



The Piper Tri-Pacer 150 illustrated here is practically identical with the machine described in this article; it is, in fact, the latest 1955 version with slightly larger airscrew and a 150 h.p. version of the Lycoming engine. The version described has a 135 h.p. engine. Upholstery colours offered to customers are "Tennessee red, Miami blue or forest green."

Handling the Piper PA-22 Tri-Pacer

Impressions of an Attractive Personal Transport

By C. M. LAMBERT

REMEMBERING glowing accounts of the Tri-Pacer's operational performance against the Mau-Mau in Kenya (Bob Blackburn's article in *Flight* of November 12th, 1954), the writer lost no time in gaining permission to fly a machine of this type when, recently, it came to Gatwick from Rhodesia.

The owner is Mr. H. H. C. Perrem, a businessman from Umtali, who bought his Tri-Pacer, VP-YMT, last January. He has flown over 200 hours in it already, and uses it extensively for business travel in the Federation. In fact, he could not look after his widely distributed interests without such means of transport. VP-YMT was lodged at Gatwick with Piper's English representative, the A. J. Walter Company. This firm has held the sole U.K. agency since 1936 but, since the war, it has been able to import only eleven Piper Cubs and Cruisers, and those only on condition that 90 per cent were re-exported.

The Tri-Pacer is a typical example of an American light aircraft. It has excellent performance and is very easy to fly. But it is principally a personal transport machine, and for this reason is provided with all those features for efficiency and comfort which make flying for the businessman a profitable and pleasurable adjunct to his normal affairs. It will take off and land from short rough strips with large loads; climb well; cruise at 110 m.p.h. at 2,400 r.p.m., using six gallons per hour (almost 20 m.p.g. in still air); and it has a range of 530 miles. These are figures which Mr. Perrem has recorded, and in respect of range and consumption they are a good deal better than those given by the makers. With this performance the Tri-Pacer is very quiet and virtually free from vibration; it can be fitted with full blind-flying instrumentation and communication and navigation radio; it is sumptuously furnished, soundproofed and equipped with a really powerful and effective hot and cold air conditioning system.

Maintenance and durability have been carefully studied and developed through the years. For instance, all control-cable pulleys run on pre-packed ball-bearings which should require no attention throughout the life of the aircraft. The control surfaces, similarly, move on steel bushes which do not have to be lubricated and can be replaced when worn for about 1s 9d each. The fabric covering is treated inside and outside with a special fire-resistant butyrate dope called Duraclad, which is claimed to have a life of sixteen years. It gives a smooth and tough finish in any of the desired colours. Small fuel sumps in the supply lines from tanks to engine can be drained by giving a quarter turn and a light push on spring-loaded valves under the forward

fuselage. Before each flight dirt and water resulting from normal wear or careless refuelling can be drained away immediately by letting about an eggcupful of fuel flow out through each valve. A similar valve, which can be reached without unfastening the engine cowling, takes care of oil tank draining. The oil flows clear of the cowling along a plastic tube. So far, Mr. Perrem has discovered only one grease nipple in the airframe; it is on the tailplane incidence-change jack. The undercarriage has none.

Although the 135 h.p. Lycoming O-320 flat-four engine has been in production for a comparatively short time, its overhaul life is already 600 hours and Mr. Perrem hopes that this period will be steadily increased so that he will not have to do a major overhaul on his engine till about 1,000 hours, which is the standard time for the earlier 130 h.p. model. The O-320 is also at the beginning of its development life and can be expected to give higher and higher power as it is developed in future, up to a possible maximum of some 220 h.p. The airscrew is made by Sensenich, and has two narrow-chord fixed-pitch metal blades with squared-off tips.

The aileron and rudder control lines of the PA-22 are interlinked by sprung cables, so that the aircraft can be flown either with rudder or spectacle control wheel alone. In fact, the use of rudder alone results in badly co-ordinated turns; but, since the control wheel has to be pulled back to keep the nose up in a turn, it is better to use this; and perfectly co-ordinated turns can be made with it. The nosewheel is steerable and, because of the linked controls, this too can be operated either with the rudder pedals or aileron wheel. Again the aileron wheel is the more effective of the two, and the aircraft can be steered like a car by rotating the control wheel. A tiny hydraulic damper takes care of shimmy. The hydraulic brakes of both mainwheels are operated together by a single handle in the centre of the cockpit. Because of the steerable nosewheel no differential braking action is needed. The brakes can be locked on for parking by pulling the main lever and at the same time pulling a small stop on the panel.

The cabin is well carpeted and the seats are wide and extremely comfortable for long flights. Conversation is possible at all power settings by only very slightly raising the voice. Visibility on the ground is excellent, with the engine cowling hardly protruding at all into the field of view; and the attitude during landing and take-off does not lead to any deterioration. In the air one feels a little shut in, since the wings are well forward and exclude any upward and rearward view. The cabin ceiling, also, is non-transparent, leaving the pilot with a wide but low band of