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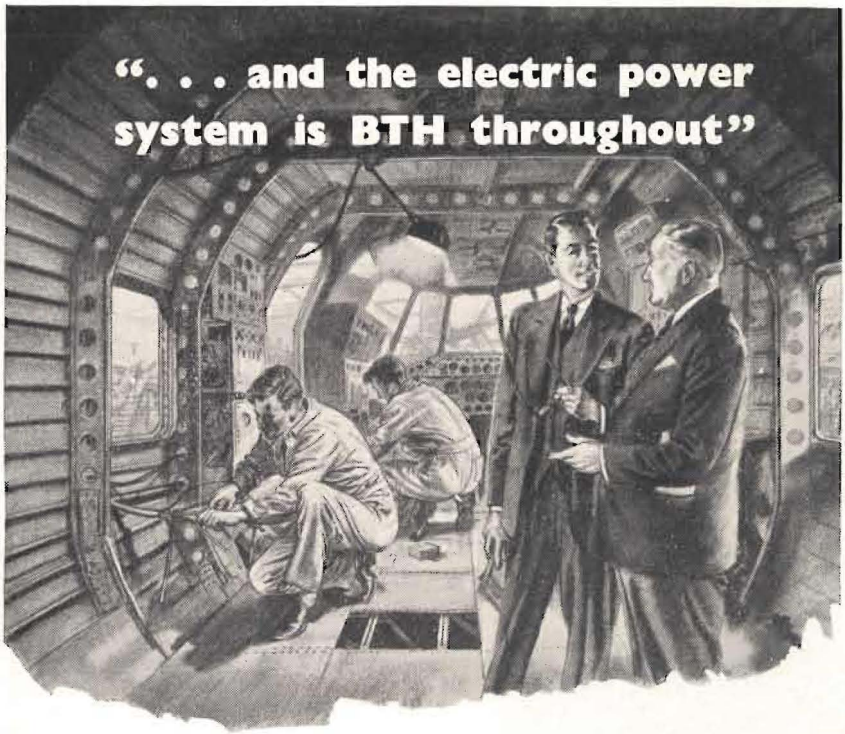

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THE S.B.A.C. SHOW

WITH A VERY successful and interesting S.B.A.C. Show behind us, we now look forward to another year of hard work in the effort involved with helping to supply world markets with the right aircraft for the job.

A quick glance at the aircraft on show would perhaps have tended to suggest to the casual observer that the British Aircraft Industry's efforts had slowed down somewhat during 1954. This observation would naturally stem from the fact that there were very few new types on show, but a closer look revealed that the industry had been even busier, because many of the aircraft shown were production models, this was graphically illustrated in one instance by a formation flight of five Gloster Javelins. Our own company was proud to present its newest type, the Auster A.O.P. Mk. 9. An unusual point about this aircraft was the fact that it was a brand new type being shown for the first time in public, and it was also a production aeroplane. Literally ordered off the drawing board, the Mk. 9 is now in quantity production for the British Army.

CANNIBALISM PAYS OFF

DURING THE RECENT Australian Antarctic Expedition the Danish Icebreaker *Kista Dan* was struck by a hurricane which subsequently damaged both the Austers stowed on deck. At the first available opportunity work was started to rebuild one flyable aircraft from the remaining wreckage of the two damaged ones. Such was the skill of the R.A.A.F. fitters involved, that one aircraft was built and flown successfully in a very short time under Arctic conditions.

The many reconnaissance flights made by this Auster proved invaluable for occasionally re-routing the *Kista Dan* out of the path of icefields too thick to yield to penetration.

FRONT COVER

FLYING A FEW FEET above the trees, Auster Cirrus Autocars owned by Pest Control Limited, recently sprayed 1,500 acres of pines in Cannock Chase, Staffordshire. A D.D.T. emulsion was used to kill menacing caterpillar moths called Pine Loopers. The whole operation was a complete success and a full story appears on page 6 in this issue.

Daily Mail photograph.

A Repeat Performance

The R.A.A.F. in Antarctica

IN MORE THAN 80 HOURS of hazardous flying over the icy wastes of Antarctica early this year, two R.A.A.F. pilots wrote another chapter in the history of the R.A.A.F.'s part in the exploration of Australia's most southern territorial possessions.

They flew 64 photographic and reconnaissance flights and made thousands of survey photographs. More than half of their flying time was recorded in a barely serviceable aircraft which was made up of parts salvaged from the wreckage of their expedition's two Auster Mk. 6 aircraft which were later damaged in an Antarctic storm which reached hurricane force.

The two Austers used in this expedition were also used in Antarctica during 1949-50 with the Norwegian—Swedish—British Expedition. The aircraft were in storage in South Africa when purchased by the Australian Government for this, the latest expedition.

The R.A.A.F. pilots were Flight-Lieutenant Douglas Leckie of Ivanhoe, Victoria, and Flight-Sergeant Ray Seaver of Newcastle, New South Wales, who returned to Australia in the polar exploration vessel *Kista Dan*. Chartered for the purpose by the Australian National Antarctic Research Expedition, the *Kista Dan* carried south the small group of scientists who are now established in a permanent base at Mawson in MacRobertson Land. This group, consisting of 10 men, will spend the winter at their base. Next Spring, they will make a series of surveys in an area of about 300 miles around the base, using dog-sleds and Weasels, a jeep-like motor vehicle specially designed for ice traction. In these surveys, they will encounter terrain criss-crossed with deep crevasses which turn the area into a huge maze fraught with danger but they will have the assistance of maps and photographs to guide them.

The Auster aircraft flown by the R.A.A.F. pilots acted as the "eyes" of the expedition. First operating from the water as a floatplane and later, with specially fitted landing skis, taking off and landing from huge icefields, the Auster made a series of flights which guided a land party over the ice from the *Kista Dan* to the base on a rockbound section of the harbour and also plotted the ship's course through the ice to this base. The base was established on the only part of the terrain free from ice.

Much important aerial work remained to be done and the fact that this work was eventually accomplished was a tribute to the technical skill and capacity of the two R.A.A.F. technicians who accompanied the expedition to service the aircraft. The technicians were Sergeant F. W. Morgan of Windsor, New South Wales and Sergeant K. W. Duffell of Bankstown, New South Wales. In four days, aided by the pilots, they had produced one flyable aircraft from the wreckage of the two damaged Austers. The leader of the expedition, Mr. P. G. Law, who is the foremost Australian authority on Antarctica, has given high praise to the efforts of the four R.A.A.F. members who accompanied the ex-

The R.A.A.F. ensign flies to mark the R.A.A.F.'s most Southern air base at Mawson in Antarctica. This picture shows the four members of the R.A.A.F. Antarctic Flight attached to the Expedition standing by their Auster which was rehabilitated from components of the expedition's two Austers which were damaged in a hurricane. L. to R.—Flight-Lieutenant Douglas Leckie, flight commander; Sergeant Frank Morgan, airframe fitter; Sergeant Ray Seaver, pilot; and Sergeant Ken Duffell, engine fitter.

pedition. They had made a major contribution to the success of the whole enterprise, he said.

On Monday, February 1, the *Kista Dan* first entered the pack ice of Antarctica at 66°23's 64°00'E and, in the words of Flight-Lieutenant Leckie, "the Antarctic Flight of the R.A.A.F. was ready to take down the shutters and do business."

However, it was not until the following day that the *Kista Dan* entered a pool of clear water that was large enough for the take-off run needed for an Auster fitted with seaplane floats.

Flight-Lieutenant Leckie and Sergeant Morgan were on mess duty (All members of the expedition had shared the routine chores since leaving Melbourne.) They had just finished washing up the dishes when the ship entered comparatively clear water. There were a number of grounded icebergs in the area but Leckie decided that conditions were favourable for take-off. The Auster was immediately hoisted over the side of the ship and lowered on to the water, which was very calm. With Mr. Law as his passenger, Leckie succeeded in pulling the Auster into the air after considerable manœuvring to overcome difficulties associated with taking-off from smooth water. They were airborne for 1 hour 35 minutes on that first flight. In the first twenty minutes, Leckie flew at 1,500 feet and approached the ship from various directions to test his radio compass with which he "homed" on to the ship's transmitter. He also tested thoroughly the Auster's radio

communications before heading in the direction of Mawson to carry out an air survey of the area in which it was proposed to establish Australia's first permanent Antarctic base. This initial flight also allowed Mr. Law to plot the best approach to the base through 20 miles of fast ice which separated the *Kista Dan* from the Antarctic shoreline. (Fast ice is sea ice which has not broken off from the shore but is held "fast" to the land. As this fast ice begins to break up at the seaward edge, the huge sheets of ice floating free are called pack ice).

A heavy snowstorm prevented Leckie from making a second flight that day, so the Auster was hoisted aboard the *Kista Dan* and the ship's captain was briefed on the best channel to follow in the pack ice. Dusk fell as the ship entered this channel, so the captain poked the nose of the *Kista Dan* into the ice and the ship remained there overnight. On the following morning, the *Kista Dan* negotiated the pack ice, entered the belt of fast ice, and began the slow task of pushing a path through this hard, blue mass of ice to Mawson 20 miles away. Actually, at that time Mawson was but a name on a map. It was not until a few days later that Flight-Lieutenant Leckie was to land there and become the first Australian to set foot on Mawson.

When the ship began to crunch its way through ice two-and-a-half feet thick, Sergeants Duffell and Morgan spent the morning fitting landing skis to one of the Austers. The ice surface was ideal for ski operations. At midday, the ship hove to and the Auster was lifted on to the ice alongside the ship and took off on another survey flight. When the Auster was safely airborne the *Kista Dan* resumed its tedious journey through the ice but stopped again about two hours later to refuel the aircraft. This operation consisted of pushing the aircraft on the ice alongside the ship near No. 2 hold while the fuel was pumped into the Auster's tank through a long hose leading from the deck of the ship.

This refuelling technique was used with considerable success in the flying operations which followed, but was invariably hampered by the presence of dozens of inquisitive penguins which would crowd around in a fashion which would seriously impede the work in progress.

The penguins congregated around the ship in hundreds and were a constant source of anxiety to the two R.A.A.F. pilots when taking off and landing on the ice near the ship. Flight-Lieutenant Leckie and Sergeant Seaver, at that stage, were working a 16-hour day and each taking in turn the duties of pilot and flight director. "Those penguins managed to get under our feet at every step we took," said Sergeant Morgan. "They would solemnly and closely inspect everything we did, squawk excitedly to each other and then crowd in even closer. We learned something from them, though. All of us had been troubled by having to work and walk on slippery ice and we were all having nasty and painful falls. We noticed that the penguins moved around easily by taking very short steps. When we followed their example, we found we too could walk without constantly falling over."

On the third day of aerial opera-

Mr. P. G. Law, leader of the Australian National Antarctic Expedition is also head of the Antarctic Division of the Department of External Affairs.

tions, Flight-Lieutenant Leckie landed at the proposed camp-site at Mawson. His passenger was Mr. Bob Dovers, an Antarctic veteran who is now in charge of the winter party at the base and will remain there for a year. On another flight to this base later in the day, Leckie and Dovers, with marker flags, pegged out on the fast ice adjoining the base a landing strip which faced into the prevailing wind. With the marking of this area, Flight-Lieutenant Leckie thus established the R.A.A.F.'s most southern airstrip. Ten days later, as the *Kista Dan* crushed its way through the ice to within a few miles from Mawson, the ship literally nosed its way through this airstrip. "Captain Peterson laughingly counted each marker flag as the ship knocked them over," said Leckie.

On 5th February, the ship halted while the expedition's three Weasels and two caravans were off-loaded to make a run of 17 miles across the ice to the base selected at Mawson. Both Austers made several flights to guide this party across the ice channels by the safest and quickest route to the mainland.

On one occasion, Flight-Lieutenant Leckie landed on the ice to warn the party that it was heading toward a dead-end crevasse. Dovers, who was in charge of the party, then made a short flight with Leckie, and they selected a suitable route to by-pass the danger. At one stage of this escort duty, both Austers formated and flew low over the Weasels in the direction of the base because it was easier to observe two aircraft against the skyline than one.

Apart from hazards imposed by inquisitive penguins, Antarctic flying presented many problems which although familiar to airmen operating in cold-weather countries were new to the R.A.A.F. men. Before proceeding to the Antarctic they underwent a course in the snow conditions of Mount Hotham, in Victoria, to fit them for the task ahead. Leckie and Seaver each made countless landings and take-offs on the bay near Point Cook to gain experience in operating the Auster in its role of seaplane. However, there was no substitute available for operating the Auster off snow and ice with skis but both pilots quickly proved themselves capable of flying in those conditions. Both pilots and the expedition members who flew with them as passengers have vivid memories of the terrific clatter and vibration experienced when landing on the rough, knobbly ice of their airfield at Mawson.

Only once was it necessary for the pilots to make a forced landing. On that occasion, they were within gliding distance of the airstrip when the engine failed because of water freezing in the fuel line. Leckie, who was at the controls, landed in a strong cross wind and the Auster ran into rough ice, breaking the port main ski. Seaver braced himself in his seat, waiting for an impact that did not come. "I don't know who was more surprised," said Leckie as he recalled the incident.

Auster Sprayplanes save 100,000 Pines

SEVERAL THOUSAND ACRES of pine forest in central England and Scotland have been saved from certain destruction recently by aerial spraying from two Auster Autocars. The forests were found to be infested with a moth caterpillar called the Pine Looper which feeds upon the pine leaves, their appetite is so hearty and their numbers so vast that they can be faintly heard munching at night!

For centuries Cannock Chase lay across Staffordshire as a vast oak forest. Many of the Ancient Britons took refuge in its depths from their invading foes and for long afterwards it was a hiding-place for outlaws and fugitives of every kind. But Staffordshire contained iron, and until the early seventeenth century the iron was smelted with charcoal. By the time of the first Queen Elizabeth, the rape of the woodlands had grown so serious that a law had to be passed to preserve enough sound oak to keep the Navy afloat. The introduction of coal for smelting helped to check the damage.

Brown Moth

Then, thirty years ago, the Forestry Commission planted a vast area of the Chase with pines. They grew to a height of 35 feet and 40 feet, and all went well until 1953. In the spring of that year the head-forester saw badgers turning over the needle litter in a search for *pupae*.

It was the first sign of the enemy—a tiny brown moth known to entomologists as *Bupalus Piniarius* and to other people as the Pine Looper.

Bupalus Piniarius was causing serious trouble in the pine forests of Germany as far back as 1780, but although it belongs to the resident insect population of the British Isles it has not been a source of worry here until recent years—presumably because the conditions which favour an infestation did not exist. The Pine Looper caterpillar attacks pole stage and older crops, usually when the trees grow in sandy soil where the rainfall is low. It eats the leaves and therefore causes the pine to die—for leaves are, of course, essential to a tree's life. No pine can survive a third year's attack.

At Cannock Chase a mass flight of adult moths was noted during last summer, but the full seriousness of the outbreak did not become obvious until September. The Forestry Commission, therefore, sent for Pest Control, and a full-scale aerial campaign to save 100,000 pines was planned for August of this year

A familiar sight to all pilots, the aircraft servicing vehicles of the Shell and BP Aviation Service are on duty all the year round at the major airfields in Britain.

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Down in the dell. One of the Auster Autocars follows the contours to obtain maximum penetration of spray through the pines.

when the caterpillar would be destroyed by Psylortox before they grew into moths.

On August 8th, two light yellow Auster sprayplanes flew out of Bourn bound for Mansty Farm, near Penkridge in Staffordshire, where the farmer, Mr. Bower, had kindly placed a 40-acre field at their disposal.

The following day the pilots—Mr. Henry Johnson and Mr. John Jones—were flying over the forests while members of the Forestry Commission, journalists, and B.B.C. men watched in delighted astonishment.

The spray-planes skimmed the treetops and often disappeared from sight like lifeboats in a stormy sea, to re-appear over the neat crest of green.

When one of them zoomed over the edge of a forest ridge straight towards the T.V. camera, a Forestry Commission official called out- "By Heavens, this is magnificent!" One of the newspapermen said that he had seen nothing like it since the days of Sir Alan Cobham's Air Circus.

Dr. Myles Crooke, of the Forestry Commission, ran into the forest to see how well the Psylortox was penetrating. He came out carrying the answer on his head and shoulders.

An inspection carried out after the spraying had finished, revealed that masses of Pine Loopers had fallen from the trees, killed by the effective penetration of the Psylortox. The pilots were two men who love adventure, especially above the tree tops. Mr. Henry (Johnny) Johnson, who lives at Southall, London, was the spray-plane pilot in the Ceylon campaign to save the rubber trees from the oidium leaf mildew. Afterwards he flew home alone over deserts, mountains and sea, all the 7,000 miles from Colombo to Bourn.

His companion, Mr. John Jones, an Irishman from Wexford, spent three years as a rubber planter in Malaya before joining Pest Control Limited, and was twice a victim of bandits, receiving a total of seven bullet wounds.

Both Mr. Johnson and Mr. Jones served in the war, Mr. Johson having been a pilot in the Fleet Air Arm and Mr. Jones a rear-gunner in the R.A.F.

Mr. Charles J. Edwards, another Irishman, was present as an expert

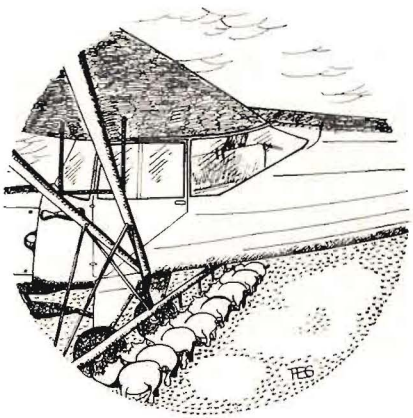
in the scientific application of sprays Earlier this year he returned from the Ceylon campaign.

Despite a series of delays caused by the extraordinary weather, the Austers were able to complete the Cannock Chase campaign and then move up to Scotland. There, on the Moray Firth, they opened the latest battle in a war which has lasted for over 200 years.

In 1694, violent storms swept the Moray Firth, and the Barony Culbin, including the mansion and church, was overwhelmed with sand. Since then the sand has continued to drift eastward, and in the course of years, efforts have been made to check its advance by planting sand-grasses, sedges, and finally pines.

At one time Culbin was so fertile that it was known as the Granary of Moray. The foreshore encroached for the first time in 1676, and in 1695 an Act of Parliament was passed to prevent the pulling of bents (rush-like grass), the Barony of Culbin having been "quite ruined and over-spread with sand." Whether or not the community was buried in one great storm as tradition relates, the people were undoubtedly taken by surprise. One man left his field half ploughed and in another place a plough was discovered under the sand after nearly two centuries. The burying of the barony has been described as the most extraordinary physical phenomenon in Scotland. The rest of Findhorn Bay is an area eight miles long and as wide as two miles and is completely covered with sandhills, some of them more than 100 feet high.

The pines were also being attacked by the Pine Looper, so the Forestry Commission called in Pest Control to repeat the fine performance they put up in Staffordshire using their Auster Autocars,—we hope to give a complete story on the Scottish spray campaign in the next issue of the *Auster News*.



Farnborough Air Show Reminiscences

BRITISH WEATHER RECORDS show that the most likely period during the year that we can expect a week's settled weather is during the first half of September. This then is the time selected by the Society of British Aircraft Constructors to hold their annual Air Display and Exhibition. However, as is widely known, the British weather characteristics are to say the least, unstable, and this year's spectators received more than one drenching. The elements however certainly did not damp the enthusiasm of the participating pilots. The first day's flying, for the benefit of the aircraft industry technicians, took place in heavy drizzle with very low cloud, and the faster aircraft were guided by radar positioned on the airfield. During the first three days of the show the Auster Company presented its new Air Observation Post the Mark 9; this was the machine's first public showing. Ranald Porteous flew the aircraft with an observer seated in the rear of the cabin and demonstrated the very short take-off and landing runs which are one of the notable features of this aircraft.

Changing his mount on Thursday,

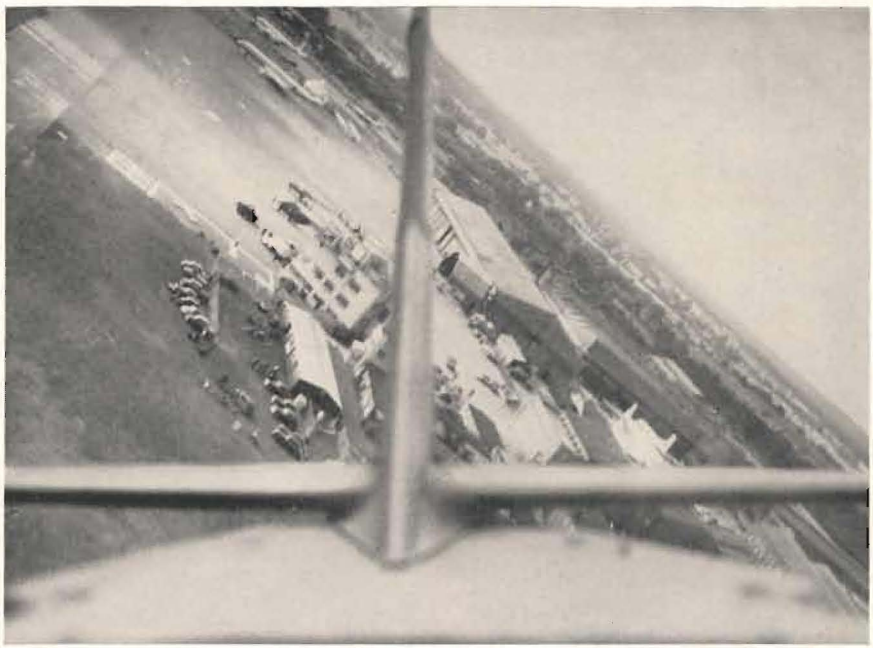
Carrying a crew of two, the new A.O.P. Mk. 9 climbs away steeply after demonstrating its short take-off run. The "drooping" ailerons can be seen at the take-off setting.
[By courtesy of "The Aeroplane."

Ranald Porteous flew an Aiglet Trainer during the remainder of the flying displays, which included the three days that the public attended —Friday, Saturday and Sunday. The Aiglet Trainer, G-AMYI, was painted a gleaming scarlet on all the under-surfaces and the fuselage sides, whilst the top surface of the wings, rear fuselage, tailplane and elevators were finished in a pure glossy white. This unusual colour scheme evoked much comment from spectators as the aircraft was looped, rolled, spun and zoomed to within 20 feet of the runway during its aerobatic displays.

In the exhibition hall, which this year covered over 100,000 sq. ft., our company occupied a stand that attracted considerable attention from overseas visitors. In illuminated full colour panels were shown different types of Austers performing some of the tasks for which the aircraft are suited. The centre of attraction was a large colour transparency of the A.O.P. Mk. 9. Many old friends of the company visited the stand to renew aquaintances, and many new friends were made, whom we hope will visit us at next year's show.

* * *

ONE OF THE MOST labour-saving inventions of to-day is to-morrow.
—*V. T. Ross.*



The superb field of view obtained from the Auster A.O.P. Mk. 9 is well shown in this picture taken by the rearward-facing observer during a demonstration at the Farnborough S.B.A.C. Show. On the left of the fin can be seen the control-tower.

The company's stand at the S.B.A.C. Show. *(See previous page.)*

Learning to Fly*

by "STUDENT PILOT"

"IS LEARNING TO FLY easier or more difficult than I had expected it would be?" asked my Instructor. It was not a question to which I could give an immediate answer without reflection. I had to consider my experiences as a pupil in the light of my many hours in the air over the years that have passed. Eventually I replied that, to be perfectly frank, I was finding that learning the art of flying was more complex and more difficult than I had thought it would be.

There is a particular reason why I should find it so. Most of my flying in light aircraft was done between two wars. The pilots who flew me more or less belonged to the first generation of flyers. They were those who learned to aviate during the 1914/18 War or at the early flying clubs which came into existence soon afterwards. The instructors of the latter were, of course, drawn from the former group. And so my pilots were pioneers who when they themselves had learned to fly had been left to fend for themselves after perhaps only three or four hours dual instruction.

I remember a short time ago a friend of mine, who belonged to the old school of aviators, asking me a question. He obviously thought that by asking it he was helping me in my

* *With acknowledgments to the Editor of "Over to You."*

own flying. He put the question to me with some pride because it showed without doubt that he was a vintage pilot. The question was as follows: "How could I tell which way the wind was blowing in order to land properly into wind, if there were none of the usual aids about, such as windsocks, smoke from chimneys, etc." Actually, I had heard the answer to that one from many an old friend. Cows always stand facing up-wind and with their rears pointing down-wind. If you can find a herd of cows grazing, you can, therefore, find out the surface wind direction. The beasts, unfortunately, are not always near a suitable site for landing.

I think that I have said enough to make it clear that I grew up as an air passenger with the older school. Their spirit of adventure and their deliberately casual attitude towards flying was bound to influence me. Looking back now, I can recall many occasions when, if both they and I possessed a more comprehensive knowledge, things would have been less frightening. With such knowledge, I should probably not have been in the air at all on some occasions. I agree that the method of learning by trial and error is all very well—as long as the errors are not likely to lead to serious consequences. But since we now know so very much more about how to prevent making mistakes in the air, I am all for tackling the extra study which is necessary to acquire this knowledge.

I am, therefore, quite prepared to forget most of the knowledge which I picked up from my aviator friends of the era between the two World Wars. The glory of being pioneers belongs to them. But as a student pilot of today, I want to extract the full advantage from the fact that I can never be and do not need to be a pioneer in this field. I am perfectly prepared to carry on where others left off. The first airman who had to get himself out of a stall must have had quite a fright. Many people were killed in spins, because for quite a time nobody was able to discover how to get out of them.

Yes, I must admit that my ideas about learning to fly have changed a lot since I became a pupil myself. This is the age of auto-rotation, centripetal forces, dihedral angles, terminal velocity, slide rules, parasitic drag and many more other such technical terms and expressions, which all add up to flying an aircraft with the least possible risk. Rear ends of cows have had their day. They no longer serve a useful purpose.

Talking of spinning, let me say right here and now that I am certainly very glad that I was not the first aviator to get into one. As you will probably guess from this remark, I have had a spin session. Being as casual as I can, I must say that I found the sensation rather fascinating and the sight of Epsom race-course spinning round beneath me quite attractive. The worst drunk on the course on Derby Day could not have had a better impression than I did. I don't know what speed record the horses have put up on the course but I do know that they would have to travel very fast to be able to catch up with the finishing post as I saw it whirling round with the white rails.

I think that it is quite natural for a pupil to get rather tensed up when

he knows he is going to do his first spin. But after the first two or three turns of the spin, I soon realised that my tension was quite unnecessary. Since the aircraft's attitude is very steeply nose-down, one's first reaction is to brace oneself in order to prevent one's body from slipping forward. I found that my feet, which were on the rudder bars, were pressing down very hard and that my knees were almost locked. This position is, of course, hopeless. It is also quite unnecessary, because the harness—as long as it is properly fastened—is quite sufficient to hold one in one's seat and at the same time allow complete freedom of all body movement.

I am not qualified to go too deeply into the technical whys and wherefores of spinning. But briefly, a spin is caused by allowing the aircraft to yaw while in a stall. In other words, when one wing has more lift in a stall, it will start chasing the other until the aircraft goes into a corkscrew or spiral movement. In order to get out of this uncomfortable and somewhat hazardous attitude, the pilot must first put on full opposite rudder —*i.e.*, right foot forward when entering a left-hand spin and *vice versa*. This will ease the spin and eventually cause it to stop altogether, but as the aircraft will still be stalled one has to ease the stick forward and open the throttle in order to regain flying speed and control.

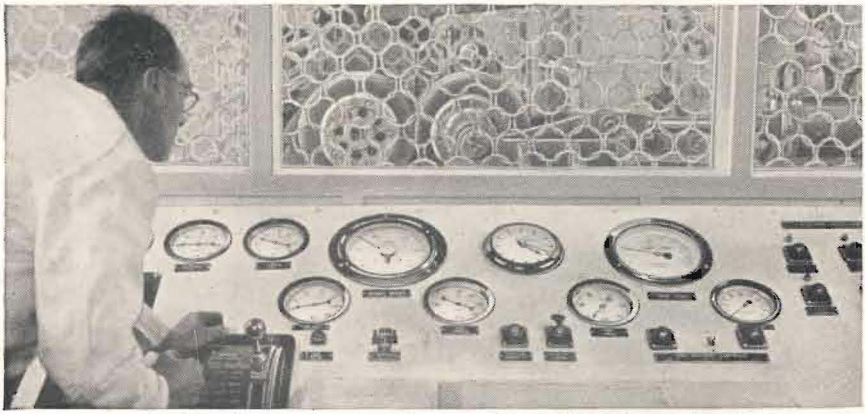
A student has to practice intentional spins and recovery from them. It is a very necessary lesson, But my general advice thereafter is that it is much better to stay out of a spin than to have to get out of one—if it's the sensation you're after, try the fairground whirligigs which are cheaper and far less of a risk.

You will remember that I recently told you how ashamed I was made to feel when I committed the silly error of not looking round before I started to turn. I am afraid I have made another shameful bloomer and I feel just as silly about it. We had been flying round the circuit when I was suddenly told to steer a course to the south. I plodded merrily along quite happy in the knowledge that I was maintaining the correct air speed and altitude. After a while, I was given another course to steer and kept going without trouble as requested. After a few minutes on this course, I was instructed to head for the airport. Have you ever tried searching for a needle in a haystack? That is the sort of mental state I got into. I could clearly see the tall chimneys of the power station to the north-east but not a sign of the airport. Just how one can lose hundreds of acres like that seems very baffling. But the answer is, of course, quite simple. If one doesn't bother to take note of various landmarks and to identify them, a vital link is missing. I am afraid I was unable to offer any reasonable excuse to my instructor for getting lost—particularly when he reminded me of the numerous occasions on which I have now taken off and landed at Croydon.

I am now reaching the stage of my training when—keeping my fingers crossed—I shall be ready to fly my first solo and, I am, therefore, going to take the precaution of having my medical check to see whether I am medically fit enough to qualify for

Taking-off, Touching-down, Taxying

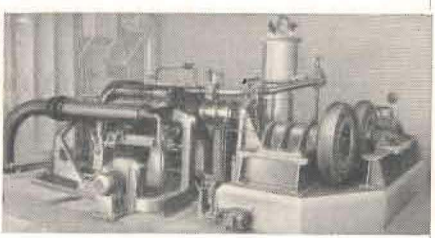
NEW TYRE-TESTING MACHINE REPRODUCES HIGH-SPEED JET OPERATING CONDITIONS



Controlling the progress of an actual test run. The machine can be seen through the double wall of safety glass, beyond the protective steel torpedo netting.

PERMITS CLOSE, ACCURATE STUDY OF AERO TYRE BEHAVIOUR

The startling progress of aeronautical design in recent years, so greatly influenced by the development of the jet engine, has confronted the tyre designer with complex problems. Thinner wing sections, which reduce retraction space, create a need for smaller-section tyres. But they also indicate higher performance—and a correspondingly bigger strain on wheel equipment. Just how successfully Dunlop has overcome these problems may be judged by the wheel equipment now fitted to the "Comet", the "Viscount" and many other advanced Civil, Military and Naval aircraft.



The test plant, showing the Merlin engine, the test-tyre and, on the far side, the 'slave' tyre and pneumatic ram.

An indispensable aid in all this work is test equipment capable of simulating actual operating conditions—both as they are now and as they are likely to be in the future. Here Dunlop has a unique advantage—a test machine that reproduces, for close and accurate study, the complete life-cycle of a high-speed jet aircraft's tyre. Mounted in a specially-constructed, well-protected building, the new plant is powered by a Rolls-Royce Merlin aero engine developing 1,725 b.h.p. at 3,000 r.p.m.—equivalent, with some tyres, to a surface speed of 300 m.p.h.

Sudden Strains and Stresses

To reproduce the effect of a loaded tyre travelling over a flat surface, the test tyre is driven against a freely-rotating tyre "spring-loaded" by means of a compressed air cylinder. To imitate a take-off the driven tyre is rapidly accelerated under a gradually-reducing load. For landing, the tyre is rotated at high speed and the 'slave' tyre is pressed suddenly against it under a load of up to 7½ tons. This load is then momentarily withdrawn, to simulate landing 'bounce', and then re-applied for a longer period in imitation of the taxying run. The whole sequence of operations is automatically timed and controlled.

This new machine is undoubtedly a complete step forward in aero tyre testing. Already it has yielded information which is readily translatable into terms of safer, more economical aircraft operation. This valuable data is now being applied in Dunlop designs. By anticipating the needs of the future in this and many other ways Dunlop offers a complete service to the Aircraft Industry.

my Student Pilot's licence and my P.P.L.

I gather that some would-be flyers have left this check very late. As a result, one or two have received sad disappointments because they failed to come up to medical requirements and were, therefore, unable to fly solo. And so, between now and my next lesson I shall have coughed and said "Ah!" I will let you know whether I am sound in wind and limb and whether the old cranium has all the normal senses.

FOREST FIRE FOILED

RECENTLY WHEN Captain G. O. Roos of K.L.M. was on his way to the South of Holland in an Auster Autocrat owned by K.L.M., he observed a forest fire starting in the dunes near the village of Loon op Zand.

He immediately looked for some people in the neighbourhood so that he might warn them of the fire.

Some cyclists were in the vicinity and he dropped a note to them, but they could not find it. A little further on he passed over a camping ground, where he dropped another note. The girl guides in this camp at once dashed off in the direction indicated by the plane, and Captain Roos then circled over the scene of the fire until the girls arrived and extinguished it.

AUSTRALIANS TEST LONG-RANGE AUSTER

A LONG-RANGE VERSION of the Auster A.O.P. Mk. 6 has been tested at Melbourne by senior officers of the Australian Army. Extra fuel tanks have been installed to allow the aircraft to cruise at 110 m.p.h. for periods of up to thirteen hours. The tests were conducted by Major Oram of the Royal Australian Artillery.

1 HOUR 10 MINUTES SOLO PILOT RECEIVES SWORD-OF-HONOUR

WE MENTIONED IN THE editorial of the Auster News, Vol. 5, No. 2 issue, that two young men belonging to the Cheltenham Aero Club had flown solo in 1 hour 10 minutes each. One of these fellows has since joined the Royal Air Force and at No. 3, R.A.F. Flying Training School, Feltwell, has won the Sword-of-Honour and the Glen Trophy for the highest assessment of flying. The clever chap concerned is Pilot Officer A. T. Jones, who left Feltwell to try his hand with Meteors at Middleton St. George. We wish Pilot Officer Jones every success.

This rather unusual photograph was handed to us at the recent Farnborough Show by the pilot in the picture, Mr. A. H. Best-Devereux of London. Amateur photographers amongst our readers will be quick to note the amazing "depth of focus." In other words the picture is sharp or well-defined from the pilot's face, probably two feet from the camera, out to the wing tip, even houses on the ground may be picked out. Perhaps other readers own photographs having some unusual quality such as this, if so we would be pleased to see them.

Mr. A. B. T. Thompson photographed at Rearsby.

A GRAZIER CALLED

A VISITOR TO OUR WORKS in September was Mr. A. B. T. Thompson of Calga Coonamble, N.S.W. Mr. Thompson is a "grazier," as opposed to a sheep farmer in England, he says "you graze sheep, you don't farm them." Owner of 10,000 sheep, Mr. Thompson has bought an Auster Cirrus Autocar to speed communications and supplies between farmsteads in his area. An interesting point raised by Mr. Thompson was that over 50 per cent. of the staff employed on his farm are engaged in rabbit killing, and to obtain positive proof of destruction the rabbit warrens are completely dug out and inspected.

It appears that the greatest damage done by the rabbits is that they eat the new shoots of grass, thereby preventing the grass from becoming established and abundant, resulting in a distribution of one sheep to an acre!

"Professor" Jimmy Edwards.

COMEDIAN JIMMY EDWARDS ACQUIRES AN AIGLET TRAINER

"MY DEAR BOY, I decided that road travel was getting altogether too dangerous, so I went out and bought myself a plane." The speaker was the famous comedian "Professor" Jimmy Edwards, ex-wartime bomber pilot and D.F.C. holder. The "Professor's" Aiglet Trainer is the aircraft once used by Ranald Porteous, Auster's Chief Test Pilot, at many Air Displays demonstrating its aerobatic capabilities. To be used mainly as a time-saver the Aiglet Trainer will carry the "Professor" to polo matches and fox hunts. A keen sportsman, the "Professor" also plays squash and has a soft spot in his heart for brass bands!

* * *

MANTA RAY SPOTTING

In the clear waters off Hong Kong, 30-foot-span Manta Rays have been seen. Their spans were checked by the Auster's shadow on the sea.

AUSTER SERVICE BULLETIN

Auster Aircraft Limited
Rearsby, Leicester, England

Issue No. 35

FIXED PITCH Wooden Propeller for Autocrat J1, Design Z, 5800, which gives below 2,050 static r.p.m. on Cirrus Minor 2 engines, has been withdrawn from the list of approved propellers by the Air Registration Board.

Modification of the propellers to enable them to give the r.p.m. acceptable to A.R.B. can be carried out at a standard charge of £4 0 0 each, packing and carriage extra.

If at the same time a full reconditioning of the propeller is carried out, the standard charge of £8 0 0 (packing and carriage extra) will still apply with no extra cost for the above modification.

Any owner requiring further information is asked to communicate with the Auster Service Department at Rearsby Aerodrome.

"Plane ran away and Crashed through Fence"

WE HATE TO HAVE TO USE THE cartoon heading this little account but we feel that we must in this case, and what better way is there of attracting the attention of the flying fraternity than to show them an occupied stretcher!

Our little story, true of course, took place in the South of England, the principle character was a lady pilot, the aircraft an Auster. The lady, desirous of flying to France, started the engine by swinging the propeller, with no one in the cockpit the aircraft immediately moved forwards even though the brakes were applied, jumping smartly to one side she nipped round the lift strut and tried to reach the engine controls. Alas, she failed, the aircraft gathered speed and careered like a misguided missile across the airfield, planting itself firmly in the boundary hedge, buckling the propeller and tearing some fabric. Now, needless to say, this accident need never have happened, and possibly the biggest contributing factor was that our pilot was not very familiar with the aircraft type, having borrowed it from a friend.

We would like to bring to the attention of Auster pilots, some of whom may not be aware of the fact, that to apply the fullest possible braking force it is necessary to depress both heel pedals fully, and then pull the parking brake handle. If this is done and the brakes are in good order they are powerful enough to hold the aircraft under any conditions likely to be met using normal starting rev's. An extra precaution would be to either chock the wheels or place a couple of bricks into position.

It is better to spend five minutes taking these precautions than to risk severely damaging the aircraft.

* * *

NOT THE FAVOURITE!

A New Zealander, Dennis Thew, landed his Auster almost out of petrol on Deauville racecourse a few minutes before a race was scheduled to start. The plane had petrol for only another 15 minutes' flying.

Thew said he flew from Brest and Dinard, but could not find Deauville airport because of torrential rain.

Officials helped to wheel the plane off the track, and the race started a few minutes behind schedule.

* * *

AN AUSTER DONATED TO FLOOD RELIEF

At a brief ceremony at the Delhi Flying Club, Mr. Kidwai, Central Minister for Food, received the registration papers of an Auster aircraft from Mr. H. P. Nanda, Managing Director, Escorts. The plane has been donated by the firm to the Government of India for its flood relief activities.

The aircraft, which has been allocated to the Government of West Bengal, will be used for air-lifting stranded people as well as for dropping food supplies and medicines in isolated areas.

Accessories for Owners

VENTILATORS

WE RECOMMEND TO ALL OWNERS operating Austers in tropical climates the latest improved type ventilators which can be fitted to the windscreen of most Auster types. Very effective in use, they embody a click stop to retain them in the fully open or closed positions, any other position may also be selected to admit variable quantities of cool air.

A ventilator shown in the half-open position.

Smart in appearance, and finished in heavy-duty chromium plate, the ventilators are easily fitted after a hole has been cut in the windscreen perspex.

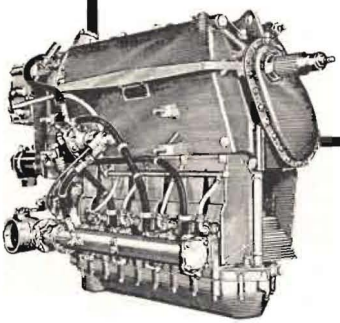
Available from stock, the ventiators are priced at £2 10 0 for a set of two, this includes the ventilators, retaining and rubber sealing rings, screws etc., and installation drawings. For further particulars please contact the Service Department at Rearsby Aerodrome.

The recommended installation position for the ventilators is indicated here by the arrow.

Saunders-Roe Skeeter

- FULLY APPROVED BY THE MINISTRY OF SUPPLY AND AIR REGISTRATION BOARD.
- IMMEDIATE THROTTLE RESPONSE AND LOW FUEL CONSUMPTION.
- PRESSURE INJECTION DISTRIBUTES THE FUEL AND ITS LEAD CONTENT EQUALLY.
- NO ICING PROBLEMS AND SATISFACTORY STARTING AT –40°.
- NOW IN PRODUCTION FOR THE ROYAL AIR FORCE AND CIVIL OPERATORS.

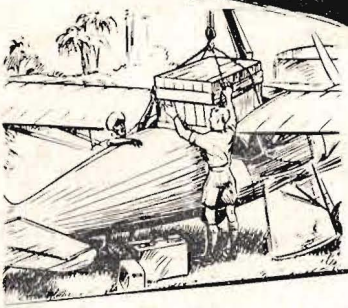
Auster B.4



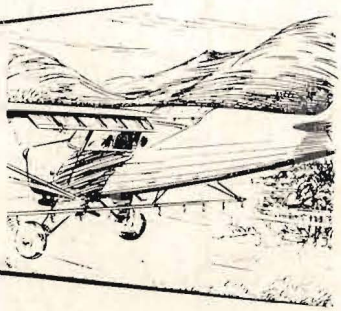
Cirrus
BOMBARDIER
180 B.H.P.

Blackburn and General Aircraft Limited, Brough, E. Yorks

VERSATILITY-UNLIMITED



FREIGHTING
A load of 650 lbs. (295 kg.) can be carried over a distance of 485 miles (780.5 Km.). **LOADING** is simple with the removable top canopy.



AGRICULTURAL uses include . . . . . Spraying, Dusting, Seeding and Fertilising. As a sprayer a big new tank gives a greater spraying potential.

For **PASSENGER** work the **AUTOCAR** is ideal. 4 passengers travel 'fast.' Powerful flaps give short, safe, take-off and landing runs.

CLUB FLYING pays at last with the use of the **AUTOCAR.** Sound design and workmanship ensures continuous trouble-free flying.

WITH THE AUSTER AUTOCAR

CIRRUS 155 H.P. ENGINE

Auster Aircraft Ltd. Rearsby, Leicester

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