

## IN THE AIR

By Neil Harrison: Number 225 of this series

### PIPER PA-28R-180 CHEROKEE ARROW

(One 180 h.p. Lycoming IO-360-B1E 76in-dia two-blade all-metal constant-speed Hartzell propeller) Span, 30ft; length, 24.2ft; height, 8ft; wing area, 160 sq ft; fuel capacity, 42 Imp gal; basic empty weight, 1,380lb; empty weight equipped as tested, 1,532lb; gross weight, 2,500lb; wing loading, 15.6lb/sq ft; power loading, 13.9lb/h.p.; basic empty weight percentage of gross, 55.2 per cent; empty weight equipped percentage of gross, 61.3 per cent.

**Performance** (owner's handbook figures at gross weight except where stated) Maximum speed, 170 m.p.h. at sea level; cruising speeds

and fuel consumption (at best altitude for power setting), 162 m.p.h./7.8 Imp gal/hr (75 per cent power at 7,500ft), 156 m.p.h./7.1 Imp gal/hr (65 per cent power at 11,000ft), 144 m.p.h./6.1 Imp gal/hr (55 per cent power at 14,500ft); cruising speed (observed at 3,000ft, ISA, medium weight), 162 m.p.h. (75 per cent power), 140 m.p.h. (65 per cent power), 130 m.p.h. (55 per cent power); stalling speeds, 53 m.p.h. (power off, gear and flaps up), 40 m.p.h. (power off, gear and flaps down); take-off to 50ft (factored distance on hard runway, gross weight, ISA, s.l.), 1,900ft; landing distance from 50ft (same conditions), 1,350ft; rate of climb (sea level), 870ft/min; service ceiling, 15,000ft.

## PIPER CHEROKEE ARROW

**P**IPER'S CHEROKEE has become almost a classic example of the production engineer's art of maximising the market potential of a basic product by simple adaptation. The Cherokee Arrow is the latest model in the ubiquitous range of singles which, since the original 150 h.p. utility four-seater, has grown to include a 140 h.p. two-seat trainer, four-seaters of 150, 160, 180 and 235 h.p., and dual purpose six-seater "estates" of 260 and 300 h.p.—each in different versions according to finish and equipment. The fleet-of-foot Arrow is a retractable-undercarriage development of the 180 h.p. four-seater, and with a host of detailed improvements. It allies a fairly advanced performance to the popular Cherokee style and price.

In price and performance the Arrow fills the gap between the Cherokee 235 and Comanche 260B; and for advanced training and serious touring and business operations it will interest clubs and private owners. Its immediate rivals on the British market are the new Cessna/Reims Aviation Rocket and the CEA Regent. Compared with the former, the Arrow is slightly cheaper, somewhat faster and has a better mile-per-gallon performance but concedes a certain amount of back-seat roominess, ease of access and airfield performance. The fixed-gear, fixed-pitch propeller Regent is, perhaps, its closest competitor; the Piper is fractionally faster, is backed by one of the best networks of sales and service dealers in the country, but is more expensive.

The well-equipped Arrow flown for this report was made available by its owners, Dick and Mary Francis, and was

shown to me by Vyrell Mitchell, of CSE Aviation. The latter are the main Piper distributors for Britain and Ireland.

**Price and Equipment** The basic Arrow now costs £9,130 (because CSE made advance payments they have eight still available at the pre-devaluation price of £8,000) and included in the specification are basic flight instruments, dual controls and a cabin heating system. The more de luxe versions, with pre-devaluation prices given in parentheses, are: the Custom (£8,435), with night lighting and Autoflite wing-levelling autopilot; the Executive (£8,870), with the Custom extras plus a full blind-flying panel of gyro instruments powered by an engine-driven suction-pump; and the Sportsman (£9,026), with the Executive extras plus an Autonav tracker, an alternative electrically actuated elevator trim, and an external power plug. The aircraft tested, G-AVXF, was to the Sportsman specification with Narco Mk 12 VHF duplicated com and nav sets and indicators (one of the latter with glide-slope), a single Bendix T-12C ADF and a Narco marker-beacon receiver. Other detail extras included (at pre-devaluation prices) an Autocontrol III autopilot in place of the Autoflite (£96); set of static wick dischargers (£80); Palm Beach three-colour exterior paint scheme (£47); exhaust-gas temperature gauge (£55); heated pitot tube (£20); and fire extinguisher (£10). The sensibly comprehensive electronic equipment package (well sufficient for IFR) cost £2,400, and the pre-devaluation price of the aircraft came to almost £11,600 (approximately £13,200 at the new price).



Piper's sharp new Cherokee Arrow, powered by a 180 h.p. Lycoming, brings advanced performance to this popular range of four seaters