AIRCRAFT

News

OCTOBER · 1947

THE STEEL AUSTER AIRCRAFT AEROPLANE

AIRCRAFT NEWS

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Editorial

THIS IS THE FIRST REVISED EDITION of the *Auster News*, and an endeavour has been made to make it appear brighter and more convenient to be placed in the reader's pocket (this latter remark probably much to the annoyance of flying club secretaries.)

As probably most of our readers already know, the editor of the *Auster News* for many months past, G. R. "Dusty" Millar, D.F.C., has now left our employment, but thankfully not before this re-designed version had been discussed.

Insufficient information is being received from the owners of our aircraft, and flying clubs, regarding their activities, and it would be appreciated if articles of interest to other readers could be forwarded for publication. Readers' views regarding these editions are also welcome, together with any suggestions for improvement.

A short review of the recent modifications incorporated in the aircraft would probably be of interest to some of the readers who do not normally receive our circular letters regarding modifications.

One of the most successful installations has been the STEERABLE TAILWHEEL modification, which can be fitted retrospectively to all aircraft. This STEERABLE TAILWHEEL makes taxi-ing a pleasure, as in most cases only the rudder pedals need be used, so saving wear-and-tear of the brake linings. If fitted on production, to a new aircraft, or supplied as a modification complete with all the necessary installation drawings the price is £5 ex works.

Now the winter is coming on, many of our readers may be desirous of purchasing propeller/cabin covers to protect

Switch on, contact, and away she goes. Prop-swinging on an Auster is the mechanic's job. Austers are of great use to the British Commonwealth Occupation Force in Japan and are used for quick movements between units of a widely-scattered force.

By present-day standards the Dakota is not a huge plane, but it certainly dwarfs this British Commonwealth Air Group Auster standing beside it on the Iwakuni Airfield in Japan.

their aircraft. The normal price of these cover sets is £5 ex works, but we have a few secondhand ones which can be supplied from 30/- per set ex works.

We have been asked from time to time if it is possible to obtain wheel spats for the Auster AUTOCRAT, and quite recently we carried out a trial installation on one of our own aircraft. They are not yet available for production aircraft or as spares, but will probably be ready in the next few weeks. Should any reader be interested in these, will you please let us know so that further information can be given.

Military Austers

IN A WORLD resounding with atomic power and rocket-propulsion experiments, single-engined, three-seater monoplanes with a top speed of only 120 miles per hour and without a self-starter still have a place in a modern Air Force. Based at Iwakuni, now the headquarters of the British Commonwealth Occupation Air Forces in Japan, and an ex-Japanese Naval Air Training School, are the Auster aircraft of the Royal Air Force, 1315 Flight.

These small aircraft are a quick means of communication and replace almost impassable roads and a disorganised and slow railway service in the country. Japan is essentially a mountainous country with few good airfields, but dotting the seashores and river valleys are many air-strips which are too small and soft for heavy Dakotas. From these strips fly the Austers.

The planes and their pilots are also engaged on survey flights, often flying low, down narrow valleys and climbing suddenly to avoid spurs. Air photographers use them and can pin-point their subjects while the pilot slows down to almost stalling speed.

During a fire-power demonstration by British, Australian, New Zealand and Indian fighters last year, Austers carried observers over the blazing and exploding targets between each wave of attacking planes. Last December when severe earthquake shocks and tidal waves wrought havoc in Southern Japan on the island of Shikoku, Austers patrolled

hundreds of miles of sea coast and flooded valleys, spotting marooned groups of shivering and starving Japanese and guiding rescue parties to them.

Many other rescue missions flown by these planes over B.C.O.F. territory have resulted in the saving of lives. At Miho airfield, a hundred miles across Honshu island from Iwakuni, and at that particular time cut off by snow, an airman developed acute appendicitis, and an operation was essential. While hundreds of officers and men and gangs of Japanese labourers cleared eighteen inches of frozen snow off the tarmac, an Auster with brimming tanks and carrying a surgeon took off from Iwakuni. Battling over high mountains and through strong winds the plane landed on the hundred yards icy runway with only twenty-five minutes fuel left ; but the patient was saved.

On another occasion swabs and vaccine were loaded on an Auster and flown to Sasebo on the island of Kyushu, where an Australian warship, H.M.A.S. *Quiberon* was in quarantine after a suspected case of diphtheria had been discovered. The throat of each member of the crew of that ship was washed with the swabs which were flown back for testing at 130 Australian General Hospital on the island of Eta Jima, headquarters of the British Commonwealth Occupation Force.

So that casualties may be evacuated from any isolated airstrip throughout B.C.O.F. an Auster has been specially adapted to carry a stretcher and attendant orderly.

During the war Austers proved supreme on many battle-fronts for army co-operation. In Japan, they are used when the ground forces stage manoeuvres, and the strange country gives both pilots and ground forces a unique opportunity of learning the lessons of war. Artillery spotting, communication flights and messenger duties are some of the many assignments carried out by these aircraft.

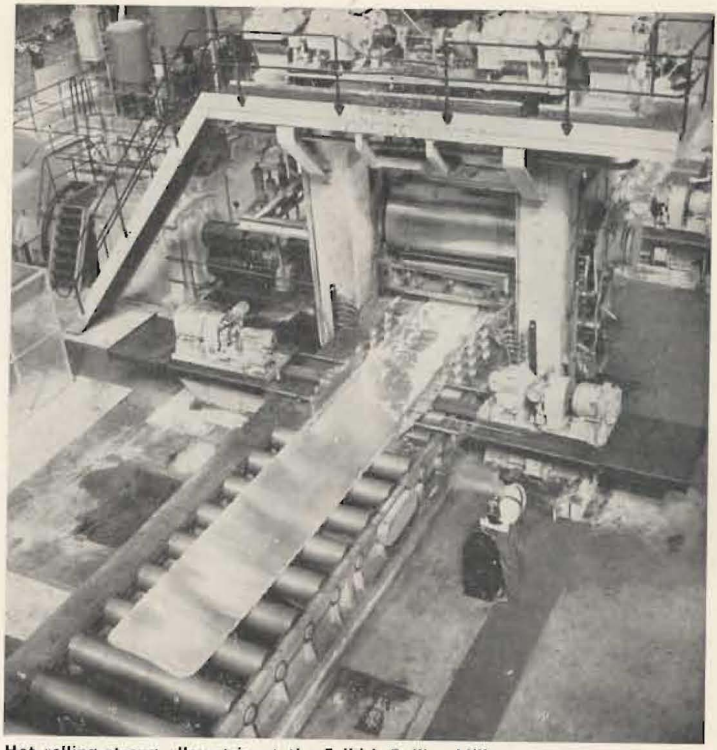
Since these midget planes came to Japan in April 1946, they have flown more than 1,300 hours and carried more than 600 passengers. Every day, and in all weathers, fresh demands are made on them. Providing weather conditions are suitable, they are always ready to fly almost anywhere within reason in Japan.

Interior view of the Hydro-electric power-house at the Lochaber Aluminium Reduction Works.

British Aluminium Co. Limited

WITH THE EXCEPTION OF SILICON, aluminium is the most abundant metal in the world. Its natural compounds have been known for centuries, and, in fact, the use of certain of these for dyeing purposes was described by Pliny nearly 2,000 years ago. Yet it was not until a little more than one hundred years ago that the metal was isolated for the first time, and more than sixty years elapsed after this first discovery before the metal was made in sufficient quantities and at a sufficiently low price to enable it to take its place among the ordinary metals of commerce. The modern development of the aluminium industry owes its origin to the simultaneous discovery in 1886 by Hall in America and Heroult in France of a molten solution capable of yielding aluminium under electrolysis.

The problem of obtaining power in bulk at a low rate is one of prime importance, and, in so far as Great Britain is concerned, the chief source lies in the water powers of



Hot rolling strong alloy strip at the Falkirk Rolling Mills.

Scotland, where the British Aluminium Co., Ltd., have developed their reduction works at Foyers, Kinlochleven and Lochaber.

Aluminium alloy sheet and strip is produced at the Company's rolling mills at Falkirk, Milton and Warrington. The Warrington factory also produces extruded sections. Accompanying photographs illustrate some of the plant which is engaged in this work.

The Falkirk factory was designed during the war for the rolling of strong alloy sheet for aircraft in widths up to six feet. The factory was completed in 1946, and in consequence it contains some of the most up-to-date plant in the world.

Cutting 18-ft. wide sheets at the Falkirk Rolling Mills.

AIRCRAFT MATERIALS.—The first world war gave the initial impetus to the aluminium industry, and between the wars the market for the metal increased progressively. In the interval between the wars aircraft designers were for many years uncertain whether alloy steels or light alloys would eventually prove to be the best materials upon which to base designs. It was not until about 1930 that light alloys gained the ascendancy in Britain and America, though France and Germany had been using these materials almost exclusively for several years.

In 1939 the aluminium industry was mobilised to produce aircraft materials almost exclusively. Just as home produced food is insufficient for our needs, the quantity of home-produced virgin aluminium is inadequate because

water power is not sufficiently abundant, but this home-produced metal in time of war is as indispensable as home-produced food. Development of aircraft materials is a gradual process of evolution. The process is speeded in war, but in peace when, the consumption of such materials is only a comparatively small percentage of the total, the speed of development is slower. It may, therefore, be said that the aircraft alloys which were in use in 1945 may be unaltered substantially for the next few years.

The special demands of the aircraft industry for high quality and dependability of materials has set the aluminium industry the highest possible standard of workmanship, and in consequence, the aluminium factories have a degree of technical control which is not encountered in the production of other metals on a commercial scale.

Why not learn to Fly?

by J. E. RADDINGS, (Cowes Aero Club)

WE ARE FAST GROWING UP in what was termed twenty years or more ago—"The beginning of the Air Age," and yet here we are in 1947 with hundreds of thousands of people who have never even been near an aeroplane.

Why is this? Is it because the man-in-the-street looks upon the aeroplane as an object and weapon of war? Admitted, with two long tussles behind us, where aircraft and their pilots have played most prominent parts, and with a multitude of men and women sporting their wings on the blue uniforms of the Royal Air Force and the A.T.A., he is quite justified in thinking these things, but this is not so, the aeroplane is now, as it was rapidly developing before 1939, as much a civilised necessity as our own private cars.

We who are connected with the aircraft industry, to us the glamour of being an aeroplane pilot has gone, and we are settling down to the more serious side of aviation, although there are, of course, isolated cases where pioneering is still a real necessity, particularly in the case of testing new designs and new equipment.

The prospects of the modern youngster (or the older person for that matter) learning to fly are not so remote as some

people seem to think. More and more aerodromes are being reverted to civilian use, and on them are springing up new and reformed aeroplane clubs whose specific purpose is to cater for those of us wishing to learn to fly, and for those who desire it, to re-acquaint themselves with the feel of the air.

Take our own particular case—here on the Isle of Wight we have had in existence for over a year now the Cowes Aero Club, where it is possible at almost any time to hire and fly the Club aircraft. We ought to be justly proud of this fact, particularly as it is probably one of the best equipped aeroplane clubs in the country at the moment, and certainly the most go-ahead. The atmosphere is essentially one of friendliness, and to the newly initiated, one feels the spirit of adventure. The Club's instructors are both competent and courteous.

Come, then, let us take just one trial lesson. Imagine the thrill, as a thrill it really is, and the queer feeling in the pit of the stomach as we are led out of the clubhouse actually to take our seats at the controls of the safe and armchair-like comfort of a little Auster aircraft. We perhaps notice first the spaciousness of the cabin and its excellent visibility in all directions, the simplicity with which its controls are arranged, hardly anything to go wrong—just the stick, the rudder-bar, throttle and a minimum of essential instruments to tell us what is happening to the aeroplane and its engine. Our instructions on the ground are brief indeed, simply an explanation of what happens to the aeroplane when the stick is moved forward, backward or sideways, and it is hinted gently to press the rudder-bar left to go left, and right to go right.

We are seated then, and the safety belt fastened over our laps, our instructor manipulates the switches, presses the starter button, and the tiny engine bursts into life, in fact the whole aeroplane becomes a living thing, and ready to do as it is bid. We taxi slowly down over the aerodrome, turn into wind, where after careful cockpit drill and a good look around to ensure that there are no aircraft about to land or taxi-ing in our path, our instructor opens the throttle, and with a roar our aircraft rapidly gathers speed over the uneven surface of the aerodrome until without warning the bumping stops and we find ourselves floating

smoothly and the earth below receding, smaller and smaller become the objects with which we are so familiar as our aircraft gains height. What a thrill indeed and how exhilarating!

In a matter of a minute or so the aircraft is levelled out at about 2,000 feet, and the instructor hands over the controls, explaining once more their movements, but this time by practical demonstration. These movements seem fraught with difficulties, and keeping the aircraft on an even keel causes far more trouble than is at first anticipated, but after the slightly tummy-turning episode of the banking and pitching, it is surprising just how quickly we get the hang of the thing, and no sooner do we begin to settle down and really enjoy the sensations of flight than it it time for us to return to earth ; the concentrative effort on the part of the pupil pilot coupled with the newness of everything sends the hands speeding round the clock. Once back on the ground, and a few more words from the instructor in our ear, we take a long look at the aircraft we have just been actually handling, and find we are instilled with a new spirit and an overwhelming keen-ness to achieve our ambition to *fly* !

On the whole it is quite easy and certainly nothing to worry about. So then, for the next lesson why not let it be *your* turn ?

Petrol on—brakes on—throttle closed—switches off —suck in—contact—already ! You've got her !

Fashion Notes — *by* ROGER TENNANT

CY CALDWELL, of *Aero Digest*, asked why the Americans did not build high-wing monoplanes, so that the passengers could see the world, replied :

"Considering the state of this country, it is just as well you can't see it. You would only look down on a lot of damned Democrats. That's why we build them with low wings. We don't expect to build high-wing ships until the Republicans are back in."

There are, of course, several other technical reasons for building low-wing monoplanes, though we can't think of

any at the moment. It is mostly a matter of fashion. One year you have low wings and long skirts, another year you have high wings and high skirts. Just now there is quite a run on low wings for light aeroplanes. There seems to be an idea that they are more sporting. Certainly, you need to be an athlete to get into them.

At Austers we go in for high-wing monoplanes, because we believe in them. Sometimes people come and tell us that high wings are old-fashioned. They seem to think that just because we don't build something that looks like a jet-propelled supersonic missile, we don't know enough to get by. But we build practical light aeroplanes—not fashionable ones.

Besides obstructing the pilot's view, making the aircraft almost impossible to get into, and filling up the cockpit with wing spars, a low-wing usually makes the machine a bit dicey.

The top surface of a low-wing makes a bad joint with the fuselage, and that upsets the airflow on to the tail. Every couple of months the designer raises the tail-plane a few inches, or pushes it behind the rudder a few feet, or gives it dihedral, or adds anti-spin fillets, or another fin, or takes one off. It makes life interesting of course.

At Austers we just go right on using the same old tail unit : we can't find a better one. You may think it's dull, but we'd rather be dull than dicey.

Then there is stability. With a high wing, the weight acts like a pendulum to correct stall or side-slip. With a low wing it acts the other way.

If you put taper on the low wing, as well, (and they usually do) there is probably the added danger of tip-stalling. The Auster's parallel wing ensures a symmetrical stall.

Then there are people who say that our wing struts aren't fashionable. A few years ago, almost all light aircraft had strut bracing. Then the wing flap came along. By increasing the maximum lift of the wing, it gave the designer two choices. Firstly, he could keep the stalling speed the same, and cut down the wing surface. The smaller wing could then easily be made a cantilever without undue weight. The alternative was to keep a large wing, and use the flap to reduce the stalling speed to something really safe, something around 30 m.p.h. rather than 70 m.p.h.

We believe in safety. We like to go down to 28 m.p.h. stalling speeds. To do that, we need big wings, and to keep them light and strong, we need the struts. If you want to hurtle, buy a V-2 ; if you want speed with safety, buy an Auster, and never mind the struts. You'll get to like them, in time.

Another popular fashion that started somewhere in California is to put the propeller behind the tail. This claims four technical advantages :

1. It makes the 1947 model look different from the 1946 model.

2. It moves the danger of a revolving airscrew away from the nose.

3. It eliminates most of the slipstream drag.

4. It improves the pilot's view.

It also has four technical disadvantages :

1. It is expensive and complicated.

2. It is difficult to get the nose up on take-off and impossible to land tail-down.

3. It moves the danger of a revolving airscrew to the tail, where you are least expecting it.

4. The airscrew, which acts as a gyroscope, is a long way from the centre of gravity, and makes the aircraft difficult to manoeuvre.

As far as the advantages are concerned, we can provide the pilot with 360 degrees of view, without taking the airscrew off, the slipstream drag is not enough, is safer where it is than at the other end, where we can't even see who is walking into it.

The disadvantage of the gyroscopic effect in making the aircraft over-stable is real enough, as American engineers have testified. Nothing would induce us to sacrifice the delightful manoeuvrability of the Auster for the sake of a fashionable fad.

Please do not get the idea that we are against new ideas. Far from it. We welcome GOOD ideas, but we have been building and flying light aeroplanes for long enough to know that just because it is new, it does not have to be good.

The real qualities that make a good light aeroplane are safety, utility, quietness, and ruggedness. Those are the things that get priority in an Auster.

We don't want to prejudice you. Other people can make good light aeroplanes. Have a look at them all. Fly them. Ask the pilots who use them. But we think you'll come back to Rearsby. You'll always be welcome.

Pwllheli Holiday Camp

by J. W. L. PENDLETON

ON SATURDAY, 20TH SEPTEMBER, at 1800 hours the wheels of my AUTOCRAT touched down at Broom Hall, Pwllheli, North Wales. It may not be known that Broom Hall Airfield is yet another method on the part of Mr. W. E. (Billy) Butlin to give the public what they want.

My impression of Mr. Butlin's Holiday Camp at Pwllheli is that from the moment you arrive you are whisked away and taken to your chalet, and henceforth looked after in a manner which might be a very good example to our West End hotels. At no time are you left wanting for anything.

Perhaps the dining hall is a little bewildering because there are so many faces, so much quick movement, so much good service—this shakes one a lot if you spend, as I do, any appreciable amount of time in hotels—and yet in all one leaves the dining hall feeling well fed and having wasted no time between courses, or before any waiter, as is general practice in hotels today, makes an appearance and deigns to tell you what you will have. Here you are invited to say which particular course you would like. The rolls and butter were very nice too ! The breakfast the following morning was excellent, and I am quite sure that if more people had the opportunity to sample Butlin's Holiday Camp they would think twice about their "selective holidays."

To come to the actual object of my visit to Pwllheli Holiday Camp, namely the opening of Mr. Butlin's new Broom Hall Airfield. One should try and picture a beautiful range of mountains running down to the sea, and just before the land touches the sea a small plateau which has been made into a charming little airfield. The fact that I

term this a little airfield should not mislead anyone, because the present runways are to be considerably extended. Nevertheless Austers, which land on a tennis-court anyhow, Fairchilds, Proctors and a Consul found no difficulty in using the airfield in its present form, although the main runway was cross-wind.

Another point about the efficiency of this camp is that whilst you are on the airfield, although the airfield is by no means complete, there was no difficulty in obtaining a boiling hot cup of tea. Many of our bigger airfields could learn a lot from this early organisation at Broom Hall, which I am told by Mr. Butlin's aircraft manager, Mr. MacBean, is to receive much more consideration, and to include a sun-trap coffee lounge.

Saturday afternoon and evening was a meeting of many of our old Auster friends, and it was nice to see them all entering into the spirit of the Holiday Camp.

Saturday night saw practically all of us dancing to Eric Winston's broadcasting band.

On Sunday, at 2-30 in the afternoon the flying programme followed the official opening of the airfield. Major Bond, the joint general manager to Butlin's, introduced Mr. W. E. (Billy) Butlin, who in turn introduced the local member who actually declared the airfield open. The flying programme was certainly very hectic, and there must have been a little prayer offered up by Mr. MacBean at the end of the day, because at times it was a bit dicey. This was not due to any mismanagement on the part of Mr. MacBean's organisation, but due to pilots ignoring the instructions and taking-off haphazard. Nevertheless, it all finished up well. Much joy-riding was enjoyed by the crowd.

Demonstrations of aircraft included the AUSTER AUTOCRAT showing its paces in slow flying, and a down-wind beat up, the Danish K. Z. Lark followed, then a really excellent aerobatic display by the De Havilland Chipmunk, piloted by W/C Smith. Ronnie Payne of Wolverhampton seemed to do all he could with a Miles Magister by his display of aerobatics.

Some thirty-three aircraft in all turned up at Pwllheli, two-thirds of which were AUSTERS, and on Monday morning, when pilots were preparing to take-off and return to their

own particular realistic job of work in England, it was rather like leaving a kind of fairyland.

Mr. Butlin is to be complimented on his efforts, and if he continues with any other areas as he has started at Broom Hall, Pwllheli, it looks as though private flyers will have somewhere to go beyond the dreariness of some of the present-day flying clubs.

Aircraft Builders

THOSE WHO ARE INTERESTED in an authoritative account dealing with the problems of aircraft production from the year 1935 until 1945, will be able to satisfy their curiosity, for the whole story is contained in a booklet recently published by H.M. Stationery Office, price 9d., and on sale at all bookstalls.

The author, Mr. Nigel Blachin, has had access to many official sources of information, and has endeavoured to reproduce in a simple and popular style something of the achievements performed by the workers, management and manufacturers in producing aircraft for the fighting services.

Swedish Austers

FROM SWEDEN COMES some interesting news of the efforts being made to increase the popularity of flying, and the prestige of the Auster as one of the leading light aircraft in production to-day.

An Auster AUTOCRAT belonging to Sportsflyveklubben, Copenhagen, Denmark's leading flying club, piloted by one of the members, Mr. Niels Skov, flew non-stop from Basle in Switzerland to Copenhagen, in about six hours.

In addition to courses covering the theoretical knowledge necessary to obtain a private pilot's licence, the first advanced courses in navigation and instrument flying have been completed, and a book on navigation has been published by the club. Ingenuity came to their rescue when it was found that computors were hard to get, and on their instructions a Danish computor has been designed. Temperature and height corrections have been omitted to save space, but every possible navigational operation can be carried out easily. Another useful gadget evolved is a Flexiglass ruler for use with maps of 1 : 5,000,000.

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