# DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

3A17 Revision 47 Textron Aviation Inc. 175 175A 175B 175C P172D R172E (USAF T-41B) (USAF T-41C or D) R172F (USAF T-41D) R172G (USAF T-41C or D) R172H (USAF T-41D) R172J R172K 172RG July 29, 2015

#### **TYPE CERTIFICATE DATA SHEET NO. 3A17**

This data sheet which is part of Type Certificate No. 3A17 prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder Textron Aviation Inc.

One Cessna Boulevard Wichita, Kansas 67215

Type Certificate Holder Record Cessna Aircraft Company transferred to

Textron Avaiation Inc. on July 29, 2015

## I. Model 175, Skylark, 4 PCL-SM (Normal Category), approved January 14, 1958

Engine Continental GO-300A or GO-300C

\*Fuel 80/87 minimum grade aviation gaosline

\*Engine limits For all operations, GO-300A, 3200 rpm (175 hp)

GO-300C, 3200 rpm (175 hp)

Propeller and propeller limits

1. McCauley 1A175/FC 8455 or 8467

(a) Diameter: not over 84 in., not under 82.5 in.

Static rpm at maximum permissible throttle setting:

Landplane: not over 2740, not under 2640 Seaplane: not over 3000, not under 2900

No additional tolerance permitted

(b) Spinner, Cessna Dwg. 0552004

McCauley 1B175/MFC 8455 or 8467

(a) Diameter: not over 84 in., not under 82.5 in.

Static rpm at maximum permissible throttle setting:

Landplane: not over 2645, not under 2545 Seaplane: not over 2970, not under 2870

No additional tolerance permitted

(b) Spinner, Cessna Dwg. 0550212 or 0550221

\*Airspeed limits Maneuering 123 mph (107 knots) (TIAS) Maximum structural cruising 140 mph (122 knots)

Maximum structural cruising 140 mph (122 knots) Never exceed 176 mph (153 knots)

Flaps extended 100 mph (87 knots)

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# I. Model 175 (cont'd)

C.G. range <u>Landplane</u>:

(+41.5) to (+46.4) at 2350 lbs. (+36.5) to (+46.4) at 1850 lbs. or les

Seaplane:

(+39.5) to (+45.5) at 2350 lbs. (+36.5) to (+45.5) at 2020 lbs. or less Straight line variation between points given.

Empty weight C.G. range None

Control surface movements

\*Maximum weight 2350 lbs. (landplane)

2350 lbs. (seaplane)

Number of seats 4 (2 at +36, 2 at +70) Maximum baggage 120 lbs. (+95)

Fuel capacity 52 gal. (two 26 gal. tanks in wing (+48); 43 gal. usable).

Wing flaps

See NOTE 1 for weight of unusable fuel.

Oil capacity 10 qt. (-18.5) (3 qt. unusable)

1st notch 10° 2nd notch 20° 3rd notch 30° 4th notch 40° Ailerons 20° Down 15° Up Elevator tab Up 28° Down 12° Elevator Up 27.5° Down 26° Rudder Landplane: Right 16° Left 16°

Seaplane: Right 12° Left 12°

0°

Retracted

Serial numbers eligible 28700A, 55001 through 56238

## II. Model 175A, Skylark, 4 PCL-SM (Normal Category), approved August 28, 1959 Model 175B, Skylark, 4 PCL-SM (Normal Category), approved June 14, 1960

Engine Continental GO-300C or GO-300D

\*Fuel 80/87 minimum grade aviation gasoline

\*Engine limits For all operations, 3200 rpm (175 hp)

See NOTE 4.

Propeller and propeller limits

1. McCauley 1B175/ MFC 8467

(a) Diameter: not over 84 in., not under 82.5 in.
Static rpm at maximum permissible throttle setting:
Landplane: not over 2645, not under 2545

See NOTE 4.

No additional tolerance permitted

- (b) Spinner, Cessna Dwg. 0550221
- 2. McCauley 1D200/OM 9044 (seaplane only)
  - (a) Diameter: not over 90 in., not under 88 in.Static rpm at maximum permissible throttle setting:

not over 2810, not under 2710

No additional tolerance permitted

(b) Spinner, Cessna Dwg. 0552004

# II. Models 175A, 175B (cont'd)

\*Airspeed Limits <u>Landplane and Seaplane</u>

(TIAS) Maneuvering 123 mph (107 knots) Maximum structural cruising 140 mph (122 knots)

Never exceed 176 mph (153 knots) Flaps extended 100 mph (87 knots)

C.G. Range <u>Landplane</u>

(+41.5) to (+46.4) at 2350 lbs. (+36.0) to (+46.4) at 1850 lbs. or less

Seaplane

(+39.5) to (+45.5) at 2450 lbs. (+36.5) to (+45.5) at 2020 lbs. or less Straight line variation between points given.

Empty weight C.G. range None

\*Maximum weight 2350 lbs. (landplane)

2450 lbs. (seaplane)

Number of seats 4 (2 at +36, 2 at +70)

Maximum baggage 120 lbs. (+95)

Fuel capacity 52 gal. (two 26 gal. tanks in wings at +48; 42 gal. usable)

See NOTE 1 for weight of unusable fuel.

Oil capacity 10 qt. at -18.5 (3 qt. unusable)

Control surface movements Wing flaps Takeoff Retracted 0°

Landing  $1st \text{ notch} 10^{\circ}$   $2nd \text{ notch} 20^{\circ}$   $3rd \text{ notch} 30^{\circ}$ 

3rd notch 30° 4th notch 40°

Ailerons Up 20° Down 15° 28° Elevator tab Up Down 13° 26° Elevator Up 28° Down 16° 16° Rudder Landplane: Right Left

Seaplane: Right 19° Left 19°

Left 19°

Serial numbers eligible Model 175A: 619, 56239 through 56777

Model 175B: 17556778 through 17557002

# III. Model 175C, Skyhawk, 4 PCLM (Normal Category), approved September 18, 1961 Model P172D, Skyhawk Powermatic, 4 PCLM (Normal Category), approved June 25, 1962

Engine Continental GO-300E

\*Fuel 80/87 minimum grade aviation gasoline \*Engine limits For all operations, 3200 rpm (175 hp)

Propeller and 1. McCauley constant speed propeller propeller limits (a) McCauley, 2A31C21 hub with

(a) McCauley, 2A31C21 hub with 84S blades Diameter: not over 84 in., not under 82 in.

> Pitch settings at 30 in. sta.: Low 13°, high 26.5°

(b) Garwin hydraulic governor, 34-827

Cessna spinner, 0552016

# III. Models 175C, P172D (cont'd)

\*Airspeed limits <u>Model 175C</u>:

(TIAS) Maneuvering 125 mph (109 knots)

Maximum structural cruising
Never exceed
140 mph (122 knots)
176 mph (153 knots)
Flaps extended
100 mph (87 knots)

Model P172D:

Maneuvering 127 mph (110 knots)
Maximum structural cruising 145 mph (126 knots)
Never exceed 182 mph (158 knots)
Flaps extended 100 mph (87 knots)

C.G. range Model 175C:

(+39.5) to +46.4) at 2450 lbs. (+36.0) to (+46.4) at 2050 lbs. or less

Model P172D:

(+40.5) to (+47.3) at 2500 lbs. (+35.0) to (+47.3) at 1950 lbs. or less Straight line variation between points given.

Empty weight C.G. range None

Number of seats

\*Maximum weight Model 175C: 2450 lbs. Model P172D: 2500 lbs.

4 (2 at +36, 2 at +70)

Maximum baggage 120 lbs. (+95)

Fuel capacity 52 gal. (two 26 gal. tanks in wings at +48; 41.5 gal. usable)

See Note 1 for weight of unusable fuel.

Oil capacity 10 qt. at -18.5 (3 qt. unusable).

Control surface movements  $\hspace{1.5cm} Wing \hspace{1mm} flaps \hspace{1.5cm} Takeoff \hspace{1.5cm} Retracted \hspace{1.5cm} 0^{\circ}$ 

1st notch 10° Landing 0° -40° Ailerons 15° Up 20° Down Elevator tab 13° 28° Down Up Elevator (Model 175C) Up 28° Down 26° (Model P172D) Up 28° Down 23°

Neutral position measured with the bottom of the balance area flush with the bottom of

the stabilizer)

Rudder (measured Right 16° Left 16°

parallel to O.O.W.L.)

Serial numbers eligible <u>Model 175C</u>: 17557003 through 17557119

Model P172D: P17257120 through P17257188

# IV. Model R172E (USAF T-41B), (USAF T-41C or D), 4 PCLM (Normal Category), 2 PCLM (Utility Category), approved April 21, 1964

# Model R172F (USAF T-41D), 4 PCLM (Normal Category), 2 PCLM (Utility Category), approved May 14, 1968

Engine Continental IO-360-D or IO-360-DB

\*Fuel 100/130 minimum grade aviation gasoline

\*Engine limits For all operations, 2800 rpm (210 hp)

Propeller and propeller limits

1. McCauley constant speed propeller

(a) D2A34C67 hub with 76C blades

Diameter: not over 76 in., not under 74.5 in.

Pitch settings at 30 in. sta.: Low 11.7°, high 22.5°

(b) Governor

(1) Woodward F210452 or(2) McCauley C290-D2/T6 or(3) McCauley C290-D3/T6

(c) 2A34C209 hub with 78CCA-2 blades (T-41B) Diameter: not over 76 in., not under 74.5 in.

Pitch settings at 30 in. sta.: Low 11.3°, high 22.0°

2. McCauley fixed pitch, 1B235/DFC 7850 (T-41C)

(a) Diameter: not over 78 in., not under 76.5 in. Static rpm at max. permissible throttle setting not over 2370, not under 2270

No additional tolerance permitted.

\*Airspeed limits (TIAS)

Maneuvering127 mph (110 knots)Maximum structural cruising145 mph (126 knots)Never exceed182 mph (158 knots)Flaps extended100 mph (87 knots)

C.G. range

Normal category

(+40.5) to (+47.3) at 2500 lbs. (+35.0) to (+47.3) at 1950 lbs.

**Utility category** 

(+37.5) to (+40.5) at 2200 lbs. (+35.0) to (+40.5) at 1950 lbs.

Empty weight C.G. range

None

\*Maximum weight 2500 lbs. (normal category)

2200 lbs. (utility category)

Number of seats 4 (2 at +36, 2 at +70)

Maximum baggage 200 lbs. (+95)

Fuel capacity 52 gal. (two 26 gal. tanks in wings at +48; 46 gal. usable)

See Note 1 for weight of unusable fuel.

Oil capacity 10 qt. - 21.5 (7 qt. usable)

See Note 5 for optional oil capacity. See Note 1 for weight of undrainable oil.

# IV. Models R172E, R172F (cont'd)

10° Wing flaps Takeoff Control surface movements Landing 40° Ailerons Up 20° 15° Down Elevator tab 28° 13° Up Down Down 23° Elevator Up 28°

(Neutral position measured with the bottom of the balance area flush with the bottom of

the stabilizer)

Rudder Right 16° Left 16°

Serial numbers eligible Model R172E: R172-0001 through R172-0335

Model R172F: R172-0336 through R172-0409

# V. Model R172G (USAF T-41C or T-41D), 4 PCLM (Normal Category), 2 PCLM (Utility Category), approved July 18, 1969

Engine Continental IO-360-D, IO-360-C, IO-360DB or IO-360-CB

\*Fuel 100/130 minimum grade aviation gasoline

\*Engine limits For all operations, 2800 rpm (210 hp)

Propeller and propeller limits

1. McCauley constant speed propeller

(a) D2A34C67 hub with 76C blades

Diameter: not over 76 in., not under 74.5 in.

Pitch settings at 30 in. sta.:

Low 11.7°, high 22.5°

(b) Governor

(1) Woodward F210452 or(2) McCauley C290-D2/T6 or

(3) McCauley C290-D3/T6

2. McCauley fixed pitch propeller, 1B235/DFC 7850 (T-41C)

(a) Diameter: not over 78 in., not under 76.5 in.
Static rpm at maximum permissible throttle setting

not over 2370, not under 2270 No additional tolerance permitted.

\*Airspeed Limits Maneuvering 125 mph (109 knots)
(TIAS) Maximum structural cruising 146 mph (126 knots)
Never exceed 185 mph (160 knots)

Never exceed 185 mph (160 knots) Flaps extended 100 mph (87 knots)

C.G. range <u>Normal Category</u>

(+41.0) to (+47.3) at 2550 lbs. (+35.0) to (+47.3) at 1950 lbs.

**Utility Category** 

(+37.5) to (+40.5) at 2200 lbs. (+35.0) to (+40.5) at 1950 lbs.

Empty weight C.G. range None

\*Maximum weight 2550 lbs. (normal category)

2200 lbs. (utility category)

Number of seats 4 (2 at +36, 2 at +70)

## V. Model R172G (cont'd)

Maximum baggage 200 lb. (+95)

Fuel capacity 52 gal. (two 26 gal. tanks in wings at +48; 46 gal. usable)

See Note 1 for weight of unusable fuel.

Oil capacity 10 qt. - 21.5 (7 qt. usable)

See Note 1 for weight of undrainable oil. See Note 5 for optional oil capacity.

Control surface movements Wing flaps Takeoff 0° - 10°

Landing  $0^{\circ} - 40^{\circ} \pm 2^{\circ}$ 

 Ailerons
 Up
  $20^{\circ} \pm 1^{\circ}$  Down
  $15^{\circ} \pm 1^{\circ}$  

 Elevator tab
 Up
  $28^{\circ} + 1^{\circ} - 0^{\circ}$  Down
  $13^{\circ} + 1^{\circ} - 0^{\circ}$  

 Elevator
 Up
  $28^{\circ} + 1^{\circ} - 0^{\circ}$  Down
  $23^{\circ} + 1^{\circ} - 0^{\circ}$ 

(Neutral position measured with the bottom of the balance area flush with the bottom of the stabilizer)

Rudder Right  $16^{\circ} \pm 1^{\circ}$  Left  $16^{\circ} \pm 1^{\circ}$ 

(Measured parallel to W.L.)

Serial numbers eligible Model R172G: R1720410 through R1720444

## VI. Model R172H (USAF T-41D), 4 PCLM (Normal Category), 2 PCLM (Utility Category), approved July 2, 1970

Engine Continental IO-360-D, IO-360-C, IO-360-H, IO-360-DB, IO-360-CB or IO-360-HB

\*Fuel 100/130 minimum grade aviation gasoline

\*Engine limits For all operations, 2800 rpm (210 hp)

Propeller and propeller limits

- 1. McCauley constant speed propeller
  - (a) D2A34C67 hub with 76C blades

Diameter: not over 76 in., not under 74.5 in.

Pitch settings at 30 in. sta.:

Low 11.7°, high 22.5°

- (b) Governor
  - (1) Woodward F210452 or
  - (2) McCauley C290-D2/T6
- (c) 2A34C209 hub with 78CCA blades

Diameter: not over 78 in., not under 76.5 in.

Pitch settings at 30 in. sta.:

Low 10.6°, high 22.0°

- (d) Governor
  - (1) Woodward F210452 or
  - (2) McCauley C290-D2/T6
- (e) 2A34C209 hub with 78CCA-2 blades

Diameter: not over 76 in., not under 74.5 in.

Pitch settings at 30 in. sta.:

Low 11.3°, high 22.0°

- (f) Governor
  - (1) Woodward F210452 or
  - (2) McCauley C290-D2/T6 or
  - (3) McCauley C290-D3/T6
- 2. McCauley fixed pitch propeller, 1B235/DFC 7850
  - Diameter: not over 78 in., not under 76.5 in.
     Static rpm at max. permissible throttle setting,

not over 2370, not under 2270 No additional tolerance permitted.

# VI. Model R172H (cont'd)

\*Airspeed Limits Maneuvering 125 mph (109 knots) (TIAS) Max. structural cruising 146 mph (126 knots)

Never exceed 185 mph (160 knots) Flaps extended 100 mph (87 knots)

C.G. range Normal Category

(+41.0) to (+47.3) at 2550 lbs. (+35.0) to (+47.3) at 1950 lbs.

**Utility Category** 

(+37.5) to (+40.5) at 2200 lbs. (+35.0) to (+40.5) at 1950 lbs.

Empty weight C.G. range None

\*Maximum weight 2550 lbs. (normal category)

2200 lbs. (utility category)

Number of seats 4 (2 at +36, 2 at +70)

Maximum baggage 200 lbs. (+95)

Fuel capacity 52 gal. (two 26 gal. tanks in wings at +48) (46 gal. usable)

See NOTE 1 for weight of unusable fuel.

Oil capacity 10 qt. -21.5 (7 qt. usable)

See Note 1 for weight of undrainable oil. See Note 5 for optional oil capacity.

Control surface movements Wing flaps Takeoff  $0^{\circ}$  -  $10^{\circ}$ 

Landing  $0^{\circ} - 40^{\circ} \pm 2^{\circ}$ Up  $20^{\circ} \pm 1^{\circ}$  Down  $15^{\circ} \pm 1^{\circ}$ 

Elevator tab Up  $28^{\circ} + 1^{\circ} - 0^{\circ}$  Down  $13^{\circ} + 1^{\circ} - 0^{\circ}$  Elevator Up  $28^{\circ} + 1^{\circ} - 0^{\circ}$  Down  $23^{\circ} + 1^{\circ} - 0^{\circ}$ 

(Neutral position measured with the bottom of the balance area flush with the bottom of

the stabilizer)

Ailerons

Rudder Right  $16^{\circ} \pm 1^{\circ}$  Left  $16^{\circ} \pm 1^{\circ}$ 

(Measured parallel to W.L.)

Serial numbers eligible Model R172H: R1720445 through R1720494 (1971 year model)

R1720495 through R1720546 (1972 year model) R1720547 through R1720620 (1973 through 1976)

## VII. Model R172J, 4 PCLM (Normal Category), 2PCLM (Utility Category), approved September 19, 1972

Engine Continental IO-360-H or IO-360-HB

\*Fuel 100/130 minimum grade aviation gasoline

\*Engine limits For all operations, 2800 rpm (210 hp)

# VII. Model R172J (cont'd)

Propeller and propeller limits

1. McCauley constant speed propeller

(a) D2A34C209 hub with 78CCA blades

Diameter: not over 78 in., not under 76.5 in.

Pitch settings at 30 in. sta.:

Low 10.6°, high 22.0°

(b) 2A34C209 hub with 78CCA-2 blades

Diameter: not over 76 in., not under 74.5 in.

Pitch settings at 30 in. sta.:

Low 11.3°, high 22.0°

(c) Governor

(1) Woodward F210452 or

(2) McCauley C290-D2/T6 or

(3) McCauley C290-D3/T6

(d) Spinner, Cessna Dwg. 0550328

\*Airspeed limits (TIAS)

Maneuvering118 mph (104 knots)Maximum structural cruising146 mph (126 knots)Never exceed185 mph (160 knots)Flaps extended100 mph (87 knots)

C.G. range

Normal Category

(+41.0) to (+47.3) at 2550 lbs. (+35.0) to (+47.3) at 1950 lbs.

**Utility Category** 

(+37.5) to (+40.5) at 2200 lbs. (+35.0) to (+40.5) at 1950 lbs.

Empty weight C.G. range

None

\*Maximum weight

2550 lbs. (normal category) 2200 lbs. (utility category)

Number of seats

4 (2 at +36, 2 at +70)

Maximu baggage

200 lbs. (+95)

Fuel capacity

52 gal. (two 26 gal. tanks in wings at +48) (46 gal. usable)

See Note 1 for weight of unusable fuel.

Oil capacity

10 qt. -21.5 (7 qt. usable)

See Note 1 for weight of undrainable oil. See Note 5 for optional oil capacity.

Control surface movements

Wing flaps Takeoff  $0^{\circ}$  -  $10^{\circ}$  Landing  $0^{\circ}$  -  $40^{\circ} \pm 0^{\circ}$  -  $2^{\circ}$ 

Ailerons Up  $20^{\circ} \pm 1^{\circ}$  Down  $15^{\circ} \pm 1^{\circ}$  Elevator tab Up  $28^{\circ} + 1^{\circ} - 0^{\circ}$  Down  $13^{\circ} + 1^{\circ} - 0^{\circ}$  Elevator Up  $28^{\circ} + 1^{\circ} - 0^{\circ}$  Down  $23^{\circ} + 1^{\circ} - 0^{\circ}$ 

(Neutral position measured with the bottom of the balance area flush with the bottom of

the stabilizer)

Rudder Right  $16^{\circ} \pm 1^{\circ}$  Left  $16^{\circ} \pm 1^{\circ}$ 

(Measured parallel to W.L.)

Serial numbers eligible

Model R172J: P17257189 (1974 model)

# VIII. Model R172K, Hawk XP, 4 PCL-SM (Normal Category), 2 PCLM (Utility Category), approved May 28, 1976

Engine Continental IO-360-K or IO-360-KB (S/N R1722000 through R1722929)

IO-360-KB (S/N 680, R1722930 and on)

\*Fuel 100/130 minimum grade aviation gasoline

(S/N R1722000 through R1722724)

100LL/100 minimum grade aviation gasoline

(S/N R1722725 and on)

\*Engine limits For all operations, 2600 rpm (195 hp)

Propeller and propeller

limits

#### Landplane

- 1. McCauley constant speed propeller
  - (a) 2A34C203 hub with 90DCA- 14 blades Diameter: not over 76 in., not under 74.5 in. Pitch settings at 30 in. sta.:

Low 12.0°, high 25.1°

- (b) Governor
  - (1) McCauley C290D3/T15
- (c) Spinner, Cessna Dwg. 0550328

#### Floatplane

- 1. McCauley constant speed propeller
  - (a) 2A34C203 hub with 90DCA- 10 blades Diameter: not over 80 in., not under 78.5 in.

Pitch settings at 30 in. sta.: Low 11.3°, high 24.8°

- (b) Governor
  - (1) McCauley C290D3/T15
- (c) Spinner, Cessna Dwg. 0550328

\*Airspeed Limits

(IAS)

(See Note 7 on Use of IAS)

S/N 680, R1722000 through R1723199

Maneuvering105 knotsMaximum structural cruising129 knotsNever exceed163 knotsFlaps extended85 knots

S/N R1723200 and on

Maneuvering 104 knots Maximum structural cruising 129 knots Never exceed 163 knots Flaps extended 85 knots

C.G. range <u>Landplane</u>

Normal Category

(+41.0) to (+47.3) at 2550 lbs. (+35.0) to (+47.3) at 1950 lbs.

**Utility Category** 

(+37.5) to (+40.5) at 2200 lbs. (+35.0) to (+40.5) at 1950 lbs.

Straight line variation between points given.

Floatplane: (Edo 248B-2440)

Normal Category

(+39.5) to (+45.5) at 2550 lbs. (+37.0) to (+45.5) at 2100 lbs.

# VIII. Model R172K (cont'd)

Empty weight C.G. range None

\*Maximum weight 2550 lbs (Normal Category) Landplane and Floatplane

2200 lbs. (Utility Category) Landplane

2558 lbs. Ramp weight (S/N R1722930 and on)

Number of seats 4 (2 at +36, 2 at +70)

Maximum baggage 200 lb. (+95)

52 gal. (two 26 gal. tanks in wings at +48) (49 gal. usable) Fuel capacity

See Note 1 for weight of unusable fuel.

Oil capacity 8 qt. -21.5 (5 qt. usable)

 $0^{\circ}$  -  $10^{\circ}$  (landplane) Control surface movements Wing flaps Takeoff

> 0° - 20° (floatplane)  $0^{\circ} - 40^{\circ} + 0^{\circ} - 2^{\circ}$

Landing

(R1722000 through R1723399, and 680)  $0^{\circ} - 30^{\circ} + 0^{\circ} - 2^{\circ}$ (R1723400 and on)

Up  $20^{\circ} \pm 1^{\circ}$ Ailerons Down  $15^{\circ} \pm 1^{\circ}$ Elevator tab  $28^{\circ} + 1^{\circ} - 0^{\circ}$ Down  $13^{\circ} + 1^{\circ} - 0^{\circ}$ 

> (R1722000 through R1723399, and 680) (All R172K floatplanes)

Down  $19^{\circ} + 1^{\circ} - 0^{\circ}$ Up 22° +1° -0°

(R1723400 and on)

 $28^{\circ} + 1^{\circ} - 0^{\circ}$ Down  $23^{\circ} + 1^{\circ} - 0^{\circ}$ Elevator

(Neutral position measured with the bottom of the balance area flush with the bottom of

the stabilizer)

Rudder Right  $16^{\circ} \pm 1^{\circ}$ Left  $16^{\circ} \pm 1^{\circ}$ 

(Measured parallel to W.L.)

Serial numbers eligible R1722000 through R1722724 Model R172K: (1977 model)

R1722725 through R1722929 (1978 model) 680, R1722930 through R1723199 (1979 model) R1723200 through R1723399 (1980 model) R1723400 through R1723454 (1981 model)

#### IX. Model 172RG, Skyhawk RG, 4 PCLM (Normal Category), approved June 1, 1979

Lycoming O-360-F1A6 Engine

\*Fuel 100LL/100 minimum grade aviation gasoline

\*Engine limits For all operations, 2700 rpm (180 hp)

Propeller and propeller

limits

McCauley constant speed propeller

B2D34C220 hub with 80VHA - 3.5 blades

Diameter: not over 76.5 in., not under 75.5 in.

Pitch settings at 30 in. sta.: Low 12.0°, high 26.5°

(b) Governor

(1) McCauley C290D3/T18

(c) Spinner, Cessna Dwg. 2450002

# IX. Model 172RG (cont'd)

\*Airspeed limits Maneuvering 106 knots (IAS) Maximum structural cruising 145 knots (See Note 7 on use of IAS) Never exceed 164 knots Flaps extended 100 knots

Landing gear extension 164 knots

C.G. range Normal Category

(+39.5) to (+46.5) at 2650 lbs. (+36.0) to (+46.5) at 1950 lbs.

Straight line variation between points given.

Moment change due to retracting landing gear +2424 in.-lbs.

Empty weight C.G. range None

\*Maximum weight 2650 lbs.

Ramp weight 2658 lbs.

Number of seats 4 (2 at +34 to +46, 2 at +73)

Maximum baggage 200 lb. (+95)

Fuel capacity 66 gal. (two 33 gal. tanks in wings at +48.0) (62 gal. usable)

See Note 1 for weight of unusable fuel.

Oil capacity 8 qt. (-17.4) (5 qts. usable)

Control surface movements Wing flaps Up 0° Down 30° +0°, -2°

 Ailerons
 Up
  $20^{\circ} \pm 1^{\circ}$  Down
  $15^{\circ} \pm 1^{\circ}$  

 Elevator tab
 Up
  $28^{\circ} + 1^{\circ} - 0^{\circ}$  Down
  $23^{\circ} + 1^{\circ} - 0^{\circ}$  

 Elevator
 Up
  $28^{\circ} + 1^{\circ}, -0^{\circ}$  Down
  $23^{\circ} + 1^{\circ}, -0^{\circ}$ 

(Neutral position measured with the bottom of the balance area flush with the bottom of

the stabilizer)

Elevator tab  $\begin{array}{cccc} Up & 22^\circ + 1^\circ, -0^\circ & Down & 19^\circ + 1^\circ, -0^\circ \\ Rudder & Right & 16^\circ \pm 1^\circ & Left & 16^\circ \pm 1^\circ \end{array}$ 

(Measured parallel to W.L.)

Serial numbers eligible Model 172RG: 172RG0001 through 172RG0570 (1980 Model)

691, 172RG0571 through 172RG0890 (1981 Model) 172RG0891 through 172RG1099 (1982 Model) 172RG1100 through 172RG1144 (1983 Model) 172RG1145 through 172RG1177 (1984 Model) 172RG1178 through 172RG1191 (1985 Model)

## **Data Pertinent to All Models**

Datum Lower front face of firewall

Leveling means Upper door sill

#### **Certification Basis:**

#### 175 Series, P172D and R172 Series

Part 3 of the Civil Air Regulations dated May 15, 1956. In addition, effective S/N R1722930 and on, FAR 23.1559 effctive March 1, 1978. FAR 36 dated December 1, 1969, plus amendments 36-1 through 36-6 for Model R172K and on.

#### 172RG

Part 3 of the Civil Air Regulations dated May 15, 1956, plus paragraphs 23.729, 23.777(e), 23.781, 23.1555(e)(1) and (2), and 23.1563 of the Federal Aviation Regulations dated February 1, 1965, as amended effective September 1, 1977; FAR 23.1559 effective March 1, 1978; FAR 36 dated December 1, 1969, plus amendments 36-1 through 36-10. In addition, effective S/N 172RG1178 and on, FAR 23.1545(a), Amendment 23-23 dated December 1, 1978.

## R172H (USAF T-41D)

Part 3 of the Civil Air Regulations dated May 15, 1956. In addition, effective S/N R1720621 and on, FAR 36 dated December 1, 1969, plus amendments 36-1 through 36-12.

Application for Type Certificate dated August 13, 1956. Type Certificate No. 3A17 issued January 14, 1958, obtained by the manufacturer under delegation option procedures.

Equivalent Safety Items S/N 680, R1722000 and up

Airspeed Indicator CAR 3.757 (see Note 7 on use of IAS)

Operating Limitations CAR 3.778(a)

Equivalent Safety Items 172RG0001 and up

Fuel system CAR 3.430

Airspeed Indicator CAR 3.757 (see Note 7 on use of IAS) (S/N 172RG0001 through 172RG1177)

Operating Limitations CAR 3.778(a)

Landing Gear Indication System FAR 23.729(e) (S/N 172RG0001 through 172RG0890)

#### **Production Basis:**

Production Certificate No. 4. Delegation Option Manufacturer No. CE-1 authorized to issue airworthiness certificates under delegation option provisions of Part 21 of the Federal Aviation Regulations.

# **Equipment:**

The basic required equipment as prescribed in the applicable airworthiness requirements (see Certification Basis) must be installed in the aircraft for certification. This equipment must include a current Airplane Flight Manual effective S/N R1722930 and on, S/N 172RG0001 and on. In addition, the following items of equipment are required:

- 1. Model 175 through P172D, Stall Warning Indicator, Dwg. 0511062.
- 2. Model R172E and on, Stall Warning System, Dwg. 0523112.
- 3. Model R172, S/N R1720001 through R1720546, Fuel Boost Pump Switch, Dwg. 0509027.
- 4. Model 172RG, S/N 172RG0001 and on, Stall Warning Indicator, S1672-5.

The equipment portion of Aircraft Specification 3A17, Revision 10, or Cessna Service News dated November 5, 1963, which contains the Revision 10 edition, should be used for equipment references on all aircraft prior to the Model P172D. Refer to applicable equipment list for the Model P172D and subsequent models.

## NOTE 1: Model 175, 175A, 175B, 175C, P172D, R172E through R172J

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. The certificated empty weight and corresponding center of gravity location must include unusable fuel of 54 lbs. at (+46) for Model 175, 60 lb. at (+46) for Models 175A and 175B, 63 lbs. at (+46) for Models 175C and P172D, 36 lbs. at (+46) for R17E through R172J; and unusable oil of 5.5 lbs. at (-18.5) for Models 175, 175A, 175B, 175C, and P172D, and undrainable oil of 0.0 lbs. at (-21.5) for Models R172E through R172J.

#### Model R172K and on

The certificated empty weight and corresponding center of gravity locations must include unusable fuel of 18 lbs. at (+46) and full oil of 15 lbs. at (-21.5).

#### Model 172RG and on

The certificated empty weight and corresponding center of gravity location must include unusable fuel of 24 lb. at (+46) and full oil of 17 lbs. at (-16.1).

## 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.

\*\*Use 2350 lbs. for Models 172, 175A and 175B; 2450 lbs. for Model 175C; 2500 lbs.

for Models P172D, R172E, and R172F and 2550 lbs. for Model R172G.

Flight Maneuvering Load Factors

Flaps up +3.8 -1.52

Flaps down +3.5

No acrobatic maneuvers including spins approved."

(3) (a) "Utility Category (R172E and R172F only)

Maximum design weight 2200 lbs.

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:

<u>Maneuver</u> <u>Entry Speed</u>

Chandelles 127 mph (110 knots)
Lazy Eights 127 mph (110 knots)
Steep turns 127 mph (110 knots)
Spins Slow deceleration

Stalls (except whip stalls) Slow deceleration"

(b) "Utility Category (R172G only)

Maximum design weight 2200 lbs.

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

Chandelles 125 mph (109 knots)
Lazy Eights 125 mph (109 knots)
Steep turns 125 mph (109 knots)
Spins Slow deceleration

Stalls (except whip stalls) Slow deceleration"

# NOTE 2 (cont'd)

# (A) (4) (a) Model R172H, S/N R1720445 through R1720494

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

#### **MAXIMUMS**

	Normal Category		Utility Category
Maneuvering speed	125 mph CAS (10	9 knots)	125 mph CAS (109 knots)
Gross weight	2550 lb.		2200 lb.
Flight load factor			
Flaps up	+3.8 -1.52		+4.4 -1.76
Flaps down	+3.5	+3.5	

Normal category - No acrobatic maneuvers including spins approved.

Utility category - Baggage compartment and rear seat must not be occupied.

#### NO ACROBATIC MANEUVERS APPROVED EXCEPT THOSE LISTED BELOW:

<u>Maneuver</u>	Max. Entry Speed	Maneuver	Max. Entry Speed
Chandelles	125 mph (109 knots)	Spins	Slow deceleration
Lazy Eights	125 mph (109 knots)	Stalls	Slow deceleration
Steep turns	125 mph (109 knots)	(except whip	stalls)

Spin Recovery: Opposite rudder - forward elevator - neutralize controls.

Known icing conditions to be avoided. This airplane is certified for the following flight operations as of date of original airworthiness certificate:

## (b) Model R172H, S/N R1720495 through R1720620

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

#### MAXIMUMS

	Normal Category		Utility Category	
Maneuvering speed	125 mph CAS (10	9 knots)	125 mph CAS (109 knots)	
Gross weight	2550 lb.		2200 lb.	
Flight load factor				
Flaps up	+3.8 -1.52		+4.4 -1.76	
Flaps down	+3.5	+3.5		
Normal category - No acrobatic maneuvers including spins approved.				

Utility category - Baggage compartment and rear seat must not be occupied.

#### NO ACROBATIC MANEUVERS APPROVED EXCEPT THOSE LISTED BELOW:

<u>Maneuver</u>	Max. Entry Speed	<u>Maneuver</u>	Max. Entry Speed
Chandelles	125 mph (109 knots)	Spins	Slow deceleration
Lazy Eights	125 mph (109 knots)	Stalls	Slow deceleration
Steep turns	125 mph (109 knots)	(except whip	stalls)

Spin Recovery: Opposite rudder - Forward elevator - Neutralize controls Intentional spins with flaps extended are prohibited.

Known icing conditions to be avoided. This airplane is certified for the following flight operations as of date of original airworthiness certificate.

DAY - NIGHT - VFR - IFR" (as applicable)

## NOTE 2 (cont'd)

## (A) (c) Model R172J

"This airplane must be operated in compliance with the operating limitations as stated in the forms of placards, markings, and manuals.

#### **MAXIMUMS**

	Normal Category	Utility Category	
Maneuvering speed	118 mph CAS (104 knots)	118 mph CAS (104 knots)	
Gross weight	2550 lb.	2200 lb.	
Flight load factor			
Flaps up	+3.8, -1.52	+4.4, -1.76	
Flaps down	+3.0	+3.0	
Normal catagory. No acrobatic management including oning approved			

Normal category - No acrobatic maneuvers including spins approved.

Utility category - Baggage compartment and rear seat must not be occupied.

#### NO ACROBATIC MANEUVERS APPROVED EXCEPT THOSE LISTED BELOW:

<u>Maneuver</u>	Max. Entry Speed	<u>Maneuver</u>	Max. Entry Speed
Chandelles	125 mph (109 knots)	Spins	Slow deceleration
Lazy Eights	125 mph (109 knots)	Stalls	Slow deceleration
Steen turns	118 mph (104 knots)	(except whire	stalls)

Altitude loss in stall recovery - 160 ft.

Abrupt use of controls prohibited above 118 mph.

Spin Recovery - Opposite rudder - Forward elevator - Neutralize controls Intentional spins with flaps extended are prohibited. Flight into known icing conditions prohibited. This airplane is certified for the following flight operations as of date of original airworthiness certificate:

## (d) Model R172K (R1722000 through R1722929) (landplane)

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

#### **MAXIMUMS**

	Normal Category	<u>Utility Category</u>	
Maneuvering speed	105 knots	105 knots	
Gross weight	2550 lb.	2200 lb.	
Flight load factor			
Flaps up	+3.8 -1.52+4.4 -1.76		
Flaps down	+3.0	+3.0	
Normal category - No acrobatic maneuvers including spins approved.			
Utility category - Baggage compartment and rear seat must not be occupied.			

### NO ACROBATIC MANEUVERS APPROVED EXCEPT THOSE LISTED BELOW:

	Recommended		Recommended
Maneuver	Entry Speed	Maneuver	Entry Speed
Chandelles	110 knots	Spins	Slow deceleration
Lazy Eights	110 knots	Stalls	Slow deceleration
Steep turns	105 knots	(except whire	stalls)

Altitude loss in stall recovery - 160 ft.

Abrupt use of the controls prohibited above 105 knots.

Spin recovery: Opposite rudder - Forward elevator - Neutralize controls Intentional spins with flaps extended are prohibited. Flight into known icing conditions prohibited. This airplane is certified for the following flight operations as of date of original airworthiness certificate.

DAY - NIGHT - VFR - IFR" (as applicable)

NOTE 2 (cont'd)

(A) (e) Model R172K (R1722000 through R1722929) (Floatplane with Edo 248B-2440 floats) "This airplane must be operated as a normal category airplane in compliance with the operating limitations as stated in the form of placards, markings and manuals.

#### **MAXIMUMS**

Maneuvering speed (IAS) 105 knots Gross weight 2550 lbs.

Flight load factor Flaps up +3.8, -1.52

Flaps down +2.0

No acrobatic maneuvers, including spins, approved. Altitude loss in a stall recovery - 250 ft. Flight into known icing conditions prohibited. This airplane is certified for the following flight operations as of date of original airworthiness certificate.

DAY - NIGHT - VFR - IFR" (as applicable)

(f) Model R172K (S/N 680, R1722930 and on) (Landplane)

"The markings and placards installed in this airplane contain operating limitations which must be complied with when operating this airplane in the Normal Category. Other operating limitations which must be complied with when operating this airplane in this category or in the Utility Category are contained in the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual.

Normal Category No acrobatic maneuvers, including spins, approved.

Utility Category No acrobatic maneuvers approved except those listed

in the Pilot's Operating Handbook.

Baggage compartment and rear seat must not be occupied.

Spin Recovery Opposite rudder, forward elevator, neutralize controls.

Flight into known icing conditions prohibited.

This airplane is certified for the following flight operations as of date of original airworthiness certificate.

DAY - NIGHT - VFR - IFR" (as applicable)

(g) Model R172K (R1722930 and on) (Floatplane with Edo 248B-2440 floats) "The markings and placards installed in this airplane contain operating limitations which must be complied with when operating this airplane in the Normal Category. Other operating limitations which must be complied with when operating this airplane in this category are contained in the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual.

No acrobatic maneuvers, including spins, approved.

Flight into known icing conditions prohibited.

This airplane is certificated for the following flight operations as of date of original airworthiness certificate:

DAY - NIGHT - VFR - IFR" (as applicable)

NOTE 2 (cont'd)

(A) (5) Near fuel selector:

(a) Model 175 through P172D

"Both tanks on for takeoff and landing."

(b) Model R172 and on

"When switching from dry tank, turn pump on 'High' momentarily."

- (6) Near flap handle or switch:
  - (a) Model 175 though P172D

"Flaps - Pull to extend

Takeoff

Retract 0°

1st Notch 10°

 $0^{\circ}$  -  $40^{\circ}$ 

(b) Model R172E through R172J

"Avoid slips with flaps extended."

(c) R172K (R1722000 through R1723399, and 680)

"W 0° I

N 10°

G

20°

F

L A

P 40°

S

AVOID SLIPS WITH FLAPS EXTENDED."

(d) R172K (R1723400 and on)

"W 0°

w ( I

N 10°

G

20°

F

L

S

A

P 40°

AVOID SLIPS WITH FLAPS EXTENDED."

(7) Model 175A, 175B floatplane:

"Operate as a Normal Category airplane except:

Maximum design weight

2450 lbs.

Maximum altitude in stall recovery

120 ft.

Water rudder - Pull to retract; retract for normal takeoff, flight and landing

Extend - taxi and cross wind takeoff"

## NOTE 2 (cont'd)

# (A) (8) With fixed pitch propeller (T-41C)

(a) "A fuel flow placard placed near the fuel flow meter will read:

#### CLIMB FUEL FLOW - G.P.H.

<u>Altitude</u>	<u>2400</u>	<u>2600</u>
S.L.	14.5	16.0
4,000	12.5	14.0
8,000	11.0	12.0
12,000	9.5	10.5"

- (b) On panel adjacent to mixture stop:
  - (1) "Engage for student training above 5000 ft."
  - (2) "Mixture stop"
  - (3) "Engage"

## (9) Model R172G and R172H

(a) On instrument panel:

"Do not turn off alternator in flight except in emergency."

- (b) The following placard must be displayed in the baggage compartment:
  - (1) Model 175 through P172D

"Maximum baggage 120 lb. For additional loading instructions, see weight and balance data."

- (2) Model R172E through R172H "200 pounds maximum baggage or 120 lbs. aux. seat passenger. For additional loading instructions, see weight and balance data."
- (3) Model R172J and on

"200 pounds maximum baggage or 120 lbs. aux. seat passenger forward of baggage door latch. 50 pounds maximum baggage aft of baggage door latch. Maximum 200 pounds combined. For additional loading instructions, see weight and balance data."

(10) On control lock: (R172K and on)

"Control lock - Remove before starting engine."

(11) Near fuel selector valve handle: (R172K and on)

"BOTH - 49 gal. LEFT - 24.5 gal. RIGHT - 24.5 gal."

- (12) Near fuel tank filler:
  - (a) R1722000 through R1722724

"Fuel

100/130 min. grade aviation gasoline

Cap. 26 U.S. Gal."

(b) S/N 680, R1722725 and on

"Fuel

100LL or 100 min. grade aviation gasoline Cap. 26 U.S. gal."

(13) On instrument panel near manifold pressure/fuel flow gauge: (R172K and on)

"FUEL FLOW

AT FULL THROTTLE

	2600 rpm
S.L.	16 GPH
4000 ft	14 GPH
8000 ft	12 GPH
12000 ft	10 GPH"

#### NOTE 2 (cont'd)

# (A)(14) R172K, S/N R1722000 through R1723199, S/N R1723400 and on

(Floatplane with Edo 2488-2440 floats)

(a) Near airspeed indicator

"Floatplane

Stall speeds are approximately 5 KIAS lower than indicator markings."

#### (15) 172RG and on

All placards required in the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual must be installed in the appropriate locations.

## (16) R172H, S/N R1720621 and on

All placards required in the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual must be installed in the appropriate locations.

#### NOTE 3: RESERVED

NOTE 4: The Models 175A and 175B fuel system does not comply with CAR 3.433 and 3.434 for horsepower greater

than 167 at the best angle of climb which is the most critical attitude.

NOTE 5: Compliance with Cessna Service Letter SE74-18, dated August 23, 1974, Supplement No. 1, allows a 2 quart

reduction in oil capacities (10 quarts to 8 quarts on IO-360 series engines). Usable oil is 5 quarts.

## NOTE 6: Model R172J and on

Cylinder head temperature probe to be installed in No. 2 cylinder head.

Model 172RG and on

Cylinder head temperature probe to be installed in No. 4 cylinder head.

NOTE 7: The marking of the airspeed indicator with IAS provides an equivalent level of safety to CAR 3.757 when the approved airspeed calibration data presented in Section V of the Pilot's Operating Handbooks listed

below is available to the pilot:

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R172K, Cessna P/N D1083-13 (S/N R1722000 through R1722724) (Landplane)
R172K, Cessna P/N D1110-13 (S/N R1722725 through R1722929) (Landplane)
R172K, Cessna P/N D1098-13 (S/N R1722725 through R1722929) (Floatplane)
R172K, Cessna P/N D1139-13PH
                                   (S/N 680, R1722930 through R1723199)
R172K, Cessna P/N D1173-13PH
                                   (S/N R1723200 through R1723399)
R172K, Cessna P/N D1193-13PH
                                   (S/N R1723400 through R1723454)
172RG, Cessna P/N D1174-13PH
                                   (S/N 172RG0001 through 172RG0570)
172RG, Cessna P/N D1194-13PH
                                   (S/N 172RG0571 through 172RG0890)
172RG, Cessna P/N D1213-13PH
                                   (S/N 172RG0891 through 172RG1099)
172RG, Cessna P/N D1232-13PH
                                   (S/N 172RG1100 through 172RG1144)
172RG, Cessna P/N D1253-13PH
                                   (S/N 172RG1145 through 172RG1177)
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### NOTE 8: 14-volt electrical system

(S/N R1722000 through R1722724)

28-volt electrical system

(S/N 680, R1722725 and on; S/N 172RG0001 and on)

In addition to the placards specified above, the prescribed operating limitations indicated by an asterisk (\*) under Sections I through IX of this data sheet must also be displayed by permanent markings.

## NOTE 9: For Models 172RG, P172, R172, and 175:

**WARNING**: Use of alcohol-based fuels can cause serious performance degradation and fuel system component damage, and is therefore prohibited on Cessna airplanes.