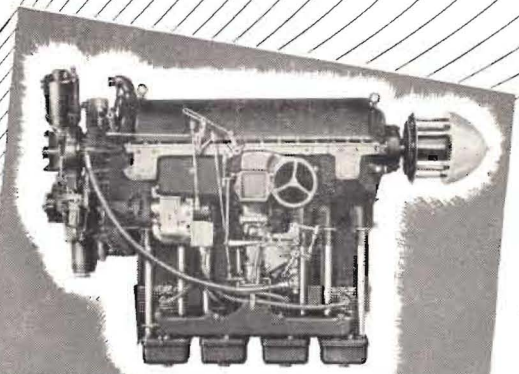
AIRCRAFT *News*

AUGUST · 1951



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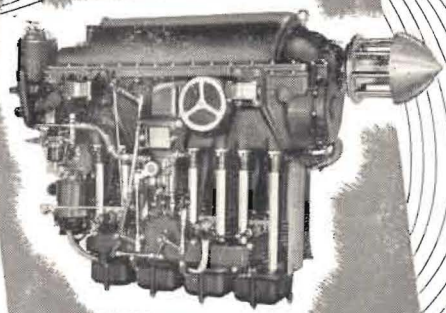

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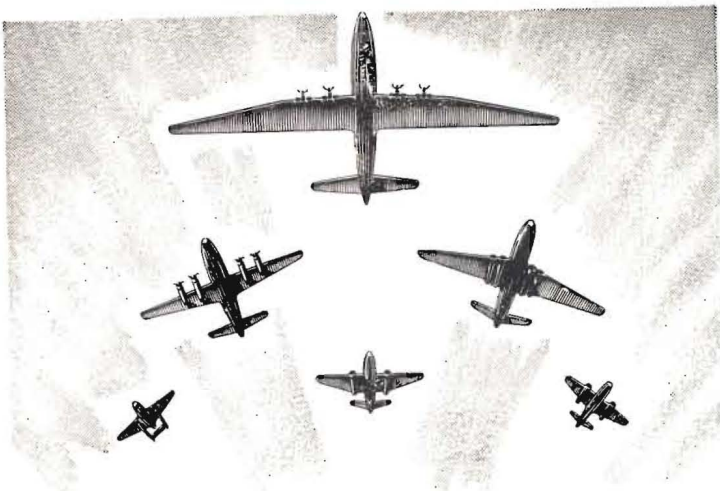

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AIRCRAFT NEWS

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AUGUST, 1951

Editorial

S.B.A.C. SHOW

WITH THE ANNUAL S.B.A.C. Air Display and Exhibition upon us once more, one again looks to Farnborough to provide evidence that Great Britain still holds a foremost position in aviation.

A year ago it was being suggested in some quarters that, for reasons which were prominent at the time, the 1950 Display would be the last to be held for some years. Nevertheless, representatives of the industry are now busily engaged in completing their exhibits for this year's show, and there will doubtless be something new brought "out of the hat" of several firms for the occasion.

One thing is certain. The S.B.A.C. has built up a reputation for producing the best aeronautical show in the World, and this year's effort will be well worth seeing.

AIRCRAFT NEWS

FOR SOME CONSIDERABLE TIME now *Aircraft News* has appeared at regular monthly periods. For various reasons it has now been found necessary to restrict these issues to six per year, which means that the next issue will appear in October.

The Press is most welcome to utilise subject matter from the *Aircraft News* in whatever manner it may desire with or without acknowledgement. The Editor will also be pleased to be advised of any items suitable for inclusion in a future issue, and to receive photographs of Austers and those who fly in them.

Some Auster Types Reviewed

THE AUTOCAR

THE AUTOCAR IS A FULL FOUR-SEATER, and the lowest-priced British aircraft available in this category. It can also be supplied as a light freighter, in which case a detachable canopy is incorporated to facilitate the loading of heavy or bulky packages.

The AUTOCAR has a range of 500 miles (805 Km.) and carries four persons (or their equivalent) 100 miles in one hour on less than seven gallons of petrol. The engine is the famous Gipsy Major I, of 130 h.p., driving a Fairey Reed metal propeller. Spares and service are available everywhere, and this engine carries the longest approved overhaul life (1,500 hours) of any engine in the world.

The extremely pleasing lines of the AUTOCAR can be seen in the photographs on facing page. Handling characteristics are exemplary ; the aircraft is crisply stable directionally, giving a comfortable ride in rough air, and steep figures-of-eight can be undertaken without touching the rudder and with a minimum of slip. "Feet off" flying characteristics are in fact ideal.

Maintenance and operating costs, as with all Austers, are extremely low. The AUTOCAR has already been sent to many different countries, and reports on its operation indicate that this is an exceedingly good and popular machine.

Brief data is as follows :—

Maximum authorised weight	2400 lbs. (1089 *kg.*)	
Disposable load	987 lbs. (447 *kg.*)	
Fuel capacity (basic)	32 galls. (145 *litres*)	
	Average Load (1900 *lbs.*)	*Full Load* (2400 *lbs.*)
Maximum speed	120 m.p.h. 193 *Km./h.*	117 m.p.h. 188 *Km./h.*
Cruising speed	104 m.p.h. 167 *Km./h.*	100 m.p.h. 161 *Km./h.*
Stalling speed (without flaps)	41 m.p.h. I.A.S. 66 *Km./h.*	42 m.p.h. I.A.S. 67 *Km./h.*


G-AJYK
1


2


G-AJYK
3

	Average Load	*Full Load*
Stalling speed (with flaps) . .	33 m.p.h. I.A.S. 53 *Km./h.*	34 m.p.h. I.A.S. 55 *Km./h.*
Rate of climb at sea level . .	725 f.p.m. 220 *m.p.m.*	525 f.p.m. 160 *m.p.m.*
Service ceiling . . .	14,000 ft. 4267 *m.*	11,000 ft. 3350 *m.*
Take-off distance (hard surface)	150 yds. 137 *m.*	220 yds. 201 *m.*
Landing run	135 yds. 123 *m.*	163 yds. 149 *m.*
Range (at cruising speed) . .	520 miles 837 *Km.*	500 miles 805 *Km.*

THE AIGLET

Owners and operators of the AIGLET, in many different countries, are unanimous in their praise for this aircraft. "It climbs like a rocket," and "It goes upstairs like a homesick angel" are typical of reports received on its performance.

The AIGLET is in fact a faster, crisper, livelier, yet easier to handle Auster. Basically it is a three-seater type, but the rear cabin can be fitted with a double seat to enable four occupants (within the limits of the maximum authorised weight for the aircraft) to be carried ; this makes an ideal arrangement for a family tourer.

Apart from its attraction as a personal or business aircraft and club machine the AIGLET lends itself to many other uses, and as an agricultural aircraft it has already proved its value. Messrs. Aerial Spraying Contractors Ltd., of Boston, Lincolnshire, successfully sprayed 17,000 acres of cotton in the Sudan last year using AIGLETS equipped for crop spraying.

The AIGLET is powered by a Gipsy Major I engine, and among all light aircraft the engine installation represents a great advance, offering exceptional ease of maintenance of the essential systems, being entirely fireproof and well within the latest safety requirements laid down by the British Air Registration Board. It is the lowest-priced three-seater aircraft with a Gipsy Major engine.

Standard Specification includes—

Three seats. Flaps. Wheel brakes. Vyanide upholstery. Normal engine and flight instruments. Compass. Dual controls. 15-gallon fuel tank. Door pockets. Wiring for wing-tip lights.

Optional Extras include—

Radio. Twin rear seat. Sunblinds. $13\frac{3}{4}$-gallon long-range fuel tank. Blind-flying instruments. Metal propeller. Electrical installation. Cross-wind landing wheels. Silencer. Spraying equipment. Seeding and dusting equipment.

Brief general data is as follows :—

Maximum total weight authorised	2000 lbs. (907 *kg.*)
Disposable load	785 lbs. (356 *kg.*)
Fuel capacity (basic)	15 galls. (68 *litres*)
Fuel capacity (long range)	$28\frac{3}{4}$ galls. (130 *litres*)
Performance at full load, with metal propeller :—	
Maximum speed	121 m.p.h. (194 *Km./h.*)
Cruising speed	103 m.p.h. (166 *Km./h.*)
Stalling speed (with flaps)	32 m.p.h., I.A.S. (51 *Km./h.*)
Rate of climb at sea level	710 ft./min. (216 *m./min.*)
Service ceiling	15,000 ft. (4575 *m.*)
Take-off distance	168 yds. (153 *m.*)
Landing run	155 yds. (141 *m.*)
Range:	
Basic fuel tank	240 miles (386 *Km.*)
Long-range fuel tank	455 miles (732 *Km.*)

The Auster Aiglet equipped for crop spraying.
(One gallon per acre installation)

THE AUSTER T. Mk. 7

This aircraft was designed for the Ministry of Supply primarily as a side-by-side-seat training machine having the same characteristics as the well-proved Mk. 6. The design has since been modified slightly to enable quick and easy conversion to an Air Observation Post whenever necessary. In addition, consideration has been given to its further use in field-telephone laying, aerial message and mail pick-up, aerial photography, desert flying, glider towing, ambulance work and long-range flying (these being duties which were regularly effected by earlier military Austers).

Equipment for aerial photography and for aerial message and mail pick-up was embodied in Auster T. Mk. 7 aircraft despatched last month to Rangoon for the Burma Air Force. The Mk. 7 is also seeing service in Transjordan and in the Royal Canadian Air Force, apart from the British Forces.

The arrangement of the cabin has been well planned to give maximum comfort and simplicity of operation from either seat, each of which is adjustable to suit tall or short pilots, and provided with an easily hinged back so that access can be gained to the rear of the cabin. The engine controls, flap and trimmer levers are located centrally for convenient use by pupil or instructor, who are seated side-by-side. Dual control sticks, rudder bars and brakes are fitted, and the electrical switches are grouped into a most suitable arrangement for training.

Two-stage amber screens (blue for overseas) are fitted so that instrument flying instruction can be accomplished during daylight. Other notable features are the auxiliary aerofoil wing flaps, electric engine starter, wind-driven generator, self-sealing wing fuel tanks, cabin heating system, special oil tank incorporating a "hot-pot" to facilitate engine starting, and the excellent visibility obtained in all directions through the expansive transparent cabin windows.

The T. Mk. 7. is powered by a 145 h.p. Gipsy Major 7 engine, driving a wooden fixed-pitch propeller.
Brief data is as follows :—

The Auster T. Mk. 7.

Maximum total weight authorised	2210 lbs. (1002 *kg.*)
Disposable load . . .	680 lbs. (308 *kg.*)
Fuel capacity (basic) . .	23 galls. (104.5 *litres*)
	At Full Load
Maximum speed . . .	106 knots (196 *Km./h.*)
Cruising speed	93 knots (172 *Km./h.*)
Stalling speed (flaps at "landing")	32 knots (59 *Km./h.*)
Rate of climb . . .	680 ft./min. (207 *m/min.*)
Service ceiling . . .	12,000 ft. (3657 *m.*)
Take-off distance . . .	180 yds. (164 *m.*)
Landing run	140 yds. (128 *m.*)
Range	290 miles (465 *Km.*)

THE AIGLET TRAINER

A development of the AIGLET, this is a new Auster type, the prototype of which has been on test for some time. The performances indicate that it is a trainer which will be readily appreciated everywhere.

It is an extremely well-thought-out elementary trainer, powered by a Gipsy Major I engine of 130 h.p. The design incorporates several new features, but probably the most noticeable externally is the shortening of the wing-span to 32 feet (9.7 *m.*) from the 36 feet (10.9 *m.*) of other Austers. This gives a wing area of 163.5 sq. ft. (15.2 *sq. m.*). The result of this and the clipped ailerons is to give a high rate of roll. The wing lift struts are also changed in design.

Internally, the layout and finish give an extremely pleasing effect and essential controls, including the brakes, are duplicated. Special seats, of side-by-side arrangement, are incorporated so that aerobatics can be executed (Austers are classified in the *normal* category, except where a special strengthened type of seat is provided for the pilot/s).

The AIGLET TRAINER is the only British elementary trainer which embodies the following features :

1. Side-by-side seating, and full dual controls.
2. Provision for full instrumentation and two-stage amber or blue instrument flying training equipment.
3. Sufficient performance to enable it to do all aerobatics without losing height.
4. The "feel" and characteristics of larger, faster types of aircraft.

The Aiglet Trainer

The Editor of *Flight*, after witnessing a recent demonstration of the AIGLET TRAINER wrote ".....it promises to embarrass existing primaries by matching their performance while offering, as well, side-by-side seating and exceptional economy of cost, operation and maintenance."

Mr. John Fricker wrote in *The Aeroplane* ".....Ranald Porteous started off by doing loops in which he steadily gained height, and continued nonchalantly with an upward roll, a roll off the top, and a slow-speed upward half-roll into a half-loop, all at about 1000 ft.

"One of his most spectacular demonstrations, which are seldom seen in light aeroplanes, was a series of rocket

loops, in which the AIGLET TRAINER went up absolutely vertically for what seemed a very long time, before turning over on to its back in a tight loop. He showed off its spinning characteristics at about 1500 ft., and completed two turns before the rudder could be seen being centralised, immediately bringing the machine out on its original heading."

Finalised data on this aircraft is not available for publication at the time of going to Press.

THE AUSTER MODEL "S"

The prototype Model "S" made its first public appearance on June 2nd, 1951, but no detailed information or performance has yet been generally released. The Model "S" is a firm's design which was started as a private venture. It is the firm's interpretation of the Army's requirements according to the specification laid down. Powered by a Bombardier 702 engine, the results so far amply justify the estimates put forward by the firm.

THE AUSTER SERIES J.5

The J.5 was produced primarily to meet the operational conditions of Australasia. In general appearance it

The Auster Series J5 Floatplane being launched

resembles the AUTOCRAT, the first post-war Auster civil type, but is fitted with a Gipsy Major I engine instead of a Cirrus Minor II. In Australasia the J.5 is, in fact, known as the AUTOCRAT.

An example of the J.5 has been seen in England however, in the form of the versatile G-AJYL. "Versatile" is used since over a period of less than one year G-AJYL has been equipped as a standard land plane (with the external long-range fuel tank, which is a common feature of the J.5 in Australasia), as a floatplane, and as a crop duster.

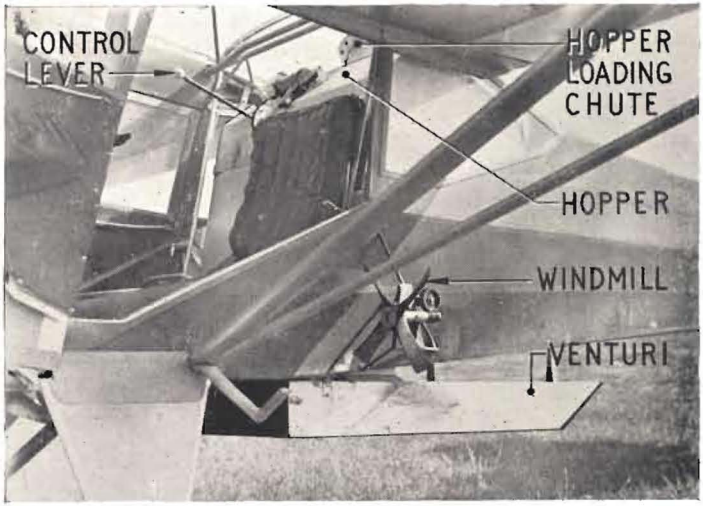
Data on the J.5. is as follows :—

Maximum total weight authorised		
landplane	2150 lbs. (975 *kg.*)	
floatplane	2250 lbs. (1020 *kg.*)	
Disposable load—		
landplane	988 lbs. (452 *kg.*)	
floatplane	669 lbs. (303 *kg.*)	
Fuel capacity (long range)	24¾ galls. (112 *litres*)	
At Max A.U.W.—	*Landplane*	*Floatplane*
Maximum speed	120 m.p.h.	102 m.p.h.
	193 *Km./h.*	164 *Km./h.*
Cruising speed	103 m.p.h.	91 m.p.h.
	165 *Km./h.*	146 *Km./h.*
Stalling speed (with flaps)	33 m.p.h.	32 m.p.h.
	53 *Km./h.*	51 *Km./h.*
Rate of climb	520 f.p.m.	375 f.p.m.
	158 *m.p.m.*	113 *m.p.m.*
Service ceiling	12500 ft.	7500 ft.
	3812 *m.*	2287 *m.*
Take-off distance	180 yds.	*490 yds.
	164 *m.*	447 *m.*
Landing run	170 yds.	*150 yds.
	155 *m.*	137 *m.*
Range (with long-range tank)	400 miles	260 miles
	640 *Km.*	418 *Km.*

*In 10 m.p.h. (16 *Km./h.*) wind conditions.

CROP DUSTING EQUIPMENT

Up to 450 lbs. (204 *Kg.*) of dust, powder or seeds can be carried in an Auster Series J.5. This is carried in a wooden hopper in the rear of the cabin. Sufficient hopper



The Auster Crop-Dusting Equipment

volume is available to hold the total content quoted at densities as low as 35 lb./cu. ft. (560 *Kg./cu. m.*).

The hopper is filled through a quick-release panel in the cabin perspex canopy, and agitators within the hopper, driven by a small geared windmill, serve to assist regulation of the flow of powder through a chute in the bottom of the hopper into a box-type venturi beneath the fuselage.

A sliding gate, operated by a simple control lever in the cabin, is interposed between the hopper and venturi so that the quantity of powder passing into the venturi can be controlled. The lever can be set in six different positions, thereby giving a wide range of distribution.....from 2 to 40 lbs. per acre (2 to 45 *kg./hectare*). During flight the hopper content is forced aft, out of the venturi, by the slipstream.

Dusting is most efficient at wind speeds below 8 to 10 m.p.h. (13 to 16 *Km./h.*) and at airspeeds of about 60 m.p.h. (96 *Km./h.*). The width of swathe is 7 yards (6.3 *m.*) of full coverage when flying at a height of about 5 feet (1.5 *m.*). Under these conditions the aircraft behaves quite normally.

From between 30 and 300 acres (12 and 120 *hectares*) can be covered in one hour, according to the amount of deposit and on the assumption that re-filling can be effected within a few miles of the area being treated. In this connection Austers operate from unprepared areas very efficiently. They have an exceptionally good record for their operational feats in all parts of the world and are ideal for agricultural and similar duties. Operational costs are low by comparison with helicopter standards, and where large tracts are concerned the costs are below those of ground equipment. The results are most effective.

CROP SPRAYING

Of the three methods of crop spraying, that is, using ground equipment, helicopters, or light fixed-wing aircraft, it has been established beyond doubt that light aircraft operation is far cheaper than that of helicopters. Comparison between ground equipment and light aircraft

An Aiglet for Crop-Spraying (high capacity installation)

spraying has shown that for large-area spraying light aircraft costs are definitely the lower, and that even for small acreages (with the exception of small *individual* acreages) the costs are lower.

Austers are able to offer spray equipments of varying output capacities, all of which give a complete pest extermination. Entomologists have examined sprayed crops and have reported that the results are completely successful, thereby indicating that the spray *does* reach that part of the foliage, the underside, which is so important. It has been suggested in some quarters that the spray from fixed-wing aircraft does not effectively reach the underside of the foliage, but the entomologists' reports rule out this so-called fallacy.

The Auster equipments include :—

1. An installation giving approximately one gallon per acre output (11.25 *litres/hectare*).

2. A high-capacity installation of about 5 gallons per acre (55 *litres/hectare*).

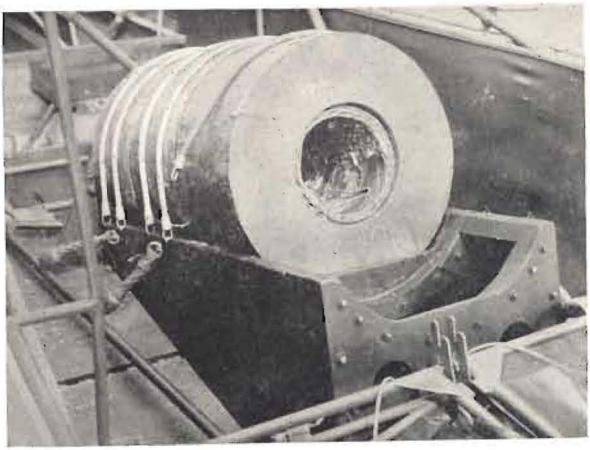
3. An intermediate output capacity installation is also under test.

These three systems are similar in principle, employing a 49-gallon tank from which the chemical is forced out of spray bars beneath the wings by a fan-driven pump/s. An average area which can be covered per hour is about 70 acres (per aircraft), although this varies according to the site being sprayed and its location in relation to the aircraft base. Three Austers, working together, have sprayed as much as 280 acres in 50 minutes.

It can confidently be claimed that, so far as can be established, the spraying equipment available for Austers is superior to any other available to-day, even in America, where crop spraying is so very extensively used.

SOME OTHER AUSTER USES

Ambulance Work. A stretcher is loaded into the cabin on a special guide ramp which can be secured in the cabin within a matter of minutes. The ramp incorporates a first-aid box.

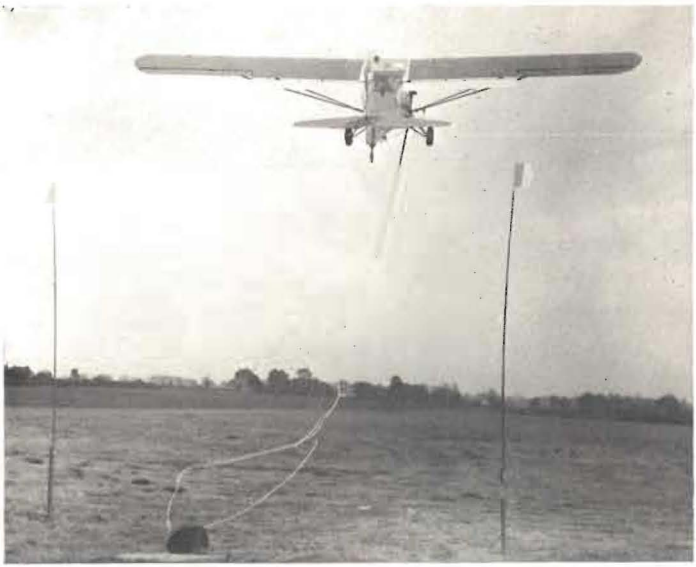


Cable laying. Up to four miles of telephone cable can be laid from the air in a single operation. This photograph shows three of the four drums of cable in the crate at the rear of the cabin. The cable passes out of a chute at the back of the crate and can be cut at any time, when sufficient cable has been laid.

Skis are available for fitment to Austers. This view shows Auster Mk. 6 aircraft in the lee of huge ice cliffs in Queen Maud Land, until recently an unexplored tract of the Antarctic.

An AUTOCRAT fitted with amplifying equipment for making direct announcements from the air to the ground. Messages can be spontaneously spoken into a microphone or "played back" from a recording unit. Ideal for crowd control, directing search parties, advertising, etc. This photograph also shows the cross-wind landing wheels which have been fitted to a number of Austers to enable them to take-off and land out-of-wind quite safely and easily. An asset where only a one-direction landing strip is available.

A banner, for advertising purposes, or a glider can be towed from an Auster. The same tow-bar installation can be used for both purposes, provided the latest approved type of tow hook is fitted. The banner on tow in the above photograph is visible towards the lower left-hand corner.



Aerial mail or message pick-up. Loads of 20 lbs. (9 *kg.*) or more can be conveniently picked up in this way (during the war 40 lbs. (18 *kg.*) were handled on occasions). The material to be collected is secured in a bag attached to a cord looped between two poles, the loop being "snatched" by a hook secured at the end of a cord from the cabin and held, until the "snatch," in the guide channel of a wooden boom. The boom is retained along the side of the fuselage and lowered during the pick-up approach run. Several pick-ups can be made on any one flight.

Royal Observer Corps

IN JUNE, 216 men and 43 women applied to join the Royal Observer Corps. Applications in each of the five R.O.C. areas were :—Southern, 50 men, 11 women ; Midland, 78 men, 10 women ; Western, 44 men, 8 women ; North-Western, 25 men, 5 women ; Scottish, 19 men, 9 women.

All areas still need more volunteers. The lower age limit is sixteen and the upper age limits are forty-five for service at centres and fifty-five for service at posts.

News in Brief

THE LATE KING ABDULLAH

IT WAS ANTICIPATED that reproduction of the above photograph would have been made under different circumstances, but the tragic assassination of King Abdullah has proved otherwise. His assassination was a blow which reverberated around the World. The photograph here shows King Abdullah and Glubb Pasha inspecting Auster Mks. 6 and 7 aircraft of the Arab Legion. The Legion took delivery of a number of these aircraft last year.

EXPORTS IN JULY

EXPORTS OF AUSTERS during July included the following :—

Three Auster Mk. 7 to Rangoon for the Burma Air Force.

These were crated and shipped, and embodied equipment for aerial pick-up on one aircraft and for aerial photography on the other two.

Autocar, F-OAJH, to French Equatorial Africa.

This was flown away by M. Longin of the Water and Forestry Department of F.E.A., and by whom the aircraft will be used.

Mk. 5, TF-LBP, to Reykjavik, Iceland, for Messrs. Larus Oskarsson & Co.

This machine was shipped from Hull on the M.S. *Godafoss*. TF-LBP has a long-range fuel tank, ambu-

An Auster Mk. 5 in Iceland markings

lance equipment, provision for aerial photography, a double rear seat, and engine exhaust silencers.

Two AUTOCARS, two AIGLETS and one Series J.5 to Australia.

LIGHT AIRCRAFT APPRECIATION

THE FEDERATION OF CHAMBERS OF COMMERCE of the British Empire this year held its seventieth Annual Congress in the United Kingdom.

This highly influential body is composed of top-ranking business men and executives from every country in the British Commonwealth and a great deal of weight is always given to the resolutions which they adopt.

In this connection two extracts from the Report of the Congress proceedings read as follows :—

1. Congress, having studied the uses and developments of light aircraft for business purposes, recommends that constituent Chambers draw the attention of their members to the potentialities of light aircraft as a means of transport.

2. In order to limit the losses by pests, Congress wishes to emphasize how essential it is that greater advantage should be taken of the latest mechanical and chemical methods of pest control and, in this connection, is impressed by the capabilities of light aircraft which, it feels, have not yet been fully exploited.

A Selection of other British Aircraft

THE "BRISTOL" BRABAZON I, MARK I, powered by eight "Bristol" Centaurus sleeve-valve engines driving four pairs of co-axial, contra-rotating airscrews; it has a wing span of 230 ft. and a length of 177 ft.

THE AIRSPEED AMBASSADOR, a 40/47-seater medium-stage airliner powered by two Bristol Centaurus engines of 2,600 b.h.p. each. The economical cruising speed is 240-260 m.p.h., and a stage-length of 1,000 miles can be flown while carrying 36 passengers and their luggage.

THE AVRO 707B. A single-engined delta-wing research aircraft powered by a Rolls-Royce Derwent. This aircraft was built primarily in order to examine wind-tunnel theories on the delta-wing configuration.

THE BOULTON PAUL P.111. This tailless, delta-wing aircraft has been designed for high-speed aerodynamic research, and is powered by a Rolls-Royce Nene turbojet engine. Its span is 33 ft. 6 in., length 26 ft. 1 in., height over fin 12 ft. 6½ in. All other details are secret.

THE SHORT SEALAND. A 5 to 8-seater amphibian powered by two Gipsy Queen 70 engines, each of 345 b.h.p. Span 59 ft., length 42 ft. 2 in., maximum speed 164 knots, cruising speed 152 knots.

THE VICKERS VALETTA. An R.A.F. transport version powered by two Bristol Hercules 230 engines of 1,975 h.p. each. Wing span 89 ft. 3 in., length 65 ft. 2 in. An Auster Mk. 6 is seen here being dismantled for transport from Wymeswold to Singapore in the Valetta.

Lightweight **ROTAX** Equipment for *Auster Aircraft*

EASIER STARTING *with the Rotax Starter Motor. Weighs only 17 lb. Gives 2 B.H.P. at 24 V. No handswinging. No chocks in front of the wheels.* **No danger.** *Everything is done from the cockpit*

GREATER FLYING RANGE *with the Rotax lightweight battery, and the ARB approved 4 oz. Navigation Lights. You no longer need to land in daylight. Bad weather delays are less dangerous.*

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