

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

*Number* **SA5757NM**

*This certificate, issued to:* **Aeronautical Testing Service**

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

*Original Product—Type Certificate Number:* 3A25  
*Make:* Cessna  
*Model:* 320D, 320E, 320F

*Description of the Type Design Change:* Installation of vortex generators on the wing and vertical stabilizer, and strakes on the inboard and outboard sides of the engine nacelles, in accordance with an FAA approved copy of Aeronautical Testing Service, Inc. Drawing List No. ATS-310K-Q, Revision B, dated May 26, 1994, or later FAA approved revision.

NOTE: Several modification options are provided. These may include changes to the airplane stall speed, minimum control speed, and maximum gross weight. For specific information regarding each option, including Supplemental Airplane Flight Manual (SAFM) requirements, please refer to Continuation Sheet (page 3 of 6)

*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 these models on which other previously approved modifications are incorporated unless it is determined by the installer that the relationship between this change and any of those other previously approved modifications, including changes in type design, will introduce no adverse effect upon the airworthiness of that aircraft.

(See Continuation Sheet page 3 of 6)

*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:* April 8, 1991  
*Date of issuance:* August 4, 1992

*Date reissued:*  
*Date amended:* September 28, 1993; October 18, 1993;  
June 17, 1994



*By direction of the Administrator*

\_\_\_\_\_  
(Signature)  
Acting Manager, Seattle 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.

# Supplemental Type Certificate

## (Continuation Sheet)

*Number* **SA5757NM**

### Aeronautical Testing Service, Inc.

*Issued:* December 22, 1993

*Reissued:*

*Amended:* September 28, 1993; October 18, 1993; June 17, 1994

*Description of the Type Design Change continued:*

Description of Modification Options: Each of these options incorporate the vortex generator kit.

- Option 1: All models; no change in airspeeds, airspeed indicator markings or placards; SAFM not required.
- Option 2: All models; reduced  $V_{MCA}$  and stall speeds, changes required for airspeed indicator markings and placards; SAFM required.
- Option 3: All models equipped with 2-bladed propellers; reduced  $V_{MCA}$  and stall speeds; increased gross weight, changes required for airspeed indicator markings and placards; SAFM required.
- Option 4: All models equipped with 3-bladed propellers or a 300 Hp or 325 Hp engine installation in accordance with RAM STC No. SA2750SW or SA4011SW, respectively; reduced  $V_{MCA}$  and stall speeds; increased gross weight, changes required for airspeed indicator markings and placards; SAFM required.

*Limitations and Conditions continued:*

The following aircraft limitations apply to the various options:

- Option 1: No change
- Option 2: Reduced  $V_{MCA}$  and stall speeds
- Option 3: Models with two-bladed propellers; reduced  $V_{MCA}$  and stall speeds; increased gross weight.

320D

C.G. Range (landing gear extended):

(+38.70) to (+42.97) at 5304 lbs. (takeoff)

(+38.00) to (+43.10) at 5200 lbs. (landing)

(+43.60) at 4800 lbs.

(+32.00) to (+43.60) at 4300 lbs. or less

Straight line variation between points given.

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## (Continuation Sheet)

*Number* **SA5757NM**

### **Aeronautical Testing Service, Inc.**

*Issued:* December 22, 1993

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*Amended:* September 28, 1993; October 18, 1993; June 17, 1994

*Limitations and Conditions continued:*

Records: The following must be maintained as part of the permanent records for the modified aircraft:

Option 1: A copy of this Certificate.

Options 2, 3 and 4: A copy of this Certificate and the appropriate FAA approved SAFM.

Other Limitations: All Options:

The ATS modification consists of ninety (90) vortex generators mounted on the wings and vertical fin, and four (4) metal strakes, one mounted on the inboard and outboard sides of each engine nacelle. If more than four vortex generators are missing or damaged, the aircraft must be flown in accordance with the original markings, placards and manual. If more than six vortex generators are missing or damaged, or if any strake is missing or damaged, the aircraft is not airworthy and must be repaired before flight.

Refer to the appropriate SAFM for specified Operating Limits placard language and airspeed indicator markings for Options 2, 3, 4.

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