

SPORT

AND

BUSINESS

Tiger shark nacelles and numerous interior improvements, plus many new electronic options, have greatly improved the Aztec in its C version



REFINEMENTS IN THE PIPER RANGE

PIPER aircraft sold, operated and maintained in this country with great success by C.S.E. Aviation Ltd at Oxford, are steadily developing in comfort and performance. The Cherokee 140 two-seat trainer is beginning to take over from the Colt and proving both popular and able to cope with more difficult weather conditions. There is still some doubt as to whether it will actually spin or not, but it will go through realistic spinning motions though at increasing i.a.s. and at least give some idea of the condition. Formal spinning exercises are carried out in Terriers. The first Cherokee 140 at Oxford flew 496hr during its first six months. Despite higher hourly costs, students prefer them to other types. During the very high winds of January, Cherokees at Oxford were flown for 6hr each day, with pupils departing on cross-countries, when Colts were not even taken out of the hangar.

The Cherokee 180C, latest variant of this horsepower, shows considerable improvements in interior furnishing, smaller cowling, smoother engine mounting, cross-over exhaust system and a generally better feel. It is elevator-limited in the forward c.g. condition in such a way that all stalls are classic but docile, yet minimum power-off flare-out speed not seriously affected. The undercarriage provides exceptional stability with good steering and braking. Spats are now standard. The standard fixed sun-blinds may be necessary in sunny climates, because of the sharply raked wind-screen, but they rather clutter vision otherwise.

With fixed-pitch metal propeller, one occupant and half fuel, the demonstrator made 130 m.p.h. TAS at 2,500ft with 2,300 r.p.m. and 109 m.p.h. TAS at 2,000ft and 2,000 r.p.m., the latter in positively tranquil quietness. Rate of climb at light load was an indicated 1,200ft/min at full power and 80 m.p.h., making regulation circuits possible almost within the airfield boundary. The aircraft is very simple, but pleasant to fly, comfortable and capable of carrying a full complement of radio.

Similar progressive refinements in the Comanche 260 include virtually noiseless fresh-air ventilators, improved heater and fuel injection as standard, with carburettor as a special-order alternative. Most important is that these improvements have not brought price increases. The price has in fact remained constant for two years. The alternator tends to produce a slight whine through the audio system, mostly at low r.p.m. on the ground.

Future prospects for the Comanche may be supposed to lie in the direction of turbo-supercharging and pressurization, if Piper follow the lead of the Mooney Mk 22. The Comanche 400 has apparently met with disappointing response, but the Twin Comanche offers plenty of development prospects.

An excellent device now becoming standard on many Piper types is the electric tailplane trimmer, by which trim can be applied precisely and easily without removing the hand from the aileron wheel. The system is precise enough for fine trimming, acts at a suitable rate and can be immobilized in the remote case of runaway by a quite gentle restraining pressure on the trim handwheel, which remains in the trim circuit. The electric trim motor can then be isolated by pulling the related circuit-breaker. With the appropriate version of the Altimatic autopilot, the trimmer is operated automatically. The Comanche demonstrator, flying at 2,000ft with 2,400 r.p.m. and 24in, about 75 per cent power, trued 180 m.p.h. by the Piper Tru-Speed a.s.i. and the fuel-flow was set in the "75 per cent" sector to give 12.5 Imp gal/hr, or 14.4 air miles/gal.

The Aztec C demonstrator G-ASTE is a veritable electronic centre now, with Dare duplicated com/nav, ARC radio compass, Altimatic autopilot with height hold, automatic electric trimmer

and ILS localizer-only coupling. It also has the King DME, which not only indicates distance from the beacon but will think out a precise groundspeed when flying directly to or from the beacon.

The Aztec is exceptionally good value for money in terms of payload-range, together with short-field capability and good single-engine performance. Noise and vibration have been further reduced, and the electric trim greatly assists cancellation of the nose-up trim change when lowering flap, which is the Aztec's only really unfortunate characteristic. At a conservative 21in and 2,250 r.p.m. the a.s.i. gave a TAS of 170 m.p.h., and the DME a ground-speed, during this flight, of 187 m.p.h. The radio coupler has a useful "nav" mode which takes some of the hunting out of VOR flying. The Gatwick ILS localizer was successfully captured from a 45° cut and the glide-slope was followed manually simply by throttle adjustment either side of about 13in intake pressure. There are now 30 Aztecs of all types in Britain and five to come.

With the increasing British implementation of VOR and the availability of the new small combined com/nav radios, two VORs make an attractive navigation system. During the demonstration flight, the Aztec was flown on autopilot outbound from Upper Heyford VOR—with distance and groundspeed indication from Upper Heyford DME—with cross-bearings from London VOR to a fix exactly overhead Odiham for the turn into the Gatwick TMA.

Piper are now firmly committed to low-wing designs. An intriguing feature is the flexibility shown by the basic Cherokee airframe, which now ranges from the two-seat 140 to a full six-seater. Piper have stretched the Cherokee to 290 h.p. and six seats, with an extra rear door, just as Cessna have steadily expanded their high-wing range up to 285 h.p. and a full six seats.

Ready to fill another major market is the turbo-supercharged PA-31, which should form a very useful stable-mate for the Aztec. It is reported that the window shape has been changed and that the engines have been moved several inches further forward, the latter probably to improve turbosupercharger cooling.



Similar improvements have gone into the Cherokee 180C, above, and the Comanche 260, below

