

# AIRCRAFT

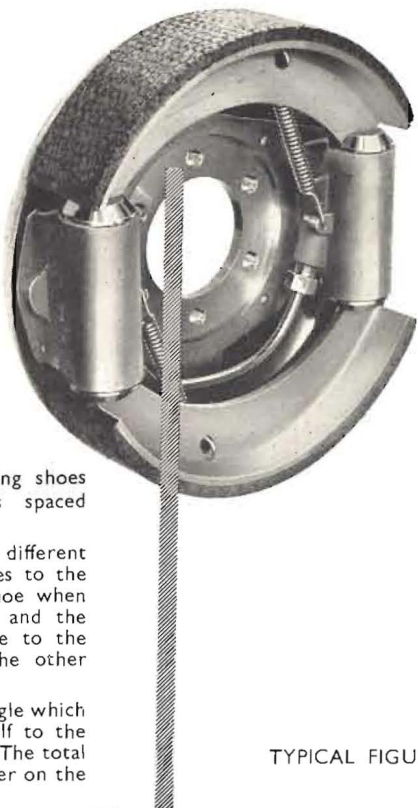
*News*

MAY

1950



# 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 lbs. inches, at 60 lbs. per sq. inch lining drag. Two  $\frac{3}{8}$  ins. diameter cylinders.

$7'' \times 1\frac{1}{2}''$  Approximate maximum dynamic torque 4,200 lbs. inches, at 60 lbs. per sq. inch lining drag. Two  $\frac{1}{2}$  ins. diameter cylinders.

Master cylinder for use with the above brakes is a  $\frac{15}{32}$  ins. diameter x  $1\frac{1}{2}$  ins. stroke design.

# GIRLING

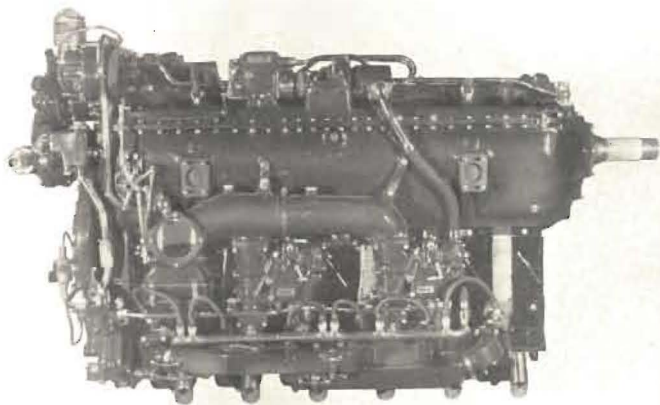
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# AIRCRAFT NEWS

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MAY, 1950

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## Editorial

FOR THIS ISSUE pressure on space has been heavy, as a result of which the usual Editorial column is being filled by a few words selected from the March issue of another journal, *The Director*. These words really continue the theme of our last magazine, namely the usefulness of light aircraft to business men.

"There are, already, a number of business men who have decided that flying pays dividends, and operate their own planes, either flying them themselves or keeping a pilot on tap. One, in Rochester, uses his for going backwards and forwards to the Midlands; another, a textile manufacturer, finds it is the only means comfortably to keep in touch with his factories in South Wales and at Slough; a wholesale butcher uses his for going from London to Cambridge and back in a morning; a theatrical producer constantly uses his, and so on; there are about fifty of them who have discovered that time is money and that flying saves them time.

"Now there are two industries which have discovered the helpfulness of the air. The racing fraternity use it consistently and, as an example of its value there is the case of a jockey who, after riding the 2-30 at Cheltenham, rode the 4 o'clock at Lingfield, Surrey, the same afternoon. The number of aircraft attending the Grand National last year was so great that a special notice to airmen was issued to deal with the event. A well-known bookmaker runs an air-taxi booking-office for the convenience of his clients.

"The other industry is farming, and, to an extent, the agricultural implement makers. With the farmers, it was almost a case of necessity. The agricultural show period

coincides with the farmer's busiest time, haymaking, fruit-picking and harvest, so the less time he spends travelling the better, and nearly all the big shows are across country to a farmer ; yet it is at the big shows where the best display of what is new in farm machinery is to be found."

## Pasture Airlift for Hill Land

In our last issue of the "News" brief mention was made of an aerial seeding operation which our Chief Test Pilot, Sq./Ldr. Randal Porteous, had undertaken in Denbighshire. Now, by kind permission of the Editor of the "Farmer and Stockbreeder," we are reproducing an eye-witness account of this operation, which was originally published in the "Farmer and Stockbreeder" dated 11th April, 1950.

An *Auster* aircraft took off from a field near Hooton, Cheshire, flew to some upland fields on the Clwydian range near Ruthin, Denbighshire, and small seeds were sown from the air for the first time in Britain.

Over a number of years, Messrs. David Miln and Co., the Chester seed experts have co-operated with Capt. Rowley Williams on his farm, Bryn Arthur, in the improvement of hill land. It was here the experiment took place.

Two wonderful leys, suitable for milk production, have been sown on his land up to the 1,700 foot mark. These fields, many of them very nearly perpendicular, were ploughed and cultivated with horses and crawler tractors.

The aeroplane, which carried the process even further up the mountain side, was fitted with a hopper and seed-distributing mechanism capable of sowing at rates between 2 and 40 lbs. per acre.

### THE OBSTACLE

Mr. I. V. Hunt, Research and Advisory Officer to Messrs. Miln, says they would have liked to have sown 2 lbs. per acre of a special combination of deep-rooted herbs pelleted with lime and fertiliser, making a total bulk of 40 lb. per acre, but they failed to find any machinery manufacturer who would undertake such work in this country.

The particular seeds used—rye-grass, white clover and chicory, have been used in other parts of the country for sowing on existing turf and improving it without ploughing or cultivating.

It is not expected to kill off the heather, but to introduce highly palatable plants very rich in minerals, which will supplement the heather and improve its feeding value for sheep and cattle.

The work done here is to be repeated later on near Inverness on the estate of Lord Lovat, whose powerful speeches on utilization of mountain and marginal land have drawn so much attention in recent months.

Mr. Hunt expects the first sign of improvement to be present during June, and full improvement, as regards grazing value, from September or October onwards.

The operation itself was carried out with little fuss and perfect efficiency. Our correspondent says :

“Flying low over the range from the direction of Wirral, the plane swept across the mountain flank, taking its bearings and heights.

“As it came in the second time, its hoppers opened and a cloud of fawn-coloured ‘dust’ broke from it and scattered over the hillside.

“Seed pattered down like tiny specks of hail from the plane as it swept ten feet above my head.

“Runs to and fro, covering fresh swathes of ground, spread the dropping area to several score acres of hillside before the plane lifted over the 1,400 foot crest of the mountains and headed for home.

“Inspecting the ground afterwards, I found it remarkably evenly covered. On sheep tracks and open, bare patches, where the distribution could be checked, seeds lay evenly, some one-eighth inch or so apart.

“In fact, Mr. Hunt thinks that sowing could have been easily done from twice the height, giving thinner concentrations and greater coverage.

“Light, steady rain which has fallen since the ‘drop’ has resulted in beneficial swilling of the seed down to the ground through the heather and bilberries and into every crack in the open soil.”

# Altitude Flights

THE HONORARY SECRETARY of the Light Aeroplane Club of Trinidad and Tobago, Mr. R. A. C. Alston, has recently raised the question of high altitude flights in *Austers*. Last summer a member of the Club, Mr. Hugh Knox Wight claims to have attained an indicated altitude of 19,500 feet in an *Autocrat*, VP-TAY, so quite naturally Mr. Alston, and the Club, wants to know whether this is a record for *Austers*, and the *Autocrat* in particular.

From the scanty information we have available concerning this flight, it is unfortunately impossible to give this figure as a record, since there is no data from which a true representation of standard height can be obtained. The indicated height obviously varies in different parts of the world in relation to the pressure and temperature at the time, and these items are usually ignored unless the pilot is fully aware of what is required to give a true corrected altitude. Therefore this claim of 19,500 feet would probably differ by a considerable amount from the corrected standard altitude.

At the beginning of last month Mr. Alston himself attained an altitude of 15,600 feet (corrected) in the same aircraft, and very kindly forwarded a copy of the log kept during the flight. This provided very useful data for our Chief Technician, who will also be pleased to receive similar data on altitude flights, or any other type of *Auster* flight, from other parts of the world.

The essential information required is as follows:—

1. Type of *Auster* ;
2. Propeller type ;
3. Whether a silencer is fitted ;
4. Loading data ;
5. Ground temperature ;
6. Freezing level ;
7. Millibar reading when altimeter is set to aerodrome height.

Items 5 and 6 can be established from the Met. Office. Regarding item 7 it is possible that some pilots may wish to fly an aircraft which is not fitted with a sensitive altimeter, and in this event our Chief Technician will be pleased to advise the correct procedure.

It is also interesting to keep a log of any flight, and this should take a form similar to that supplied by Mr. Alston,

(continued on page 12.)



The Autocar at the winter aerodrome, Davos, nearly 5,000 feet above sea level.



Two instructors of the flying school Zurich-Kloten, MM. Gugolz and Zollinger, and Mr. W. Baur, salesman of J. H. Keller A.G. Zurich, chatting beside the Autocar, with another Auster in the background.



## The Autocar in Switzerland

A FOUR-SEATER AUTOCAR was recently flown to Switzerland by Mr. E. C. Harrison of our Sales Department and the visit aroused much interest among Flying Clubs and Flying business men.

The whole trip, spread over two weeks, went without a hitch, and the performance of the *Autocar* throughout was exemplary.

## New Club Plans for R.A.F. and Ex-R.A.F.

LONDON HAS NEVER HAD a club catering for members and ex-members of all ranks of the Royal Air Force. There is the R.A.F. Club whose membership in the main consists of senior officers. Recently the R.A.F.V.R. Club was formed, but here again membership is restricted.

A bold step has been decided on by the Pathfinder Association which, in 1944, founded the Pathfinder Club with the object of fostering and maintaining the spirit and fellowship of the Pathfinder Force. The decision is to extend membership of the Club to all serving and ex-members of the R.A.F., believing that such facilities are vitally necessary in helping to maintain a healthy interest in the Service.

This change of policy, the result of careful deliberation by the Council of the Association, will place at the disposal of all those who are accepted the complete services of a responsible Club with close air force and civil aviation affiliations. The amenities for members and their guests include a restaurant and snack bar, residential service, and bar (at Mess prices !).

The Council are determined that the highest possible standard of service and comfort should be maintained, at the same time keeping the subscription within reasonable limits. It has, therefore, been decided that the scale of membership fees shall be "town members", two guineas ; and "country members" one guinea.

Full details of membership may be obtained from The Secretary, Pathfinder Club, 115 Mount Street, Berkeley Square, London, W.1.

# An Aerial Acrobat

FROM J. H. KELLER AG., Bahnhofsfach, Neumuhlequai 30, Zurich 23, our concessionaires in Switzerland, we recently received some photographs which made us grip the table firmly for a few seconds. The photographs are reproduced here to give you a chance of following our example.



Mr. Hans Walti is the gentleman concerned, and he apparently takes considerable delight in climbing down a ladder beneath the *Auster* and promptly launching into a series of aerobatics. For our more sceptical readers, we would like to point out that these are definitely authentic photographs, which have not been retouched in any way. Observant readers will notice that the aircraft is fitted for glider towing, the beam being visible beneath the rudder.



THE THIRD ANNUAL COMPETITION for the Ragsine *Auster* Homing Trophy will take place on Sunday, June 4th, 1950, from Rearsby Aerodrome. The competition is, as before, a practical exercise in solo navigation in which careful and intelligent flying is the keynote of success. The rules are framed to give novice pilots a chance along with the veterans. There is no entrance fee and the prize is a magnificent silver bowl which will be suitably inscribed and held by the winner for twelve months. A permanent memento of victory to the winner takes the form of an inscribed silver replica.

If anybody has not entered his *Auster* for this competition there may be still time, provided immediate action is taken to contact the Competition Secretary at Rearsby Aerodrome.

# Auster Personalities

## No. 4. MRS. DIANA BARNATO WALKER

MRS. WALKER, who lives in Chelsea, is one of the ladies who, during the late war, did such an excellent job with the Air Transport Auxiliary (A.T.A.) ferrying aircraft to and from the Services. The fact that these girls, like their male contemporaries, had to fly aircraft varying in size from an *Auster* to a Lancaster or other heavy bomber (often during the same day) speaks volumes for their capabilities.

Mrs. Walker holds a "B" licence and has approximately 1500 hours to her credit, having flown 60 different aircraft types.

Our photograph shows Mrs. Walker with her Autocrat (G-AJIR) which she keeps at Redhill Aerodrome. As a member of the Redhill Flying Club, and the West London Aero Club at White Waltham, Mrs. Walker has plenty of opportunity for flying, although this is confined mainly to pleasure trips.

Last year for example, shortly after acquiring the aircraft, G-AJIR was flown over to France, where Mrs. Walker has many friends, and a tour of the country extended to Strasbourg. This year another holiday tour is contemplated, but the exact extent and route has yet to be decided.

Mrs. Walker obtained her Autocrat from Count de Beaumont, of Paris, and the events preceding this change of ownership are very interesting. Apparently about three years ago Count de Beaumont planned an aerial trip into Darkest Africa, about 400 miles east of Lake Chad, taking the main stores and equipment by a twin-engined aircraft, but at the same time taking the Autocrat which was to be used for spotting game for photographic purposes, etc. Originally it was intended to crate the *Autocrat* for shipment, but then a decision was made to fly it out from Paris. Mrs. Walker was asked if she would fly the aircraft, but apparently did not fancy the trip (not being so familiar with *Austers* then as she is to-day).

The expedition was very successful, and the *Autocrat* behaved very well under tropical conditions, but on the way home the *Autocrat* had to be left near Cairo as the



Egyptians at that time would not release a private aircraft without radio or escort.

Over a year passed, and the *Auster* was still in Egypt with no chance of being flown out, as its C. of A. (plus a temporary C. of A.) had long since expired. So the Count offered the aircraft to Mrs. Walker who was delighted and arranged for it to be transported to England in an Airline freighter.

Mrs. Walker is now full of praise for *Austers*, particularly their safe flying characteristics, and it is to be hoped that in her competent hands G-AJIR will give her many more hours of pleasurable flying.

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### ALTITUDE FLIGHTS (continued from page 5).

*viz.*, Time ; Height (indicated) ; Airspeed (indicated) ; R.P.M. ; Observations.

If these points are noted, any flight can stimulate a considerable amount of interest to the pilot and his colleagues, and we, through the medium of the *News*, will always give announcements of any outstanding effort so as to stimulate friendly rivalry among pilots throughout the world.

As a point of interest our own Rearsby altitude record is 19,000 feet, in 55 minutes flying time, which was not attained in a civil *Auster*, but was obtained on 20th April, 1950, in a military aircraft with Mr. L. A. Leetham as pilot and Mr. F. Watkin as observer.

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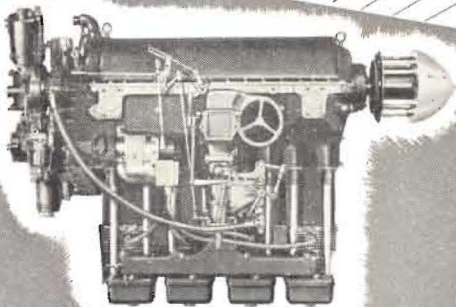
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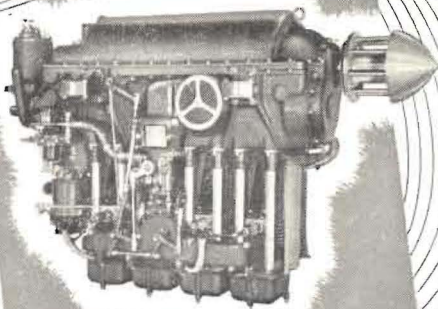
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