

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

AR-7
Revision 10
PIPER
PA-18A
(Restricted)
PA-18A "135"
(Restricted)
PA-18A "150"
(Restricted)
April 23, 1996

RESTRICTED AIRCRAFT SPECIFICATION NO. AR-7

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

I - Model PA-18A, 1 PCLM (Restricted Category Only), Approved February 5, 1952;
Model PA-18A "135", 1 PCLM (Restricted Category Only), Approved June 17, 1952.

Model PA-18A "135" same as Model PA-18A except engine installation and fuel capacity.

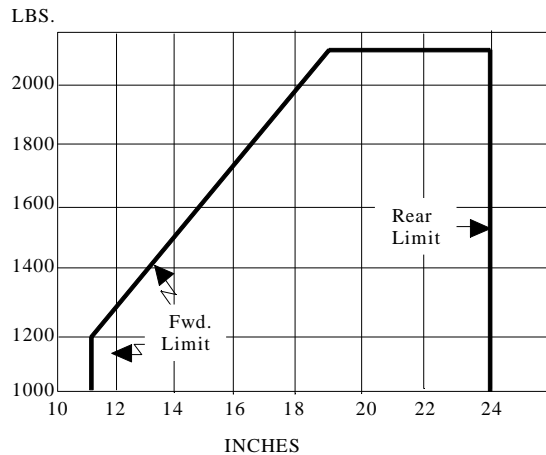
Engine Model PA-18A: Lycoming O-290-D
Model PA-18A "135": Lycoming O-290-D2

Fuel 80/87 minimum grade aviation gasoline

Engine Limits Lycoming O-290-D: For all operations, 2600 rpm (125 hp)
Lycoming O-290-D2: For all operations, 2600 rpm (135 hp)

Airspeed Limits Maneuvering 94 mph (82 knots) True Ind.
Maximum Structural Cruising 110 mph (96 knots) True Ind.
Never Exceed 138 mph (120 knots) True Ind.
Flaps Extended 80 mph (70 knots) True Ind.

C. G. Range (+19.0) to (+24) at 2070 lb.
(+11.5) to (+24) at 1200 lb. or less
Straight line variation between points given.



Empty Weight C. G. Range None

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|---------------------------------|---|
| <u>Maximum Weight</u> | 2070 lb. |
| <u>Number of Seats</u> | 1 at (+11) |
| <u>Maximum Baggage Capacity</u> | Not applicable |
| <u>Fuel Capacity</u> | Model PA-18A: 18 gallons at (+24) (Left wing tank) Model PA-18A "135": 36 gallons at (+24) (18 gallon left wing tank at (+24), plus Item 101(b)) |
| <u>Oil Capacity</u> | 8 quarts at (-36) |
| <u>Serial Numbers Eligible</u> | 18-677, 18-770, and 18-1262 through 18-3779. |
| <u>Required Equipment</u> | Model PA-18A: Items 1(a), 102(a), 201(a), 202(a), 204(a); 601, 602, 603, or 606. Model PA-18A "135": Items 2(a), 101(b), 102(b)(1), 103(a), 201(a), 202(a), 204(a); 601, 602, 603, 604, 605, or 606. |

II - Model PA-18A "150", 1 PCLM (Restricted Category Only), Approved October 7, 1954.

Model PA-18A "150", same as Model PA-18A "135" except for the engine and wings; and revisions to the fuselage, fuel system and landing gear.

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|---------------------------------|---|---------|-------------|-----------|
| <u>Engine</u> | Lycoming O-320 (Carburetor setting, #10-3678-11, #10-3678-12 or #10-3678-32) See Item 106 for optional engines. | | | |
| <u>Fuel</u> | 80/87 minimum grade aviation gasoline | | | |
| <u>Engine Limits</u> | All operations, 2700 rpm (150 hp) | | | |
| <u>Airspeed Limits</u> | Maneuvering | 96 mph | (86 knots) | True Ind. |
| | Maximum Structural Cruising | 121 mph | (105 knots) | True Ind. |
| | Never Exceed | 153 mph | (133 knots) | True Ind. |
| | Flaps Extended | 85 mph | (74 knots) | True Ind. |
| <u>C. G. Range</u> | (+19.0) to (+24) at 2070 lb. (+11.5) to (+24) at 1200 lb. or less Straight line variation between points given. Refer to figure under Section I. | | | |
| <u>Empty Weight C. G. Range</u> | None | | | |
| <u>Maximum Weight</u> | 2070 lb. | | | |
| <u>Number of Seats</u> | 1 at (+11) | | | |
| <u>Maximum Baggage Capacity</u> | Not applicable | | | |
| <u>Fuel Capacity</u> | 36 gallons at (+24) (2 wing tanks) | | | |
| <u>Oil Capacity</u> | 8 quarts at (-36) | | | |
| <u>Serial Numbers Eligible</u> | 18-3786 through 18-9015, and 18-7309016 through 18-8309025. | | | |
| <u>Required equipment</u> | Items 3(a), 102(b)(2), 201(a), 202(a), 204(a); 601, 602, 603, 604, 605, 606, or 607. | | | |

Specifications Pertinent to All Models

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|------------|------|-------|----|------|----------|-----|----|-----|------|---------|-----|----|-----|------|--------|-----|------|-----|-------|------|-----|------|--|--|
| <u>Datum</u> | Wing leading edge | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Leveling Means</u> | Plumb from PK screw in upper door frame channel to center punch mark on enclosure door rear hinge. | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Control Surface Movements</u> | <table border="0"> <tr> <td>Stabilizer</td> <td>2.5°</td> <td>Up</td> <td>4°</td> <td>Down</td> </tr> <tr> <td>Elevator</td> <td>25°</td> <td>Up</td> <td>15°</td> <td>Down</td> </tr> <tr> <td>Aileron</td> <td>18°</td> <td>Up</td> <td>18°</td> <td>Down</td> </tr> <tr> <td>Rudder</td> <td>25°</td> <td>Left</td> <td>25°</td> <td>Right</td> </tr> <tr> <td>Flap</td> <td>50°</td> <td>Down</td> <td></td> <td></td> </tr> </table> | Stabilizer | 2.5° | Up | 4° | Down | Elevator | 25° | Up | 15° | Down | Aileron | 18° | Up | 18° | Down | Rudder | 25° | Left | 25° | Right | Flap | 50° | Down | | |
| Stabilizer | 2.5° | Up | 4° | Down | | | | | | | | | | | | | | | | | | | | | | |
| Elevator | 25° | Up | 15° | Down | | | | | | | | | | | | | | | | | | | | | | |
| Aileron | 18° | Up | 18° | Down | | | | | | | | | | | | | | | | | | | | | | |
| Rudder | 25° | Left | 25° | Right | | | | | | | | | | | | | | | | | | | | | | |
| Flap | 50° | Down | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Certification Basis</u> | Restricted Type Certificate No. 7 (CAR 8.10(b)) | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Production Basis</u> | Approved for manufacture of spare parts only under Production Certificate No. 206. | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Export Eligibility</u> | Deleted - April 23, 1996. | | | | | | | | | | | | | | | | | | | | | | | | | |
| <u>Equipment</u> | A plus (+) or minus (-) sign preceding the weight of an item indicates net weight change when that item is installed. | | | | | | | | | | | | | | | | | | | | | | | | | |

Propeller and Propeller Accessories

The following propellers are eligible at the limits shown for diameter and static rpm at maximum permissible throttle setting, no additional tolerance permitted:

1. With Lycoming O-290-D engine:
 - (a) Propeller - Sensenich M76AM-2-50, fixed pitch metal 24 lb. (-57)
 Static rpm: Not over 2475 rpm, not under 2100 rpm
 Diameter: Not over 74 inches, not under 72.5 inches
 - (b) Propeller Sensenich 74FM-50 or any other fixed pitch wood 11 lb. (-57)
 propeller rated for engine power and speed
 Static rpm: Not over 2400 rpm, not under 2100 rpm
 Diameter: Not over 74 inches, not under 72.5 inches
2. With Lycoming O-290-D2 engine:
 - (a) Propeller - Sensenich M76AM-2-52, fixed pitch metal 24 lb. (-57)
 Static rpm: Not over 2490 rpm, not under 2100 rpm
 Diameter: Not over 74 inches, not under 72.5 inches
 - (b) Deleted - April 23, 1996. |
3. With Lycoming O-320 engine only:
 - (a) Propeller - Sensenich M74DM, fixed pitch metal 30 lb. (-57)
 Static rpm: Not over 2500 rpm, not under 2350 rpm
 Diameter: Not over 74 inches, not under 72.5 inches

Engines and Engine Accessories - Fuel and Oil Systems

101. Fuel tank - 18 gallons right wing
 (Header tank, Piper P/N 12837 required with this installation)
 - (a) Optional with Lycoming O-290-D engine 16 lb. (+25)
 Installed in accordance with Piper Dwgs. 12458, 13766 and 12778
 - (b) Required with Lycoming O-290-D2 engine 16 lb. (+25)
 Installed in accordance with Piper Dwgs. 12458, 13766 and 12778

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|---------------------|---|--------|--------------------------|
| 102. | Oil cooler | | |
| | (a) Harrison model APO6CJ04-02 or APO6CU04-02 Required with Lycoming O-290-D engine | 3 lb. | (-30) |
| | (b) Harrison model AP13SJ03-01 or AP12CU03-01 | 6 lb. | (-53) |
| | (1) Installed in accordance with Piper Dwg. No. 13724 Required with Lycoming O-290-D2 engine, optional with Lycoming O-290-D engine. | | |
| | (2) Installed in accordance with Piper Dwg. No. 14368. Required with Lycoming O-320 engine. | | |
| 103. | Engine | | |
| | (a) Lycoming O-290-D2 Installed in accordance with Piper Dwg. 12447. Engine limits - For all operations, 2600 rpm (135 hp) | | Use Actual Weight Change |
| 104. | 5" x 8" carburetor air filter installation in accordance with Piper Dwg. 14526 | 2 lb. | (-34) |
| | (a) Eligible with Lycoming O-290-D engine when Item 2(a) installed. | | |
| | (b) Eligible with Lycoming O-320 engine when Item 3(a) installed. | | |
| 105. | Paper air filter installation (Fram CA-122PL) installed in accordance with Piper Dwg. 15013. Eligible on Lycoming O-320 series engines only. | | |
| 106. | Engines | | |
| | (a) Models PA-18A "150" | | |
| | (1) Lycoming O-320 | | |
| | (2) Lycoming O-320-A2A | | |
| | (3) Lycoming O-320-A2B | | |
| <u>Landing Gear</u> | | | |
| 201. | Two main wheel-brake assemblies | | |
| | (a) Goodrich Model 841A, 8.00-4, Type III Wheel Assembly No. D-3-13A-1 Brake Assembly No. D-2-113 | 10 lb. | (+2) |
| 202. | Two main wheel tires with regular tubes | | |
| | (a) 8.00-4, Type III, 4 ply rating | 21 lb. | (+2) |
| 204. | Tail wheel assembly | | |
| | (a) Scott Model 3-24B | 6 lb. | (+200) |
| | (b) Scott Model 3200 per Scott Dwg. 3243 | 2 lb. | (+200) |
| | (c) Maule Model SFS-1-4 per Piper Dwg. No 14297 | 6 lb. | (+200) |
| 210. | Scott parking brake installation (Scott Aviation Corporation, Lancaster, New York, Kit No. 2715-BK. Installed in accordance with their Bulletin No. I-169). | | Neglect Weight Change |
| 213. | Tandem Gear Model GW-100 installed in accordance with A. W. Whitaker, 5001 N.E. Union Avenue, Portland Oregon, Dwg. T-10 and installation instructions dated June 8, 1949. | 46 lb. | (+2) |
| 214. | Shock strut cord and hydraulic type Piper P/N 12843. Installed per Piper Dwg. 10534. Not eligible on Model PA-18A "150". | 4 lb. | (+2) |
| 215. | Shock strut assembly cord and hydraulic type Piper P/N 14088. Installed per Piper Dwg. 10551. | 4 lb. | (+2) |

Electrical Equipment

| | | | |
|------|--|--------|-------|
| 301. | Battery - Reading R-33 | 31 lb. | (+59) |
| 302. | Landing lights in wing leading edge per Piper Dwg. 12534. Not eligible on Model PA-18A "150". | 4 lb. | (+5) |
| 303. | Landing lights in wing leading edge per Piper Dwg. 14442. For Model PA-18A "150". | 4 lb. | (+5) |

Miscellaneous

| | | | |
|------|---|-------------------|-------|
| 601. | Sprayer equipment installation per Piper Dwg. 13547 | Use Actual Weight | (+41) |
| 602. | Duster equipment installation per Piper Dwg. 13641 | Use Actual Weight | (+48) |
| 603. | Cargo deck installation per Piper Dwg. 13714 | 13 lb. | (+45) |
| 604. | Sprayer equipment installation per Piper Dwg. 14136 and 13547 | Use Actual Weight | (+39) |
| 605. | Sprayer equipment installation per Piper Dwg. 14137 and 13547 | Use Actual Weight | (+41) |
| 606. | Sprayer equipment installation per Piper Dwg. 14285 | Use Actual Weight | (+39) |
| 607. | Duster equipment installation per Piper Dwg. 14365 | Use Actual Weight | (+41) |

NOTE 1. The provisions of Civil Air Regulations Part 8 and Civil Aeronautics Manual 8 are applicable to alterations of existing agricultural airplanes originally certificated to these requirements.

NOTE 2. The following placards must be displayed:
 (a) Maximum capacity of cargo deck, hopper or tank in pounds.
 (b) Placard "RESTRICTED" displayed at the entrance to the airplane cabin.
 (c) Placard required to be displayed in cabin when Form ACA-309 not used:
 "Operation Limitations - Restricted Category Only in Accordance with Piper Dwg. No. 13988."
 (d) Deleted - December 21, 1955.

NOTE 3. (a) The Model PA-18A (Restricted Category) is the same as the Standard Category PA-18A, except for minor design changes and can be converted to the Standard Category using the manufacturer's conversion instructions dated January 17, 1952. When operating in the Standard Category, FAA Type Certificate Data Sheet No. 1A2 will apply.

(b) The Model PA-18A "135" (Restricted Category) is the same as the Standard Category PA-18A "135" except for minor design changes and can be converted to the Standard Category using the manufacturer's conversion instructions dated January 17, 1952, revised June 17, 1952. When operating in Standard Category, FAA Type Certificate Data Sheet No. 1A2 will apply.

(c) The Model PA-18A "150" (Restricted Category) is the same as the Standard Category PA-18A "150" except for minor design changes and can be converted to the Standard Category using the manufacturer's conversion instructions dated August 6, 1957. When operating in Standard Category, FAA Type Certificate Data Sheet No. 1A2 will apply.

NOTE 4. In addition to the operating limitations set forth in this specification, the Form ACA-309 as issued by the certificating inspector must contain the area operating limitations, economic operating limitations and passenger limitations as prescribed in CAR 8. See NOTE 2(c) for operating limitations for aircraft not using Form ACA-309.

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