

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

1A2 Revision 37 PIPER PA-18, PA-18S PA-18 "105" (Special) PA-18S "105" (Special) PA-18A PA-18 "125" (Army L-21A) PA-18S "125" PA-18AS "125" PA-18 "135" (Army L-21B) PA-18A "135" PA-18S "135" PA-18AS "135" PA-18 "150" PA-18A "150" PA-18S "150" PA-18AS "150" PA-19 (Army L-18C) PA-19S September 4, 1996

AIRCRAFT SPECIFICATION NO. 1A2

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

I. - Model PA-19 (Army L-18C), 2 PCLM (Normal and Utility Categories), Approved April 1, 1949; Model PA-18, 2 PCLM (Normal and Utility Categories), Approved November 18, 1949; Model PA-18 "125" (Army L-21A -- See NOTE 4), 2 PCLM (Normal and Utility Categories), Approved September 1, 1950; PA-18A, 2 PCLM (Normal and Utility Categories), Approved September 21, 1951; Model PA-18 "135" (Army L-21B -- See NOTE 5), 2 PCLM (Normal and Utility Categories), Approved April 25, 1952; Model PA-18A "135", 2 PCLM (Normal and Utility Categories), Approved April 25, 1952; Model PA-18 "105" (Special), 2 PCLM (Normal and Utility Categories), Approved November 24, 1952.

Model PA-18 same as PA-19 except that transparent enclosure is replaced by fabric. Model PA-18 "125" same as PA-18 except engine installation. Army L-21A is the same as Model PA-18 "125" equipped with Lycoming O-290-D engine, except for addition of military type cockpit enclosure. See NOTE 4 for compliance requirements.

Model PA-18A same as Lycoming O-290-D powered PA-18 except fuselage was modified to accommodate a hopper door aft of rear wing fittings, removable rear seat substituted, rudder travel increased to 25° right and left and rerouted flap cables to adapt it for agricultural use. Fuselage substantiated for rear seat load of 230 lb.

Model PA-18 "135" same as PA-18 "125" except engine installation and fuel capacity.

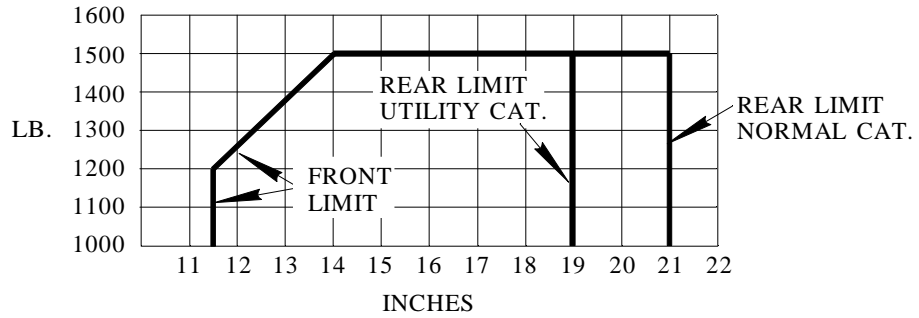
Model PA-18 "105" (Special) same as PA-18 with the exception as listed in NOTE 3.

Engine Models PA-18 and PA-19:
Continental C-90-12F or C-90-8F (Uses carburetor setting No. 530726)
(See Item 106 for Models PA-18 "125" and PA-18A, Item 108 for Models PA-18 "135" and PA-18A "135", and NOTE 3 for Model PA-18 "105" (Special))
(See also Items 101, 106 and 108 for optional engines)

Fuel 80 minimum octane aviation gasoline

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<u>Engine Limits</u>	For all operations, 2475 r.p.m. (90 hp.)				
<u>Airspeed Limits</u>	Maneuvering	94 mph	(82 knots)		
	Maximum Structural Cruise	110 mph	(96 knots)		
(TRUE INDICATED)	Never exceed	138 mph	(120 knots)		
	Flaps extended (with Item 601)	80 mph	(70 knots)		
<u>C. G. Range</u>	Normal:	(+14.0) to (+21.0)	at	1500 lb.	
		(+11.5) to (+21.0)	at	1200 lb. or less	
	Utility:	(+14.0) to (19.0)	at	1500 lb.	
		(+11.5) to (19.0)	at	1200 lb. or less	
	Straight line variation between points given.				



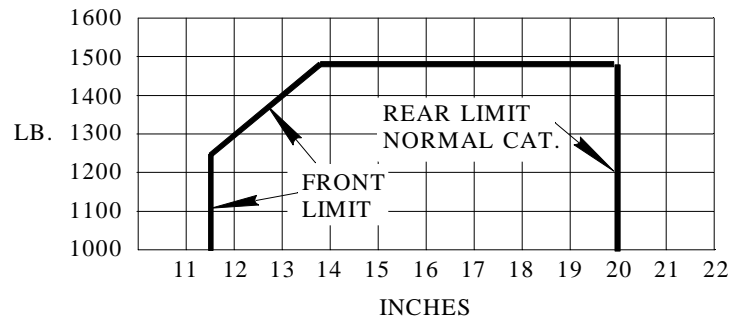
<u>Empty Weight C. G. Range</u>	None
<u>Maximum Weight</u>	Normal: 1500 lb. Utility: 1400 lb. 1500 lb. if Item 601(b) is installed or cockpit placard "Intentional Spins Prohibited" is installed.
<u>Number of Seats</u>	2 at (+11) and (+37)
<u>Maximum Baggage</u>	50 lb. at (+57) (Normal Category only)
<u>Fuel Capacity</u>	18 gallons at (+24) (Left wing tank) (See Item 108 for Models PA-18 "135" and PA-18A "135")
<u>Oil Capacity</u>	5 quarts at (-34) (See Item 106 for Models PA-18 "125" and PA-18A and Item 108 for Models PA-18 "135" and PA-18A "135")
<u>Serial Numbers Eligible</u>	18-1 through 18-7632, and 19-1 through 19-3.
<u>Required Equipment</u>	Models PA-18 and PA-19: Items 1(a), 201(a), 202(a), 204(a), and 401(a). Models PA-18 "125" and PA-18A: Items 3(a), 104, 106, 201(a), 202(a), 204(a), 401(f), and 601. Models PA-18 "135" and PA-18A "135": Items 4(a), 102, 108, 109, 201(a), 202(a), 204(a), 401(l) and 601.

II. - Models PA-18S and PA-19S, 2 PCSM (Normal Category only), Approved May 9, 1950; **Model PA-18S "125",** 2 PCSM (Normal Category only) Approved October 25, 1950; **Model PA-18S "135,"** 2 PCSM (Normal Category only), Approved May 15, 1952; **Model PA-18AS "125",** 2 PCSM (Normal Category only), Approved July 1, 1953; **Model PA-18AS "135",** 2 PCSM (Normal Category only), Approved July 1, 1953; **PA-18S "105" (Special),** same as PA-18S with the exceptions as listed in NOTE 3.

Model PA-18AS "125" same as Model PA-18S "125" except fuselage was modified to accommodate a hopper door aft of rear wing fittings, removable rear seat substituted, rudder travel increased to 25° right and left and rerouted flap cables to adapt it for agricultural use.

Model PA-18AS "135" same as Model PA-18S "135" except fuselage was modified to accommodate a hopper door aft of rear wing fittings, removable rear seat substituted, and rerouted flap cables to adapt it for agricultural use. Therefore, all items in this specification pertaining to the Models PA-18S "125" and the PA-18S "135" are applicable to their respective agricultural versions.

<u>Engine</u>	Models PA-18S and PA-19S: Lycoming O-235-C1 (See Items 106 for Models PA-18S "125" and 108 for Model PA-18S "135") (See Items 101, 105, 106 and 108 for optional engines)
<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>	Maneuvering 94 mph (82 knots) Maximum Structural Cruise 110 mph (96 knots) Never exceed 138 mph (120 knots) Flaps extended (with Item 601) 80 mph (70 knots)
(TRUE INDICATED)	
<u>C. G. Range</u> (with Item 209(a))	(+13.8) to (+20.0) at 1474 lb. (+11.5) to (+20.0) at 1250 lb. or less Straight line variation between points given.



<u>Empty Weight C. G. Range</u>	None
<u>Maximum Weight</u>	1474 lb. with Item 209(a) (See Item 209(b) for 1760 lb.)
<u>Number of Seats</u>	2 at (+11) and (+37)
<u>Maximum Baggage</u>	50 lb. at (+57)
<u>Fuel Capacity</u>	18 gallons at (+24) (Left wing tank) (See Item 108 for Model PA-18S "135")
<u>Oil Capacity</u>	6 quarts at (-36) (See Item 106 for Model PA-18S "125" and Item 108 for Model PA-18S "135")

<u>Serial Numbers Eligible</u>	18-1 through 18-7632, and 19-1 through 19-3.
<u>Required Equipment</u>	Models PA-18S and PA-19S: Items 2(a), 209(a), and 401(c). Model PA-18S "125": Items 3(a), 104, 106, 209(a), 401(g), and 601. Model PA-18S "135": Items 4(a), 102, 108, 109, 209(a), 401(m), and 601. Model PA-18S "105" (Special): Items 2(a), 209(a), and 401(c).

III. - Model PA-18 "150". 2 PCLM (Normal and Utility Categories). Approved October 1, 1954;
Model PA-18A "150." 2 PCLM (Normal and Utility Categories). Approved October 1, 1954.

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

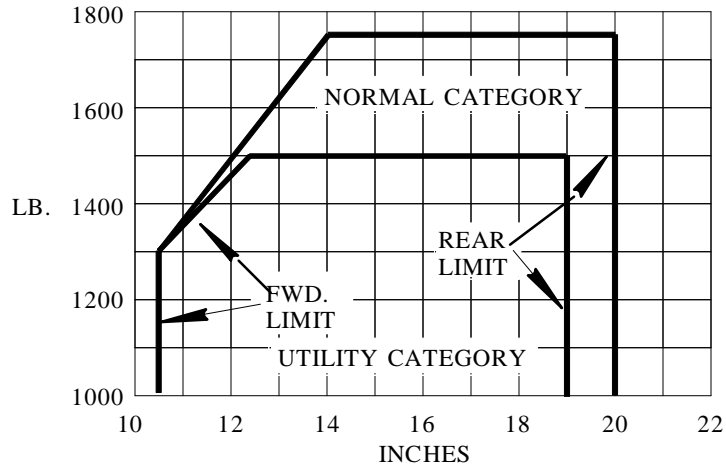
<u>Engines</u>	Lycoming O-320 (Carburetor setting #10-3678-11, #10-3678-12 or #10-3678-32) (See Item 111 for optional engines)
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<u>Fuel</u>	80/87 minimum grade aviation gasoline
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<u>Engine Limits</u>	All operations, 2700 r.p.m. (150 hp.)
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<u>Airspeed Limits</u>	Maneuvering	96 mph	(83 knots)
	Maximum Structural Cruise	121 mph	(105 knots)
(TRUE INDICATED)	Never exceed	153 mph	(133 knots)
	Flaps extended	85 mph	(74 knots)

<u>C. G. Range</u>	Normal: (+14.0) to (+20.0) at 1750 lb. (+10.5) to (+20.0) at 1300 lb. or less
	Utility: (+12.3) to (+19.0) at 1500 lb. (+10.5) to (+19.0) at 1300 lb. or less
	Straight line variation between points given.



<u>Empty Weight C. G. Range</u>	None
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<u>Maximum Weight</u>	Normal: 1750 lb. Utility: 1500 lb.
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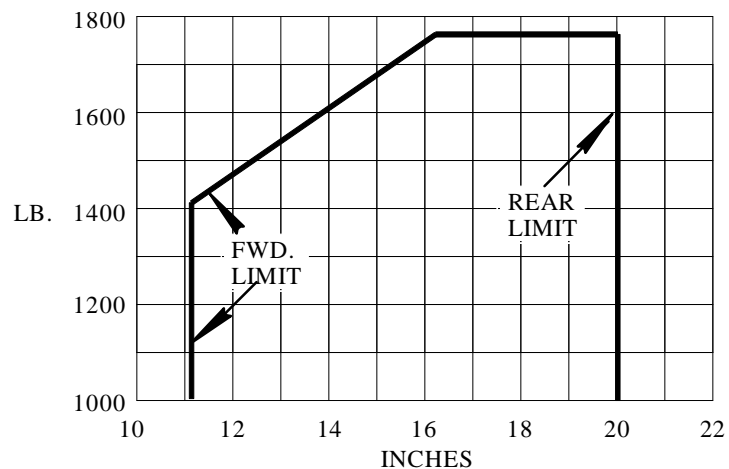
<u>Number of Seats</u>	2 at (+11) and (+37)
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<u>Maximum Baggage</u>	50 lb. at (+57) (Normal Category only)
<u>Fuel Capacity</u>	36 gallons at (2 wing tanks at +24)
<u>Oil Capacity</u>	8 quarts at (-36)
<u>Serial Numbers Eligible</u>	18-3771; 18-3781 through 18-9015; 18-7309016 through 18-8309025; and 1809001 through 1809113.
<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 5(a), 109 or 111, 201(a) or 201(c), 202, 204, 401(q) for S/N 18-3771, S/N 18-3781 through 18-9015, and 18-7309016 through 18-8309025 or 401(s) for S/N 1809001 through 1809113.

IV. - Model PA-18S "150" and PA-18AS "150", 2 PCSM (Normal Category only), Approved October 1, 1954.

Models PA-18S "150" and PA-18AS "150" same as corresponding models PA-18 "150" and PA-18A "150" except landing gear.

<u>Engine</u>	Lycoming O-320 (Carburetor setting #10-3678-11, #10-3678-12 or #10-3678-32) (See Item 111 for optional engines.)		
<u>Fuel</u>	80/87 minimum grade aviation gasoline		
<u>Engine Limits</u>	All operations, 2700 r.p.m. (150 hp.)		
<u>Airspeed Limits</u>	Maneuvering	94 mph	(82 knots)
	Maximum Structural Cruise	110 mph	(96 knots)
(TRUE INDICATED)	Never exceed	138 mph	(120 knots)
	Flaps extended (with Item 601)	80 mph	(70 knots)
<u>C. G. Range</u>	(+16.2) to (+20.0) at 1760 lb. (+11.1) to (+20.0) at 1410 lb. or less Straight line variation between points given.		



<u>Empty Weight C. G. Range</u>	None
<u>Maximum Weight</u>	1760 lb.
<u>Number of Seats</u>	2 at (+11) and (+37)

<u>Maximum Baggage</u>	50 lb. at (+57)
<u>Fuel Capacity</u>	36 gallons at (2 wing tanks at +24)
<u>Oil Capacity</u>	8 quarts at (-36)
<u>Serial Numbers Eligible</u>	18-3771; 18-3781 through 18-9015; 18-7309016 through 18-8309025; and 1809001 through 1809113.
<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 5(b), 109, 209(b), and 401(r).

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> <tr> <td>Stabilizer</td> <td>$2\frac{1}{2}^{\circ} \pm \frac{1}{2}^{\circ}$</td> <td>Up</td> <td>$4^{\circ} \pm \frac{1}{2}^{\circ}$</td> <td>Down</td> <td></td> </tr> <tr> <td>Elevator</td> <td>$25^{\circ} \pm 2^{\circ}$</td> <td>Up</td> <td>$15^{\circ} \pm 2^{\circ}$</td> <td>Down</td> <td></td> </tr> <tr> <td>Aileron</td> <td>$18^{\circ} \pm 2^{\circ}$</td> <td>Up</td> <td>$18^{\circ} \pm 2^{\circ}$</td> <td>Down</td> <td></td> </tr> <tr> <td>Rudder</td> <td>$20^{\circ} \pm 2^{\circ}$</td> <td>Left</td> <td>$20^{\circ} \pm 2^{\circ}$</td> <td>Right</td> <td>(except 25° Right and Left for Models PA-18A, PA-18 "135", PA-18A "135", PA-18S "135", PA-18 "150", PA-18A "150", PA-18S "150", and PA-18AS "150")</td> </tr> <tr> <td>Flap</td> <td>0°</td> <td>Up</td> <td>$50^{\circ} \pm 2^{\circ}$</td> <td>Down</td> <td></td> </tr> </table>	Stabilizer	$2\frac{1}{2}^{\circ} \pm \frac{1}{2}^{\circ}$	Up	$4^{\circ} \pm \frac{1}{2}^{\circ}$	Down		Elevator	$25^{\circ} \pm 2^{\circ}$	Up	$15^{\circ} \pm 2^{\circ}$	Down		Aileron	$18^{\circ} \pm 2^{\circ}$	Up	$18^{\circ} \pm 2^{\circ}$	Down		Rudder	$20^{\circ} \pm 2^{\circ}$	Left	$20^{\circ} \pm 2^{\circ}$	Right	(except 25° Right and Left for Models PA-18A, PA-18 "135", PA-18A "135", PA-18S "135", PA-18 "150", PA-18A "150", PA-18S "150", and PA-18AS "150")	Flap	0°	Up	$50^{\circ} \pm 2^{\circ}$	Down	
Stabilizer	$2\frac{1}{2}^{\circ} \pm \frac{1}{2}^{\circ}$	Up	$4^{\circ} \pm \frac{1}{2}^{\circ}$	Down																											
Elevator	$25^{\circ} \pm 2^{\circ}$	Up	$15^{\circ} \pm 2^{\circ}$	Down																											
Aileron	$18^{\circ} \pm 2^{\circ}$	Up	$18^{\circ} \pm 2^{\circ}$	Down																											
Rudder	$20^{\circ} \pm 2^{\circ}$	Left	$20^{\circ} \pm 2^{\circ}$	Right	(except 25° Right and Left for Models PA-18A, PA-18 "135", PA-18A "135", PA-18S "135", PA-18 "150", PA-18A "150", PA-18S "150", and PA-18AS "150")																										
Flap	0°	Up	$50^{\circ} \pm 2^{\circ}$	Down																											
<u>Certification Basis</u>	Type Certification No. 1A2 (CAR 3, as amended November 1, 1949).																														
<u>Production Basis</u>	Production Certificate No. 7 for all models, except S/N 1809001 through 1809113. Production Certificate No. 206 for S/N 1809001 through 1809113.																														

Equipment A plus (+) or minus (-) preceding the weight of an item 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, PMA or other evidence of FAA production approval.

Propeller and Propeller Accessories

1. With Continental C-90 series engines only
 - (a) Propeller - Sensenich 72GK50 or any other fixed pitch wood propeller which is rated for the engine power and speed and which meets the following limits:
 - Static r.p.m. at maximum permissible throttle setting:
 - Landplane and skiplane: Not over 2400 r.p.m., not under 2100 r.p.m.
 - Seaplane: Not over 2350 r.p.m., not under 2300 r.p.m.
 - No additional tolerance permitted
 - Diameter: Not over 72 in., not under 70.5 in.
 - (b) Propeller - McCauley 1B90 fixed pitch metal (Landplane and Skiplane only)
 - Static r.p.m. at maximum permissible throttle setting:
 - Not over 2350 r.p.m., not under 2200 r.p.m.
 - No additional tolerance permitted.
 - Diameter: Not over 71 in., not under 69.5 in.

- (c) Propeller - Koppers F200/00-73 (Landplane and skiplane only) +30 lb. (-54)
 Parts List Assembly No. 4348.
 Low pitch setting 12.5° measured at 24 in. station
 Static r.p.m. at maximum permissible throttle setting:
 Not over 2425 r.p.m., not under 2375 r.p.m.
 No additional tolerance permitted.
 Diameter: Not over 73 in., not under 71.5 in.
 Installation and operation must be accomplished in accordance with Kopper's
 Installation Procedure and Operating Limitations No. 33.
- (d) Propeller - Sensenich M76AK-2 fixed pitch, metal +24 lb. (-54)
 Static r.p.m. at maximum permissible throttle setting
 Landplane and skiplane: Not over 2350 r.p.m., not under 2200 r.p.m.
 Seaplane: Not over 2350 r.p.m., not under 2300 r.p.m.
 No additional tolerance permitted.
 Diameter: Not over 74 in., not under 72.5 in.
2. With Lycoming O-235-C or O-235-C1 engines
- (a) Propeller - fixed pitch wood rated for engine power and speed which meets the +11 lb. (-57)
 following limits (landplane, skiplane and seaplane):
 Static r.p.m. at maximum permissible throttle setting:
 Not over 2375 r.p.m., not under 2100 r.p.m.
 (except seaplane with 0-235-C engine, not under 2200 r.p.m.)
 No additional tolerance permitted.
 Diameter: Not over 74 in., not under 72.5 in.
- (b) Propeller - McCauley 1090 fixed pitch metal propeller. +23 lb. (-57)
 Static r.p.m. at maximum permissible throttle setting:
 Landplane and skiplane: Not over 2300 r.p.m., not under 2200 r.p.m.
 No additional tolerance permitted.
 Diameter: Not over 72 in., not under 70.5 in.
- (c) Propeller - Sensenich M76AM-2 fixed pitch metal propeller: +24 lb. (-57)
 Static r.p.m. at maximum permissible throttle setting:
 Landplane and skiplane: Not over 2475 r.p.m., not under 2100 r.p.m.
 Seaplane with 0-235-C1 engine: Not over 2475 r.p.m., not under 2150 r.p.m.
 Seaplane with 0-235-C engine: Not over 2475 r.p.m., not under 2250 r.p.m.
 No additional tolerance permitted.
 Diameter: Not over 74 in., not under 72.5 in.
3. With Lycoming O-290-D engine only (landplane, skiplane and seaplane)
- (a) Propeller - fixed pitch metal
- (1) Sensenich M76AM-2-50 +24 lb. (-57)
 or
- * (2) Sensenich M74DM +30 lb. (-57)
 (Airplane Flight Manual shall be revised by the modifier and approved by
 the applicable FAA Aircraft Certification Office to reflect this installation change.)
- Static r.p.m. at maximum permissible throttle setting:
 Not over 2475 r.p.m., not under 2100 r.p.m. except when Item 209(b) is installed.
 Not over 2450 r.p.m., not under 2325 r.p.m. when Item 209(b) is installed.
 No additional tolerance permitted.
 Diameter: Not over 74 in., no under 72.5 in.

- (b) Propeller - Sensenich 74FM-50 or any other fixed pitch wood rated for engine power and speed and which meets the following limits: +11 lb. (-57)
 Static r.p.m. at maximum permissible throttle setting:
 Not over 2400 r.p.m., not under 2100 r.p.m.
 No additional tolerance permitted.
 Diameter: Not over 74 in., not under 72.5 in.
- *(c) Propeller - Sensenich CS3FM4/C374A7, +34 lb. (-57)
 2-position controllable, control valve Model L-2160 (landplane only)
 Pitch settings at 28 in. station: Low 12°, High 16.5°
 Diameter: Not over 74 in., not under 72.5 in.
 Required placard adjacent to propeller pitch control:
 "Propeller Pitch Control -- In -- Low Pitch"
 (Airplane Flight Manual, Item 401(f) shall be revised by the modifier and approved by the applicable FAA Aircraft Certification Office to reflect this installation change).
4. With Lycoming O-290-D2 engine only
- (a) Propeller fixed pitch metal
- (1) Sensenich M76AM-2 +24 lb. (-57)
 or
- *2) Sensenich M74DM +30 lb. (-57)
 (Airplane Flight Manual shall be revised by the modifier and approved by the applicable FAA Aircraft Certification Office to reflect this installation change).
 Static r.p.m. at maximum permissible throttle setting:
 Landplane and Skiplane: Not over 2490 r.p.m., not under 2100 r.p.m.
 Seaplane with Item 209(a): Not over 2475 r.p.m., not under 2100 r.p.m.
 Seaplane with Item 209(b): Not over 2550 r.p.m., not under 2350 r.p.m.
 No additional tolerance permitted.
 Diameter: Not over 74 in., not under 72.5 in.
- (b) Propeller - Sensenich 74FM52 or any other fixed pitch wood rated for engine power and speed and which meets the following limits: +11 lb. (-57)
 Static r.p.m. at maximum permissible throttle setting:
 Landplane and Skiplane: Not over 2450 r.p.m., not under 2100 r.p.m.
 Seaplane with Item 209(a) only: Not over 2400 r.p.m., not under 2100 r.p.m.
 No additional tolerance permitted.
 Diameter: Not over 74 in., not under 72.5 in.
- Note: Propeller Model W74FM49, beginning with S/N Y7906 is equivalent to and interchangeable with Model W74FM52 propellers up to S/N Y7905.
5. With Lycoming O-320 engine only
- (a) Propeller - Sensenich M74DM or 74DM6 fixed pitch metal (landplane and seaplane) +30 lb. (-57)
 Static r.p.m. at maximum permissible throttle setting:
 Not over 2450 r.p.m., not under 2350 r.p.m.
 Not over 2550 r.p.m., not under 2450 r.p.m. when operating as a Glider or Banner Tow.
 No additional tolerance permitted.
 Diameter: Not over 74 in., not under 72.5 in.
- (b) Propeller - Sensenich M74DM or 74DM6 fixed pitch (seaplane) +30 lb. (-57)
 Static r.p.m. at maximum permissible throttle setting:
 Not over 2550 r.p.m., not under 2450 r.p.m.
 No additional tolerance permitted
 Diameter: Not over 74 in., not under 72.5 in.
- (c) Sensenich propeller M74DM or 74DM6 fixed pitch metal. According to Sensenich Type Certificate No. 886 these propellers are identical.

Engine and Engine Accessories - Fuel and Oil Systems

101. Lycoming O-235-C and -C1 engine (Eligible only when installed in accordance with Piper Dwg. No. 12447) Use actual weight change
(See also NOTE 3)
Fuel - 80 min. grade aviation gasoline
Engine Limits - For all operations:
 O-235-C: 2600 r.p.m. (100 hp.)
 O-235-C1: 2600 r.p.m. (108 hp.)
Oil Capacity - 6 quarts at (-36)
Required Equipment Items:
(See Item 2 for propellers)
With Lycoming O-235-C engine:
 Landplane and skiplane: Items 401(a), 401(j), and 601(b).
 Seaplane: Item 401(i).
With Lycoming O-235-C1 engine:
 Landplane and Skiplane: Items 401(b) and 601(b).
 Seaplane: Item 401(c).
102. Fuel tank, 18 gallons (optional) right wing +16 lb. (+25)
Net weight change for installation. Installed in accordance with Piper Dwg. 12458, 12544 and 12778. Header Tank, Piper Part No. 12837 also required.
103. Oil Filter, Fram PB-5 (weight includes 1 quart oil) +4.5 lb. (-28)

(a) With Continental C-90 engine - installation in accordance with Fram Dwg. No. 62841 and Instruction Sheet No. 62840.

(b) With Lycoming O-235-C and O-235-C1 engines - installation in accordance with Fram Dwg. No. 62839 and Instruction Sheet No. 62838.
104. Oil Cooler - Harrison Model AP06CJ04-02 or AP06CU04-02 +3 lb. (-30)
(Required with Lycoming O-290-D engine on Models PA-18"125", PA-18A and PA-18S "125")
105. Continental C-90-12F and C-90-8F engines (uses carburetor setting No. 530726) Use actual weight change
Fuel - 80 min. grade aviation gasoline
Engine Limits - For all operations, 2475 r.p.m. (90 hp.)
Oil Capacity - 5 quarts at (-34)
Item 401(a) or 401(h) required.
(See Item 1 for propellers)
106. Lycoming O-290-D engine. Install in accordance with Piper Dwg. No. 12447. Use actual weight change
Fuel - 80 min. grade aviation gasoline
Engine Limits - For all operations, 2600 r.p.m. (125 hp.)
Oil Capacity - 8 quarts at (-36)
Items 104, 601(b), and 401(f), 401(g) or 401(p) are required.
(See Item 3 for propellers.)
107. Oil Cooler - Harrison Model AP06CJ04-02 or AP06CU04-02 +3 lb. (-22)
(Optional in addition to Item 104) installed in accordance with Piper Dwg. No. SK344 and Piper Kit No. 752 226.
108. Lycoming O290-D2 engine. Install in accordance with Piper Dwg. No. 12447. Use actual weight change.
Fuel - 80/87 min. grade aviation gasoline
Engine Limits - For all operations, 2600 r.p.m. (135 hp.)
Fuel Capacity - 36 gallons at (+24)
Oil Capacity - 8 quarts at (-36)
Items 102 and 109 are required.
See Item 4 for propellers.

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| 109. | Oil Cooler - Harrison AP13SJ03-01 or AP12CU03-01 installed in accordance with Piper Dwg. 13724.
(Required with Lycoming O-290-D2 engine on Models PA-18 "135" and PA-18A "135").
(Required with Lycoming O-290-D engine on Model PA-18S"125" when Item 209(b) is installed).
(Required with Lycoming O-320 engine on Models PA-18 "150", PA-18S "150", and PA-18AS "150").
(Optional for Lycoming O-290-D engine on Models PA-18 "125" and PA-18A).
(Not eligible on Continental C-90 series or Lycoming O-235 series engines). | +6 lb. | (-53) |
| 110. | Paper air filter installation (Fram CA-122PL) installed in accordance with Piper Dwg. 15013.
Eligible on Lycoming O-230 series engines only.
Not eligible when Item 209(b) is installed. | | |
| 111. | Engines
A. Models PA-18 "150", PA-18S "150" and PA-18AS "150"
(1) Lycoming O-320
(2) Lycoming O-320-A2A
(3) Lycoming O-320-A2B | | |
| 112. | Oil cooler Niagara Development Division P/N 20377A installed in accordance with Piper Drawing 89301-02 (required with Lycoming O-320 engine on Model PA-18 "150"). | +3 lb. | (-53) |

Landing Gear

- | | | | |
|------|---------------------------------------------------------------------------------------------------------------------------------|-----------|-------------|
| 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) |
| | (b) Goodyear Model CL6HBM, 6.00-6, Type III, Casting
Wheel-brake assembly No. 266AX36
Wheel installation Dwg. No. 266AX54 | +10 lb. | (+2) |
| | (c) Cleveland Model 20-119, 6.00x6, Type III | +12.6 lb. | |
| 202. | Two main wheel tires with regular tubes | | |
| | (a) 8.00x4, Type III, 4 ply rating | +21 lb. | (+2) |
| | (b) 7.00x6, Type III, 4 ply rating | | (No change) |
| | (c) 6.00x6, Type III, 4 ply rating | +17 lb. | |
| | (d) 7.00x6, Type III, 6 ply rating | +21 lb. | |
| | (e) 8.00x6, Type III, 4 ply rating | +26 lb. | |
| 204. | Tail Wheel Assembly | | |
| | (a) Scott Model #3000-AL Steerable | +6 lb. | (+200) |
| | (b) 6x2.00 steerable - Aircraft Associates | -1 lb. | (+200) |
| | (c) 6x2.00 steerable - Scott Aviation Corp. (Model CST-12) | -1 lb. | (+200) |
| | (d) 6x2.00 steerable - Scott Aviation Corp. (Model 3-21) | +1 lb. | (+200) |
| | (e) 6x2.50 steerable automatic full-swivel - Maule (SAFS-14) | -2 lb. | (+200) |
| | (f) Imperial Model B-100 | | |
| | (g) Scott Model 3200 per Scott Dwg. No. 3243 | +3 lb. | (+200) |
| | (h) Scott Model 3-24B | +6 lb. | (+200) |
| | (i) Maule Model SGS-1-4 | +6 lb. | (+200) |
| | (j) Maule Model SFS-1-4 PG8 | +1 lb. | (+200) |

208. Skis Unless otherwise noted use actual weight change
- (a) Marston MFS-1600
(Not eligible on Models PA-18 "150" or PA-18A "150")
- (b) Wollam W-1650
(Not eligible on Models PA-18 "150" or PA-18A "150")
- (c) Federal SC-2
(Not eligible on Models PA-18 "150" or PA-18A "150")
- (d) Federal A1500 or A1500A
(Not eligible on Models PA-18 "150" or PA-18A "150")
- *(e) Call S1 (with 8.00-4 tires only) in accordance with Call Dwg. 1002, 1014 and 1015.
(Not eligible on Models PA-18 "150" or PA-18A "150")
- *(f) Federal Model AWB-1500A wheel-ski installed in accordance with Federal Aircraft Works, Minneapolis, Minnesota, Dwg. 11R560.
(Not eligible on Models PA-18 "150" or PA-18A "150")
Wheel-Ski installation complete:
- | | | |
|------------------------|-----------|--------|
| Main Gear Ski AWB-1500 | +82.5 lb. | (-2.5) |
| Tail ski AWT-1500 | +5.5 lb. | (+202) |
- Item 401(k) Airplane Flight Manual Supplement and following placards on ski position selector box are required:
"SKI CONTROL"
"UP-NEUTRAL-DOWN"
- *(g) Call S5, S6, or S7 according to Call Dwg. 1014 and 1015
(Not eligible on Models PA-18 "150" or PA-18A "150")
(S6 eligible at maximum gross weight of 1450 lb.)
- *(h) Federal AWB-2100 wheel-ski installed in accordance with Federal Aircraft Works, Minneapolis, Minnesota, Dwg. 11R1101. Item 401(k) Airplane Flight Manual Supplement, and the following placards required:
- (a) "Do not extend or Retract skis while in motion on the ground."
(b) On the ski position selector box
"Ski Control"
"Up-Neutral-Down."
- *(i) Wesco per Western Aircraft Equipment Company Dwg. Nos. 12 and 148:
(Not eligible on Models PA-18 "150" or PA-18A "150")
- (1) A-15
 - (2) A-20
 - (3) A-25
 - (4) AS-2
 - (5) AS-2A
 - (6) AS-2B
- (j) Federal Models A1850, A2000 and A2000A installed in accordance with Federal Aircraft Works, Minneapolis, Minnesota, Dwg. 11R262.

209. Two Floats

- (a) Edo Model 92-1400 floats and water rudder in accordance with Edo Dwg. 92-S-218 (Not eligible on Models PA-18 "150" or PA-18A "150") +174 lb. (+16)
 Item 601 required for all engine installations except Item 105 engine. Item 601 is optional with Item 101 or 105 engines but requires following changes to Airplane Flight Manual if not installed:

- (1) Under Airspeed Limits delete flap extended speed of 80 mph.
- (2) Under Maneuvers, delete statement regarding airspeed indicator marking for flap down range, i.e. white arc.
- (3) Delete Performance section.
- (4) Add:

"III Performance:

This aircraft is certificated in accordance with the performance requirements of CAR 3, Amendment 3-4. The aircraft performance is satisfactory and is in compliance with the above regulation.

"IV Stalls:

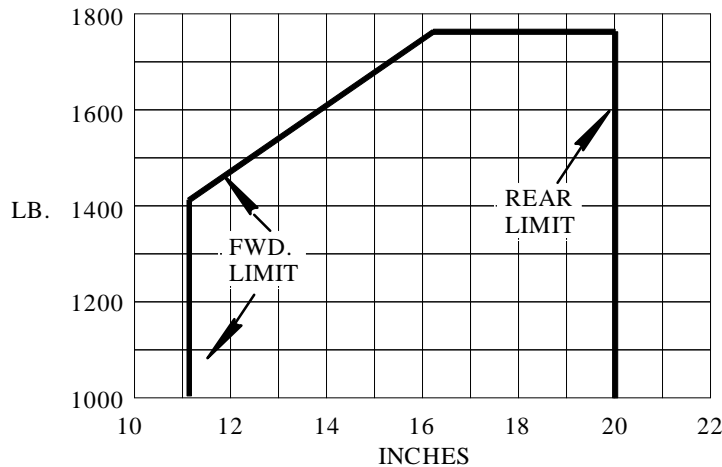
The power-off stall speed is 42 mph CAS. Recovery from a power-off stall requires 50 feet of altitude."

In addition to the above changes to the Airplane Flight Manual, the airspeed indicator must be altered by removing the flap down speed range, if applicable.

- (b) Edo 89-2000 floats and water rudder in accordance with Edo Dwg. 14390 or 69470. +179 lb. (+17)
 For Model PA-18S "125", the powerplant must be modified in accordance with Piper Dwg. 14185 (net increase in weight 8 lb. at (-62) and rudder stops filed to obtain 25° right and 25° left rudder travel).
 The following limitations are applicable for Models PA-18S "125" and PA-18S "135":
 (See Section IV for Models PA-18S "150" and PA-18AS "150")

C. G. Range (+16.2) to (+20.0) at 1760 lb.
 (+11.1) to (+20.0) at 1410 lb. or less

Straight line variation between points given.



Maximum Weight 1760 lb.
Required Equipment Model PA-18S "125": Items 3(a), 106, 109, 209(b), 401(p) and 601.
 Model PA-18S "135": Items 4(a), 102, 108, 109, 209(b), 401(o) and 601.

210.	Scott parking brake installation (Scott Aviation Corporation, Lancaster, New York, Kit No. 2715BK installation in accordance with their Bulletin No. I-169)	Neglect weight change
211.	Wheel streamlines	+6 lb. (+2)
212.	Consolidair Model 17 wheel fenders (Installed in accordance with Consolidair Inc., Alliance, Ohio, Dwg. 0041.)	+9 lb. (+2)
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 Models PA-18 "150" or PA-18A "150")	+4 lb. (+2)

Electrical Equipment

301.	Battery - Reading S24 Not eligible on Models PA-18 "150" or PA-18A "150"	+27 lb. (+51)
302.	Landing lights in wing leading edge (a) All Models except PA-18 "150" and PA-18A "150" per Piper Dwg. 12534 (b) Models PA-18 "150" and PA-18A "150" per Piper Dwg. 14442	+4 lb. (+5)
303.	Battery - Reading R33-12V. Serial No. 18-1116, 18-1152, 18-1155, 18-1182, 18-1183, 18-1199, 18-1204, 18-1212 through 18-8309025. (a) Models PA-18, PA-18S, PA-18 "125", PA-18S "125", PA-18 "135" and PA-18S "135" installed per Piper Dwg. 12302 (b) Models PA-18A and PA-18A "135" installed per Piper Dwg. 13296 (c) Models PA-18 "150" and PA-18A "150" installed per Piper Dwg. 14241	+28 lb. (+84) +28 lb. (+59) +28 lb. (+84)

Interior Equipment

401.	(a) CAA Approved Airplane Flight Manual approved April 1, 1949, revised December 21, 1949, for landplanes and skiplanes equipped with Continental C-90-12 engine. (b) CAA Approved Airplane Flight Manual approved August 15, 1949, revised December 21, 1949, for landplanes and skiplanes equipped with Lycoming O-235-C1 engine. (c) CAA Approved Airplane Flight Manual approved May 9, 1950, for seaplanes equipped with Lycoming O-235-C1 engine. (d) CAA Approved Supplement to Airplane Flight Manual for Crop Sprayers. (e) CAA Approved Supplement to Airplane Flight Manual for Crop Dusters. (f) CAA Approved Flight Manual approved October 20, 1950, for landplanes equipped with Lycoming O-290-D engine. (g) CAA Approved Airplane Flight Manual approved October 12, 1950, for seaplanes equipped with Lycoming O-290-D engine and Edo Model 92-1400 floats. (h) CAA Approved Airplane Flight Manual approved December 9, 1950, for seaplanes equipped with Continental C90 engine. (i) CAA Approved Airplane Flight Manual approved March 15, 1951, for seaplanes equipped with Lycoming O-235-C engine. (j) CAA Approved Supplement, dated March 15, 1951, to Airplane Flight Manual 401(a) for landplanes and skiplanes equipped with Lycoming O-235-C engine. (k) CAA Approved Airplane Flight Manual Skiplane Supplement dated August 20, 1951. (l) DMCR Approved Airplane Flight Manual dated April 25, 1952, for landplanes or skiplane equipped with Lycoming O-290-D2 engine.	
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401. (m) DMCR Approved Airplane Flight Manual approved May 15, 1952, for seaplanes equipped with Lycoming O-290-D2 engine and Edo Model 92-1400 floats.
- (n) DMCR Approved Flight Manual approved November 24, 1952, for landplanes equipped with Lycoming O-235-C1 engine. Required with Model PA-18 "105" (Special).
- (o) DMCR Approved Airplane Flight Manual approved April 1, 1953, for seaplanes equipped with Lycoming O-290-D2 engine and Edo Model 89-2000 floats.
- (p) DMCR Approved Flight Manual approved July 1, 1953, for seaplanes equipped with Lycoming O-290-D engine and Edo Model 89-2000 floats.
- (q) DMCR Approved Flight Manual approved October 1, 1954, revised July 15, 1982, for landplanes or skiplanes equipped with Lycoming O-320 engine.
- (r) DMCR Approved Flight Manual approved October 1, 1954, for seaplanes equipped with Lycoming O-320 engine and Edo Model 89-2000 floats.
- (s) FAA Approved Flight Manual VB-1382 dated March 24, 1989.

Miscellaneous (Not listed above)

601. Flaps in accordance with Piper Dwg. No. 12544 for PA-18 "125", or Piper Dwg. No. 13766 for Models PA-18 "135" and PA-18 "150" Use actual weight change
When installed the following items are also required:
- (a) Deleted - June 13, 1951.
- (b) Horizontal tail surface installed in accordance with Piper Dwg. No. 12789 and 12790.
- (c) Bungee cables installed in accordance with Piper Dwg. No. 12263. Neglect weight change
602. Emergency Exit Neglect weight change
603. Slip - Not Stabilizer Control Model 10C +2 lb. (+72)
Installed in accordance with Westfield Industries, Salem, Illinois, Dwg. 1 and kit installation instructions.
604. Crop Dusting Installation Use actual weight change
"Whitaker Model WD-49-18" installed in accordance with A. W. Whitaker, 5001 N.E. Union Avenue, Portland, Oregon, Dwgs. 100, 100A, 100B and 100C.
The following are required:
- (a) Placard in full view of pilot:
"All acrobatic maneuvers (including spins) prohibited when duster is installed."
- (b) Placard on hopper near filler neck: "Maximum capacity _____lb."
- (c) Airplane Flight Manual Supplement (Duster), dated April 17, 1950.
605. Crop Spraying Installation +90 lb. (+13)
"Whitaker Model W-49-105" installed in accordance with A. W. Whitaker, 5001 N.E. Union Avenue, Portland, Oregon, Dwgs. W-49 and V.
The following required:
- (a) Placards in full view of pilot:
"All acrobatic maneuvers (including spins) prohibited when sprayer is installed."
"Never exceed 120 mph TIAS with sprayer installed."
- (b) Placard on hopper near filler neck: "Maximum capacity _____ lb."
- (c) Red line airspeed indicator at 120 mph TIAS.
- (d) Airplane Flight Manual Supplement (Sprayer), dated April 17, 1950.

606. Crop spraying and dusting installation, "Whitaker Model DS-50" installed in accordance with A. W. Whitaker, 5001 N.E. Union Avenue, Portland, Oregon, Dwg. 200A, 200B, and 200Z and installation instructions.
 With sprayer attachment installed +84 lb. (+32)
 With duster attachment installed +79 lb. (+31)
 The following are required:
- (a) Placards in full view of pilot: "All acrobatic maneuvers (including spins) prohibited when duster or sprayer is installed."
 "Never exceed 120 mph TIAS with sprayer installed."
 - (b) Placard on hopper near filler neck: "Maximum capacity _____ lb."
 - (c) Red line airspeed indicator at 120 mph TIAS.
 - (d) Airplane Flight Manual Supplement (Sprayer or Duster), dated April 17, 1950.
607. Crop Spraying installation "Sevdy-Sorenson Model 10 High or Low Gallonage" (Model PA-18) installed in accordance with Sevdy-Sorenson instructions dated April 1, 1950. When this sprayer is installed aircraft must be certificated and operated in accordance with Item 401(d), "CAA Approved Supplement dated May 19, 1950, to Airplane Flight Manual."
 This supplement must be appended to the Airplane Flight Manual, Item 401(a) or 401(b).
Placard required on tank
 "Maximum tank load to be determined from weight and balance computation.
 Do not exceed 382 lb." +76 lb. (+20) high gal
 +56 lb. (+29) low gal
608. Crop spraying installation "Pipestone Model 100" installed in accordance with Pipestone Aviation Services, Pipestone, Minnesota, drawing and installation instructions. The following are required: +60 lb. (+28)
- (a) Placards in full view of pilot:
 "All acrobatic maneuvers (including spins) prohibited when sprayer is installed."
 "Never exceed 100 mph TIAS with sprayer installed."
 - (b) Placard on tank near filler neck:
 "Maximum tank load to be determined from weight and balance. Do not exceed 311 lb."
 - (c) Airplane Flight Manual Supplement, Sprayer, Item 401(d), dated March 23, 1950.
609. Crop spraying installation, "Whitaker Model LS-50" installed in accordance with A. W. Whitaker, 5001 N.E. Union Avenue, Portland, Oregon, Dwgs. LS-I, LS-P, LS-2A and installation instructions. The following are required: +116 lb. (+30.5)
- (a) Placard in full view of pilot:
 "All acrobatic maneuvers (including spins) prohibited when sprayer is installed."
 "Never exceed 120 mph TIAS with sprayer installed."
 - (b) Placard near filler neck:
 "Maximum capacity _____ lb."
 - (c) Red-line airspeed indicator at 120 mph TIAS.
 - (d) Airplane Flight Manual Supplement, Sprayer, Item 401(d), dated July 19, 1950.
610. Shoulder harness installation on front and rear seats per Piper Dwg. No. 12615. Use actual weight change

- 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.
- NOTE 2 The following placards must be displayed:
- (a) On the instrument panel in full view of the pilot:
 - (1) "Operate in Normal or Utility Category in compliance with approved Flight Manual. Airplane marked for Normal Category. Acrobatics (including spins) prohibited in Normal Category."
 - (2) "No Smoking."
 - (3) Deleted - June 13, 1951.
 - (4) Deleted - December 30, 1955.
 - (b) On the baggage compartment:
 - (1) "Maximum Baggage - 50 lb."
- NOTE 3 Models PA-18 "105" (Special) and PA-18S "105" (Special) are the same as Models PA-18 and PA-18S, respectively, equipped with the Lycoming O-235-C1 engine, except for modifications specifically for use in military training. These modifications are toe brakes, no flaps, large horizontal tail surface per Piper Drawing 12789 and 12790, seats with provisions for seat type parachute, cowl ventilator, revised battery installation, and other minor modifications. See Piper Drawing 14022. The serial numbers affected are S/N 18-2214 through S/N 18-2456 and Item 401(n) is required in lieu of Item 401(b) on Model PA-18 "105" (Special).
- NOTE 4 Army Model L-21A is the same as Model PA-18 "125" equipped with Lycoming O-290-D engine, except for military type of cockpit enclosure. The L-21A is eligible for certification under the provisions of this Aircraft Specification provided all pertinent Airworthiness Directives and the following Air Force Technical Orders have been complied with:
IL-21-201, IL-21-202, IL-21-203, IL-21-506, IL-21A-501, IL-21A-502, IL-21A-503, and IL-21A-506.
- NOTE 5 Army Model L-21B is the same as model PA-18 "135", equipped with a Lycoming O-290-D2 engine, except for military type of cockpit enclosure. The L-21B is eligible for certification under the provision of this Aircraft Specification provided all pertinent Airworthiness Directives have been complied with.

.....END.....