

Department of Transportation - Federal Aviation Administration

Supplemental Type Certificate

Number **SA3593NM**

This certificate, issued to

**Raisbeck Engineering
4411 South Ryan Way
Seattle, WA 98178**

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: 3A20
Make: Beechcraft Corporation
Model: 65-A90; B90; C90; C90A; C90GT; C90GTi; E90

Description of the Type Design Change: Installation of Raisbeck/Hartzell Quiet Turbofan Propellers or Swept Turbofan Propellers, and optional Increased Gross Weight in accordance with Raisbeck Engineering Master Drawing List 86-2500, Revision CG, dated October 23, 2015, or later Federal Aviation Administration (FAA) approved revision.

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 on which other previously approved modifications are incorporated unless it is determined 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. Aircraft must be operated in accordance with the applicable FAA-approved Airplane Flight Manual Supplement (AFMS) listed in Raisbeck Engineering Document 10-90S-ORL, Revision N, dated October 23, 2015, or later FAA-approved revision. Aircraft must be maintained in accordance with the Raisbeck Engineering Maintenance Manual Document No. 85-120, Revision W, dated October 8, 2015, or later FAA-approved revision.

(See Continuation Sheet Page 3 of 4 Pages)

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 11, 1986
Date of issuance: September 12, 1986

Date reissued:
Date amended: 4/1/88; 5/19/88; 6/14/88; 11/21/88;
 2/23/89; 9/28/90; 4/29/91; 7/22/94;
 8/11/94; 11/8/95; 2/24/06; 5/9/06;
 3/15/08; 9/2/08; 9/19/08; 12/9/08;
 11/4/09; 11/9/10; 7/27/12; 12/31/13;
 8/19/14; 11/10/15; 4/1/16



By direction of the Administrator

 (Signature)

 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.

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Supplemental Type Certificate

(Continuation Sheet)

Number SA3593NM

Raisbeck Engineering

Issued: September 12, 1986

Reissued:

Amended: 4/1/88; 5/19/88; 6/14/88; 11/21/88; 2/23/89; 9/28/90; 4/29/91; 7/22/94; 8/11/94; 11/8/95; 2/24/06;
5/9/06; 3/15/08; 9/2/08; 9/19/08; 12/9/08; 11/4/09; 11/9/10; 7/27/12; 12/31/13; 8/19/14; 11/10/15;
4/1/16

Limitations and Conditions continued:

A copy of this certificate, FAA-approved AFMS, and Maintenance Manual Supplement must be maintained as part of the permanent records for the modified aircraft.

Propellers and Propeller Limitations:

For 2 Hartzell HC-D4N-3C Hubs with Hartzell D9290K Blades in Pairs.

Diameter 93.0 inches (Maximum); Minimum allowable for repair: 92.0 inches
No further reduction in diameter permitted.

Pitch Settings:

| | | |
|------------|-----------|----------|
| Low Pitch: | +20.1 deg | ±0.1 deg |
| Reverse: | -9.0 deg | ±0.5 deg |
| Feathered: | +84.5 deg | ±0.5 deg |

Stabilized ground operation is prohibited below 1100 RPM, except with the propeller feathered, operation at or below 400 RPM is permissible.

Auto-feathering system must be installed and operational, except when optional propeller cam is installed.

Optional Propellers and Propeller Limitations:

For C90A Aircraft Models only.

Hartzell Model No. HC-E4N-3N/D8990(k) as listed on and installed in accordance with STC SA00966CH

For C90GT/C90GTi Aircraft Models only.

Hartzell Model No. HC-E4N-3N/D8990SK as listed on and installed in accordance with TCDS 3A20

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5/9/06; 3/15/08; 9/2/08; 9/19/08; 12/9/08; 11/4/09; 11/9/10; 7/27/12; 12/31/13; 8/19/14; 11/10/15;
4/1/16

Limitations and Conditions continued:

Propellers and Propeller Limitations:

For 2 Hartzell HC-D4N-3C Hubs with Hartzell D9510SK Blades in Pairs.

Diameter 96.0 inches (Maximum); Minimum allowable for repair: 95.0 inches
No further reduction in diameter permitted.

Pitch Settings:

| | | |
|------------|-----------|----------|
| Low Pitch: | +18.6 deg | ±0.1 deg |
| Reverse: | -10.0 deg | ±0.5 deg |
| Feathered: | +86.7 deg | ±0.5 deg |

Stabilized ground operation is prohibited below 1100 RPM, except with the propeller feathered, operation at or below 400 RPM is permissible.

Auto-feathering system must be installed and operational.

For 2 Hartzell HC-E4W-3 Hubs with Hartzell D9290K Blades in Pairs.

Diameter 93.0 inches (Maximum); Minimum allowable for repair: 92.0 inches
No further reduction in diameter permitted.

Pitch Settings:

| | | |
|------------|-----------|----------|
| Low Pitch: | +17.5 deg | ±0.1 deg |
| Reverse: | -9.0 deg | ±0.5 deg |
| Feathered: | +84.5 deg | ±0.5 deg |

Stabilized ground operation is prohibited below 1100 RPM, except with the propeller feathered, operation at or below 400 RPM is permissible.

Auto-feathering system must be installed and operational.

If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

-END-

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.