

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

Number SA461NW

AVGUST ASAY
907-271-6365

This certificate, issued to Steve and Norma Knopp
dba P. Ponk Aviation
1212 N. Moore Road
Camano Island, WA 98292

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. (See Type Certificate Data Sheet No. 3A13 for complete certification basis.)

Original Product - Type Certificate Number: 3A13

Make: Cessna

Model: 182H, J, K, L, M, N, and P

Description of Type Design Change:

Installation of a Continental IO-520-D engine, McCauley D2A34C58-LMN/S-90AT-B and/or D3A32C90/82NC-2 propeller, engine mount, and associated systems in accordance with Western Skyways, Inc., Installation Procedures Manual WS 10000.

Limitations and Conditions:

Approval of this change in type design applies to the above model aircraft only. This approval should not be extended to other aircraft of this model on which other previously approved modifications are incorporated unless it is determined that the interrelationship between this change and any of those previously approved modifications, including changes in type design, will introduce no adverse effect upon the airworthiness of that aircraft. (See Continuation Sheet 3.)

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: December 1, 1976

Date issued: July 22, 1988; April 3, 1991
July 11, 1991

Date of issuance: June 13, 1977

Date amended:



By direction of the Administrator

Donald P. Michael

Donald P. Michael, Manager
Chicago 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.

This certificate may be transferred in accordance with FAR 21.47.

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Supplemental Type Certificate
(Continuation Sheet)

Number SA461NW

Date reissued: July 11, 1991

Limitations and Conditions: (cont'd)

A copy of this certificate and Addendum No. SA461NW shall be maintained as part of the permanent records for the modified aircraft.

SUPPLEMENTAL TYPE CERTIFICATE ADDENDUM NO. SA461NW

The conditions and limitations of the original specifications apply except as follows:

This Addendum, which is part of Supplemental Type Certificate No. SA461NW, prescribes conditions and limitations under which the STC was issued and meets the airworthiness requirements of Civil Air Regulations Part 3. A copy of this Addendum shall be maintained as part of the permanent records for the modified aircraft.

I. CESSNA MODEL 182H THRU 182P 4 PCLM (NORMAL CATEGORY) AS MODIFIED BY STC SA461NW

Engine: Continental IO-520-D

Fuel: 100/130 minimum grade aviation gasoline

Engine Limits: Takeoff (5 min.) @ 2850 RPM (300 HP)
Maximum Continuous Power:

<u>PROPELLER DIA.</u>	<u>BLADES</u>	<u>RPM</u>
82"	2	2600
80"	5	2700

Propeller and

Propeller Limits:

1. McCauley
Hub: D2A34C58
Blade: S-90AT-8
Diameter Limits: Max-82"; Min-80.5"
Pitch Stop Settings @ 36" Sta:
High - 25.8°; Low - 9.5°

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2. McCauley
Hub: D3A32C90
Blade: 82NC-2
Diameter Limits: Max - 80"; Min-74"
Pitch Stop Settings @ 36: Sta:
High - 28°; Low - 10.4°

Power Plant

Instrument Markings:

Tachometer:
2850 RPM (red line)
Green Arc 2200 to 2550 RPM - Normal
Operating Range
Yellow Arc 2700 to 2850 RPM - Caution
Cylinder Head Bayonet Thermocouple:
460°F (red line)
Oil Temperature Gauge:
240°F (red line)
Oil Pressure Gauge:
Minimum - 10 psi (red line)
Maximum - 100 psi (red line)
Normal - 20 to 60 psi (green arc)

Airspeed Limits:

Same as original for Models 182H
thru 182P

C. G. Range:

Same as Data Sheet 3A13

Maximum Weight:

2800 lbs. (Models 182H thru 182M)
2950 lbs. (Models 182N thru 182P)

Placards:

The following placard is to be in
front of and in full view of the pilot:

1. 2-BLADE PROPELLER
MAXIMUM CONTINUOUS POWER
IS LIMITED TO 2600 RPM
2. 3-BLADE PROPELLER
MAXIMUM CONTINUOUS POWER
IS LIMITED TO 2700 RPM

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NOISE CERTIFICATION PROCEDURE

1. McCauley D2A34C58-LMN/S-90AT-8 Propeller

Compliance with FAR 36, Appendix F, was shown with the following procedures: Level flyover at 1000 feet AGL at 2600 engine RPM and full throttle manifold pressure. The certificated noise level is 76.68 dB(A). This noise level reflects correction of measured data to a standard 70°F, 77% R.H. acoustic day as well as a -4.07dB(A) resulting from aircraft takeoff and climb characteristics.

2. McCauley D3A32C90/82NC-2 Propeller

Compliance with FAR 36, Appendix F, was shown with the following procedures: Level flyover at 1000 feet AGL at 2700 engine RPM and full throttle manifold pressure. The certificated noise level is 73.65 dB(A). This noise level reflects correction of measured data to a standard 70°F, 77% R.H. acoustic day as well as -3.4 dB(A) credit resulting from aircraft take off and climb characteristics.

NOTE 1: The following placard must be displayed adjacent to or in close proximity to the aircraft identification plate:

CONTINENTAL IO-520-D ENGINE INSTALLATION
STC SA461NW
DATE INSTALLED _____

NOTE 2: With the described engine and propeller installation, performance will be at least equal to or better than that given in the original Pilot's Operating Handbook for the Cessna 182 series aircraft.

....END....

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