

vulcanair 

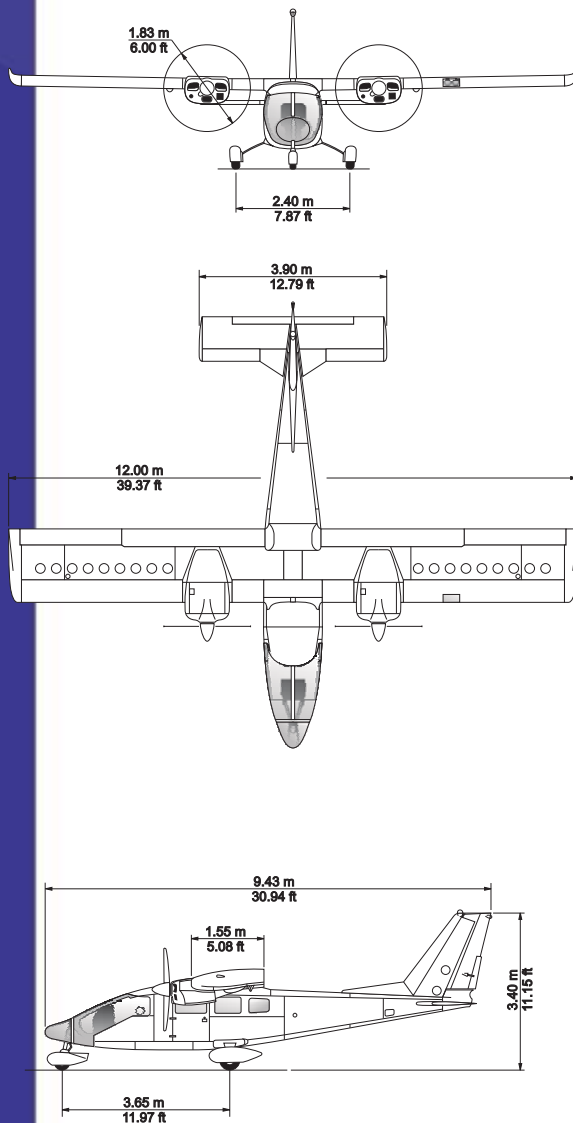


P68 Observer Series

NORMALLY ASPIRATED-TURBOCHARGED-DIESEL

P68 Observer Series

(P68 Observer 2 - P68TC Observer)



Patrol, observation and surveillance duties such as **border patrol, coast guard, homeland security, airborne law enforcement, pipeline patrol, natural disaster coordination and support, firefighting coordination, SAR**, are generally carried out by helicopters or large aircraft at very high costs, even when vertical take-off, landing and hovering capabilities are not required.

The P68 Observer was specifically designed with the object of effectively completing the above missions with the maximum effectiveness and the lowest costs.

POWERPLANT

The P68 Observer Series is available either with two 200 hp Lycoming IO-360-A1B6 normally aspirated engines or with two 210 hp Lycoming TIO-360-C1A6D turbocharged engines. Both engine models drive Hartzell constant speed, full feathering, propellers and are equipped with **130 Ampere** alternators. Vulcanair is also in advanced development of a certified **Diesel P68 Observer** version that will be added to the P68 Observer Series family of aircraft, to allow economical operations where 100 LL fuels are difficult to find or very expensive.

PERFORMANCE

With its **helicopter-like visibility** the Observer features several outstanding advantages over the rotary wing, such as:

The excellent high cruise speed

- (25% greater than a helicopter) permits the assignment of larger surveillance areas.

With high capacity wing tanks,

- the Observer has an endurance of up to eleven hours (1600nm), giving the aircraft unmatched patrolling capabilities without the necessity of refuelling.

SAFETY AND ECONOMY

The twin-engine configuration, proven reliability and general sturdiness of the design, guarantee high safety standards and secure recovery under all conditions greatly increasing **pilot safety** compared to single engine aircraft.

The hourly operating cost of the Observer is approximately one fifth that of a single turbine engine helicopter because of fuel consumption of only 18 U.S. gal/hr and the absence of life limited or complicated systems and the extreme ease of maintenance and handling simplicity.

The high wing configuration enables the engine intakes and propeller tips to be kept well clear of the ground, thereby reducing dust ingestion and stone denting to the minimum and extending engine and propeller service lives to the maximum even operating on unprepared strips.

FLEXIBILITY

The Observer is easy to fly in the entire flight envelope. The stability and control characteristics are such, that the aircraft is a very **stable platform** for aerial photography and

aerial reconnaissance missions.

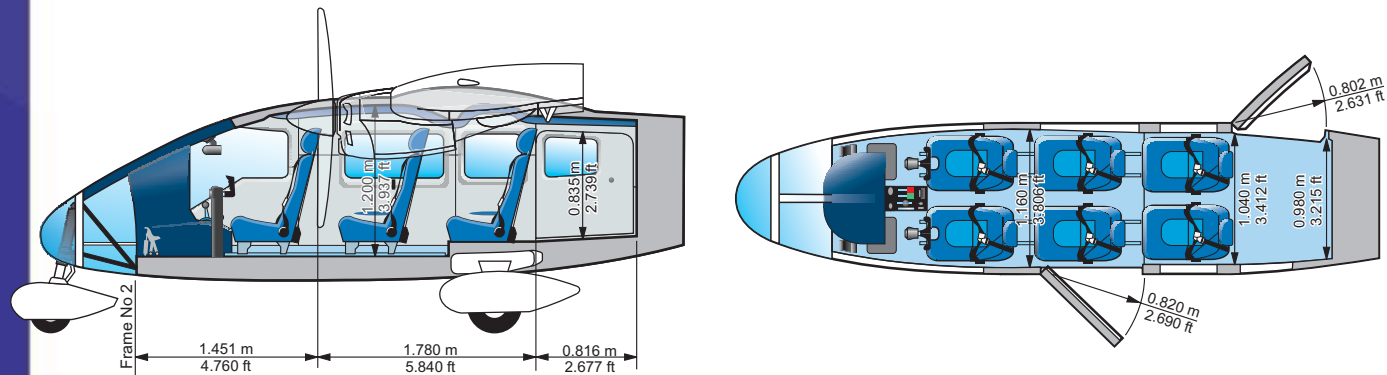
The optional 24.8x18.1 in. hatch (63x46 cm.) in the fuselage floor permits the installation of a variety of state-of-the-art equipment such as:

An **Aerophotogrammetric Camera** for Geographic Mapping.

An **Infrared Thermal Imager** for patrol and surveillance missions such as **powerline or pipeline** (oil or gas) control during day, night or poor visibility conditions and in areas of the world where increased security is necessary. The system is installed inside a steerable two-axis gimbal fixed on a movable truss, which retracts during take-off, landing and ferry flights and lowers during missions through the aircraft's floor hatch with fast and easy installation.

An **Airborne Video Camera** can be installed on the aircraft and is electrically controlled by the operator. Images are transmitted simultaneously to the cabin monitor and a ground station, via a microwave link or can be stored on a video tape recorder.

The system is very suitable for **Homeland Security, airborne law enforcement**, reconnaissance and patrol tasks or whenever a complete view of the ground is necessary, for example after natural disasters or fires. In the SAR role, the hatch can be utilised for dropping life rafts, emergency medicines and food.



PERFORMANCE & SPECIFICATIONS

	P68 Observer 2		P68TC Observer (turbocharged)	
Engines	IO-360-A1B6 (200 hp) Lycoming		TIO-360-C1A6D (210 hp) Lycoming	
Max Ramp Weight	2100 Kg	4630 lb	2100 Kg	4630 lb
Max Take-Off Weight	2084 Kg	4594 lb	2084 Kg	4594 lb
Max Landing Weight	1980 Kg	4365 lb	1980 Kg	4365 lb
Std. Empty Weight	1320 Kg	2910 lb	1350 Kg	2976 lb
Max Zero Fuel Weight	1890 Kg	4167 lb	1890 Kg	4167 lb
Max Useful Load	780 Kg	1720 lb	750 Kg	1653 lb
Max Fuel Capacity	696 lt	184 U.S.gal	696 lt	184 U.S.gal
Max Usable Fuel	670 lt	177 U.S.gal	670 lt	177 U.S.gal
Number of Seats	6		6	
Luggage Capacity	0.56 m ³	20 cu.ft	0.56 m ³	20 cu.ft.
Max Speed @ s.l.	320 Km/h	173 Kts	322 Km/h	174 Kts
Cruise Speed (@ 75% & 7500 ft)	306 Km/h	165 Kts		
Cruise Speed (@ 75% & 12000 ft)			315 Km/h	170 Kts
Rate of Climb (2 engines s.l. @ MTOW)	6.3 m/s	1240 fpm	7.0 m/s	1400 fpm
Rate of Climb (1 engine s.l. @ MTOW)	1.1 m/s	210 fpm	1.2 m/s	240 fpm
Stall Speed (full flaps)	106 Km/h	57 Kts	106 Km/h	57 Kts
Service Ceiling (2 engines)	6000 mt	19750 ft	>6096 mt	>20000 ft
Service Ceiling (1 engine)	1750 mt	5750 ft	3505 mt	11500 ft
Max Range (best economy @ 7000 ft)	2965 Km	1600 nm		
Max Range (best economy @ 10000 ft)			2550 Km	1376 nm
Take-Off Run	240 mt	787 ft	230 mt	755 ft
Landing Run	200 mt	656 ft	200 m	656 ft
Load Factor	+3.74 g / -1.50 g		+3.74 g / -1.50 g	

NOTE

For E.U. Customers, aircraft can be authorized for operation at reduced M.T.O.W. of 1990 kg (4387 lb)

New advanced cockpit



Example of gyrostabilized camera installation



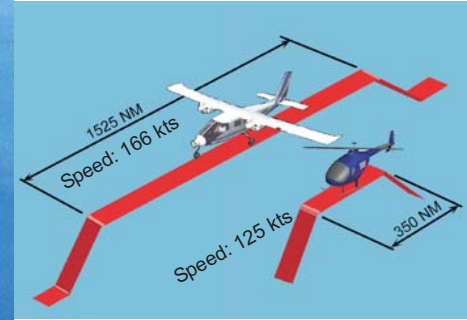
View with camera retracted for take-off and landing



View with camera extracted inside view



View with camera extracted outside view



PATROL-OBSERVATION-HOMELAND SECURITY-COAST GUARD-AIRBORNE LAW ENFORCEMENT-PIPELINE PATROL-SAR-FIREFIGHTING COORDINATION-AERIAL PHOTOGRAPY-MAPPING-EVENTS COVERAGE



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It is the pilot's responsibility to conduct all operations in accordance with the Approved Flight Manual, which is the only official source of data.