

HANDLING THE PIPER PA-22 TRI-PACER . . .

vision, like that from an airliner cockpit. The Tri-Pacer is normally a four-seater, but the rear seats can be removed to make room for a considerable volume of freight.

For blind-flying in Rhodesia Mr. Perrem requires no instruments, but he carries a R.C.A. AVR-20 H.F. radio. He knows the Federation well and has been flying light aircraft over it since 1933; in fact, he holds the sixteenth Rhodesian private flying licence. For the journey to England, however, he installed a turn-and-slip indicator, an artificial horizon, an extra compass, and an 18-gallon extra tank in the cabin to increase range to 900 miles. He made the journey in nine days; the aircraft behaved well, but he experienced head winds and bad visibility all the way. Night stops were made at Ndola, Abercorn, Kisumu, Khartoum, Aswan, El Adem, Tripoli, and Naples. The engine oil needed no topping-up on the journey, but it was changed as part of standard maintenance procedure, at El Adem.

A noteworthy point in the makers' handling instructions is that the engine should never be run on the ground for more than four minutes in cool weather and two minutes in hot, and then never above 1,850 r.p.m. Take-off is made regardless of indicated oil temperature, and only the magnetos and the carburettor hot air are checked on the ground. This, of course, makes for quick departures, and for increasing engine life by avoiding full-power ground-running.

When I flew the Tri-Pacer with Mr. Perrem, the procedure was very simple. An eggcupful of fuel was drained from each sump under the fuselage and we climbed in. A single door to starboard gives access to the two front seats and another to port serves the rear seats. Despite the closeness of the undercarriage leg and wing strut to the door, entry is reasonably easy, especially since the fuselage is level with the ground. Parking brake is applied, the engine primed and then started with the electric starter. We taxied out immediately and took off with the oil temperature just registering a reading. On rough grass, and with bungee-sprung undercarriage, the machine began to "hop" slightly, and had to be pulled off the ground, but the initial rate of climb was high. One immediately appreciates the quietness and lack of vibration.

When cruising height is reached the throttle is simply pulled back until it engages the cruising stop, and with very little trim change the aircraft settles down to level flight. I was not kindly disposed to the idea of cross-connected controls, but as soon as I tried them I realized how easy and comfortable long flights would be with them. They could easily be overridden for side-slipping. I did get the impression that the controls were linked through necessity rather than as a selling feature, for control was just sloppy enough, and damping in yaw just weak enough to make some form of connection desirable. However, the result is excellent and particularly noticeable on the approach, when the machine can be held dead on track simply by keeping the wings level with the wheel.

I trimmed the aircraft hands-off at 110 m.p.h., pulled the nose gently up 10 deg or so, and let go. An extremely slow phugoid started and showed no great inclination to damp out. I then yawed decidedly to the right with wings level and let go again. The nose passed straight over to the left and continued yawing and dropping away on that side. Fully co-ordinated turns can

Mr. and Mrs. H. H. C. Perrem, from Umtali in Rhodesia, who flew the Tri-Pacer to England last month. They made the journey in nine days, without difficulties other than those caused by weather.



be made with aileron wheel alone, but once the turn is established the wheel must be pulled back to keep the nose up; and the bank must be held off to prevent the turn tightening. But the aircraft will fly straight and level, hands-off, for long periods, and requires very little attention. One fact to remember is that every fifteen minutes or so the hot-air stop must be pulled out and released again after a few seconds; this is just to ensure that the carburettor is free of icing, to which it is very sensitive.

The stall, throttled back and without flap, with two people, both main tanks full and the 18-gallon cabin tank partly full, comes at just over 40 m.p.h. with very slight buffet warning and absolutely no unpleasant characteristics. With the stick held fully back neither wing nor nose drops away, and very little height is lost. Recovery is immediate. The flaps are slotted and have two positions, "take-off" and "landing" and full flap can be lowered at about 90 m.p.h. The first application causes a strong nose-up trim change, but the second no appreciable further alteration. The trimmer is in the roof, Auster-fashion, but has a large, smooth handle and a flush-mounted indicator moving fore-and-aft in the natural sense. It is, however, very low-g geared and several turns are required for comparatively small adjustments, though the range available is ample. With full flap and throttle closed, we still had nearly half the trimmer travel in hand.

In bumpy air the Tri-Pacer behaves well and can be left to ride the bumps more or less by itself, a characteristic which can be a great help in long bumpy flights.

The approach is made with full flap, hot air selected, about one-quarter power and 80 m.p.h. The most comfortable method for good visibility is the long drag in, airliner-fashion, after which the touch-down is very easy indeed. With only a slight round-

out the main wheels are brushed on the ground and there is no inclination to bounce or "balloon." The nosewheel can be put down at any time and the brakes applied hard without risking a swing or a somersault. Since the aileron wheel controls both flight and nosewheel steering there is no transition from flight to ground handling, and the whole landing sequence is made with this one control, thus practically eliminating the possibility of swinging or ground-looping. In a strong cross-wind, the Tri-Pacer tends to weathercock down- rather than up-wind.

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The Tri-Pacer 135, VP-YMT, seen at Gatwick during its stay in this country. It was sampled by the writer shortly before it returned to its home in Rhodesia. The Tri-Pacer was "lodged" with the Piper agent in this country, A. J. Walter.