

Supplemental Type Certificate

Number SA8150SW

This Certificate issued to Soros, Inc.
102 Molala Cove (Lot 1626)
Lake Kiowa, TX 76240-9420

*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 * of the Regulations.*

Original Product - Type Certificate Number: * *See Attached Approved Model List
SI 100, Revision IR, dated 2/2/93
Make: Cessna or later FAA approved revision.
Model: *

Description of Type Design Change:
Installation of VENTUBE pilot/co-pilot overhead fresh air valves in accordance with Soros, Inc., Drawing List 100, Revision N, dated November 1, 1993, or later FAA approved revision.

Limitations and Conditions: Compatibility of this modification with previously installed equipment must be determined by installer.

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: February 07, 1991
Date of issuance: December 11, 1991

Date reissued: November 22, 1995
Date amended: 02/22/93, 11/03/93



By direction of the Administrator
A. J. Merrill

(Signature)
A. J. Merrill
Manager, Special Certification Office
Southwest Region

(Title)



US005162013A

United States Patent [19]

(11) Patent Number: 5,162,018

Horton

(43) Date of Patent: Nov. 10, 1992

[54] AIR VENT SYSTEM 1,379,367 4/1926 Scherrer 251/351
 [76] Inventor: Donald L. Horton, 102 Molala Cove, Lake Kiowa, Dallas County, Tx 2,058,659 10/1936 Bellanca 454/76
 2,324,974 10/1950 Nickerson 454/323 X
 [21] Appl. No.: 793,869 76240-9420 Primary Examiner—Robert G. Nilson
 Attorney, Agent, or Firm—Richards, Medlock & Andrews
 [22] Filed: Nov. 18, 1991 [57] ABSTRACT
 [51] Int. Cl.³ B60H 1/26 An air vent system having an inner tube slidably disposed within a liner. A lock mechanism is mounted at one end of the inner tube. A lock pin is disposed at one end of the liner and is constructed to engage the lock mechanism such that the air vent system can be selectively moved between an open position and a closed position.
 [52] U.S. Cl. 454/76; 251/100;
 251/351, 251/353, 454/152, 454/154, 454/323
 [58] Field of Search 251/100, 351, 353,
 454/76, 152, 154, 305, 306, 323, 324
 [56] References Cited
 U.S. PATENT DOCUMENTS
 1,299,480 4/1919 Kirby 251/100 20 Claims, 2 Drawing Sheets



Letters patent

No. 643904

Patents Act 1990

STANDARD PATENT

I, Andrew Addison Bain, Commissioner of Patents, grant a Standard Patent with the following particulars:

Name and Address of Patentee: Donald L. Horton, 102 Molala Cove, Lake Kiowa, Texas, United States Of America

Name of Actual Inventor: Donald Lee Horton

Title of Invention: Air vent system


Application Number: 20399/92

Term of Letters Patent: Sixteen years commencing on 17 July 1992

Priority Details:

Number	Date	Country
793869	18 November 1991	UNITED STATES OF AMERICA



 Consommation et Affaires commerciales Canada Consumer and Corporate Affairs Canada
 Bureau des brevets Patent Office
 Ottawa, Canada
 K1A 0C9

- (11) (C) 2,074,012
- (22) 1992/07/16
- (43) 1993/05/19
- (45) 1994/04/05

(51) INTL. CL. F24F-007/00

(19) (CA) CANADIAN PATENT (12)

(54) Air Vent System

(72) Horton, Donald L. , U.S.A.

Canada



SOROS, INC.

102 Molala Cove, Lake Kiowa, Texas 76240-9420

Telephone: 817-668-8470 Fax: 817-668-2826

SPECIAL INSTRUCTIONS

If you desire the Ventube to have additional friction so that the Ventube_{tm} will stay in the interim position you select, place one of the enclosed Velcro pieces between the inner and outer tubes of the Ventube_{tm}.

Specifically, remove the inter tube by aligning the splens on the tubes. Place one piece of the Velcro inside the outer tube approximately one and a quarter to one and a half inches down into the outer tube between the slots. Replace the inter tube.

SOROS, INC.

APPROVED MODEL LIST SI 100; REVISION IR; DATED 2/2/93

STC SA8150SW

CESSNA MODEL	TYPE CERT. NO.	APPLICABLE VENTUBE COMPONENTS	APPLICABLE REGULATIONS
120, 140	A-768	SI 1-2	CAR 4a
140A	5A2	SI 1-2	CAR 3, CAR 4a
150, 150A, B, C, D, E, F, G, H, J, K, L, M, 152, A152	3A19	SI 1-2	CAR 3
170, 170A, 170B	A-799	SI 1-2	CAR 3
172, 172A, B, C, D, E, F, G, H, I, K, L,	3A12	SI 1-2	CAR 3
172M, N, P, Q	3A12	SI 1-1 SI 1-2	CAR 3
172RG, P172D, R172E (USAF T-41B, C, D), R172F (USAF T-41D), R172G (USAF T-41C, USAF T-41D), R172N (USAF T-41D), R172J, R172K	3A17	SI 1-1 SI 1-2	CAR 3
175, 175A, B, C	3A17	SI 1-2	CAR 3
180, 180A, B, C, D, E	5A6	SI 1-2	CAR 3
180F, G, H, J, K	5A6	SI 1-1 SI 1-2	CAR 3
182, 182A, B, C, D	3A13	SI 1-2	CAR 3
182E, F, G, H, J, K, L, M, N, P, Q, R, R182, T182, TR182	3A13	SI 1-1 SI 1-2	CAR 3

SOROS, INC.

APPROVED MODEL LIST SI 100; REVISION IR; DATED 2/2/93

STC SA8150SW

CESSNA MODEL	TYPE CERT. NO.	APPLICABLE VENTUBE COMPONENTS	APPLICABLE REGULATIONS
185, 185A, B, C, D, E, A185E, A185F	3A24	SI 1-1 SI 1-2	CAR 3
190, 195(LC-126A, LC-126B, LC-126C), 195A, 195B	A-790	SI 1-2	CAR 3
206, P206, P206A, B, C, D, E, TP206A, TP206B, C, D, E, U206, U206A, B, C, D, E, F, G, TU206, TU206A, B, C, D, E, F, G	A4CE	SI 1-1 SI 1-2	CAR 3
207, 207A, T207, T207A	A16CE	SI 1-1 SI 1-2	FAR 23
210, 210A, B, C, D, E, F, T210F	3A21	SI 1-1 SI 1-2	CAR 3
210-5 (205)	3A21	SI 1-2	CAR 3
210-5 (205) with S/N Above 2050127	3A21	SI 1-1 SI 1-2	CAR 3
210-5A (205A)	3A21	SI 1-1 SI 1-2	CAR 3

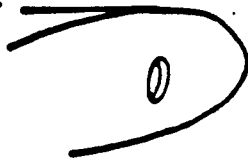
-----END-----


 for Mark R. Schilding, Manager
 Special Certification Office

FEB 22 1993
 Approval Date

SI-2-2

I. WING ROOT



SURPLUS

VENTUBE ASSEMBLY

II.



LINER

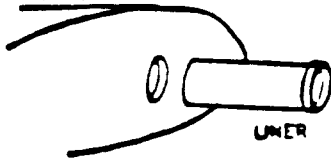


CAP

TUBE

III.

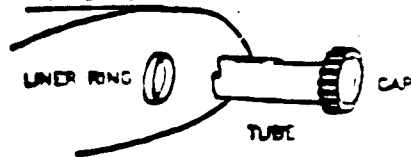
WING ROOT



LINER

IV.

WING ROOT

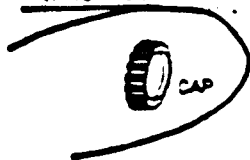


LINER RING

TUBE

CAP

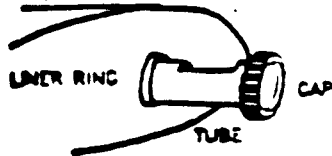
WING ROOT



CLOSED

CAP

WING ROOT



OPEN

LINER RING

TUBE

CAP

Notes:

1. Repeat for other side of aircraft if installing two Ventubes.
2. If necessary to install Outside Air Temperature Thermometer, drill appropriate sized hole in center of cap.

WARNING: OAT temperature may be incorrect when Ventube is closed due to no air movement past probe. **PLACARD** OAT gage that temperature may be **INCORRECT**.

3. Refer to Approved Model List SI-100, Revision 1R, dated 2/2/93, or later FAA approved revision.
4. Sheet metal screw, PSR4-3/16 IFI ms. and High Collar washer are zinc Dichromated.

MATERIAL DESCRIPTION

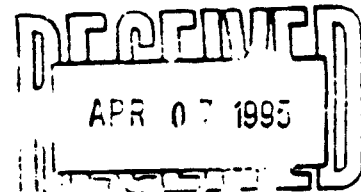
QTY.	REQ'D	PART NUMBER	DESCRIPTION
	1	B-2-1	FINAL ASSEMBLY
1		B-2-2	FINAL ASSEMBLY
		B-20-1	METAL
		B-20-2	METAL
-2	-1		

STC SAB150SW.

CABIN

INSTALLATION INSTRUCTIONS

1. Remove existing air vent tube from wing root aluminum tube. (Cessna PN 0413163-18 and/or 0413155-12 and 13).
2. Slide vent tube out of liner.
3. Slide liner into wing root to the liner ring.
4. Remove liner and wipe a small amount of corrosive resistant compound around the outside surface of the liner and slide the liner back into the aluminum wing root to the liner ring.
5. Slide the vent tube into the liner.



SOROS, INC.

102 Molala Cove T.1626 Phone: 817-668-2585
Lake Kiowa, TX Lake Kiowa, TX
76240-9420 Fax: 817-668-2826

Information: 1-800-957-9007

DESIGNER: Donald L. Horton, P.E.

VENTUBE™

TITLE: **INSTALLATION**

DRAWN BY: AMC CHECKED BY: DLM

APPROVED BY:

SCALE: NONE

DATE OF FIRST ISSUE: 2-1-91

REVISIONS: A 2-21-91 E 12-11-91

REVISIONS: B 5-21-91

REVISIONS: C 6-17-91

REVISIONS: D 9-9-91 N 11-1-93

DRAWING NO. **SI-50**

INSTRUCTIONS

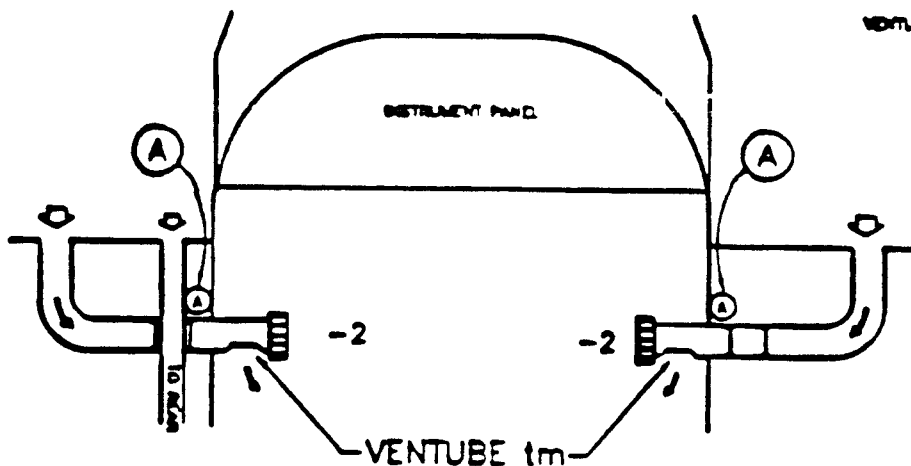
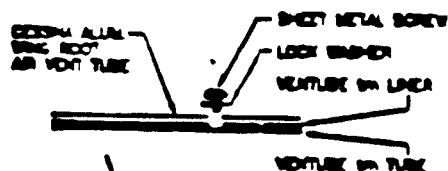
EXTERNAL

INSTALLATION INSTRUCTIONS (-1 AND -2 BOTH)

1. Remove Wing Root Fairing on left wing (pilot's).
2. Drill a size 40 (3/32") diameter hole thru Cessna aluminum wing root vent tube and VENTUBE tm liner not closer than 0.5 inch nor more than 3 inches (-2) nor not less than 0.5 inch nor more than 8.5 inches (-1) from Inter (cabin) end of VENTUBE tm.
3. Install the High Collar lock washer on the #4 sheet metal screw.
4. Insert and tighten screw into Cessna aluminum wing root vent tube and VENTUBE tm liner.
5. Replace wing root fairing.
6. If Cessna aluminum wing root vent tube protrudes into cabin sufficient distance to insert the sheet metal screw, the sheet metal screw with washer may be installed in the Cessna aluminum wing root vent tube inside the cabin in lieu of removing the wing root fairing.

REPEAT for passenger/co-pilot side

DETAIL (A)



Cessna Single engine Aircraft with TWO Air Inlet Openings (ONE in each wing) may have.

- 2 VENTUBE tm - 2 (SHORT) or
- 1 VENTUBE tm -2

INSTRUCTIONS

APR 07 1995

SOROS, INC.

102 Molala Cove, L1626
Lake Kiowa, TX
76240-9420

Phone: 817-668-2585
Fax: 817-668-2826

DESIGNER: Donald L. Horton, P.E.

VENTUBE tm
TITLE: INSTALLATION

DRAWN BY: AMC CHECKED BY: DLH

APPROVED BY:

SCALE: NONE

DATE OF FIRST ISSUE: 2-1-91

REVISIONS: A 2-21-91 E 12-11-91

REVISIONS: B 5-21-91

REVISIONS: C 6-17-91

REVISIONS: D 8-9-91 N 11-1-93

PAGE 2 DRAWING NO. S1-50

THE DESIGN, CONSTRUCTIONS, ARRANGEMENTS, ENCLOSURES AND DEVICES SHOWN OR SPECIFIED IN THE PROPOSAL, ORDER, DRAWING OR DOCUMENT HEREIN THIS PROVISION APPLIES AND ALL DRAWINGS, SPECIFICATIONS AND DOCUMENTS FORMING A PART THEREOF, BY REFERENCE OR OTHERWISE ARE THE PROPERTY OF SOROS, INC. AND ARE SUBMITTED IN CONFIDENCE WITH THE UNDERSTANDING AND AGREEMENT THAT SUCH DESIGN, CONSTRUCTIONS, ARRANGEMENTS, ENCLOSURES AND DEVICES SHALL NOT BE USED OR REPRODUCED IN WHOLE OR IN PART BY THE PERSON, FIRM OR CORPORATION WHO MAY HAVE RECEIVED OR ANY SUCH DRAWINGS, SPECIFICATIONS, OR DOCUMENTS OR TO SHOW ANY SUCH PROPOSAL OR ORDER IS DIRECTED EITHER IN BEHALF OF SUCH PERSON, FIRM OR CORPORATION OR ON BEHALF OF ANY OTHER PERSON, FIRM OR CORPORATION WHOSOEVER, WITHOUT THE PRIOR WRITTEN PERMISSION OF SOROS, INC. >>>>>>

MAJOR REPAIR AND ALTERATION
(Airframe, Powerplant, Propeller, or Appliance)

FOR FAA USE ONLY

OFFICE IDENTIFICATION

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form.

1. AIRCRAFT	MAKE	MODEL
	SERIAL NO.	NATIONALITY AND REGISTRATION MARK
2. OWNER	NAME (As shown on registration certificate)	ADDRESS (As shown on registration certificate)

3 FOR FAA USE ONLY

4 UNIT IDENTIFICATION

5 TYPE

UNIT	MAKE	MODEL	SERIAL NO.	TYPE	
				REPAIR	ALTERATION
AIRFRAME (As described in item 7 above)				
POWERPLANT					
PROPELLER					
APPLIANCE	TYPE				
	MANUFACTURER				

6 CONFORMITY STATEMENT

A AGENCY'S NAME AND ADDRESS	B KIND OF AGENCY	C CERTIFICATE NO.
	U.S. CERTIFICATED MECHANIC	
	FOREIGN CERTIFICATED MECHANIC	
	CERTIFICATED REPAIR STATION	
	MANUFACTURER	

D. I certify that the repair and or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

DATE	SIGNATURE OF AUTHORIZED INDIVIDUAL
------	------------------------------------

7. APPROVAL FOR RETURN TO SERVICE

Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is APPROVED REJECTED.

BY	FAA RT STANDARDS INSPECTOR	MANUFACTURER	INSPECTION AUTHORIZATION	OTHER (Specify)
	FAA DESIGNEE	REPAIR STATION	CANADIAN DEPARTMENT OF TRANSPORT INSPECTOR OF AIRCRAFT	
DATE OF APPROVAL OR REJECTION	CERTIFICATE OR DESIGNATION NO.	SIGNATURE OF AUTHORIZED INDIVIDUAL		

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. DESCRIPTION OF WORK ACCOMPLISHED (If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

ADDITIONAL SHEETS ARE ATTACHED

AIRCRAFT DATA:

Model _____ Year _____
 N No. _____
 A/C SN _____
 Wind shield "V" Brace _____, Retractable Gear _____







SEND VENTUBE™ TO:

Name: _____
 Shipping Address: _____
 City: _____
 State: _____ Zip: _____
 Telephone: _____
 Fax: _____ E-mail: _____

ORDER INFORMATION:

QTY _____ @ \$75.00/pair. \$ _____
Price subject to change without notice.
 S&H _____ @ \$6.00/pair \$ _____
(in the lower 48 states)
 Expedited Shipping Cost (actual cost & \$4.00)
 Airborne Fed Ex UPS Blue Sub Total \$ _____
 Texas Residents add Sales Tax@ 6.75% \$ _____
TOTAL \$ _____

Send Check, Money Order or Credit Card Info. to SOROS, Inc
 name on card _____
 card no. _____

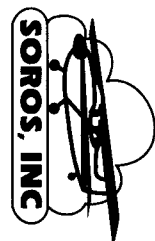
      Exp. date _____

 SIGNATURE

 ADDRESS

HOW DID YOU LEARN OF VENTUBE?
 For more information or to order, call Soros, Inc.,
 (940) 668-8470; Fax:(940) 668-2826 or
 E-mail: soros@nortexinfo.net
 Or write: 102 Molala Cove • Lake Kiowa, TX 76240-9420

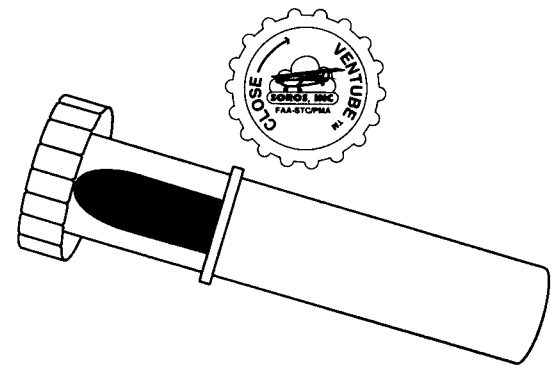
102 Molala Cove
 Lake Kiowa, TX 76240-9420



CESSNA OWNERS



STC AND FAA/PMA APPROVED



- Enhances pilot and passenger comfort
- Allows reliable closure of air vent
- Controls vent air direction and flow
- Reduces air vent noise and leakage

For more information and to order, call Soros, Inc.,
 (940) 668-8470; Fax at (940) 668-2826
 Or write: 102 Molala Cove
 Lake Kiowa, TX 76240-9420

Applicable on Cessna Models 120, 140, 150, 152, 170,
 172, 175, 180, 182, 185, 190, 195, 205, 206,
 207, 210 - 210F and 305.
 Not applicable to the Cessna 177, 208, 210G and above.
 Aircraft equipped with a windshield V-brace requires special kit.
 Some retractable gear aircraft may require inlet tube modification.

DESCRIPTION ↩

The Ventube_{TM} is a plastic unit that consists of an exterior tube and a lockable interior tube with a cap. The unit is locked by turning the cap clockwise, which pulls the interior tube cap against an O-ring seal. Air flow control is accomplished by extending or retracting the interior tube to control the amount of air entering the cabin. A simple twist of the interior tube controls air direction. The locking cap, friction rings and coins and tolerance between the tubes, and the O-ring seal all work to provide reliably quiet and controllable air flow.

HISTORY ↩

The Ventube_{TM} was designed and developed by Donald L. Horton.

DEVELOPMENT ↩

Designed to replace the original Cessna pull-out vent tube with a tube that will lock shut as well as allow control of air direction and flow. Ventube_{TM} prototypes were under development for over three years.

During that time, Ventube_{TM} was tested by a nationally recognized materials testing lab to determine the equivalent speed at which it would

fail. A Ventube_{TM} was mounted in a portion of the Cessna wing root aluminum vent tube, as per the installation instructions, using a 1/8" diameter by 3/16" sheet metal screw and washer to secure it in the Cessna wing root vent tube. The Cessna wing root aluminum vent tube started tearing and failed at an equivalent air speed in excess of 1,500 knots. **The plastic Ventube_{TM} did not fail.**

The sale of over 2,100 pairs in less than three years since approval has validated the need for Ventube_{TM}.

INSTALLATION ↩

Remove the leading edge wing root fairing between the wing and the cockpit and remove the original pull-out vent. Wipe the interior surface of the Cessna aluminum tube with a non-corrosive, flexible sealant to minimize moisture and corrosion. The Ventube_{TM} is then easily installed by sliding the entire unit into the Cessna wing root aluminum vent tube. Adjust the Ventube_{TM} by rotating the cap. Insert a 1/8" diameter by 3/16" sheet metal screw and washer (supplied) through the Cessna wing root aluminum vent tube to tag the Ventube_{TM}, replace the wing root fairing, and go fly.

Aircraft equipped with a "V" brace across the windshield require the installer to glue the cap on the tube after installing due to the "V" brace interference. 1980 and newer retractable gear 172's

and 182's may require modifying the inlet tube to remove the swaged end of the Cessna aluminum tube into the cabin to allow the Ventube_{TM} to be installed.

Detailed instructions, STC, FAA Form 337, etc., are enclosed with each unit.

If you want to install your current OAT thermometer in the Ventube_{TM}, drill a hole for the thermometer stem in the cap. The cap recess is designed to accept the standard diameter OAT thermometer. If the Ventube is closed, the OAT thermometer may give an incorrect reading since there is no air flow past the temperature probe.

FAA STC No. SA8150SW and

FAA/PMA No. PQ741SW.

United States Patent No. 5,162,018,

Canadian Patent No. (c)2,074,012,

and Australian Patent No. 643904.

AVAILABILITY ↩

9704

Ventube_{TM} is available directly from Soros, Inc. and selected distributors.



Fax: (940) 668-2826

Telephone: (940) 668-8470

102 Molala Cove

Lake Kiowa, TX 75011-2639