MASTER COPY
KEEP
SNL 11-5-63

FEDERAL AVIATION AGENCY

3A12
Revision 17
CESSNA
172
172A
172B
172C
172D

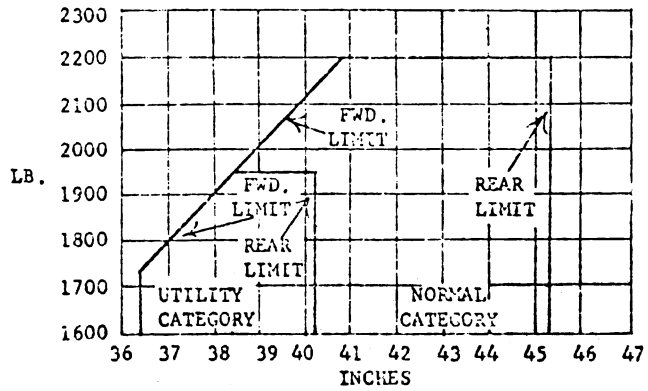
June 12, 1963

AIRCRAFT SPECIFICATION NO. 3A12

Manufacturer — Cessna Aircraft Company, Wichita, Kansas

I - Model 172, 4 PCIM (Normal Category), Approved November 4, 1955; 2 PCIM (Utility Category), Approved December 14, 1956

Engine	Continental O-300-A or O-300-B (see also item 107 for optional engines)
Fuel	*80/87 minimum grade aviation gasoline
Engine limits	*For all operations, 2700 r.p.m. (145 hp.)
Airspeed limits	Maneuvering — 115 m.p.h. (100 knots) True Ind.
	*Maximum structural cruising — 140 m.p.h. (122 knots) True Ind.
	*Never exceed — 160 m.p.h. (139 knots) True Ind.
	*Flaps extended — 100 m.p.h. (87 knots) True Ind.
C.G. range	*Normal Category: (+40.8) to (+46.4) at 2200 lb.
	(+36.4) to (+46.4) at 1733 lb.
	*Utility Category: (+38.4) to (+40.3) at 1950 lb.
	(+36.4) to (+40.3) at 1733 lb. or less
	Straight line variation between points given



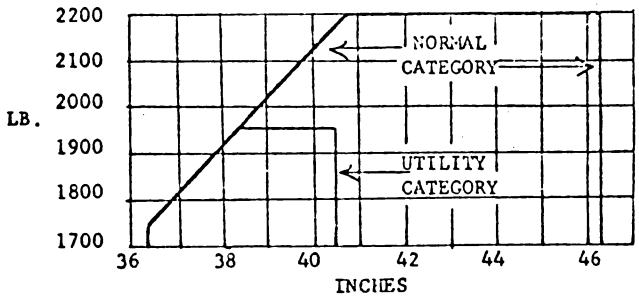
Empty wt. C.G. range	None
Maximum weight	*2200 lb. (Normal Category)
	*1950 lb. (Utility Category)
No. of seats	4 (2 at +36, 2 at +70)
Maximum baggage	120 lb. (+95)
Fuel capacity	42 gal. total, 37 gal. usable (Two 21 gal. tanks in wing at +48). See NOTE 1 for weight of unusable fuel and oil.
Oil capacity	2 gal. (-20) (Unusable oil one gal.)

Control surface movements					
	Wing flaps	Takeoff		Retracted	0°
				1st notch	10°
		Landing		2nd notch	20°
				3rd notch	30°
				4th notch	40°
	Ailerons	Up	20°	Down	14°
	Elevator tab	Up	28°	Down	13°
	Elevator	Up	28°	Down	26°
	Rudder	Right	16°	Left	16°

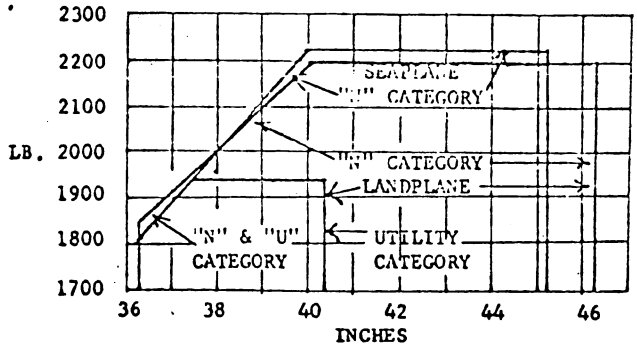
Serial Nos. eligible	610, 612, 615, 28000 thru 29999, 36000 thru 36999, and 46001 thru 46754.
Required equipment	In addition to the pertinent required basic equipment specified in CAR 3, the following items of equipment must be installed: 1(a), 103, 201(a), 202(a), 205(a), 206(a), 403.

II - Model 172A, 4 PCL-SM (Normal Category), 2 PCLM (Utility Category), Approved July 16, 1959; Model 172B, 4 PCL-SM (Normal Category), 2 PCLM (Utility Category), Approved June 14, 1960

Engine	Continental O-300-C or O-300-D
Fuel	*80/87 minimum grade aviation gasoline
Engine limits	*For all operations, 2700 r.p.m. (145 hp.)
Airspeed limits	Maneuvering 115 m.p.h. (100 knots) True Ind. *Maximum structural cruising 140 m.p.h. (122 knots) True Ind. *Never exceed 160 m.p.h. (139 knots) True Ind. *Flaps extended 100 m.p.h. (87 knots) True Ind.
C.G. range	Landplane (Model 172A): *Normal Category: (+40.8) to (+46.4) at 2200 lb. (+36.4) to (+46.4) at 1733 lb. or less *Utility Category: (+38.4) to (+40.3) at 1950 lb. (+36.4) to (+40.3) at 1733 lb. or less Straight line variation between points given



Landplane (Model 172B):
*Normal Category: (+40.0) to (+46.4) at 2200 lb.
(+36.4) to (+46.4) at 1850 lb. or less
*Utility Category: (+37.4) to (+40.3) at 1950 lb.
(+36.4) to (+40.3) at 1850 lb. or less
Seaplane:
*Normal Category: (+39.8) to (+45.5) at 2220 lb.
(+36.4) to (+45.5) at 1825 lb. or less
Straight line variation between points given



Empty wt. C.G. range	None
Maximum weight	Landplane: *2200 lb. (Normal Category) *1950 lb. (Utility Category) Seaplane: *2220 lb. (Normal Category)
No. of seats	4 (2 at +36, 2 at +70)
Maximum baggage	120 lb. (+95)
Fuel capacity	42 gal. total, 37 gal. usable (172A), 39 gal. usable (172B) (two 21 gal. tanks in wings at +48). See NOTE 1 for weight of unusable fuel and oil.
Oil capacity	2 gal. (-20) (Unusable oil is one gal.)
Control surface movements	

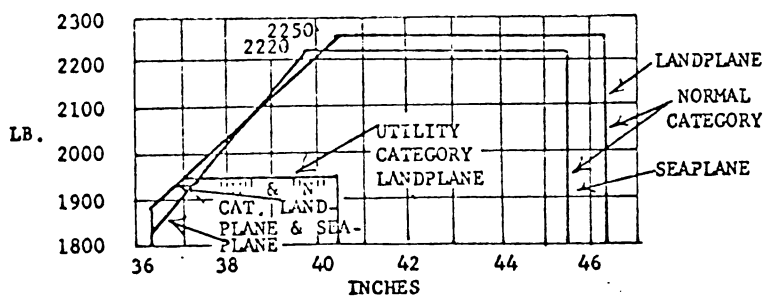
Wing flaps	Takeoff	Retracted	0°
		1st notch	10°
	Landing	2nd notch	20°
		3rd notch	30°
		4th notch	40°
Ailerons	Up 20°	Down	15°
Elevator tab	Up 28°	Down	13°
Elevator	Up 28°	Down	26°
Rudder-Landplane	Right 16°	Left	16°
Seaplane	Right 19°	Left	15°

(Measured parallel to a W.L.)

Serial Nos. eligible	Model 172A: 622, 625, 46755 thru 47746 Model 172B: 630, 17247747 thru 17248734
Required equipment	In addition to the pertinent required basic equipment specified in CAR 3, the following items of equipment must be installed: Landplane: 3(a), 103 (Model 172(A), 109 (Model 172B), 201, 202, 205, 206, 403. Seaplane: 4(a), 103 (Model 172A), 108, 109 (Model 172B), 209, 403, 404.

III - Model 172C, 4 PCL-SM (Normal Category), 2 PCLM (Utility Category), Approved July 18, 1961.

Engine	Continental O-300-C or O-300-D
Fuel	*80/87 minimum grade aviation gasoline
Engine limits	*For all operations, 2700 r.p.m. (145 hp.)
Airspeed limits	Maneuvering 115 m.p.h. (100 knots) True Ind. *Maximum structural cruising 140 m.p.h. (122 knots) True Ind. *Never exceed 160 m.p.h. (139 knots) True Ind. *Flaps extended 100 m.p.h. (87 knots) True Ind.
C.G. range	Landplane *Normal Category: (+40.5) to (+46.4) at 2250 lb. (+36.4) to (+46.4) at 1850 lb. or less *Utility Category: (+37.4) to (+40.3) at 1950 lb. (+36.4) to (+40.3) at 1850 lb. or less Seaplane: *Normal Category: (+39.8) to (+45.5) at 2220 lb. (+36.4) to (+45.5) at 1825 lb. or less Straight line variation between points given.



Empty wt. C.G. range	None
Maximum weight	Landplane: *2250 lb. (Normal Category) *1950 lb. (Utility Category) Seaplane: *2220 lb. (Normal Category)
No. of seats	4 (2 at +36, 2 at +70)
Maximum baggage	120 lb. (+95)
Fuel capacity	42 gal. total, 39 gal. usable (two 21 gal. tanks in wings at +48) See NOTE 1 for weight of unusable fuel and oil.
Oil capacity	2 gal. (-20) (Unusable oil is one gal.)
Control surface movements	Wing flaps Takeoff Retracted 0° 1st notch 10° Landing 2nd notch 20° 3rd notch 30° 4th notch 40° Ailerons Up 20° Down 15° Elevator tab Up 28° Down 13° Elevator Up 28° Down 26° Rudder-Landplane-Right 16° Left 16° Seaplane-Right 19° Left 15° (Measured parallel to a W.L.)
Serial Nos. eligible	17248735 thru 17249544
Required equipment	In addition to the pertinent required basic equipment specified in CAR 3, the following items of equipment must be installed: Landplane: 3(a), 109, 201, 202, 205, 206 and 403. Seaplane: 4(a), 108, 109, 209, 403 and 404.

IV - Model 172D, 4PCL-SM (Normal Category), 2 PCLM (Utility Category), Approved June 19, 1962.

Engine	Continental O-300-C or O-300-D
Fuel	*80/87 minimum grade aviation gasoline
Engine limits	*For all operations, 2700 r.p.m. (145 hp.)
Airspeed limits	Maneuvering 122 m.p.h. (106 knots) True Ind. *Maximum structural cruising 140 m.p.h. (122 knots) True Ind. *Never exceed 174 m.p.h. (151 knots) True Ind. *Flaps extended 100 m.p.h. (87 knots) True Ind.
C.G. range	Landplane *Normal Category: (+38.5) to (+47.3) at 2300 lb. (+35.0) to (+47.3) at 1950 lb. or less *Utility Category: (+35.5) to (+40.5) at 2000 lb. (+35.0) to (+40.5) at 1950 lb. or less Seaplane *Normal Category: (+39.8) to (+45.5) at 2220 lb. (+36.4) to (+45.5) at 1825 lb. or less Straight line variation between points given
Empty wt. C.G. range	None
Maximum weight	Landplane: *2300 lb. (Normal Category) *2000 lb. (Utility Category) Seaplane: *2220 lb. (Normal Category)
No. of seats	4 (2 at +36, 2 at +70)
Maximum baggage	120 lb. (+95)
Fuel capacity	42 gal. total, 39 gal. usable (two 21 gal. tanks in wings at +48) See NOTE 1 for weight of unusable fuel and oil.
Oil capacity	2 gal. (-20) (Unusable oil is one gal.)
Control surface movements	Wing flaps Takeoff Retracted 0° 1st notch 10° Landing 0-40° Ailerons Up 20° Down 15° Elevator tab Up 28° Down 13° Elevator Up 28° Down 23° (Neutral position is with bottom of balance area flush with bottom of stabilizer.) Rudder-Landplane-Right 16° Left 16° Seaplane-Right 19° Left 15°

Serial Nos. eligible	638, 17249545 and up
Required equipment	In addition to the pertinent required basic equipment specified in CAR 3, the following items of equipment must be installed: Landplane: 3(a), 109, 201, 202, 205, 206 and 403. Seaplane: 4(a), 108, 109, 209, 403 and 404.

Specifications Pertinent to All Models

Datum	Front face of firewall
Leveling means	Upper door sill
Certification basis	Type Certificate No. 3A12 (CAR 3, effective November 1, 1949 including Amendments 3-1 through 3-12) Type certificate issued and the DMCR authorized to issue airworthiness certificate under the delegation option provisions of Part 410 of the Regulations of the Administrator.
Production basis	Production Certificate No. 4

Equipment: Approval for the installation of all items of equipment listed herein has been obtained by the aircraft manufacturer except those items preceded by a double asterisk (**). This symbol denotes that approval has been obtained by someone other than the aircraft manufacturer. An item so marked 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 of FAA production approval.

Propeller and Propeller Accessories (Excepting Deicing Equipment)

1. Propeller		
(a) McCauley 1A170	33 lb.	(-39)
Static r.p.m. at maximum permissible throttle setting: Not over 2360, not under 2230. No additional tolerance permitted.		
Diameter: Not over 76 in., not under 74.5 in.		
(b) Propeller spinner, Dwg. 0550162	2 lb.	(-39)
2. Propeller		
(a) Sensenich M74DR	33 lb.	(-39)
Static r.p.m. at maximum permissible throttle setting: Not over 2430, not under 2300. No additional tolerance permitted.		
Diameter: Not over 74 in., not under 72 in.		
(b) Spinner, Dwg. 0550162	2 lb.	(-39)
3. Propeller (not eligible on Continental C-145, O-300-A, -B)		
(a) McCauley 1C172/EM	30 lb.	(-39)
Static r.p.m. at maximum permissible throttle setting: Not over 2350, not under 2230. No additional tolerance permitted.		
Diameter: Not over 76 in., not under 74.5 in.		
(b) Spinner, Dwg. 0550216, 0550221, or 0550228	2 lb.	(-39)
4. Propeller (Seaplane only)		
(a) McCauley 1A175/SFC	37 lb.	(-39)
Static r.p.m. at maximum permissible throttle setting: Not over 2480, not under 2380. No additional tolerance permitted.		
Diameter: Not over 80 in., not under 78.4 in.		
(b) Spinner, Dwg. 0550216 or 0550221	2 lb.	(-39)
5. Propeller (eligible on Continental C-145, O-300-A, -B only)		
(a) McCauley 1C172/MDM	30 lb.	(-39)
Static r.p.m. at maximum permissible throttle setting: Not over 2350, not under 2250. No additional tolerance permitted.		
Diameter: Not over 76 in., not under 74.5 in.		
(b) Spinner, Dwg. 0550216	2 lb.	(-39)
6. Propeller (usable with O-300-C and O-300-D engines only)		
(a) Sensenich M74DC	33 lb.	(-39)
Static r.p.m. at maximum permissible throttle setting: Not over 2420, not under 2300. No additional tolerance permitted.		
Diameter: Not over 74 in., not under 72.5 in.		

Engine and Engine Accessories - Fuel and Oil Systems

101.	Starter, Delco-Remy		
	(a) For O-300-B & O-300-C engines, DELCO P/N 1109677	16 lb.	(-6)
	(b) For O-300-D engine, DELCO P/N 1109684	13 lb.	(-7.5)
102.	Carburetor air filter	1 lb.	(-27)
103.	Exhaust manifolds and carburetor air heater (Cessna dwg. 0550157)	15 lb.	(-22)
104.	Oil filters (Cessna dwg. 0550150)	4 lb.	(-12)
105.	Oil dilution system (Cessna dwg. 0550151)	Neglect wt. change	
**106.	18 gal. aux. fuel tank installed in accordance with Javelin Aircraft Company, 9175 E. Douglas, Wichita, Kansas, Installation Instructions dated September 15, 1955, and dwgs. 782-1, 782-2 and 787. (See dwg. 782-1 for required placards and NOTE 1 for data on unusable fuel.)	24 lb.	(+99)
107.	Engine Continental C-145-2. Fuel and Engine limits same as for O-300-A	No wt. change	
108.	Engine oil cooler (Harrison No. AP12CU03-01 & Cessna dwg. 0550219) (seaplane only)	8 lb.	(-31)
109.	Exhaust manifold & carburetor air heater (Cessna dwg. 0550220)	17 lb.	(-22)

Landing Gear

201.	2 main wheel-brake assemblies, 6.00-6, Type III		
	(a) Goodyear model LF6HBD Wheel Assembly #511960-M Brake Assembly #9521239	13 lb.	(+55)
	(b) Goodyear Wheel Assembly #9532111 Brake Assembly #9532113	16 lb.	(+55)
202.	(a) 2 main wheel 4 ply-rating tires, 6.00-6, Type III (with regular tubes)	18 lb.	(+55)
	(b) 2 main wheel 4 ply-rating tires (tubeless), 6.00-6 Type III, sidewall inflatable	15 lb.	(+55)
205.	(a) One nose wheel, 5.00-5, Goodyear #9520653	3 lb.	(-7.5)
	(b) One nose wheel, 5.00-5, Goodyear #9532102	3 lb.	(-7.5)
206.	(a) One nose wheel, 4 ply-rating tire, 5.00-5, Type III (with regular tube)	7 lb.	(-7.5)
	(b) One nose wheel 4 ply-rating tire (tubeless), 5.00-5, Type III, sidewall inflatable	5 lb.	(-7.5)
209.	2 floats		
	(a) Edo 89-2000 floats with attachment gear Model 454 (Item 404(a) required - Model 172A only)	251 lb.	(+41)
	(b) Edo 89-2000 floats with attachment gear Model 502 (Item 404(b) required - Models 172B, 172C and 172D)	251 lb.	(+41)
210.	Main landing gear springs, Cessna P/N 0541158. With this item installed, the arm for the wheel and brake assembly and tires is (+58). This item is standard equipment on all airplanes, serial No. 36216 and up.		
211.	3 Speed fairings (Cessna dwg. 0742410 or 0743609 and 0741610)	12 lb.	(+47)

Electrical Equipment

301.	(a) Generator - 12 a. (Delco-Remy 1101876) and voltage regulator (Delco-Remy 1118736)	10 lb.	(-6)
	(b) Generator - 20 a. (Delco-Remy 1101890) and voltage regulator (Delco-Remy 1118736)	10 lb.	(-6)
302.	Battery - 12 v., 24 a.	23 lb.	(-3)
303.	Landing light, G.E. 4509 (Cessna dwg. 0523000-2)	2 lb.	(+32)
304.	Generator - 35 a., Delco-Remy No. 1101898	19 lb.	(-6)
305.	Voltage regulator, Delco-Remy No. 1118704	Neglect weight	
306.	Rotating beacon (Cessna dwg. 0531004)		
	(a) For Model 172	2 lb.	(+217)
	(b) For Models 172A, 172B, 172C and 172D	2 lb.	(+226)

Interior Equipment

401.	Cabin heater valve assembly	1 lb.	(-2)
402.	Blind flying kit (Cessna dwg. 0500006)	5 lb.	(+26)
403.	Stall warning indicator (Cessna dwg. 0511062)	2 lb.	(+8)
404.	(a) Seaplane fittings and required modifications (Dwg. 0500071 - Model 172A only)	23 lb.	(+59)
	(b) Seaplane fittings and required modifications (Dwg. 0500083 - Models 172B, 172C and 172D)	23 lb.	(+59)
405.	(a) Tactair T-3 autopilot in accordance with Cessna (Dwg. 0770011 or Tactair D-521 - Models 172B and 172C)	13 lb.	(+73)
	(b) Tactair T-2 autopilot in accordance with Cessna (Dwg. 0770012 and 0511074 or Tactair B-1164 - Models 172B, 172C and 172D)	7.5 lb.	(+55)

Miscellaneous Equipment (Not listed above)

601.	Flares, three 1-1/2 PF-11 International	18 lb.	(+98) or (+117)
602.	Venturi installation (Cessna dwg. 0511010)	10 lb.	(+17)
603.	Stabilizer abrasion boots (Cessna dwg. 0332136-1)	2 lb.	(+208)

NOTE 1. Current weight and balance report including list of equipment included in certificated empty weight, 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 operators having an approved weight control system). The certificated empty weight and corresponding center of gravity location must include unusable fuel of 30 lb. at (+46) for Models 172 and 172A or 18 lb. at (+46) for Models 172B, 172C, and 172D, and unusable oil at 7.5 lb. at (-20) for all models. When Item 106, 18 gal. auxiliary fuel tank, is installed, an additional 3 lb. unusable fuel at (+99) must be included.

NOTE 2. (a) The following placards must be displayed in full view of the pilot:

(1) "This airplane must be operated in compliance with the operating limitations stated in the form of placards, markings and manuals."

(2) "Normal Category
Maximum design weight (_____)***
Reference weight and balance data for loading instructions.
Flight Maneuvering Load Factors

Flaps up	+3.8	-1.52
Flaps down	+3.5	

No acrobatic maneuvers including spins approved."

***Insert 2200 lb. for Models 172, 172A, and 172B; 2250 lb. for Model 172C; 2300 lb. for Model 172D.

(3) "Utility Category
Maximum design weight (_____)***
Baggage compartment and rear seat must not be occupied.
Flight Maneuvering Load Factors

Flaps up	+4.4	-1.76
Flaps down	+3.5	

No acrobatic maneuvers approved except those listed below:

MANEUVER:	ENTRY SPEED: (Models 172, 172A, 172B, 172C)	ENTRY SPEED: (172D)
Chandelles	115 m.p.h. (100 knots)	122 m.p.h. (103 knots)
Lazy Eights	115 m.p.h. (100 knots)	122 m.p.h. (103 knots)
Steep Turns	115 m.p.h. (100 knots)	122 m.p.h. (103 knots)
Spins	Slow deceleration	Slow deceleration
Stalls (except whip stalls)	Slow deceleration	Slow deceleration"

***Use 1950 lb. for Models 172, 172A, 172B, and 172C; 2000 lb. for the Model 172D.

(4) "Both tanks on for takeoff and landing."

(5) "Flaps - Pull to extend

Takeoff	Retracted	0°
	1st notch	10°
Landing		0-40°"

172A, 172B, 172C, and 172D Seaplane:

(6) "Operate as normal category airplane except:
Maximum design weight 2220 lb.
Maximum altitude loss in stall recovery 120 feet.
Flaps - takeoff - 1st notch - 10°
Water rudder - pull to retract
Retract - takeoff, flight, and landing
Extend - taxi."

(b) The following placard must be displayed in the baggage compartment: "Maximum baggage 120 lb. For additional loading instructions see Weight and Balance Data."

(c) In addition to the above placards, the prescribed operating limitations indicated by "*" under Sections I, II, III, or IV above must be displayed by permanent markings, placards or reports (Weight and Balance Report).

... END ...