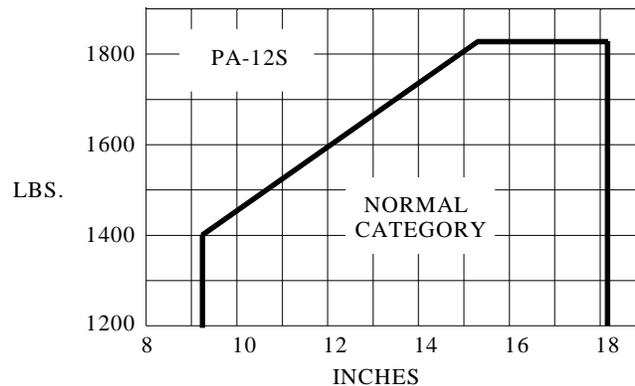


II - Model PA-12S, 3 PCSM (Normal Category Only), Approved August 11, 1948.

<u>Engine</u>	Lycoming O-235-C (See also Item 103 for optional engine)		
<u>Fuel</u>	80 minimum octane aviation gasoline		
<u>Engine Limits</u>	For all operations, 2600 rpm (100 hp)		
<u>Airspeed Limits</u>	Maneuvering	97 mph (82 knots)	True Ind.
	Cruising	110 mph (96 knots)	True Ind.
	Never exceed	138 mph (120 knots)	True Ind.
<u>C. G. Range</u>	(+15.2) to (+18.2) at 1838 lbs. (+ 9.2) to (+18.2) at 1405 lbs. or less Straight line variation between points given.		



<u>Empty Weight C. G. Range</u>	(+9.5) to (+13.3). When empty weight C. G. falls within this range, computation of critical fore and aft C. G. positions is unnecessary. Range is not valid for non-standard arrangements.		
<u>Maximum Weight</u>	1838 lbs.		
<u>Number of Seats</u>	3 (One at +6 and two at +34)		
<u>Maximum Baggage</u>	41 lbs. (+56)		
<u>Fuel Capacity</u>	38 gallons	(+23)	(One 19 gallon tank in each wing.)
<u>Oil Capacity</u>	6 quarts (-41)		
<u>Serial Nos. Eligible</u>	12-1 and up.		
<u>Required Equipment</u>	Items 1(a), 101, 102, 204 and 401(d).		

Specifications Pertinent to All Models

<u>Datum</u>	Leading edge of wing
<u>Leveling Means</u>	Plumb bob from machine screw at door frame channels near upper rear corner of door to hole in plate near rear seat.
<u>Certification Basis</u>	Type Certificate No. 780 (CAR 3)
<u>Production Basis</u>	None.

Export Eligibility

Deleted as of August 28, 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. An item marked with an asterisk may not have been manufactured under a FAA monitored or approved quality control system, and therefore conformity must be determined if the item is not identified by a Form ACA-186, FAA-PMA, or other evidence of FAA production approval.

Propellers and Propeller Accessories

1. Propeller - Sensenich 74FE44, 74FE54, or any other fixed pitch wood propeller which is eligible for the engine power and speed and which meets the following limits: +11 lbs. (-62)
 - (a) With O-235-C or O-235-C1 engine - landplane and skiplane:
 - Static rpm at max. permissible throttle setting:
 - Not over 2300, not under 1900.
 - No additional tolerance permitted.
 - Diameter: Not over 76 inches, not under 72 inches.
 - (b) With O-235-C or O-235-C1 engine - seaplane (see Item 103 for manual revision and seaplane equipment required with O-235-C1 engine):
 - Static rpm at max. permissible throttle setting:
 - Not over 2400, not under 2350.
 - No additional tolerance permitted.
 - Diameter: Not over 76 in., not under 72 in.
- *2. Propeller - Koppers Aeromatic F200/00-74E +21 lbs. (-62)
 - Diameter: Not over 74 inches, not under 72.5 inches.
 - Low pitch setting at 24 inch station: 11°
 - Static rpm limits at max. permissible throttle setting (No additional tolerance permitted):
 - (a) With O-235-C engine - landplane, skiplane and seaplane (Parts List Assembly No. 4292):
 - Not over 2550, not under 2500.
 - (b) With O-235-C1 engine - landplane, skiplane and seaplane (Parts List Assembly No. 4292A dated April 9, 1948):
 - Not over 2750, not under 2650. (See Item 103 for required seaplane equipment)

The Airplane Flight Manual must reflect this installation under "Limitations" with respect to assembly parts list number, low pitch settings, diameter and static rpm limits and must include the following statement: "Installation and operation must be accomplished in accordance with Kopper's Installation Procedure and Operating Limitations dated May 4, 1948 (Item 2(a)), or March 10, 1948, revised September 27, 1948 (Item 2(b))."

Under the "Performance" section the following statement must be included:

"Performance with (_____) engine and the Kopper's Aeromatic Propeller has been demonstrated to equal or exceed that shown herein for the O-235-C engine and fixed pitch wood propeller. Performance at altitude may be improved by increasing the flight rpm in accordance with paragraph D(3) of the approved 'Installation Procedure and Operating Limitations.' "

Paragraph E of the "Installation Procedure and Operating Limitations" should be revised as follows:

"Counterweights must be added after landing at a field of elevation 2000 feet or more below that at which the counterweights were last set. This adjustment is required for optimum performance and to avoid exceeding rated rpm at full throttle during take-off and climb." This revision to paragraph E will be incorporated in the next revision of "Installation Procedure and Operating Limitations" by the Kopper's Propeller Company.

- *3. Propeller - Sensenich, two-position controllable, hubs C-2FM-3, C-2FM-4, or C-2FM-5 with PC-276A6 blades +27 lbs. (-62)
 - Diameter: Not over 76 inches, not under 74 inches.
 - continued

Propeller and Propeller Accessories, continued

- *3. Propeller – Sensenich, two-position controllable, hubs C-2FM-3, C-2FM-4, continued

Blade pitch settings at 3/4 radius (28.5 in. station):	<u>Low</u>	<u>High</u>
(a) For landplane and skiplane with O-235-C engine	8½°	13°
(b) For landplane and skiplane with O-235-C1 engine	7½°	13°
(c) For seaplane with O-235-C1 engine	7°	12°

(See Item 103 for required equipment).

When this propeller is installed, the Airplane Flight Manual must reflect the installation under "Limitations" with respect to propeller identification and limits. The "Performance" section must include the following statement: "Performance with the () engine and Sensenich Two-Position Propeller has been demonstrated to equal or exceed that shown herein for the O-235-C engine and fixed pitch wood propeller." For seaplane with O-235-C1 engine, the above statement must be amended to include the following statement: "Climb performance shown may be realized after the expiration of the one-minute take-off power time limit by operating in high pitch, full throttle only."

- *4. Propeller - fixed pitch metal, McCauley 1A110 +29 lbs. (-62)

Landplane and skiplane with O-235-C1 engine only.

Diameter: Not over 76 inches, not under 74 inches.

Static rpm at max. permissible throttle setting:

Not over 2400, not under 2150.

No additional tolerance permitted.

When this propeller is installed, the Airplane Flight Manual must reflect the installation under "Limitations" with respect to propeller identification and limits. The "Performance" section must include the following statement: "Performance with O-235-C1 engine and McCauley 1A110 propeller has been demonstrated to equal or exceed that shown herein for the O-235-C engine and fixed pitch wood propeller."

- *5. Propeller - controllable, Beech R003 which includes R003-342 adapter, +21 lbs. (-62)

R003-100 hub, R003-225-75 blades, manual control, and spinner

(Required equipment with this prop.).

Landplane and skiplane with O-235-C engine only.

Diameter: Not over 75 inches, not under 73.5 inches.

Blade setting at 3/4 radius (28.5 in. station):	<u>Low</u>	<u>High</u>
	13.5°	18.3°

When this propeller is installed, the Airplane Flight Manual must reflect the installation under "Limitations" with respect to propeller identification and limits. The "Performance" section must include the following statement: "Performance with O-235-C engine and Beech R003 propeller has been demonstrated to equal or exceed that shown herein for the O-235-C engine and fixed pitch wood propeller."

- *6. Propeller - fixed pitch metal, McCauley 1C90-LM +21 lbs. (-62)

Diameter: Not over 72 inches, not under 70.5 inches.

Static rpm at max. permissible throttle setting

(No additional tolerance permitted):

- (a) Landplane and skiplane with O-235-C or O-235-C1 engine -

Not over 2500, not under 2100.

- (b) Seaplane with O-235-C or O-235-C1 engine -

(See Item 103 for required equipment with O-235-C1 engine)

Not over 2500, not under 2350.

When this propeller is installed, the Airplane Flight Manual must reflect the installation under "Limitations" with respect to propeller identification and limits. The "Performance" section must include the following statement: "Performance with the () engine and McCauley 1C90-LM Propeller has been demonstrated to equal or exceed that shown herein for the O-235-C engine and fixed pitch wood propeller."

- *7. Propeller - fixed pitch metal, Sensenich M76AM-2 +24 lbs. (-62)

Diameter: Not over 74 inches, not under 72.5 inches.

With engines O-235-C engine and O-235-C1 only.

Static rpm at max. permissible throttle setting

(No additional tolerance permitted):

- (a) Landplane and skiplane only -,

Not over 2425, not under 2150.

continued

Propellers and Propeller Accessories, continued

- *7. Propeller – fixed pitch metal, Sensenich M76AM-2, continued
 (b) Seaplane only (See Item 103 for required equipment with O-235-C1) -
 Not over 2425, not under 2325.

When this propeller is installed, the Airplane Flight Manual must be revised to reflect this installation under "Limitations" with respect to propeller identification and limits. The "Performance" section must include the following statement: "Performance with the O-235-C (or O-235-C1) engine and Sensenich M76AM-2 propeller has been demonstrated to equal or exceed that shown herein for the O-235-C engine and fixed pitch wood propeller."

Engine and Engine Accessories - Fuel and Oil System

101. Carburetor air heater +1 lbs. (-35)
102. Carburetor air scoop No Weight Change
103. Engine - Lycoming O-235-C1
 Fuel - 80 minimum octane aviation gasoline
 Engine limits:
 Take off 2800 rpm (115 hp)
 All other operations 2600 rpm (108 hp)
- For seaplane with this item and Propeller Item 1(b), 2(b), 6(b) or 7(b), the following is required: Oil sump air scoop per Marden Dwg. No. 1007-M, Marden Airways, Waterville Airport, Waterville, Maine. When this item engine is installed, the Airplane Flight Manual must reflect the installation under "Limitations" with respect to engine identification and limits. The "Performance" section must include the following statement: "Performance with O-235-C1 engine and (_____) propeller has been demonstrated to equal or exceed that shown herein for the O-235-C engine and fixed pitch wood propeller."
- *104. Oil filter, Fram PB-5, Kit No. K-520, Fram Dwg. 61536 or 62704 and Instruction Sheet 62703 (Weight includes 1 quart oil) +5 lbs. (-28)

Landing Gear and Floats

201. Two main wheel-brake assemblies, 8.00-4, Type III
 (a) Goodrich model 841, with 8.00-4, 4-Ply rating tires and regular tubes +31 lbs. (+1)
 Wheel Assembly #D-3-13
 Brake Assembly #D-2-13 (modified per Piper Dwg. 31293)
202. Tail wheel installations
 (a) Full swivel (Scott Aviation Model 3000B-2) +5 lbs. (+200)
 *(b) Steerable - full swivel (Scott Aviation Model 3-24B) No Weight Change
 *(c) Steerable - Lang (formerly Decker) Model D-501 +2 lbs. (+200)
 *(d) Imperial Model B-100 +6 lbs. (+200)
203. Skis: When any of the following skis are installed, the Airplane Flight Manual must Use actual wt. change and have the following note added to the Performance Section:
 CLIMB: Ski plane climb performance is essentially equal to that of the landplane.
 TAKE-OFF AND LANDING: Under the most favorable conditions of smooth packed snow at temperatures approximating 30°F, skiplane take-off distance is essentially equal to the landplane distance. The landing distance is 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 friction and hence increase the take-off run and decrease the landing run."
 (a) Federal A-1850
 *(b) Call S-1
 (c) Federal A-2000 or A-2000A per Federal Dwg. 11R262
 *(d) Wesco per Western Aircraft Equipment Company Dwg. Nos. 12 and 148:
 (1) AS-2, (2) AS-2A, (3) AS-2B, (4) A-20, (5) A-25.

Landing Gear and Floats, continued

204. Edo 89-2000 floats with water rudder and seaplane fin (Dwg. No. 11030) +183 lbs. (+14.5)
in accordance with Piper Dwg. 11031 (without spreader bars) or
Edo Dwg. 89-180A (with spreader bars). Airplane Serial Nos. 12-1 through 12-3011,
and 12-3901 through 12-3966, except 12-3943, 12-3945, 12-3947, 12-3949 and 12-3965, must have
additional fuselage brace tubes (Parts Nos. 11026 and 11027 in accordance with Piper Dwg. 11031).
- *210. Two wheel fenders, Consolidaire Model 17, installed in accordance with +9 lbs. (+1)
Consolidaire Inc., Alliance, Ohio, Dwg. 0039.
- *211. Tandem gear Model GW-100, installed in accordance with A. W. Whitaker, +46 lbs. (+1)
5001 N.E. Union Avenue, Portland, Oregon, Dwg. T-10 and Installation Instructions dated June 8, 1949.

Electrical Equipment

301. Battery (12 volt) +25 lbs. (+68)
302. Positions lights +3 lbs. (+65)
- *303. Landing lights in wing leading edge (Grimes D-3650) per Dwg. Nos. 1 & 2, Mountain States +4 lbs. (+5)
Aviation, Inc., Denver, Colorado
304. Landing lights in wing leading edge per Piper Dwg. 12534 +4 lbs. (+5)

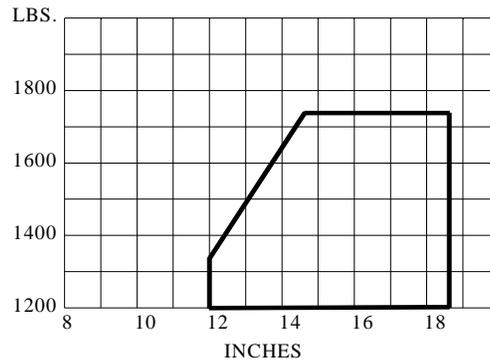
Interior Equipment

401. One of the following CAA (FAA) Approved Airplane Flight Manuals revised to include any statement required under
"Propellers and Propeller Accessories" and/or Item 103, if applicable.
- (a) Airplane Flight Manual dated March 24, 1947, or Piper Report No. 551 dated
March 24, 1947 - includes Propeller Item 1 and O-235-C engine.
 - (b) Piper Report No. 570 dated April 15, 1947, includes Propeller Item 3 and O-235-C engine.
 - (c) Piper Report No. 565 dated June 13, 1947, includes Propeller Item 1 and Item 103.
 - (d) Piper Report No. 571 dated June 13, 1947, includes Propeller Item 3 and Item 103.
 - (e) Edo Report No. 2342 dated April 10, 1947, revised January 11, 1949, includes
Propeller Item 1, O-235-C engine and Item 204.
 - *(f) Supplement to Flight manual dated April 20, 1955 (Required with Item 403 Ross Control System).
- *402. Slip-Not stabilizer control, Model 10-C installed per Westfield Industries, +2 lbs. (+72)
Salem, Illinois, Dwg. No. 1 and Kit Installation Instructions.
- *403. Ross Control System Conversion Kit, Model 7C installed in accordance with Use act. wt. and
Ross (F. W. Ross, 719 North Milborn Avenue, Dearborn, Michigan) balance change
Drawings 7B101 through 7C121 on Drawing List dated December 7, 1954 and Installation Instructions
dated May 16, 1955. The following placard is required on the instrument panel, "Equipped with Ross
Control System - See Flight Manual Supplement."

Miscellaneous (not listed above)

- *601. Crop spraying installation - Aero Spray King Model P6-49 +86 lbs. (+41)
(Model PA-12 Normal Category airplane) installed in accordance with Ong Aircraft Corp., P.O. Box 214, Kansas City,
Missouri, Dwg P6-600-49 and Flight Manual
Supplement dated May 20, 1949.
Disposable spray fluid (Wt. as loaded) (+36)
The following limits apply:
- (a) Lycoming O-235-C engine only.
 - (b) Propeller Item 1 with following static rpm limits:
Not over 2300, not under 2200.
No additional tolerance permitted.
 - (c) C.G. range (+14.7) to (+18.6) at 1735 lbs.
(+12.0) to (+18.6) at 1345 lbs. or less
Straight line variation between points given.

*601 Miscellaneous, continued



The following placards are required:

- (a) On instrument panel in full view of pilot,
"Never exceed 110 mph T.I.A. with spray equipment installed."
- (b) Below spray tank, left side, adjacent to tank valve,
"Liquid Tank Valve-Off-On-Dump-Drain" as required
- (c) Below spray tank, right side, adjacent to pump brake control,
"Pump Brake Control-Pull On-Turn to Lock"
- (d) On left side fuselage wall adjacent to spray boom operating handle,
"On-Boom-Off"

*602. Flap installation installed in accordance with Mainair, Inc. (formerly Marden Airways, Inc.), Waterville, Maine, PA-12 Flap Kit No. 1000-M and Installation Instructions dated January 22, 1949. +14 lbs. (+39)

*603. Fuselage metal plating when installed in accordance with Met-Co-Aire's Dwg. No. 12108, 13108 and Installation Instructions dated June 17, 1954, issued by change Met-Co-Aire Co., Municipal Airport, Fullerton, Calif. (Use actual weight & moment arm)

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) In front and in clear view of the pilot:
"This airplane must be operated in compliance with the CAA Approved Operating Limitations (or Airplane Flight Manual)"
- (b) In front and in clear view of pilot:
"Normal Category - No acrobatic maneuvers including spins approved."
"Utility Category - No acrobatic maneuvers approved except those listed below:"

<u>Maneuver</u>	<u>Entry Speed</u>
Chandelles	110 mph
Lazy Eights	110 mph
Steep Turns	90 mph
Spins	Stall
Stalls (except whip stalls)	Stall"
- (c) On rear seat:
"Front seat for solo flying."

....END....