

THE HYDRA-STATIC TWO LEADING SHOE AIRCRAFT BRAKE

THIS brake consists of two self-aligning shoes operated by two wheel cylinders spaced diametrically opposite.

Each wheel cylinder has two pistons of a different form : one having a slot at right angles to the axis of the bore, which operates the shoe when the brake is used in forward rotation, and the other with the slot inclined at an angle to the bore which forms the abutment for the other shoe in similar condition.

This inclined slot has a predetermined angle which allows the shoe to accurately align itself to the drum as well as forming the abutment. The total shoe reaction is transmitted via a shoulder on the piston to the cylinder body.

By this arrangement, two-leading shoe operation is obtained in either direction, and greater power for a given input and greater stability is obtained. TYPICAL FIGURES

 $5\frac{7}{8}'' \times 1\frac{1}{2}''$ Approximate maximum dynamic torque 2,950 Ibs. inches, at 60 lbs. per sq inch lining drag. Two 🛔 ins. diameter cylinders. 7″ x 1<u>1</u>″ Approximate maximum dynamic torque 4,200 lbs. inches, at 60 lbs. per sq. inch lining drag. Two 3 ins. diameter cylinders. Master cylinder for use with the above brakes is a 15/32 ins. diameter $\times 1\frac{1}{2}$ ins. stroke design.



Girling Limited Kings Rd., Tyseley Birmingham, 11

The new 'R' TYPE FUEL COCK

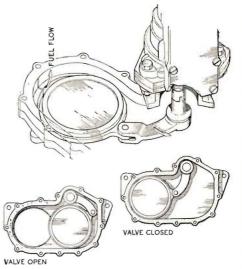
For thirty years Vickers fuel accessories have been the choice of the aircraft industry. This atest development meets the exacting lemands of modern aviation and is lesigned to be operated either mechanically r electrically.

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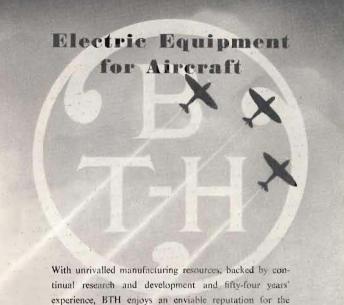
Actuators manufactured by the English Electric Co. Ltd., the Plessey Co. Ltd., or Rotax Ltd. may be used to operate this ype of Cock.





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AIRCRAFT NEWS

published by AUSTER AIRCRAFT LIMITED

Rearsby Aerodrome, Rearsby, Leicester. Tel. Rearsby 276/7

AUGUST, 1950

Editorial

THIS ISSUE INCLUDES information concerning the recent developments of Auster Aircraft. Some of the data is rather brief, on account of pressure on available space, but it is hoped that readers will find the contents of interest. If any further details are required on a particular subject the Company will always be pleased to assist as far as possible, particularly if reference is made to this magazine.

Those new readers who have not previously had intimate contact with light aircraft will probably be most surprised to learn of the many uses to which they can be placed. They may also be surprised to learn that the low purchase cost of an Auster, and its subsequent economical running costs, compare very favourably with the expense incurred in buying and running an 18 h.p. car. Furthermore, owners throughout the world have found that the travelling time saved, coupled with the saving on incidental travelling expenses, makes an Auster a proposition well worth the investment.

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.

Highlights of 1949-50

DURING THE PAST YEAR Austers have figured in many notable events, and various new types of Auster have been developed or put into production. It is consequently somewhat difficult to imagine which was really the main highlight of the year.

On reflection, perhaps the two Antarctic episodes can be given pride of place, since the quiet way in which these arduous tasks were fulfilled captured the admiration of people everywhere.

These two events were the combined British-Scandinavian scientific expedition to Queen Maud Land, and the rescue of eleven marooned scientists from Stonington Island in the Falkland Islands Dependencies. In both cases specially equipped Austers formed an important feature of the ultimate success.

THE EXPEDITION to Queen Maud Land was accompanied by a small R.A.F. unit of two officers, three N.C.Os., and two Austers Mk. 6. Sq.-Ldr. G. B. Walford was in charge of the unit, comprising Fl.-Lt. H. M. H. Tudor, D.F.C., Sgt. P. D. Weston, B.E.M., Cpl. W.B. Gilbey and Cpl. L. A. Quar. The purpose of this unit was to provide air reconnaissance in the search for a passage through the packice and for advance bases on the mainland. The R.A.F. had not previously operated in the Antarctic, nor had any ship previously succeeded in penetrating the pack-ice off Queen Maud Land. It was therefore an occasion which called for most thorough preparation, and both aircraft were put through thorough tests to ensure their safe operation under the extreme conditions to be encountered. Skis were provided for each, a pair of floats constructed, and special crates made to house the aircraft and spare parts.

The specially-built sealer *Norsel* left London on the 23rd November, 1949, and in view of subsequent decisions one Auster was fitted with the floats at Cape Town. Eventually in early February, after considerable detours had been made, Fl.-Lt. Tudor spotted a suitable landing place at 70.57 deg. south, 11.05 deg. west, and the first part of the job was done. From then onward the unit flew many reconnaissance sorties on skis, and finally the *Norsel* withdrew on the 20th February, leaving the main scientific body, and radio operator Cpl. Quar behind—but only after fifty kilos of dynamite had been used to release the sealer from the pack-ice.

Sq.-Ldr. Walford has since stated that no trouble was given by the aircraft either as floatplanes or skiplanes and that nowhere in the world had he encountered flying conditions more ideal than in the Antarctic on a cloudless day. With typical modesty the R.A.F. unit has treated this as "just another job", but we certainly think that, bearing in mind all the hazards encountered, this was a highlight of 1949 to be well proud of.



One of the "Auster" Mk. 6 aircraft of the R.A.F. Antarctic Flight.

IN THE CASE of the Stonington Island rescue an Auster floatplane acted as a guide plane to assist a *Noreeman* aircraft which took off five of the eleven scientists before the survey supply ship *John Biscoe* managed to break through to the mainland. The scientists had been marooned for between two and three years, and a determined effort to relieve them was planned. The plan was to take off the party by air if the *John Biscoe* could not get through to them.

The Auster, provided with land wheels, skis and floats, was crated at our Rearsby works, and finally assembled as a floatplane at Deception Island, from where reconnaissance flights to Hope Bay, on Stonington Island, were made by Fl-Lt. John Lewis.



VP-FAC, the floatplane used for the Stonington Island rescue.

OTHER EVENTS worthy of mention are Group-Captain Wheeler's excellent performance in the 1950 King's Cup Air Race to finish third in his Auster Mk. 5C, and the several long-distance flights by such as Captain Terry and Mr. K. C. A. Riley (Rearsby—Amman), Mr. F. Francis (London —Cairo—London), Mr. G. Chandra (Cambridge—Naples— Cambridge) and Mr. and Mrs. C. H. Perrem (Umtali— Rearsby—Dusseldorf—Rearsby). There have doubtless been many other similar long-distance flights of which we have not been notified. This is not surprising since most *Auster* pilots seem to regard these things as commonplace, even though they are flying in light aircraft and not those large airliners which regularly ply between distant terminals.

The Autocar, Aiglet and T. Mk. 7. were the latest types of Auster to be in regular production during the year.

THE "AUTOCAR" is a full four-seater, and the lowest-priced British aircraft available in this category. Apart from being a luxurious family plane it is versatile enough to do many jobs. Dual controls are fitted, and it is ideal for regular instructional flying. For charter work it will carry three paying passengers anywhere within 500 miles (805 Km.) without refuelling. It can easily be converted to a light freight carrier by removing the rear seats, which makes space available for 570 lbs. (258 Kg.) of freight. A detachable canopy can be embodied to special order, to facilitate the loading of heavy or bulky packages. In common with some of the other Austers, floats or skis could be fitted to give all-the-year operation in any district.

The *Autocar* has a Gipsy Major I engine of 130 h.p. driving a metal propeller. This engine has the longest approved overhaul life (1500 hours) of any engine in the world. On less than seven gallons of petrol the *Autocar* carries four people, or their equivalent, one hundred miles in one hour. This, coupled with the extremely low maintenance costs which are a feature of all Austers, makes the *Autocar* a proposition to be reckoned with by any standards.

Brief performance figures are as follows:

		Average load	Full load
		2000 lbs.	2400 Jbs.
		(full fuel, 2	(full fuel, 4
		persons) pe	ersons plus luggage)
Maximum speed		119 m.p.h.	[]7 m.p.h.
		(191 Km./h.)	(188 Km./h)
Cruising speed		104 m.p.h.	100 m.p.h.
		(167 Km./h.)	(160 Km./h.
Rate of climb		725 ft/min.	525 ft/min.
		(221 m. 'min.)	(160 m/min.)
Stalling speed (with flaps)	¥ 2	33 m.p.h.	34 m.p.h.
		(53 Km./h.)	(54 Km./h.)
Stalling speed (without flap	s)	41 m.p.h.	42 m.p.h.
		(66 Km./h)	(67 Km. h.)
Landing run (5 m.p.h. wind	1	135 yds. (123 m.)	163 yds. (149 m.)
Take-off run (5 m.p.h. wind	d)	140 yds. (128 m.)	220 yds. (200 m.)
Range (still air) at cruising	r.p.m.	520 miles	500 miles
		(837 Km.)	(805 Km.)
Service ceiling		14000 ft.	11000ft .
		(4267 m.)	(3350 m.)



The "Autocar" over Ascot racecourse.

THE "AIGLET" is a three-seater with a Gipsy Major I engine. Apart from the engine and redesigned tail unit it closely resembles the *Autocrat*, the world's best known Auster civil aircraft. The differences mentioned however have resulted in a much faster, crisper and livelier machine. The *Aiglet's* take-off and climb is phenomenal, and it is consequently an ideal aircraft for the tropics and for operation from high-altitude airfields.

The redesigned fin and rudder ensure trouble-free turns and great stability, factors which enhance its value as a training aircraft.

It should be pointed out too, that for farmers and spraying contractors the *Aiglet* is one of the best light aircraft available for aerial spraying, dusting or seeding.

The *Aiglet* is the lowest-priced three-seater available with a Gipsy Major engine.

Brief performance data at total weight of 2000 lbs. (907 Kg):

Maximum speed	126 m.p.h.	(203 Km./h.)				
Cruising speed	105 m.p.h.	(169 Km./h.)				
Rate of climb at mean sea level	710 ft./min.	(216 m./min.)				
Take-off run	135 yds.	(123 m.)				
Landing run	125 yds.	(114 m.)				
Stalling speed (full flap engine off)	28 m.p.h.	(45 Km./h.)				
Range (still air) at cruising r.p.m.						
Normal 15-gallon fuel tank	245 miles	(394 Km.)				
With long-range tank	465 miles	(748 Km.)				



The "Aiglet"

The Auster T. Mk. 7 has a Gipsy Major engine of 145 h.p., and was designed for the Ministry of Supply primarily as a dual training aircraft with the same characteristics as

the well-proved Mk. 6. It has since been modified slightly to enable quick and easy conversion to an Air Observation Post, and much consideration has been given to its further use in field-telephone laying, aerial message and mail pickup, aerial photography, desert flying, glider towing, ambulance work and long-range flying, these being duties which were regularly effected on the earlier military Austers.

The ease with which the Mk. 7. can be flown, coupled with its extremely tough structural features, are obvious reasons why this machine was selected for training pilots in the highly specialised Air O.P. flying.

The arrangement of the cabin has been well planned in order 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 instruments and electrical switches are grouped into the most suitable arrangement for training.

Two-stage amber or blue screening is fitted so that instrument flying instruction can be accomplished during daylight. Other notable features are the auxiliary aerofoil flaps, electric engine starter, wind-driven generator, selfsealing wing fuel tanks, and the excellent visibility obtained in all directions through the expansive transparent cabin windows.

To convert the Mk. 7. for Air O.P. work it is only necessary to fit a radio, on specially-designed quick-attachment fittings, to the starboard seat frame.

Brief performance data at 2,122 lbs. (962 Kg.) weight :--

Maximum spee	d		• •	122 m.p.h.	(196 Km./h.)
Cruising speed				107 m.p.h.	(172 Km./h)
Rate of climb	12			660 ft./min.	(201 m./min.)
Take-off run				126 yds.	(114 m.)
Landing run				90 yds.	(82 m.)
Stalling speed (flaps a	at "lan	ding")	34 m.p.h.	(54 Km./h.)
Duration (normal tanks)			3½ hours.		
Service ceiling				12000 ft.	(3657 m.)

Do you know your airfields?





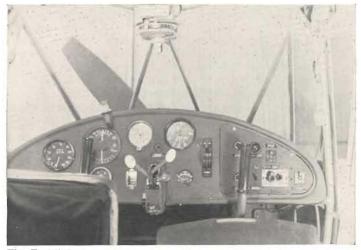
Recognize this airfield? It's No. 3 of this s of puzzle photographs. You'll find the answer below on the right★

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uophos,



The T. Mk.7. instrument panel has been simplified and is conveniently arranged for use by the instructor or pupil. All electrical wiring is easily reached through the hinged control panel on the right.



The Auster T. Mk.7.

These then are the three main current types, but others have been produced to meet customers' requirements. The *Autocrat* three-seater, *Arrow* and Series J.4. two-seaters, and civil Mk. 5. have been manufactured as the occasion arose. There is definitely an Auster available to suit everybody interested in light aircraft, whether for business or pleasure, and the Auster Sales Department or their agents throughout the world will be only too pleased to give advice, full details, and, wherever possible, active demonstrations of each type available.

THE VERSATILE AUSTER

The following photographs illustrate a few of the many other uses to which Austers have, and can be, put.



[Farmer and Stockbreeder photo

Spreading insecticides, fertilisers or seeds from the air. The aircraft shown is a Series J.5., having a Gipsy Major I engine. A hopper in the cabin holds up to 450 lbs., distribution of which can be regulated by operation of a single control to suit individual requirements.



An Auster "Aiglet" fitted with aerial spraying equipment.

The Duplex "Ozaprinter"

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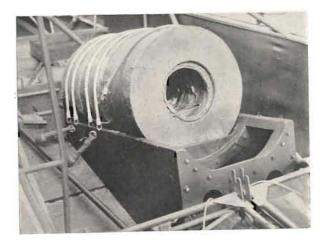
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Ambulance work. The stretcher is loaded into the cabin on a special guide ramp.



Cable laying. Up to four miles of telephone cable can be laid from the air in one single operation.



An "Autocrat" fitted with amplifying equipment for making direct announcements from the air. Suitable for crowd control, directing search parties, advertising, etc. This particular photograph also shows the cross-wind landing wheels which can be fitted to all Austers, enabling them to take-off and land out-of-wind quite safely and easily.

Miscellaneous Jottings

HOMESICK ANGELS

The Auster *Aiglet*, referred to elsewhere m this issue, is already receiving favourable comment in New Zealand, and its phenomenal take-off and climb characteristics have brought forth a new descriptive term. According to a letter recently received "it goes upstairs like a homesick angel" which, states our correspondent, is a very satisfactory description.

FROST PREVENTION PATROL

In Idaho a new method has been used for frost prevention over the vast wheatfields. It is claimed that by flying low, at ten-minute intervals, over each tract of land the early morning air is agitated sufficiently to prevent moisture from condensing to form frost even at temperatures as low as 18 deg. F.

LIGHT AS A FAIRY

A recent report in a London daily newspaper spoke of an "R.A.F. Auster Fairey plane."

BEWARE OF ORPHANS

In the U.S.A. the Aircraft Owners and Pilots Association has just issued a leaflet "How to buy a used plane." It tells in a few short sentences how to set about this job and how to avoid disappointment.

Among other things, it warns "Beware of airplanes that are orphans." Trying to get parts for a bargain that went out of production in 1935 can soon turn the bargain into a liability.

The mechanical and structural things a prospective buyer of a second-hand aircraft should check are also listed. Incidentally, Auster Aircraft Ltd. haven't any copies of this leaflet, but they have usually got a selection of used Austers. As manufacturers, they obviously will not deal with aircraft for whose condition they cannot vouch.

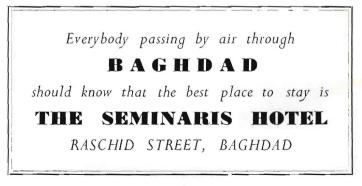
THE "BISCOE" RETURNS

On the 19th July the John Biscoe, the Falkland Islands Dependencies supply ship, arrived at Southampton. Fl.-Lt. Lewis, one of the pilots concerned in the Stonington Island rescue, and Sgt. Hunt, in charge of aircraft maintenance, described their work in the Antarctic as "pretty straight forward—mostly purely routine."

Fl.-Lt. Lewis made a dozen flights, the longest lasting about four hours, and found that life "was never monotonous and there was always plenty to do."

No member of the party caught a cold or cough during the whole period.

The John Biscoe brought back ten husky dogs which will take part in an Antarctic show during the 1951 Festival of Britain, and examples of the rare Emperor penguin for British museums.



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



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





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

GREATER CONVENIENCE, lower maintenance costs, with the Rotax Generator. Weighs only 11 Ib. Gives 25 amps, at 28.5 V. Recharges battery in [light.

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FROM THE MIDLANDS

WHEN AN AIRCRAFT hovers over their heads before coming in to land on a field in Four Oaks, Sutton Coldfield, the neighbours of 50-year-old Mr. William Horace Leadbetter of Parkside Farm, Streetly Lane, know that the "Flying Farmer" is home again after one of his time-saving trips.

"Time is what we are most short of," says Mr. Leadbetter, so if he wishes to deliver anything in a hurry, go to an Agricultural Show, or collect spares for his farm machinery, he by-passes the queues for trains and coaches and flies straight off the field at the back of his house.

Mr. Leadbetter is a "Flying Farmer" of Sutton Coldfield, Birmingham, and uses one of his fields as an "aerodrome." Both he and his son hold a pilot's licence and have saved much time for the hundreds of jobs that always need doing on the farm, by going direct to their destination by Auster, of which they own three.

On one occasion a year ago, Mr. Leadbetter assisted a local newspaper office by flying a special edition to London from Elmdon.

TO SWITZERLAND

LAST MONTH Mr. Peter Warden, an R.A.F. pilot, hired an Auster and flew his 75 year old foster mother, Mrs. A. G. Tillet, of Leiston, to his wedding at Berne, Switzerland. The third passenger on the outward trip flew the aircraft on its return journey. On landing, Mrs. Tillet said, "I would go again to-morrow if I had the chance. This was my first flight but I would not have missed it for anything."

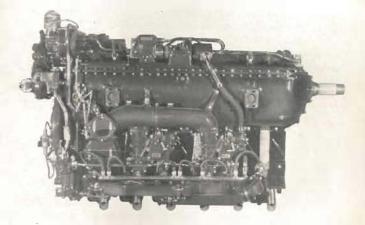
FROM INDONESIA

AUSTERS OF THE NETHERLANDS AIR FORCE, No. 6 Artillery Squadron, have unobtrusively been giving sterling service in Indonesia throughout the past year or so. They have certainly proved their worth in Dutch service and will quite probably return to Holland shortly.

For the evacuation of wounded, Austers were spread all over Java and rendered excellent service in evacuating from small air strips and roads where other aircraft could not operate.

Operationally, in both Sumatra and Java, they were used as "bombers" and "ground attackers," in addition to being

GIPSY QUEEN SERIES 30 Direct successor to the world-famous Gipsy Six



A modern unsupercharged six-cylinder engine of 250 b.h.p., specially developed for the highest reliability and economy in training and light transport service; now in full quantity production and already in large-scale operation between wide extremes of climate

DE HAVILLAND



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air observation posts. Often the passenger took up a sten gun with which to engage enemy troops from almost ground level. The starboard door was removed for this operation, which naturally commanded a certain amount of care in order to avoid shooting away the lift struts. An alternative was to take up hand grenades and drop these on selected targets.

Reports state that these grenade-dropping exploits were often far more effective than rocket-firing Mustangs. It was, of course, a hazardous job at such low altitudes. Return fire was frequently encountered, and an aircraft would often return with bullet holes through the wings and fuselage.

DO NOT MAKE THE MISTAKE of thinking a man believes what you say simply because he does not call you a liar.

SYMPATHY is what one girl offers another in exchange for details.

BE LESS ASHAMED to confess thy ignorance than by holding a foolish argument, to betray it.—*Elizabeth Joceline*.

MANY A FALSE STEP is made by standing still.

THERE IS NO SUCH THING as chance. Man has invented this word to express the known effect of every unknown cause.

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No. 3 A.M. Fire Extinguishers with A.R.B. release always available from stock. National Fire Protection Co. Ltd., Essex House, Station Road, Leatherhead. Tel. Leatherhead 2208. Essex Works, Feltham, (Midx.).

Umtali (S. Rhodesia) to England

ON THE 17TH JUNE, 1950, two elderly persons (they of course would never agree to such a statement, though many of the same age would have considered themselves too "elderly" to have tackled this same trip) set off in a 100 h.p. Cirrusengined Auster *Autocrat* from Umtali with Rearsby, England as their destination. They arrived here, in "easy" stages, fifteen days later and only $1\frac{1}{2}$ hours outside their scheduled arrival time.

Such a performance, flying across miles of jungle, then up around the west coast of Africa, depending on one engine and without radio, is one which we are only too pleased to announce. 8,500 miles flown to planned schedule, and no mechanical trouble *en route*.

The two concerned (perhaps it ought to be unconcerned) were Mr. and Mrs. C. G. Perrem, 50 and 51-years old respectively. Their journey stages were Umtali, Elizabethville, Kamina, Luluaburg, Leopoldville, Pt. Noire, Duala, Pt. Harcourt, Lagos, Acera, Abijean, Freetown, Dakar, St. Louis, Pt. Etienne, Villa Cisernos, Agadir, Tangiers, Barcelona, Paris, Lympne, Rearsby. A quick



Mr. and Mrs. C. H. Perrem loading their "Autocrat" prior to a flight to Dusseldorf.

reference to any map will show that this route is packed with hazards sufficient to test the endurance of any aircraft or, for that matter, any pilot.

But what was Mr. and Mrs. Perrem's reaction? On talking to them after arrival one would think at first that there was nothing in this venture. After a deeper investigation though you might be told of the awkward stretch from C. Juby to Agadir. Here they were following the coastline, but low cloud forced them down over the water until they were flying below the cliff tops. Added to this, some mysterious deposit collected on the windscreen, making it so opaque that Mr. Perrem's sole line of vision was through the port side window, while Mrs. Perrem "kept guard" through the starboard window.

Then there was the approach to the River Congo. Although their line of flight did not coincide with their intended route, they were fortunate in drifting to the north-east where landmarks were more frequent, instead of to the south-west where considerable difficulty may have arisen.

They had provided as far as possible against a forced landing in those remote areas by including in their luggage sufficient dehydrated food for two weeks, two gallons of water—and a rifle.

After 96 flying hours they reached England. They could have been even quicker but for customs delays (where language difficulties proved inconvenient at times) and occasional waits for weather reports.

Of the sights *en route*, Mr. and Mrs. Perrem both stressed the pleasure they derived from viewing W. African wild animal life from the air, and they were somewhat amused, when passing low over the Gold Coast seaboard, to see two natives riding along on one bicycle.

Their stay in Europe will include trips to Dusseldorf, Sweden and Switzerland, and the return to Umtali will be made in the same *Autocrat* probably towards the end of September. A different route will be selected though, via the Nile valley.

In the Union of South Africa Mr. Perrem uses the *Autocrat* regularly in connection with his business (laundry, printing and hardware) and has found it cheaper and much quicker than road or rail travel.

Plessey Light Aircraft V.H.F. Transmitter-Receiver, Type P.TR. 61

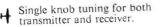
THE PLESSEY TRANSMITTER-RECEIVER, type P.TR.61, which has been fitted in the Auster *Aulocar*, and other light aircraft, is a particularly neat equipment providing V.H.F. radio telephone communication facilities on any one of six crystal-controlled channels in the 118-132 Mc/s. frequency band. Specifically designed to comply with M.C.A. specifications for radio equipment for use in this class of aircraft, it bears the M.C.A. type approval certificate No. WR. 462.

Of several features combining to make this installation of particular interest, perhaps the chief is the ready interchangeability of the crystals. Providing the set is accessible to the operator, these may easily be changed by hand while in flight, no skill or special equipment being required. If, therefore, extra crystals are carried, any number of channels are made available.



changing the crystals.

VHF for light aircraft



Type PTR. 61 V.H.F. TRANSMITTER-RECEIVER

C.E.2

- Frequency range 116-132 Mc/s.
- 6 pre-set crystal controlled channels.
- Any additional number of channels are available by simple crystal changing in flight.
- Fully tropicalised.
- Designed to meet M.C.A. specification for radio equipment for use in light and medium aircraft. M.C.A. type approval certificate No. WR. 462.
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