

United States of America  
Department of Transportation — Federal Aviation Administration  
**Supplemental Type Certificate**

Number SA420CE

This certificate, issued to Barbara or Bob Williams  
Box 431, 213 N. Clark  
Udall, Kansas 67146

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 3 of the Civil Air Regulations:

Original Product — Type Certificate Number: 3A12  
Make: Cessna  
Model: 172, A, B, C, D, E, F, G and H landplanes  
172D E, F, G and H floatplanes  
Description of Type Design Change: (EDO 89-2000 floats only)

Installation of O-360-( ) series engines, fixed pitch and constant speed propellers in accordance with approved data identified on continuation sheets. A copy of this STC and continuation sheets required to be kept with each airplane modified in accordance with this approval. Bush data plate P/N B172FP required on all fixed pitch propeller installations.

*Limitations and Conditions:* This approval should not be extended to other specific airplanes of these models on which other previously approved modifications are incorporated, unless it is determined that the interrelationship between this change and any of those other previously approved modifications will introduce no adverse effect upon the airworthiness of the airplane; also see continuation sheets 2 through 5.

*This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.*

Date of application: January 28, 1966

Date reissued: July 1, 1975; September 5, 1979

Date of issuance: April 21, 1966

Date amended: June 9, 1967; June 3, 1977  
October 31, 1986

By direction of the Administrator

*Robert A. Gambrell, Jr.*  
(Signature)

Robert A. Gambrell, Jr., Manager  
Wichita Aircraft Certification Office

(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.



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TCDS 3A12 applies except as follows:

Note: Required Equipment, Propellers and Propeller Accessories, Engine and Engine Accessories - Fuel and Oil System, Landing Gear, Electrical Equipment, Interior Equipment, and Miscellaneous items that conflict with items installed by the STC are superseded by the STC items. Installation of other such items on the equipment list or on the Data Sheet in conjunction with this STC must be evaluated to determine that they will introduce no adverse effect upon the airworthiness of the airplane.

Engines Lycoming O-360-~~1A~~ -A1D, -A2A, -A3A, -A4A & -A4M

Fuel 91/96 Minimum Octane Aviation Gasoline

Engine Limits For all operations 2700 RPM 180 horsepower

Oil Capacity 2 gallons @ -22

Engines Lycoming O-360-B1A, -B1B, -B2A & -B2B

Fuel 80/87 Minimum Octane Aviation Gasoline

Engine Limits For all operations 2700 RPM 168 horsepower

Oil Capacity 2 gallons @ -22

Propellers and Propeller Accessories:

Hartzell HC-C2YK-1A/7666A-2 or Hartzell HC-C2YK-1B/7666A-2

Diameter: Not over 74 in.  
Not under 72 in.

Pitch Settings: At 30 in. station - Low 14°  
- High 20° +1°

Governor: Hartzell F-3-1 or F-3-1A

Spinner: (Hartzell P/N 835-21P or 835-7 or 834-4) Required

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FAA FORM 8110-2-1 (10-69)

*This certificate may be transferred in accordance with FAR 21.47.*

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McCauley 2D36C14/78KM-4

Diameter: Not over 74 in.  
Not under 72 in.

Pitch Settings: At 30 in. station - Low 12.7°  
- High 27.5°

Governor: McCauley C290D2/T6 or C290D3/XX or Woodward 210080

Spinner: (Hartzell P/N 835-21P or 835-7 or 835-4) Required

Instrument: Manifold Pressure Gage Required

The above propellers are approved on hollow crankshaft engines configured in accordance with the requirements for constant speed propellers identified on Lycoming Service Instruction 1098 and/or 1435.

Sensenich 76EM8S5-0-( ) (See applicable drawing list for approved airplane models)

Diameter: Not over 76 in.  
Not under 76 in.

Static RPM: 2250 - 2550

Spinner: Assy P/N 2512 Required

This propeller is approved on all the above engines. However, all hollow crankshaft engines must be configured for fixed pitch propellers in accordance with Lycoming Service Instruction 1098 and/or 1435.

Instrument Markings:

Tachometer - Hartzell Propeller - 2700 RPM (red line)  
Red Arc 2000 - 2250 RPM

McCauley Propeller - 2700 RPM (red line)

Sensenich Propeller - 2700 RPM (red line)  
Red Arc 2150 - 2350 RPM

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Instrument Markings: cont.

Oil Temperature Gage - 245°F (red line)

Oil Pressure Gage - Minimum - 25 p.s.i. (red line)  
Maximum - 100 p.s.i. (red line)  
Normal - 60 to 90 p.s.i. (green arc)

Fuel Pressure Gage - Minimum - .5 p.s.i. (red line)  
Maximum - 8 p.s.i. (red line)  
Normal - 3 to 5 p.s.i. (green arc)

Placards:

Above the Fuel Pump Switch : "Fuel Pump - Pull On"

On the Dome Light Fuse Placard: "Fuel Pump"

On the Nav Light Fuse Placard: "Nav and Starter"

In close proximity to the Tachometer:

Hartzell HC-C2YK-1A/7666A-2 or Hartzell HC-C2YK-1B/7666A-2  
propeller - "Avoid continuous operation between 2000 and  
2250 r.p.m."

McCauley 2D36C14/78KM-4 propeller - "Avoid continuous operation  
while descending between 2250 and 2550 r.p.m. with manifold  
pressure settings below 15 inches mercury."

Sensenich 76EM8S5-0-( ) propeller "Avoid continuous operation  
between 2150 and 2350 RPM."

Adjacent to fuel filler caps "91/96 minimum octane" on airplanes  
equipped with O-360-A1A, -A1D, -A2A, -A3A, -A4A & -A4M engines

80/87 minimum octane on airplanes equipped with O-360-B1A, -B1B,  
-B2A & -B2B engines.

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Data Pertinent to all Models:

1. MASA Drawing List No. 17200 dated May 10, 1977, or later revisions stamped "FAA Approved" for models 172 and 172A. 2. MASA Drawing List No. B17200 dated May 9, 1977, or later revisions stamped "FAA Approved" for models 172B through 172H. 3. Approved copy of Doyn Drawing List No. SA420CE. 4. Approved copy of Bush Conversions Inc. Drawing List No. B172FP dated June 15, 1986, or later revisions stamped "FAA Approved", for Models 172B thru 172H only.

Certification Basis: Same as specified by Type Certificate Data Sheet No. 3A12.

Projection Basis: Prior to returning to service, conformity to approved data must be determined for components not identified by Form 8130.3, Parts Manufacturer Approval, or other evidence of FAA Production Approval.

Note: Current weight and balance report, together with list of equipment included in certificated empty weight and loading instructions, when necessary, must be provided for each aircraft at the time of modification. The certificated unusable fuel and oil is as follows:

OIL

FUEL

4 lbs. at -22  
4 lbs. at -22

30 lbs. at +46 - Models 172, 172A  
18 lbs. at +46 - Models 172B, 172C, 172D, E, F, G, H

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