United States of America

Department of Transportation Federal Aviation Administration

# Supplemental Type Certificate

*Number* **SA3529NM**

*This certificate, issued to* **Rosen Sunvisor Systems**
**86365 College View Road**
**Eugene, OR 97405**

*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:* A9EA
*Make:* de Havilland
*Model:* DHC-6-100, -200, -300

*Description of the Type Design Change:* Cockpit Sun Visor installation in accordance with FAA approved Rosen Drawing List Number RTO-00DL, dated May 5, 1986, or later FAA approved revision.

*Limitations and Conditions:* The approval of this change in type design applies basically to the above aircraft models only. This approval should not be extended to aircraft of this model on which other previously approved modifications are incorporated unless it is determined that the interrelationship 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 the aircraft. A copy of this Certificate and FAA approved Rosen Drawing List Number RTO-00DL, shall be maintained as part of the permanent records of the modified aircraft.

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:* May 5, 1986
*Date of issuance:* July 11, 1986
*Date reissued:* March 24, 2003
*Date amended:* March 24, 2003

FEDERAL AVIATION ADMINISTRATION

*By direction of the Administrator*

*(Signature)*

for 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)

European Aviation Safety Agency

# SUPPLEMENTAL TYPE CERTIFICATE

# 10033410

This Supplemental Type Certificate is issued by EASA, acting in accordance with Regulation (EC) No. 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation and in accordance with Commission Regulation (EC) No. 1702/2003 to

## ROSEN SUNVISOR SYSTEMS LLC

**86365 COLLEGE VIEW ROAD**
**EUGENE, OREGON 97405**
**USA**

and certifies that the change in the type design for the product listed below with the limitations and conditions specified meets the applicable Type Certification Basis and environmental protection requirements when operated within the conditions and limitations specified below:

**Original Product TC Number : TCCA A-82**
**TC Holder : VIKING AIR LIMITED**
**Model : DHC-6-100, -200, -300**

**Description of Design Change:**
Cockpit Sun Visor installation in accordance with FAA STC SA3529NM

**EASA Certification Basis:**
The Certification Basis for the original product remains applicable to this certificate/ approval.
The requirements for environmental protection and the associated certificated noise and/ or emissions levels of the original product are unchanged and remain applicable to this certificate/ approval.

**Associated Technical Documentation:**
Rosen Drawing List Number RTO-00DL, Rev. A, dated June 29, 2010
Rosen Sunvisor Systems Installation Instruction, Doc. 9041-0169-001, Rev. A, dated June 29, 2010
or later revisions of the above listed documents approved by EASA in accordance with EASA ED Decision 2004/04/CF (or subsequent revisions of this decision)

See Continuation Sheet(s)

**For the European Aviation Safety Agency,**

**Date of issue: 19.01.2011**

European Aviation Safety Agency
Roger HARDY
Certification Manager
General Aviation
Tel: +49 221 89990 4006
roger.hardy@easa.europa.eu

Note:
The following numbers are listed on the certificate:
EASA current Project Number: 0010008747-001

**Limitations:**
none

**Conditions:**
If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the person written evidence of that permission.
Prior to installation of this modification it must be determined that the interrelationship between this modification and any other previously installed modification and/ or repair will introduce no adverse effect upon the airworthiness of the product.

- end -

Note:
The following numbers are listed on the certificate:
EASA current Project Number: 0010008747-001

SUPPLEMENTAL TYPE CERTIFICATE - 10033410 - ROSEN SUNVISOR SYSTEMS LLC

# Twin Otter Monorail Sunvisor System

| Date | Rev | Approved |
|---|---|---|
| 2/18/22 | H | SYS |

## Drawing List
## RTO-00 DL

**Doc. # 9040-0169-001**

| Drawing | Replaces | Description | Rev. |
|---|---|---|---|
| **1690000** | **RTO-300** | **Complete System, Twin Otter** | **D** |
| 1690100 | RTO-100 | Monorail Assembly | C |
| 1690101 | RTO-100-1 | Monorail | C |
| 1690102 | RTO-100-2 | Front Bracket | C |
| 1690103 | RTO-100-3 | Side Bracket | C |
| 1690104-001 | RTO-100-4L | Aft Bracket, Pilot | C |
| 1690104-002 | RTO-100-4R | Aft Bracket, Copilot | C |
| 1350400 | RTO-300-3 | Visor Assembly | N |
| 1120000-001 | RCBS-100 | Complete Assembly Clamping Block | K |
| 1120101-001 | RCBS-100-7A | Nut Plate, Standard | L |
| 1120102-001 | RCBS-100-8A | Clamping Block Body | L |
| 1120104 | RCBS-100-5A | Thumb Knob - Standard | M |
| 1120203 | RCBS-100-8AA | Swivel, Clamping Block | P |
| 1110202 | RCBS-100-8AB | Swivel Nut Plate | E |
| 1350401 | RTO-200 | Lens | K |
| | **KITS** | | |
| **RCBS-100** | | **Complete Clamping Block Assembly** | E |
| **RCBS-300-11M** | | **Kit, Standard, Thumb Knob** | D |
| **R1350401** | | **Lens** | K |
| 9041-0169-001 | RTO-400 | Twin Otter Installation Instructions | A |

# Installation Instructions for
# DeHavilland Twin Otter DHC-6 Monorail Sunvisor System

(Kit R1690000)

This is an FAA STC'd Installation requiring a log book entry upon completion.

Doc: 9041-0169-001

| Rev | Date | Approved |
|---|---|---|
| A | 6/29/10 | GH |

*Please read through these instructions completely before beginning.*

**Installation Hardware (included):**

| | | | |
|---|---|---|---|
| Qty: | (6) | AN526C832R10 | #8-32 x 5/8 Truss Head SS Screw |
| | (6) | A8K75 | #8-32 Rivnut |

Installation of your Rosen Monorail Sunvisor System will refer to the brackets by number as shown in Diagram A.

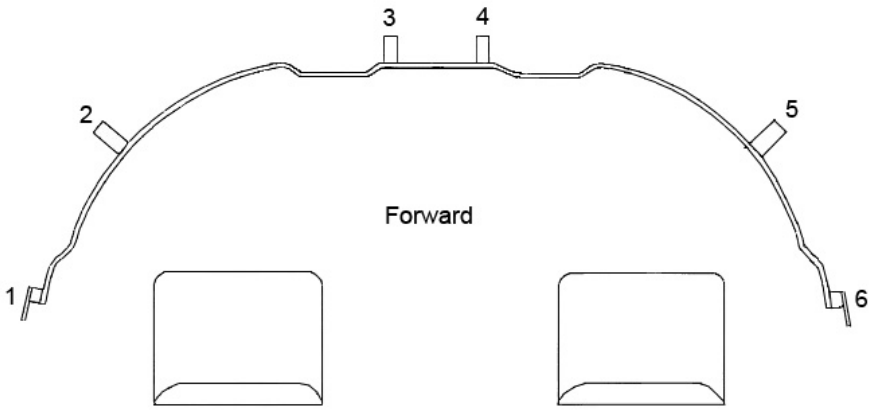



**Diagram A**

Carefully bring the monorail into the cockpit and with some assistance, hold the front brackets up to the metal trim above the window as shown in Diagram B.

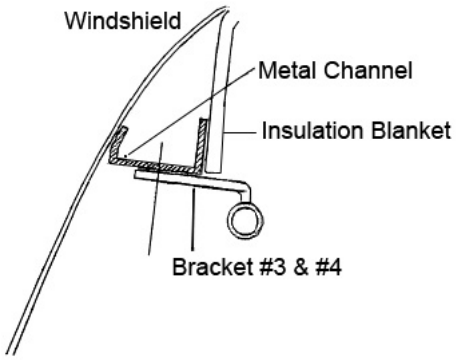



**Diagram B**

Bracket #'s 2, 3, 4, & 5 are designed to line up with holes that already exist in many Twin Otters. If the brackets align with existing holes, mount the rail in place with temporary fasteners for brackets #2 and #5 (the top part of the channel is readily accessible).

If your aircraft does not have the holes referred to above, align the rear brackets (#1 & #6) as in Diagram C. Make sure the rail is not touching the center post or the temperature control covers. Clearance between the rail and center post should be a minimum of .20" (with the throttles pushed as far forward as possible there should be no interference).

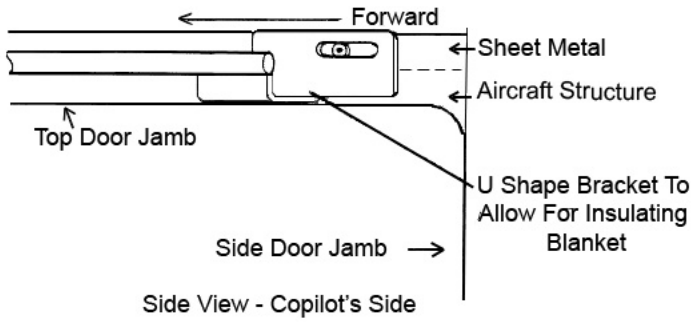



**Diagram C**

With the rail aligned and centered, mark the center of bracket locations for installation of A8K75 rivnuts (supplied).

Those aircraft that already have the pre drilled holes for brackets #2, #3, #4, & #5 can enlarge these to rivnut size and install the A8K75 rivnuts.

For brackets #1 & #6 care must be taken so that the rivnut is installed in the sheet metal and no hole is drilled into the aircraft structure as shown in Diagram C.

The stop on the rail on the pilots side is to prevent the visor assembly from moving too far to the rear where it could accidentally hit or "pop" a circuit breaker as shown in Diagram D.

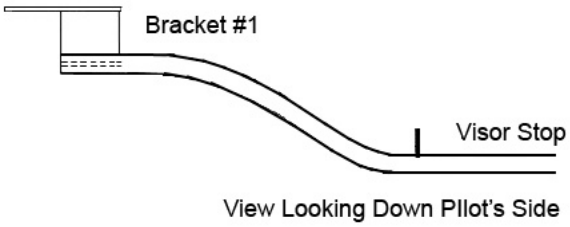



**Diagram D**

If for some reason the rail touches any part of the cockpit interior, shim the rail down or aft to insure appropriate clearances for the visor assemblies. Install the A8K75 rivnuts and connect the rail using AN526C-8/32R10 machine screws provided.

## Operating Instructions

To use either visor, rotate down if stowed by using the lens as a lever.

To move your visors, loosen the thumb tension knob by turning it counterclockwise, and slide the visor smoothly along the monorail in the desired direction while holding on to the knob. (DO NOT SLIDE THE VISOR BY HOLDING THE LENS.)

Because of the fairly sharp bends in some parts of the rail, the thumb tension knob must be turned all the way counterclockwise to negotiate these areas.

To lock the visor in place, tighten the thumb knob by turning it clockwise.

Your visors incorporate a swivel modification that allows the visor to rotate in the vertical axis. Swivel tension can be increased or decreased by adjusting the set screw on the side of the visor clamping block.

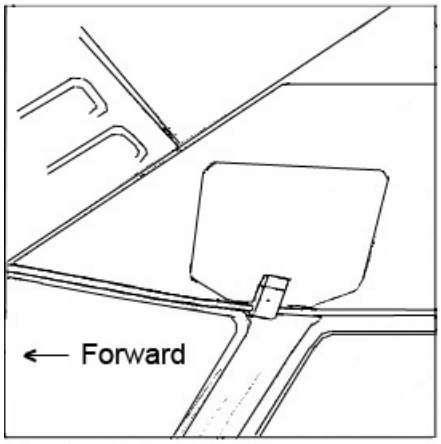
To stow the visors tighten the thumb tension knob and rotate the visor up to the overhead. The best position to stow in the Twin Otter is on the front right and left side as shown in Diagram E.

**Diagram E**

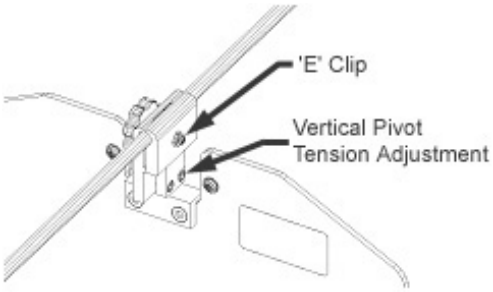
Visor Assembly Shown Stowed On Copilots Front Right Corner Panel

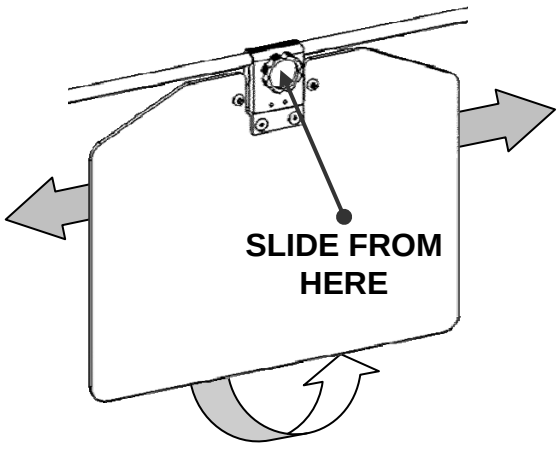
1. Tighten Thumb Tension Knob

2. Rotate Visor Up By Holding Bottom of Plastic




There is a small learning curve in determining how tight the visor should be. After several operations the visor assembly can be stowed with ease and the correct tension used. To have additional room when the visor is used on the side windows, rotate the visor into the window recess.




**ROTATE UP TO STOW**

The above figures show where to rotate the visor for storage and that the thumb tension knob is held to push/pull the visor assembly.

**Continued Airworthiness Instructions**

- (**On the ground only)**
    - Periodically clean the lenses with a soft cloth and Rosen Plastic Cleaner, Polisher and Protectant, or mild soap and water. Do not use abrasives on the lens.
    - Periodically adjust the pivot tensions on the visor assemblies.
- Updates to this continued airworthiness section are available on the Rosen Website. (www.rosenvisor.com)

The most up to date version of this document is available on the Rosen Website. (www.rosenvisor.com)

**Airworthiness Limitations:**

The Airworthiness Limitations Section is FAA approved and specifies maintenance required under §§43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

There are no airworthiness limitations associated with this installation.