

Partenavia P-68C

The Victor is a spoiler.

BY EDWARD G. TRIPP



It has *fixed gear*. It just doesn't look right.

Yeah, but from the cockpit, you can't see the gear hanging down while you're flying. And it doesn't fly as though the gear is fixed.

If I want a twin, I want a *twin*. Twins have retractable gear.

That ends any discussion of the Partenavia P68 for many pilots, both here and in Europe. In a way, it demonstrates how strong an influence emotion is for many people when considering a potential purchase.

The other fixed-gear, high-wing twins in current production—the de Havilland of Canada Twin Otter and the Pilatus Britten-Norman Islander—

are specialized. They are short-haul transports. Operating efficiencies and other economic considerations guide decisions to purchase them.

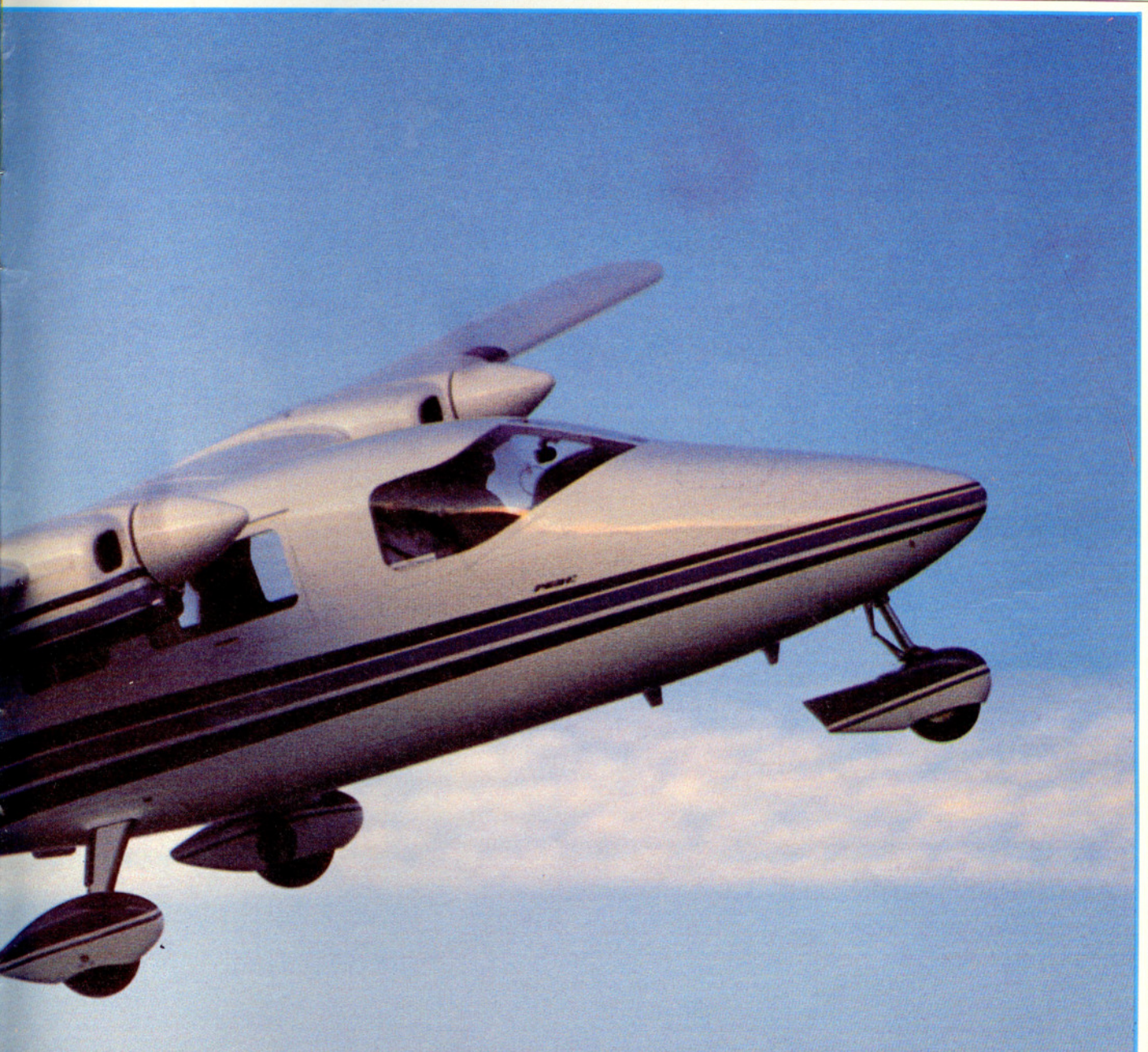
Even if such criteria were applied to light twins, the P68 would have been included largely for academic reasons.

That situation might be changing. Mira Slovak Aviation, a small sales company in Santa Paula, California, is trying to establish a marketing toehold for the impressive light twin in North America. It is the first real attempt to do so, even though the airplane was introduced a decade or more ago, despite the fact that a fair amount of interest in it was expressed during its brief tour in 1972 (including an appearance at the

Reading Air Show), in spite of its competitive performance, operating economics and price and regardless of the fact that the largest market for general aviation aircraft is here.

Slovak and his partner, Don Vance, are trying to rekindle interest in the airplane. They ferried a new P68C, N868C, here and put it on display at the National Business Aircraft Association and AOPA conventions last fall. It is the third P68 on the U.S. registry.

It attracted a considerable amount of attention and looked quite modern, even with a Gulfstream III for a backdrop. The Victor is noticed by everyone who comes within range of it, and everyone reacts quickly. Beautiful, in-



triguing, unusual and bizarre are some of the adjectives pilots have used.

The P68C is the latest version of a light-twin design that was introduced in 1968 by a small firm in Naples, Italy, with a large ambition: to serve as a design and research and development facility. After developing and certifying a design, the firm planned to sell manufacturing rights to established manufacturers, such as Beech, Cessna, Piper and Rockwell.

The firm was founded in 1957 by two brothers, Luigi and Nino Pascale—both engineers. Luigi is the head of aeronautical engineering at the University of Naples. Both have fertile minds.

Their first product, the aerobatic,

high-wing, single-engine P64 Oscar, continues in production today as P66 Charlie. It is a two- to four-place trainer and utility airplane that has had great success with the Italian Aero Club.

Professor Luigi Pascale was interested in aerodynamic efficiency long before avgas was a problem, and he spent many years analyzing such factors as drag. In the early 1970s, Pascale suggested that more engineers should try to improve drag-producing elements of the airframe, such as the juncture of the fuselage and wings.

Many of his ideas were put to the test in the light-twin design.

The result is an elegant compromise between performance and efficiency.

What is perhaps the most interesting characteristic is its simplicity.

Its performance was demonstrated in the United States during the 1972 tour. It was flown against native designs, most notably the original Piper Seneca, and flew relative rings around them.

While Partenavia officials were searching for manufacturing partners, the firm also was building a manufacturing facility in Naples. It turned out to be a good idea, since no satisfactory arrangements were made, despite the strong interest of Rockwell.

One source said at the time that there was strong objection to the fixed gear. After all, twins are retractables.

Pascale continued to apply his cre-



ative engineering to the P68 and other ideas while some colleagues concerned themselves with more grandiose manufacturing and marketing schemes.

First came the P68B, which featured detail refinements and an increased gross weight (4,387 pounds versus 4,097). And, by golly, he built one with retractable gear, utilizing pods on either side of the fuselage similar to the arrangement on the Mitsubishi MU-2. The difference in performance, particularly when cost and complexity were calculated, was not sufficient to warrant the bother.

Professor Pascale's fixed-gear design was quite efficient.

The limited production and marketing capabilities of the firm have been handicaps, but nearly 250 P68s have been sold to date, primarily in Europe, Africa and the Middle East.

The P68C is the latest development in the line. The fuselage has been stretched a foot, primarily to provide more space in the cockpit; the nose has been extended to provide for radar and to allow for avionics racks; and detail improvements, such as better sound-proofing and thicker side windows and improved seats, have been added.

The retractable has not been the only variation of the basic design. A turbo-charged version is offered. One aircraft was fitted with floats. Another version is for those who want to ensure that theirs is a unique airplane: the Observ-

er, which has a cockpit surrounded with enough plexiglass to provide a helicopter-sized view of the world below. Also, a turboprop version has been developed in cooperation with Aeritalia. It uses two Allison 250 engines rated as 330 shp.

The fuselage of the P68C is sleek and clean and has a lot of glass area. It is mated to a straight, high wing and sits on spring-steel main gear.

For the most part, construction is conventional, although a good bit of glass fiber is used—for instance, in the wing leading edge, the wing tips and the fuselage-to-wing fairing.

There is one—large—cabin door on the left side of the fuselage just behind the pilot's seat, and there is a large baggage door on the aft right side that doubles as an emergency exit.

A ladder is needed to check fuel, oil and the upper wing surface, but most everything else is highly accessible. This, plus the simplicity of the airplane and its systems, suggests that maintenance will be relatively easy.

The control arrangement is conventional. The ailerons are hinged with ball bearings for minimum friction. The horizontal tail is a stabilator with a wide-span trim tab. In short, there is nothing esoteric about the airplane that should make its Italian design and manufacture a handicap.

For pilots who are put off by the fixed gear, the cockpit should more



Partenavia P-68C

Victor, Slovak and Vance: With a good price, top performance and an unbeatable cockpit panorama, the three fierce competitors are fighting to find a place among the United States' light twins.

than make up for any imagined embarrassment: it is a mini-airliner, complete with fuel selectors and sundry switches in an overhead console. Basic copilot flight instruments can be ordered to complete the big-time image.

There are quite a few features included in the base price that are optional-but-essential to many other twins, such as a heated pitot, a complete gyro system, strobes, an external power source, inertial-reel shoulder harnesses for pilot and copilot, push-to-talk switches on both yokes, individual reading lights for each seat and anti-static wicks.

That does not mean there is not a

long list of options. There are four Edo-Aire Mitchell Century III autopilot packages to choose from, including slaved gyros (and N868C was fitted with a Century 41). Vance has said that the King KFC-200 system should be STCed within the next few months.

A deicing package is available, although the Victor is not certificated for flight into known icing in the U.S. (it is in Scandinavia).

Collins and King avionics packages are offered, and a Sunair HF radio is available for those who range far from the VHF net. If you do not trust the standard exhaust muff heater (which seems to provide more than enough heat), there is a 45,000 BTU Janitrol heater available for \$5,061.

There are also such posh treats as club seating, complete with a fold-out desk, leather interiors and adjusting pilot and copilot seats.

There is even a package for photogrammetry available, which provides a hatch in the fuselage floor for a camera and a sighting periscope.

The options list for the Victor is more than sufficient to make it competitive with the standard fare offered in the U.S. market for personal, business or commercial use. It is competitive in price with other light twins, and it is more than competitive in performance.

The cockpit and cabin are large enough to squeeze in seven people, although six would be more comfortable. The big window area makes it seem like less of a squeeze, and the fuselage plug provides more room, particularly for the crew.

The crew does have to squeeze into the cockpit, but this is pretty standard for small cabin-type aircraft.

Once settled in, the pilot is confronted with a delightful experience. The Victor is a joy to fly. What is more, it does not require a pilot who is loaded and cocked in the emergency position.

The systems are straightforward and simple. The cockpit arrangement is good, a conventional T-arrangement. Visibility over the nose and to the sides—even in turns—is excellent. No obstructions, including nacelles, get in the way.

The only complaint is that during night flight the instrument lights, which are primarily post lights, reflect in the large windshield.

Preflight, start, taxi and before-takeoff checks and procedures are conventional. Ground handling is good, even though it may seem strange at first to have to look backwards to check wing-tip clearance while taxiing in tight spaces. And here the high wings of the Victor are a definite advantage.

On the ground, during the takeoff roll and in flight, the Victor is very light and responsive in terms of control input and pressure. Control harmony is good. In fact, the airplane feels even lighter than it is. It is definitely a pilot's airplane—meaning the work load is low. The only potential drawback is that the airplane is so pleasant to fly that it might encourage overconfidence.

The takeoff, landing and single-engine performance of the aircraft help to make up for this. The Victor is fully capable of operating from strips of 2,000 feet in length. Accelerate/stop distance at gross weight—mind you, at sea level and at standard temperature—is 1,550 feet. Accelerate/go distances are not provided in the manual, which otherwise is fairly complete.

The Vmc (minimum control speed with critical engine inoperative) speed is 62 knots; stalling speed in takeoff configuration (15 degrees of flap) is 63 knots in a wings-level attitude. While I did not spend a lot of time doing single-engine work in 868C, I have flown other Victors extensively in a variety of single-engine situations. It is a very manageable airplane.

Ground run at gross takeoff weight is a relatively short 755 feet (calculated at the factory). If the best single-engine angle-of-climb speed—76 KIAS—is





held during departure to clear a barrier, the deck angle is almost alarmingly high. Even at 100 KIAS, it is high. And remember—during departures, you do not have to worry about getting the airplane cleaned up before it will fly comfortably. The gear is fixed.

Control response is good in both cruise and low-speed flight. Aileron and rudder effectiveness are good, right down into aggravated stalls.

Approaches can be flown at speeds to fit controllers' requests to fit you in with heavy jets or at speeds to fit you into short fields. Approach flaps can be selected at speeds up to 157 KIAS. Yet the airplane is quite comfortable at speeds as low as 75 KIAS.

The single-engine service ceiling is 6,900 feet, and single-engine rate of climb (at sea level and standard temperature) is 270 fpm, which is slightly better than most normally aspirated light twins available in the U.S.

As with most other light twins, the cabin cannot be jam-packed with cargo or passengers and baggage and casually taken off. As 868C is equipped, for instance, payload with full fuel (142 gallons total, 137 usable) is reduced to 668 pounds. However, still-air range at 65-percent power at 9,000 feet with IFR reserves is more than 1,100 miles. So, for normal stage lengths, a good load can be carried in the cabin.

For those who insist on twins, the Victor should be one of the aircraft on the comparison list.

Simple to fly, the P68 also should prove simple to maintain. It is distinc-

tive enough to add the cachet for those to whom that is important.

The Victor P68 is comparatively efficient. Its performance derives from design, not horsepower, so it should be right for the times.

But the P68's already long existence

without being established in North America demonstrates the difference between a successful airplane design and a successfully marketed airplane.

Messrs. Slovak and Vance and Professor Pascale and colleagues: We wish you success. □

Partenavia P-68C

PARTENAVIA P68C		Accelerate/Stop	1,550 ft
Base price	\$139,000	Rate of climb	1,500 fpm
Price as tested	\$175,108	Single-engine ROC (sea level)	270 fpm
Specifications		Maximum level speed (sea level)	174 kt
Powerplants	2 Lycoming IO-360-A1B6 200 hp @ 2,700 rpm	Cruise speed (75% power, 9,000 ft)	165 kt
	Recommended TBO 1,600 hr	Cruise speed (65% power, 9,000 ft)	158 kt
Propellers	Hartzell, constant speed, full-feathering, 72 in	Cruise speed (55% power, 9,000 ft)	147 kt
Wingspan	39 ft 5 in	Range at 75% cruise (w/ 45-min res)	9,000 ft 1,090 nm
Length	31 ft 4 in	Range at 65% cruise (w/ 45-min res)	9,000 ft 1,120 nm
Height	11 ft 2 in	Range at 55% cruise (w/ 45-min res)	9,000 ft 1,180 nm
Wing area	200.21 sq ft	Service ceiling	19,200 ft
Wing loading	21.91 lb/sq ft	Single-engine service ceiling	6,900 ft
Power loading	10.98 lb/hp	Landing distance (ground roll)	705 ft
Seats	7	Landing over 50 ft	1,600 ft
Cabin length		Limiting and Recommended Airspeeds	
(incl. baggage compartment)	11 ft 9 in	<i>Indicated, not calibrated</i>	
Cabin width	3 ft 10 in	V _{si} (Stall clean)	65 kt
Cabin height	4 ft	V _{so} (Stall in landing configuration)	61 kt
Empty weight (basic aircraft)	2,711 lb	V _a (Maneuvering)	130 kt
Empty weight (as tested)	2,897 lb	V _{mc} (Minimum control with critical engine inoperative)	62 kt
Useful load (basic aircraft)	1,676 lb	V _x (Best angle-of-climb)	76 kt
Useful load (as tested)	1,490 lb	V _y (Best rate-of-climb)	90 kt
Payload with full fuel (basic aircraft)	854 lb	V _{xse} (Best single-engine angle-of-climb)	76 kt
Payload with full fuel (as tested)	668 lb	V _{yse} (Best single-engine rate-of-climb)	88 kt
Gross weight	4,387 lb	V _{fe} (Maximum flap extended)	
Maximum landing weight	4,167 lb	17°	157 kt
Fuel capacity (standard)	142 gal (137 usable)	30°	143 kt
Oil capacity (ea. engine)	8 qt	35°	101 kt
Baggage capacity	400 lb (20 cu ft)	V _{ne} (Never exceed)	200 kt
Performance		V _{no} (Normal operating)	158 kt
<i>At gross weight, unless noted</i>		<i>Based on manufacturer's figures</i>	
Takeoff distance (ground roll)	755 ft		
Takeoff over 50 ft	1,300 ft		