

## BUSH PILOT'S ALBUM . . .

only the lightest of aeroplanes; quite often, in fact, they cannot be used at all for two to three months of the year. The second reason is economic. The population of this area is very small, and it is impracticable to operate large and expensive aircraft on outback flying, nor is it often possible to construct airstrips capable of accommodating them. Thus the outback operator is severely limited in his choice of aircraft. Stalwarts of yesteryear, the D.H. Dragon, Dragonfly and Rapide are still giving sterling service, while in the single-engine field the newest Auster is the standard aircraft for this work. Quite often, too, even the humble Tiger Moth is called upon to do its bit.

It is generally agreed that flying conditions in far northern Australia are among the worst to be found anywhere in the world. The two great enemies of the airman are the monsoonal rains of the wet season, and density altitude in the hot weather. Pilots who have never flown under tropical conditions probably regard density altitude as an abstract subject in the commercial pilot's course. In the far north nothing could be further from the truth. Density altitude can be deadly dangerous and must always be carefully considered when deciding what load may be taken off a given airstrip during the heat of the day. Most experienced outback pilots have usually had several bad scares from this source, and in consequence they have a wholesome respect for density altitude. I must confess that I am among them.

Some readers may not be quite clear as to the effects of density altitude. Briefly, it is caused by the heat of the sun, radiated from the earth, thinning out the air immediately above it. The Department of Civil Aviation in Australia have issued a treatise on the subject, and given a series of graphs from which it may easily be calculated for a given place at a given temperature. For instance, an airstrip 500ft above sea level may have a density altitude of 7,000ft on a hot day. What this means to the pilot is that his aircraft will behave as it would at 7,000ft under normal conditions with density altitude at zero. Anyone familiar with the types of aircraft mentioned above will realize what their performance would be at 7,000ft with normal full load. On take-off this condition is aggravated by the fact that most outback airstrips have been hewn out of tall timber, so that the air from ground to tree-top level, boxed in by the thick foliage, becomes even hotter—and consequently thinner—than the air outside. The full effects of density altitude must be seen to be believed. Under very hot conditions I have seen aircraft, with only normal load, completely fail to become airborne. There are a number of cases on record of pilots, inexperienced in tropical flying, who have crashed shortly after take-off because they refused to take seriously the effects of density altitude on the performance of their aircraft.

The hazards of flying during the monsoonal rains, or "the wet" as it is called in the north, need very little discussion here. Those accustomed to flying in Britain know enough about flying in sub-minimum weather, and the time-honoured customs of following roads and railways will be no novelty to them. The disadvantage in North Queensland, however, is that there are practically no roads or railways, and that the tree-tops are usually attached to a mountain two or three thousand feet high. Lest I should have painted too grim a picture of the weather, let me hasten to add that for a few months in the winter the weather is usually fine and sunny and absolutely ideal for flying.

During my stay in Cairns it has been my privilege to be associated with the Cairns Aerial Ambulance. This wonderful service is operated by the Cairns Centre of the Queensland Ambulance Transport Brigade, and is claimed to be the only service of its kind in the world supported entirely by voluntary subscription. In operation it is fast and efficient. At the centre in Cairns is a powerful radio station, which maintains a listening watch around the clock. Most outback stations have their own small transmitters and receivers. In cases of accident or illness they call up the ambulance radio and, if the case is urgent, the aircraft will be on its way within the hour. Normally an ambulance bearer is in attendance, to render first-aid and look after the patient in flight; but, should blood transfusion or surgery be necessary, a doctor from

*The Dragon was presented to the Cairns Ambulance Service by Trans-Australia Airlines. Pictured at the handing-over ceremony are (left to right) Mr. E. Bradley, deputy superintendent; the author; Mr. G. Wear, Cairns manager, T.A.A.; and Capt. I. Neal.*



*The Autocar, having landed at Mitchell River Mission to pick up a stretcher patient, attracts the attention of aboriginal children.*

the local base hospital will accompany the bearer, and thus the patient is assured of skilled medical attention with a minimum of delay.

Those accustomed to the amenities of civilization will find it hard to realize just what this service means to the people in the outback. For them it is literally the difference between life and death. With many days of travel over bush tracks between them and the nearest medical aid, the victim of a serious accident, or the sufferer from acute appendix, loss of blood or severe burning would have no possible chance of survival.

Another feature of outback flying that is worthy of mention is the type and diversity of landing areas which one encounters, especially during the wet. Most outback places possess only one-way strips, and more often than not—almost inevitably it seems—one finds a strong, gusty wind blowing directly across them. A pilot working in these parts has ample opportunity to polish up his cross-wind landing. Windsocks, of course, are a refinement that one seldom finds (nor indeed, after a while, even looks for) and one becomes quite adept at judging the strength and direction of the wind by the foliage of trees, wind on the water tank or dam, or the behaviour of the clothes on the homestead clothes-line. This latter method, of course, is usable only on washing-days. In cases of emergency one is also called upon to land on beaches, roads, sports grounds or the main street of the township. Some of the strips, too, have been, from lack of choice, built on ground that is far from flat. Some have a hollow in the centre and some a hill, whilst others have such a gradient that it is sometimes advisable to land down-wind and up-hill.

Taking-off from some of these places at times also presents quite a problem. Anyone who has flown a D.H. Dragonfly and has experienced its tendency to swing on take-off will sympathize with the pilot who, with an urgent medical case, is forced to try a take-off from a one-way strip in the teeth of a strong cross-wind. Often have I found myself in this unhappy position and, after roaring down the strip busily pulling throttles on and off, have staggered off the ground in almost a single-engine take-off.

The job of the outback pilot can be quite tough and demanding in the physical sense, too. Owing to the distances covered one seldom logs less than five or six hours' flying in a day; more often than not, it is over eight. On numerous occasions I have left Cairns at first light and arrived back at sunset, having been on the job some fourteen hours and logging over ten hours in the air. On general charter and freighting work the pilot usually lends a hand with the loading, does the paper work, supervises re-fuelling, and is glad to get into the air again to get some rest.

In spite of all the disadvantages of the job, the lack of facilities, the heat, the dust and the flies, the primitive landing strips and the cross winds, the monsoons and the floods, one cannot but love this country and enjoy flying over it. There is about it a vastness, a quality of grandeur and aloofness, a stillness that captures the imagination. One can fly for mile after mile without seeing the slightest trace of man or animal. Sometimes, flying low over some remote mountain peak covered with almost impenetrable jungle, one wonders if any human foot has ever trodden this spot, and what one would find were it possible to land there. This country, the work to be done in it, and the warm-hearted friendliness and hospitality of the people, add up, at least in my opinion, to a worth-while and satisfying job.

*Aboriginal children at the Aurukun Mission. Most ailments among the 500 natives there are attended by a resident nurse; the flying ambulance deals with the more serious cases. The Mission is run by the Presbyterian Church of Australia.*

