DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

1A6
Revision 34
Piper Aircraft, Inc

PA-22
PA-22-108
PA-22-135
PA-22S-135
PA-22-150
PA-22S-150
PA-22-160
PA-22S-160

August 7, 2006

AIRCRAFT SPECIFICATION NO. 1A6

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

Type Certificate Holder Record — The New Piper Aircraft, Inc transferred TC 1A6 to Piper Aircraft, Inc on August 7, 2006.

I - Model PA-22, 4 PCLM (Normal Category Only), Approved December 20, 1950

Engine — Lycoming O-290-D

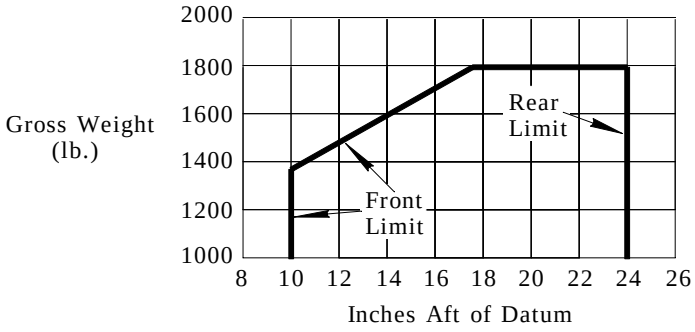
Fuel — 80/87 minimum grade aviation gasoline

Engine Limits — For all operations, 2600 rpm (125 hp)

Airspeed Limits
CAS

V_{ne}	(never exceed)	158 mph	(137 knots)
V_{no}	(maximum structural cruising)	126 mph	(110 knots)
V_p	(maneuvering)	106 mph	(92 knots)
V_{fe}	(flaps extended)	80 mph	(70 knots)

C. G. Range — (+17.5) to (+24.0) at 1800 lb.
(+10.0) to (+24.0) at 1380 lb. or less
Straight line variation between points given.



Empty Weight C. G. Range — None

Maximum Weight — 1800 lb.

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Number Seats 4 (2 at +19.5 and 2 at +49)

Maximum Baggage 50 lb. (+67)

Fuel Capacity 36 gallons (2 Wing tanks at +24)

Oil Capacity 2 gallons (-29)

Control Surface Movements

Stabilizer	1° Up	6½° Down
Elevator	24° Up	12° Down
Aileron	15° Up	15° Down
Rudder	16° Right	16° Left
Flap	40° Down	

Serial Numbers Eligible 22-1 and up.

Required Equipment In addition to the pertinent required basic equipment specified in CAR 3, the following items of equipment must be installed:
Items 1, 101, 201(a), 202, 205(a), 206, and 401(a).

II. Model PA-22-135, 4 PCLM (Normal Category), Approved May 5, 1952

Engine Lycoming O-290-D2

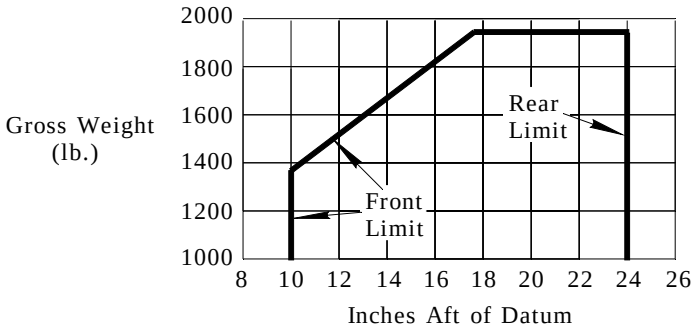
Fuel 80/87 minimum grade aviation gasoline

Engine Limits For all operations, 2600 rpm (135 hp)

Airspeed Limits (CAS)

V_{ne}	(never exceed)	158 mph	(137 knots)
V_{no}	(maximum structural cruising)	126 mph	(110 knots)
V_p	(maneuvering)	106 mph	(92 knots)
V_{fe}	(flaps extended)	80 mph	(70 knots)

C. G. Range (+17.5) to (+24.0) at 1950 lb.
(+10.0) to (+24.0) at 1380 lb. or less
Straight line variation between points given.



Empty Weight C. G. Range None

Maximum Weight 1950 lb.

Number of Seats 4 (2 at +21 and 2 at +49)

Maximum Baggage 50 lb. (+67) May be increased to 100 lb. provided:
(a) Baggage compartment placard is changed to "Maximum Baggage 100 Pounds."
(b) Airplane Flight Manual, Item 401(c), is available in the airplane.

Fuel Capacity: 36 gallons (2 wing tanks at +24). See Item 104 for reserve tank.

Oil Capacity: 2 gallons (-29)

Control Surface Movements

Stabilizer	1° Up	6½° Down
Elevator	24° Up	12° Down
Aileron	15° Up	15° Down
Rudder	16° Right	16° Left
Flap	40° Down	

Serial Numbers Eligible: 22-534 and up.

Required Equipment: In addition to the pertinent required basic equipment specified in CAR 3, the following Items of equipment must be installed:
Items 1, 103, 201(a), 202, 205(a), 206, and 401(b).

III - Model PA-22S-135, 3 PCSM (Normal Category), Approved May 14, 1954

Engine: Lycoming O-290-D2

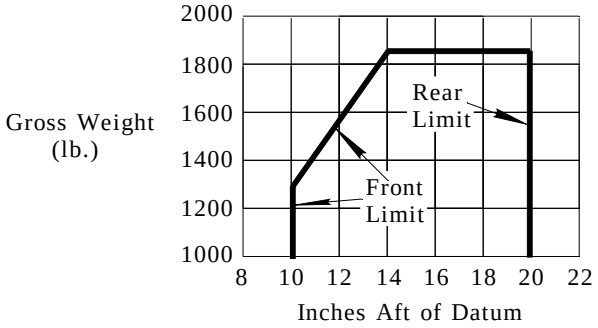
Fuel: 80/87 minimum grade aviation gasoline

Engine Limits: For all operations, 2600 r.p.m. (135 hp)

Airspeed Limits CAS

V_{ne}	(never exceed)	140 mph	(122 knots)
V_{no}	(maximum structural cruising)	117 mph	(102 knots)
V_p	(maneuvering)	105 mph	(91 knots)
V_{fe}	(flaps extended)	80 mph	(70 knots)

C. G. Range: (+14.0) to (+20.0) at 1850 lb.
(+10.0) to (+20.0) at 1300 lb. or less
Straight line variation between points given.



Empty Weight C. G. Range: None

Maximum Weight: 1850 lb.

Number of Seats: 4 (2 at +21 and 2 at +49)

Maximum Baggage: 50 lb. (+67)

Fuel Capacity — 36 gallons (2 wing tanks at +24). See Item 104 for reserve tank.

Oil Capacity — 2 gallons (-29)

Control Surface Movements

Stabilizer	1° Up	6½° Down
Elevator	24° Up	12° Down
Aileron	15° Up	15° Down
Rudder	16° Right	16° Left
Flap	40° Down	

Serial Numbers Eligible — 22-534 and up.

Required Equipment — In addition to the pertinent required basic equipment specified in CAR 3, the following Items of equipment must be installed:
Items 2, 103, 209, and 401(g).

IV - Model PA-22-150, 4 PCLM (Normal Category), Approved September 3, 1954.
Model PA-22-150, 2 PCLM (Utility Category), Approved May 24, 1957 (See NOTE 3 for limitations)

Engine — Lycoming O-320-A2A or O-320-A2B (Carburetor setting #10-3678-11, #10-3678-12 or #10-3678-32) (See Item 106 for optional engines)

Fuel — 80/87 minimum grade aviation gasoline

Engine Limits — For all operations, 2700 r.p.m. (150 hp)

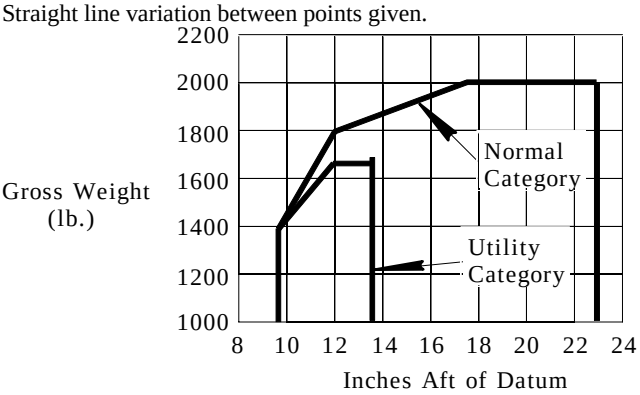
Airspeed Limits
CAS

V_{ne}	(never exceed)	170 mph	(148 knots)
V_{no}	(maximum structural cruising)	135 mph	(117 knots)
V_p	(maneuvering)	112 mph	(97 knots)
V_{fe}	(flaps extended)	95 mph	(82 knots)

C. G. Range

Normal Category:	(+17.5)	to	(+23.0)	at	2000 lb.
	(+12.0)	to	(+23.0)	at	1800 lb.
	(+9.5)	to	(+23.0)	at	1400 lb. or less
Utility Category:			(+13.5)	at	1680 lb.
	(+12.0)	to	(+13.5)	at	1665 lb.
	(+9.5)	to	(+13.5)	at	1400 lb. or less

Straight line variation between points given.



Empty Weight C. G. Range — None

Maximum Weight — Normal Category: 2000 lb.
Utility Category: 1680 lb.

Number of Seats — 4 (2 at +21 and 2 at +49)
Rear seats not to be used when operating in the Utility Category.

Maximum Baggage — 100 lb. (+67) (No baggage allowed when operating in the Utility Category)

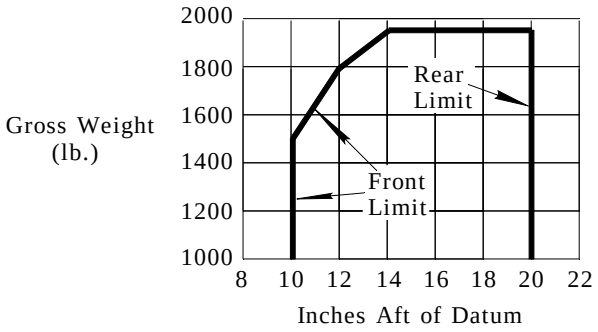
Fuel Capacity	36 gallons	(2 wing tanks at +24) See Item 104 for reserve tank.		
Oil Capacity	2 gallons	(-29)		
Control Surface Movements	Stabilizer	1° Up	6½° Down	
	Elevator	24° Up	12° Down	
	Aileron	15° Up	15° Down	
	Rudder	16° Right	16° Left	
	Flap	40° Down		
Serial Numbers Eligible	22-2378, 22-2425 and up (Normal Category). See NOTE 3 for Utility Category.			
Required Equipment	In addition to the pertinent required basic equipment specified in CAR 3, the following Items of equipment must be installed: Normal Category: Items 5, 103, 201(a), 202, 205(a), 206, and 401(h). Normal and Utility Category: Items 5, 103, 201(a), 202, 205(a), 206, 401(h), 401(r), and 407.			

V. - Model PA-22S-150, 3 PCSM (Normal Category), Approved September 3, 1954

Engine	O-320-A2A Lycoming (Carburetor setting #10-3678-11, #10-3678-12) or O-320-A2B (Carburetor setting #10-3678-32) (See Item 106 for optional engines)			
Fuel	80/87 minimum grade aviation gasoline			
Engine Limits	For all operations, 2700 r.p.m. (150 hp)			
Airspeed Limits CAS	V_{ne}	(never exceed)	158 mph	(137 knots)
	V_{no}	(maximum structural cruising)	126 mph	(109 knots)
	V_p	(maneuvering)	111 mph	(96 knots)
	V_{fe}	(flaps extended)	80 mph	(70 knots)

C. G. Range

(+14.0) to (+20.0) at 1950 lb.
(+12.0) to (+20.0) at 1800 lb.
(+10.0) to (+20.0) at 1500 lb. or less
Straight line variation between points given.



Empty Weight C. G. Range	None	
Maximum Weight	1950 lb.	
Number Seats	4	(2 at +21 and 2 at +49)
Maximum Baggage	100 lb.	(+67)
Fuel Capacity	36 gallons	(2 wing tanks at +24). See Item 104 for reserve tank.

Oil Capacity 2 gallons (-29)

Control Surface Movements

Stabilizer	1°	Up	6½°	Down
Elevator	24°	Up	12°	Down
Aileron	15°	Up	15°	Down
Rudder	16°	Right	16°	Left
Flap	40°	Down		

Serial Numbers Eligible: 22-2378, 22-2425 and up.

Required Equipment: In addition to the pertinent required basic equipment specified in CAR 3, the following Items of equipment must be installed:
Items 5, 103, 209 and 401(i).

VI - Model PA-22-160, 4 PCLM (Normal Category), Approved August 27, 1957
Model PA-22-160, 2 PCLM (Utility Category), Approved August 27, 1957 (See NOTE 3)

Engine: Lycoming O-320-B2A or O-320-B2B (Carburetor setting #10-3678-11, #10-3678-12 or #10-3678-32).

Fuel: 91/96 minimum grade aviation gasoline

Engine Limits: For all operations, 2700 r.p.m. (160 hp)

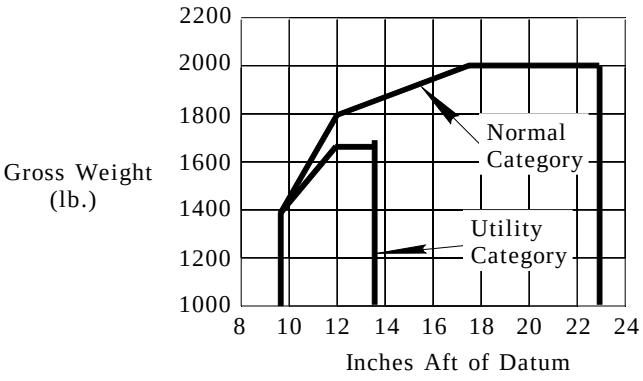
Airspeed Limits (CAS)

V_{ne}	(never exceed)	170 mph	(148 knots)
V_{no}	(maximum structural cruising)	135 mph	(117 knots)
V_p	(maneuvering)	112 mph	(97 knots)
V_{fe}	(flaps extended)	95 mph	(82 knots)

C. G. Range

Normal Category:	(+17.5)	to	(+23.0)	at	2000 lb.
	(+12.0)	to	(+23.0)	at	1800 lb.
	(+9.5)	to	(+23.0)	at	1400 lb. or less
Utility Category:			(+13.5)	at	1680 lb.
	(+12.0)	to	(+13.5)	at	1665 lb.
	(+9.5)	to	(+13.5)	at	1400 lb. or less

Straight line variation between points given.



Empty Weight C. G. Range: None

Maximum Weight: Normal Category: 2000 lb.
Utility Category: 1680 lb.

Number of Seats: 4 (2 at +21 and 2 at +49)
Rear seats not to be used when operating in the Utility Category.

Maximum Baggage: 100 lb. (+67) No baggage allowed when operating in the Utility Category.

Fuel Capacity	36 gallons	(2 wing tanks at +24). See Item 104 for reserve tank.			
Oil Capacity	2 gallons	(-29)			
Control Surface Movements	Stabilizer	1°	Up	6½	Down
	Elevator	24°	Up	12°	Down
	Aileron	15°	Up	15°	Down
	Rudder	16°	Right	16°	Left
	Flap	40°	Down		

Serial Numbers Eligible: 22-2378, 22-2425 and up (Normal Category). See NOTE 3 for Utility Category.

Required Equipment: In addition to the pertinent required basic equipment specified in CAR 3, the following Items of equipment must be installed:

Normal Category:	Items 7, 103, 201(a), 202, 205(a), 206, and 401(s).
Normal and Utility Category:	Items 7, 103, 201(a), 202, 205(a), 206, 401(s), 401(t), and 407.

VII - Model PA-22S-160, 3 PCSM (Normal Category), Approved October 25, 1957

Engine: Lycoming O-320-B2A (Carburetor setting #10-3678-11, #10-3678-12) or O-320-B2B (Carburetor setting #10-3678-32).

Fuel: 91/96 minimum grade aviation gasoline

Engine Limits: For all operations, 2700 r.p.m. (160 hp)

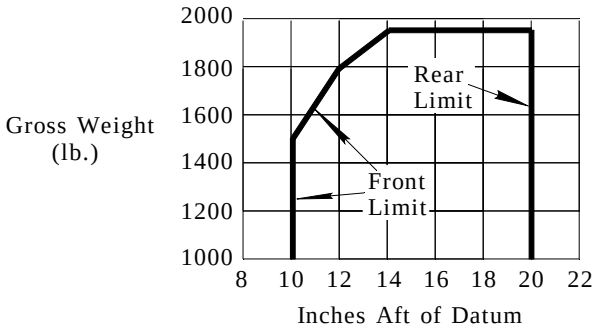
Airspeed Limits

V_{ne}	(never exceed)	158 mph	(137 knots)
V_{no}	(maximum structural cruising)	126 mph	(109 knots)
V_p	(maneuvering)	111 mph	(96 knots)
V_{fe}	(flaps extended)	80 mph	(70 knots)

C. G. Range

(+14.0)	to	(+20.0)	at	1950 lb.
(+12.0)	to	(+20.0)	at	1800 lb.
(+10.0)	to	(+20.0)	at	1500 lb. or less

Straight line variation between points given.



Empty Weight C. G. Range: None

Maximum Weight: 1950 lb.

Number of Seats: 4 (2 at +21 and 2 at +49)

Maximum Baggage: 100 lb. (+67)

Fuel Capacity: 36 gallons (2 wing tanks at +24). See Item 104 for reserve tank.

Oil Capacity	2 gallons (-29)				
Control Surface Movements	Stabilizer	1°	Up	6½°	Down
	Elevator	24°	Up	12°	Down
	Aileron	15°	Up	15°	Down
	Rudder	16°	Right	16°	Left
	Flap	40°	Down		
Serial Numbers Eligible	22-2378, 22-2425 and up.				
Required Equipment	In addition to the pertinent required basic equipment specified in CAR 3, the following Items of equipment must be installed: Items 7, 103, 209, and 401(v).				

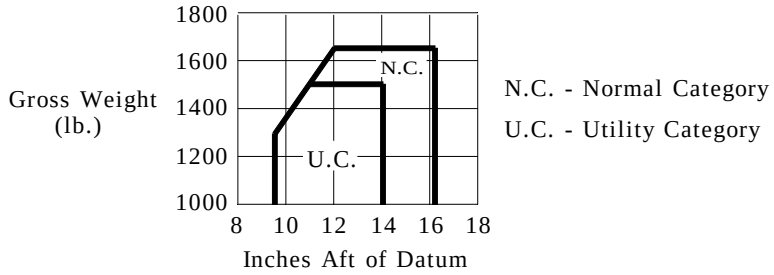
VIII - Model PA-22-108, 2 PCLM (Normal and Utility Category), Approved October 21, 1960

Engine	Lycoming O-235-C1 or O-235-C1B (Carburetor setting #10-3103-1)		
Fuel	80/87 minimum grade aviation gasoline		
Engine Limits	For all operations, 2600 r.p.m. (108 hp)		
Airspeed Limits (CAS)	V_{ne} (never exceed)	138 mph	(120 knots)
	V_{no} (maximum structural cruising)	110 mph	(96 knots)
	V_p (maneuvering)	104 mph	(90 knots)

C. G. Range

Normal Category:	(+12.0)	to	(+16.25)	at	1650 lb.
	(+9.5)	to	(+16.25)	at	1300 lb. or less
Utility Category:	(+10.9)	to	(+14.00)	at	1500 lb.
	(+9.5)	to	(+14.00)	at	1300 lb. or less

Straight line variation between points given.



Empty Weight C. G. Range	None				
Maximum Weight	Normal Category: 1650 lb. Utility Category: 1500 lb.				
Number of Seats	2 at (+21)				
Maximum Baggage	100 lb. (+45) (Normal category only)				
Fuel Capacity	18 gallons (+24) (See Item 108 for auxiliary tank)				
Oil Capacity	1.5 gallons (-29)				
Control Surface Movements	Stabilizer	1°	Up	6½°	Down
	Elevator	24°	Up	12°	Down
	Aileron	15°	Up	15°	Down
	Rudder	16°	Right	16°	Left
Serial Numbers Eligible	22-8000 and up.				

Required Equipment — In addition to the pertinent required basic equipment specified in CAR 3, the following Items of equipment must be installed:
Items 8, 201(a) or 211(a), 202, 205(a), 206, and 401(y).

Specifications Pertinent to All Models

Datum — Wing leading edge

Leveling Means — Plumb from hole in upper channel of front door to center punch mark on front seat cross tube.

Certification Basis — CAR 3, effective November 1, 1949, and Amendments 3-1 through 3-6, effective June 4, 1951.
Type Certificate No. 1A6 issued December 20, 1950.
Date of Application for Type Certificate September 13, 1950.

Production Basis — Approved for manufacture of spare parts only under Production Certificate No. 206.

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 an FAA monitored or approved quality control system, and therefore conformity must be determined if the Item is not identified by a Form FAA-186, PMA or other evidence or FAA production approval.

Propeller and Propeller Accessories

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

1. Propeller (with Lycoming O-290D or O-290-D2 engine)
   Sensenich 74FM59 or any other fixed pitch wood propeller which is rated for the engine power and speed: +11 lb. (-50)
   Static r.p.m.: Not over 2400, not under 2200.
   Diameter: Not over 74 inches, not under 70.5 inches
2. Propeller (with Lycoming O-290D or O-290-D2 engine) - fixed pitch metal
   (a) Sensenich M76AM-2 or +25 lb. (-50)
   (b) Sensenich M74DM +30 lb. (-50)
   Airplane Flight Manual shall be revised to reflect the subject propeller and limits.
   Landplane:
   Static r.p.m.: Not over 2450, not under 2150
   Diameter: Not over 74 inches, not under 72.5 inches
   Seaplane:
   Static r.p.m.: Not over 2450, not under 2350
   Diameter: Not over 74 inches, not under 72.5 inches
3. Propeller (with Lycoming O-290D or O-290-D2 engine)
   Koppers Aeromatic, F200-H/00-74E +34 lb. (-50)
   Parts List Assembly No. 4394H-1. Installation and operation must be accomplished in accordance with Koppers "Adjustment Instructions and Operation Limitations No. 58."
   Low pitch setting 14° at 24 in sta.
   Static r.p.m.: Not over 2600, not under 2550.
   Diameter: Not over 74 inches, not under 72.5 inches

4.	Propeller (with Lycoming O-290D or O-290-D2 engine) Sensenich hub CS3FM-4, blades PC374A7 or C374E, two position controllable. Propeller control installation required as per Sensenich Dwg. D-3028, Revision E. Blade pitch setting at 3/4 radius (27.75 in. station): Low 13°, high 16.6° Diameter: Not over 74 inches, not under 72.5 inches	+34 lb.	(-50)
5.	Propeller (with Lycoming O-320-A2A or O-320-A2B engine) - Fixed pitch metal Sensenich M74DM Landplane: Static r.p.m.: Not over 2480, not under 2250. Diameter: Not over 74 inches, not under 72.5 inches Seaplane: Static r.p.m.: Not over 2500, not under 2400 Diameter: Not over 74 inches, not under 72.5 inches	+30 lb.	(-50)
6.	Propeller (with Lycoming O-320-A1A or O-320-A1B engine) - constant speed controllable Hartzell hub HC82XG-6, blades 7636D-4 Installed per Piper Dwg. No. 14747 when Item 105 (vacuum pump) is installed, or per Piper Dwg. No. 14792, without vacuum pump. <u>Not eligible when Item 407 is installed.</u> Note 2(f) placard required. Blade pitch settings at 30 in. sta.: Low 12°, high 26°. Diameter: Not over 72 inches, not under 70 inches Eligible only on Models PA-22-150 and PA-22S-150, Serial Nos. 22-3218, 22-3387 and up. When this propeller is used on Model PA-22S-150, the engine side cowls shall be installed per Piper Dwg. No. 14450.	+54 lb.	(-50)
7.	Propeller (with Lycoming O-320-B2A or O-320-B2B engine) - fixed pitch metal Sensenich M74DM Landplane: Static r.p.m.: Not over 2450, not under 2250 Diameter: Not over 74 inches, not under 72 inches Seaplane: Static r.p.m.: Not over 2500, not under 2400 Diameter: Not over 74 inches, not under 72 inches Applicable Airplane Flight Manual shall be revised by the Modifier and approved by the applicable FAA Aircraft Certification Office to reflect this installation change.	+34 lb.	(-50)
8.	Propeller (with Lycoming O-235-C1 or O-235-C1B engine) - fixed pitch metal Sensenich M76AM-2 Static r.p.m.: Not over 2450, not under 2200 Diameter: Not over 74 inches, not under 72.5 inches	+25 lb.	(-50)

<u>Engines and Engine Accessories - Fuel and Oil Systems</u>

101.	Oil cooler - Harrison No. AP06CJ04-02 or AP06CU04-2 and Piper Air Duct	+3 lb.	(-18)
102.	Oil filter, Fram PB-5, Kit No. K-520, Fram Dwg. No. 62832 and Instruction Sheet No. 62831 (weight includes 1 quart oil)	+5 lb.	(-18.5)
103.	Oil Cooler Harrison No. AP13SJ03-01 or AP12CU03-01 installed in accordance with Piper Dwg. 13724 or 14368	+6 lb.	(-46)
104.	Reserve 8 gallons fuel tank with electric transfer fuel pump installed in accordance with Piper Dwg. 14454. When installed on Models PA-22S-135, PA-22S-150 or PA-22S-160, fuselage reinforcement channel, Part No. 14725, also required. NOTE 2(e) placard required. Airplane Flight Manual Supplement required: Item 401(j), Model PA-22-150 Item 401(k) Model PA-22-135 (Serial Nos. 22-534 and up eligible), Item 401(p) Model PA-22S-135 (Serial Nos. 22-807 and up eligible), Item 401(q) Model PA-22S-150 (Serial Nos. 22-2378, 22-2425 and up eligible), Item 401(u) Model PA-22-160 (Serial Nos. 22-2378, 22-2425 and up eligible), or Item 401(w) Model PA-22S-160 (Serial Nos. 22-2378, 22-2425 and up eligible).	+12 lb.	(+46)

105.	Vacuum pump			
	(a) Pesco Model 3P-194-F, Type B-11		+4 lb.	(-25)
	(b) Airborne Mechanisms Model 113A1 installed in accordance with Piper Dwg. 15163. (PA-22-108 only).		+4 lb.	(-25)
	(c) Airborne Mechanisms Model 113A5 installed in accordance with Piper Dwg. 15163 or 15208. (PA-22-108 only).		+4 lb.	(-25)
106.	Optional Engines			
	A. Model PA-22-150			
	(1) Lycoming O-320			
	(2) Lycoming O-320-A1A			
	(3) Lycoming O-320-A1B			
	B. Model PA-22S-150			
	(1) Lycoming O-320			
	(2) Lycoming O-320-A1A			
	(3) Lycoming O-320-A1B			
107.	Starter, Delco Remy Model 1109657 (12 v.)		+17 lb.	(-40)
108.	Auxiliary 18 gallons fuel tank installed in accordance with Piper Dwg. 15147 (PA-22-108 only). NOTE 2(j) placard required.		+25 lb.	(+24)
Landing Gear				
201.	Two main wheel-brake assemblies, 6.00-6, Type III		+14 lb.	(+31.5)
	(a) Cleveland Aircraft Products Model 6:00 DHB-3 Wheel Assembly No. C-38500H Brake Assembly No. C-2000H			
202.	Two main 4-ply rating tires, 6.00-6, Type III, with regular tubes		+17 lb.	(+31.5)
205.	One nose wheel, 6.00-6, Type III		+5 lb.	(-36)
	(a) Cleveland Aircraft Products Wheel Assembly No. C-38500H (less brake-drum)			
	(b) Cleveland Aircraft Products Wheel Assembly No. 38501			
206.	One nose wheel 4-ply rating, tire, 6.00-6, Type III, with regular tube		+9 lb.	(-36)
*207.	Nose wheel centering kit installed according to Javelin Aircraft Company (Wichita, Kansas) Dwg. 723 and Installation Instructions dated April 15, 1953.		+2. lb.	(-29)
208.	Skis:		Use Actual Weight Change	
	*(a) Federal A-2000A main skis and NA-1200A nose ski, per Federal Dwg. 11R951, Change E.			
	*(b) Federal AWB-2100 main skis and AWN-1200 nose ski, per Federal Dwg. 11R1117. The following placard is required with this installation: "Do not extend or retract skis while in motion on the ground."			
209.	Edo Model 89-2000 floats with water rudder installed in accordance with Edo Dwg. No. 16270. Piper modifications must be made and installed in accordance with Piper Dwg. 14375 (Model PA-22S-135, Serial Nos. 22-534 to 22-2377, 22-2379 to 22-2424, inclusive) and Piper Dwg. 14450 (Model PA-22S-150 and PA-22S-160, Serial Nos. 22-2378, 22-2425 and up.) Serial Nos. 22-534 to 22-806, inclusive, require a fuselage reinforcement brace, Piper Part No. 12480.			
210.	(a) Doyn Fiberglass wheel fairings installed in accordance with Doyn Dwg. No. 1300 and Doyn Process Specification for Fiberglass Part No. PS-100	Nose Fairing Main Fairing	+5.5 lb. +15.0 lb.	(-36) (+31.5)
or	(b) Piper wheel fairings installed in accordance with Piper Dwg. 15054 and 15058	Nose Fairing Main Fairing	+5.5 lb. +15.0 lb.	(-36) (+31.5)
or	(c) Piper wheel fairings installed in accordance with Piper Dwg. 15083	Nose Fairing Main Fairing	+5.5 lb. +15.0 lb.	(-36) (+31.5)
211.	Two Main Wheel-Brake Assemblies, 6.00-6, Type III			
	(a) Cleveland Aircraft Products, Model 20-6 (Model PA-22-108 only) Wheel Assembly No. 40-28 Brake Assembly No. 30-18		+ 14.5 lb.	(+31.5)

Electrical Equipment

301.	Battery - Reading S24-12V	+25 lb.	(+21)
302.	Landing lights in wing leading edge per Piper Dwg. No. 12534 (Serial Nos. 22-534 to 22-2377, 22-2379 to 22-2424, inclusive) Piper Dwg. No. 14442 (Serial Nos. 22-2378, 22-2425 and up).	+4 lb.	(+5)
303.	Battery - Reading R33-12V Serial Nos. 22-267, 22-340, 22-349, 22-350, 22-351, 22-354 through 22-7999.	+28 lb.	(+21)

Interior Equipment

401. (a) CAA (FAA) approved Airplane Flight Manual dated December 20, 1950, for airplanes equipped with Lycoming O-290-D engines. (Required with 100 lb. baggage allowance.)
(b) FAA-DOA approved Airplane Flight Manual dated May 5, 1952, for airplanes equipped with Lycoming O-290-D2 engines.
(c) FAA-DOA approved Airplane Flight Manual dated October 23, 1952, for airplanes equipped with Lycoming O-290-D2 engines.
*(d) Supplement to Airplane Flight Manual dated January 17, 1952. (Required with Item 402(a) without altitude controller.)
*(e) Revised Supplement to Airplane Flight Manual dated January 19, 1953. (Required with Item 402(a) without altitude controller.)
*(f) Revised Supplement to Airplane Flight Manual dated November 18, 1953. (Required with Item 402(b) with approach coupler.)
(g) FAA-DOA approved Airplane Flight Manual dated May 14, 1954, for Model PA-22S-135 seaplanes equipped with Edo Model 89-2000 floats.
(h) FAA-DOA approved Airplane Flight Manual dated September 3, 1954, for Model PA-22-150.
(i) FAA-DOA approved Airplane Flight Manual dated September 3, 1954, for Model PA-22S-150 seaplanes equipped with Edo Model 89-2000 floats.
(j) FAA-DOA approved Supplement No. 1 to Airplane Flight Manual dated September 3, 1954, (Required with Item 104 Auxiliary Fuel System) for Model PA-22-150.
(k) FAA-DOA approved Supplement No. 1 to Airplane Flight Manual dated October 23, 1952, (Required with Item 104 Auxiliary Fuel System) for Model PA-22-135, Serial No. 22-534 and up.
*(l) Supplement to Airplane Flight Manual dated November 17, 1954. (Required with Item 404).
*(m) Supplement to Airplane Flight Manual dated April 20, 1955. (Required with Item 405).
(n) FAA-DOA approved Supplement to Airplane Flight Manual dated September 3, 1954, for Model PA-22-150 (Required with Item 6).
(o) FAA-DOA approved Supplement to Airplane Flight Manual dated September 3, 1954, for Model PA-22S-150 (Required with Item 6).
(p) FAA-DOA approved Supplement No. 1 to Airplane Flight Manual dated October 23, 1952, (Required with Item 104 Auxiliary Fuel System) for Model PA-22S-135.
(q) FAA-DOA approved Supplement No. 1 to Airplane Flight Manual dated September 3, 1954, (Required with Item 104 Auxiliary Fuel System) for Model PA-22S-150.
(r) FAA-DOA approved Supplement No. 3 to Airplane Flight Manual dated September 3, 1954, for Model PA-22-150 (Required with Item 407.).
(s) FAA-DOA approved Airplane Flight Manual dated August 27, 1957, for airplanes equipped with Lycoming O-320-B2A or O-320-B2B engines.
(t) FAA-DOA approved Supplement No. 1 to Airplane Flight Manual dated August 27, 1957, for Model PA-22-160 (Required with Item 407).
(u) FAA-DOA approved Supplement No. 2 to Airplane Flight Manual dated August 27, 1957, for Model PA-22-160 (Required with Item 104 Auxiliary Fuel System).
(v) FAA-DOA approved Airplane Flight Manual dated October 25, 1957, for Model PA-22S-160 seaplanes equipped with Edo Model 89-2000 floats.

(w) FAA-DOA approved Supplement No. 1 to Airplane Flight Manual dated October 25, 1957, for Model PA-22S-160 (Required with Item 104 Auxiliary Fuel System).

(x) FAA-DOA approved Supplement No. 3 to Airplane Flight Manual dated August 27, 1957 (Model PA-22-160); or FAA-DOA approved Supplement No. 4 to Airplane Flight Manual dated September 3, 1954 (Model PA-22-150) (Required with Item 408 Piper AutoControl, Mitchell Model AKO-64, Automatic Pilot) for Models PA-22-150 and PA-22-160, Serial No. 22-6328, 22-6344, 22-6352 and up.

(y) FAA-DOA approved Airplane Flight Manual dated October 21, 1960, revised November 22, 1960, for Model PA-22-108.

(z) FAA-DOA approved Supplement No. 1 to Airplane Flight Manual dated October 21, 1960, (Required with Item 409 Piper AutoControl, Mitchell Model AKO-64, Automatic Pilot) for Model PA-22-108, Serial No. 22-8000 and up.

(aa) FAA-DOA approved Supplement to Airplane Flight Manual dated December 20, 1950, for Model PA-22 (Required when rear door removed under provisions of NOTE 4).

(ab) FAA-DOA approved Supplement No. 3 to Airplane Flight Manual dated October 23, 1952, for Model PA-22-135 (Required when rear door removed under provisions of NOTE 4).

(ac) FAA-DOA approved Supplement No. 5 to Airplane Flight Manual dated September 3, 1954, for Model PA-22-150 (Required when rear door removed under provisions of NOTE 4).

(ad) FAA-DOA approved Supplement No. 4 to Airplane Flight Manual dated August 27, 1957 for Model PA-22-160 (Required when rear door removed under provisions of NOTE 4).

*402. Lear L-2B Automatic Pilot:
(An approved vacuum system to operate automatic pilot gyros and a 35 ampere generator meeting requirements of Aircraft Engine Specification E-229 are required. Servo pitch drum diameter for all three axes 1.375 inches.)

(a) Automatic pilot and altitude controller (optional equipment) installed in accordance with Lear Dwg. 95650. +51 lb. (+63)
Servo slip clutch stall torque, +0, -5 in.-lb. tolerance:
Aileron 40 in.-lb.
Elevator 25 in.-lb.
Rudder 50 in.-lb.
Items 401(d) or 401(e) and the following placard, installed in clear view of pilot, are required with this installation:
"Do not use Autopilot in normal operation below 75 feet above terrain including take-off, approach and landing."

(b) Automatic pilot and approach coupler (optional equipment) and altitude control (optional equipment) installed in accordance with Lear Dwg. 95650, Revision D. +7 lb. (+74)
Servo slip clutch stall torque + 0, - 5 in.-lb tolerance:
Aileron 40 in.-lb.
Elevator 40 in.-lb.
Rudder 50 in.-lb.
Item 401(f) and the following placards, installed in clear view of the pilot, are required with this installation:
"Do no use Autopilot in normal operation below 300 feet above terrain except during take-off, approach and landing."
"During take-off, approach and landing, do not use Autopilot below 75 feet above terrain."
"Do not use transmitter #1 during an automatic approach."

*403. Javelin A2 single axis automatic pilot installed in accordance with Javelin Dwg. 721 and Instructions dated June 15, 1954. Item 207 required with this installation. +18 lb. (+94)

*404. Lear Arcon (Automatic rudder control) installed in accordance with Lear Dwg. 701944. Item 401(1) required with this installation. Model PA-22-135 only. +12 lb. (+65)

*405.	Ross Control System Conversion Kit Model 10 installed in accordance with Ross (F. W. Ross, 755 Kalamath Drive, Del Mar, California) Dwgs. 10R100 through 9A114 on Drawing List dated November 5, 1955, and Installation Instructions dated November 5, 1955. Placard required on instrument panel: "Equipped with Ross Control System - See Flight Manual Supplement." Item 401(m) required with this installation.	Use Actual Weight and Balance Change	
*406.	Deleted - November 26, 1957. Now covered by Supplemental Type Certificate No. SA1-108		
407.	Control modification kit (eliminating rudder and aileron interconnection) per Piper Dwg. No. 14926. Item 401(r) or 401(t) and NOTE 2(g) placard required. See limitations in NOTE 3.		
408.	Piper AutoControl (Mitchell Model AKO-64) Automatic Pilot installed in accordance with Piper Dwg. No. 14970. Item 105 and 401(x), and NOTE 2(h) placard required. (Models PA-22-150 and PA-22-160)	+5 lb.	(-10)
409.	Piper Autocontrol (Mitchell Model AKO-64) Automatic Pilot installed in accordance with Piper Dwg. No. 14970. Item 105(b) or 105(c), and 401(z), and NOTE 2(h) placards required. (Model PA-22-108)	+5 lb.	(-10)

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.

NOTE 2. The following placards must be displayed:

(a) On the instrument panel in full view of the pilot (For all Models except PA-22-108):
  (1) "Operate in Normal Category in compliance with approved Flight Manual. Acrobatics (including spins) prohibited."

(b) On the baggage compartment (Serial Nos. 22-534 to 22-2377, 22-2379 to 22-2424):
  (1) "Maximum Baggage 50 Pounds." or
  (2) "Maximum Baggage 100 Pounds." (For Model PA-22-135 when Airplane Flight Manual, Item 401(c), is available in the airplane.)

(c) On the baggage compartment (Serial Nos. 22-2378, 22-2425 and up):
  (1) "Maximum Baggage 100 Pounds."

(d) Deleted, December 30, 1955.

(e) Adjacent to reserve tank selector valve when Item 104 is installed in aircraft:
  (1) "Reserve fuel
  pull on
  transfer fuel level flight only
  operate only in accordance with flight manual."

(f) Adjacent to the propeller pitch control when Item 6 is installed:
  (1) "Propeller-Push Increase R.P.M."

(g) On the instrument panel in full view of the pilot when Item 407 is installed:
  (1) "Operate in Normal or Utility Category in compliance with the approved Flight Manual. Airplane marked for Normal Category. Acrobatics (including spins) prohibited in Normal Category."

(h) When Item 408 or 409 is installed:
  (1) On left side of circuit breaker panel:
  "Piper Autocontrol
  Push to Engage
  Disengage During Take-off and Landing."
  (2) Between Directional Gyro and Gyro Horizon:
  "Turn Control
  Pull For Direction Control
  On 0° Heading Only"

(3) On left side window channel in full view of the pilot:
"Piper Autocontrol
To Engage: Push turn control at D. G. in and center knobs then push in engaging control, rocking heel if necessary.
To Turn: Move turn control in desired direction.
For Heading
Lock: Set D. G. at 0° pull put turn control knob, use trim knob to maintain exact 0° heading."

(i) On the instrument panel in full view of the pilot (For Model PA-22-108 only):
"This airplane must be operated as a normal or utility category airplane in compliance with approved Airplane Flight Manual. All markings and placards on this airplane apply to its operation as a normal category airplane. For utility category operation, refer to the Airplane Flight Manual. No acrobatics maneuvers (including spins) are approved for normal category operation."

(j) On the instrument panel in full view of the pilot (When Item 108 is installed):
"Right tank level flight only."

(k) On right fuel quantity gauge (Serial Nos. 22-1 to 22-7642)
"No take-off on right tank with less than 1/3 tank."

NOTE 3. Serial Nos. 22-3218, 22-3387 and up, of Model PA-22-150 or PA-22-160, are eligible to be operated as a Normal or Utility Category Airplane in compliance with the approved Airplane Flight Manual provided Item 407 (Control modification kit) is installed. Propeller Item 6 is not eligible when Item 407 is installed.

NOTE 4. Serial Nos. 22-1 through 22-7999 of Models PA-22, PA-22-135, PA-22-150, and PA-22-160, are eligible to be operated in the Normal Category with the rear door removed in compliance with the pertinent approved Flight Manual. Item 401(aa) for the PA-22; Item 401(ab) for the PA-22-135; Item 401(ac) for the PA-22-150; or Item 401(ad) for the PA-22-160, must be in each aircraft operated in this configuration.

(a) Airspeed Limits (CAS)

V_{ne}	(never exceed)	128 mph	(111 knots)
V_{no}	(max. structural cruising)	100 mph	(87 knots)
V_{p}	(maneuvering)	100 mph	(87 knots)
V_{fe}	(flaps extended)	80 mph	(70 knots)

(b) When the rear door is removed the following placards must be displayed in full view of the pilot:
(1) "Airplane maneuvers are limited to normal take-offs, climbs, banks not to exceed 30°, glides and landings at speeds not in excess of 128 mph."
(2) "No smoking permitted."

(c) No baggage may be carried when the aircraft is flown with the rear door removed.

.....END.....