TYPE-CERTIFICATE

DATA SHEET

NO. EASA.A.059

for
P.180 SERIES

Type Certificate Holder
Piaggio Aviation S.p.A

Viale Generale Disegna,
17038 – Villanova d’Albenga (SV)
ITALY

For models:  Avanti
              Avanti II
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SECTION A: P.180 Avanti

A.I. General

1. a) Type P.180
   b) Model Avanti
   c) Variant ---

2. Airworthiness Category Normal

3. Type Certificate Holder: Piaggio Aviation SpA
   Viale Generale Disegna 1
   17038 – Villanova d’Albenga (SV), ITALY

4. Manufacturer: Piaggio Aero Industries SpA
   Viale Generale Disegna, 1
   17038 Villanova d’Albenga (SV) - ITALY
   until 1998
   I.A.M. Rinaldo Piaggio S.p.A.
   ITALY

5. Certification Application Date: December 19th, 1983

6. The ENAC Certification Date: March 7th, 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 Subpart 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

For airplanes incorporating the optional Mod. n. 80-0642 or equivalent SB 80-0215:
   as above, except CS-23 requirements (first issue) applicable to the areas affected by the change (see Appendix 2 – MTOW Increased Major Change (80-0642) CRI A-01).
5. Requirements elected to comply:

Specia 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 Tailcone/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.


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:

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

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 $V_{YSE}$
9. EASA Environmental Standards (see also TCDSN):

[Airplanes incorporating the optional Mod. n. 80-0642 or SB 80-0215: ICAO Annex 16, Ed. 1993, Amdt. 7, Vol. I, Chapter 10/EASA-CS 36 (see Appendix 2 – MTOW Increased Major Change (80-0642) CRI A-01)]

10. EASA Operational Suitability Requirements.

CS-FCD - Certification Specifications for Operational Suitability Data (OSD) Flight Crew Data
CS-FCD, Initial issue dated 31 Jan 2014;
JAR-MMEL/MEL - Master Minimum Equipment List/ Minimum Equipment List Section 1, Subpart A and B, Amdt. 1, dated 1 August 2005, as defined in CRI A-MMEL;

10.1 Special conditions for OSD: none
10.2 Exemptions for OSD: none
10.3 Deviations for OSD: none
10.4 Equivalent Safety for OSD: none.

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:

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward Wing Span</td>
<td>3356 mm (11.01 ft)</td>
</tr>
<tr>
<td>Main Wing Span</td>
<td>14 033 mm (46.04 ft)</td>
</tr>
<tr>
<td>Length</td>
<td>14 408 mm (47.27 ft)</td>
</tr>
<tr>
<td>Height</td>
<td>3980 mm (13.05 ft)</td>
</tr>
<tr>
<td>Total Wing Area</td>
<td>16.00 m² (172.212 ft²)</td>
</tr>
</tbody>
</table>

5. Engines: No. 2

Model: Pratt & Whitney of Canada PT6A-66 turboprop engines, each flat rated at 850 shp.
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 shp. 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

<table>
<thead>
<tr>
<th>Operating Conditions</th>
<th>Shaft (shp.)</th>
<th>N1 Gas Generator Speed (%)</th>
<th>Torque ft-lbs (kgm)</th>
<th>Prop. shaft speed (r.p.m.)</th>
<th>Maximum Permissible Interstage Temperature (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff</td>
<td>850</td>
<td>104,1</td>
<td>2230 (308,3)</td>
<td>2000</td>
<td>830</td>
</tr>
<tr>
<td>Max. continuous</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. climb</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. cruise</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normal Climb</td>
<td>850</td>
<td>104,1</td>
<td>2230 (308,3)</td>
<td>2000</td>
<td>820</td>
</tr>
<tr>
<td>Normal Cruise</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Starting Limits (5 sec.)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1000</td>
</tr>
<tr>
<td>Transient (20 sec.)</td>
<td>-</td>
<td>104,1</td>
<td>2750 (380,2)</td>
<td>2205</td>
<td>870</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>No.</th>
<th>Model</th>
<th>Type Certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Hartzell</td>
<td>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.</td>
</tr>
</tbody>
</table>

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-1-27686 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: 1500 lt (396.3 US Gal)
Usable: 1486 lt (392.6 US Gal), or

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

for Aeroplanes with modification n. 80-0257 “Wing Tank Extension” or SB 80-0123 embodied
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

<table>
<thead>
<tr>
<th>Speed</th>
<th>Condition</th>
<th>KIAS</th>
<th>Mach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum operating speed</td>
<td>up to 28.400 ft</td>
<td>260</td>
<td>--</td>
</tr>
<tr>
<td>M MO</td>
<td>above 28.400 ft</td>
<td>--</td>
<td>0,67, or</td>
</tr>
<tr>
<td>M MO</td>
<td>above 28.400 ft</td>
<td>--</td>
<td>0,7</td>
</tr>
<tr>
<td>(for aeroplanes with modification n. 80-0407)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maneuvering speed V_A</td>
<td>at 5239 kg (11550 lbs.)</td>
<td>199</td>
<td>--, or</td>
</tr>
<tr>
<td>V_A at 5489 kg (12100 lbs.)</td>
<td>202</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>(for aeroplanes with modification n. 80-0642, or equivalent Service Bulletin n. 80-0215 installed)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Flap Extended Speed</td>
<td>V_FE</td>
<td>175</td>
<td>--, or</td>
</tr>
<tr>
<td>V_FE</td>
<td></td>
<td>177</td>
<td>--</td>
</tr>
<tr>
<td>(for aeroplanes with modification n. 80-0642, or equivalent Service Bulletin n. 80-0215 installed)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V_FE take-off configuration (T.O.)</td>
<td>180</td>
<td>--, or</td>
<td></td>
</tr>
<tr>
<td>V_FE take-off configuration (T.O.)</td>
<td>183</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td>(for aeroplanes with modification n. 80-0642, or equivalent Service Bulletin n. 80-0215 installed)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Flap Operating Speed</td>
<td>V_FO</td>
<td>150</td>
<td>--</td>
</tr>
<tr>
<td>V_FO take-off configuration</td>
<td></td>
<td>170</td>
<td>--</td>
</tr>
<tr>
<td>Max Landing Gear Extended Speed</td>
<td>V_lo</td>
<td>180</td>
<td>--, or</td>
</tr>
<tr>
<td>V_lo</td>
<td></td>
<td>181</td>
<td>--</td>
</tr>
<tr>
<td>(for aeroplanes with modification n. 80-0642, or equivalent Service Bulletin n. 80-0215 installed)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Landing Gear Extended Speed</td>
<td>V_LE</td>
<td>185</td>
<td>--</td>
</tr>
<tr>
<td>Max Landing Light Operating / Extended Speed</td>
<td>V_LLO / V_LLE</td>
<td>160</td>
<td>--</td>
</tr>
<tr>
<td>Minimum Control Speed</td>
<td>Propeller feathered</td>
<td>100</td>
<td>--</td>
</tr>
<tr>
<td>Propeller windmilling</td>
<td>128</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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. Weights:
12.1 Maximum Weight for
- Taxi and ramp: 5262 kg (11600 lbs.)
- Take-off: 5239 kg (11550 lbs.)
- Landing: 4965 kg (10945 lbs.), or

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

for aeroplanes with modification n. 80-0642, or equivalent Service Bulletin n. 80-0215 installed

12.2 Zero Fuel Weight
- at forward C.G. limit: 4309 kg (9500 lbs.)
- at aft C.G. limit: 4218 kg (9300 lbs.)

Straight line variation between limits given
4445 kg (9800 lbs.) C.G. whereas (MSN 1016 and up airplanes)
except MSN. 1016-1104 installing S.B. 80-0482:
4627 kg (10200 lbs.)

13. Centre of Gravity Range:
- Landing gear extended C.G. range
  - From: 5,273 m (207.6")
  - To: 5,435 m (214.0")
  - Weight: 5262 kg (11600 lbs.), or

  - From: 5,340 m (210.25")
  - To: 5,435 m (214.0")
  - Weight: 5511 kg (12150 lbs.)

for aeroplanes with modification n. 80-0642, or equivalent Service Bulletin n. 80-0215 installed

  - From: 4,958 m (195.2")
  - To: 5,435 m (214.0")
  - Weight: 3967 kg (8745 lbs.)

  - From: 4,927 m (194.0")
  - To: 5,410 m (213.0")
  - Weight: 3856 kg (8500 lbs.)

  - From: 4,927 m (194.0")
  - To: 5,328 m (209.8")
  - Weight: 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. Exits (No. and type) 2
   one main door
   one emergency exit

20. Baggage / Cargo Compartments

<table>
<thead>
<tr>
<th>Compartment</th>
<th>Weight</th>
<th>Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabin compartment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>on floor</td>
<td>23 kg (50 lbs.)</td>
<td>5,588 m (220&quot;)</td>
</tr>
<tr>
<td>on coat rod</td>
<td>18.1 kg (40 lbs.)</td>
<td>5,588 m (220&quot;)</td>
</tr>
<tr>
<td>Rear compartment</td>
<td>181.4 kg (400 lbs.)</td>
<td>7,569 m (298&quot;)</td>
</tr>
</tbody>
</table>

21. Wheels and Tires
   For approved wheels types and tires types, rating, dimensions and ply rating, refer to applicable Pilot's Operating Handbook and Airplane Flight Manual

A IV Operating and Servicing Instructions

1. Aircraft Flight Manual


4. Service Bulletins
   Refer to Piaggio Report n. 9078

A V Operational Suitability Data (OSD)

The Operational Suitability Data elements listed below are approved by the European Aviation Safety Agency under the EASA Type Certificate EASA.A.059 as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation (EU) No 69/2014;

1. Master Minimum Equipment List
   Piaggio Report ref No 180-RPT-0000-09700 Rev 00 dated 11 May 2017 „MMEL P180 Avanti MSN 1004 through 1104“, or later approved revisions.

2. Flight Crew Data
   The Flight Crew Data is defined in Piaggio Report ref 180 RPT-0000-10210 “P180 Avanti/
Avanti II – EASA OSD Flight Crew" original Issue dated 24 February 2017, or later approved revisions.

3  **Cabin Crew Data**
Not applicable;

4  **SIM Data**
Not applicable;

5  **Maintenance Certifying Staff Data**
Not applicable;

### A.VI Notes

1. Customized Cabin Interior and Seating Configurations must be approved

2. Applicable A/C Serial Number from 1004 to 1104, except MSN installing Piaggio S.B. n. 80-0484 that upgrades them to Avanti II configuration (Section B apply).

3. Requirements for the issue of the CoA
   - 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 CoA 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: P.180 Avanti II

B.I General

1. Type Model Variant
   P.180 Avanti II ---

2. Airworthiness Category Normal

3. Type Certificate Holder: Piaggio Aviation SpA
   Viale Generale Disegna 1
   17038 – Villanova d’Albenga (SV) - ITALY

4. Manufacturer: Piaggio Aero Industries SpA
   Viale Generale Disegna, 1
   17038 Villanova d’Albenga (SV) - ITALY

5. Certification Application Date: October 16th 2003

6. The EASA Certification Date: October 21st 2005

B.II Certification Basis

1. Reference Date for determining the applicable requirements
   October 16th 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 Appendix 1 – PA05 Major Change CRI A-01)
   Airplanes incorporating the optional Mod. n. 80-1270 or SB 80-0459: as above, with the addition of ADS-B Out Specific Requirements included in the CS-ACNS Initial Issue (17 December 2013), section 4 “1090 MHz Extended Squitter ADS-B”
   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 Appendix 2 – MTOW Increased Major Change (80-0642) CRI A-01).

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).
   Airplanes incorporating the optional Mod. 80-1432 “Lithium Ion Main Battery”: Special Condition(s): SC-F23-1353-01. (CRI F-58).
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

10. EASA Operational Suitability Requirements.

   CS-FCD - Certification Specifications for Operational Suitability Data (OSD) Flight Crew Data CS-FCD, Initial issue dated 31 Jan 2014;


10.2 Special conditions for OSD:  
none

10.2 Exemptions for OSD:  
none

10.3 Deviations for OSD:  
none

10.4 Equivalent Safety for OSD:  
none.

### B.III Technical Characteristics and Operational Limitations

1. Type Design Definition:
   - **Type Design Configuration**
     - For airplanes MSN 1105+:
       Piaggio Doc. N. 180-CNF-0000-00976.

     - For airplanes MSN 1004-1104 installing SB 80-0484:
       Piaggio Doc. N. 300-03350

     - “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.

2.3. Commercial Designations / Modification Packages

**P.180 Avanti EVO** is the informal, commercial designation used to identify P.180 Avanti II, MSN 3001 and up, fitted at delivery with the major modifications listed below:
- Winglet, DMT 80-1121
- Community Noise Reduction, DMT 80-1117, that cannot be installed separately (DMT 80-1117 installed means that DMT 80-1121 is installed too).

This designation is not recognized as a separate model at EASA level.

2.4 Also those P.180 Avanti airplanes with S.B. 80-0484 embodied belong to the P180 Avanti II Model.

3. Equipment:

The list of approved equipment is shown in Piaggio document “P.180 Avanti II List of approved type design changes” Piaggio Doc. N. 180-CNF-0000-01165 at the latest revision.

4. Dimensions:

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward Wing Span</td>
<td>3356 mm (11.01 ft)</td>
</tr>
<tr>
<td>Main Wing Span</td>
<td>14 033 mm (46.04 ft)</td>
</tr>
<tr>
<td>Length</td>
<td>14 408 mm (47.27 ft)</td>
</tr>
<tr>
<td>Height</td>
<td>3980 mm (13.05 ft)</td>
</tr>
<tr>
<td>Total Wing Area</td>
<td>16,00 m² (172.212 ft²)</td>
</tr>
</tbody>
</table>

5. Engines: 2

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Right Engine 3037000 Build Spec. 676</td>
</tr>
<tr>
<td></td>
<td>Left Engine 3037000 Build Spec. 677</td>
</tr>
<tr>
<td>Type Certificate:</td>
<td>EASA.IM.E.008</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Model: Pratt &amp; Whitney of Canada PT6A-66B turboprop engines, each flat rated at 850 shp. when installed on the aircraft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right Engine 3072196 Build Spec. 1223</td>
</tr>
<tr>
<td>Left Engine 3072196 Build Spec. 1224</td>
</tr>
<tr>
<td>Type Certificate: EASA.IM.E.008</td>
</tr>
</tbody>
</table>
Airplanes incorporating the Mod. n. 80-1117:

Model: Pratt & Whitney of Canada PT6A-66B turboprop engines, each flat rated at 850 shp. when installed on the aircraft.

Right Engine 3072196 Build Spec. 1243
Left Engine 3072196 Build Spec. 1244

Type Certificate: EASA.IM.E.008

5.1. Engine Limits

<table>
<thead>
<tr>
<th>Operating Conditions</th>
<th>Shaft (shp.)</th>
<th>N1 Gas Generator Speed (%)</th>
<th>Torque ft-lbs (kgm)</th>
<th>Prop. shaft speed (r.p.m.)</th>
<th>Maximum Permissible Interstage Temperature (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Takeoff Max. continuous</td>
<td>850</td>
<td>104.1</td>
<td>2230 (308,3)</td>
<td>2000</td>
<td>830</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2480 [<em>] (342,9) [</em>]</td>
<td>1800 [*]</td>
<td></td>
</tr>
<tr>
<td>Normal Climb Normal Cruise</td>
<td>850</td>
<td>104.1</td>
<td>2230 (308,3)</td>
<td>2000</td>
<td>820</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2480 [<em>] (342,9) [</em>]</td>
<td>1800 [*]</td>
<td></td>
</tr>
<tr>
<td>Starting Limits (5 sec.)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1000</td>
</tr>
<tr>
<td>Transient (20 sec.)</td>
<td>-</td>
<td>104.1</td>
<td>2750 (380,2)</td>
<td>2205</td>
<td>870</td>
</tr>
</tbody>
</table>

[*] for airplanes incorporating the Mod. n. 80-1117

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:

6.1. For P180 MSN 1002 and P180 Avanti II, Modification 80-1117 “Community Noise Reduction” not incorporated

<table>
<thead>
<tr>
<th>No.</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Hartzell</td>
</tr>
</tbody>
</table>
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: EASA.(IM).P.125
Number of blades: 5

6.1.1. Sense of rotation
Right propeller rotates Counterclockwise in view of flight direction
Left propeller rotates Clockwise in view of flight direction

6.1.2. Diameter 2159 mm maximum, 2146 mm minimum

6.1.3. 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°

6.1.4. 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.

6.2. For P.180 MSN 1002 and P.180 Avanti II, Modification 80-1117 “Community Noise Reduction” incorporated (“P.180 Avanti EVO”)

No. 2
Model: Hartzell
Right: HC-E5N-3L or HC-E5N-3AL (hub) / LE 8492 (each blade)
Left: HC-E5N-3 or HC-E5N-3A (hub) / HE 8492 (each blade)

Type Certificate: EASA.(IM).P.125
Number of blades: 5

6.2.1. Sense of rotation
Right propeller rotates Counterclockwise in view of flight direction
Left propeller rotates Clockwise in view of flight direction

6.2.2. Diameter 2197 mm maximum, 2184 mm minimum

6.2.3. Pitch
Nominal pitch angle at 0.761 m (30") station
- Minimum on ground: 14° ± 0.5°
- Minimum in flight: 19° ± 0.5°
- Reverse (negative): -8° ± 0.5°
- Feathered: 87.6° ± 0.5°
6.2.4. 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 1250 and 1550 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

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Usable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel</td>
<td>1597 l (421.9 US Gal)</td>
<td>1583 l (418.2 US Gal), or</td>
</tr>
<tr>
<td></td>
<td>1816 l (479.7 US Gal)</td>
<td>1802 l (476.0 US Gal)</td>
</tr>
</tbody>
</table>
for aeroplanes with modification n. 80-1091 “P.180 Extended Range” or S.B. 80-0424 embodied

8.2. Oil

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Usable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil</td>
<td>25 l (6.7 US Gal)</td>
<td>9.4 l (2.5 US Gal)</td>
</tr>
</tbody>
</table>
Refer to Note 3 for non-drainable oil.

9. Air Speeds

<table>
<thead>
<tr>
<th>Speed</th>
<th>Condition</th>
<th>KIAS</th>
<th>Mach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum operating speed</td>
<td>$V_{MO}$</td>
<td>up to 28 400 ft</td>
<td>260</td>
</tr>
<tr>
<td></td>
<td>$M_{MO}$</td>
<td>above 28 400 ft</td>
<td>--</td>
</tr>
<tr>
<td>Maneuvering speed</td>
<td>$V_{A}$</td>
<td>at 5239 kg (11550 lbs.)</td>
<td>199</td>
</tr>
<tr>
<td></td>
<td>$V_{A}$</td>
<td>at 5489 kg (12100 lbs.)</td>
<td>202</td>
</tr>
</tbody>
</table>
### Speed Conditions

<table>
<thead>
<tr>
<th>Speed</th>
<th>Condition</th>
<th>KIAS</th>
<th>Mach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max Flap Extended Speed</td>
<td>$V_{FE}$</td>
<td>175</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>$V_{FE}$</td>
<td>177</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>(for aeroplanes with modification n. 80-0642, or equivalent Service Bulletin n. 80-0215 installed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Flap Operating Speed</td>
<td>$V_{FO}$</td>
<td>150</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>$V_{FO}$ take-off configuration</td>
<td>170</td>
<td>--</td>
</tr>
<tr>
<td>Max Landing Gear Operating Speed</td>
<td>$V_{LO}$</td>
<td>180</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>$V_{LO}$</td>
<td>181</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>(for aeroplanes with modification n. 80-0642, or equivalent Service Bulletin n. 80-0215 installed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max Landing Gear Extended Speed</td>
<td>$V_{LE}$</td>
<td>185</td>
<td>--</td>
</tr>
<tr>
<td>Max Landing Light Operating / Extended Speed</td>
<td>$V_{LLO} / V_{LLE}$</td>
<td>160</td>
<td>--</td>
</tr>
<tr>
<td>Minimum Control Speed</td>
<td>$V_{MC}$ Propeller feathered</td>
<td>100</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>Propeller windmilling</td>
<td>128</td>
<td>--</td>
</tr>
</tbody>
</table>

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

12.1 Maximum Weight for

- Taxi and ramp 5262 kg (11600 lbs.)
- Take-off 5239 kg (11550 lbs.)
- Landing 4965 kg (10945 lbs.), or
12. Taxi and ramp
   5511 kg (12150 lbs.)
   Take-off
   5489 kg (12100 lbs.)
   Landing
   5216 kg (11500 lbs.)
   (for aeroplanes with modification n. 80-0642, or equivalent Service Bulletin n. 80-0215 installed)

12.2 Zero Fuel
   except airplanes
   - MSN 1105-1234 installing S.B. 80-0482
   - MSN from 3001 to 3018 installing modification 80-1440
   - MSN 3019+ installing modification 80-1338
   - MSN 1004-1104 installing S.B. 80-0484
   for which
   4627 kg (10200 lbs.)

13. Centre of Gravity Range
   For Landing Gear Extended
   From       To       Weight
   5,273 m (207.6")    5,435 m (214.0")   5262 kg (11600 lbs.), or
   5,340 m (210.25")    5,435 m (214.0")   5511 kg (12150 lbs.)]
   for aeroplanes with modification n. 80-0642, or equivalent Service Bulletin n. 80-0215 installed
   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 Chord (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. Exits (No. and type)
   2
   one main door
   one emergency exit

20. Baggage / Cargo Compartments

<table>
<thead>
<tr>
<th>Compartment</th>
<th>Weight</th>
<th>Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabin compartment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>on floor</td>
<td>23 kg (50 lbs.)</td>
<td>5,588 m (220”)</td>
</tr>
<tr>
<td>on coat rod</td>
<td>18,1 kg (40 lbs.)</td>
<td>5,588 m (220”)</td>
</tr>
<tr>
<td>Rear compartment</td>
<td>181,4 kg (400 lbs.)</td>
<td>7,569 m (298”)</td>
</tr>
</tbody>
</table>

21. Wheels and Tires
   For approved wheels types and tires types, rating, dimensions and ply rating, refer to applicable Airplane Flight Manual, Weight and Balance Manual and Pilot’s Operating Handbook.

B.IV  Operating and Servicing Instructions

1. Aircraft Flight Manual

   For P.180 MSN 1002 and P.180 Avanti II, Modification 80-1117 “Community Noise Reduction” not incorporated
   Airworthiness Limitations are contained in P.180 Avanti II Chapter 4 (Airworthiness Limitations)
   - Report n. 180-MAN-0200-01109

   For P.180 MSN 1002 and P.180 Avanti II, Modification n. 80-1117 “Community Noise Reduction” incorporated (“P.180 Avanti EVO”)
   Airworthiness Limitations are contained in P.180 Avanti II Chapter 4 (Airworthiness Limitations)
   - Report n. 180-MAN-0200-01109(E)


4. Service Bulletins
   Refer to Piaggio Report n. 9078
B.V Operational Suitability Data (OSD)

The Operational Suitability Data elements listed below are approved by the European Aviation Safety Agency under the EASA Type Certificate EASA.A.059 as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation (EU) No 69/2014;

1 Master Minimum Equipment List
Piaggio Report ref No 180-RPT-0000-01203 Rev 01 dated 03 Dec 2014 , MMEL P180 Avanti II MSN 1105 and up including P180 Avanti „EVO” MSN 3001 and up”, or later approved revisions.

2 Flight Crew Data
The Flight Crew Data is defined in Piaggio Report ref 180 RPT-0000-10210 “P180 Avanti/Avanti II – EASA OSD Flight Crew” original Issue dated 24 February 2017, or later approved revisions.

3 Cabin Crew Data
Not applicable;

4 SIM Data
Not applicable;

5 Maintenance Certifying Staff Data
Not applicable;

B.VI Notes

1. Customized Cabin Interior and Seating Configurations must be approved

2. Applicable A/C serial numbers:
   - MSN 1002,
   - from MSN 1004 to 1104 with SB 80-0484 installed,
   - from MSN 1105 and up.

3. Requirements for the issue of the CofA
   * 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 CoA will be issued.
   * The certification empty weight and balance data shall include the unusable fuel and the total engine oil as follows:

<table>
<thead>
<tr>
<th></th>
<th>Quantity</th>
<th>Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unusable fuel:</td>
<td>11,24 kg (24.8 lbs.)</td>
<td>6,319 m (248.8&quot;)</td>
</tr>
<tr>
<td>Undrainable fuel:</td>
<td>3,94 kg (8.7 lbs.)</td>
<td>6,304 m (248.2&quot;)</td>
</tr>
<tr>
<td>for aeroplanes with modification n. 80-1091 “P.180 Extended Range” or S.B. 80-0424 embodied</td>
<td>7 kg (15.4 lbs.)</td>
<td>6,012 m (236.7&quot;)</td>
</tr>
<tr>
<td>Undrainable oil:</td>
<td>2,2 kg (4.9 lbs.)</td>
<td>6,975 m (274.6&quot;)</td>
</tr>
<tr>
<td>Total oil quantity:</td>
<td>25 Kg (55 lbs.)</td>
<td>6,975 m (274.6&quot;)</td>
</tr>
</tbody>
</table>

* 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.

6. P.180 Avanti EVO
   **P.180 Avanti EVO** is the informal, commercial designation used to identify P.180 Avanti II, MSN 3001 and up, fitted at delivery with the major modifications listed below:
   - Winglet, DMT 80-1121
   - Community Noise Reduction, DMT 80-1117
   that cannot be installed separately (DMT 80-1117 installed means that DMT 80-1121 is installed too).
   This designation is not recognized as a separate model at EASA level
SECTION ADMINISTRATIVE

I. Acronyms

None

II. Type Certificate Holder Record

Until 1998
I.A.M. Rinaldo Piaggio S.p.A.

Until April 2018
Piaggio Aero Industries SpA
Viale Castro Pretorio 116 – 00185 ROMA – ITALY
Headquarter:
Viale Generale Disegna, 1
17038 Villanova d’Albenga (SV) – ITALY

From 17 April 2018
Piaggio Aviation SpA
Viale Generale Disegna 1 – 17038 Villanova d’Albenga (SV) – ITALY

Contracted DOA Holder supporting TC Since 17 April 2018
Piaggio Aero Industries SpA
Viale Castro Pretorio 116 – 00185 ROMA - ITALY
Headquarter:
Viale Generale Disegna, 1
17038 Villanova d’Albenga (SV) – ITALY

From 19 September 2018 DOA Responsibility transfer to
Piaggio Aviation SpA
Viale Generale Disegna 1 – 17038 Villanova d’Albenga (SV)
EASA Approval 21J.685

From 19 September 2019 DOA Responsibility transfer to
Piaggio Aero Industries SpA
Viale Generale Disegna, 1
17038 Villanova d’Albenga (SV) – ITALY
EASA Approval 21J.220
### III Change Record

<table>
<thead>
<tr>
<th>Issue</th>
<th>Date</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>21-Oct-2005</td>
<td>- Initial EASA issue replacing ENAC / RAI TCDS</td>
</tr>
<tr>
<td>2</td>
<td>10-Jan-2006</td>
<td>- Addition of optional Mod 80-0642 or SB 80-0215</td>
</tr>
<tr>
<td>3</td>
<td>23-Mar-2007</td>
<td>- Addition of Mod. 80-0657 (P.EASA.A.C.03574)</td>
</tr>
<tr>
<td>4</td>
<td>19-Feb-2010</td>
<td>- Editorial changes and corrections</td>
</tr>
<tr>
<td>5</td>
<td>20-Apr-2010</td>
<td>- Editorial corrections to engine built specifications</td>
</tr>
<tr>
<td>6</td>
<td>18-Feb-2011</td>
<td>- RP-3 fuel type added</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- list of fuel types corrected</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- error in sense of rotation of propeller corrected</td>
</tr>
<tr>
<td>7</td>
<td>11-Oct-2012</td>
<td>- Russian fuels TS-1 and RT added</td>
</tr>
<tr>
<td>8</td>
<td>03-Jun-2014</td>
<td>- all pages: TCDS reformatted</td>
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<tr>
<td></td>
<td></td>
<td>- all pages: minor editorial changes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- page 16, item 8.1 new fuel tank capacity and undrainable fuel capacity values added for aeroplanes with Mod. 80-1091 “Extended Range” installed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- page 20, item 3 new fuel tank capacity and undrainable fuel capacity values added for aeroplanes with Mod. 80-1091 “Extended Range” installed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- page 13: Item B.III, 1. corrected for “P.180 Avanti II”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- page 14: Item B.III, 5. Engine Information for Mod n. 80-1117 added</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- page 15: Item B.III, 5.1. Engine Information for Mod n. 80-1117 added</td>
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<tr>
<td></td>
<td></td>
<td>- page 16: Item B.III, 6.1. applicability added and for 6.1.1. to 6.1.4. numbering adapted</td>
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<tr>
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<td></td>
<td>- page 20: Item B.IV, 2. information for Mod n. 80-1117 added</td>
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<td></td>
<td>- page 21: Item B.V, Note 6 added</td>
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<tr>
<td>10</td>
<td>23-May-2017</td>
<td>- page 3 Item A.I, Manufacturer address updated</td>
</tr>
<tr>
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<td></td>
<td>- page 5 Item A.III, Operational Suitability Data (OSD) requirements added</td>
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<td>- page 9 Item A.III (13.) CG envelope - Max Weight reference updated</td>
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<td></td>
<td>- page 9 Item A.III (19.) Doors “Type” definition corrected as “type”</td>
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<tr>
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<td>- page 10 Item A.V, Operational Suitability Data (OSD) added</td>
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<td></td>
<td>- page 11 Item A.VI notes section re-numbered</td>
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<tr>
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<td></td>
<td>- page 13 Item B.II, Operational Suitability Data (OSD) requirements added</td>
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<tr>
<td></td>
<td></td>
<td>- page 14 Item B.III (3.) Ref. to Equipment reference documentation updated</td>
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<td>- page 19 Item B.III (13.) CG envelope - Max Weight reference updated</td>
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<td>- page 19 Item B.III (19.) Doors “Type” definition corrected as “type”</td>
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-END-
APPENDIX 1 – PA05 MAJOR CHANGE CRI A-01

The following requirements applicable to the areas affected by the PA-05 major change, to the extent necessary to cover such areas:

(CS23 at initial issue and FAR 23 including amendment 33)

1. Flight
(*) F23.143 all CONTROLLABILITY AND MANOEUVRABILITY – GENERAL
F23.161 all TRIM
F23.207 all STALL WARNING
CS23.253 all HIGH SPEED CHARACTERISTICS

(*) Piaggio demonstrates compliance to CS23.143 for Flight Guidance System controllability aspects.

2. Structures
F23.301 all LOADS
F23.303 all FACTOR OF SAFETY
F23.305 all STRENGTH AND DEFORMATION
F23.307 all PROOF OF STRUCTURES
F23.395 all CONTROL SYSTEM LOADS
F23.397 all LIMIT CONTROL FORCES AND TORQUES
F23.499 all SUPPLEMENTARY CONDITIONS FOR NOSE WHEELS
F23.561 (b)(2), (e) EMERGENCY LANDING CONDITIONS – GENERAL

3. Design and Construction
F23.603 all MATERIALS AND WORKMANSHIP
F23.605 all FABRICATION METHODS
F23.609 all PROTECTION OF STRUCTURES
F23.611 all ACCESSIBILITY
F23.613 all MATERIAL STRENGTH PROPERTIES AND DESIGN VALUES
F23.619 all SPECIAL FACTORS
F23.623 all BEARING FACTORS
F23.625 all FITTING FACTORS
F23.671 all CONTROL SYSTEMS – GENERAL
CS23.677 all TRIM SYSTEMS
F23.683 all OPERATION TESTS
F23.685 all CONTROL SYSTEMS DESIGN
F23.689 (a),(b),(c), (d),(e) CABLE SYSTEMS
F23.699 (b) WING FLAP POSITION INDICATOR
F23.729 (e) LANDING GEAR EXTENSION AND RETRACTION SYSTEM
F23.771 (a), (b) PILOT COMPARTMENT
F23.773 (a), (b) PILOT COMPARTMENT VIEW
**Cockpit Controls**

- F23 .777 (a), (b), (g), (h)

**(**) refer to Special Condition RAI-NTO C-3 [FAA 23-ACE-29 N°.6 (c)].

**4. Powerplant**

- F23 .963 (e) FUEL TANK – GENERAL
- F23 .991 (c) FUEL PUMPS
- F23 .1203 (d) FIRE DETECTOR SYSTEM

**5. Equipment**

- CS23 .1301 all EQUIPMENT – FUNCTION AND INSTALLATION
- CS23 .1303 (a), (b), (c), (e), (f) FLIGHT AND NAVIGATION INSTRUMENTS
- CS23 .1305 (a), (c), (e) POWERPLANT INSTRUMENTS
- CS23 .1309 (a)(1), (a)(3), (b), (c), (d), (e), (f) EQUIPMENT, SYSTEMS AND INSTALLATIONS
- CS23 .1311 all ELECTRONIC DISPLAY INSTRUMENT SYSTEMS
- CS23 .1321 all ARRANGEMENT AND VISIBILITY
- CS23 .1322 all WARNING, CAUTION AND ADVISORY LIGHTS
- F23 .1323 (a), (b) AIRSPEED INDICATING SYSTEM
- F23 .1325 (a), (b)(1)-(2), (c), (e) STATIC PRESSURE SYSTEM
- CS23 .1326 all PITOT HEAT INDICATION SYSTEMS
- CS23 .1327 all MAGNETIC DIRECTION INDICATOR
- CS23 .1329 (a), (b), (d), (e), (f), (g), (h) AUTOMATIC PILOT SYSTEM
- CS23 .1331 all INSTRUMENTS USING A POWER SOURCE
- CS23 .1335 all FLIGHT DIRECTOR SYSTEMS
- F23 .1337 (b)(1) POWERPLANT INSTRUMENTS INSTALLATION
- CS23 .1351 (a), (a)(1), (a)(2)(i), (b)(1), (c)(4), (d)(1) ELECTRICAL SYSTEMS AND EQUIPMENT – GENERAL
- CS23 .1353 (a), (b), (c), (d), (e), (g)(2); (h) STORAGE BATTERY DESIGN AND INSTALLATION
- CS23 .1357 (a), (b), (c) CIRCUIT PROTECTIVE DEVICES
- CS23 .1359 (a), (b), (c) ELECTRICAL SYSTEM FIRE PROTECTION
- CS23 .1361 (a), (c) MASTER SWITCH ARRANGEMENT
- CS23 .1365 (a), (b), (c) ELECTRIC CABLES AND EQUIPMENT
- CS23 .1367 all SWITCHES
- CS23 .1381 all INSTRUMENT LIGHTS
6. Operating Limitations and Information

CS23 .1501 all OPERATING LIMITATIONS AND INFORMATION - GENERAL
CS23 .1523 MINIMUM FLIGHT CREW
CS23 .1525 KINDS OF OPERATION

(***) CS23 .1529 INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

CS23 .1541 (a), (b) MARKINGS AND PLACARDS – GENERAL
CS23 .1543 (b), (c) INSTRUMENT MARKINGS – GENERAL
F23 .1545 all AIRSPEED INDICATOR
CS23 .1547 all MAGNETIC DIRECTION INDICATOR
CS23 .1549 all POWERPLANT AND AUXILIARY POWER UNIT INSTRUMENTS
CS23 .1553 FUEL QUANTITY INDICATOR
F23 .1555 (a),(b),(c),(d),(e) CONTROL MARKINGS
CS23 .1559 (a), (c) OPERATING LIMITATIONS PLACARD
F23 .1563 AIRSPEED PLACARDS

(***) CS23 .1581 (a),(b),(c),(d), (e), (f) AEROPLANE FLIGHT MANUAL - GENERAL
CS23 .1583 (a), (b), (g), (h) OPERATING LIMITATIONS
CS23 .1585 (j) OPERATING PROCEDURES
CS23 .1589 LOADING INFORMATION

(***) Piaggio elect to comply with all applicable aspects detailed within these requirements.

Special Conditions

RAI–NTO C–3 Doors and Exits (Outward Openings)
[FAA 23-ACE-29 n°.6]
RAI–NTO C–6 Forward and Main Wing Flap Interconnection
[FAA 23-ACE-29 n°.7]
CRI F-01 HIRF Protection

Operating Rules

EASA CS-AWO – Subpart 2
APPENDIX 2 – MTOW INCREASED MAJOR CHANGE (80-0642) CRI A-01

The following requirements applicable to the areas affected by the 80-0642 major change, to the extent necessary to cover such areas, to be considered applicable only where the weight exceeds the originally certified MTOW/MLW of 11550/10945 lbs:

(CS23 at initial issue)

1. **Flight**

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CS23 .201 All Wing level stalls
CS23 .203 All Turning flight and accelerated stalls
CS23 .207 (a), (b), (c), (d), (e) Stall warning
CS23 .233 (a), (b), (c) Directional stability and control
CS23 .251 All Vibration and buffeting
CS23 .253 All High speed characteristics

2. Structures
CS23 .301 (a), (b), (c) Loads
(includes SPECIAL CONDITION RAI NTO C-2 [23-ACE-29 n° 5])
CS23 .302 All Canard or tandem wing configurations
(includes SPECIAL CONDITION RAI NTO C-7 [23-ACE-29 n° 5])
CS23 .303 All Factor of safety
CS23 .305 All Strength and deformation
CS23 .307 All Proof of structure
CS23 .321 All Flight loads - General
CS23 .331 All Symmetrical flight conditions
CS23 .333 All Flight envelope
CS23 .335 (a), (b), (c) Design airspeeds
CS23 .337 All Limit Manoeuvring Load Factors
CS23 .341 (a), (b) Gust load factors
CS23 .343 (a), (b) Design fuel loads
CS23 .345 All High lift devices
CS23 .347 (a) Unsymmetrical flight conditions
CS23 .349 All Rolling conditions
CS23 .351 All Yawing conditions
CS23 .367 All Unsymmetrical loads due to engine failure
CS23 .391 All Control surface loads
CS23 .395 All Control System Loads
CS23 .397 All Limit Control Forces and Torques
CS23 .399 (a) Dual Control System
CS23 .407 All Trim tab effects
CS23 .409 All Tabs
CS23 .415 All Ground gust loads
CS23 .421 All Horizontal tail surfaces - Balancing loads
CS23 .423 All Maneuvering loads
CS23 .425 All Gust loads
CS23 .427 (a), (c) Unsymmetrical loads
CS23 .441 (a), (c) Vertical tail surfaces – Maneuvering loads
CS23 .443 (a), (c) Gust loads
CS23 .455 All Ailerons, Wing Flaps and Special Devices - Ailerons
3. Design and Construction

CS23 .601 All Design and Construction – General
CS23 .627 All Fatigue Strength
CS23 .629 All Flutter
CS23 .641 All Wings - Proof of strength
CS23 .701 (b) Flap interconnection
   (includes SPECIAL CONDITION RAI NTO C-6 [23-ACE-29 n° 7])
CS23 .723 All Shock absorption tests
CS23 .725 All Limit drop tests
CS23 .726 All Ground load dynamic tests
CS23 .727 All Reserve energy absorption drop tests
CS23 .731 All Wheels
CS23 .733 All Tyres
CS23 .735 (a), (b), (c) Brakes

4. Equipment

CS23 .1301 All Function and Installation
CS23 .1329 (e) Automatic pilot system
CS23 .1419 (a), (b), (c) Ice protection

5. Operating Limitations and Information

CS23 .1501 All General
CS23 .1507 All Maneuvering speed
CS23 .1511 All Flap extended speed
CS23 .1513 All Minimum control speed
CS23 .1519 All Weight and Centre of Gravity
CS23 .1525 All Kinds of operation
CS23 .1529 All Instructions for continued airworthiness
CS23 .1541 (a), (b) Marking and placards - General
CS23 .1545 (a), (b)(4) Airspeed indicator
CS23 .1559 (c) Operating limitations placard
CS23 .1563 All Airspeed placards
CS23 .1581 (a), (b)(1), (c), (d), (e), (f) Aeroplane Flight Manual - General
CS23 .1583 (a)(1)(2), (c)(1)(2)(3), (d), (f), (h), (p) Operating limitations
CS23 .1585 (a)(1)(2)(3) (5), (c), (d), (e) Operating procedures
CS23 .1589 All Loading information

**Special Conditions**
RAI NTO F-1 Buffet Onset Envelope
[FAA 23-ACE-29 n°.1]
RAI NTO F-2 Effects of contamination on laminar flow airfoils
[FAA 23-ACE-29 n°.3]

**Operating Rules**
EASA CS-AWO – Subpart 2