

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

1A1
Revision 11
PIPER

PA-16
PA-16S

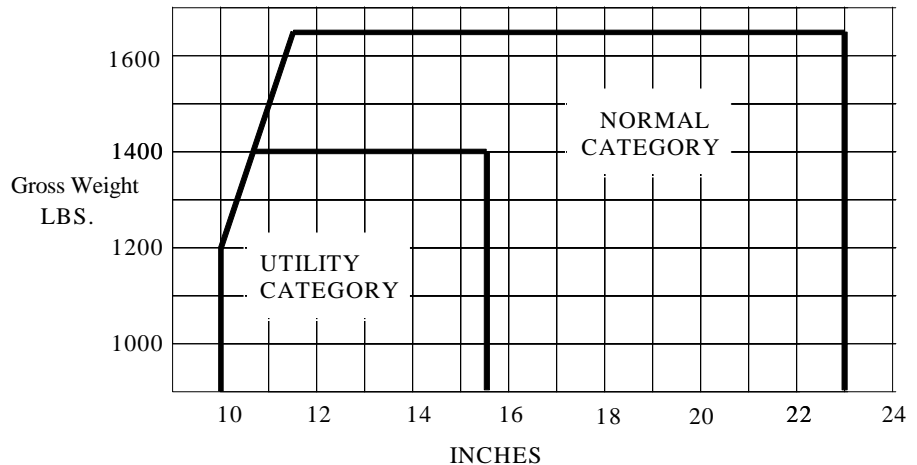
August 14, 1995

AIRCRAFT SPECIFICATION NO. 1A1

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

I - Model PA-16; 4 PCLM (Normal Category), 2 PCLM (Utility Category), Approved October 18, 1948

<u>Engine</u>	Lycoming O-235-C1
<u>Fuel</u>	80 minimum octane aviation gasoline
<u>Engine Limits</u>	Take-off (one minute), 2800 r.p.m. (115 hp) with Item 3 propeller only All other operations, 2600 r.p.m. (108 hp)
<u>Airspeed Limits</u> (True Indicated)	Maneuvering (Normal Category) 105 mph (91 knots) Maneuvering (Utility Category) 108 mph (94 knots) Max. Structural Cruising 117 mph (102 knots) Never exceed 140 mph (122 knots)
<u>C. G. Range</u>	Normal Category: (+11.5) to (+23.0) at 1650 lbs. (+10.0) to (+23.0) at 1175 lbs. or less Utility Category: (+10.7) to (+15.5) at 1400 lbs. (+10.0) to (+15.5) at 1175 lbs. or less Straight line variation between points given.



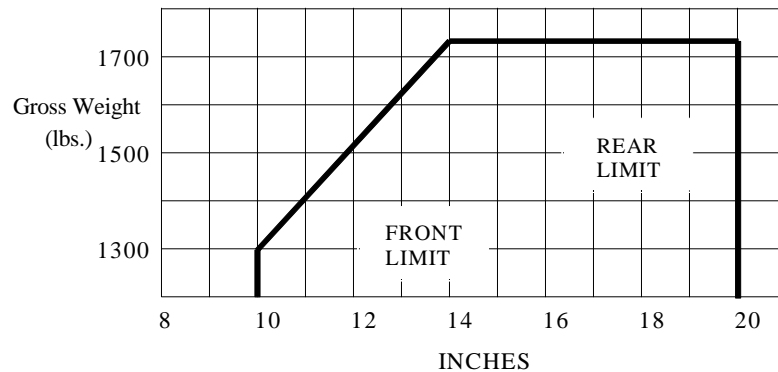
<u>Empty Weight C. G. Range</u>	None
<u>Maximum Weight</u>	Normal Category: 1650 lbs. Utility Category: 1400 lbs.

Page No.	1	2	3	4	5
Rev. No.	11	9	11	9	10

<u>Number of Seats</u>	4 (2 at +18 to +21 and 2 at +49) Rear seat not to be used when operating in Utility Category.												
<u>Maximum Baggage</u>	50 lbs. (+67) in Normal Category only.												
<u>Fuel Capacity</u>	40 gallons (12 gallons fuselage tank at (-8) and 18 gallons left wing tank at (+24))												
<u>Oil Capacity</u>	1½ gallons (-29)												
<u>Control Surface Movements</u>	<table> <tr> <td>Stabilizer</td> <td>1° Up</td> <td>6½° Down</td> </tr> <tr> <td>Elevator</td> <td>26° Up</td> <td>10° Down</td> </tr> <tr> <td>Aileron</td> <td>12° Up</td> <td>12° Down</td> </tr> <tr> <td>Rudder</td> <td>16° Right</td> <td>16° Left</td> </tr> </table>	Stabilizer	1° Up	6½° Down	Elevator	26° Up	10° Down	Aileron	12° Up	12° Down	Rudder	16° Right	16° Left
Stabilizer	1° Up	6½° Down											
Elevator	26° Up	10° Down											
Aileron	12° Up	12° Down											
Rudder	16° Right	16° Left											
<u>Serial Numbers Eligible</u>	16-1 and up												
<u>Required Equipment</u>	In addition to the pertinent required basic equipment specified in CAR 3, the following items of equipment must be installed: Landplane: Items 1, 201(a), 202(a), 204(a), and 401(a). Skiplane: Items 1, 205, 401(a) and (b).												

II - Model PA-16S; 3 PCSM (Normal Category Only); Approved July 20, 1949

<u>Engine</u>	Lycoming O-235-C1									
<u>Fuel</u>	80 minimum octane aviation gasoline									
<u>Engine Limits</u>	For all operations, 2600 r.p.m. (108 hp)									
<u>Airspeed Limits</u> (True Indicated)	<table> <tr> <td>Maneuvering</td> <td>105 mph</td> <td>(91 knots)</td> </tr> <tr> <td>Max. Structural Cruising</td> <td>117 mph</td> <td>(102 knots)</td> </tr> <tr> <td>Never Exceed</td> <td>140 mph</td> <td>(122 knots)</td> </tr> </table>	Maneuvering	105 mph	(91 knots)	Max. Structural Cruising	117 mph	(102 knots)	Never Exceed	140 mph	(122 knots)
Maneuvering	105 mph	(91 knots)								
Max. Structural Cruising	117 mph	(102 knots)								
Never Exceed	140 mph	(122 knots)								
<u>C. G. Range</u>	(+14.0) to (+20.0) at 1738 lbs. (+10.0) to (+20.0) at 1300 lbs. or less Straight line variation between points given.									



<u>Empty Weight C. G. Range</u>	None
<u>Maximum Weight</u>	1738 lbs.
<u>Number of Seats</u>	3 (2 at +18 to +21 and 1 at +49)
<u>Maximum Baggage</u>	50 lbs. (+67)

<u>Fuel Capacity</u>	30 gallons	(12 gallon fuselage tank at -8 and 18 gallon left wing tank at +24)
<u>Oil Capacity</u>	1½ gallons	(-29)
<u>Control Surface Movements</u>	Stabilizer	1° Up 6½° Down
	Elevator	26° Up 10° Down
	Aileron	12° Up 12° Down
	Rudder	16° Right 16° Left
<u>Serial Numbers Eligible</u>	16-1 and up	
<u>Required Equipment</u>	In addition to the pertinent required basic equipment specified in CAR 3, the following items of equipment must be installed: Items 4, 105, 209, and 401(d).	

Specifications Pertinent to All Models

<u>Datum</u>	Wing leading edge
<u>Leveling Means</u>	Plumb from hole in upper channel of front door to center punch mark on front seat cross tube.
<u>Certification Basis</u>	Type Certificate No. 1A1 (CAR 3)
<u>Production Basis</u>	Approved for manufacture of spare parts only under Production Certificate No. 206.
<u>Export Eligibility</u>	Deleted as of - August 14, 1995.

Equipment A plus (+) or minus (-) sign preceding the weight of an item of equipment indicates net weight change when that item is installed.

Approval for the installation of all items of equipment listed herein has been obtained by the aircraft manufacturer except those items preceded by an asterisk (*). The asterisk denotes that approval has been obtained by someone other than the aircraft manufacturer.

Propellers and Propeller Accessories

1. Propeller - Sensenich Model 74FM56, or any other fixed pitch wood propeller eligible for the engine power and speed and which meets the following limits: +11 lbs. (-50)
(Landplane and skiplane only):
Static r.p.m. at max. permissible throttle setting:
Not over 2400, not under 2050.
No additional tolerance permitted.
Diameter: Not over 74 inches, not under 70.5 inches.
- *2. Propeller - fixed pitch metal, McCauley Model 1C90-LM-7254 or any other Model +23 lbs. (-50)
1C90-LM propeller which meets the following limits:
Landplane and skiplane only:
Static r.p.m. at max. permissible throttle setting:
Not over 2290, not under 2180.
No additional tolerance permitted.
Diameter: Not over 72 inches, not under 70.5 inches.
Item 401(c) required.
- *3. Propeller - Koppers Aeromatic (Landplane and skiplane only)
 - (a) F200/00-73E; Parts List Assembly No. 4368 or 4368-1. Koppers Installation +19 lbs. (-50)
Procedure & Operating Limitations No. 34.
 - (b) F200/00-74E; Parts List Assembly No. 4292A or 4292A-1. Koppers Installation +32 lbs. (-50)
Procedure & Operating Limitations No. 16B.
 - (c) F200-H/00-73E; Parts List Assembly No. 4368H or 4368H-1. +33 lbs. (-50)
Adjustment Instructions & Operating Limitations No. 52A.
Altitude control Assembly No. 4382 +6 lbs. (-35)

Propellers and Propeller Accessories (cont.)

- (d) F200-H/00-74E; Parts List Assembly No. 4292AH-1 +34 lbs. (-50)
 Instructions & Operating Limitation No. 52A.
 Altitude Control Assembly No. 4382 +6 lbs. (-35)
- Diameter: (a), (c) Not over 73 inches, not under 71.5 inches
 (b), (d) Not over 74 inches, not under 72.5 inches
- Low pitch settings at 24 in. station:
 (a), (c) 10.4°
 (b), (d) 11.0°
- Static r.p.m. at max. permissible throttle setting (No additional tolerance permitted):
 (a), (b) Not over 2750, not under 2700
 (c), (d) Not over 2800, not under 2750.
- The following note must be inserted in the Airplane Flight Manual:
 "Aeromatic Propeller Model - (a, b, c, or d as applicable) - Installation and operation must be accomplished in accordance with Koppers 'Installation Procedure (or Adjustment Instructions) and Operating Limitations No. ----' " (as applicable) (Items 103 and 401(c) also required).
- *4. Propeller - fixed pitch metal, Sensenich M76AM-2 or -3 with following diameter and static r.p.m. limits at max. permissible throttle setting +24 lbs. (-50)
 (no additional tolerance permitted):
 (a) Landplane and skiplane (Item 401(c) required):
 Static r.p.m.: Not over 2500, not under 2150
 Diameter: Not over 74 inches, not under 71.5 inches
 (b) Seaplane (Item 401(d) required):
 Static r.p.m.: Not over 2500, not under 2400
 Diameter: Not over 74 inches, not under 72.5 inches
- *5. Propeller - two-position controllable, Sensenich Hub CS-2FM6-1, with PC276A7-2 +27 lbs. (-50)
 blades (Landplane and skiplane only).
 Diameter: Not over 74 inches, not under 72.5 inches
 Blade pitch settings at 3/4 radius (28.5 in. station):
 Low 11.8°, High 15.3°
 Prop. control installation required per Sensenich Dwg. D-3028.
 Items 104 and 401(c) required.

Engines and Engine Accessories - Fuel and Oil Systems

101. Starter - Delco-Remy 1109657 (with Bendix Unit) +17 lbs. (-42)
 102. Starter and generator drive +6 lbs. (-42)
- *103. Oil sump baffle and blast tube, Koppers Company, Inc., Dwg. No. 3351
 (required with Propeller Item 3)
- *104. Oil sump baffle, Sensenich Dwg. No. D-3028, Revision C, required with propeller
 Item 5.
105. Seaplane bottom engine cowl assembly, Piper P/N 11965-5 Neglect Wt. Change
 106. Oil filter, Fram PB-5 Kit No. K-520, Fram Dwg. 62687, and Instructions +4 lbs. (-18.5)
 No. 62686 (weight includes 1 quart oil).

Landing Gear and Floats

201. Two main wheel-brake assemblies, 8.00-4, Type III +10 lbs. (0)
 (a) Goodrich Model 841A
 Wheel Assembly D-3-13A-1
 Brake Assembly D-2-113
202. (a) Two main wheel 4-ply rating tires, 8.00-4, Type III with regular tubes +22 lbs. (0)
204. Tail wheel assembly
 (a) Scott Model 3-24B, Steerable +6 lbs. (+177)
205. Two skis Use Actual Wt. Change
 (a) Federal A-1850, A-2000 or A-2000A per Federal Dwg. 11R262
 *(b) Wesco per Western Aircraft Equipment Company Dwg. Nos. 12 and 148:
 (1) A-20, (2) A-25, (3) AS-2A, (4) AS-2B.
- *206. Consolidair Model 17 wheel fenders (Consolidair Dwg. 0045) +9 lbs. (0)

Landing Gear and Floats (cont.)

209. Two Edo 88-1650 floats with water rudder installed in accordance with Edo Dwg. No. 05525. +152 lbs. (+19)
Fuselage reinforcement, Piper P/N 12480; seaplane fin, Piper P/N 11030-3; and seaplane bottom engine cowl assembly (Item 105) must be installed in accordance with Piper Dwg. 12479. (Net weight increase is for installation of all above items.)
- *210. 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 lbs. (0)

Electrical Equipment

301. Battery - Reading S24-12V +25 lbs. (+21)
302. Generator - Delco-Remy 1101878 +10 lbs. (-42)
303. Regulator - Delco-Remy 1118259 +2 lbs. (-16)
304. Landing lights in wing leading edge per Piper Dwg. 12534 +4 lbs. (+5)

Interior Equipment

401. (a) CAA (FAA) Approved Airplane Flight Manual, dated October 18, 1948
(b) Skiplane Supplement. When skis are installed the following supplemented information shall be appended to the Airplane Flight Manual:
"Performance Information with Ski Installation:
Climb: Skiplane climb performance is essentially equal to that of the landplane.
Take-off and landing: Under the most favorable conditions of smooth packed snow temperature approximating 30°F, skiplane take-off distance approximately 20% greater than the landplane distance. In applying the performance data, caution should be exercised in that lower temperatures or other snow conditions will increase the ski friction and hence increase the take-off and decrease the landing run."
(c) When Item 2, 3, 4(a) or 5 propeller is installed, the Airplane Flight Manual shall be revised to reflect this installation under 'Limitations' section and the following statement added under 'Performance' section following Item 4:
"5. Performance with the Model _____ propeller has been demonstrated to equal or exceed that presented herein over the altitude and temperature range shown."
(d) CAA (FAA) approved Airplane Flight Manual - Seaplane, dated July 18, 1949
- *402. Javelin A-2 single axis automatic pilot installed in accordance with Javelin Dwg. 721 and Instructions dated June 15, 1954. (Landplane only). +18 lbs. (+94)

NOTE 1. Current weight and balance report including list of equipment included in certificated weight empty, and loading instructions when necessary, must be in each aircraft at the time of original certification and at all times thereafter (except in the case of air carrier operators having an approved weight control system).

- NOTE 2. The following placards must be displayed.
- (a) On the instrument panel in full view of the pilot:
- (1) "Operate in Normal Category in compliance with Approved Flight Manual. Airplane marked for Normal Category. Acrobatics (including spins) prohibited in Normal Category."
 - (2) "No Smoking."
- (b) On the baggage compartment:
- (1) "Maximum Baggage - 50 lbs. See Loading Schedule."
- (c) Adjacent to fuel valve:
- (1) "Fuselage tank must be full until wing tank is empty."

....END....