



TYPE CERTIFICATE DATA SHEET Nº EA-2013T06

Type Certificate Holder:

PIPER AIRCRAFT, INC.
2926 Piper Drive
Vero Beach, Florida 32960
USA

EA-2013T06
Sheet 01

PIPER

PA-44-180

19 December 2013

This data sheet, which is part of Type Certificate No. 2013T06 prescribes conditions and limitations under which the product, for which the Type Certificate was issued, meets the airworthiness requirements of the Brazilian Aeronautical Regulations.

I - Model PA-44-180, (Seminole), 4PCLM (Normal Category), approved 19 December 2013.

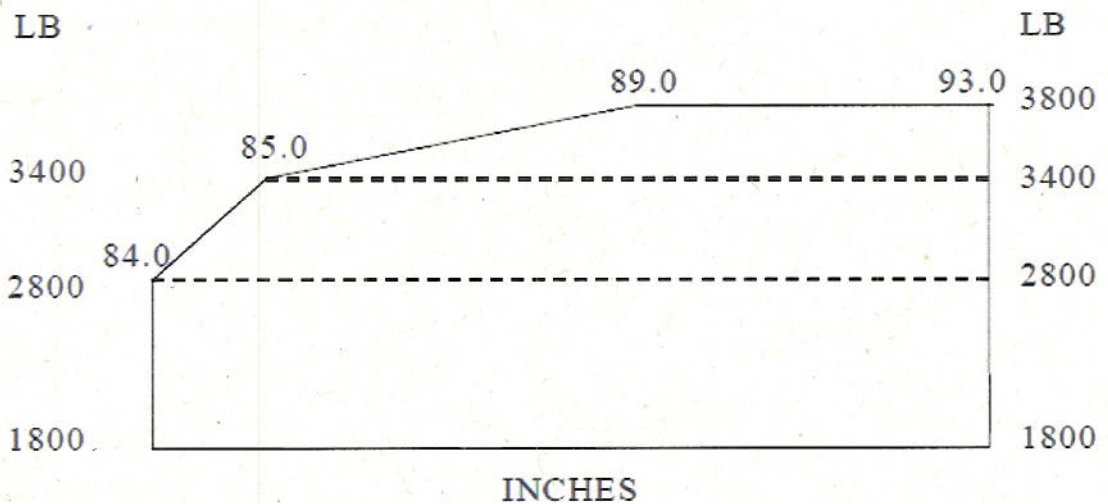
ENGINE	1 Lycoming Model O-360-A1H6 with carburetor setting 10-5219, or 10-6019 (Left Side) 1 Lycoming Model LO-360-A1H6 with carburetor setting 10-5219 or 10-6019 (Right Side)
FUEL	100/100LL Minimum grade aviation gasoline
ENGINE LIMITS	For all operations, 2 700 rpm (180 hp)).
OIL	See the latest revision of Lycoming Service Instruction 1014.
PROPELLER AND PROPELLER LIMITS	<u>Left Engine:</u> Hartzell, Hub HC-C2Y(K,R)- 2CEUF, Blade Model FC7666A-2R <u>Right Engine:</u> Hartzell, Hub HC-C2Y(K,R)- 2CLEUF, Blade Model FJC7666A-2R Pitch Setting at 30" Station: High 79°- 81°. Low 12.4° ± 0.2° Diameter: Not over 1880 mm (74 in), Not under 1829 mm (72 in). <u>Spinner:</u> Hartzell P/N C2285-3 Spinner Assy (Left) Hartzell P/N C2285-3L Spinner Assy (Right) See Note 5 <u>Governor Assembly:</u> 1 Hartzell Hydraulic Governor Model U-3-15 (Left) with unfeathering accumulator 1 Hartzell Hydraulic Governor Model U-3-15L (Right) with unfeathering accumulator

AIRSPPEED LIMITS (IAS)

	KCAS	KIAS
VNE (Never Exceed)	194 kt	202 kt
VNO (Maximum Structural Cruise)	165 kt	169 kt
VA (Maneuvering 1723 kg(3800 lb))		135 kt
VA (Maneuvering 1224 kg (2700 lb))		112 kt
VFE (Maximum Flaps Extended)		111 kt
VLO (Maximum Landing Gear Operation)		
Extension		140 kt
Retraction		109 kt
VLE (Maximum Landing Gear Extended)		140 kt
VMC (Minimum Control Speed)		56 kt

C. G. RANGE

2260 mm (+89 in) to 2362 mm (+93 in) at 1723 Kg (3800 Lb)
 2159 mm (+85 in) to 2362 mm (+93 in) at 1542 kg (3400 Lb)
 2133 mm (+84 in) to 2362 mm (+93 in) at 1270 kg (2800 Lb)
 or less
 Straight Line variation between points given
 Moment Change due to retracting landing gear 9361 mm – kg
 (+ 819 in-lb)



EMPTY WEIGHT C. G. RANGE

None

MAXIMUM WEIGHT

Ramp	1 730 kg (3 816 lb)
Takeoff	1 724 kg (3 800 lb)
Landing	1 724 kg (3 800 lb)

NUMBER OF SEATS

4:
 2 at +2 045 mm (80.5 in),
 2 at +3 000 mm (118.1 in),

MAXIMUM BAGGAGE

90 kg (200 lb) at +3 627 mm (142.8 in)

FUEL CAPACITY	416 L (110 gal) (2 nacelle tanks) at +2 413 mm (95.0 in) (408 L (108 gal) usable) See Note 1 for data on system fuel.		
OIL CAPACITY	7,6 L (8 qts) (5.7 L(6 quarts) per engine usable) See Note 1 for data on system oil.		
CONTROL SURFACE MOVEMENTS	Aileron ($\pm 2^\circ$)	Up 23°	Down 17°
	Stabilator ($\pm 1^\circ$)	Up 15.0°	Down 3.0°
	Rudder ($+1^\circ, -0^\circ$)	Left 37°	Right 37°
	Stabilator Trim Tab($\pm 1^\circ$)	Down 9° (Stabilator Neutral)	Up 4°
	Wing Flaps ($\pm 1^\circ$)	Up $0^\circ(\pm 1^\circ)$	Down $10^\circ(\pm 2^\circ)$ $25^\circ(+2^\circ)$ $40^\circ(+2^\circ)$
	Rudder Trim Tab($\pm 2^\circ$)	Left 26° (Rudder Neutral)	Right 26°
	Nose Wheel Travel($\pm 1^\circ$)	Left 30°	Right 30°
SERIAL NUMBERS ELIGIBLE	4495001 through 4495013 and 4496001 and up.		
DATUM	1 991 mm (78.4 in) forward of wing leading edge at wing station 106		
LEVELING MEANS	Two screws left side fuselage below windows.		

CERTIFICATION BASIS

The certification basis for:

Piper Model PA-44-180 is RBAC 23 (Brazilian Airworthiness Regulation) corresponding to 14 CFR Part 23, effective 01 February 1965 through Amendment 23-16 effective February 14, 1975; FAR 23.1557 (c)(1) as amended by Amd. 23-18 effective 02 May, 1977; and RBHA 36 (Regulamento Brasileiro de Homologação Aeronáutica) - Brazilian Airworthiness Regulation 36 corresponding to 14 CFR Part 36, effective December 1, 1969; through Amendment 36-4.

Equivalent Safety Finding: RBAC 23.1545(a)

For Piper Model PA-44-180 aircraft equipped with Piper factory installed Avidyne Entegra Systems (see Piper Report VB-1940), the additional certification basis for installation specific items only is RBAC 23 (Brazilian Airworthiness Regulation) corresponding to 14 CFR Part 23, effective 01 February 1965 through Amendment 23-16 effective February 14, 1975; FAR 23.1301, 23.1327, and 23.1335 as amended by Amd. 23-20 effective 01 Sep, 1977; 23.1501 and 23.1541 (a)(b) as amended by Amd. 23-21 effective 01 Mar, 1978; 23.603 and 23.605 (a) as amended by Amd. 23-23 effective 10 Oct, 1978; 23.1529 s amended by Amd. 23-26 effective 14 Oct, 1980; 23.1523 s amended by Amd. 23-34 effective 17 Feb. 1987; 23.1322, 23.1331 and 23.1357 (a)(2)(b)(c)(d) as amended by Amd. 23-43 effective 10 May, 1993; 23.305, 23.613, 23.773 (a)(1)(2), 23.1525 and 23.1549 (a)(b)(c) as amended by Amd. 23-45 effective 07 Sep, 1993; 23.301, 23.337 (a)(1)(b)(1), 23.341(a), 23.473, 23.561 (b)(3)(e), 23.607 and 23.611 as amended by Amd. 23-48 effective 11 Mar, 1996; 23.1303 (a)(b)(f), 23.1307, 23.1309 (a)(1)(3)(b)(c)(1)(2)(i)(iii)(3)(d)(e), 23.1311, 23.1321, 23.1323 (a)(c), 23.1329 (d)(e)(f)(g)(h), 23.1351 (a)(1)(2)(i)(b)(1)(i)(2)(3)(d), 23.1353 (d)(h), 23.1359(c), 23.1361 (a)(b), 23.1365 (a)(b)(d)(e)(f) and 23.1431 (a)(b)(d)(e) as amended by Amd. 23-49 effective 11 Mar, 1996; 23.1325 (a)(b)(1)(2)(i)(3), 23.1543 (b)(c), 23.1545 (a)(b), 23.1553, 23.1555 (a)(b), 23.1581 (a)(b)(2)(3)(f), 23.1583 (m) and 23.1585 (j) as amended by Amd. 23-50 effective 11 Mar, 1996; 23.777 (a)(b), 23.955(a)(3) and 23.1337 (a)(b)(1)(4)(c) as amended by Amd. 23-51 effective 11 Mar, 1996; 23.1305 (a)(1)(2)(3)(b)(2)(3)(i)(4)(i)(5) as amended by Amd. 23-52 effective 25 Jul, 1996; and Special Condition for HIRF (Docket No. CE238, Special Condition 23-178-SC), January 13, 2006, Eligible Serial Number 4496174, 4496224 and up.

**CERTIFICATION BASIS
(cont.)**

For PA-44-180 aircraft equipped with Piper factory installed Garmin G1000 Integrated Avionics System and 28 Volt Electrical System, the additional certification basis for installation specific items only is RBAC 23 (Brazilian Airworthiness Regulation) corresponding to: 14 CFR Part 23 regulations: 23.21, 23.23(a), 23.25, 23.29, 23.207(a), 23.251, 23.301(a)(b)(c), 23.303, 23.305, 23.307, 23.337, 23.341(a)(c), 23.421(a), 23.473, 23.561(a)(b)(3)(e), 23.601, 23.603, 23.605(a), 23.607, 23.609, 23.611, 23.613, 23.625, 23.627, 23.729(e)(f), 23.771(a), 23.773(a)(1)(2), 23.777(a)(b), 23.867, 23.1041, 23.1043(a)(b)(c)(d), 23.1047, 23.1163(a)(b)(d), 23.1301, 23.1305(a)(1)(2)(3)(b)(2)(3)(i)(4)(i)(b)(5), 23.1306, 23.1307, 23.1308(a)(b)(c), 23.1309(a)(1)(3)(b)(c)(d)(e), 23.1311, 23.1321, 23.1322, 23.1323(a)(c), 23.1325(a)(b)(1)(2)(i), 23.1326, 23.1327(a), 23.1329(d)(g)(h), 23.1335, 23.1337(b)(1)(4), 23.1351(a)(1)(2)(i)(b)(1)(i)(3)(c)(4)(d), 23.1353, 23.1357, 23.1359(c), 23.1361(a)(c), 23.1365, 23.1367, 23.1381, 23.1431(a)(b)(e), 23.1501, 23.1507, 23.1523, 23.1525, 23.1529, 23.1541(a)(b), 23.1543(b)(c), 23.1545(a)(b), 23.1549(a)(b)(c), 23.1553, 23.1555(a)(b)(e)(1), 23.1563(a)(b), 23.1567(a), 23.1581(a)(c), 23.1583(g)(h)(m), 23.1585(j), 23.1589 as amended by Amdt. 23-61; 23.1303(a)(b)(c)(f) as amended by Amdt. 23-62.

Eligible Serial Numbers: 4496331, 4496339 and up.

PRODUCTION BASIS

Production Certificate FAA No. 206, Production Limitation Record issued and manufacturer authorized to issue airworthiness certificate under the Delegation Option provisions of FAR-21 (corresponding to Brazilian RBAC 21), were manufactured under FAA Production Certificate 206, and accepted by ANAC.

EQUIPMENT

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

PA-44-180: POH and FAA approved AFM, POH and FAA approved AFM, VB-1380, approved July 20, 1989, for S/N 4495001 through 4495013, or latter approved revision.

POH, VB -1616, approved July 12, 1995, for S/N 4496001 and up, or latter approved revision.

POH, VB-1942, approved May 26, 2006, for S/N 4496174 and 4496224 and up when Avidyne Entegra System (see Piper Report VB-1940) is installed, or latter approved revision.

POH, VB-2307, approved June 5, 2013 for S/N 4496331, 4496339 and up when Garmin G1000 Integrated Avionics Suite (see Piper report VB-2303) is installed, or latter approved revision.

NOTES

NOTE 1: Weight and Balance: a current weight balance report, including list of equipment included in the certificated empty weight and loading instructions when necessary, must be provided for each aircraft at the time of original airworthiness certification. The certified empty weight and corresponding center of gravity locations must include undrainable system oil (not included in oil capacity) and unusable fuel as following:

Fuel: 5.4 kg (12 lb) at +2413 mm (95 in).
Oil: 1.64 kg (3.6 lb) at +1748 mm (68.8 in).

NOTE 2: Markings and placards: The aircraft must be operated according to the Brazilian Approved Flight Manual (Brazilian Pilot Operating Handbook: VB-2411 for PA-44-180) and associated checklist. For the approved markings and placards translations contact the TC holder and/or ANAC at the following address:
proqcert@anac.gov.br.

NOTE 3: Continuing Airworthiness: service bulletins, maintenance manual, and any other related documents which contain a statement that the documents are FAA approved, are accepted by the ANAC and are considered ANAC approved. These approvals pertain to the type design only. The service life of the wing, wing carry through and their attaching structure has been established as 14663 hours maximum.

NOTE 4: The differences of the Brazilian airplanes in relation to the basic FAA type design are summarized below:

1. The Brazilian Airplane Flight Manual front page (Brazilian Pilot Operating Handbook: VB-2411 for PA-44-180)
2. Markings and placards. (See note 2)

NOTE 5: PA-44-180, serial numbers 44-87995001 through 44-8195026, may be operated without spinner domes or without spinner domes and rear bulkheads, except when equipped with three bladed propellers and air conditioning, in which case only the spinner dome may be removed. The PA-44-180, S/N 4495001 through 4495013, and 4496001 and up, may be operated with only the spinner dome removed.

NOTE 6: The following serial numbers are not eligible for airworthiness certification in the United States: 44-7995235 and 44-7995298.


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