United States of America

Department of Transportation — Federal Aviation Administration

# Supplemental Type Certificate

STC

*Number* SA602NW

*This certificate, issued to* Robert W. Kane

*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* 23 *of the* Civil Air *Regulations.*, effective February 1, 1965.

*Original Product — Type Certificate Number:* A13CE

*Make:* Cessna

*Model:* 177

*Description of Type Design Change:* Installation of a Lycoming O-360-A1F6D engine, McCauley B2D34C211/82PCA-6 propeller, modified cowling and associated systems in accordance with Robert W. Kane Installation Photos (1) thru (6). This design change includes an increase take-off gross weight to 2500 lbs.

*Limitations and Conditions:* Data pertaining to this modification are considered inadequate for duplication in other aircraft. This approval is limited to the installation in Cessna 177, Serial Number 17700388 only. A copy of this Certificate and Addendum SA602NW shall be maintained as part of the permanent records for the modified aircraft.

*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:* March 29, 1978

*Date of issuance:* May 18, 1978

*Date reissued:*

*Date amended:*

*By direction of the Administrator*

Charles C. Schroeder

*(Signature)*

Chief, Engineering and Manufacturing Branch

*(Title)*

FEDERAL AVIATION ADMINISTRATION

*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.*

FAA Form 8110-2 (10-68)

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# Supplemental Type Certificate

(Continuation Sheet) MAY 18 1978

*Number* SA602NW

SUPPLEMENTAL TYPE CERTIFICATE ADDENDUM NO. SA602NW

The conditions and limitations of Type Certificate Data Sheet No. A13CE apply except as follows:

The Supplemental Type Certificate Addendum, which is part of STC SA602NW prescribes the conditions and limitations under which the product for which the STC was issued meets the airworthiness requirements of the Civil Air Regulations. A copy of this STC Addendum is required to be maintained as part of the permanent records for the modified aircraft.

SUPPLEMENTAL TYPE CERTIFICATE HOLDER: Robert W. Kane

I. MODEL CESSNA 177, 4PCLM (NORMAL CATEGORY) AS MODIFIED BY STC SA602NW.

| | |
|---|---|
| Engine: | Lycoming O-360-A1F6D |
| Fuel: | 100/130 minimum grade aviation gasoline |
| Engine Limits: | For all operations, 2700 RPM (180 H.P.) |
| Propeller and Propeller Limits: | McCauley B2D34C211/82PCA-6<br>Diameter - 76" maximum: 75" minimum<br>Pitch Setting @ 30" station:<br>Low - 11.6 ± 0.2<br>High - 26° ∓ 0.5<br>Governor - McCauley C290D3/T12<br>Spinner - McCauley D-2137 |
| Powerplant Instrument Markings: | Tachometer:<br>2700 rpm (red line)<br>1700 - 1900 (red arc)<br>Oil Temperature Gauge:<br>245°F (red line)<br>Oil Pressure Gauge:<br>Minimum - 25 psi (red line)<br>Maximum - 100 psi (red line)<br>Normal - 60 to 90 psi (green arc)<br>Fuel Pressure Gauge:<br>Minimum - .5 psi (red line)<br>Maximum - 8 psi (red line)<br>Normal - .3 to 5 psi (green arc) |

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

FAA FORM 8110-2-1 (10-69) *This certificate may be transferred in accordance with FAR 21.47.*



C FAA AC 73-2651

| | |
|---|---|
| C.G. Range: | Normal Category<br>(+101.0) to (+114.5) at 2000 lb or less<br>(±107.4) to (+114.5) at 2500 lb.<br>Straight line variation between points given |
| Maximum Weight: | Normal Category 2500 lb. |
| Serial No. Eligible: | 17700388 only |

NOTE 1: Current weight and balance report including list of equipment in the certified empty weight must be in the aircraft.

NOTE 2: In addition to the Placards and Markings required by Type Certificate Data Sheet A13CE, Note 2, apply the following:

In full view of the pilot:

(a) PLACARD REWORK

The following cockpit placard must be reworked by painting over the cross-hatch areas as shown:

MAXIMUMS

| | NORMAL CATEGORY |
|---|---|
| Maneuvering Speed | 113 mph CAS |
| Design Weight | 2500 |
| Load Factor: Flaps Up | +3.8 - 1.52 |
| Flaps Down | +3.5 |
| Altitude Loss in Stall Recovery | 180 ft. |

Normal Category: No acrobatic maneuvers including spins approved. Intentional spins with flaps extended prohibited.

(b) COCKPIT PLACARDS

. When using McCauley B2D34C211/82PCA-6 propeller:

"WITH LESS THAN 10 INCHES MANIFOLD PRESSURE, AVOID CONTINUOUS OPERATION BETWEEN 1700 - 1900 RPM"

. Install the following placard above the propeller control:

"PROP - PUSH TO INCREASE"

- On fuel tank cap: "Service this airplane with 100/130 minimum grade aviation gasoline." "Total capacity 24.5 gal." "Capacity to white line on indicator, 21.0 gal."

- Tachometer: Normal Operating
  (S.L.) 2200 rpm - 2500 rpm (inner green arc)
  (5000 ft.) 2200 rpm - 2600 rpm (middle green arc)
  (10000 ft) 2200 rpm - 2700 rpm (outer green arc)
  Continuous operation prohibited 1700 to 1900 rpm (red arc)
  (Maximum allowable -2700 rpm (red line)

- Install above propeller control:
  "Prop-Push to increase"

With the described engine and propeller installation, performance will be at least equal or better than that given in the original FAA Approved Flight Manuals for the Cessna 177 airplane.

- END -