



United States of America
Department of Transportation
Federal Aviation Administration

Supplemental Type Certificate

Number: SA00810DE

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

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: A-806 Make: Viking Air Limited
Model: DHC-2 Mk. I, DHC-2 Mk. II, DHC-2 Mk. III

Description of Type Design Change:

Cockpit Sun Visor installation in accordance with Federal Aviation Administration (FAA) approved Rosen Sunvisor Systems Drawing List 1692000-DL, Revision C, dated November 9, 2015 or later Federal Aviation Administration approved revisions.

Limitations and Conditions:

1. The installation should not be incorporated in any aircraft unless it is determined that the interrelationship between this installation and any previously approved configuration will not introduce any adverse effect upon the airworthiness of the aircraft.
2. Instructions for Continued Airworthiness (ICA), Rosen Sunvisor Systems Manual 9100-1692-000, Rev. E, dated November 16, 2015, or later FAA accepted revision must be made available to the operator at the time of installation.
3. 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.

Certification Basis:

Based on 14 CFR §§ 21.115 and 21.101 the certification basis for the Viking Air Limited DHC-2 cockpit Sunvisor installation is as follows:

- a. The type certification basis for Viking Air Limited DHC-2 airplanes is shown on TCDS A-806 for parts **not changed or not affected** by the change.
- b. The certification basis for **parts changed or affected** by the change since the reference date of application, November 27, 2012, is based upon CAR 3 as amended to November 1, 1949, except visor flammability for compartment interiors was per 25.853 Amendment 25-116.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, and revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of Application: November 27, 2012

Date Reissued:

Date of Issuance: March 17, 2016

Date Amended:

By Direction of the Administrator

Signature *Todd Dixon*
Todd Dixon

Title: Manager Denver Aircraft Certification Office
Northwest Mountain Region

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 or made available to third persons by licensing agreements in accordance with 14 CFR 21.47. Possession of this Supplemental Type Certificate (STC) document by persons other than the STC holder does not constitute rights to the design data nor to alter an aircraft, aircraft engine, or propeller. The STC's supporting documentation (drawings, instructions, specifications, flight manual supplements, etc.) is the property of the STC holder. An STC holder who allows a person to use the STC to alter an aircraft, aircraft engine, or propeller must provide that person with written permission acceptable to the FAA. (Ref. 14 CFR 21.120).



Supplemental Type Certificate

This approval is issued to:

Rosen Sunvisor Systems
86365 College View Road
Eugene, Oregon
United States of America 97405

Number: SA16-36

Issue No.: 1

Approval Date: March 22, 2016

Issue Date: March 22, 2016

Responsible Office:

Pacific

Aircraft/Engine Type or Model:

Viking Air Limited DHC-2 Mk.I, DHC-2 Mk.II, DHC-2 Mk.III

Canadian Type Certificate or Equivalent:

A-22

Description of Type Design Change:

Installation of a Cockpit Monorail Sunvisor System in accordance with FAA STC SA00810DE

Installation/Operating Data, Required Equipment and Limitations:

Installation must be in accordance with Rosen Sunvisor Systems Drawing List 1692000-DL, Revision C, dated November 9, 2015 or later Federal Aviation Administration (FAA) approved revision.

Maintenance must be in accordance with Rosen Sunvisor Systems Instructions for Continued Airworthiness 9100-1692-000, Revision E, dated November 16, 2015 or later FAA accepted revision.

Basis of certification for this modification is:

Civil Air Regulations (CAR) 3 as amended to November 1, 1949 plus FAR 25.853, amendment 25-116.

— End —

Conditions: This approval is only applicable to the type/model of aeronautical product specified therein. Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated **will not** adversely affect the airworthiness of the modified product.



Curtis Mah
For Minister of Transport



DHC-2 Beaver Monorail
Sunvisor System

Date	Rev	Approved
2/18/22	F	SYS

Drawing List
1692000-DL

Doc. # 9040-0169-003

Drawing	Replaces	Description	Rev.
1692000		Complete Assembly	B
1692100		Rail Assembly	A
1692101		Rail, Slotted	C
1692102		Rail, Formed	C
1692110		Bracket	B
1350460		Visor Assembly, 2 Axis Soft Touch	A
1131000-001		Complete Assembly Clamping Block	C
1130100-008		Clamping Block Sub Assembly W/O Roller	B
1130103-002		Nut Plate, Clamp Block	N
1130101-004		Clamping Block Body, Universal	L
1130102-005		End Cap, Left	H
1130102-006		End Cap, Right	H
1130104-002		Rod	F
1120112		Knob, 2 Lobe, Soft Touch, 10-24	B
1120110		Thumb Knob, Core	B
1120203		Swivel Clamping Block	P
1350401		Lens	K
1110202		Swivel Nut Plate	E
R1350401		Lens Replacement Kit	K
9100-1692-000		Component Maintenance Manual With Illustrated Parts List	E



Beaver Monorail Sunvisor System

Rosen Kit Number R1692000



**Component Maintenance Manual
with Illustrated Parts List
and Instructions for Continued Airworthiness**

**Manual Number
Rosen 9100-1692-000
Revision E**

November 16, 2015

Rosen Sunvisor Systems LLC
86365 College View Road
Eugene, Oregon 97405 USA

Rosen Sunvisor Systems CMM / IPC for Sunvisor Assembly (p/n R1692000)

The ICA on page 11 must be followed when the R1692000 Sunvisor system is installed in accordance with Supplemental Type Certificate, (STC) No.

SA00810DE, dated 03/17/16.

The information contained in this document supplements or supersedes the basic manual only in those areas listed herein. For limitations, procedures, and performance information not contained in this manual, consult the basic aircraft ICA or Maintenance Manual.

STATEMENT OF Rev A CERTIFICATION

This manual complies with Federal Aviation Association (FAA) Airworthiness Requirements Part 23.

FAA Acceptance: Chris McVay (ASI) Date: 12/17/15.

The above certification does not apply to revisions or amendments made after the date of initial certification by other Approved Organizations. Revisions or amendments made by other Approved Organizations must be separately certified and recorded on separate record sheets

Record of Revisions

Rev	Description	Date	Approved
A	Initial Release	7/16/12	GH
B	Under 'Removal', p.6, deleted 'Assembly' from 1. title and 'Disassembly' from 2. title	2/7/13	GH
C	Add installation information and figure references.	9/27/2013	GH
D	Add placard reference to installation instruction and placard note.	1/12/2015	GH
E	Add instruction for installation without wooden detail; Add screw and nut plate specifications. Various Page Numbering corrections. Remove Flight Control reference in 3 places on pages 8 and 9.	11/16/2015	GH

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Introduction

1. General

- a. This Rosen Component Maintenance Manual provides use, maintenance and continued airworthiness instructions for the cockpit Sunvisor system used on the Viking Air Limited (formerly Bombardier and DeHavilland) DHC-2 Beaver aircraft.
- b. Rosen reserves the right to revise this document for changed procedures, improved parts or changes to the system or components.
- c. All technical support, spare sales, repairs or modifications are to be directed directly to Rosen Sunvisor Systems LLC. RSS must be contacted for future revision of this document as it is possible this does not contain the latest revisions.

2. Revision Service

Current revision status and revisions to this document may be obtained from Rosen Sunvisor Systems' website: www.rosenvisor.com. We recommend that you periodically check to make sure you are using the most current version.

Fault Isolation

1. General

- a. This section identifies Probable Causes and Corrections for possible faults.

Problem	Probable Cause	Corrective Action
Visor assembly does not slide easily on rail	Thumb knob too tight	Loosen knob and slide using knob
Lens does not rotate smoothly on vertical axis	Vertical pivot tension incorrectly set	Re-tension vertical pivot
Visor clamp does not hold to rail	Moisture, dust, and lubricant on rail	Wipe rail and clamp surface with non-residual cleaner.

Product Description

General

- a. The Rosen Sunvisor System consists of one rail and two visor assemblies which have been designed to improve pilot comfort during standard cockpit operations. The rail assembly is fastened to the airframe on provided hard points to provide stability and support. The aft section of each rail is the stow location for the visor.

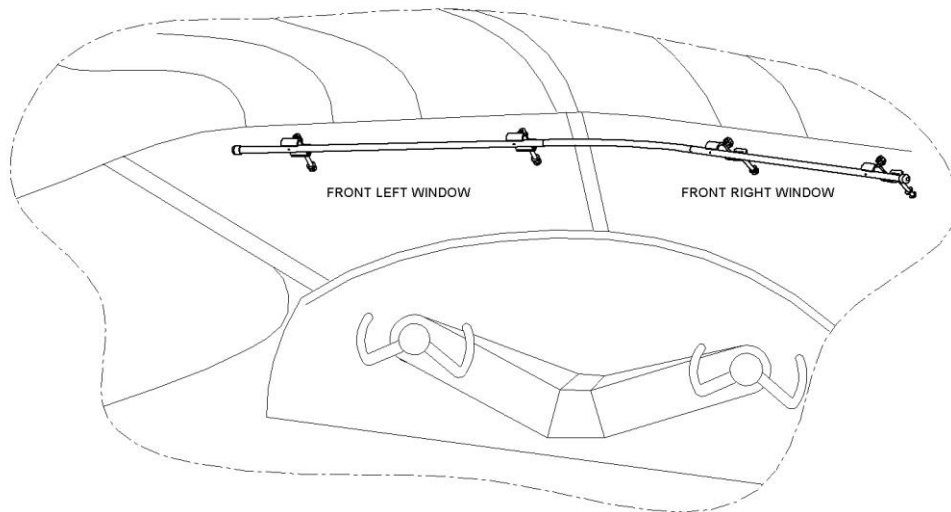
Installation Instructions

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

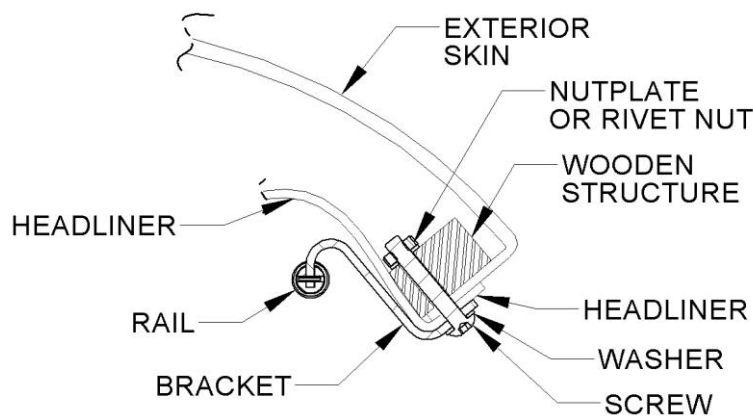
NOTE: This installation is to be completed by a qualified aircraft mechanic and an FAA Form 8130-3 (Airworthiness Approval Tag) must be completed.

1. Rail installation:

With Wooden Interior Detail



Pic 1



Pic 2

SECTION THRU BRACKET
NOT TO SCALE
4X

- a. With assistance position rail assembly in cockpit centered on cockpit features with rail mounting points on inner surface of upper windscreen (Pic 1).
- b. Locate and mark the center of mounting points on overhead lining.

Rosen Sunvisor Systems CMM / IPC for Sunvisor Assembly (p/n R1692000)

- c. Refer to the OEM manual for removal of the lining. Transfer mounting points from lining material to aircraft structure behind lining (Pic 2).
- d. Drill holes at marked locations through the aircraft flange and wooden backing piece and install a #8-32 or #10-32 wood 'T' nut (McMaster-Carr 90975A012 or 90975A015) on back side of wood piece.
- e. Treat all drilled and exposed aluminum surfaces with Henkel Alodine® 1132 Touch-n-Prep coating stick per Mil-DTL-81706.
- f. If necessary make a clearance holes in lining material for screw fasteners.
- g. With assistance, hold rail in place and attach with CAD or Zinc plated NASM525 #8-32 or #10-32 Corrosion Resistant fasteners of appropriate length and MS15795 Passivated Stainless flat washers.
(Note: Be sure to use the same size screw and 'T' nut)
Do not tighten fasteners until all are in place.
- h. Tighten all fasteners to full closure plus ¼ turn
- i. Verify that no placard information is affected by the installation of the visor rail.

Without Wooden Interior Detail

- a. With assistance position rail assembly in cockpit centered on cockpit features with rail mounting points on inner surface of upper windscreen (Pic 1).
- b. Locate and mark the center of mounting points on overhead lining.
- c. Refer to the OEM manual for removal of the lining. Transfer mounting points from lining material to aircraft structure behind lining (Pic 2 without wooden structure).
- d. Drill holes at marked locations through the structure (Treat all drilled and exposed aluminum surfaces with Henkel Alodine® 1132 Touch-n-Prep coating stick per Mil-DTL-81706) and install MS21075 #8-32 or #10-32 floating fastener plates to aircraft flange.
- e. If necessary make a clearance hole in lining material for screw fastener.
- f. With assistance, hold rail in place and attach with CAD or Zinc plated NASM525 #8-32 or #10-32 Corrosion Resistant fasteners of appropriate length and MS15795 Passivated Stainless flat washers.
(Note: Be sure to use the same size screw and Floating Nut Plate)
Do not tighten fasteners until all are in place.
- g. Tighten all fasteners to full closure plus ¼ turn
- h. Verify that no placard information is affected by the installation of the visor rail.

2. Visor installation

- a. Loosen knob until visor clamp is open enough to slip over rail.
- b. Tighten screw knob to closure and install e-clip into groove on end of knob screw. See figures 4 and 5 on pages 13 and 14.

Rosen Sunvisor Systems CMM / IPC for Sunvisor Assembly (p/n R1692000)

- c. Verify that no placard information is affected by the visor installation or use.

NOTE: If this installation causes interference with any Placard information it is the installers' responsibility to relocate the Placard information appropriately.

Removal

1. Visor

- a. Remove and retain e-clip from back of clamp block.
- b. Loosen the clamp screw until the clamp opens enough to remove from rail.
- c. Pull down to detach from the rail
- d. Reverse procedure to re-attach.

2. Rail

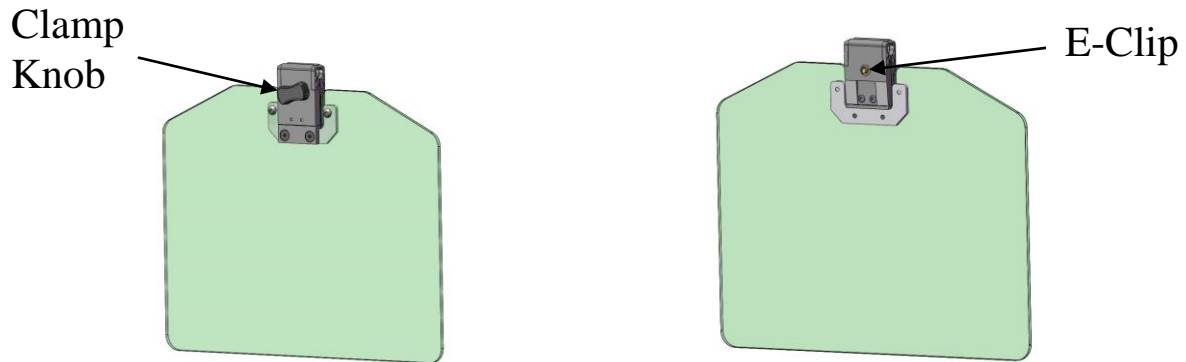
- a. Remove Visor Assemblies from the Rail. (See above)
- b. Remove 4 screws.

Weight and Balance

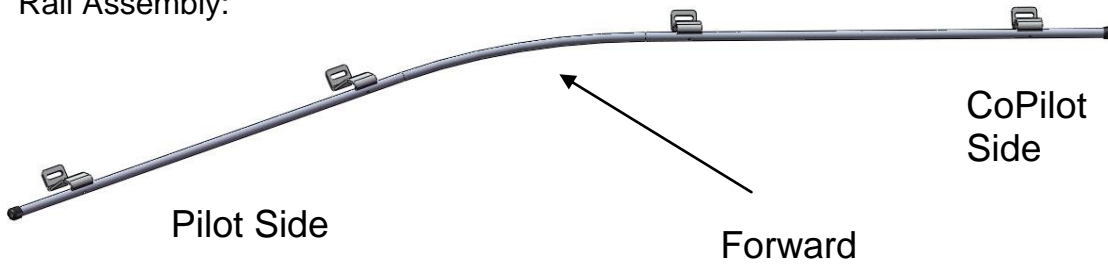
This system adds 1.85 lbs. at station 96 to the aircraft with visors at station 96.

Rosen Sunvisor Systems CMM / IPC for Sunvisor Assembly (p/n R1692000)

Visor Assembly:



Rail Assembly:



Repair

General

- a. All components that do not meet the requirements for continued use must be replaced.

Instructions for Continued Airworthiness

- (On the ground only)
 - Periodically clean the lenses with a soft cloth, mild soap and water or Rosen Cleaner, Polisher and Protectant. Do not use abrasives on the lens.
 - Periodically adjust the pivot tensions on the visor assemblies.
 - Periodically clean rail with a no residue alcohol based cleaner and inspect for wear and damage.

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.

Approved by

Richard R. Thomas FOR

Todd Dixon, Manager
Aircraft Certification Office
Federal Aviation Administration
Denver, CO

Date of Approval

MARCH 17, 2016

Illustrations and IPC

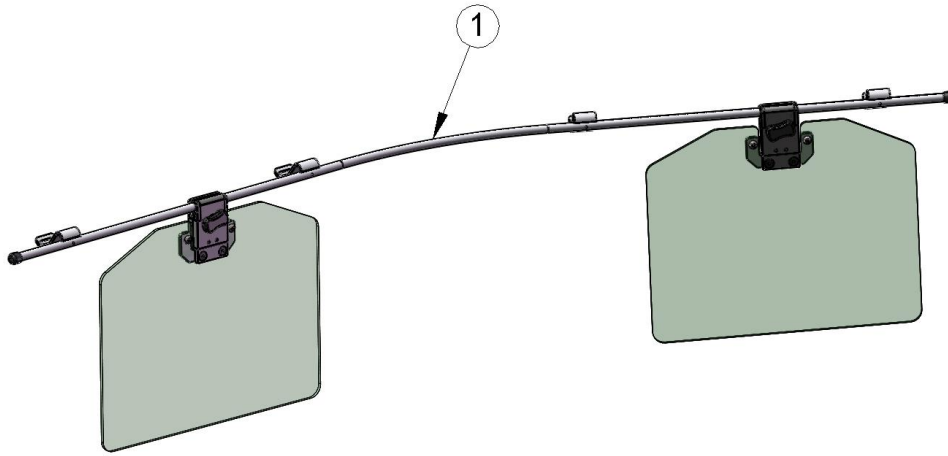


Fig 1

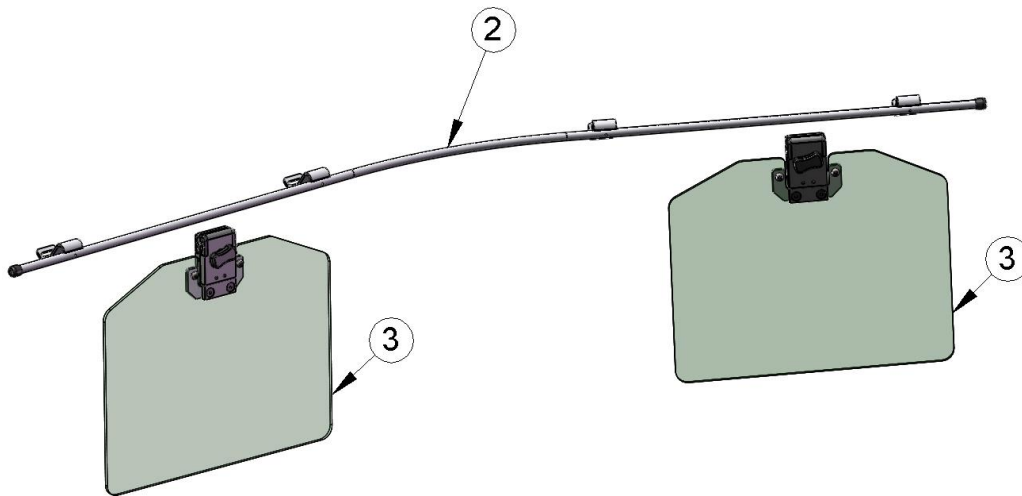


Fig 2

Rosen Sunvisor Systems CMM / IPC for Sunvisor Assembly (p/n R1692000)

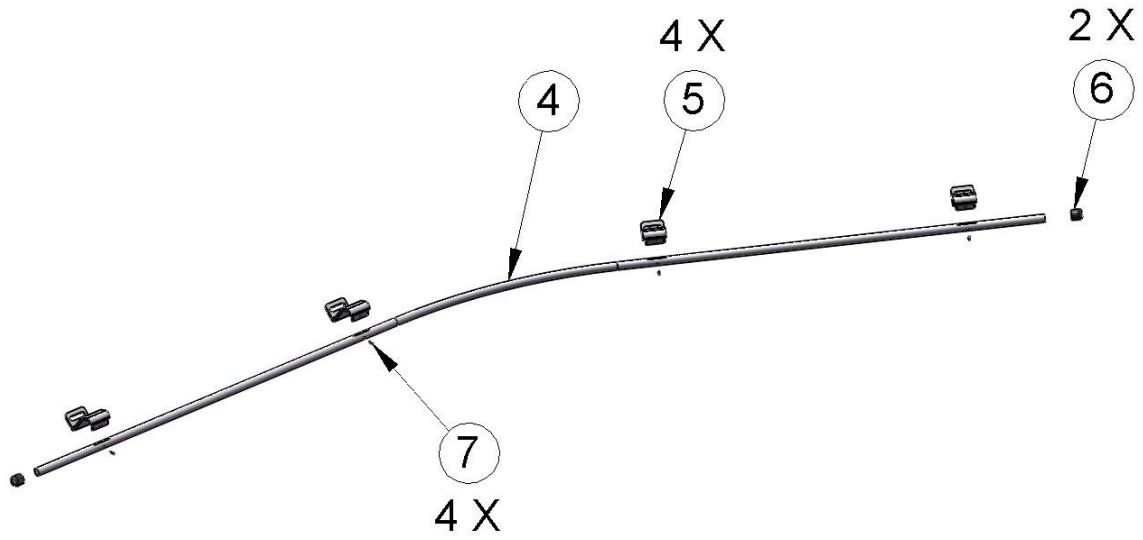


Fig 3

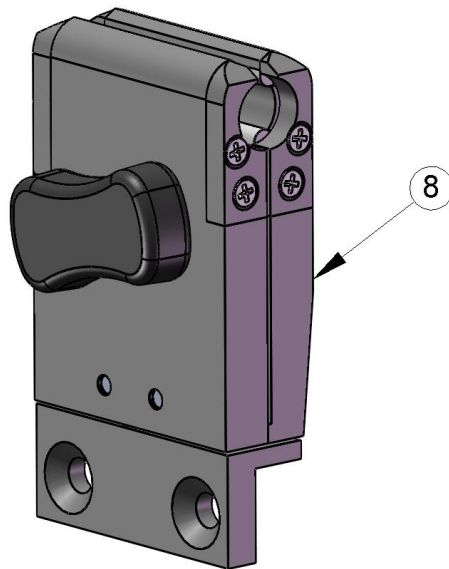


Fig 4

Rosen Sunvisor Systems CMM / IPC for Sunvisor Assembly (p/n R1692000)

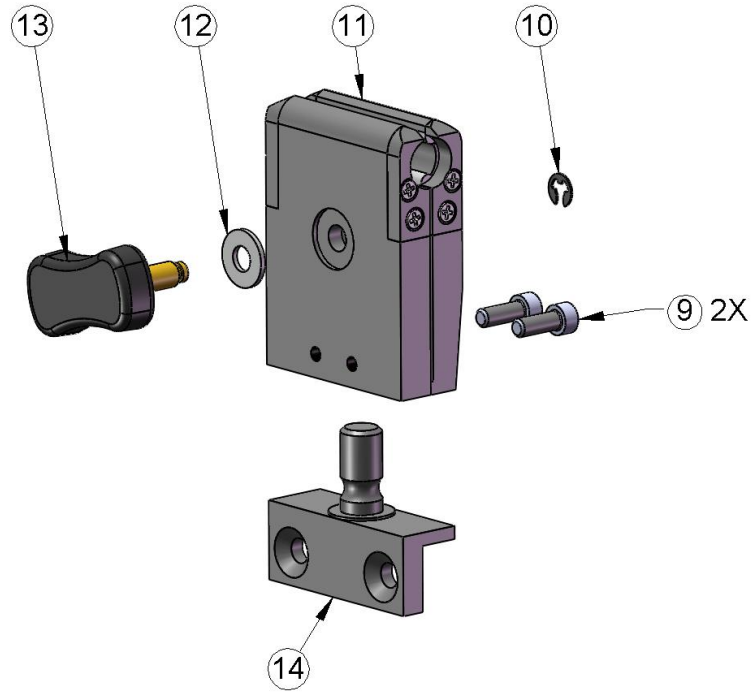


Fig 5

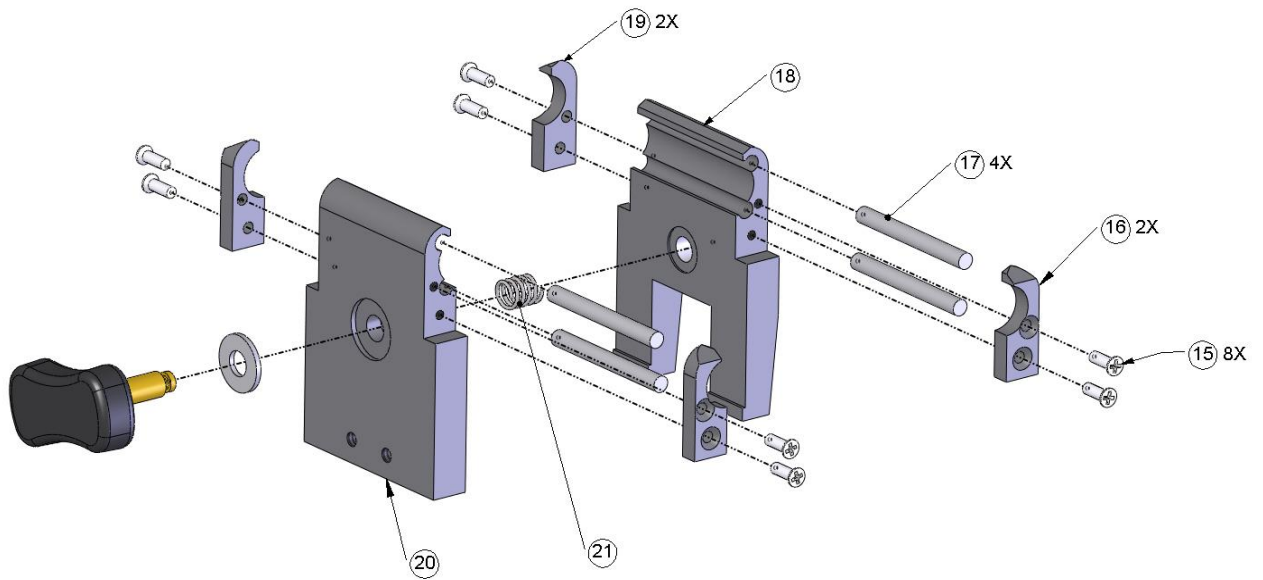


Fig 6

Rosen Sunvisor Systems CMM / IPC for Sunvisor Assembly (p/n R1692000)

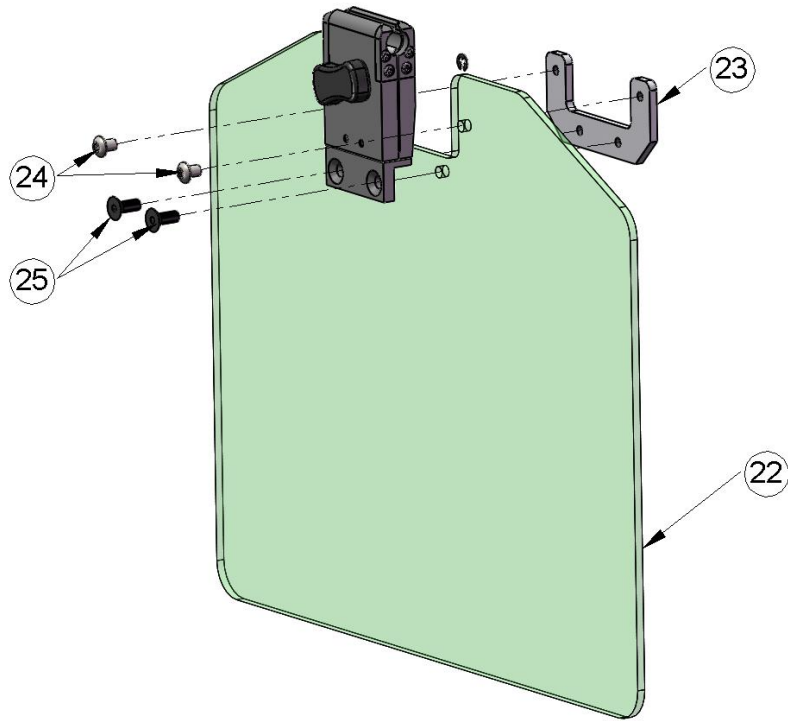


Fig 7

Rosen Sunvisor Systems CMM / IPC for Sunvisor Assembly (p/n R1692000)

Part List

Fig. No	Fig. Item	Part Number	Description	Reference	Eff	QTY
1	1	R1692000	Beaver Monorail System w/ 2 Visors; Complete System			System
2	2	1692100	Rail Assembly			1
2	3	1350460	Visor Assembly, 2 Axis, Soft Touch			2
3	4	1692101	Rail Slotted			1
3	5	1692110	Bracket			4
3	6	2819-0005	Vinyl Cap - Black			2
3	7	MS16562-190	Roll Pin (1/16x1/4 SS)			4
4	8	1131000-001	Complete Clamping Block			2
5	9	MS16995-17B	#6-32 X .375 Socket Head Cap Screw (Black)			4
5	10	PCS-1000-14-STZO	Clamping Block E-Clip			2
5	11	1130100-008	Clamping Block Sub Assembly			2
5	12	8HCLW	Washer #10 Brass*			2
5	13	1120112	Knob, 2 Lobe, Soft Touch, 10-24*			2
5	14	1120203	Swivel Clamping Block*			2
6	15	256X14FHPSSBLKOX	Scr #2-56 X .25 FLH Phil 100 SST BIK*			16
6	16	1130102-005	End Cap, Left*			4
6	17	1130104-002	Rod*			8
6	18	1130103-002	Nut Plate, Clamp Block*			2
6	19	1130102-006	End Cap, Right*			4
6	20	1130101-004	Clamp Block Body*			2
6	21	RCBS-300-18	Clamping Block Spring*			2
7	22	1350401	Lens			2
7	23	1110202	Swivel, Nut Plate			2
7	24	832X14BSHCSSBP	#8-32 X .25 Button Head Socket Screw (Black Patch)			4
7	25	832X716FSHCSSBP	#8-32 X .4375 Flat Socket Screw (Black Patch)			4