This data sheet, which is part of Type Certificate No. A19SO, prescribes conditions and limitations under which the product for which type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: Piper Aircraft, Inc.
2926 Piper Drive
Vero Beach, Florida 32960

Type Certificate Holder Record: The New Piper Aircraft, Inc transferred TC A19SO to Piper Aircraft, Inc on August 7, 2006.

IA. - Model PA-44-180, Seminole, 4 PCLM (Normal Category), Approved March 10, 1978.

**Engine**
- 1 Lycoming O-360-E1A6D with carburetor setting 10-5092, 10-5219, or 10-6019 (Left Side)
- 1 Lycoming LO-360-E1A6D with carburetor setting 10-5092, 10-5219, or 10-6019 (Right Side)

**Fuel**
- 100 or 100LL aviation grade fuel

**Engine Limits**
- For all operations, 2700 r.p.m. (180 hp)

**Propeller and Propeller Limits**

**Left Engine:**
- 1 Hartzell, Hub Model HC-C2Y(K, R) -2CEUF, Blade Model FC7666A-2R
- or Hub Model HC-C3YR-2EUF, Blade Model FC7663-5R

**Right Engine:**
- 1 Hartzell, Hub Model HC-C2Y(K, R) -2CLEUF, Blade Model FJC7666A-2R
- or Hub Model HC-C3YR-2LEUF, Blade Model FJC7663-5R

**Pitch Setting at 30° Station:**

**Two-Blade**
- High 79° - 81°, Low 12.4° ± 0.2°
- Diameter: Not over 74 inches
- Not under 72 inches

**Three-Blade**
- High 81° - 83°, Low 10.6° ± 0.1°
- Diameter: Not over 73 inches
- Not under 72 inches

**Spinner:**

**Two-Blade**
- Hartzell P/N C2285-3 Spinner Assy (Left)
- Hartzell P/N C2285-3L Spinner Assy (Right)
- See NOTE 4.

**Three-Blade**
- Hartzell P/N C4558 Spinner Assy (Left)
- Hartzell P/N C4558 Spinner Assy (Right)
- See NOTE 4.

**Governor Assembly:**
- 1 Hartzell Hydraulic Governor Model E-3-2 (Left)
- 1 Hartzell Hydraulic Governor Model E-3-2L (Right)
- or
- 1 Hartzell Hydraulic Governor Model E-8-2L (Right) with synchrophaser (Piper Drawing No. 36889 Synchrophaser Installation, S/N 44-7995278 and up)
**Airspeed Limits**

- **V_{NE}** (Never Exceed): 202 KIAS
- **V_{NO}** (Maximum Structural Cruise): 169 KIAS
- **V_{A}** (Maneuvering 3800 lb.): 135 KIAS
- **V_{A}** (Maneuvering 2700 lb.): 112 KIAS
- **V_{FE}** (Maximum Flaps Extended): 111 KIAS
- **V_{LO}** (Maximum Landing Gear Operation Extension): 140 KIAS
- **V_{LO}** (Maximum Landing Gear Operation Retraction): 109 KIAS
- **V_{LE}** (Maximum Landing Gear Extended): 140 KIAS
- **V_{MC}** (Minimum Control Speed): 56 KIAS

**C.G. Range**

- (+89.0) to (+93.0) at 3800 lb.
- (+85.0) to (+93.0) at 3400 lb.
- (+84.0) to (+93.0) at 2800 lb. or less

Straight line variation between points given.
Moment change due to retracting landing gear (+819 in-lb.)

**Empty Weight C.G. Range**

None

**Maximum Weight**

- Ramp: 3816 lb.
- Takeoff: 3800 lb.
- Landing: 3800 lb.

**Number of Seats**

4 (2 at +80.5, 2 at +118.1)

**Maximum Baggage**

200 lb. at +142.8

**Fuel Capacity**

110 gallons (2 nacelle tanks) at +95.0 (108 gallons usable)
(See NOTE 1 for data on system fuel)

**Oil Capacity**

6 quarts per engine (4 quarts per engine usable)
(See NOTE 1 for data on system oil)

**Control Surface Movements**

- **Ailerons**
  - Up: 23° (±2°)
  - Down: 17° (±2°)
- **Stabilator**
  - Up: 15° (±1°)
  - Down: 3° (±1°)
- **Rudder**
  - Left: 37° (+1°, -0°)
  - Right: 37° (+1°, -0°)
- **Stabilator Trim Tab**
  - Down: 9° (±1°)
  - Up: 4° (±1°)
- **Wing Flaps**
  - Up: 0° (±1°)
  - Down: 10°, 25°, 40° (±2°)
- **Rudder Trim Tab**
  - Left: 26° (±2°)
  - Right: 26° (±2°)
- **Nose Wheel Travel**
  - Left: 30° (±1°)
  - Right: 30° (±1°)

**Manufacturer's Serial Numbers**

44-7995001 through 44-8195026 (See NOTE 5 for airworthiness certification eligibility in the United States)

Engine
1 Lycoming O-360-A1H6 with carburetor setting 10-5219 or 10-6019 (Left Side)
1 Lycoming LO-360-A1H6 with carburetor setting 10-5219 or 10-6019 (Right Side)

Fuel
100 or 100LL aviation grade fuel

Engine Limits
For all operations, 2700 r.p.m. (180 hp)

Propeller and Propeller Limits
Left Engine:
1 Hartzell, Hub Model HC-C2Y(K, R) -2CEUF, Blade Model FC7666A-2R

Right Engine:
1 Hartzell, Hub Model 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 74 inches
Not under 72 inches

Spinner: Hartzell P/N C2285-3 Spinner Assy (Left)
Hartzell P/N C2285-3L Spinner Assy (Right)
See NOTE 4.

Governor Assembly: 1 Hartzell Hydraulic Governor Model U-3-15 (Left) with unfeathering accumulator
1 Hartzell Hydraulic Governor Model U-3-15L (Right) with unfeathering accumulator

Airspeed Limits

\[ V_{NE} \] (Never Exceed) 202 KIAS
\[ V_{NO} \] (Maximum Structural Cruise) 169 KIAS
\[ V_{A} \] (Maneuvering - 3800 lb.) 135 KIAS
\[ V'_{A} \] (Maneuvering - 2700 lb.) 112 KIAS
\[ V_{FE} \] (Maximum Flaps Extended) 111 KIAS
\[ V_{LO} \] (Maximum Landing Gear Operation)
  Extension 140 KIAS
  Retraction 109 KIAS
\[ V_{LE} \] (Maximum Landing Gear Extended) 140 KIAS
\[ V_{MC} \] (Minimum Control Speed) 56 KIAS

C.G. Range
(+89.0) to (+93.0) at 3800 lb.
(+85.0) to (+93.0) at 3400 lb.
(+84.0) to (+93.0) at 2800 lb. or less

Straight line variation between points given.
Moment change due to retracting landing gear (+819 in-lb.)
Empty Weight C.G. Range
None

Maximum Weight
Ramp 3816 lb.
Takeoff 3800 lb.
Landing 3800 lb.

Number of Seats
4 (2 at +80.5, 2 at +118.1)

Maximum Baggage
200 lb. at +142.8

Fuel Capacity
110 gallons (2 nacelle tanks) at +95.0 (108 gallons usable)
(See NOTE 1 for data on system fuel)

Oil Capacity
8 quarts per engine (6 quarts per engine usable)
(See NOTE 1 for data on system oil)

Control Surface Movements
Ailerons Up 23° (±2°) Down 17° (±2°)
Up 15° (±1°) Down 3° (±1°)
Rudder Left 37° (+1°, -0°) Right 37° (+1°, -0°)
Stabilator Trim Tab Down 9° (±1°) Up 4° (±1°)
(Wing Flaps Stabilator neutral)
Up 0° (±1°) Down 10°, 25°, 40° (±2°)
Rudder Trim Tab Left 26° (±2°) Right 26° (±2°)
(Nose Wheel Travel (Rudder neutral)
Left 30° (±1°) Right 30° (±1°)
Manufacturer's Serial Numbers 4495001 through 4495013, and 4496001 and up


Engine
1 Lycoming TO-360-E1A6D with carburetor setting 10-5256
1 Lycoming LTO-360-E1A6D with carburetor setting 10-5256

Fuel
100 or 100LL aviation grade fuel

Engine Limits
For all operations, 36.5 in. Hg at 2575 r.p.m. (180 hp)

Propeller and Propeller Limits
Left Engine:
1 Hartzell, Hub Model HC-C2YR -2C ( )UF, Blade Model FC7666A-2R or FC7666AB-2R
Right Engine:
1 Hartzell, Hub Model HC-C2YR-2CL ( ) UF, Blade Model FJC7666A-2R or FJC7666AB-2R

Governor Assembly:
1 Hartzell Hydraulic Governor Model E-3-5 (Left)
or 1 Hartzell Hydraulic Governor Model U-3-10 (Left) with unfeathering accumulator
1 Hartzell Hydraulic Governor Model E-3-5L (Right)
or 1 Hartzell Hydraulic Governor Model U-3-10L (Right) with unfeathering accumulator
or 1 Hartzell Hydraulic Governor Model E-8-5L (Right) with Synchrophaser Installation, Piper Dwg. 86818-2
or 1 Hartzell Hydraulic Governor Model U-8-10L (Right) with unfeathering accumulator and Synchrophaser Installation, Piper Dwg. 86818-2
Propeller and Propeller Limits
(continued)

Pitch Setting at 30° Station:
High 79° - 81°, Low 13.1° ± 0.2°
Diameter: Not over 74 inches
Not under 72 inches

Spinner:
Hartzell P/N C2285-3 Spinner Assy (Left)
Hartzell P/N C2285-3L Spinner Assy (Right)
See NOTE 4.

Left Engine:
1 Hartzell, Hub Model HC-C3YR-2 ( )UF, Blade Model FC7663-5R or FC7663B-5R

Right Engine:
1 Hartzell, Hub Model HC-C3YR-2L ( )UF, Blade Model FJC7663-5R or FJC7663B-5R

Governor Assembly:
1 Hartzell Hydraulic Governor Model E-3-5 (Left)
or 1 Hartzell Hydraulic Governor Model U-3-10 (Left) with unfeathering accumulator
1 Hartzell Hydraulic Governor Model E-3-5L (Right)
or 1 Hartzell Hydraulic Governor Model U-3-10L (Right) with unfeathering accumulator
or 1 Hartzell Hydraulic Governor Model E-8-5L (Right) with Synchrophaser Installation, Piper Dwg. 86818-2
or 1 Hartzell Hydraulic Governor Model U-8-10L (Right) with unfeathering accumulator and Synchrophaser Installation, Piper Dwg. 86818-2

Pitch Setting at 30° Station:
High 81° - 83°, Low 11.2° ± 0.1°
Diameter: Not over 73 inches
Not under 72 inches

Spinner:
Hartzell P/N C4558 Spinner Assy (Left)
Hartzell P/N C4558 Spinner Assy (Right)
See NOTE 4.

"Avoid continuous operation at manifold pressures below 15" Hg above 12,000 feet altitude."

Airspeed Limits

<table>
<thead>
<tr>
<th>Airspeed Limit</th>
<th>V_{NE} (Never Exceed)</th>
<th>V_{NO} (Maximum Structural Cruise)</th>
<th>V_{A} (Maneuvering - 3925 lb.)</th>
<th>V_{A} (Maneuvering - 2700 lb.)</th>
<th>V_{FE} (Maximum Flaps Extended)</th>
<th>V_{LO} (Maximum Landing Gear Operation)</th>
<th>V_{LE} (Maximum Landing Gear Extended)</th>
<th>V_{MC} (Minimum Control Speed)</th>
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<td>V{sub}NE</td>
<td>202 KIAS</td>
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<td>Extension</td>
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</table>


C.G. Range
(+89.7) to (+93.0) at 3925 lb.
(+87.3) to (+93.0) at 3800 lb.
(+85.0) to (+93.0) at 3400 lb.
(+83.0) to (+93.0) at 2700 lb. or less

Empty Weight C.G. Range
None

Maximum Weight
Ramp 3943 lb.
Takeoff 3925 lb.
Landing 3800 lb.

Number of Seats
4 (2 at +80.5, 2 at +118.1)

Maximum Baggage
200 lb. at +142.8

Fuel Capacity
110 gallons (2 nacelle tanks) at +95.0 (108 gallons usable)
(See NOTE 1 for data on system fuel)

Oil Capacity
6 quarts per engine (4 quarts per engine usable)
(See NOTE 1 for data on system oil)

Maximum Operating Altitude
20,000 feet

Control Surface Movements
Ailerons (+2°) Up 23° Down 17°
Stabilator (+1°) Up 15° Down 3°
Rudder (+1°, -0°) Left 37° Right 37°
Stabilator Trim Tab (+1°) Up 4° Down 9°
Wing Flaps (+2°) Up 0° Down 40°
Rudder Trim Tab (+2°) Left 26° Right 26°
Nose Wheel Travel (+1°) Left 30° Right 30°

Manufacturer's Serial Numbers
44-8107001 through 44-8207020

DATA PERTINENT TO ALL MODELS
Datum 78.4" forward of wing leading edge at wing station 106.

Leveling Means Two screws left side fuselage below window.
Certification Basis

Date of application for Type Certificate, January 17, 1976.

PA-44-180: Federal Aviation Regulations (FAR) Part 23 effective February 1, 1965, through Amendment 23-16 effective February 14, 1975; FAR 23.1557(c)(1) as amended by Amendment 23-18 effective May 2, 1977; and FAR 36 effective December 1, 1969, through Amendment 36-4.
Equivalent Safety Finding: FAR 23.1545(a).

PA-44-180T: FAR 23 effective February 1, 1965, through Amendment 23-16 effective February 14, 1975; FAR 23.207 and 23.1091 as amended by Amendment 23-7 effective September 14, 1969; FAR 23.201 and 23.203 as amended by Amendment 23-14 effective December 20, 1973; FAR 23.1093 and 23.1557(c)(1) as amended by Amendment 23-18 effective May 2, 1977; FAR 23.1581(b)(2) as amended by Amendment 23-21 effective March 1, 1978; FAR 23.1545(a) as amended by Amendment 23-23 effective December 1, 1978; and FAR 36 effective December 1, 1969, through Amendment 36-9 effective January 15, 1979.
Compliance with FAR 23.1441 as amended by Amendment 23-9 effective June 17, 1970, shown with optional supplemental oxygen.

For 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:
Compliance with FAR 23.1441 as amended by Amendment 23-9 effective June 17, 1970, shown with optional supplemental oxygen.

For PA-44-180 aircraft equipped with Piper factory installed Garmin G500 (see Piper Report VB-2314), the additional certification basis for installation specific items only is:

<table>
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<th>Amendment</th>
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<tr>
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<td>23.307(a)</td>
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<td>23.609</td>
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Unless otherwise noted in the table below, all sections are Amendment 23-16.
Additional certification basis for installation specific items only (continued):

Unless otherwise noted in the table below, all sections are Amendment 23-16.

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<td>23.1585(j)</td>
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</tbody>
</table>

Eligible Serial Numbers 4496325 and up.

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:


Eligible Serial Numbers: 4496331, 4496339 and up.

For PA-44-180 aircraft equipped with Piper factory installed Garmin GFC700 Autopilot, the additional certification basis for installation specific items only is:


Eligible Serial Numbers: 4496331, 4496367 and up.
Production Basis

Production Certificate No. 206. Production Limitation Record issued and the manufacturer authorized to issue airworthiness certificate under the Delegation Option provisions of FAR 21.

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:

POH and FAA approved AFM, VB-1380, approved July 20, 1989, for S/N 4495001 through 4495013.
POH, VB-1616, approved July 12, 1995, for S/N 4496001 and up.
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
POH, VB-2307, approved June 5, 2013, for S/N 4496331, 4496339 and up, when the Garmin G1000 Integrated Avionics System is installed
POH, VB-2307 Rev 02 or later, approved October 28, 2014, for S/N: 4496331, 4496367 and up, when the Garmin G1000 and/or GFC700 autopilot installed


NOTE 1.

Current Weight and Balance Report, including list of equipment included in certificated empty weight and loading instructions when necessary, must be provided for each aircraft at the time of original certification.

The certificated empty weight and corresponding center-of-gravity locations must include undraining system oil (not included in oil capacity) and unusable fuel as noted below:

   Fuel: 12.0 lb. at (+95.0)
   Oil: 3.6 lb. at (+68.8)

NOTE 2.

All placards required in the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual must be installed in the appropriate locations.

NOTE 3.

The below life limits are based on general aircraft usage for this aircraft class:

a) PA-44-180
   For S/N 44-7995001 through 44-8195026
   The service life of the wing, wing carry through and their attaching structure has been established as 14663 hours maximum.
   For S/N 4495001 through 4495013, and 4496001 and up
   The service life of the wing, wing carry through and their attaching structure has been established as 14663 hours maximum.

b) PA-44-180T
   For S/N 44-8107001 through 44-8207020
   The service life of the wing, wing carry through and their attaching structure has been established as 14663 hours maximum.

NOTE 4.

The PA-44-180, S/N 44-7995001 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 5.

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

. . .END. . .