DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A31EU
Revision 28
Vulcanair S.p.A.

P.68
P.68B
P.68C
P.68C-TC
P.68 "OBSERVER"
AP68TP-300 "SPARTACUS"
P.68TC "OBSERVER"
AP68TP-600 "VIATOR"
P.68 "OBSERVER 2"
P.68R

July 22, 2021

TYPE CERTIFICATE DATA SHEET A31EU

This data sheet which is a part of Type Certificate No. A31EU prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder.	Vulcanair S.p.A. Via G. Pascoli, 7 80026 Casoria (Naples), Italy
Type Certificate Holder Record	Partenavia Costruzioni Aeronautiche S.p.A. Naples, Italy (TC A31EU transferred to Vulcanair)

I. Model P.68 (Normal Category), Approved December 7, 1971.

Engines.	Two Lycoming IO-360-A1B or Two Lycoming IO-360-A1B6
Fuel.	100/130 Minimum grade aviation gasoline
Engine Limits.	For all operations 2,700 r.p.m. (200HP) (See NOTE 2(C))
Propeller and Propeller Limits.	Two Hartzell HC-C2YK-2C/C7666A-4 or Two Hartzell HC-C2YK-2C( ) F/FC7666A-4 Diameter 72 in. (No reduction permitted). Pitch setting at 30 in. station Low 14.2º ± 0.2º, High 81.2º ± 0.3º Governor: Hartzell Model F-6-3A or Woodward Model B210655 or L210844 on left engine and C210655 or R210844 on right engine Spinner: Hartzell Model 836-29

Airspeed Limits (CAS).		
	Never exceed	187.5 knots
	Maximum structural cruising	149 knots
	Maneuvering	122 knots
	Flaps extended (35º)	99 knots
	Minimum single engine control speed (See NOTE 4)	60 knots

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C.G. Range.	(+12.8 in.) to (+20.7 in.) at 4100 lb. (+10.2 in.) to (+20.7 in.) at 3310 lb. and less Straight line variation between points. (See NOTE 4)
Empty Weight C.G. Range.	None.
Minimum Crew.	1 pilot.
Maximum Weight.	4100 lb. (See NOTE 4)
Number of Seats.	6 (2 at - 31.5 in.), (2 at - 2.8 in.), (2 at 34.2 in.) (See NOTE 5)
Maximum Baggage.	400 lb. (55.6 in.)
Fuel Capacity.	108 gal. total (2 wing tanks 54 gal. each at +30.3) 2.5 gal. unusable per tank (See NOTE 6).
Oil Capacity.	16 qt. total (8 qt. in each engine at +4.0) See NOTE 1 for data on unusable fuel and undrainable oil.

II. Model P.68B (Normal Category), Approved August 16, 1974.

Engines.	Two Lycoming IO-360-A1B or Two Lycoming IO-360-A1B6
Fuel.	100/130 Minimum grade aviation gasoline.
Engine Limits.	For all operations 2,700 r.p.m. (200HP) (See NOTE 2(C)).
Propeller and Propeller Limits.	Two Hartzell HC-C2YK-2C( )F/FC7666A-4 Diameter 72 in. (No reduction permitted). Pitch setting at 30 in. station: Low 14.2º ± 0.2º , High 81.2º ± 0.3º Governor: Hartzell Model F-6-3A Woodward Model B210655 or L210844 on left engine and C210655 or R210844 on right engine Spinner: Hartzell Model 836-29

Airspeed Limits (CAS).		
	Never exceed	193 kts
	Max. structural cruise	153 kts
	Maneuvering	125 kts
	Flaps extended (35º)	99 kts
	Min. Single Engine Speed	60 kts

C.G. Range.	(+12.8 in.) to (+20.7 in.) at 4321 lb. (+10.2 in.) to (+20.7 in.) at 3527 lb. and less. Straight line variation between points.
Minimum Crew.	1 pilot.
Maximum Weight.	4321 lb.
Maximum Landing Weight.	4100 lb.
Number of Seats.	6 - (2 at - 37.4 in.), (2 at - 5.7 in.) (2 at + 34.2 in.), (See NOTE 5)
Maximum Baggage.	400 lb (at + 60.7 in.)

Fuel Capacity.	108 gal. total (2 wing tanks 54 gal. each at + 30.2 in.) (2.5 gal. unusable per tank) (See NOTE 6).
Oil Capacity.	16 qt. total (8 qt. each engine at + 4.0 in.) See NOTE 1 for data on unusable fuel and undrainable oil.

III. Model P.68C (Normal Category), Approved July 24, 1980.

The model P 68C is same as P 68B except for:
1) fuselage nose change for weather radar installation;
2) hydraulic shock absorber on nose landing gear;
3) modified fuel tanks and increased capacity; and
4) weight & C.G. range increase.

Engines.	Two Lycoming IO-360-A1B6.
Fuel.	100/130 Minimum grade aviation gasoline.
Engine Limits.	For all operations 2,700 r.p.m. (200 HP)
Propeller and Propeller Limits.	Two Hartzell HC-C2YK-2C ( ) F/FC7666A-4 Diameter 72 in. (no reduction permitted). Pitch setting at 30 in. station: Low 14.2º ± 0.2º, High 81.2º ± 0.3º Governor: Woodward Model B210655 or ( ) 210844 Spinner: Hartzell Model 836-29

Airspeed Limits (CAS). (See NOTE 14)		
	Never exceed	193 knots
	Max. structural cruise	153 knots
	Maneuvering	126 knots
	Flap extended - V_{FE} (35º)	99 knots
	Min. single engine speed	60 knots

C.G. Range. (See NOTE 14)	(+11.81 in.) to (+20.7 in.) at 4387 lb. (+ 9.06 in.) to (+20.7 in.) at 3703 lb. and less Straight line variation between points.
Minimum Crew.	1 pilot.
Maximum Weight. (See NOTE 14)	4387 lb.
Maximum Landing Weight. (See NOTE 14)	4167 lb.
Number of Seats.	7 - (2 at -37.4 in.), (2 at -5.7 in.), (3 at +34.2 in.) (See NOTE 5).
Maximum Baggage.	400 lb. (at +60.7 in.)
Fuel Capacity. (See NOTE 15)	A. For S/N 209: 108 gal. total (2 wing tanks 54 gal. each at +30.2 in.) (2.5 gal. unusable per tank) (See NOTE 6). B. As of S/N 210: 142 gal. total (2 wing tanks 71 gal. each at 30.2 in. 2.5 gal. unusable per tank). See NOTE 1.
Oil Capacity.	16 qt. total (8 qt. each engine at +4.0 in.) See NOTE 1 for data on unusable fuel and undrainable oil.

IV. Model P.68C-TC (Normal Category), Approved September 10, 1982.

The model P 68C-TC is same as P 68C except for:

1) turbocharged engines;
2) modified cabin heating system; and
3) all metal wing leading edge.

Engines.	Two Lycoming TO-360-C1A6D or Two Lycoming TIO-360-C1A6D Engine Mixed not approved.
Fuel.	100/or 100LL Minimum grade aviation gasoline.
Engine Limits. (See NOTE 8)	For all operations 2,575 r.p.m., 42 in. Hg (210 HP) (For TO-360-C1A6D) or 2,575 r.p.m., 44 in. Hg (210 HP) (For TIO-360-C1A6D)
Propeller and Propeller Limits.	Two Hartzell HC-C2YK-2C( )F/FC7666A-0 Diameter 76 in. max, 75 in. min. Pitch setting at 30 in. station: Low 15º30' (± 10'), High 81º (± 30') Governor: Woodward Model A210655 or ( ) 210844 Spinner: Hartzell Model 836-29
Airspeed Limits (CAS).	Never exceed 193 Knots Max. structural cruise 153 Knots Maneuvering 126 Knots Flap extended - V_{FE} (35°) 99 Knots Min. single engine control speed 63 Knots
Altitude Limits.	Max. operating altitude: 20,000 ft
C.G. Range.	(+11.81 in.) to (+20.7 in.) at 4387 lb. (+ 9.06 in.) to (+20.7 in.) at 3703 lb. and less. Straight line variation between points.
Minimum Crew.	1 pilot.
Maximum Ramp Weight.	4442 lb.
Maximum Weight.	4387 lb.
Maximum Landing Weight.	4167 lb.
Number of Seats.	7 - (2 at -37.4 in.), (2 at -5.7 in.), (3 at +34.2 in.).
Maximum Baggage.	400 lb. (at +60.7 in.).
Fuel Capacity.	142 gal. total (2 wing tanks 71 gal. each at 30.2 in., 2.5 gal. unusable fuel per tank) (See NOTE 9).
Oil Capacity.	16 qt. total (8 qt. each engine at +4.0 in. See NOTE 1 for data on unusable fuel and undrainable oil).

V. Model P.68 "OBSERVER" (Normal Category) approved November 3, 1982.

The model P 68 "OBSERVER" is ame as P 68B except for:

1) plexiglass fuselage nose,
2) steel truss for nose landing gear attachment,
3) new instrument panel,
4) control system, and
5) increased fuel capacity.

Engines.	Two Lycoming IO-360-A1B6
Fuel.	100/130 minimum grade aviation gasoline.
Engine Limits.	For all operations 2,700 r.p.m. (200 HP).
Propeller and Propeller Limits.	Two Hartzell HC-C2YK-2C( )F/FC7666A-4 Diameter 72 in. (No reduction permitted). Pitch setting at 30 in. station: Low 14.2º ± 0.2º, High 81.2º ± 0.3º Governor: Woodward Model B210655 or ( ) 210844 Spinner: Hartzell Model 836-29
Airspeed Limits (CAS). (See NOTE 13)	Never exceed 193 Kts Max. structural cruise 153 Kts Maneuvering 125 Kts Flap extended (35º) 99 Kts Min. Single Engine Speed 60 Kts
C.G. Range. (See NOTE 13)	(+12.8 in.) to (+20.7 in.) at 4321 lb. (+10.2 in.) to (+20.7 in.) at 3527 lb. and less. Straight line variation between points.
Minimum Crew.	1 pilot.
Maximum Weight. (See NOTE 13)	4321 lb.
Maximum Landing Weight. (See NOTE 13)	4100 lb.
Number of Seats.	7 - (2 at -37.4 in.), (2 at -5.7 in.), (3 at +34.2 in.)
Maximum Baggage.	400 lb. (at +60.7 in.)
Fuel Capacity. (See NOTE 15)	142 gal. total (2 wing tanks 71 gal. each at +30.2 in.) (2.5 gal. unusable per tank.)
Oil Capacity.	16 qt. total (8 qt. each engine at +4.0 in.) See NOTE 1 for data on unusable fuel and undrainable oil.

VI. Model AP68TP series 300 Spartacus (Normal Category), Approved May 23, 1984.

Engines.	2 Detroit Diesel Allison 250B17C
Fuel.	Conforming to specification: MIL-T-5624 JP4, JP5, ASTM D-1655, JET B ASTM D-1655, JET A or A1, JP1 relating to ASTM D-1655A Diesel n.1, relating ASTM D-1655, JETA Emergency: MIL-G-5572C, all grades W/O (TCP)
Oil.	Conforming to specification: MIL-L-7808G and MIL-L-23699B
Engine Limits.	Take-off and M.C.P. Power: 328 SHP Max. T.O.T.: 810ºC Propeller: 2030 RPM

Propeller and Propeller Limits.

a) 2 Hartzell full feathering, reversing, three blades
Model HC-B3TF-7A/T10173F-21R
Diameter: MAX 80" (2.032 m)
MIN 78" (1.981 m)
Pitch setting at 30 in. sta. (0.762 m):
LOW = 8º ± .5º
HIGH = 85º ± 1º
REVERSE = -11º ± .5º

b) Woodward hydraulic governor, model 8210-018
c) Hartzell spinner, model A-3640

Airspeed Limit (CAS)

Maximum operating speed: V_{MO} = 197 Kts (up to 15.000 ft)
V_{MO} = 160 Kts (at 25.000 ft)
Straight line variation between these points

Maneuvering: V_A = 143 Kts

Flap extended (full) V_{FE} = 119 Kts

Minimum single engine speed V_{MC} = 80 Kts

Datum.

Wing leading edge

Leveling Means.

Longitudinal lower frame of left rear cabin window.

C.G. Range.

(+14.64) to (+21.06") at 5732 lbs
(+12.20) to (+21.06") at 4850 lbs and less straight line variation between points given.

Empty Weight C.G. Range.

None.

Maximum Weight.

Ramp: 5787 lbs
Take-off: 5732 lbs
Landing: 5445 lbs
Zero fuel: 5300 lbs

Minimum Crew.

1 pilot

Number of Seats.

9
See loading instruction for passenger loading

Maximum Baggage.

220 lbs at 100.40" (2.550 m)

Fuel Capacity.

Total 848 lt (224 U.S. Gals)

TANK	CAP. GALS	ARM
L.&R. WING	101 e a	+ 30.31
L.&R. NACELLE	11 e a	+ 34.25

Unusable fuel: 1 US GALS each side (See NOTE 1)

Oil Capacity.

Total 12 qts (11.4 lt) 6 Qts each engine
at - 15.75" (-400 m)
(See Note 1)

Maximum Operating Altitude Limit.

25,000 ft

VII. Model P.68TC OBSERVER (Normal Category) approved September 30, 1985

The model P68TC Observer is same as P68 Observer except for: (1) turbocharged engines; (2) modified cabin heating system; and (3) all-metal wing leading edge.

Engines. Two Lycoming TIO 360-C1A6D

Fuel. 100 or 100LL Min. grade aviation Gasoline.

Engine Limits. (See Note 8)
For all operation:
2575 r.p.m., 44 in. Hg (210 HP)

Propeller and Propeller Limits.
Two Hartzell HC-C2YK-2C( )F/FC7666A-0
Diameter 76 in. max. 75 in. min.
Pitch setting at 30 in. station:
- low 15.5º ± .10º
- high 81º ± .30º
Governor: Woodward Model A210655 or A210844
Spinner: Hartzell Model 836-29

Airspeed Limits (CAS).			a/c modified as per MOD.OBTC/01
	Never Exceed	193 Knots	194 Knots
	Max. Structural Cruise	153 Knots	154 Knots
	Maneuvering	125 Knots	132 Knots
	Flap Extended (35º)	99 Knots	103 Knots
	Min. Single Engine Control Speed	63 Knots	64 Knots

Altitude Limits. Max. Operating Altitude: 20,000 ft.

C.G. Range.
(+12.8 in.) to (+20.7 in.) at 4321 lb.
(+10.2 in.) to (+20.7 in.) at 3527 lb. and less. Straight line variation between points.

(a/c modified as per MOD.OBTC/01)
(+13.71 inc.) to (+18.92 inc.) at 4594 lb.
(+10.25 inc.) to (+18.92 inc.) at 3527 lb. and less

Straight line variation betwwen points.

Minimum Crew. 1 pilot.

Maximum Takeoff Weight. 4321 lb. 4594 lb. a/c modified as per MOD. OBTC/01

Maximum Landing Weight. 4100 lb. 4365 lb. a/c modified as per MOD. OBTC/01

Number of Seats. 7 - (2 at -37.4 in.), (2 at -5.7 in.), (3 at +34.2 in.).

(a/c modified as per MOD. OBTC/01)
6 - (2 at -37.4 in.), (2 at -5.7 in.), (2 at +34.2 in.).

Maximum Baggage. 400 lb. (at +60.7 in.).

Fuel Capacity. 142 US Gals total (2 wing tanks 71 gals. each at 30.2 in.)
2.5 gal unusable fuel per tank. See NOTE 9 and 6.

Oil Capacity. 16 qts total (8 qts each engine at +4.0 in.). See Note 1 for data on unusable fuel and undrainable oil.

VIII. Model AP68TP-600 Viator (Normal Category), approved December 19, 1986.

Engines. 2 Detroit Diesel Allison 250 B17C

Fuel. Conforming to specification: MIL-T-5624 JP4,
JP5, ASTM D-1655, JET B ASTM D-1655, JET A or A1, JP1 relating to
ASTM D-1655A Diesel N.1, relating ASTM D-1655, JET A
Emergency: MIL-G-5572c, all grades W/d (TCP)

Oil. Conforming to specification: MIL-L-7808G and MIL-L-236998

Engine Limits. Take-off and M.C.P. Power: 328 SHP
Max T.O.T.: 810ºC
Propeller: 2030 RPM

Propeller and Propeller Limits.

a) 2 Hartzell full feathering, reversing, three blades
Model HC-B3TF-7A/T10173T-21R
Diameter: Max 80" (2.032 m)
Min 78" (1.981 m)
Pitch setting at 30 in. sta. (0.762 m):
LOW = 8 deg +/- 0.5
HIGH = 85 deg +/- 1.0
REVERSE " -11 deg +/- 0.5
b) Woodward hydraulic governor, model 8210-018
c) Hartzell spinner, model A-3640

Airspeed Limit. (See NOTE 20)

Maximum operating speed:	V_{MO} = 200 kts	(Up to 15000 ft)
	V_{MO} = 164 kts	(at 25000 ft) Straight line variation between these points
Maneuvering:	V_A = 157 kts	
Flap extended (full)	V_{FE} = 131 kts	
Gear Operation	V_{LO} = 150 kts	
Gear Extended	V_{LE} = 150 kts	
Minimum single engine	V_{MC} = 78 kts	

Datum. Wing leading edge

Leveling Means. Longitudinal lower frame of left rear cabin window

C.G. Range. (See NOTE 20)
(+ 14.65) to (+ 21.36) at 6283 lbs
(+ 9.58) to (+ 21.36) at 4740 lbs and less,
straight line variation between points given.

Empty Weight C.G. Range. None

Maximum Weight. (See NOTE 20)

Ramp:	6338 lb
Take-off:	6283 lb
Landing:	6283 lb
Zero Fuel:	5622 lb

Minimum Crew. 1 pilot

Maximum Baggage. 440 lbs at 110.63" (2.810 m)

Fuel Capacity. Total 848 lt (224 U.S. Gals.)

TANK	CAP. GALS	ARM
L. & R. WING	101 ea.	+ 30.31
L. & R. NACELLE	11 ea.	+ 34.25

Unusable Fuel: 1 U.S. Gals each side (See NOTE 1)

Oil Capacity. Total 12 qts (11.4 lt) 6 qts each engine at - 15.75" (- .400 m) (See note 1)

Maximum Operating Altitude. 25000 ft

IX. Model P.68 OBSERVER 2 (Normal Category), approved July 1, 1993.

The model P68 Observer 2 is the same as model P68 Observer except for :

a. New instrument panel
b. 100 Amps alternator installation
c. Up turned wing tips
d. Strengthened leafspring
e. Oversized main wheel
f. Nose wheel steering disengagement
g. Increased maximum take off and landing weight (See NOTE 11)

Engine. Two Lycoming IO-360-A1B6

Fuel. 100/130 Minimum Grade Aviation Gasoline

Engine Limits. For all operations 2700 rpm (200 HP)

Propeller and Propeller Limits. Two Hartzell HC-C2YK-2( )F/FC7666A-4
Diameter 72 inc. (No reduction permitted)

Pitch setting at 30 inc. station:
Low 14.2° ± 0.2° , High 81.2° ± 0.3°
Governor: Woodward Models: B210655 or L210844 on left engine and C210655 or R210844 on right engine.
Spinner: Hartzell Model 836-29

Airspeed Limits (CAS).

Never exceed	194 kts
Max. structural cruise	154 kts
Maneuvering	132 kts
Flap extended (35°)	103 kts
Min. Single Engine Speed	58 kts

C.G. Range. (+13.71 inc.) to (+18.92 inc.) at 4594 lb.
(+10.25 inc.) to (+18.92 inc.) at 3527 lb. and less.

Straight line variation between points.

Minimum Crew. 1 pilot

Maximum Weight. Ramp Weight; 4630 lb. - Maximum Take Off Weight; 4594 lb.

Maximum Landing Weight. 4365 lb.

Zero Fuel Weight.	4167 lb.
Maximum Baggage.	400 lb. (at +60.7 inc.)
Fuel Capacity.	142 gal. total (2 wing tanks 71 gal. at 30.2 inc.) (2.5 gal .unusable per tank) (see NOTE 12)
Oil Capacity.	16 qt. total (8 qt. each engine at +4.0 inc.) See NOTE 1 for data on unusable fuel and undrainable oil.

X. Model P.68R (Normal Category), Approved February 19, 2014

The model P.68R is derived by P.68B, featuring a retractable landing gear.

Engines.	Two Lycoming IO-360-A1B6	
Fuel.	100 or 100LL Minimum grade aviation gasoline.	
Engine Limits.	For all operations 2700 rpm (200 HP)	
Propeller and Propeller Limits.	Two Hartzell HC-C2YK-2C( )F/FC7666A-4 Diameter 72 in. (no reduction permitted). Pitch setting at 30 inc. station: Low 14.2° ± 0.2° , High 81.2° ± 0.3° Governor: Woodward Models: B210655 or L210844 on left engine and C210655 or R210844 on right engine, or MT-Propeller Model: P-881-30 on left engine and P-881-31 on right engine. Spinner: Hartzell Model 836-29	
Airspeed Limits (CAS). (See NOTE 18)	Never exceed Max. structural cruise Maneuvering Flap extended - V_{FE} (35º) Min. single engine speed Max. landing gear extended VLE Max. landing gear operating (extension) Max. landing gear operating (retraction)	193 kts 153 kts 125 kts 99 kts 60 kts 131 kts 131 kts 112 kts
C.G. Range. (See NOTE 18)	(+12.8 in.) to (+20.7 in.) at 4321 lb. (+10.2 in.) to (+20.7 in.) at 3527 lb. and less Straight line variation between points.	
Minimum Crew.	1 pilot.	
Maximum Weight. (See NOTE 18)	4321 lb.	
Maximum Landing Weight. (See NOTE 18)	4321 lb.	
Number of Seats.	7 - (2 at -37.4 in.), (2 at -5.7 in.), (3 at +34.2 in.)	
Maximum Baggage.	400 lb. (at +60.7 in.)	
Fuel Capacity. (See NOTE 19)	142 gal. total (2 wing tanks 71 gal. at 30.2 inc.) (2.5 gal .unusable per tank)	

Oil Capacity.

16 qt. total (8 qt. each engine at +4.0 in.)
See NOTE 1 for data on unusable fuel and undrainable oil.

DATA PERTINENT TO ALL MODELS

Datum.

Wing leading edge.

Leveling Means.

Longitudinal lower frame of left rear cabin window.

Control Surface Movements.
(See NOTE 20)

For Models P.68, P.68B, P.68C, P.68C-TC, P.68 "Observer", P.68TC "Observer", P.68 "Observer" 2 and P.68R.

Wing flaps		Down 35º ± 2°
Aileron	Up 30° ± 2°	Down 17° ± 2°
Stabilator L.E.	Up 6° ± 2°	Down 16° ± 2°
Stabilator Tab (with respect to stabilator chord)	Down 1° ± 1°	Down 15° ± 1°
Rudder	Right 25° ± 2°	Left 25° ± 2°
Rudder tab	Right 30° ± 2°	Left 30° ± 2°

For Models AP68TP-300 Spartacus and AP68TP-600 Viator (up to s/n 9004)

Wing flaps		Down 35° ± 2°
Aileron	Up 30° ± 2°	Down 17° ± 2°
Aileron Tab (with aileron neutral)	Up 19° ± 2°	Down 19° ± 2°
Rudder	Right 25° ± 2°	Left 25° ± 2°
Rudder tab	Right 20° ± 2°	Left 20° ± 2°
Elevator	Up 26° ± 1°	Down 12° ± 1°
Elevator Trim Tab (with elevator neutral)	Up 10° ± 1°	Down 39° ± 1°

Serial Numbers Eligible.

Each individual aircraft manufactured under this type certificate must be accompanied by an Export Certificate of Airworthiness as noted below under "Import Requirements" when an application for a U.S. airworthiness certificate is made.

Model P.68 Observer 2: 384-01-OB2 and subsequent.
Model P.68R: 458/R and subsequent.

Certification Basis.
FAR 21.17

For Model P.68:
FAR 23 effective February 1, 1965, including Amendments 23-1 through 23-6.

For Models P.68B, P.68 "OBSERVER", and P.68C:
FAR 23 effective February 1, 1965, including Amendments 23-1 through 23-6, and FAR 36 effective December 1, 1969, including Amendments 36-1 through 36-9.

For Model P.68C-TC, and P.68TC "Observer":
FAR 23 effective February 1, 1965, including Amendments 23-1 through 23-6, and

14 CFR Section	Amendment Number
23.909	23-7
23.1043	23-7
23.1047	23-7
23.1143	23-7
23.1305	23-7
23.1527	23-7
23.1583	23-7

FAR 36 effective December 1, 1969, including amendments 36-1 through 36-12.

Partenavia Costruzioni Aeronautiche S.p.A. elected to demonstrate compliance, for the Model P 68C-TC and P68TC "Observer", with Subparts E, F (except FAR 23.1309), and G of FAR 23 as amended by Amendment 23-18.

Date of application for Type Certificate: January 22, 1969 for P68C-TC; April 30, 1985 for P68TC "Observer". Type Certificate No. A31EU issued December 7, 1971. Amended August 16, 1974, July 24, 1980, September 10, 1982, November 3, 1982, September 30, 1985.
For Model P.68TC "Observer" embodies modification No. MOD.OBTC/01.
FAR 23 effective February 1/1965, as amended through 23-6 effective August 1, 1967 and: 23.909, 23.1043, 23.1047, 23.1143, 23.1305, 23.1527, 23.1583 as amended through 23-7 and 23.507, 23.509 as amended through 23-14 effective December 20, 1973, 23.2 and 23.561(b)(2) as amended through 23-36 effective September 14/1988; 23.629 is amended through 23-31, effective December 28, 1984; 23.1322 as amended through 23-17 effective February 1, 1977; 23.1321(a) as amended by Equivalent Level of Safety, 23.1401 Amd. 20.

FAR 36 effective December 1/1969, as amended through 36-16.

ICAO/Annex 16, Chapter 10.

For Model AP68TP Series 300 "SPARTACUS"
FAR 23 effective Feb. 1, 1965 including Amendments 23-1 through 23-6, and

23.45 (23-21)	23.853 (23-25)	23.1145 (23-18)
23.49 (23-21)	23.859 (23-27)	23.1155 (23-7)
23.51 (23-21)	23.901 (23-18)	23.1163 (23-14)
23.65 (23-21)	23.903 (23-26)	23.1165 (23-17)
23.67 (23-21)	23.905 (23-26)	23.1182 (23-14)
23.75 (23-21)	23.929 (23-14)	23.1183 (23-15)
23.77 (23-21)	23.937 (23-7)	23.1189 (23-14)
23.141 (23-17)	23.939 (23-18)	23.1203 (23-18)
23.143 (23-17)	23.943 (23-18)	23.1301 (23-20)
23.145 (23-17)	23.951 (23-15)	23.1303 (23-17)
23.149 (23-21)	23.955 (23-7)	23.1305 (23-26)
23.153 (23-14)	23.959 (23-18)	23.1307 (23-23)
23.155 (23-14)	23.977 (23-17)	23.1323 (23-20)
23.157 (23-14)	23.991 (23-26)	23.1337 (23-18)
23.161 (23-21)	23.1013 (23-15)	23.1501 (23-21)
23.173 (23-14)	23.1015 (23-15)	23.1505 (23-7)
23.175 (23-17)	23.1017 (23-14)	23.1521 (23-21)
23.177 (23-21)	23.1019 (23-15)	23.1527 (23-7)
23.181 (23-21)	23.1027 (23-14)	23.1529 (23-26)
23.201 (23-14)	23.1041 (23-7)	23.1541 (23-21)
23.203 (23-14)	23.1043 (23-21)	23.1545 (23-23)
23.205 (23-14)	23.1045 (23-7)	23.1547 (23-20)
23.207 (23-7)	23.1091 (23-7)	23.1549 (23-28)
23.253 (23-26)	23.1093 (23-18)	23.1555 (23-21)
23.335 (23-7)	23.1103 (23-7)	23.1557 (23-23)
23.361 (23-26)	23.1111 (23-17)	23.1581 (23-21)
23.367 (23-7)	23.1121 (23-18)	23.1583 (23-23)
23.371 (23-26)	23.1125 (23-17)	23.1585 (23-23)
23.629 (23-7)	23.1141 (23-18)	23.1587 (23-21)
23.629 (e)(23-23)	23.1143 (23-17)	
23.777 (23-7)		

SFAR 27, effective Feb. 1, 1974, included Amendments 27-1 through 27-4, and FAR 36 effective Dec. 1, 1965, included Amendments 36-1 through 36-12.

Date of application for Type Certification: July 20, 1981.
Amended Type Certificate issued : May 23, 1984.

For Model AP68TP-600 "VIATOR"
FAR 23 effective February 1, 1965 including amendments 23-1 through 23-6, and

23.2	(23-32)	23.726	(23-27)	23.1145	(23-18)
23.3	(23-28)	23.727	(23-7)	23.1155	(23-7)
23.9	(23-17)	23.729	(23-26)	23.1163	(23-14)
23.45	(23-21)	23.733	(23-17)	23.1165	(23-17)
23.49	(23-21)	23.735	(23-34)	23.1182	(23-14)
23.51	(23-21)	23.777	(23-7)	23.1183	(23-15)
23.65	(23-21)	23.785(g)	(23-32)	23.1189	(23-14)
23.67	(23-21)	23.785(h)	(23-32)	23.1203	(23-18)
23.75	(23-21)	23.853	(23-25)	23.1301	(23-20)
23.77	(23-21)	23.859	(23-27)	23.1303	(23-17)
23.141	(23-17)	23.901	(23-18)	23.1305	(23-26)
23.143	(23-17)	23.903	(23-26)	23.1307	(23-23)
23.145	(23-17)	23.905	(23-26)	23.1323	(23-20)
23.149	(23-21)	23.929	(23-14)	23.1337	(23-18)
23.153	(23-14)	23.937	(23-7)	23.1435	(23-14)
23.155	(23-14)	23.939	(23-18)	23.1501	(23-21)
23.157	(23-14)	23.943	(23-18)	23.1505	(23-7)
23.16	(23-21)	23.951	(23-15)	23.1521	(23-21)
23.173	(23-14)	23.955	(23-7)	23.1527	(23-26)
23.175	(23-17)	23.959	(23-18)	23.1529	(23-26)
23.177	(23-21)	23.977	(23-17)	23.1541	(23-21)
23.181	(23-21)	23.991	(23-26)	23.1545	(23-23)
23.201	(23-14)	23.1013	(23-15)	23.1547	(23-20)
23.203	(23-14)	23.1015	(23-15)	23.1549	(23-28)
23.205	(23-14)	23.1017	(23-14)	23.1555	(23-21)
23.207	(23-7)	23.1019	(23-15)	23.1557	(23-23)
23.253	(23-26)	23.1027	(23-14)	23.1581	(23-21)
23.335	(23-7)	23.1401	(23-7)	23.1583	(23-23)
23.361	(23-26)	23.1043	(23-21)	23.1585	(23-23)
23.367	(23-7)	23.1045	(23-7)	23.1587	(23-31)
23.371	(23-26)	23.1091	(23-7)		
23.479	(23-17)	23.1093	(23-18)		
23.507	(23-14)	23.1103	(23-7)		
23.509	(23-14)	23.1111	(23-17)		
23.629	(23-23)	23.1121	(23-18)		
23.723	(23-23)	23.1125	(23-17)		
23.725	(23-7)	23.1141	(23-18)		
		23.1143	(23-17)		

SFAR 27, effective Feb. 1, 1974, included amendment 27-1 through 27-4, and
FAR 36 effective Dec. 1, 1965, included amendments 36-1 through 36-12.

Date of application for Type Certificate: July 29, 1986.
Date amended type certificate issued: December 19, 1986.

For Model P.68 "Observer" 2.
FAR 23 effective February 1, 1965, as amended through 23-6 effective August 1, 1967; and, 23.507, 23.509 as amended through 23-14 effective December 20, 1973; 23.2 and 23.561(b)(2) as amended through 23-36 effective September 14, 1988; 23.629 as amended through 23-31 effective December 28, 1984; 23.1322 as amended through 23-17 effective February 1, 1977; 23.1401 as amended through 23-20 effective September 1, 1977; and 23.1321(a) as amended by an Equivalent Level of Safety.
FAR 36 effective December 1, 1969, as amended through 36-18.

The Ente Nazionale per l'Aviazione Civile (ENAC) originally type certificated this aircraft under its Type Certificate Number A365. Effective September 28,

2003, the European Aviation Safety Agency (EASA) began oversight of this product under their Type certificate Number A 365 on behalf of Italy.

For Model P.68R
FAR 23 effective Feb. 1, 1965 including Amendments 23-1 through 23-6, plus Amendment 23-7 for 23.561, and Amendment 23-14 for 23.507.

Requirements elected to comply: Amendment 23-7 for 23.725, 23.727, 23.729, 23.735, 23.1435, and Amendment 23-14 for 23.867

FAR 36 effective Dec. 1, 1965, included Amendments 36-1 through 36-28

Equivalent Level of Safety:

14 CFR part 23, § 23.807(a)(4), Amdt. 23-49 (ref. EASA CRI D-02 issue 3 dated 21 August 2007 "Crew door upgrading to emergency door resulting from emergency window removal")
14 CFR part 23, § 23.783(b), Amdt. 23-6 (ref. EASA CRI D-01 issue 2 dated 18 January 2007 "P.68R crew door installation")

The following list provides specific certification basis requirements for the model P68R:

S-TEC 55X autopilot
Amendment 23-18, §§ 23.1301, 23.1309, 23.1321, 23.1329, 23.1357, 23.1365, 23.1367, 23.1381, 23.1431. Amendment 23-45 (JAR 23 effective 11 March 1994), §§ 23.29, 23.143, 23.253, 23.601, 23.603, 23.605, 23.607, 23.609, 23.685, 23.689, 23.1529, 23.1581, 23.1583, 23.1585, 23.1589. Amendment 23-49: § 23.1359

Extension from Standard Range configuration to Long Range Configuration
Amendment 23-7, §§ 23.471, 23.473, 23.477, 23.479, 23.483, 23.485, 23.493. Amendment 23-45 (JAR 23 effective 11 March 1994), §§ 23.601, 23.603, 23.605, 23.609, 23.611, 23.951, 23.959, 23.963, 23.964, 23.967, 23.969, 23.971, 23.975, 23.993, 23.1501, 23.1581, 23.1585

VLE / VLO increase
Amendment 23-17, § 23.1309. Amendment 23-45 (JAR 23 effective 11 March 1994), §§ 23.25, 23.29, 23.141, 23.143, 23.601, 23.603, 23.605, 23.607, 23.609, 23.611, 23.1301, 23.1322, 23.1501, 23.1529, 23.1541, 23.1563, 23.1583, 23.1585

MTOW increase up to 4548 lb (2063 kg)
14 CFR, part 36 effective December 1,1969 including Amendments 36-1 through 36-28. Amendment 23-17, §§ 23.572, 23.1323. Amendment 23-45 (JAR 23 effective 11 March 1994), §§ 23.29, 23.143, 23.253, 23.1301, 23.1311, 23.1321, 23.1501, 23.1525, 23.1529, 23.1541, 23.1543, 23.1545, 23.1549, 23.1559, 23.1581, 23.1583, 23.1585, 23.1589

Fixed oxygen system kit installation
Amendment 23-9, § 23.1449. Amendment 23-17, § 23.1309.
Amendment 23-36, § 23.561. Amendment 23-43, §§ 23.1441, 23.1443, 23.1445. Amendment 23-45 (JAR 23 effective 11 March 1994), §§ 23.601, 23.603, 23.605, 23.625, 23.1357, 23.1367, 23.1501, 23.1529, 23.1541, 23.1581, 23.1583, 23.1585. Amendment 23-49, §§ 23.1447, 23.1451, 23.1453

Landing gear emergency extension system, nitrogen reservoir replacement
Amendment 23-14, § 23.1435. Amendment 23-17, § 23.1309. Amendment 23-45 (JAR 23 effective 11 March 1994), §§ 23.1501, 23.1529. Amendment 23-54 (JAR 23 effective 01 February 2001), §§ 23.601, 23.603, 23.605

Garmin G950 Avionics installation
Amendment 23-7, § 23.1323. Amendment 23-17, § 23.1303. Amendment 23-51, §§23.25, 23.29, 23.601, 23.603, 23.605, 23.607, 23.609, 23.611, 23.613, 23.623, 23.625, 23.627, 23.771, 23.773, 23.777, 23.1301, 23.1309, 23.1311,

23.1321, 23.1322, 23.1327, 23.1331, 23.1337, 23.1351, 23.1353, 23.1357, 23.1359, 23.1361, 23.1365, 23.1367, 23.1381, 23.1431, 23.1501, 23.1523, 23.1525, 23.1529, 23.1541, 23.1543, 23.1545, 23.1547, 23.1549, 23.1581, 23.1583, 23.1585, 23.1589. Amendment 23-52, § 23.1305. Amendment 23-57, § 23.1308

Validation Basis.

Type Certificate A31EU was issued pursuant to FAR 21.29 in validation of the Registro Aeronautico Italiano (RAI) certification of compliance with the aforementioned certification basis, and in accordance with the standard airworthiness certificate provisions of FAR 21.183(c).

Note: The airworthiness provisions of FAR 21.183(d) may be cited as the basis for issuance of standard airworthiness certificates for aircraft imported from a country other than the country of manufacture.

Equipment.

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for standard airworthiness certification. In addition, the following items of equipment are required:

a) Pre-stall warning indicator, Safe Flight Instrument Corp., Type 164 or equivalent.
b) Partenavia - "RAI approved aircraft Flight Manual":
    1. Model P 68, dated December 7, 1971 (Document No. 97224/T) or later RAI approved revision, or,
    2. Model P 68B, dated May 24, 1974 (Document No. 115.831T) or later RAI approved revision up to S/N 152.
    3. Model P 68, maximum T.O. weight 4321 lb. F/M Suppl. C dated June 25, 1975 (Document No. 124.415/T) (See Note 4).
    4. Model P 68B, S/N 153 and onward; new issue dated May 23, 1978 (Document No. 148.015/T) or later RAI-approved revision.
    5. Model P 68C, dated July 23, 1979 (Document No. 158.229/T Revision 3) or later RAI approved revision.
    6. Models P 68 and P 68B, maximum takeoff weight 4387 lbs. and maximum landing weight 4167 when operated in accordance with AFM Appendix, dated March 23, 1979 (RAI approval No. 156.014/T).
    7. a. Model P 68C-TC, dated April 29, 1980 (Document No. 164.503/T) or later RAI-approved revision.
        b. Model P 68C-TC dated 26 November 1983 (RAI approved No. 195867/T) or later RAI approved revision.
    8. Model P 68 "OBSERVER" (RAI approval No. 165678/T), with Revision 1 (RAI approval No. 185817/T) or later RAI approved revision.
    9. Model AP68TP Series 300 "SPARTACUS" dated Dec. 9, 1983 (RAI approval No. 196197/T) or later RAI approved revision.
    10. Model P68TC "Observer", dated June 18, 1985 (RAI approved No. 210.866/T) or later RAI approved revision.
    11. Model P68TC "Observer", Doc No. NOR 10.707-4A (S/N 400-04/OTC and subsequent) reissued August 8, 1994 (RAI approval No.94/2721/MAE) or later RAI approved revision.
    12. Model AP68TP-600 "Viator" (RAI approval No. 250540/T for aircraft up to s/n 9004, and RAI approval No. 265727/SMCA for aircraft from s/n 9005 up to s/n 9010) or later RAI approved revision.
    13. Model P68 Observer 2 dated November 30, 1989 (RAI approval No. 260429/SCMA) or later RAI approved revision.
    14. Model P.68R dated February 2, 2009 (EASA approval No. EASA.A.A.01887) or later EASA approved revision.
    15. Model AP68TP-600 "Viator" (EASA approval No. 10051648) or later EASA approved revision.

Import requirements

The FAA can issue a U.S. airworthiness certificate based on an NAA Export Certificate of Airworthiness (Export C of A) signed by a representative of the the Ente Nazionale

per l'Aviazione Civile (ENAC) on behalf of the European Community. The Export C of A should contain the following statement "

Import requirements (cont.)

The aircraft covered by this certificate has been examined, tested, and found to comply with EASA TC No. A.385 approved under U.S. Type Certificate No. A 31EU and to be in a condition for safe operation".

Country other than Manufacturer (U.S. bilateral agreement and the original Export Certificate of Airworthiness issued by the country of manufacture must exist): A U.S. airworthiness certificate may be issued on the basis of a log book certifying statement endorsed by an authorized representative of the civil aviation authority of the exporting country. It is incumbent upon the exporting civil aviation authority to determine that the certifying statement includes evidence of acceptable service history and modification deviations and the following statement: "The aircraft covered by this certificate has been examined, tested, inspected in accordance with the provisions of FAR 21.183)d) or its equivalent, and found to conform to the type design approved under Type Certificate A31EU and is in a condition for safe operation".

For issuance of an airworthiness certificate in accordance with 14 CFR Part 21.183(c), The Ente Nazionale per l'Aviazione Civile of Italy must certify that the airplane conforms to the type design and is in a condition for safe operation. The Ente Nazionale per l'Aviazione Civile of Italy will certify that the airplane complies with all applicable mandatory continuing airworthiness information (MCAI) it has issued.

Refer to the applicable bilateral agreement to verify eligibility for import into the United States of both new and used aircraft based on the scope of the agreement, to identify any required statements by the exporting authority on the export certificate of airworthiness (or equivalent document), and for procedures for coordinating exceptions to conformity statements on these documents. Refer to FAA Order 8130.2, *Airworthiness Certification of Aircraft*, for requirements for issuance of an *airworthiness certificate* for imported aircraft.

Service Information

Each of the documents listed below must state that it is approved by the European Aviation Safety Agency (EASA) or – for approvals made before September 28, 2003- by the Ente Nazionale per l'Aviazone Civile (ENAC). (These approvals pertain to the design data only)."

- Service Bulletins
- Structural Repair Manuals
- Vendor Manuals
- Aircraft Flight Manuals, and
- Overhaul and Maintenance Manuals

The FAA accepts such documents and considers them FAA-approved unless one of the following condition exists:

- The documents change the limitations, performance, or procedures of the FAA approved manuals; or
- The documents make an acoustical or emissions changes to this product's U.S.type certificate as defined in 14 CFR § 21.93.

The FAA uses the post type validation procedures to approve these documents. The FAA may delegate on case-by-case to EASA to approve on behalf of the FAA for the U.S. type certificate. If this is the case it will be noted on the document.

NOTE 1. Current weight and balance report including list of equipment in certificated empty weight, and loading instructions, must be provided for each aircraft at the time of original airworthiness certification.

All P68 models: the certificated empty weight and corresponding center of gravity location must include

undrainable oil (1.0 lb. at +4.0), and unusable fuel (30 lb. at +30.3). (See NOTE 6 and 16)
AP68TP Series 300 "SPARTACUS" and AP68TP-600 "VIATOR": The certificated empty weight and corresponding center of gravity location must include undrainable oil (1.0 lbs at -15.75 inches) and unusable fuel (13.0 lbs at 34.25 inches).

NOTE 2. a) The following placards must be displayed in full view of the pilot:
"THIS AIRPLANE MUST BE OPERATED AS A NORMAL CATEGORY AIRPLANE IN COMPLIANCE WITH THE OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS AND MANUALS".
In addition, all placards required in the "RAI-approved Airplane Flight Manual" must be installed in the appropriate location.

b) Each individual airplane must be equipped with a placard that specifies the kind of operation such as VFR, or IFR, DAY or NIGHT, to which the operation of the airplane is limited by the equipment installed.
c) Avoid continuous operation between 2100 rpm and 2350 rpm (for IO-360-A1B engine only).

NOTE 3. All the service life limits, overhaul limits, instructions for continued airworthiness, airworthiness limitations, special inspections and mandatory maintenance requirements that are published on Partenavia/Vulcanair Aircraft Maintenance Manuals have been approved by RAI in the '80 and '90 as shown below and are considered FAA approved:

For P.68, P.68B, P.68C, P.68C-TC, P.68 Observer: RAI Approval No. 226.078/T dated 23 December 1986 – RAI Approval No. 94/1365/MAE dated 27 April 1994 – RAI Approval No. 99/2246/MAE dated 09 June 1999

For AP68TP-300 "Spartacus": RAI Approval No. 285.158/MAE dated 11 December 1992

For P.68TC Observer: RAI Approval No. 95/4.295/MAE dated 18 December 1995 – RAI Approval No 99/2246/MAE dated 09 June 1999

For P.68 Observer 2: RAI Approval No. 275962/SCMA dated 23 September 1991 - RAI Approval No. 94/1365/MAE dated 27 April 1994 – RAI Approval No. 99/2246/MAE dated 09 June 1999

For AP68TP-600 "Viator": RAI Approval No. 224.168/T dated 16 October 1986 – EASA Approval dated April 2005

These airworthiness limitations may not be changed without FAA-approval.

NOTE 4. The maximum T.O. weight can be increased up to 4321 lb., provided that Service Bulletin No. 21 is applied. With the weight of 4321 lb., the airspeed limits are (CAS):

Never exceed	193 Knots
Maximum structural cruising	153 Knots
Maneuvering	125 Knots
Flaps extended (35°)	99 Knots
Minimum single engine control speed	60 Knots

and the C.G. range is:
(+12.8 in.) to (+20.7 in.) at 4321 lb.
(+10.2 in.) to (+20.7 in.) at 3527 lb. and less.
Straight line variation between points.

NOTE 5. The number of seats is 7 (3 passengers on bench-seat at +34.2 in.) for the airplane that incorporates the Service Bulletin Partenavia No. 29.

NOTE 6. For the airplane equipped with integral auxiliary fuel wing tanks the fuel capacity is as follows:
153 gal. (2 main wing tanks 54 gal. each at +30.3 in. 2.5 gal. unusable per tank)
45.0 gal. (2 auxiliary wing tanks 22.5 each at +30.3 with 1 gal. unusable per tank).

NOTE 7. For Model P.68 and P.68B equipped with Partenavia Kit P/N 68-015 the fuel capacity is:
142 gallons total (2 wing tanks 71 gallon each 30.2 in.)
2.5 gallon unusable per tank.

NOTE 8. For Model P.68C-TC and P.68TC "Observer", operation below 2,400 r.p.m. at manifold pressure above 36 in. Hg. is prohibited.

NOTE 9. The P.68C-TC, S/N 208-01TC, is approved with standard and with auxiliary fuel tanks of Model P 68B. See NOTE 6 for total capacity and unusable fuel.

NOTE 10. Crew doors for Models P.68C and P.68C-TC are approved when installed per RAI-approved Partenavia Drawing No. 2.2503. For the affected airplanes, the airplane Flight Manual must include the "Supplement I - Crew Door", RAI approval No. 199.649/T April 17, 1984.

NOTE 11. The following optional equipment and systems are available:
- bubble nose for weather radar installation.
- wheel fairing
- integral auxiliary fuel tank.
- Oversized nose wheel with strengthened wheel fork.

NOTE 12. For the airplane equipped with integral auxiliary fuel wing tanks the fuel capacity is as follows:

142 gal. (2 main wing tanks 71 gallons each at 30.2 inch 2.5 gal. Unusable per tank).

42 gal. (2 auxiliary wing tanks 21 gal. each at 30.2 inc. with 2 gal. Unusable per tank).

NOTE 13. P.68 Observer aircraft models (S/N's through 383) equipped with Kit P/N 68/051 as per S.B. 79, can be operated with Increased Maximum Take-Off Weight of 4594 lbs and Maximum Landing Weight of 4365 lbs.
For those modified aircraft, the Operating Limitations are changed as follows:

Airspeed Limits (CAS).

Never exceed	194 Kts
Max. Structural Cruise	154 Kts
Maneuvering	132 Kts
Flaps extended:	
- 35º flaps	103 Kts
Minimum single engine speed	58 Kts

C.G. Range.
Rearward Limits:
- 18.92 in. (0,481 m) aft of Datum (31% MAC) at all weights.

Forward Limits:
- 13.81 in. (0,351 m) aft of Datum (22.45% MAC) at Ramp Weight of 4630 Lbs (2100 Kg).
- 13.71 in. (0,348 m) aft of Datum (22.45% MAC) at Maximum Take-Off Weight of 4594 Lbs (2084 Kg).
- 10.25 in. (0,260 m) aft of Datum (16.77% MAC) at 3527 Lbs (1600 Kg) or less with straight line variation between these points.

Weight Limits.

Max. Ramp Weight	4630 Lbs (2100 Kg)
Max. Take-Off Weight	4594 Lbs (2084 Kg)
Max. Landing Weight	4365 Lbs (1980 Kg)
Max. Zero Fuel Weight	4167 Lbs (1890 Kg)

For aircraft equipped with Kit P/N 68/051 as per S.B. 79, supplement N (RAI Approval No. 227.006/SCMA dated November 11, 1991) must be attached to the RAI Approved Flight Manual.

NOTE 14. P.68C aircraft models equipped with Kit P/N 68/051 as per S.B. 79, can be operated with Increased Maximum Take-Off Weight of 4594 Lbs and Maximum Landing Weight of 4365 Lbs.
For those modified aircraft, the Operating Limitations are changed as follows:

Airspeed Limits (CAS).

Never exceed	194 Kts
Max. Structural Cruise	154 Kts
Maneuvering	132 Kts
Flaps extended:	
- 15º flaps	152 Kts
- 35º flaps	103 Kts

Minimum single engine speed 60 Kts

C.G. Range.

Rearward Limits:
- 18.92 in. (0,481 m) aft of Datum (31% MAC) at all weights.

Forward Limits:
- 12.80 in. (0,325 m) aft of Datum (20.97% MAC) at Ramp Weight of 4630 Lbs (2100 Kg).

- 12.60 in. (0,320 m) aft of Datum (21.16% MAC) at Maximum Take-Off Weight of 4594 Lbs (2084 Kg).

- 9.06 in. (0,230 m) aft of Datum (14.84% MAC) at 3704 Lbs (1680 Kg) or less with straight line variation between these points.

Weight Limits.

Max. Ramp Weight	4630 Lbs (2100 Kg)
Max. Take-Off Weight	4594 Lbs (2084 Kg)
Max. Landing Weight	4365 Lbs (1980 Kg)
Max. Zero Fuel Weight	4167 Lbs (1890 Kg)

For aircraft equipped with Kit P/N 68/051 as per S.B. 79, supplement N (RAI Approval No. 277.978/SCMA dated December 23, 1991) must be attached to the RAI Approved Flight Manual.

NOTE 15.

P.68 Observer (S/N's through 383) and P.68C aircraft models equipped with Kit P/N 68-050 as per S.B. 78, can be operated with optional Auxiliary Fuel Tank System to increase total fuel capacity to 184 US Gals (696 Lts) as detailed below:

- 2 wing integral main fuel tanks of 71 US Gals (269 Lts) each at 30.3 in. (0,77 m). Unusable fuel = 2.4 US Gals (9 Lts) for each tank.

- 2 wing integral auxiliary fuel tanks of 21 US Gals (79 Lts) each at 30.3 in. (0.77 m). Unusable fuel = 1 US Gals (4 Lts) for each tank.

For aircraft equipped with optional Auxiliary Fuel Tank System, supplement L/1 (RAI Approval No. 227.006/SCMA dated November 11, 1991 for P68 Observer a/c model and RAI Approval No. 277.978/SCMA dated December 23, 1991 for P68C a/c model) must be attached to the RAI Approved Flight Manual.

NOTE 16.

P.68TC "Observer" aircraft models modified as per MOD.OBTC/01, can be operated with optional Auxiliary Fuel Tank System to increase total fuel capacity to 184 US Gals (696 Lts) as detailed below:

- 2 wing integral main fuel tanks of 71 US Gals (269 Lts) each at 30.3 in. (0.77 m). Unusable fuel = 2.4 US Gals (9 Lts) for each tank.

- 2 wing integral auxiliary fuel tanks of 21 US Gals (79 Lts) each at 30.3 in. (0.77 m). Unusable fuel = 1 US Gals (4 Lts) for each tank.

For aircraft equipped with optional Auxiliary Fuel Tank System, supplement L (RAI Approval No. 94/2721/MAE dated August 8, 1994) must be attached to the RAI Approved Flight Manual.

NOTE 17.

P.68TC "Observer" models (S/N 400-04/OTC and subsequent) models modified per MOD.OBTC/02 Revision 1 are approved with a Cabin Forced Air Heating System Installation.

NOTE 18. P.68R aircraft modified as per MOD P68/151 or applying Vulcanair SB 198 are approved for a Maximum Take-Off Weight of 4548 lb.
For those modified aircraft, the Operating Limitations are changed as follows:

Airspeed Limits (CAS).

Never exceed	197 kts
Max. Structural Cruise	157 kts
Maneuvering	127 kts
Flap extended - V_{FE} (35º)	101 kts
Min. single engine speed	60 kts
Max. landing gear extended VLE	131 kts
Max. landing gear operating (extension)	131 kts
Max. landing gear operating (retraction)	112 kts

C.G. Range.
(+13.54 in.) to (+20.7 in.) at 4548 lb.
(+10.2 in.) to (+20.7 in.) at 3527 lb. and less
Straight line variation between points.

Weight Limits.

Max. Take-Off Weight	4548 lb
Max. Landing Weight	4321 lb
Max. Zero Fuel Weight	4321 lb

NOTE 19. P.68R aircraft models modified by Type Design Change No. MOD.P68/150, can be operated with optional Auxiliary Fuel Tank System to increase total fuel capacity to 184 US Gals (696 Lts) as detailed below:

- 2 wing integral main fuel tanks of 71 US Gals (269 Lts) each at 30.3 in. (0,77 m).
  Unusable fuel = 2.4 US Gals (9 Lts) for each tank.

- 2 wing integral auxiliary fuel tanks of 21 US Gals (79 Lts) each at 30.3 in. (0.77 m).
  Unusable fuel = 1 US Gals (4 Lts) for each tank.

NOTE 20. AP68TP-600 Viator aircraft from s/n 9005 onwards are approved for a Maximum Take-Off Weight of 6614 lb.
For those modified aircraft, the Operating Limitations and Technical Characteristics are changed as follows:

Airspeed Limits (CAS).

Maximum operating speed:	VMO = 200 kts (up to 15000 ft)
	VMO = 164 kts (at 25000 ft)
	Straight line variation between these points
Maneuvering:	VA = 141 kts
Flap extended (full)	VFE = 131 kts
Gear Operation	VLO = 150 kts
Gear Extended	VLE = 150 kts
Minimum single engine	VMC = 79 kts

C.G. Range.
(+15.94 in.) to (+20.16 in.) at 6669 lb.
(+15.75 in.) to (+20.16 in.) at 6614 lb.
(+9.58 in.) to (+20.16 in.) at 4740 lb. and less
Straight line variation between points.

Weight Limits.

Ramp:	6669 lb
Take-off:	6614 lb
Landing:	6283 lb
Zero Fuel:	5622 lb

Control Surface Movements.

Wing flaps		Down 35° ± 2°
Aileron	Up 30° ± 2°	Down 17° ± 2°
Aileron Tab (with aileron neutral)	Up 24° ± 2°	Down 17° ± 2°
Rudder	Right 25° ± 2°	Left 25° ± 2°
Rudder tab	Right 20° ± 2°	Left 20° ± 2°

Elevator	Up 17° ± 1°	Down 12° ± 1°
Elevator Trim Tab (with elevator neutral)	Up 15° ± 1°	Down 39° ± 1°

Noise requirements. FAR 36 effective Dec. 1, 1965, included Amendments 36-1 through 36-28
ICAO Annex 16, Chapter 10

NOTE 21. Approved major changes on Vulcanair P.68 are:

Major Change, Level 1, Vulcanair MOD P68/123 – "Sagem Avionics Integrated Cockpit Installation IFR"
Applicability: Vulcanair P.68C, P.68C-TC, P.68TC Observer, P.68 Observer 2

Major Change, Level 2, Vulcanair MOD P68/86 – "S-TEC 55X Autopilot Installation"
Applicability: Vulcanair P68 Series

Major Change, Level 1, Vulcanair MOD P68/240 – "Garmin 950 Avionics Installation"
Applicability: Vulcanair P.68 Observer 2, P.68C, P.68C-TC, P.68TC Observer and P.68R

Major Change, Level 2, Vulcanair MOD P68/302 – "Installation of MidContinent MD302 Standby Module and activation of TAWS-B and SVS on P.68 Series." Applicability: Vulcanair P.68C, P.68C-TC and P.68R , SS/NN 469 onwards and SS/NN 458, 463, 465, 466 having incorporated Major Change, Level 1, Vulcanair MOD P68/240.

Major Change, Level 1, Vulcanair MOD P68/266 – "Installation of Garmin G950 avionic system and replacement of existing autopilot with S-Tec 2100 model"
Applicability: Vulcanair AP68TP-600 "Viator"
Certification Basis:
Amendment 23-17, § 23.143
Amendment 23-26, § 23.253
Amendment 23-51, §§ 23.25, 23.29, 23.301, 23.303, 23.305, 23.307, 23.395, 23.397, 23.405, 23.561, 23.601, 23.603, 23.605, 23.607, 23.609, 23.611, 23.613, 23.619, 23.623, 23.625, 23.627, 23.671, 23.677, 23.685, 23.689, 23.729, 23.771, 23.773, 23.777, 23.867, 23.963, 23.1301, 23.1303, 23.1309, 23.1311, 23.1321, 23.1322, 23.1323, 23.1325, 23.1327, 23.1329, 23.1331, 23.1335, 23.1337, 23.1351, 23.1353, 23.1357, 23.1359, 23.1361, 23.1365, 23.1367, 23.1381, 23.1431, 23.1501, 23.1523, 23.1525, 23.1529, 23.1541, 23.1543, 23.1545, 23.1547, 23.1549, 23.1553, 23.1555, 23.1581, 23.1583, 23.1585, 23.1589
Amendment 23-52, § 23.1305
Amendment 23-57, § 23.1308

Vulcanair MOD P68/328, Applicability Vulcanair S.p.A.P.68R, P68C, P68C-TC, P68TC Observer, P68 Observer 2. Installation of Garmin G1000Nxi avionic system With GFC700 autopilot installation. In addition to the P.68R (Victor), Certification Basis, the following requirements are applicable at the noted amendment level:
Amendment 23-17, § 23.1303
Amendment 23-45, §§ 23.685, 23.689
Amendment 23-51, §§ 23.25, 23.29, 23.601, 23.603, 23.605, 23.607, 23.609, 23.611, 23.613, 23.623, 23.625, 23.627, 23.771, 23.773, 23.777, 23.963, 23.1301,23.1305, 23.1311, 23.1321, 23.1322, 23.1327, 23.1331, 23.1337, 23.1351, 23.1353, 23.1357, 23.1359, 23.1361, 23.1365, 23.1367, 23.1381, 23.1431, 23.1501, 23.1523, 23.1525, 23.1529, 23.1541, 23.1543, 23.1545, 23.1547, 23.1549, 23.1581,23.1583, 23.1585, 23.1589
Amendment 23-57, § 23.1308
Amendment 23-61, § 23.1306
Amendment 23-49, § 23.1309

NOTE 22. Major Level 2 Change with approval for FAR23.1308 Amdt 57-
"Mod P68/157- Replacing Crossbow AHRS 500 GA with Axitude AX1-200 in SAGEM glass cockpit installation (IFR)
Applicability: Vulcanair S.p.A. P68C, P68C-TC, P68TC Observer, P68 Observer 2.

NOTE 23. P.68 Observer 2 and P.68TC Observer airplanes that install increased Maxium Zero Fuel Weight

(MZFW) MOD.P68/288 per SB 155 Rev 2 (FAA project AT010066CE-A) must follow the new reduced wing safe life limit of 21,550 flight hours from the previous limit of 23,900 flight hours per FAA AD 2014-10-01. **See FAA Global AMOC dated May 30, 2019 for details**. Operators must follow AMM 10.702-2 Section 4 (ALS) Revision 2 dated August 31, 2016. This new wing safe life limit remains even if the airplane is later de-modified of MOD.P.68/288. This MZFW modification increases the Zero fuel weight from 4167 lbs. (1890 Kg) to 4336 lbs (1967 Kg) and the maximum number of seats from 6 (2 at -37.4 in.), (2 at -5.7 in.), (2 at +34.2 in.) to 7 (2 at -37.4 in.), (2 at -5.7 in.), (3 at +34.2 in.). See SB 155 Rev 2 for the required AFM Supplements.

NOTE 24. P.68R aircraft from s/n 508 onwards are equipped since new with Garmin G1000 NXi Integrated Flight Deck System and GFC700 Autopilot (as per Type Design Change No. MOD P68/328).

NOTE 25. P.68C aircraft from s/n 511 onwards are equipped since new with Garmin G1000 NXi Integrated Flight Deck System and GFC700 Autopilot (as per Type Design Change No. MOD P68/328).

NOTE 26. P.68C-TC aircraft from s/n 514 onwards are equipped since new with Garmin G1000 NXi Integrated Flight Deck System and GFC700 Autopilot (as per Type Design Change No. MOD P68/328).

NOTE 27. P.68TC Observer aircraft from s/n 514 onwards are equipped since new with Garmin G1000 NXi Integrated Flight Deck System and GFC700 Autopilot (as per Type Design Change No. MOD P68/328).

NOTE 28. P.68 Observer 2 aircraft from s/n 514 onwards, plus s/n 495, are equipped since new with Garmin G1000 NXi Integrated Flight Deck System and GFC700 Autopilot (as per Type Design Change No. MOD P68/328).

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