and N.W. Europe.

Practical experience with the Auster 1 showed that extra power would be an advantage, therefore two Mk. 1 airframes were modified to take the 125 h.p. Lycoming O-290 horizontally-opposed engine, and redesignated Mk. 2s.

At this time a shortage of Lycoming engines was experienced, so the Auster 2s were further revised to become Mk. 3s. Power for this version was provided by a 130 h.p. Gipsy Major 1. Various refinements included the provision of split trailing edge flaps to decrease the take-off run, and improvement of the rear view, effected by fitting a transparent panel of greater length.

Succeeding this model, the Auster 4 was produced late in 1943, when the Army required a three-seat A.O.P. The fuselage was modified, a moulded perspex roof was fitted to improve the rear and upward view, and interior arrangements allowed the Auster 4 to be converted from A.O.P. or communications duties to an ambulance within 10 minutes. In this form it could carry a casualty on a stretcher and an attendant in addition to the pilot. Further innovations were the installation of a cabin heating device, the provision of navigation lights and a larger fuel tank, extending the Auster's range to 220 miles.

Lycoming O-290 engines had become available in sufficient quantities by the end of 1943 to power both the Mk. 4 and Mk. 5. Outwardly these versions were identical apart from the tail unit; movable trimming vanes under the tail of the Mk. 4 were replaced by a tab on the port elevator of the Mk. 5, which proved more efficient.







The Auster 5 was manufactured in greater numbers than any other variant during the war. Production began in June, 1944, and continued until late in the following year.

Austers carried out their front line duties totally unarmed. Pilots depended on skilful low flying and the Auster's high degree of manœuvrability to evade enemy fighters. Whenever possible a second crew member was carried to observe the approach of hostile aircraft and warn the pilot, although the aircraft were generally more in jeopardy from the shells of our own batteries than enemy opposition. In the face of a strong hostile force Austers performed their task about half-a-mile behind our own lines. The pilots flew low until informed by radio that our guns had fired, and then climbed to observe the burst, giving corrections by R/T as they returned to a lower altitude. When only slight opposition was experienced, Austers flew over the enemy lines at heights between three and four thousand feet.



Apart from their routine job, Austers were required to find targets for close-support fighters, take photographs, evacuate casualties, and in Burma they were used for laying telephone lines from the air.

Their landing grounds varied from roads, tracks and fields, to strips torn out of the jungle and vineyards by bulldozers, occasionally surfaced in bad weather with coconut matting. By May, 1945, Austers equipped twelve British, three Canadian and one Polish A.O.P. squadron and a South African flight had been formed. Wartime production for the Army and R.A.F. totalled 1,604.

Post-war development led to the Mk. 6, designed to maintain the same characteristics as the wartime versions, with a suitable increase in the range and load factors. The fuselage was redesigned for the installation of the 145 h.p. Gipsy Major 7 ; self-sealing tanks were sited in the wing roots, replacing the earlier fuselage tank, and auxiliary aerofoil flaps were attached to the mainplane. As the Gipsy Major 7 requires a 6 ft. 10 in. diameter airscrew, the undercarriage was lengthened to provide adequate ground clearance.

Most A.O.P. squadrons are now equipped with the Mk. 6, which is readily adaptable for aerial photography or glider towing. A float or ski undercarriage may be fitted if required, and provision is made for the use of deck-arrester gear and armour plating. The crew of two are seated in tandem, with the radio mounted to the right of the pilot.

A successor to this version, and the current production model, is the side-by-side dual-control Mk. 7. It has been produced for training A.O.P. pilots, and a further variation on the theme is the T.Mk. 8, an operational type, combining the finer features of the Mk. 6 with the dual-control layout of the Mk. 7.

During March, 1946, the firm changed its name to Auster Aircraft Ltd., and their most recent A.O.P. project has been the larger and completely redesigned A.2/45, now flying in prototype form.

The Auster's many civil derivatives began with the Autocrat, a descendant of the Mk. 5, seating a pilot and two passengers, and powered by a Cirrus Minor 2. Several hundred Autocrats have been exported all over the world, and sales, promoted by its adaptability to a variety of purposes that range from crop-spraying to air survey work, have proved this model to be one of the most popular light aircraft ever built in Great Britain.

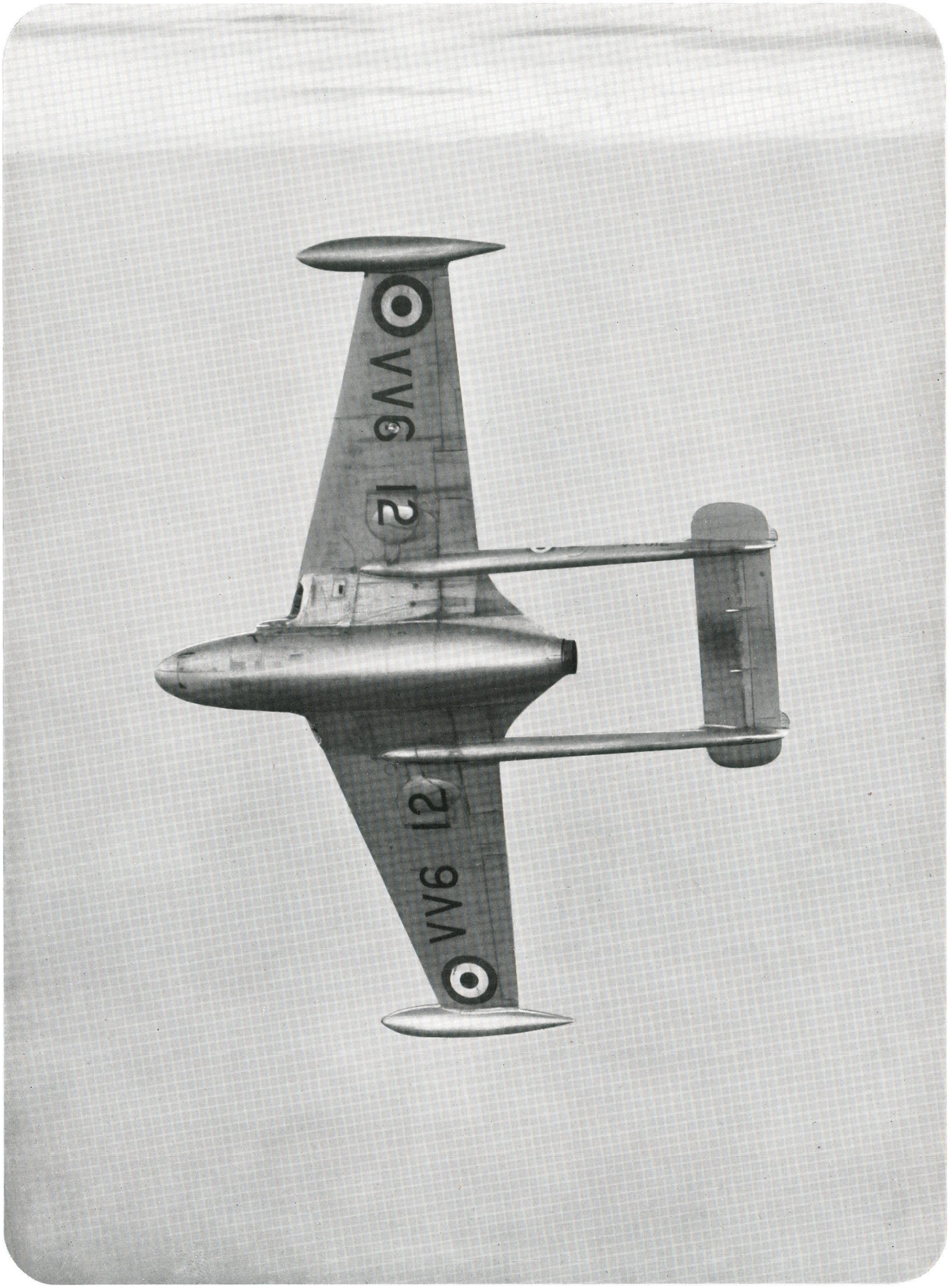
The Arrow—next in the line—is based on the Mk. 1 airframe and fitted with a 75 h.p. Continental engine. It seats two, side-by-side, and is designed to suit the pocket of the " average man ". Charter operators and business men are catered for by the 4-seat Avis with a Gipsy Major 10. By removing the two rear seats it can be converted to a freighter or air-ambulance. More recent versions include the Autocar—derived from the Autocrat, and the Aiglet, intended for overseas markets.

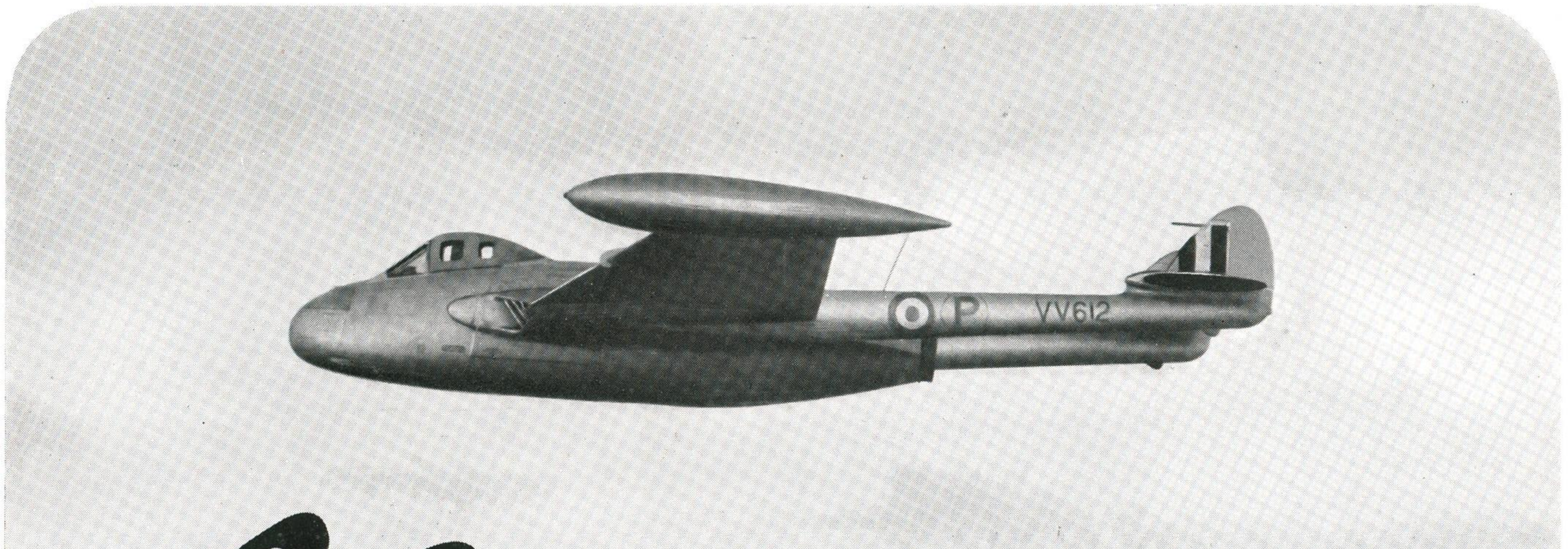
Fortunately, all members of the family bear the same unmistakable high, braced wing, " Auster " fin and rudder and a fixed tailwheel-type undercarriage.

Their individual identity lies in the type of engine installed, the size and shape of the cabin and various detail features that can only be discerned by carefully studying photographs and silhouettes. Comparisons are recommended wherever possible with similar British, American, Russian and Continental types.

As long as the infantryman bears the main brunt of land warfare, guns of the artillery will require some form of Air Observation Post to direct shells on to targets beyond the vision of ground observers. The Auster, although a veteran ten years old in conception, is still a " young " aircraft by virtue of its continuous development : in both military and civil fields it has a long life ahead.

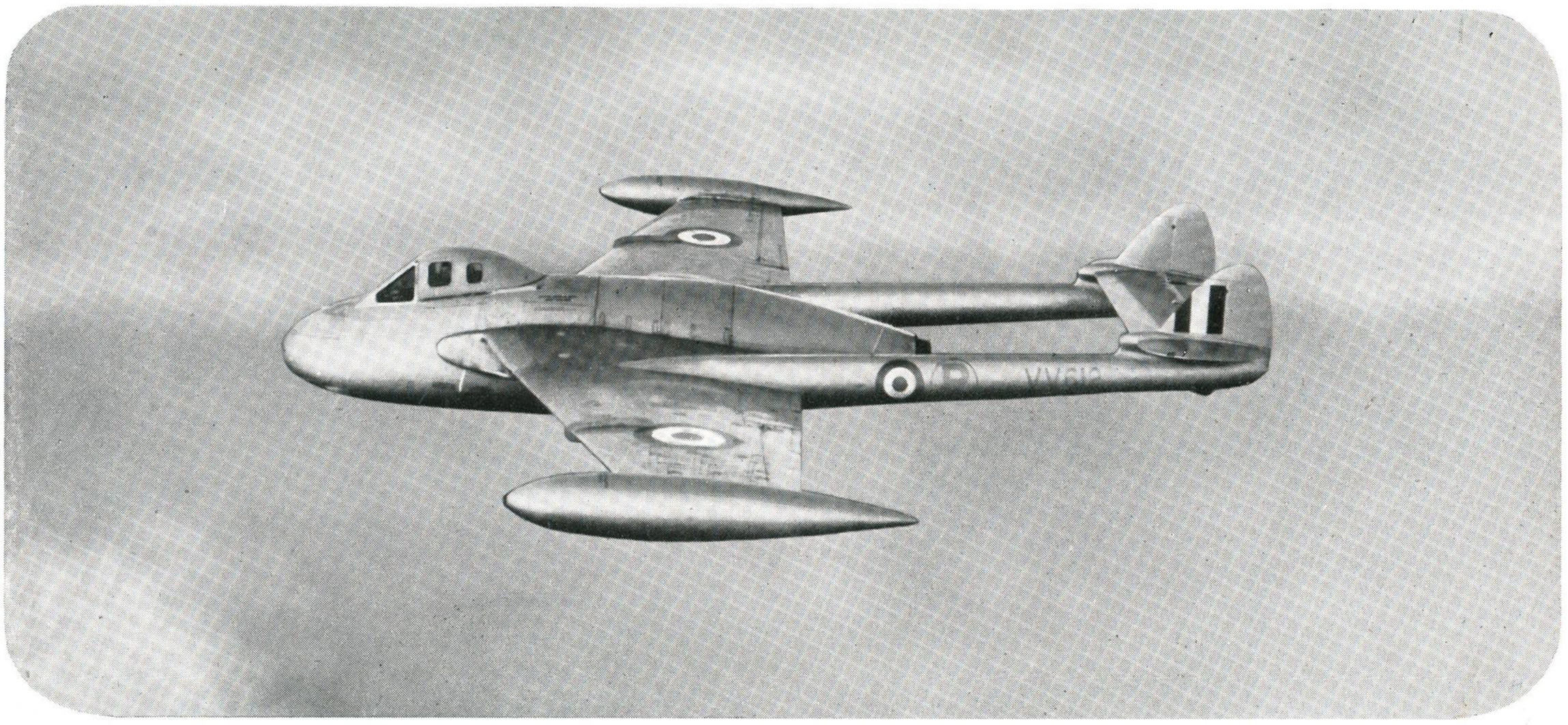



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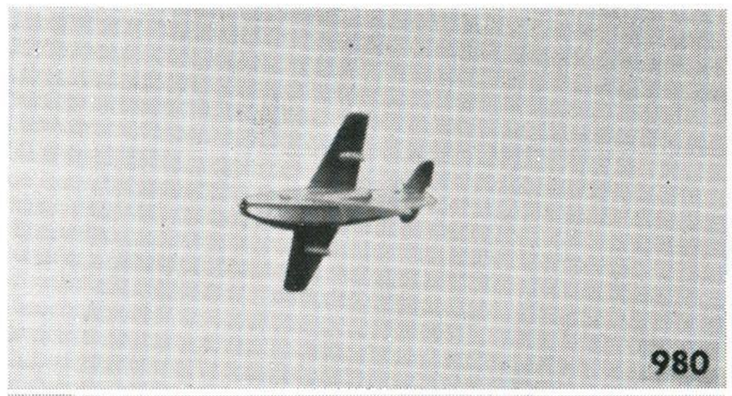


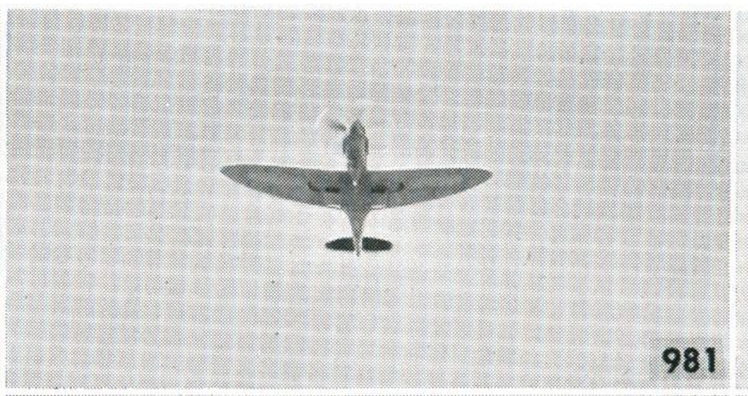
Venom

A moderately swept-back leading edge to the wing, and extended tail-plane tips characterize this logical development of the well tried De Havilland Vampire interceptor design. Long, slender, tip-tanks and generous wing-root fillets at the trailing edge are other distinguishing points. Though its parentage is obvious the changes are sufficient to impart an entirely new—and venomous—character to a familiar fighter form. The Venom FB Mk.1, powered by a Ghost turbojet, is in production for the Royal Air Force.

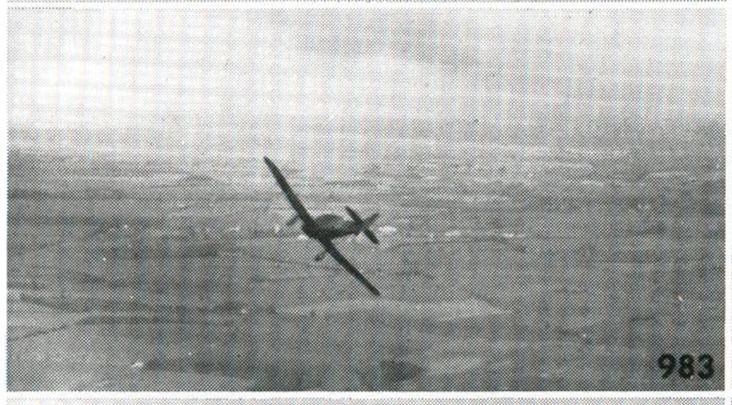


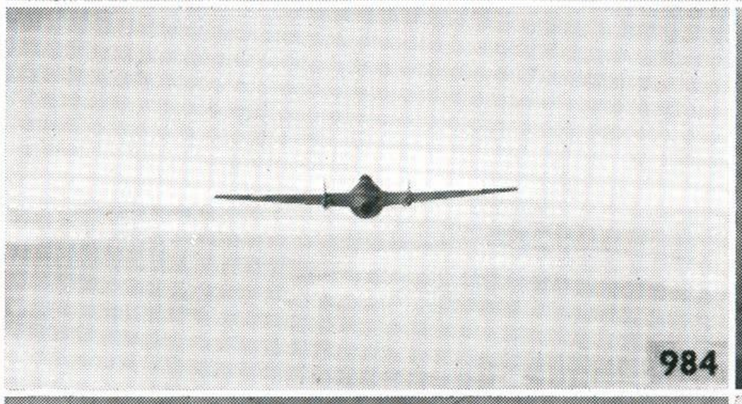
ADVANCED SPOTTING


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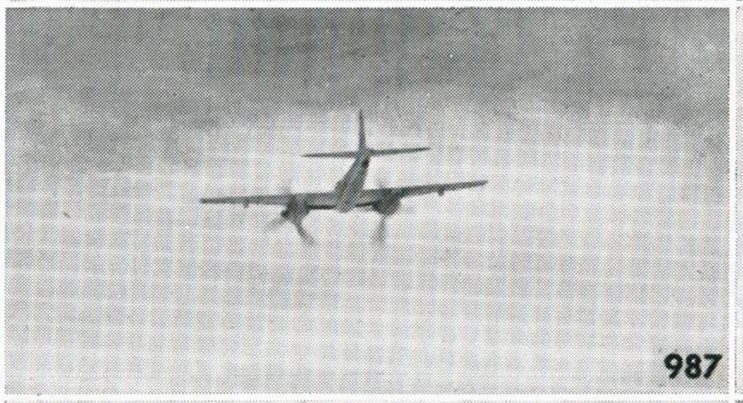

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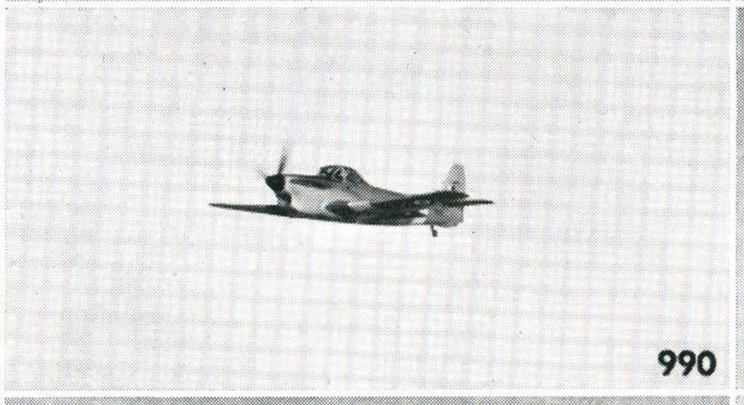

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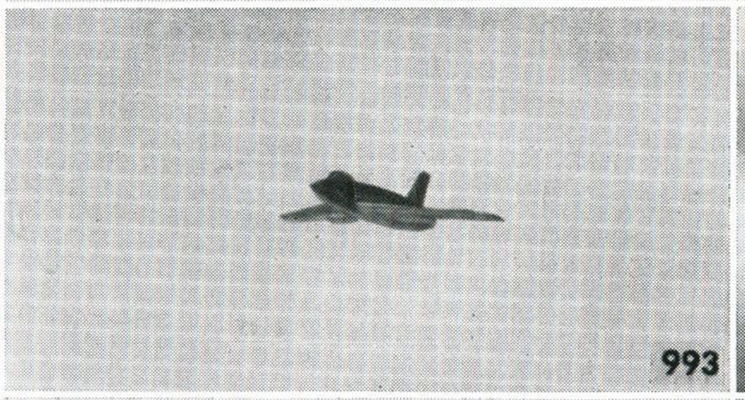

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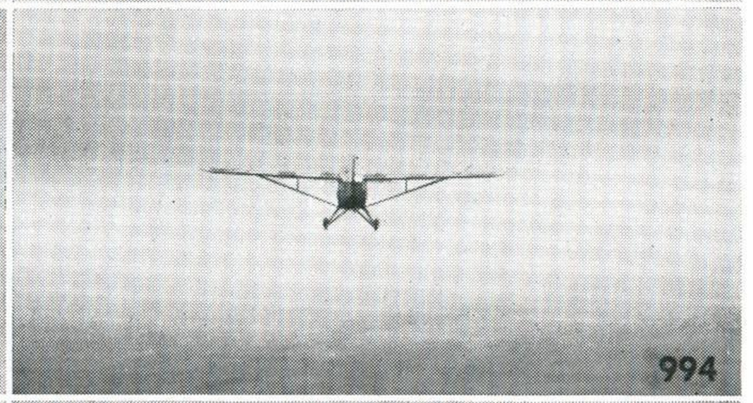

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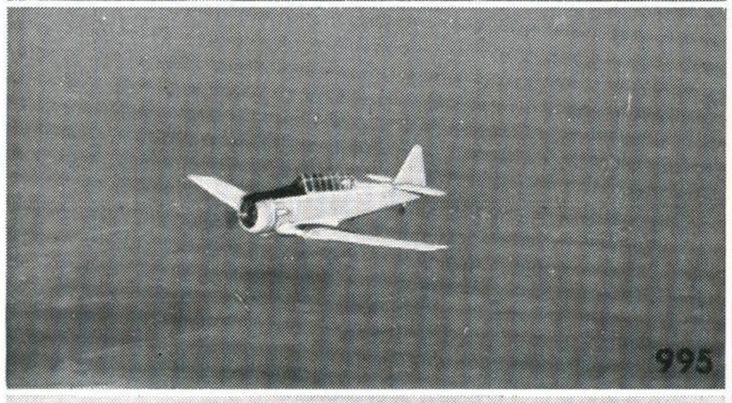

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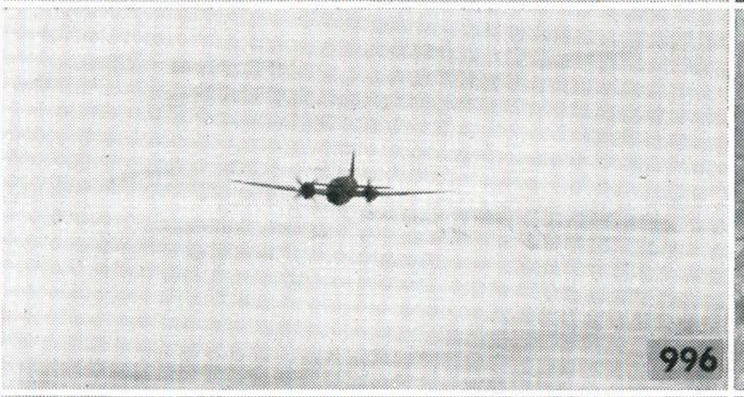

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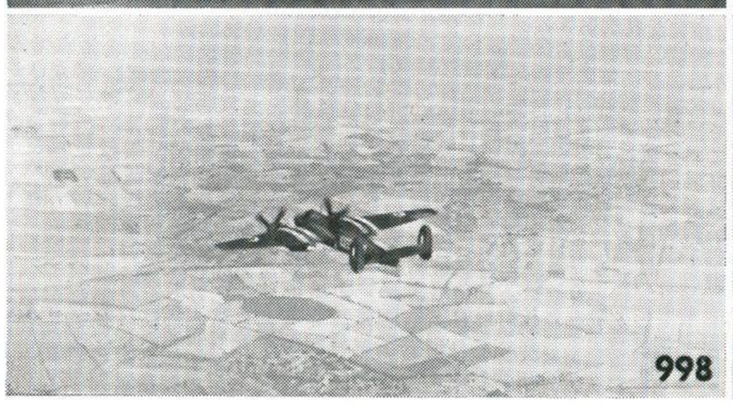

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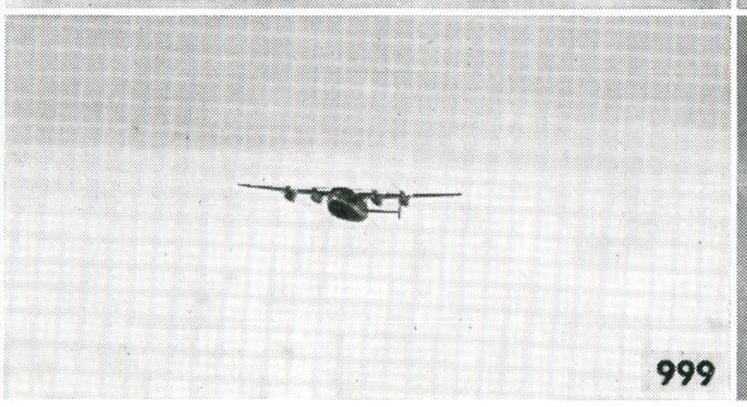

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INTELLIGENCE

New Neptune

Powered by two Wright Turbo-Cyclone 18 combination turbine-piston engines a Lockheed P2V-4 Neptune recently made its first flight. These engines will enable the Neptune to take a full military load from the United States to Europe and return non-stop without refuelling. Armament includes torpedoes, rockets, bombs, mines, machine guns and 20 mm. cannon. The new P2V-4 is also equipped with radar and other detection gear and is specially designed to deal with the formerly radar-proof " snort " subs. The new engines achieve their extra power and efficiency by harnessing three small turbines to the engine exhaust gases. The force of these gases drives the turbine wheels, which are geared to the crankshaft through a series of gears and fluid couplings, thereby transmitting the extra power back to the engine.

Tank Tip

For reasons of economy and safety the latest wing tip tanks on the Grumman F9F Panther and McDonnell F2H Banshee are fixed. In an emergency, the fuel itself is exhausted from the tanks. This is accomplished in approximately 40 seconds by opening a check valve in the nose of the tank whilst maintaining an airspeed of at least 200 m.p.h. The fuel is thus forced by air pressure through the outlet valve. Wing tip tanks increase the efficiency of the wing.

Canberra B Mk. 2

First production version of the English Electric Canberra is the B Mk. 2. Transparent nose forms the only external recognition detail difference from the B Mk. 1 prototypes.

Northrop YRB-49

Six-jet photographic reconnaissance bomber, the Northrop YRB-49 recently made its first test flight. The YRB-49 is a jet conversion of the B-35 piston-engined tailless flying wing. Four Allison J-35 turbojets are buried in each swept wing and two more are suspended in pods below the wing.



Percival P.56

New side-by-side basic trainer by Percival with a fixed undercarriage and powered by an Armstrong Siddeley Cheetah 17 radial engine is the P.56. The P.56 is an all-metal low-wing monoplane with square-cut flying surfaces and large cockpit canopy. In the picture below it should be noted that the undercarriage and tailwheel are not yet fully " dressed ".



Percival P.56 Basic Trainer

Flying Boom

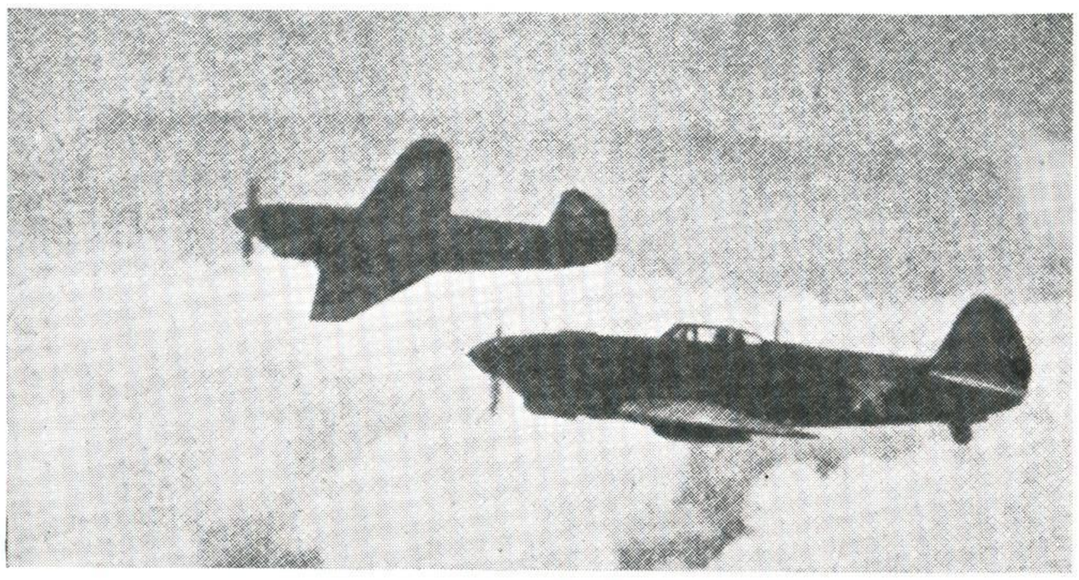
Developed to enable aircraft to refuel in flight more quickly and at greater heights the flying boom is shown here attached to the under-tail of a Boeing B-29 tanker. The boom is flown into position by an operator in the tail of the tanker, up and down or side to side movement being controlled by small vee-shaped " ruddevators ". Telescopic tubing also permits extension and retraction of the fuel nozzle. Once the latter is coupled to the socket on the top of the receiving plane, fuel is pumped in under pressure. It is understood that this method is much quicker than the earlier system of gravity flow through a flexible hose.

SOVIET FIGHTER HISTORY

by DENYS J. VOADEN, L./Obs. 21/A.1

IMPERIAL RUSSIA apparently produced no successful fighter designs during World War 1, and, at the time of the "October" Revolution, most fighter aeroplanes were of the Nieuport 17 or Sopwith Camel types. In the ensuing period, between 1918 and 1926, much reliance had to be placed in foreign types such as the French Nieuports, Italian Ansaldos, Dutch Fokkers and later on some German Junkers and Heinkels.

Gradually the foreign influence was absorbed into native designs, and in 1927 the I-5, a type resembling the Bristol Bulldog, was produced. A long series of biplanes designed by D. P. Grigorovitch and his pupil N. N. Polikarpov followed, later versions of which, the I-153 and I-15 bis, were still in service in 1942. The I-153 had a retractable undercarriage and was capable of 260 m.p.h. at about 16,000 feet.

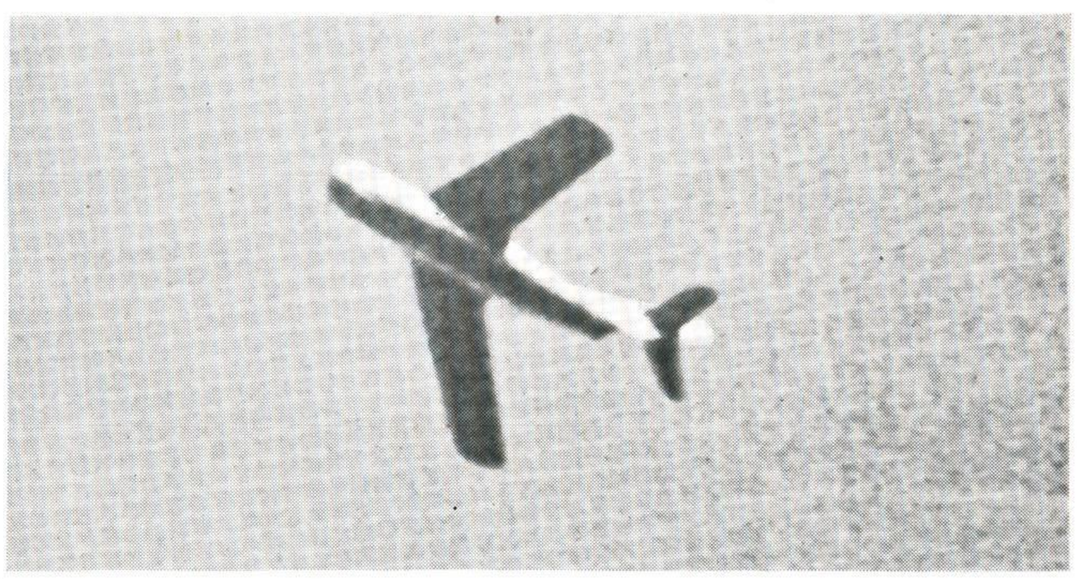


A *para* of YAK-9s.

At the impressive autumn manœuvres near Kiev in 1935 some examples of the first known Soviet monoplane fighters were used—the Polikarpov I-16. This snub-nosed radial-motored fighter with enormous wing roots was to remain in service even until the Stalingrad battle. Various armament arrangements and motors were fitted ; a typical maximum speed was 285 m.p.h.

More modern was the TsKB-19 prototype of 1936, with an M-100 liquid-cooled Vee motor designed by A. A. Mikulin. Also designated I-17 it does not seem to have been successful, and it was not until June 1941 that the world generally learned of the developments that had taken place in Soviet fighter design since the 1936 era.

Although many old I-15 series and I-16 aircraft were in use at the beginning of the Great Patriotic War, the new and now familiar types with Mikulin's AM-35 and M-105 liquid-cooled motors began to appear. They included the YAK-1, LAGG-3, MIG-1 and MIG-3. Still lightly armed and armoured their speeds of 340-400 m.p.h. were nevertheless nearer that of the Me 109, and, reinforced by P-39s, P-40s, Hurricanes and Spitfires (the " Spits " were apparently not rated very highly by the Russians, though the P-39 was extremely popular —stripped of " superfluous " armour and equipment), these fighters brought a touch of modernity into the battles above the bomb-blasted earth of the U.S.S.R.



The new MIG-jet.

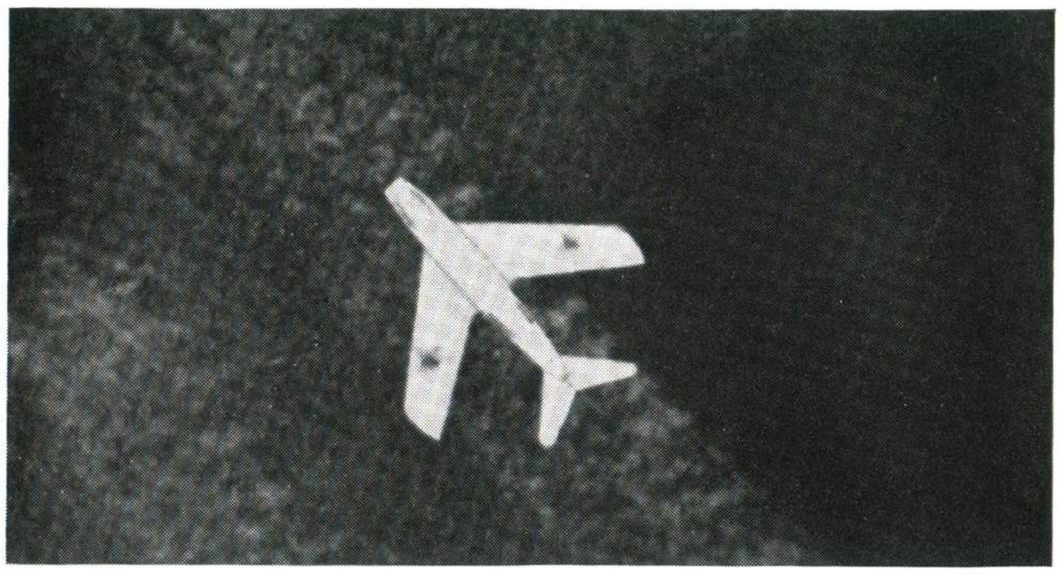
Although a large number belonged to the P.V.O. (Anti-Aircraft Defence Force), most of the fighters, like all Soviet aircraft, were assigned to air armies for tactical use. Often they flew reconnaissance missions. The top-ranking ace, Guards-Colonel Aleksandir Pokryshkin, tells how he discovered Von Kleist's panzers which were threatening Rostov-na-Don in 1941 ; he was flying a MIG-3 at about this time.

Other famous contemporaries of Pokryshkin were Savitskii, the Glinka brothers, Pokryshev and Ivan Kozhedub (62 victories). The last-named finished the Great Patriotic War flying an LA-7 ; this was one of the improved types introduced after 2-3 years of war.

In 1943 the LAGG-3 gave way to the LA-5, which has an M-82 radial motor ; only two guns were carried. The LA-7 was an improved version of 1944 and could fly at about 600 km. hr. The YAK-1 gave rise to the YAK-7B and YAK-9, both with all-round vision hoods, and in 1944 the YAK-3 became operational. This seems to have been the final war-time " cleaned-up YAK ", yet even in this the top speed could not be pushed above about 360 m.p.h.

These typical Soviet fighters, often made largely of wood, were rugged, light, simply equipped and easy to build. Although technically inferior to the FW 190 or Me 109 F or G, the vast numbers which were available contributed largely to the Russian victory.

Two-motor destroyer or night-fighters were not very much developed. The single-seat MIG-5 of 1943 was unsuccessful ; it was heavily armed. The PE-3 was more



The new MIG-jet.

useful but only a few squadrons became operational. Such aircraft had little chance to prove their worth because of diminished German night bombing later in the war and also because there was no Russian radar with which they could co-ordinate.

Other fighters constructed away from the main trend of the single-seater in pre-war years were the MI marine



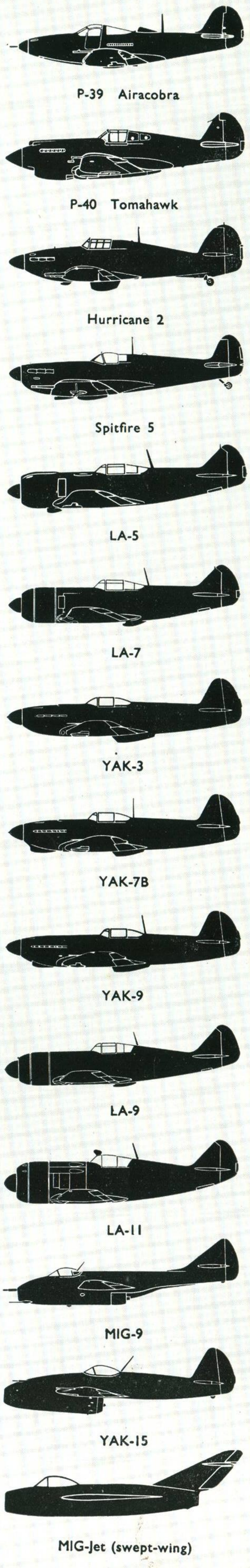
The new MIG-jet.

float planes, which seem to have died an early death, and the DI two-seaters, built between about 1928 and 1935. The latter series included the known designs DI-2, DI-3, DI-4 and DI-6 ; the last two at least were products of Polikarpov.

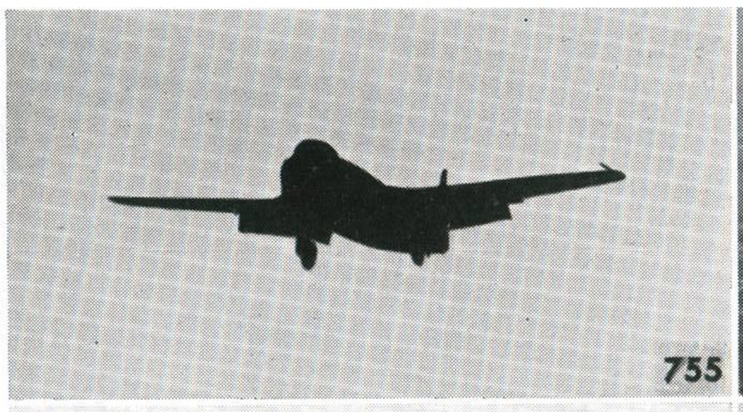
The war-time fighters gave rise to a small family of post-war piston-engined variants—notably the YAK-9P, LA-9 and LA-11.

It was not until the end of the war, when German jet fighter aircraft factories and development establishments fell into their hands, that the Russians were able to start practical work on jet propulsion. In 1946 their first jet aircraft, the MIG-9 and the YAK-15, appeared. The MIG-9 was an original design, albeit with a distinct Germanic flavour and almost certainly powered with German axial flow engines. On the other hand the YAK-15, with its most unsuitable tail wheel type undercarriage, has all the appearance of being a hasty modification of the piston-engined YAK-9 and can, therefore, be considered as little more than a stopgap. By 1947 both the MIG-9 and the YAK-15 were in squadron service though their performances were inferior to the British and American jet fighters of that period. The Soviets were obviously not content with these obsolescent aircraft and Russian designers, charged with making up the leeway on their late start in the jet aircraft field, produced in 1947 a number of new prototype jet fighters. The results of their labours is seen in the appearance in service in 1949 of a swept-wing jet fighter. This aircraft has been attributed to the Mikoyan Gurevich design team and is of sufficiently advanced design to form the basic jet-fighter for the Soviet Air Force for the next few years. It is probable that the MIG-9 and YAK-15 will be withdrawn from first line squadron service though they may be retained for training purposes.

Here our survey must end. We see that in 30 years the Soviet Union has firmly established a large fighter force of efficient types. From 1950 onward, the second half of aviation's century will no doubt produce great advances in Russian jet fighter development, as in the other large nations. And in spite of barriers to knowledge, we must hope that enough will become known to enable us to follow this in at least as much detail as we were able to acquire for the earlier periods.



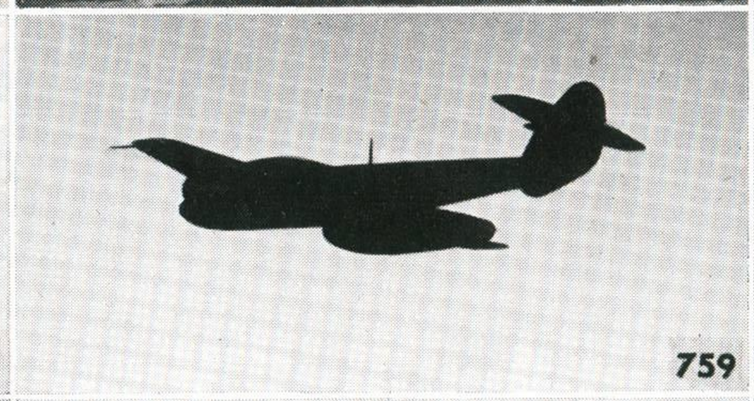
SILLOGRAPHS

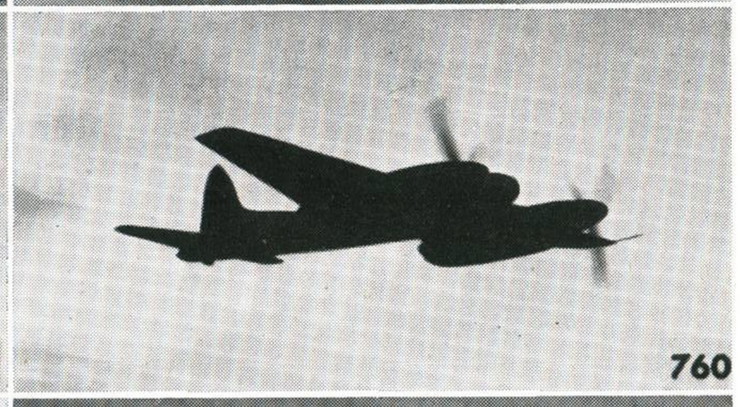

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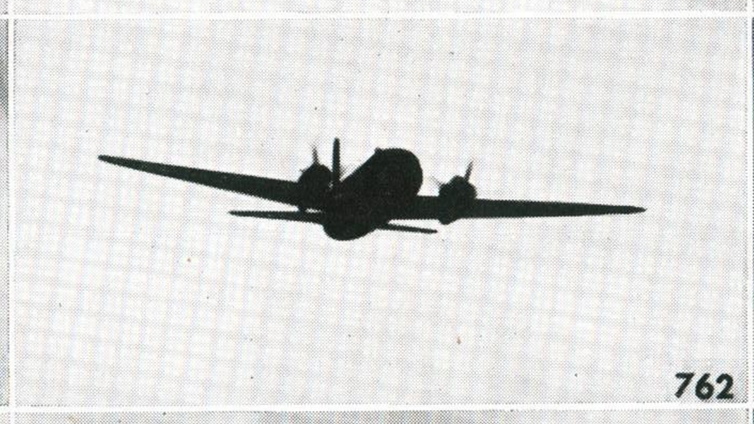

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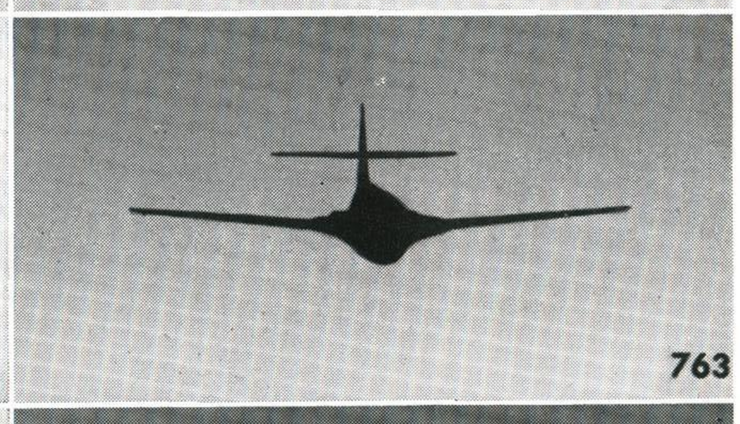

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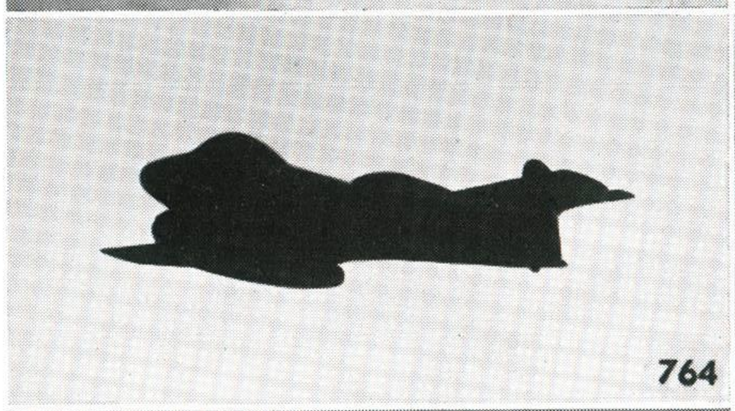

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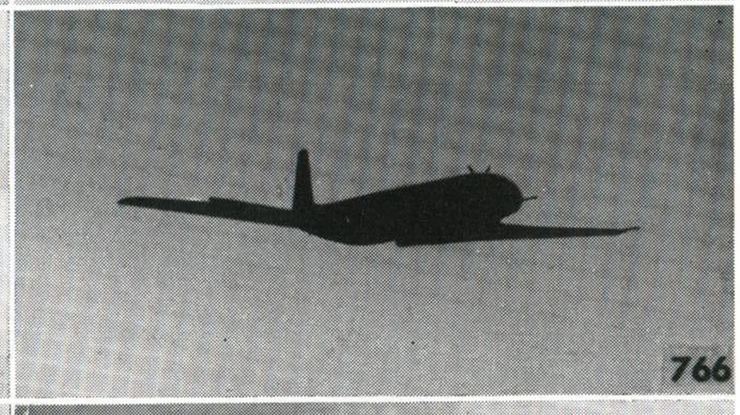

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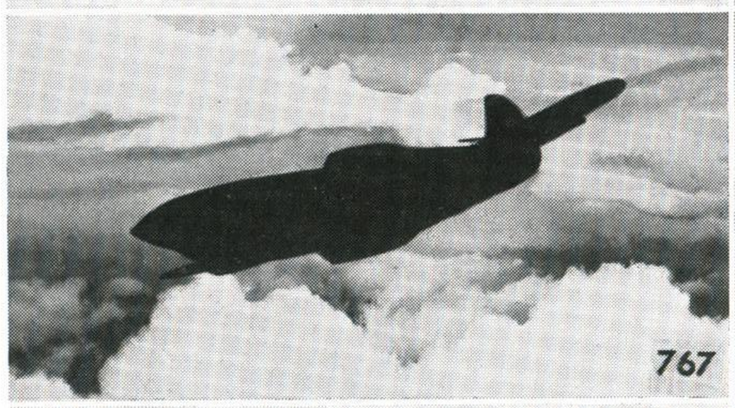

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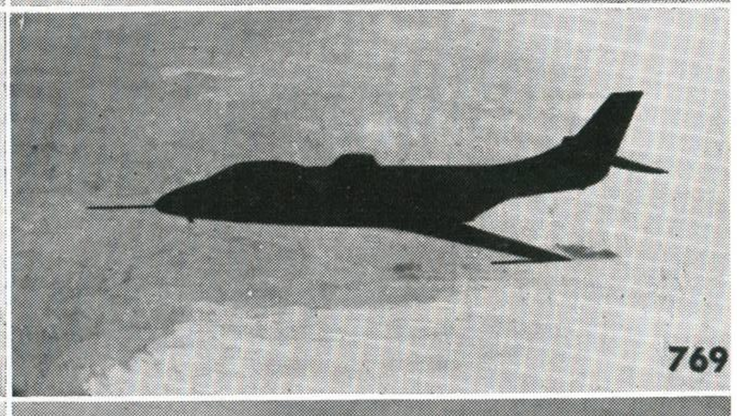

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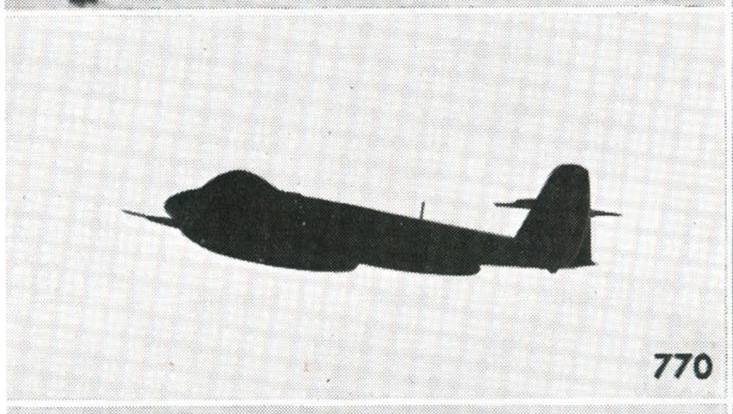

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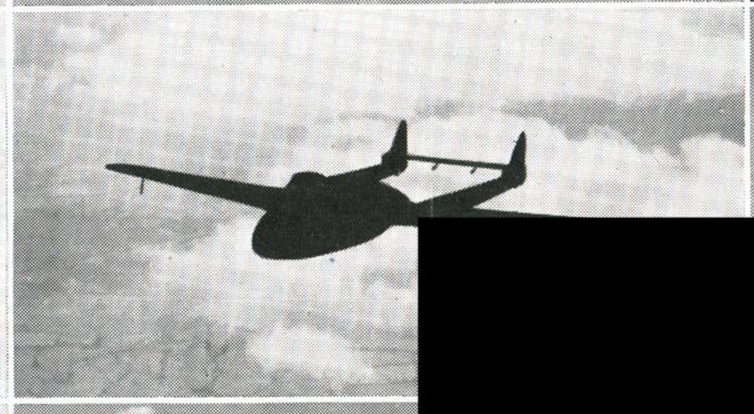

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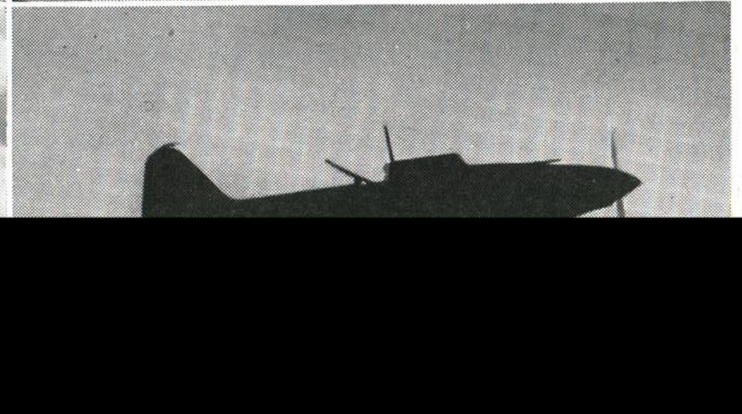

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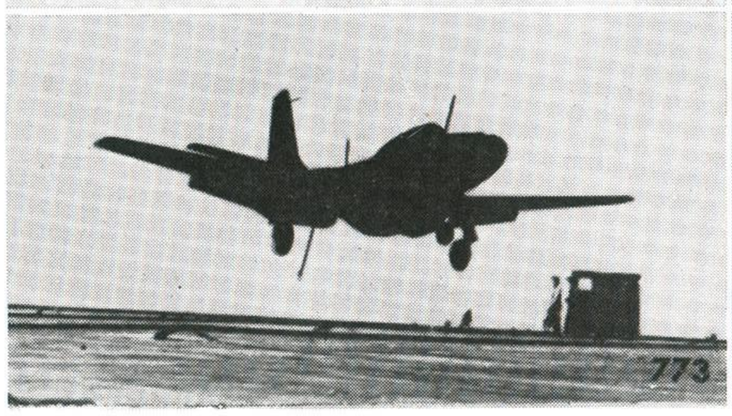

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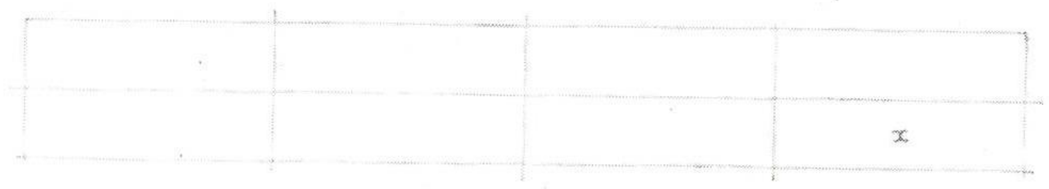



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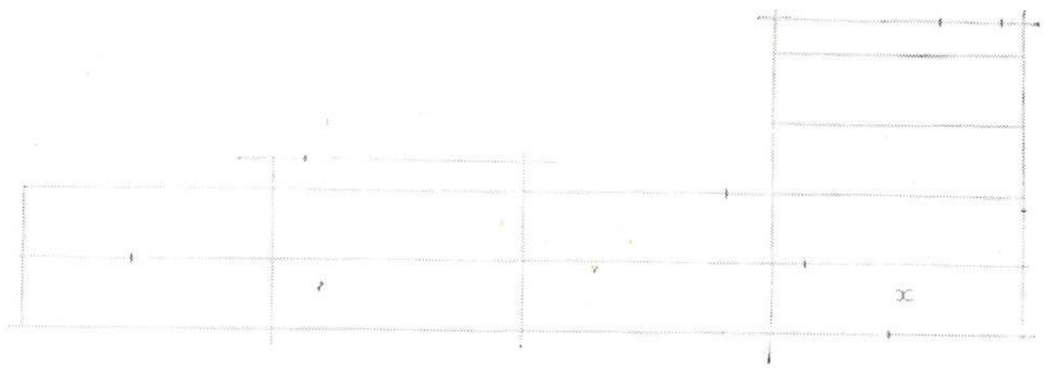


GET INTO LINE!

"Oh, East is East, and West is West, and never the twain shall meet!", wrote Kipling. However, we think it desirable that this "twain" at least shall meet on this page. Broadly similar in layout, these two jet fighters are as different as chalk and cheese—in fact, as East and West—in character.

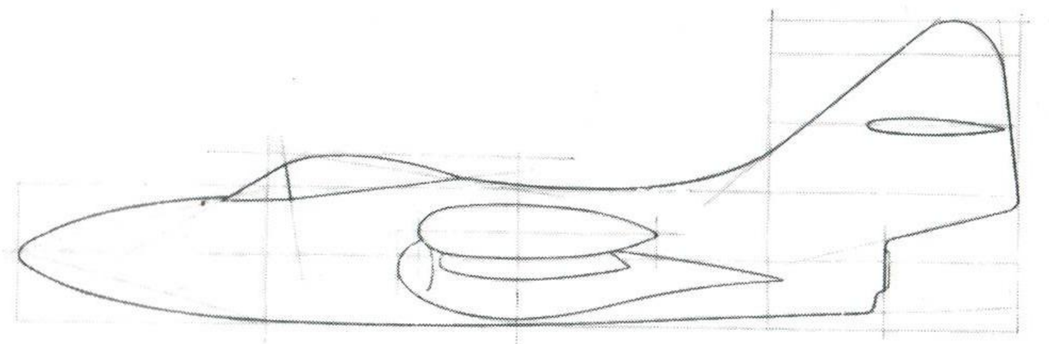


Stage 1. *Draw this $7\frac{1}{2}$ times longer than high.* *Draw this 7 times longer than high.*

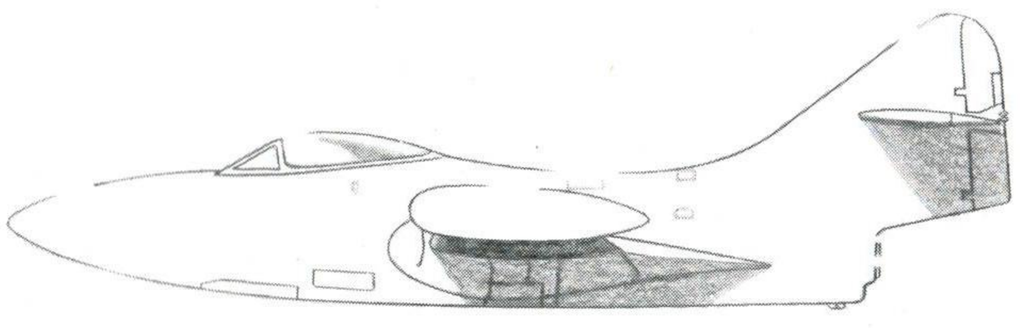


Stage 2. *Enlarge sub-division "X" into a square, add guide marks as indicated.*

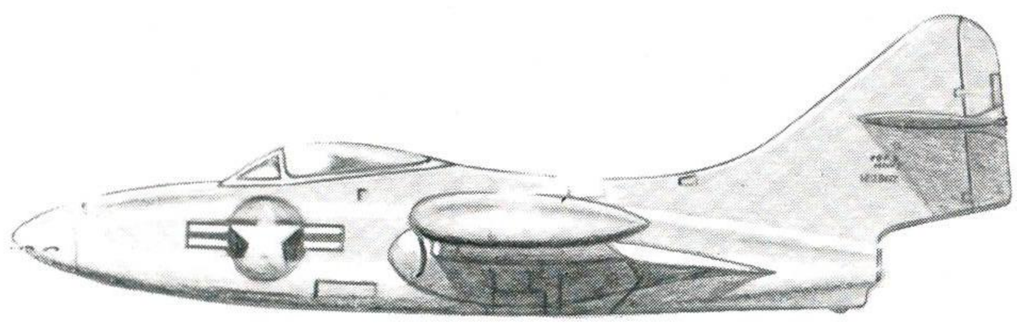
Stage 3. *Add main straight lines.*



Stage 4. *Complete outline.*

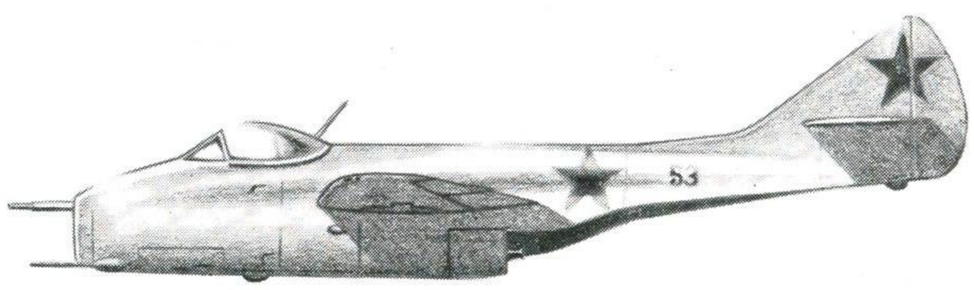


Stage 5. *Remove construction lines and add main shadows.*



Stage 6. *Complete as desired*

F9F-3 Panther
(U.S. Navy fighter)



MIG-9
(S.A.F. fighter)



All areas still need more volunteers. The lower age limit is 16 and the upper age limits are 45 for service at Centres and 55 for service at Posts.

(If it is any inducement, each observer receives a personal copy of the Inter Services Aircraft Recognition Journal.—Ed.)

Quotes

" Like every other subject or science, aircraft recognition must be founded on a basic ABC. That foundation is provided by the [three-view] silhouette."

Inter-Services Aircraft Recognition Journal, October, 1942.

Spotting Possibles

Since the revised list of " Spotting Possibles " was published in the May, 1950, *Journal*, the following types have been reported from various parts of the country and should be added to the main list :—

Invader, Cierva C 30 (now confirmed), B-17 Fortress, C-46 Commando, Zaunkoenig, Comper Swift, Beechcraft Traveller, Klemm Swallow, D.H.90 Dragonfly, Privateer, Mamba-Dakota, A.W.52, B.A. Swallow, Super Ace, Tempest TT Mk. 5.

New Aircraft Recognition Material

1/72 Scale Model
Stores Ref. 52/913 F2H-1 Banshee

Large Silhouette
A.D. 4645 Sandringham 1 (R.O.C. only)

Applications for supplies should be through the usual official channels quoting reference numbers as above.

American Aircraft Designations

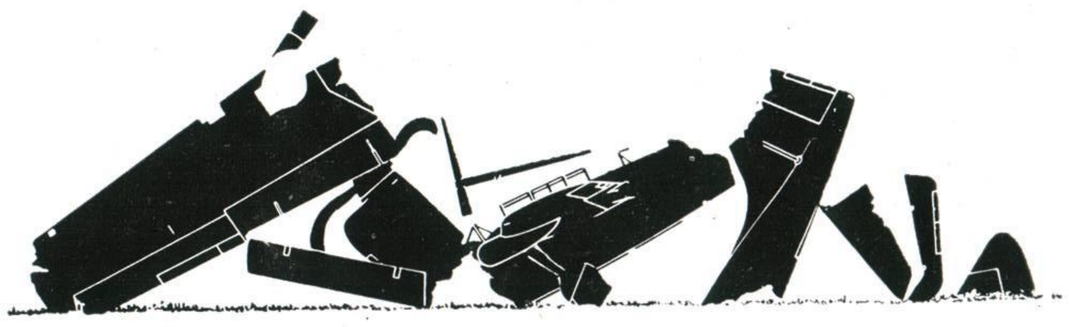
Recent Press reports mention many American aircraft by designation only. This short alphabetical list of designations may be helpful for quick reference.

Designation	*Name*	*Type*
A-26	Invader	Twin-Engine Attack/Bomber
AD-1	Skyraider	Single-engine Strike
AM-1	Mauler	Single-engine Strike
B-17	Fortress	Four-engine Bomber
B-25	Mitchell	Twin-engine Bomber
B-26	Marauder	Twin-engine Bomber
B-29	Superfortress	Four-engine Bomber
B-45	Tornado	Jet Bomber
B-47	Stratojet	Jet Bomber
B-50	Superfortress	Four-engine Bomber
C-46	Commando	Twin-engine Transport
C-47	Skytrain (DC-3 Dakota)	Twin-engine Transport
C-74	Globemaster	Four-engine Transport
C-82	Packet	Twin-engine Transport
C-118		Four-engine Transport
C-119	Packet	Twin-engine Transport
C-121	Constellation	Four-engine Transport
C-124	Globemaster 2	Four-engine Transport
C-125	Raider	Three-engine Transport
F2H	Banshee	Jet Fighter
F4U	Corsair	Single-engine Fighter
F6F	Hellcat	Single-engine Fighter
F7F	Tigercat	Twin-engine Fighter
F8F	Bearcat	Single-engine Fighter
F9F	Panther	Jet Fighter
F-15	Reporter	Twin-engine Recce
F-47	Thunderbolt	Single-engine Fighter
F-51	Mustang	Single-engine Fighter
F-80	Shooting Star	Jet Fighter
F-82	Twin Mustang	Twin-engine Recce/Fighter
F-84	Thunderjet	Jet Fighter
F-86	Sabre	Jet Fighter
FH-1	Phantom	Jet Fighter
FJ-1	Fury	Jet Fighter
P2V	Neptune	Twin-engine patrol-bomber
P4M	Mercator	Twin-engine Patrol
PBM-5	Mariner	Twin-engine Patrol-bomber Flying-boat
PBY-6	Catalina	Twin-engine reconnaissance Flying-boat
TBM-3	Avenger	Single-engine Torpedo-bomber

Volunteers for Royal Observer Corps

In May 264 men and 76 women applied to join the Royal Observer Corps. The applications in each of the five Royal Observer Corps areas were :—Southern Area, 61 men 16 women ; Midland area, 124 men, 34 women ; Western area, 38 men, 11 women ; North-Western area, 22 men, 13 women ; Scottish area, 19 men, 2 women.

Wreck-cognition



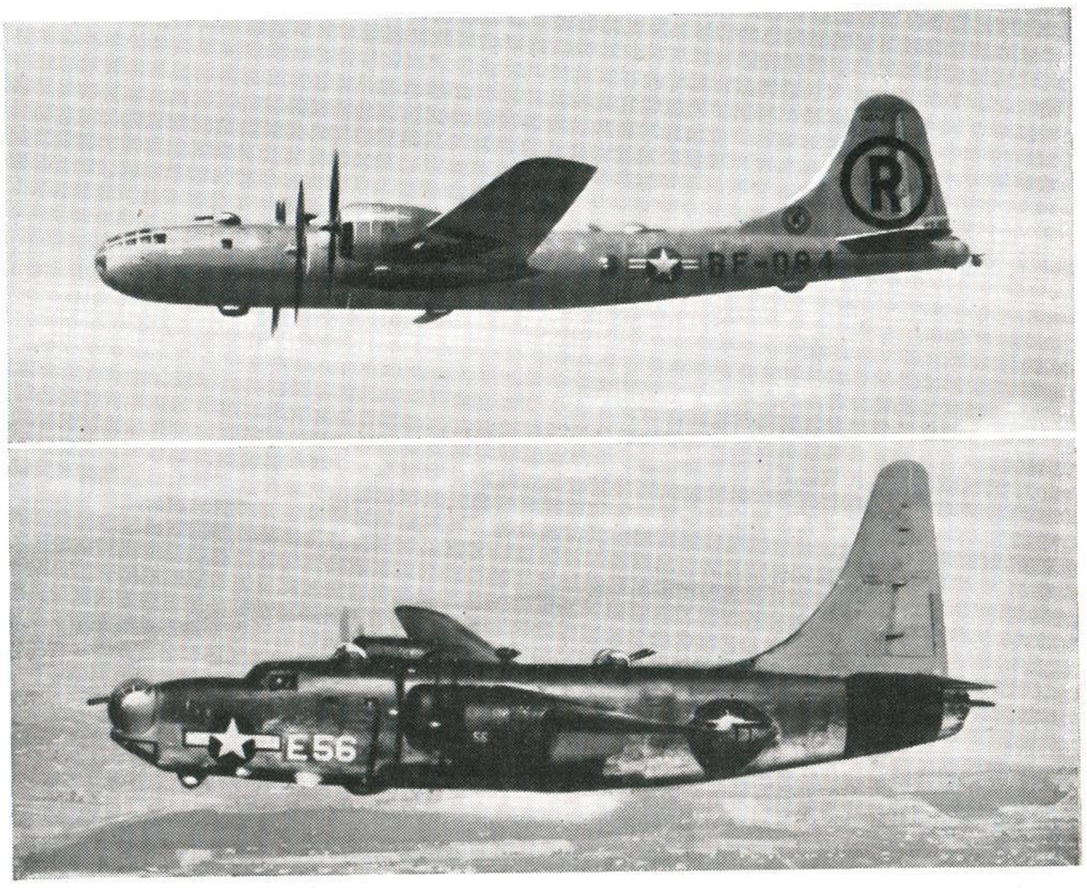
(Answer on rear cover).

If the *Journal* is Late

Recently the London Society of Compositors imposed a ban on its members on the working of overtime. It is inevitable that, so long as this dispute continues in the printing industry, publication of periodicals—and that necessarily includes the *Journal*—must be seriously delayed.

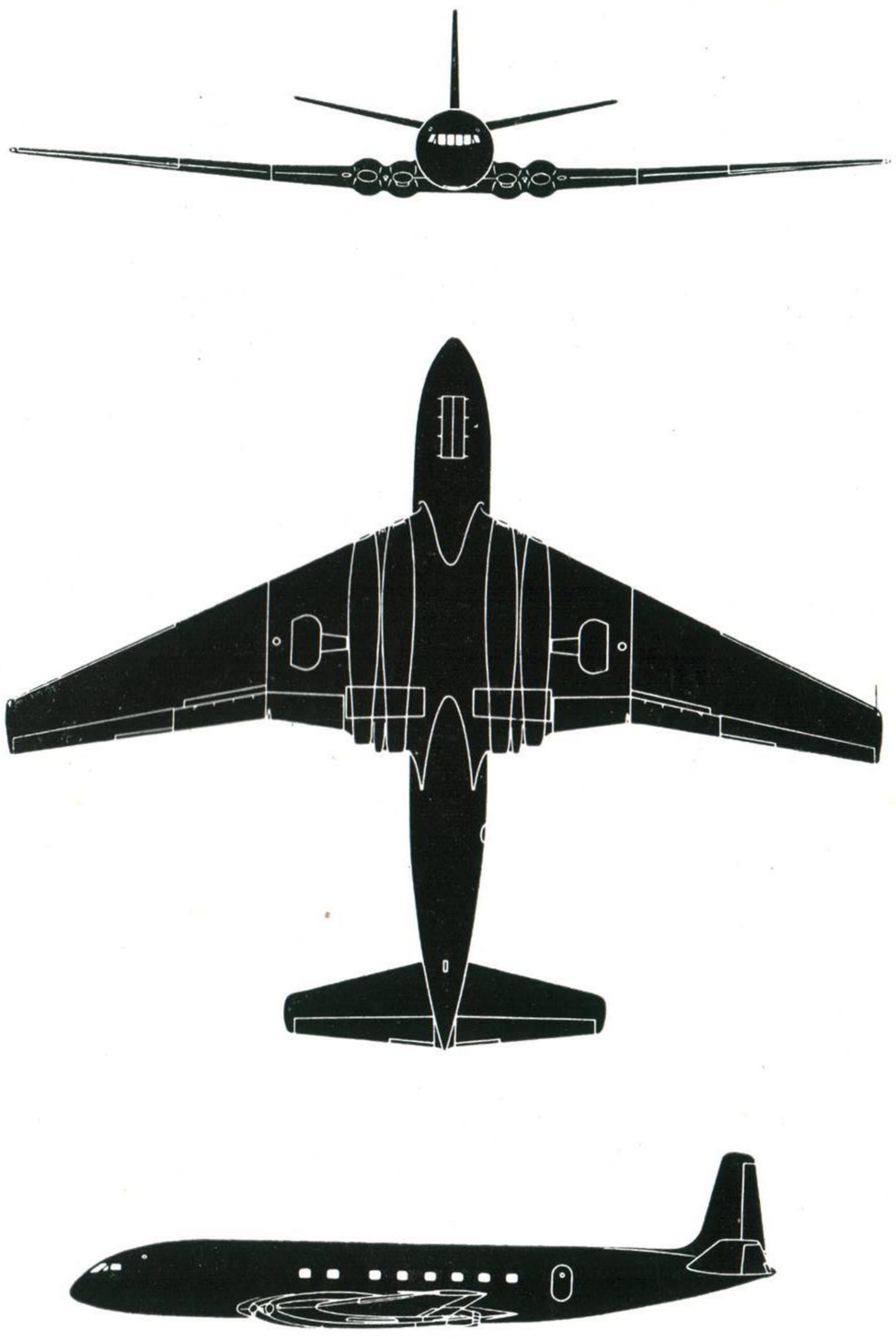
Terminological Inexactitudes

We apologise for the following minor mistakes in the June *Journal*. Page 183 : " Flying Saucery " : the disc-shaped aeroplane built and flown by Chance Vought should have been designated V-173. Page 197 : in " Summary of Types and Countries of Origin of ' Iron Curtain ' Aircraft" under " Russian origin " the Polikarpov PO-2 was once known as the U-2 not the UT-2. The UT-2 is believed to be of Yakovlev design. Also on this page under " Finnish Origin " we spell Viima, as Vilma. Then on page 199 we quote the span of the C-119 Packet as 106 ft. 6 ins., whereas it is 109 ft. 3 ins. Sorry !



SILHOUETTES — NEW JET TYPES

DE HAVILLAND COMET



British Transport

Engines : Four D.H. Ghost turbojets

Span : 115 ft. 0 ins. Length : 93 ft. 0 ins.

Recognition Points :

Wings : low-set, slight dihedral, swept-back, large centre-section, narrow outer panels outboard of elbow joint " kink " in trailing edge, blunt tips.

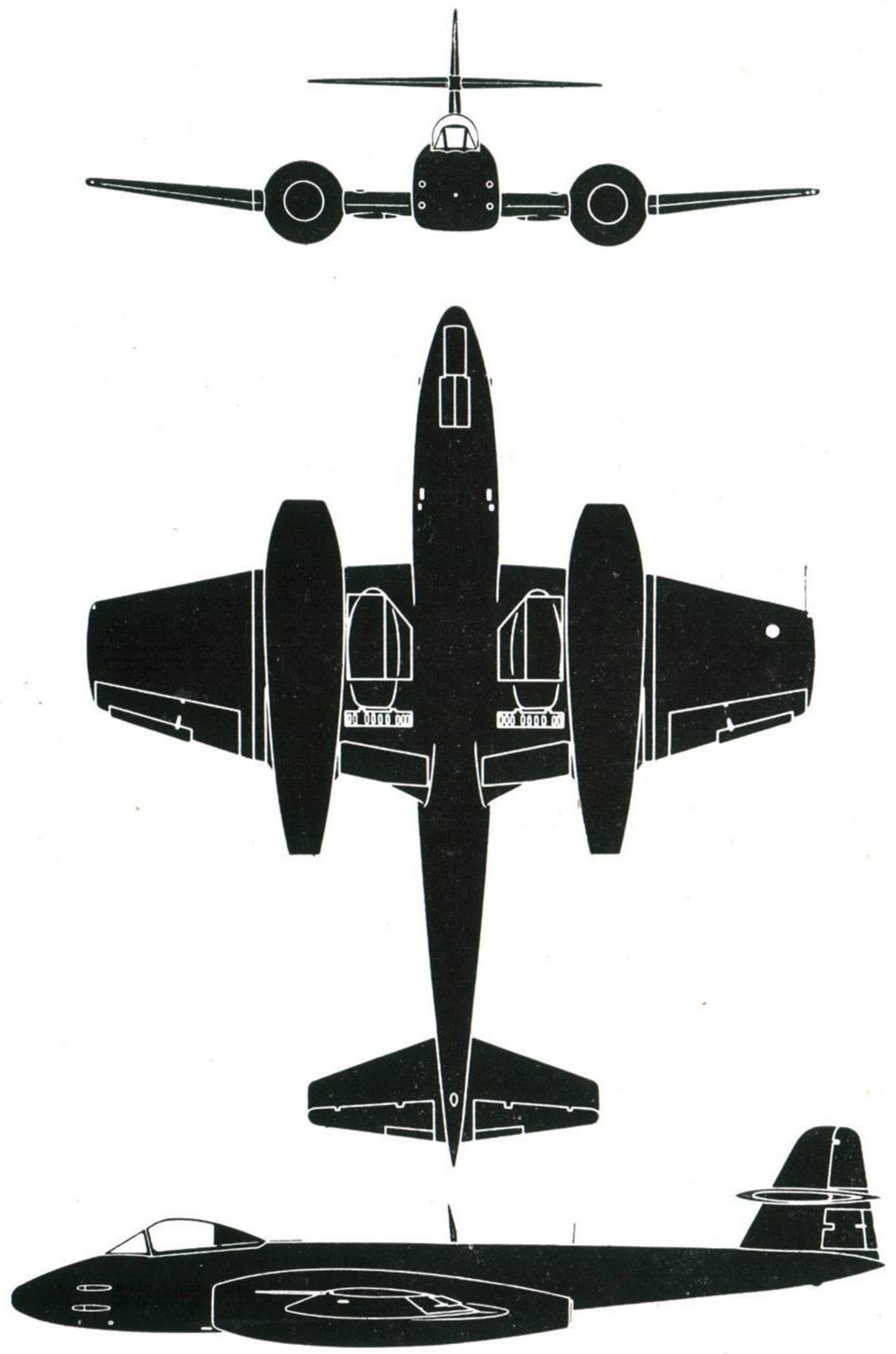
Fuselage : cylindrical with pointed nose and short slightly upswept rear section.

Tailplane : narrow chord, straight taper, small blunt tips, marked dihedral.

Fin and Rudder : tall, straight taper, small fairings to fuselage, small blunt tip.

General : clean streamlined fuselage with nose down tail up " look" " shark's fin " wings, un-swept tail surfaces, tailplane dihedral, tall fin and rudder.

GLOSTER METEOR F Mk. 8



British Fighter

Engines : Two R.-R. Derwent turbojets

Span : 37 ft. 2 ins. Length : 44 ft. 7 ins.

Recognition Points :

Wings : low-set, dihedral on short outer panels, slight equi-taper on outer panel edges, blunt tips.

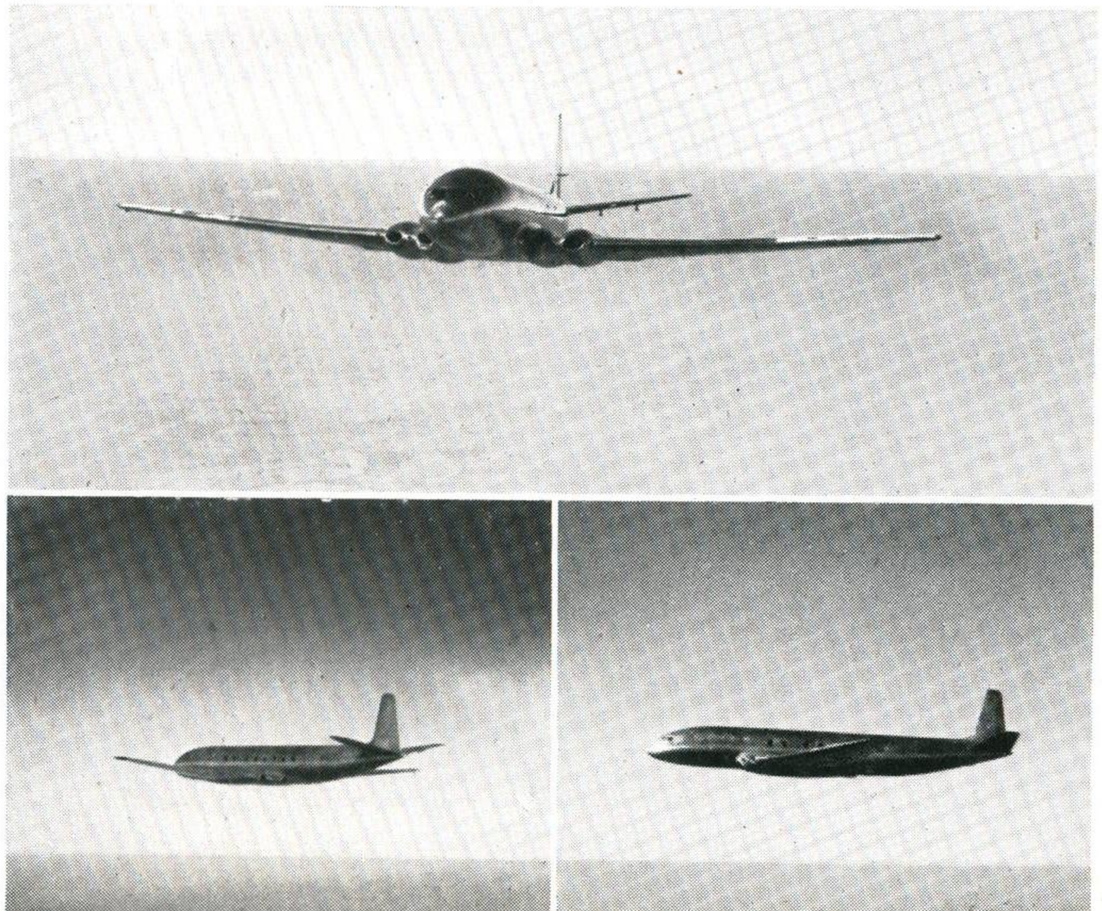
Engines : centrally mounted, large streamlined nacelles protruding fore and aft of wing.

Fuselage : " stirrup " section, slender, long pointed nose.

Tailplane : " cross-tree " type, straight taper more marked on leading-edge, small square-cut tips.

Fin and Rudder : straight taper, square-cut tip, torpedo shaped fairing at junction with tailplane.

Detail : cockpit canopy set forward on fuselage.

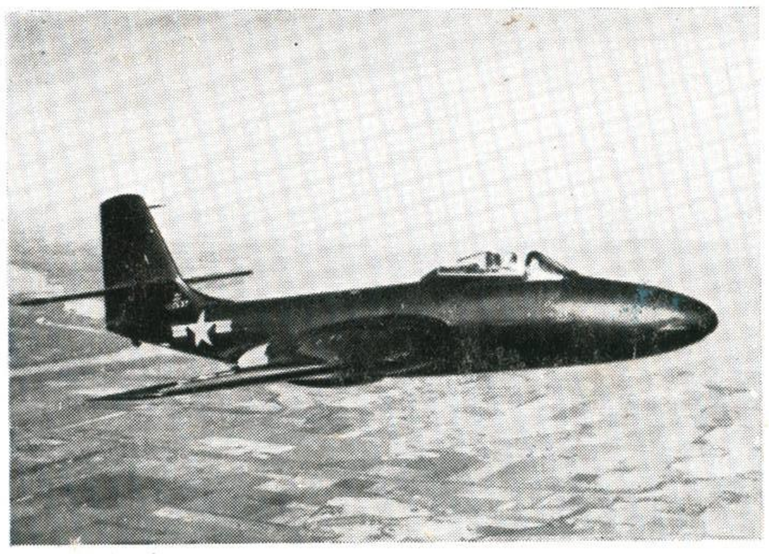




Cover : McDonnell F2H-2 Banshee twin-jet carrier-based fighter.

Banshees may be seen with or without wing-tip tanks.





TRICKY TRIO

Left to right : Meteor 4, Canberra, B-45 Tornado

WRECK-COGNITION

Barracuda 5

SOLUTIONS TO RECOGNITION TESTS IN THIS EDITION :

ELEMENTARY

802. Hastings C Mk. 1
803. Sea Fury FB Mk. 11
804. Dakota
805. Firefly FR Mk. 4
806. Vampire FB Mk. 5
807. Meteor F Mk. 8
808. Sealand 1
809. P.1052
810. F-51H Mustang
811. Halifax A Mk. 9
812. Attacker F Mk. 1
813. Chance-Vought V 173
814. Republic XF-91
815. Firebrand TFB Mk. 5
816. Gemini 1A
817. Lockheed XF-90
818. Buckmaster T Mk. 1
819. Mosquito T Mk. 3
820. Varsity T Mk. 1
821. B-29 Superfortress
822. Tiger Moth

ADVANCED

980. SR/A1
981. Spitfire PR Mk. 19
982. B-17H Fortress
983. Proctor T Mk. 4
984. Vampire FB Mk. 5
985. Sea Fury FB Mk. 11
986. B-29 Superfortress
987. Sea Hornet F Mk. 20
988. Seagull ASR Mk. 1
989. Hastings C Mk. 1
990. Athena T Mk. 2
991. Firebrand TBF Mk. 5
992. Viking 1A
993. Vickers 510
994. Auster AOP Mk. 6
995. Harvard 2
996. Varsity T Mk. 1
997. Barracuda TBR Mk. 5
998. Buckmaster T Mk. 1
999. Marathon 1
1000. B-29 Superfortress

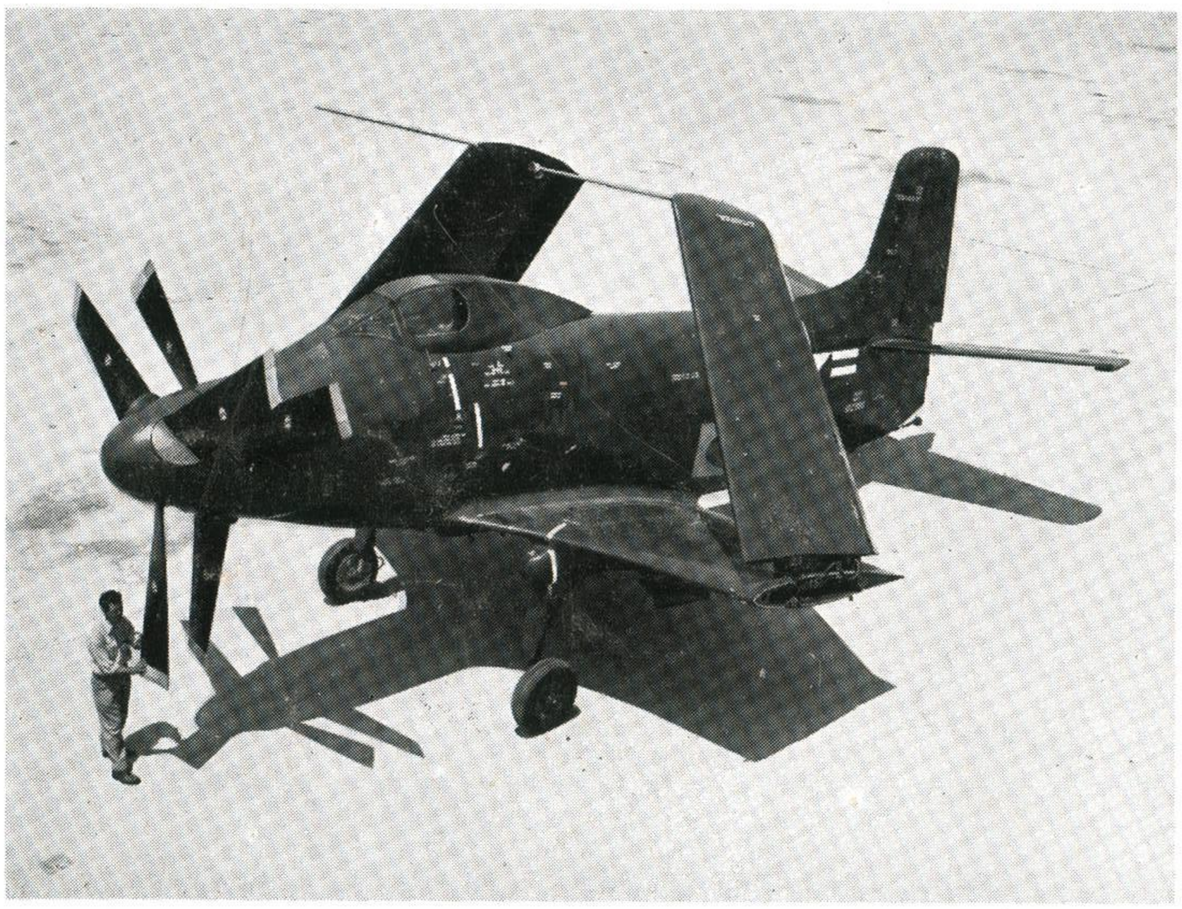
SILLOGRAPHS

755. Seahawk F Mk. 1
756. DHA 3 Drover
757. Hastings C Mk. 1
758. Convair-Liner
759. Meteor T Mk. 7
760. Hornet F Mk. 3
761. Sea Fury T Mk. 20
762. Valetta C Mk. 1
763. Seahawk F Mk. 1
764. Meteor F Mk. 8
765. Canberra B Mk. 1
766. Comet
767. YAK-9
768. P2V-2 Neptune
769. F-88 Voodoo
770. Meteor F Mk. 8
771. Vampire 5
772. IL-2 modified
773. FH-1 Phantom
774. Hermes 4
775. YAK-11

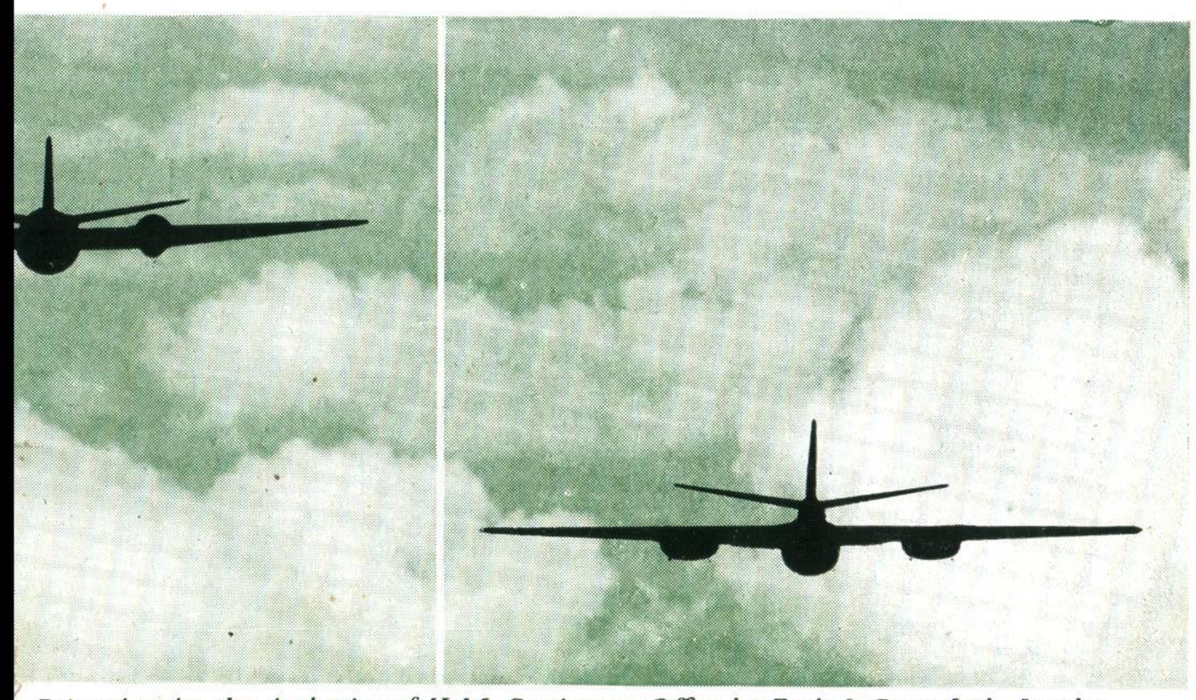
S.B.A.C. DISPLAY

The Society of British Aircraft Constructors' Flying display and Exhibition, Farnborough Airfield, Hants., will be open to the public on Sunday 10th September in addition to the days mentioned on page 152 of the April Journal.

Brute Strength seems an apposite description of the Douglas XA2D-1 Skyshark, turboprop development of the AD-1 Skyraider. The engine, an Allison T-40, is, in effect, a pair of T-38 turbines coupled. One turbine can be cut-out for normal cruising conditions. Turbine intakes can be seen beneath the nose, whilst exhaust tail-pipes emerge at sides. The Skyshark carries an armament of more formidable proportions than its elder brother the Skyraider.



TRICKY TRIO



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