United States of America

Department of Transportation—Federal Aviation Administration

Supplemental Type Certificate

Number SA01075SE

This certificate, issued to **Precise Flight, Inc.**
63354 Powell Butte Road
Bend, OR 97701

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:	A-777	3A15
Make:	Beech	Beech
Model:	A35, B35, C35, D35, E35, F35, G35, 35R	35-33, 35-A33, 35-B33, 35-C33, 35-C33A, E33, E33A, F33, F33A, F33C, G33, H35, J35, K35, M35, N35, P35, S35, V35, V35A, V35B, 36, A36, A36TC

Description of the Type Design Change: Installation of the Precise Flight, Inc. SpeedBrake 2000 System. **Manufactured** in accordance with Precise Flight Engineering Drawing List 010S0000, Revision AD, dated April 27, 2006, or later FAA approved revision. **Installed** in accordance with Precise Flight, Inc. Engineering Drawing List 121S0000, Revision G, dated May 8, 2006, or later FAA approved revision. **Maintained** in accordance with Precise Flight, Inc. Instructions for Continued Airworthiness as stated in FAA Approved Aircraft Flight Manual Supplement, dated June 19, 2003, or later FAA approved revision.

Limitations and Conditions: This installation requires the installation of the following stall warning STC's SA177EA or SA361EA, or equivalent for models A35, B35, C35, D35, E35, F35, G35, and 35R. 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 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. A copy of this Certificate and FAA approved Airplane Flight Manual Supplement (AFMS) 121SMAN0001, Revision A, dated June 19, 2003, or later FAA approved revision, must be maintained as part of the permanent records for the modified airplane.

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.

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: October 30, 2001

Date of issuance: April 25, 2002

Date reissued:

Date amended: 5/24/02; 1/24/03; 6/19/03; 11/7/03 7/19/06

FEDERAL AVIATION ADMINISTRATION

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.

FAA FORM 8110-2(10-68)

U.S. Department
of Transportation
**Federal Aviation
Administration**

**Transport Airplane Directorate
Aircraft Certification Service**

1601 Lind Avenue S.W.
Renton, Washington 98055-4056

JUL 20 2006

In Reply
Refer To: 140S-GA-06-88

Mr. Scott Philibin
Precise Flight Inc.
63120 Powell Butte Road
Bend, OR 97701

Dear Mr. Philibin:

We have completed our evaluation of your supplemental type certificate project to amend Supplemental Type Certificate (STC) SA01075SE to allow the use of a redesigned spoiler blade. We find that you have satisfactorily demonstrated compliance with the applicable certification regulations. A copy of the amended STC dated July 19, 2006 is enclosed for your information.

This amended STC is official Federal Aviation Administration (FAA) approval of your installation and may be used to authorize identical installations on other aircraft of the same model, subject to the limitations noted on the certificate. It may be transferred or otherwise made available to another party by means of a licensee arrangement in accordance with Federal Aviation Regulations (FAR) Part 21.47. You are requested to advise this office within 30 days after you transfer or grant licensee rights to the STC, in order that we may take the necessary recording or reissuance action.

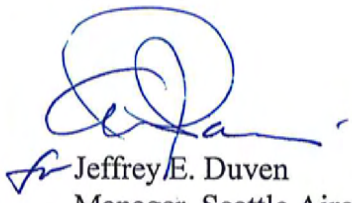
If you agree to permit another person to use this STC to alter the product, it is your responsibility to give the other person written evidence of that permission in the form of a "permission statement." This permission statement should contain the agreement specifying the product to be altered, the STC number, and the person who is being given the consent to use the STC.

As recipient of this approval, except as provided in FAR Part 21.3(d), you are required to report any failure, malfunction or defect in any product or part manufactured by you that you have determined has resulted or could result in any of the occurrences listed in FAR Part 21.3(c). The report should be communicated initially by telephone to the Manager, Propulsion Branch, ANM-140S, telephone number (425) 917-6503 within 24 hours after it has been determined that the failure has occurred. In addition, written notification to the Manager, Seattle Aircraft Certification Office, ANM-100S, at the above address is required. FAA Form 8010-4 (Malfunction or Defect Report) or any other appropriate format is acceptable in transmitting the required details.

If you plan to manufacture replacement or modification parts for sale in conformance with approved data listed on the Certificate, you are required to comply with FAR Part 21.303. A parts manufacturer approval (PMA) may be issued under the provisions of FAR Part 21.303(d) when you submit a statement certifying you have established the fabrication inspection system as required by FAR Part 21.303(h). The identification requirements for parts produced under a PMA are in FAR Part 45.15. Your statement may be in letter form, with reference to the STC number, and should be addressed to the Federal Aviation Administration, Northwest Mountain Region, Attention: Manager, Seattle Manufacturing Inspection District Office, 2500 E. Valley Road, Suite C-2, Renton, WA 98055-4056.

Since I am very much interested in the service we provide to the aviation community and the general public, it would be helpful if you would provide your thoughts and comments regarding how the approval process went. To gather this information, we have enclosed a short survey (with a self-addressed, stamped envelope) that I hope you will fill out and return. You will note that the return envelope is addressed to me. You may rest assured that your comments will receive my full attention and that I will hold your comments in strict confidence, should you request I do so. Please note that this customer service survey is common to all Aircraft Certification Offices within the FAA's Aircraft Certification Service and is aimed at enabling the Aircraft Certification Service to deliver the best services to each of our customers.

Sincerely,



for Jeffrey E. Duven
Manager, Seattle Aircraft
Certification Office

Enclosures (2)

PILOT'S OPERATING HANDBOOK AND FAA APPROVED AIRPLANE FLIGHT MANUAL SUPPLEMENT FOR PRECISE FLIGHT SPEEDBRAKE 2000 SYSTEM BEECHCRAFT BONANZA

Applicable Models: 35-33, 35-A33, 35-B33, 35-C33, 35-C33A, E33, E33A, E33C, F33, F33A, F33C, G33, A35, B35, C35, D35, E35, F35, G35, 35R, H35, J35, K35, M35, N35, P35, S35, V35, V35A, V35B, 36, A36, A36TC

This supplement must be attached to the Pilot's Operating Handbook and FAA Approved Airplane Flight Manual when the Precise Flight SpeedBrake System is installed per Precise Flight STC SA01075SE.

The information contained herein supplements or supersedes the information in the basic Pilot's Operating Handbook and FAA Approved Airplane Flight Manual only in those areas listed herein. For limitations procedures and performance information not contained in this supplement, consult the basic Pilot's Operating Handbook and FAA Approved Airplane Flight Manual.

FAA APPROVED: _____
Manager,
Special Certification Branch
Seattle Aircraft Certification Office

DATE OF APPROVAL: JUN 19 2003

Beechcraft Bonanza
Models: 35-33, 35-A33, 35-B33, 35-C33, 35-C33A, E33, E33A, E33C, F33, F33A, F33C, G33, A35, B35, C35, D35, E35, F35, G35, 35R, H35, J35, K35, M35, N35, P35, S35, V35, V35A, V35B, 36, A36, A36TC

SPEEDBRAKE 2000
AFM SUPPLEMENT

SECTION 1 - GENERAL

This supplement supplies information necessary for the operation of the airplane when the optional Precise Flight SpeedBrakes are installed in accordance with FAA Approved Precise Flight data.

SECTION 2 - LIMITATIONS

(a) Airspeed Limitations **with Tiptanks** are 160 Knots for models A35, B35, C35, D35, E35, F35, G35, 35R and H35, and 175 Knots all others for SpeedBrake deployment.
(b) Airspeed Limitations are V_{NE} for SpeedBrake deployment **without Tiptanks**.
(c) Airspeed Limitations for deployed SpeedBrakes are 10 knots above V_{NO}.
(d) The SpeedBrakes are not approved for deployment in icing conditions.
(e) The SpeedBrake Circuit Breaker is to be indicated by placard or equivalent.

SECTION 3 - EMERGENCY PROCEDURES

(a) SpeedBrake **OFF** for a forced landing after engine failure.
(b) SpeedBrake **OFF** for any spin recovery.
(c) SpeedBrake **OFF** for ditching.
(d) SpeedBrake **OFF** if the elevator is disabled.
(e) SpeedBrake **OFF** for aircraft electrical failure.
(f) SpeedBrake **OFF** for aircraft speeds above V_{NE}.
(g) **PULL** SpeedBrake Circuit Breaker for SpeedBrake Switch or Electrical failure.

NOTE:
If use of the circuit breaker is required for SpeedBrake retraction, leave the circuit breaker in the pulled position, and have maintenance personnel inspect system

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Revision: A **Document Number: 121SMAN0001**

SECTION 4 - NORMAL PROCEDURES

The SpeedBrake system should be functionally checked for proper operation prior to flight. The independent electrical clutches need to be synchronized by SpeedBrake activation before flight and/or after SpeedBrake Circuit Breaker Pull and Reset

BEFORE TAKE-OFF

(a) Depress the SpeedBrake Switch **ON** to extend SpeedBrakes. Verify Annunciator BLUE lights - ILLUMINATED and both SpeedBrakes are extended.

(b) Depress the SpeedBrake Switch **AGAIN (OFF)** to retract SpeedBrakes prior to take-off. Verify Annunciator BLUE light - OFF.

DURING AIRCRAFT TAKE-OFF

(a) The SpeedBrake switch should be OFF.

WARNING:

If *SpeedBrakes do not fully extend or do not operate simultaneously (extend or retract), place SpeedBrake circuit breaker in the pulled position, and have maintenance personnel inspect system.*

Beechcraft Bonanza
Models: 35-33, 35-A33, 35-B33, 35-C33, 35-C33A, E33, E33A, E33C, F33, F33A, F33C, G33, A35, B35, C35, D35, E35, F35, G35, 35R, H35, J35, K35, M35, N35, P35, S35, V35, V35A, V35B, 36, A36, A36TC

SPEEDBRAKE 2000 AFM SUPPLEMENT

EXPEDITED DESCENTS

(a) Set and Maintain 2400 RPM and approximately 16 to 18 inches Manifold Pressure.

NOTE:

Increases in Engine Horsepower over the TCDS will require reduced Manifold Pressure.

(b) SpeedBrake switch ON to extend SpeedBrakes.

(c) SpeedBrake switch OFF to retract SpeedBrakes.

FINAL APPROACH

(a) Fly a high base leg and final approach. Extend wing flaps as desired and place the SpeedBrake switch ON to extend the SpeedBrakes.

NOTE:

The SpeedBrake switch may be operated intermittently, as required, to modulate the glide path.

(b) Maintain an 80 to 90 KIAS approach speed by establishing a moderately steep, nose-down attitude.

NOTE:

Increase the aircraft nose down attitude in anticipation of increased drag as the SpeedBrake System is actuated.

NOTE:

In a power off approach, the use of SpeedBrakes and Flaps provides excessive descent rate.

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LANDING

(a) Rotate the aircraft more rapidly than usual to perform a tail-low touchdown.

CAUTION:
If the landing rate of sink is excessive, place the SpeedBrake System switch OFF to retract the SpeedBrakes and add power as required to reduce the rate of descent.

BALKED LANDING (Go Around)

(a) Advance throttle, SpeedBrake System - OFF, Retract wing flaps.

SECTION 5 - PERFORMANCE

(a) Inadvertent takeoff with SpeedBrakes Deployed expect an extended take off roll, and reduction in rate of climb until SpeedBrakes are retracted.

(b) Cruise flight with SpeedBrakes deployed expect cruise speed and range to be reduced approximately the same amount as flight with landing gear extended.

(c) In the unlikely event of one SpeedBrake Cartridge deploying while the other remains retracted, a maximum of 10% of corrective aileron travel and 5 lbs. of rudder pressure are required for coordinated flight from stall through Vne. Indication of this condition will be noted by the only one annunciator light illuminated with the SpeedBrake Switch in the ON position.

(d) Aircraft Stall Speeds are 2 to 6 knots greater than those listed in the Aircraft POH with SpeedBrakes Deployed.

Beechcraft Bonanza
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SPEEDBRAKE 2000 AFM SUPPLEMENT

SECTION 6 - WEIGHT AND BALANCE

Optional equipment is included in the licensed weight and balance data of the Pilot's Operating Handbook – 9 lbs at F.S 86.

SECTION 7 - DESCRIPTION AND OPERATION OF THE PRECISE FLIGHT SPEEDBRAKE 2000 SYSTEM

Precise Flight SpeedBrake 2000 System is installed to provide expedited descents at low cruise power, glide path control on final approach, airspeed reduction and an aid to the prevention of excessive engine cooling in descent. The SpeedBrakes can be extended at aircraft speeds up to Vne.

WARNING:
If icing is encountered with the SpeedBrakes extended, retract the SpeedBrakes immediately.

The Series 2000 SpeedBrake System consists of wing mounted electrically actuated SpeedBrake Cartridges. Each SpeedBrake Cartridge is interconnected electronically by a central logic-switching unit and a SpeedBrake actuator switch. The SpeedBrake Cartridges receive electrical power from the aircraft electrical buss through a disconnect type circuit breaker.

The SpeedBrake push button switch is located on the Pilot's control wheel yoke outside left hand arm or on the panel. The switch is depressed once to fully extend and is depressed again to fully retract the SpeedBrakes. The system features annunciation to indicate the status of the SpeedBrake system. Annunciator ON - Individual units Extended - Annunciator OFF - Individual units Retracted or a possible malfunction exists.

NOTE:
The failure of a single cartridge extending will prevent the Speedbrake annunciator from illuminating.

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SPEEDBRAKE ANNUNCIATOR

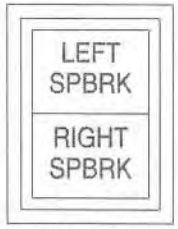

FIGURE 1-1

The Annunciator is located in the upper left or center on the instrument panel, depending on the installation. The Annunciator will illuminate after the SpeedBrake Switch is depressed **ON** and both brakes are in the fully extended position. If the annunciator fails to illuminate and one or both brakes do not extend after the switch is depressed on, it indicates a failure of one SpeedBrake cartridge and the SpeedBrake switch should be depressed **OFF**. The system can be checked again for proper operation, but after the second attempt the SpeedBrake switch should be left **OFF**. When the SpeedBrake Switch is depressed to the **OFF** position, the annunciator will extinguish when both brakes are retracting into the wing.

The central logic unit will disconnect SpeedBrake clutch power to both SpeedBrake cartridges if one cartridge does not reach full extension, however, the drive motors will continue to operate until the SpeedBrake Switch is depressed **OFF**. The central-logic unit also disconnects clutch power within 10 degrees of the fully stowed position on every retraction.

NOTE:

A SpeedBrake cartridge that operates, but does not fully stow flush with the wing surface, is an indication of a failed cartridge clutch. Place the SpeedBrake circuit breaker in the pulled position and have maintenance personnel inspect the system per Precise Flight SpeedBrake 2000 maintenance procedures before any subsequent SpeedBrake System operation.

Beechcraft Bonanza
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SPEEDBRAKE 2000 AFM SUPPLEMENT

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

BEECH BONANZA
SPEEDBRAKE 2000 ™

	EACH 50 HOURS	EACH 100 HOURS	ANNUALLY	EACH 1000 HOURS	EACH 5000 HOURS
1. Check Cap Strip Cover screws for security, if loose, remove screws and apply Locktite 242, retorque to 8 in-lbs. Check SpeedBrake top attachment screws for security, if loose, remove screws and apply Locktite 242, retorque to 8 in-lbs.	•				
2. Check drain tubes for debris	•				
3. a.) Remove SpeedBrakes™ Screws and Access Cover Screws, Access Cover, Remove Hinge pins, Remove SpeedBrake™ cartridges from aircraft wing b.) Disconnect electrical plugs c.) Remove SpeedBrakes™ cartridges from aircraft wing d.) Remove cover plate from SpeedBrake™ cartridge d.) **Clean and Inspect unit for damage, corrosion, looseness & proper operation** e.) **Lubricate worm and worm gear with Lubriplate.** f.) Reinstall cover plate g.) Connect electrical plugs h.) Reinstall SpeedBrakes™ in aircraft wing		•			
4. a.) Remove SpeedBrakes™ Screws and Access Cover Screws, Access cover, Remove Hinge pins, Remove SpeedBrake™ cartridges from aircraft wing b.) Disconnect electrical plugs c.) Remove SpeedBrakes™ cartridges from aircraft wing d.) Return SpeedBrakes™ to Precise Flight Inc. for **Clutch Spring and Drive Spring Replacement** e.) Connect electrical plugs f.) Reinstall SpeedBrakes™ in aircraft wing			•		
5. a.) Remove SpeedBrakes™ Screws and lift SpeedBrake™ cartridge from aircraft wing b.) Disconnect electrical plugs c.) Remove SpeedBrakes™ cartridges from aircraft wing d.) Return SpeedBrakes to Precise Flight Inc. for **Drive Assembly Replacement** e.) Connect electrical plugs f.) Reinstall SpeedBrakes™ cartridges in aircraft wing					•

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