

European Aviation Safety Agency

EASA

**TYPE-CERTIFICATE
DATA SHEET**

P.180

Type Certificate Holder:

Piaggio Aero Industries SpA

Viale Castro Pretorio,116 – 00185 Roma
ITALY

For variants: Avanti
Avanti II

Issue 07: 11 October 2012

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SECTION A: GENERAL, P.180 Avanti Type Design

A.I. General

Data Sheet No.: EASA.A.059	Issue: 07	Date: 11 October 2012
1. a) Type	P.180	
b) Variant	Avanti	
2. Airworthiness Category	Normal	
3. Type Certificate Holder:	Piaggio Aero Industries SpA	
	Viale Castro Pretorio,116 – 00185 Roma – ITALY	
4. Manufacturer:	Piaggio Aero Industries SpA	
	Via Luigi Cibrario,4 – 16154 Genova– ITALY	
5. Certification Application Date:	December 19th, 1983	
6. The ENAC Certification Date:	March 7 th , 1990	
7. The EASA Type Certificate replaces the ENAC Type Certificate No. A 390		

A.II Certification Basis

1. Reference Date for determining the applicable requirements: --
2. (reserved)
3. (reserved)
4. Airworthiness Requirements:
 - RAI Regolamento Tecnico Part 223, including amendments 223-1 through 223-33, correspondent to FAR 23, effective February 1st 1965, including amendments 23-1 through 23-33
 - JAR AWO Subaprt 2, Change 2, dated August 1st 1996
 - RVSM specific requirements included in the JAA Leaflet n. 6 rev.1 and in the FAA Interim Guidance Material 91 – RVSM, Ch. 1
 - a. Airplanes incorporating the optional Mod. n. 80-0642 or SB 80-0215: as above, except the CS 23 requirements (first issue) applicable to the areas affected by the change (see CRI A-01 mod 80-0642).
5. Requirements elected to comply:
 - Special Federal Aviation Regulations n. 27, effective 1st February 1974, including amendments 27-1 through 27-5.

FAR 23.2, amendment 36.

FAR 91 Appendix A dated August 18, 1989.

Applicable JAR 23 (first issue dated March 11, 1994) requirements for the following modifications:

- 80-0228 "Vertical fin - aluminum alloy instead of composite"
- 80-0229 "Aluminum canard wing instead of composite"
- 80-0241 "Aluminum rudder and trim tab"

and for the relevant Service Bulletins:

- 80-0106 "Replacement of the Composite Forward Wing Assembly with the new metallic one"
- 80-0142 "Replacement of the Composite Material Tail-cone/Vertical Fin Assembly, with the Metal Construction Assembly, in the event of not repairable damages"

14 CFR Part 36, effective 1st Dec. 1969, including amendments 36-1 through 36-16.

EASA Certification Specifications CS-23, dated 23/11/2003, paragraph 23.1529.

6. EASA Special Conditions: Special Conditions enclosed to the RAI paper n. 257.240/SCMA dated July 21, 1989 (Docket n. 031 CE, Special Conditions n. 23-ACE-29 and Special Condition FAA n. 23-ACE-52) which include the following Issue Papers:

Issue Paper	Special Condition
C-1 Composite Structures Fatigue/Damage Tolerance	23-ACE-29 No. 4
C-2 Full Scale Airload Verification	23-ACE-29 No. 5
C-3 Doors and Exits (Outward Opening)	23-ACE-29 No. 6
C-4 Lightning Protection of Composite Structure	23-ACE-29 No. 4
C-6 Forward and Main Wing Flap Interconnection	23-ACE-29 No. 7
C-7 Loads for P180 Configuration	23-ACE-29 No. 5
F-1 Buffet Onset Envelope	23-ACE-29 No. 1
F-2 Effect of Rain or Contamination on Laminar Flow Airfoils	23-ACE-29 No. 3
F-5 Inadvertent Excursion Beyond Maximum Operating Speed	23-ACE-29 No. 2
P-6 Propeller Ground Clearance	23-ACE-29 No. 8
P-7 Propeller marking	23-ACE-29 No. 9
P-8 Propeller Ice Protection and Exhaust Gas Impingement	23-ACE-29 No. 10
SE-4 Cockpit Smoke Evacuation	23-ACE-29 No. 11
SE-5 Protection for Systems from Lightning and High Energy Radio Frequency (HERF)	23-ACE-52 No. 2

7. EASA Exemptions: None

8. EASA Equivalent Safety Findings:

23.1305(g): Fuel pressure indication
23.1545(b)(5): Marking of Air Speed Indicator for Vyse

9. EASA Environmental Standards:

Noise: ICAO Annex 16, Ed. 1988, Vol. I, Chapter 10.

[Airplanes incorporating the optional Mod. n. 80-0642 or SB 80-0215: ICAO Annex 16, Ed. 1993, Amd. 7, Vol. I, Chapter 10/EASA-CS 36 (see CRI A-01 mod 80-0642)]

Emissions: ICAO Annex 16, Ed. 1993, Vol. II, Part II, Chapter 2 (fuel venting).

A.III Technical Characteristics and Operational Limitations

1. Type Design Definition: "P.180 Avanti – Type Design Configuration"
Piaggio Doc. n. 180-CNF-0000-00045.

2. Description:

Piaggio P180 Avanti is a bi-turboprop business aircraft with a max seating capability of 11 people including crew.

Its peculiar characteristic are the three lifting surface design (forward wing, main wing, and horizontal stabilizer) and pusher props.

3. Equipment:

The list of approved equipment is shown in Piaggio document "P.180 Master Equipment List" Doc. n. 5306.

4. Dimensions:

Forward Wing Span	3356 mm (11.01 ft)
Main Wing Span	14 033 mm (46.04 ft)
Length	14 408 mm (47.27 ft)
Height	3980 mm (13.05 ft)
Total Wing Area	16.00 m ² (172.212 ft ²)

5. Engines: No. 2

Model: Pratt & Whitney of Canada PT6A-66 turboprop engines, each flat rated at 850 s.h.p.
Right Engine 3037000 Build Spec. 676
Left Engine 3037000 Build Spec. 677

Type Certificate: EASA.(IM).E.008

Airplanes incorporating the Mod. n. 80-0657 or SB 80-0231:

Model: Pratt & Whitney of Canada PT6A-66B turboprop engines, each flat rated at 850 s.h.p. when installed on the aircraft.
Right Engine 3072196 Build Spec. 1223
Left Engine 3072196 Build Spec. 1224

Type Certificate: EASA.(IM).E.008

5.1. Engine Limits

Operating Conditions	Shaft (shp.)	N1 Gas Generator Speed (%)	Torque ft-lbs (kgm)	Prop. shaft speed (r.p.m.)	Maximum Permissible Interstage Temperature (°C)
Takeoff Max. continuous Max. climb Max. cruise	850	104.1	2230 (308,3)	2000	830
Normal Climb Normal Cruise	850	104.1	2230 (308,3)	2000	820
Starting Limits (5 sec.)	-	-	-	-	1000
Transient (20 sec.)	-	104.1	2750 (380,2)	2205	870

Oil Temperature

- Starting: - 40°C (min.)
- Minimum Idle: - 40°C ÷ 110°C
- Transient: 0°C ÷ 110°C
- Max. continuous and max. reverse: 0°C ÷ 110°C

Note: the above mentioned engine limits are applicable to both engine models: PT6A-66 and PT6A-66B.

6. Propellers: No. 2
 Model: Hartzell
 Right: HC-E5N-3L or HC-E5N-3AL (hub) / LE 8218 (each blade)
 Left: HC-E5N-3 or HC-E5N-3A (hub) / HE 8218 (each blade)
 Type Certificate: The EASA Propeller/engine Type Certification standard includes that of FAA TC P20NE based on individual EU member state acceptance or certification of this standard prior to 28 September 2003.
 Number of blades: 5

6.1. Sense of Rotation

Right propeller rotates Counterclockwise in view of flight direction
 Left propeller rotates Clockwise in view of flight direction

6.2. Diameter 2159 mm maximum, 2146 mm minimum

6.3. Pitch

- Nominal pitch angle at 0,761 m (30") station
- Minimum on ground: 14° ± 0,5°
 - Minimum in flight: 18° ± 0,5°
 - Reverse (negative): -13° ± 0,5°
 - Feathered: 89° ± 0,5°

6.4. Propeller Limits

- No further reduction of the minimum diameter is allowed.
- Stabilized ground operations between 600 and 900 rpm are prohibited.
- Stabilized ground operations at or below 600 rpm are allowed only when the propeller is feathered.
- Stabilized ground operations between 1300 and 1600 rpm are prohibited.

7. Fluids:

7.1. Fuel

JP4, JP8, JET A, JET A-1, JET B; RP-3 (No.3 Jet Fuel); RT and TS-1 (as per GOST 10227-86) conforming to the latest revision of Pratt & Whitney Service Bulletin No. 14004.

Fuel Anti-Ice Additive compliant with Specification MIL-I-27686 must be used with JET A, JET A1, JET B and RP-3 fuels.

7.2. Oil

Mobile Jet Oil II, AeroShell Turbine Oil 500 and Castrol 5000.

Refer also to the Limitations Section of the Pilot's Operating Handbook and Airplane Flight Manual (latest revision).

8. Fluid capacities

8.1. Fuel:

8.1.1. Aeroplanes without modification n. 80-0257 "Wing Tank Extension" or S.B. 80-0123 embodied:

Total: 1500 lt (396.3 US Gal)

Usable: 1486 lt (392.6 US Gal)

8.1.2. Aeroplanes with modification n. 80-0257 "Wing Tank Extension" or S.B. 80-0123 embodied:

Total: 1597 lt (421.9 US Gal)

Usable: 1583 lt (418.2 US Gal)

8.2. Oil:

Total: 25 lt (6.7 US Gal)

Usable quantity: 9,4 lt (2.5 US Gal)

Refer to Note 3 for non-drainable oil.

9. Air Speeds:

SPEED	SIAS
VMO (maximum operating speed) - up to 28.400 ft	260
MMO (maximum operating speed) - above 28.400 ft – Mach N. (Aeroplanes with modification n. 80-0407)	0.67 0.7
VA (maneuvering speed at 5239 Kg (11550 lbs)) Aeroplanes with modification n. 80-0642, or equivalent Service Bulletin n. 80-0215, installed: (maneuvering speed at 5489 kg (12100 lbs))	199 202
VFE (max. flap extended speed) Aeroplanes with modification n. 80-0642, or equivalent Service Bulletin n. 80-0215, installed: (max. flap extended speed – take off configuration (T.O)) Aeroplanes with modification n. 80-0642, or equivalent Service Bulletin n. 80-0215, installed:	175 177 180 183
VFO (maximum flap operating speed) (maximum flap operating speed – take off configuration (T.O.))	150 170
VLO (maximum landing gear operating speed) Aeroplanes with modification n. 80-0642, or equivalent Service Bulletin n. 80-0215, installed:	180 181
VLE (maximum landing gear extended speed)	185
VLL0/VLLE (maximum landing light operating/extended speed)	160
VMC (minimum control speed) - propeller feathered - propeller windmilling	100 128

10. Maximum Operating Altitude: 12500 m / 41000 ft

11. All-weather Capability:

Airplanes with modification n. 80-0101 "Category II Kit" embodied may be authorised to perform Category 2 (Cat. II) operations according to the limitations included in the Supplement n. 26 of the Pilot's Operating Handbook and Airplane Flight Manual.

12. Maximum Weight:

Maximum weight

(*) - Taxi and ramp	5262 kg	(11600 lbs)
(*) - Take-off	5239 kg	(11550 lbs)
(*) - Landing	4965 kg	(10945 lbs)
- Zero Fuel	4309 kg (9500 lbs)	at forward C.G. limit
	4218 kg (9300 lbs)	at aft C.G. limit
	Straight line variation between limits given	
	4445 kg (9800 lbs) C.G. whereas (S.N. 1016 and up airplanes)	

(*) Airplanes incorporating the opt. MOD. n. 80-0642 or SB 80-215:

- Taxi and ramp	5511 kg	(12150 lbs)
- Take-off	5489 kg	(12100 lbs)
- Landing	5216 kg	(11500 lbs)

13. Centre of Gravity Range:

Landing Gear extended C.G. range

From	To	Weight
5,273 m (207.6")	5,435 m (214.0")	5239 kg (11550 lbs)
[Airplanes incorporating the opt. MOD. n. 80-0642 or SB 80-215:		
5,340 m (210.25")	5,435 m (214.0")	5511 kg (12150 lbs)]
4,958 m (195.2")	5,435 m (214.0")	3967 kg (8745 lbs)
4,927 m (194.0")	5,410 m (213.0")	3856 kg (8500 lbs)
4,927 m (194.0")	5,328 m (209.8")	3493 kg (7700 lbs) or less
Straight line variation between limits given.		

Empty Weight C.G. Range

None

14. Datum:

6,000 m (236.22") forward of the rear pressure bulkhead centerline (at the intersection between the forward pressure bulkhead and the cockpit floor centerline).

15. Mean Aerodynamic Cord (MAC)

1,270 m (50")

16. Leveling Means:

Refer to the "P.180 Maintenance Manual" Piaggio Doc. n. 9066, Chapter 8, or to the applicable Pilot's Operating Handbook and Airplane Flight Manual, Sec. 8.

17. Minimum Flight Crew:

1 (Pilot)

18. Maximum Passenger Seating Capacity

11, including flight crew at 1,250 m (49.2") station. Refer to the POH/AFM for Passengers and flight crew loading instructions and approved configuration.

19. Exit: No. Type

2 exits (one main door and an emergency exit).

20. Baggage / Cargo Compartments

Baggage/Cargo Compartments maximum weight

	Weight	Station
Cabin compartment:		
on the floor	23 kg (50 lbs)	5,588 m (220")
on the coat rod:	18,1 kg (40 lbs)	5,588 m (220")
Rear Compartment:		
	181,4 kg (400 lbs)	7,569 m (298")

21. Wheels and Tyres

21.1. Wheels

Nose Landing Gear:	BF Goodrich 3-1460
Main Landing Gear:	BF Goodrich 3-1461-1

21.2. Tyres:

	Dimensions	Ply Rating	Speed Rating
Nose Landing Gear:			
Michelin 021-310-0 Tubeless (TL)	5.00x5	8 (PR)	177.4 (MPH)
Main Landing Gear:			
Michelin 028-357-0 Tubeless (TL)	6.50x10	12 (PR)	190 (MPH)

A.IV Operating and Servicing Instructions

1. Aircraft Flight Manual

"Pilot's Operating Handbook and Airplane Flight Manual" – Report n. 6591, RAI approved on July 7, 1992, and subsequent approved revisions.

2. Maintenance Manual:

"P.180 Maintenance Manual" – Report n. 9066.

3. Structural Repair Manual

"P.180 Structural Repair Manual" – Report n.180-MAN-0250-01106

4. Service Bulletins

Refer to Piaggio Report n. 9078

A.V Notes

1. Customized Cabin Interior and Seating Configurations must be approved
2. Applicable A/C Serial Number from S/N 1004 to 1104.
3. Requirements for the issue of the C. of A.
 - The minimum required equipment as prescribed in the applicable airworthiness regulations must be installed on the individual aircraft for certification.
 - Current weight and balance data, a list of equipment included in the certification empty weight and loading information when necessary must be provided for each aeroplane when the C.o.A. will be issued.

The certification empty weight and balance data shall include the unusable fuel and the total engine oil as follows:

	Quantity	Station
Unusable fuel:	11,24 kg (24,8 lbs)	6,319 m (248.8")
Undrainable fuel:	3,94 kg (8,7 lbs)	6,304 m (248.2")
Undrainable oil:	2,2 kg (4,9 lbs)	6,975 m (274.6").
Total oil quantity:	25 Kg (55 lbs)	6,975 m (274.6").

- Aeroplane Flight Manual is required.

4. Placards

All required placards as listed in the approved Airplane Flight Manual must be installed in the appropriate locations.

5. Continued Airworthiness

Airworthiness Limitations and Service Life Limits of some equipment are contained in Chapter 4 (Airworthiness Limitations) and Chapter 5 (Maintenance Schedule and Time Limits) of the Piaggio Report n. 9066.

6. Painting

Changing the color and the thickness of the exterior paint (including registration numbers) for composite components is only permissible after prior approval of the Type Certificate Holder.

SECTION B: GENERAL, P.180 Avanti II Type Design

B.I. General

Data Sheet No.: EASA.A.059	Issue: 07	Date: 11 October 2012
1. a) Type	P.180	
b) Variant	Avanti II	
2. Airworthiness Category	Normal	
3. Type Certificate Holder:	Piaggio Aero Industries SpA	
	Viale Castro Pretorio,116 – 00185 Roma – ITALY	
4. Manufacturer:	Piaggio Aero Industries SpA	
	Via Luigi Cibrario,4 – 16154 Genova– ITALY	
5. Certification Application Date:	October 16 th 2003	
6. The EASA Certification Date:	October21, 2005	

B.II Certification Basis

1. Reference Date for determining the applicable requirements:	October 16 th 2003	
2. (reserved)		
3. (reserved)		
4. Airworthiness Requirements:	As per para A.II.4, except the requirements applicable to the areas affected by the PA-05 major change (see CRI A-01)	
a. Airplanes incorporating the optional Mod. n. 80-0642 or SB 80-0215: as above, except the CS 23 requirements (first issue) applicable to the areas affected by the change (see CRI A-01 mod 80-0642).		
5. Requirements elected to comply: As per para.A.II.5		
6. Special Conditions		
	Special Condition RAI-NTO SE-5 [FAA 23-ACE-52 n°.2] “PROTECTION FOR SYSTEMS FROM LIGHTNING AND HIGH ENERGY RADIO FREQUENCY” is superseded, for this design change, by the new Special Condition originated by CRI F-01 (HIRF PROTECTION) and by the conclusions of CRI F-02 (PROTECTION FROM THE EFFECTS OF LIGHTNING STRIKE:INDIRECT EFFECTS).	
7. EASA Exemptions:		None
8. Equivalent Level of Safety		
CRI B – 02	EQUIVALENT LEVEL OF SAFETY	AIRSPEED INDICATOR MARKINGS
CRI F – 05	EQUIVALENT LEVEL OF SAFETY	POWERPLANT DISPLAY INSTRUMENTS
CRI F – 06	EQUIVALENT LEVEL OF SAFETY	USE OF DIGITAL ONLY DISPLAY FOR ENGINE OIL PRESSURE AND TEMPERATURE, FUEL QUANTITY AND FLOW

9. EASA Environmental Standards: : As per para. A.II.9

B.III Technical Characteristics and Operational Limitations

1. Type Design Definition: "P.180 Avanti – Type Design Configuration"
Piaggio Doc. n. 180-CNF-0000-00976.
"P.180 Avanti II List of approved type design changes"
Piaggio Doc. N. 180-CNF-0000-01165.

2. Description:

2.1. General

The General Description of the P.180 Avanti (provided in § A.III, 2 of Section A1) applies to P.180 Avanti II, except for the avionics suite.

2.2. Avionics

The standard avionics package is a Collins Pro Line 21 avionic suite, as it has been configured for the P180.

3. Equipment:

The list of approved equipment is shown in Piaggio document "P.180 Vendor Item List/Qualification Equipment List" Piaggio Doc. n. 180-CRP-0000-00412.

4. Dimensions:

Forward Wing Span	3356 mm (11.01 ft)
Main Wing Span	14 033 mm (46.04 ft)
Length	14 408 mm (47.27 ft)
Height	3980 mm (13.05 ft)
Total Wing Area	16.00 m ² (172.212 ft ²)

5. Engines:	No.	2
	Model:	Pratt & Whitney of Canada PT6A-66 turboprop engines, each flat rated at 850 s.h.p. Right Engine 3037000 Build Spec. 676 Left Engine 3037000 Build Spec. 677
	Type Certificate:	EASA.(IM).E.008

Airplanes incorporating the Mod. n. 80-0657 or SB 80-0231 :

	Model:	Pratt & Whitney of Canada PT6A-66B turboprop engines, each flat rated at 850 s.h.p. when installed on the aircraft. Right Engine 3072196 Build Spec. 1223 Left Engine 3072196 Build Spec. 1224
	Type Certificate:	EASA.(IM).E.008

5.1. Engine Limits

Operating Conditions	Shaft (shp.)	N1 Gas Generator Speed (%)	Torque ft-lbs (kgm)	Prop. shaft speed (r.p.m.)	Maximum Permissible Interstage Temperature (°C)
Takeoff Max. continuous Max. climb Max. cruise	850	104.1	2230 (308,3)	2000	830
Normal Climb Normal Cruise	850	104.1	2230 (308,3)	2000	820
Starting Limits (5 sec.)	-	-	-	-	1000
Transient (20 sec.)	-	104.1	2750 (380,2)	2205	870

Oil Temperature

- Starting: - 40°C (min.)
- Minimum Idle: - 40°C ÷ 110°C
- Transient: 0°C ÷ 110°C
- Max. continuous and max. reverse: 0°C ÷ 110°C

Note: the above mentioned engine limits are applicable to both engine models: PT6A-66 and PT6A-66B.

6. Propellers: No. 2
 Model: Hartzell
 Right: HC-E5N-3L or HC-E5N-3AL (hub) / LE 8218 (each blade)
 Left: HC-E5N-3 or HC-E5N-3A (hub) / HE 8218 (each blade)
 Type Certificate: The EASA Propeller/engine Type Certification standard includes that of FAA TC P20NE based on individual EU member state acceptance or certification of this standard prior to 28 September 2003.
 Number of blades: 5

6.1. Sense of Rotation

Right propeller rotates Counterclockwise in view of flight direction
 Left propeller rotates Clockwise in view of flight direction

6.2. Diameter 2159 mm maximum, 2146 mm minimum

6.3. Pitch

- Nominal pitch angle at 0,761 m (30") station
- Minimum on ground: 14° ± 0,5°
 - Minimum in flight: 18° ± 0,5°

- Reverse (negative): $-13^{\circ} \pm 0,5^{\circ}$
- Feathered: $89^{\circ} \pm 0,5^{\circ}$

6.4. Propeller Limits

- No further reduction of the minimum diameter is allowed.
- Stabilized ground operations between 600 and 900 rpm are prohibited.
- Stabilized ground operations at or below 600 rpm are allowed only when the propeller is feathered.
- Stabilized ground operations between 1300 and 1600 rpm are prohibited.

7. Fluids:

7.1. Fuel

JP4, JP8, JET A, JET A-1, JET B; RP-3 (No.3 Jet Fuel); RT and TS-1 (as per GOST 10227-86) conforming to the latest revision of Pratt & Whitney Service Bulletin No. 14004.

Fuel Anti-Ice Additive compliant with Specification MIL-I-27686 must be used with JET A, JET A1, JET B and RP-3 fuels.

7.2. Oil

Mobile Jet Oil II, AeroShell Turbine Oil 500 and Castrol 5000.

Refer also to the Limitations Section of the Pilot's Operating Handbook and Airplane Flight Manual (latest revision).

8. Fluid capacities

8.1. Fuel:

Total:	1597 lt	(421.9 US Gal)
Usable:	1583 lt	(418.2 US Gal)

8.2. Oil:

Total:	25 lt (6.7 US Gal)
Usable quantity:	9,4 lt (2.5 US Gal)

Refer to Note 3 for non-drainable oil.

9. Air Speeds:

	SPEED	KIAS
VMO (maximum operating speed)		
- up to 28.400 ft		260
MMO (maximum operating speed)		
- above 28.400 ft – Mach N.		0.7
VA (maneuvering speed at 5239 Kg (11550 lbs))		199
Aeroplanes with modification n. 80-0642, or equivalent Service Bulletin n. 80-0215, installed:		
(maneuvering speed at 5489 kg (12100 lbs))		202

SPEED (cont.)		KIAS
VFE	(max. flap extended speed)	175
	Aeroplanes with modification n. 80-0642, or equivalent Service Bulletin n. 80-0215, installed:	177
	(max. flap extended speed – take off configuration (T.O))	180
	Aeroplanes with modification n. 80-0642, or equivalent Service Bulletin n. 80-0215, installed:	183
VFO	(maximum flap operating speed)	150
	(maximum flap operating speed – take off configuration (T.O.))	170
VLO	(maximum landing gear operating speed)	180
	Aeroplanes with modification n. 80-0642, or equivalent Service Bulletin n. 80-0215, installed:	181
VLE	(maximum landing gear extended speed)	185
VLL0/VLLE	(maximum landing light operating/extended speed)	160
VMC	(minimum control speed)	
	- propeller feathered	100
	- propeller windmilling	128

10. Maximum Operating Altitude: 12500 m / 41000 ft

11. All-weather Capability:

The airplanes are authorised to perform Category 2 (Cat. II) operations according to the limitations included in the applicable Airplane Flight Manual.

12. Maximum Weight:

Maximum weight

(*) - Taxi and ramp	5262 kg	(11600 lbs)
(*) - Take-off	5239 kg	(11550 lbs)
(*) - Landing	4965 kg	(10945 lbs)
- Zero Fuel	4445 kg (9800 lbs)	C.G. whereas

(*) Airplanes incorporating the opt. MOD. n. 80-0642 or SB 80-215:

- Taxi and ramp	5511 kg	(12150 lbs)
- Take-off	5489 kg	(12100 lbs)
- Landing	5216 kg	(11500 lbs)

13. Centre of Gravity Range:

Landing Gear extended C.G. range		Weight
From	To	
5,273 m (207.6")	5,435 m (214.0")	5239 kg (11550 lbs)
[Airplanes incorporating the opt. MOD. n. 80-0642 or SB 80-215:		
5,340 m (210.25")	5,435 m (214.0")	5511 kg (12150 lbs)]
4,958 m (195.2")	5,435 m (214.0")	3967 kg (8745 lbs)
4,927 m (194.0")	5,410 m (213.0")	3856 kg (8500 lbs)
4,927 m (194.0")	5,328 m (209.8")	3493 kg (7700 lbs) or less
Straight line variation between limits given.		

Empty Weight C.G. Range
None

14. Datum:

6,000 m (236.22") forward of the rear pressure bulkhead centerline (at the intersection between the forward pressure bulkhead and the cockpit floor centerline).

15. Mean Aerodynamic Cord (MAC)
1,270 m (50")

16. Leveling Means:

Refer to the "P.180 Avanti II Maintenance Manual" or to the applicable Pilot's Operating Handbook and Airplane Flight Manual.

17. Minimum Flight Crew: 1 (Pilot)

18. Maximum Passenger Seating Capacity

11, including flight crew at 1,250 m (49.2") station. Refer to the "P.180 Avanti II Weight and Balance Manual" for Passengers and flight crew loading instructions and approved configuration.

19. Exit: No. Type

2 exits (one main door and an emergency exit).

20. Baggage / Cargo Compartments

Baggage/Cargo Compartments maximum weight

	Weight	Station
Cabin compartment:		
on the floor	23 kg (50 lbs)	5,588 m (220")
on the coat rod:	18,1 kg (40 lbs)	5,588 m (220")
Rear Compartment:		
	181,4 kg (400 lbs)	7,569 m (298")

21. Wheels and Tyres

21.1. Wheels

Nose Landing Gear:	BF Goodrich 3-1460
Main Landing Gear:	BF Goodrich 3-1461-1

21.2. Tyres:

	Dimensions	Ply Rating	Speed Rating
Nose Landing Gear:			
Michelin 021-310-0 Tubeless (TL)	5.00x5	8 (PR)	177.4 (MPH)
Main Landing Gear:			
Michelin 028-357-0 Tubeless (TL)	6.50x10	12 (PR)	190 (MPH)

B.IV Operating and Servicing Instructions

1. Aircraft Flight Manual
"P.180 Avanti II Airplane Flight Manual" – Report n.180-MAN-0010-01100
"P.180 Avanti II Weight and Balance Manual" – Report n. 180-MAN-0020-01101
2. Maintenance Manual:
"P.180 Avanti II Maintenance Manual" – Report n. 180-MAN-0200-01105
Airworthiness Limitations are contained in P.180 Avanti II Chapter 4 (Airworthiness Limitations) Report n. 180-MAN-0200-01109
3. Structural Repair Manual
"P.180 Structural Repair Manual" – Report n.180-MAN-0250-01106
4. Service Bulletins
Refer to Piaggio Report n. 9078

B.V Notes

1. Customized Cabin Interior and Seating Configurations must be approved
2. Applicable A/C serial numbers: S/N 1002 and from S/N 1105+.
3. Requirements for the issue of the C. of A.
 - The minimum required equipment as prescribed in the applicable airworthiness regulations must be installed on the individual aircraft for certification.
 - Current weight and balance data, a list of equipment included in the certification empty weight and loading information when necessary must be provided for each aeroplane when the C.o.A. will be issued.

The certification empty weight and balance data shall include the unusable fuel and the total engine oil as follows:

	Quantity	Station
Unusable fuel:	11,24 kg (24,8 lbs)	6,319 m (248.8")
Undrainable fuel:	3,94 kg (8,7 lbs)	6,304 m (248.2")
Undrainable oil:	2,2 kg (4,9 lbs)	6,975 m (274.6")
Total oil quantity:	25 Kg (55 lbs)	6,975 m (274.6")

- Aeroplane Flight Manual is required.

4. Placards

All required placards as listed in the approved Airplane Flight Manual must be installed in the appropriate locations.

5. Painting

Changing the color and the thickness of the exterior paint (including registration numbers) for composite components is only permissible after prior approval of the Type Certificate Holder.

ADMINISTRATIVE SECTION

I Acronyms N/A

II Type Certificate Holder Record

Piaggio Aero Industries SpA

Viale Castro Pretorio, 116 – 00185 Roma
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III Change Record

Issue 1	21 Oct 2005: initial EASA issue replacing ENAC/RAI TCDS.
Issue 2	10 January 2006: addition of optional Mod. 80-0642 or SB 80-0215.
Issue 3	23 March 2007, addition of Mod 80-0657(P.EASA.A.C.03574).
Issue 4	19 February 2010: editorial changes and corrections.
Issue 5	20 April 2010: editorial corrections to engine build specifications.
Issue 6	18 February 2011: RP-3 fuel type added; list of fuel types corrected; error in sense of rotation of propellers corrected.
Issue 7	11 October 2012: Russian fuels TS-1 and RT added.