

United States of America
Department of Transportation - Federal Aviation Administration
Supplemental Type Certificate

Number SA01625SE

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 thereof as specified herein meets the airworthiness requirements of Part 23 of the Federal Aviation Regulations.

Original Product—Type Certificate Number: A25SO
Make: Piper
Model: PA-46-350P, PA-46-500TP and PA-46R-350T

Description of the Type Design Change:

Cockpit Sun Visor installation in accordance with Federal Aviation Administration (FAA) approved Rosen Sunvisor Systems Drawing List 1290000-DL, Revision B, dated November 15, 2005, or later FAA approved revision.

Limitations and Conditions:

Approval of this change in type design applies to Piper Malibu Meridian Model PA-46-500TP and Piper Malibu Mirage Model PA-46-350P with serial numbers above #4636021 and Piper Malibu Matrix Model PA-46R-350T all serial numbers. This approval should not be extended to other aircraft of this model 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 the aircraft. A copy of this Certificate and Rosen Sunvisor Systems Drawing List 1290000-DL, Revision B, dated November 15, 2005, or later FAA approved revision must be maintained as part of the permanent records for 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: July 5, 2004

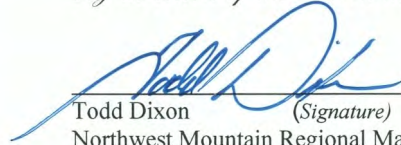
Date reissued:

Date of issuance: December 15, 2005

Date amended: February 11, 2014



By direction of the Administrator


Todd Dixon (Signature)
Northwest Mountain Regional Manager
Denver 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.



Monorail Sunvisor System
for Piper Malibu

Date	Revision	Approved
2/17/22	J	SYS

Mirage (PA-46-350P)
Matrix (PA-46R-350T)
Meridian (PA-46-500TP)

Drawing List 1290000-DL

Doc. #9040-0129-001

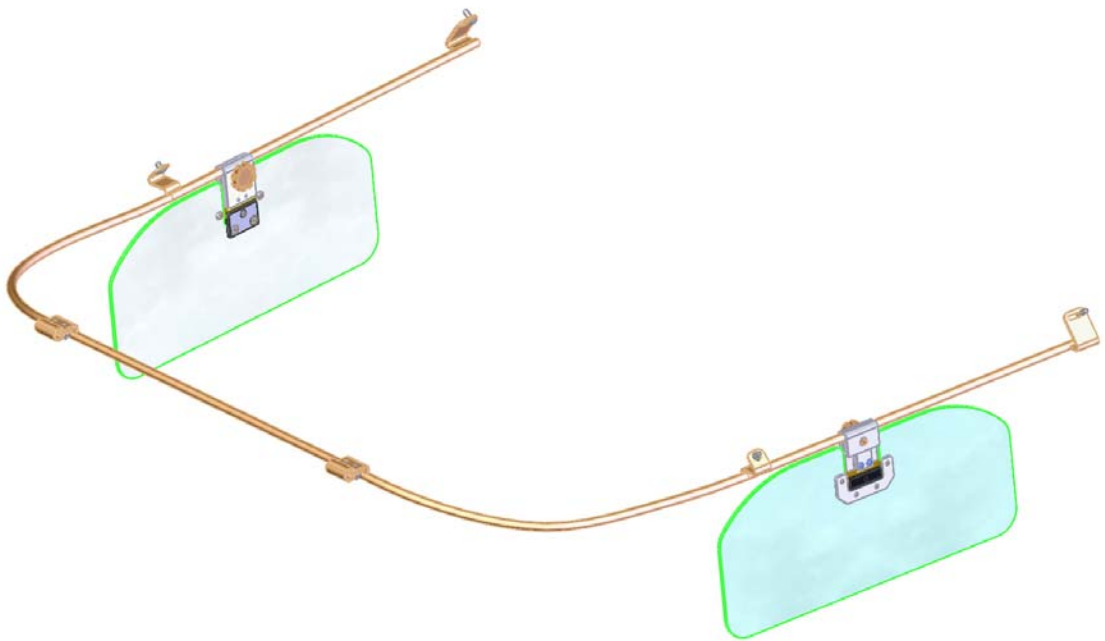
R1291000	R1290000	DRAWING	REPLACES	DESCRIPTION	REV
	(1)	1290000		Complete System (Mirage)	C
	1	1290100		Monorail Assembly	C
	1	1290101		Monorail	B
	2	1290102		Front Bracket – Bottom	A
	2	1290103		Front Bracket – Top	B
	2	1290104		Rear Bracket	A
	2	1290105		Standoff	B
(1)		1291000		Complete System (Mirage, Meridian, Matrix)	C
2		1290108		Bracket, Front-Bottom	C
1		1291100	R1291100	Monorail Assembly	C
1		1290106		Monorail	B
2		1290105		Stand-off	B
2		1290107		Bracket, Front-Top	B
2		1290109		Bracket, Rear	C
(2)	(2)	1290500	R1290500	Visor Assembly	C
2	2	1290501		Lens	B
2	2	1110202		Swivel Nut Plate	E
2	2	1120000-003		Complete Assembly	K
2	2	1120101-001		Nut Plate Standard	L
2	2	1120102-001		Clamping Block Body	L
2	2	1120104		Thumb Knob – Standard	M
(2)	(2)	1120200		3 rd Axis Assembly	D
2	2	1120208		Sleeve Leg	C
2	2	1120207		Sleeve, Body	C
2	2	1120220		Swivel Assembly	D
1	1	9041-0129-001		Component Maintenance Manual/Illustrated Parts List/Instructions for Continued Airworthiness	E

		RCBS-300-11M 1120104-002 RCBS-300-18 PCS-1000-14- STZ R1290501	KITS	Kit, Standard Thumb Knob Thumb Knob Spring E-Clip Lens	D M B
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Piper Malibu Monorail Sunvisor System

Rosen Kit Number R1290000, R1291000



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

**Manual Number
Rosen 9041-0129-001
Revision E**

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

**Rosen Sunvisor Systems CMM/ICA/IPC for Sunvisor Assembly (p/n
R1290000, R1291000)**

This ICA must be followed when the R1290000 or R1291000 Sunvisor system is installed in accordance with Supplemental Type Certificate, (STC) No.

SA01625SE, dated 10/15/2005, amended 2/11/2014.

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 E CERTIFICATION

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

FAA Acceptance: STC SA01625SE Date: 2/11/14

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

**Rosen Sunvisor Systems CMM/ICA/IPC for Sunvisor Assembly (p/n
R1290000, R1291000)**

Record of Revisions

Rev	Description	Date	Approved
A	Preliminary Release	10/20/2005	GH
B		11/15/2005	GH
C		10/15/2007	GH
D	Combined 9041-0129-001 and 9041-0129-002 into single CMM, revised format	7/10/2013	GH
E	Page 11; Renamed 'Continued Airworthiness Instructions' to 'Instructions for Continued Airworthiness' and incorporated AEG comments. Pages 6-8 added comments from AEG for inspection after installation.	1/15/2014	GH

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**Rosen Sunvisor Systems CMM/ICA/IPC for Sunvisor Assembly (p/n
R1290000, R1291000)**

Introduction

1. General

- a. This Rosen Component Maintenance Manual provides use, maintenance and supplemental airworthiness instructions for the cockpit sunvisor systems used on the Piper Malibu aircraft models PA-46-350P (Mirage), PA-46-500TP (Meridian), and PA-46R-350T (Matrix).
- 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.

**Rosen Sunvisor Systems CMM/ICA/IPC for Sunvisor Assembly (p/n
R1290000, R1291000)**

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.

Rosen Sunvisor Systems CMM/ICA/IPC for Sunvisor Assembly (p/n R1290000, R1291000)

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. The R1290000 system is designed for installation in the Mirage, however the cockpit configuration should be checked to determine compatibility. The R1291000 system rail is 3.32 inches shorter than the R1290000 system rail and can be installed in all models listed on the STC.

Installation Instructions for R1290000

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

1. Rail installation

1. Remove both stock visors and clamping components from the mounting barrels.
2. Pull out both pilot side passenger compartment light bezels and the one on the co-pilot's side (just in front of the emergency exit door).
3. Remove the four screws retaining the lamp trim pieces on the pilot's side.
4. Slide the trim piece aft then lower it and disconnect both lamp plugs.



Note: Do not attempt to disconnect at the lamp assembly. The cable connector may be hidden in the aircraft framework.

5. Repeat for the lamp on the co-pilot side.
6. Remove forward most side carpet panel screw on each side. This location may be used for the side monorail attachment.
7. Place monorail forward clips over the original visor mounting barrels at the front. It will be necessary to lower the rear of the rail to accomplish this.
8. Install Front-Bottom Brackets (1290102) and Nylon Washers (90295A110) with #6-32 Acorn Nuts (or AN526C832R5 #8-32 x 5/16 SS Truss Head Screws) and tighten to just snug.



**Rosen Sunvisor Systems CMM/ICA/IPC for Sunvisor Assembly (p/n
R1290000, R1291000)**

9. Raise the rear of the monorail until the slot in the rear mounting bracket aligns with the carpet panel screw location. (Removed in step 6.)

10. Assure rail is properly centered and aligned in cockpit.

Note: At this point the side rail brackets should be inboard of the overhead trim and in approximately the same position on each side.

11. Using a soft lead pencil carefully mark the location of the mid rail mount on the overhead trim piece on both sides. Consider that the inside bend in the bracket will be the edge of the trim piece.

12. Pull the overhead trim out enough to place a 'drill-stop' material behind the trim and drill a ¼ inch diameter hole through the trim material only. Clean the hole and remove the drill stop.

Note: The overhead trim is held in place with a Velcro type attachment. A thin prying tool makes it possible to lift the trim piece. After the completion of the installation press the overhead back in to position to reattach.

13. Raise the monorail and position the mid brackets behind the headliner trim piece and attach using the two #8-32 Nylon Washered screws.

14. Position the rear mounts and attach using the #8 self-tapping screws at the rear. If possible, use the same location as the side carpet attachment screws. If not, carefully drill a small starter hole located by the bracket slot. **Be careful to drill only through the thin mounting plate and be aware of any materials behind the plate.**



15. Tighten front fasteners.

Note: The rear mounting screws go through the brackets then through the carpeted side trim into the mounting plate.

16. Replace compartment lamp trim pieces.

Note: Be sure to reconnect lamp wiring and carefully stow the wires upon reassembly.

17. Re-affix all remaining fasteners and install lamp bezels.

18. Visor installation

- Loosen knob until visor clamp is open enough to slip over rail.
- Tighten screw knob to closure and install e-clip into groove on end of knob screw.

19. Upon completion inspect:

- All rail mounting fasteners are installed and secure.
- Verify that rail is secure against any movement.
- Verify that visors can be positioned and secured in all allowable positions.

Rosen Sunvisor Systems CMM/ICA/IPC for Sunvisor Assembly (p/n R1290000, R1291000)

NOTE: This system is not intended to be used as a hand hold. Do not use as a hand hold.

Installation Instructions for R1291000

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

1. Rail installation

2. Remove both stock visors and clamping components from the mounting barrels.
3. Place monorail forward clips over the original visor mounting barrels at the front. It will be necessary to lower the rear of the rail to accomplish this.
4. Install Front-Bottom Brackets (1290108) and Nylon Washers (90295A110) with #6-32 Acorn Nuts and tighten to just snug.
5. Raise the rear of the monorail until the inside of the bend in the brackets aligns with the bottom of the overhead liner.
6. Assure rail is properly centered and aligned in cockpit.

Note: At this point the four side rail brackets should be inboard of the overhead trim and in approximately the same position on each side.

7. Using a soft lead pencil carefully mark the location of each rail mount on the overhead trim piece on both sides. Consider that the inside bend in the bracket will be the edge of the trim piece.

Note: It will probably be necessary to have help holding the rail in place.

8. Pull the overhead trim out enough to place a 'drill-stop' material behind the trim and drill a ¼ inch diameter hole through the trim material only. Clean the hole and remove the drill stop.

Note: The overhead trim is held in place with a Velcro type attachment. A thin prying tool makes it possible to lift the trim piece. After the completion of the installation press the overhead back in to position to reattach.

Raise the monorail and position the mid brackets behind the headliner trim piece and attach using the four #8-32 Nylon Washered screws.

9. 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.

10. Upon completion inspect:

- a. All rail mounting fasteners are installed and secure.
- b. Verify that rail is secure against any movement.
- c. Verify that visors can be positioned and secured in all allowable positions.



**Rosen Sunvisor Systems CMM/ICA/IPC for Sunvisor Assembly (p/n
R1290000, R1291000)**

NOTE: This system is not intended to be used as a hand hold. Do not use as a hand hold.

System Use

- To move: Loosen the clamp block slightly and slide the visor along the rail by pushing sideways on the knob. Re-tighten in new location.
- To stow: Move the visor to the stow position and tension to prevent movement on the rail. Some pilots may prefer to stow overhead by tightening the clamp to the point that the visor can be rotated overhead without dropping.

Removal

1. Visor Assembly

- 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 Disassembly

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

Weight and Balance

This weight and balance information is provided to update the aircraft Weight and Balance Record in the maintenance manual and Basic Empty Weight.

The R1290000 system adds 3.0 lbs. at station 143 to the aircraft with visors at the stow position.

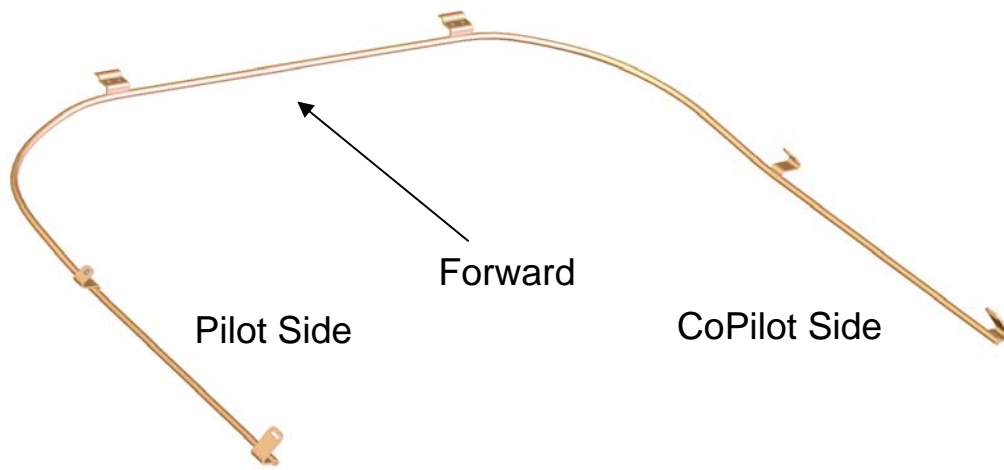
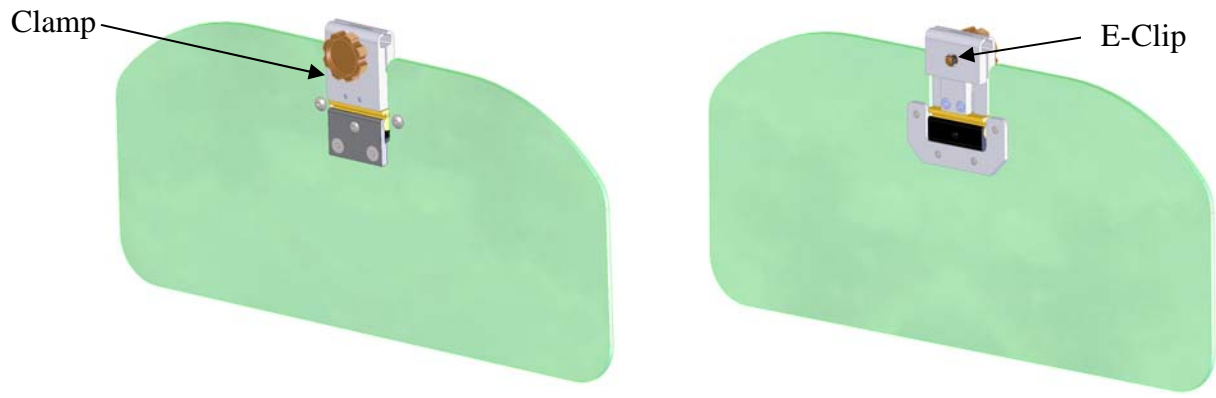
The R1291000 system adds 2.9 lbs. at station 143 to the aircraft with visors at the stow position.

Repair

General

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

Rosen Sunvisor Systems CMM/ICA/IPC for Sunvisor Assembly (p/n R1290000, R1291000)



**Rosen Sunvisor Systems CMM/ICA/IPC for Sunvisor Assembly (p/n
R1290000, R1291000)**

Instructions for Continued Airworthiness

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

Airworthiness Limitations

1. 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.
 - 1.1. There are no airworthiness limitations associated with this installation.

Rosen Sunvisor Systems CMM/ICA/IPC for Sunvisor Assembly (p/n R1290000, R1291000)

Illustrations and IPC

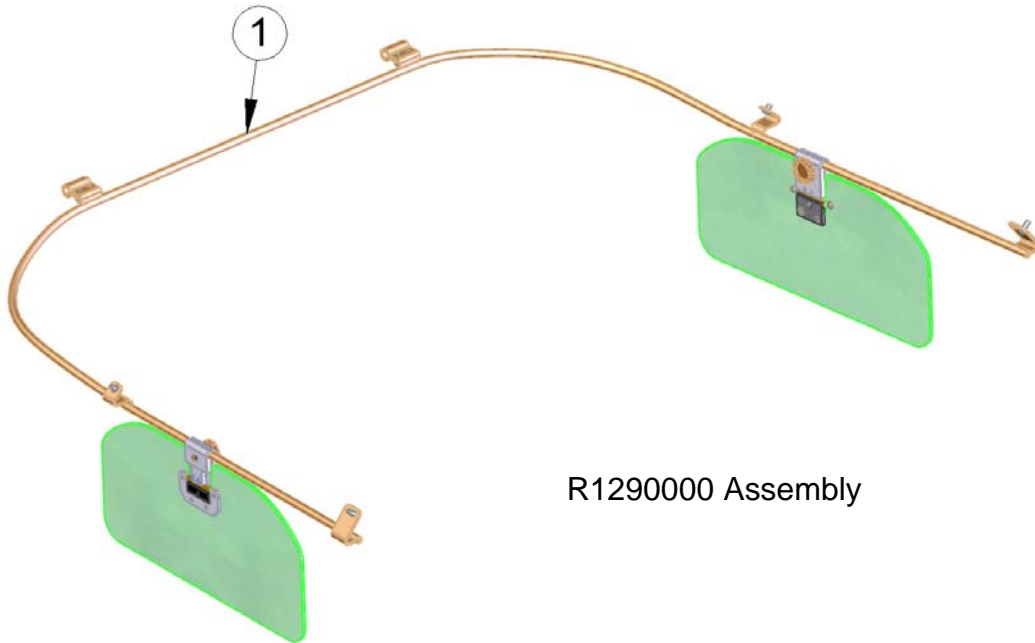


Fig 1

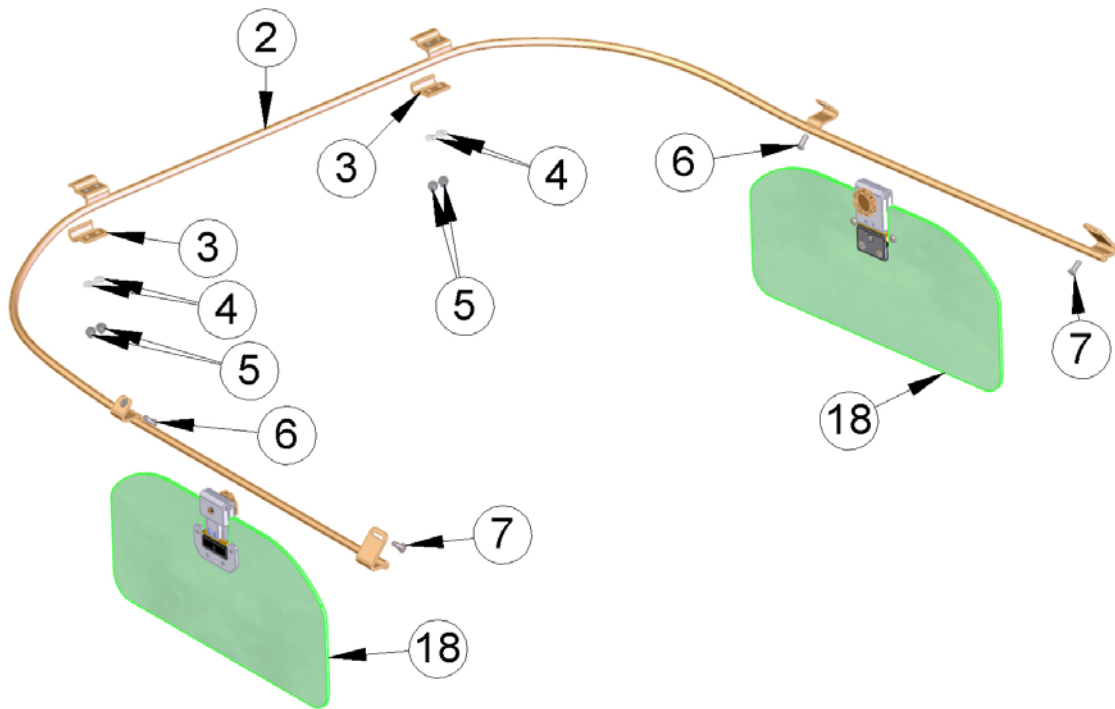


Fig 2

Rosen Sunvisor Systems CMM/ICA/IPC for Sunvisor Assembly (p/n R1290000, R1291000)

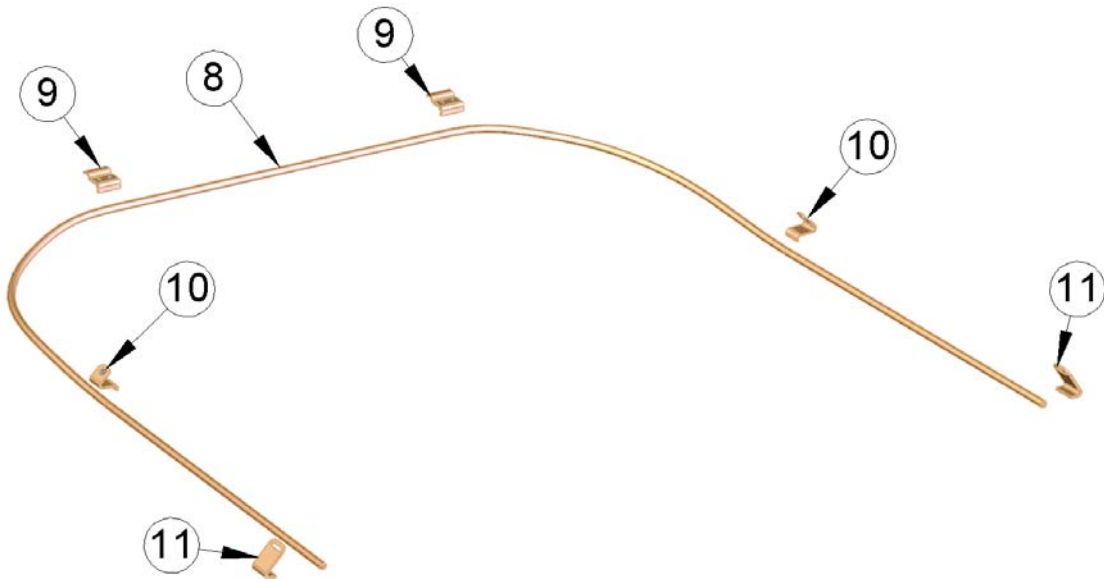
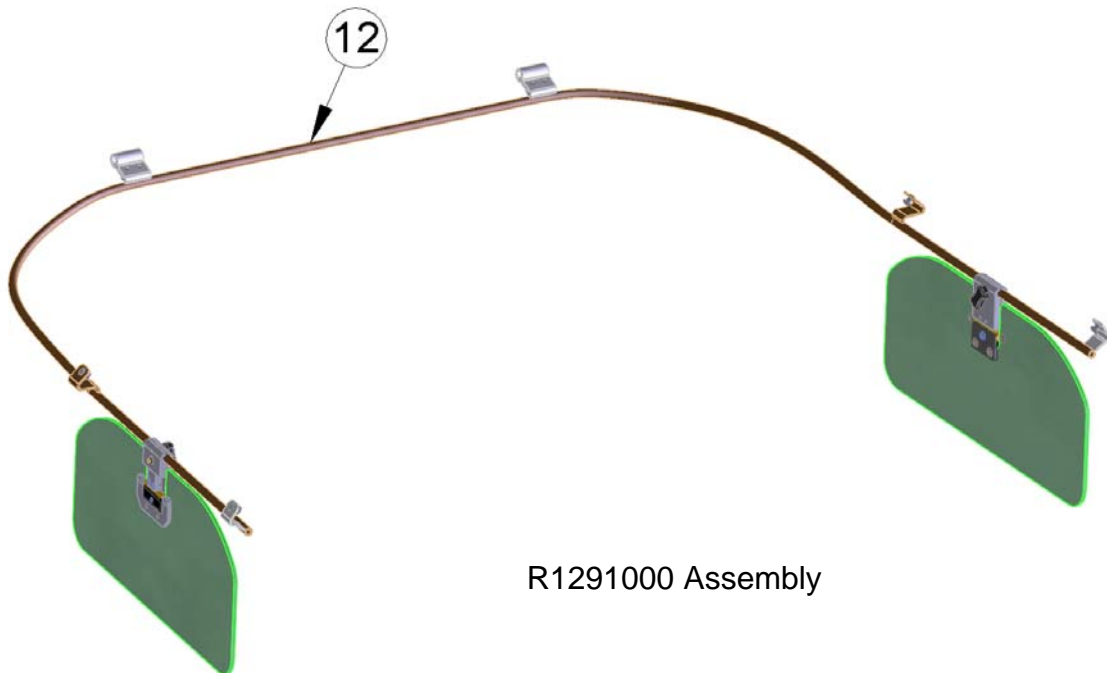


Fig 3



R1291000 Assembly

Fig 4

Rosen Sunvisor Systems CMM/ICA/IPC for Sunvisor Assembly (p/n R1290000, R1291000)

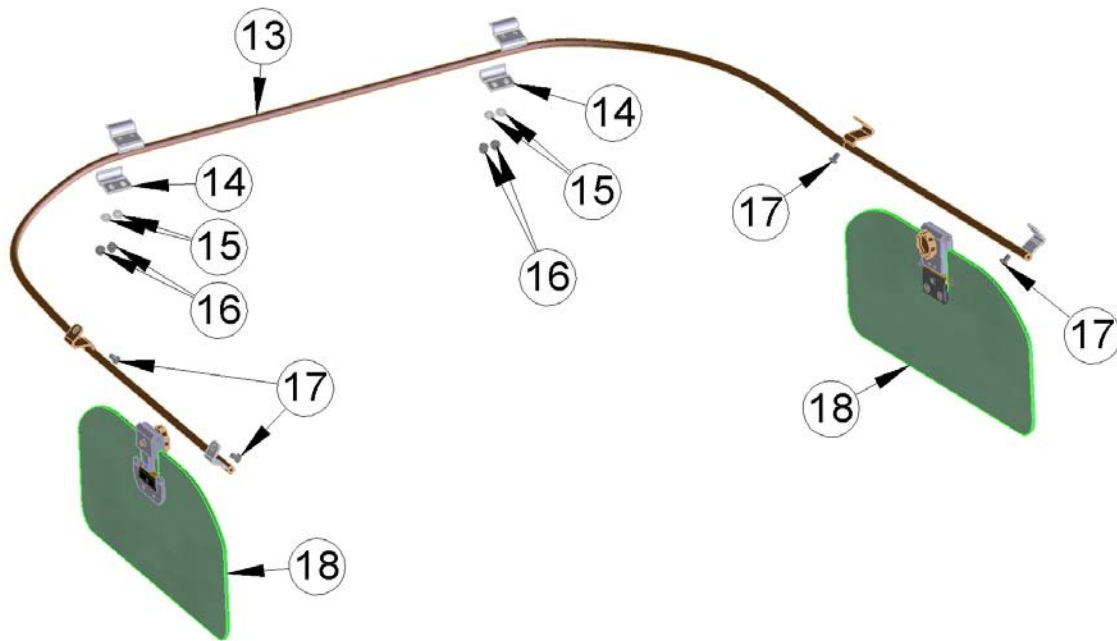


Fig 5

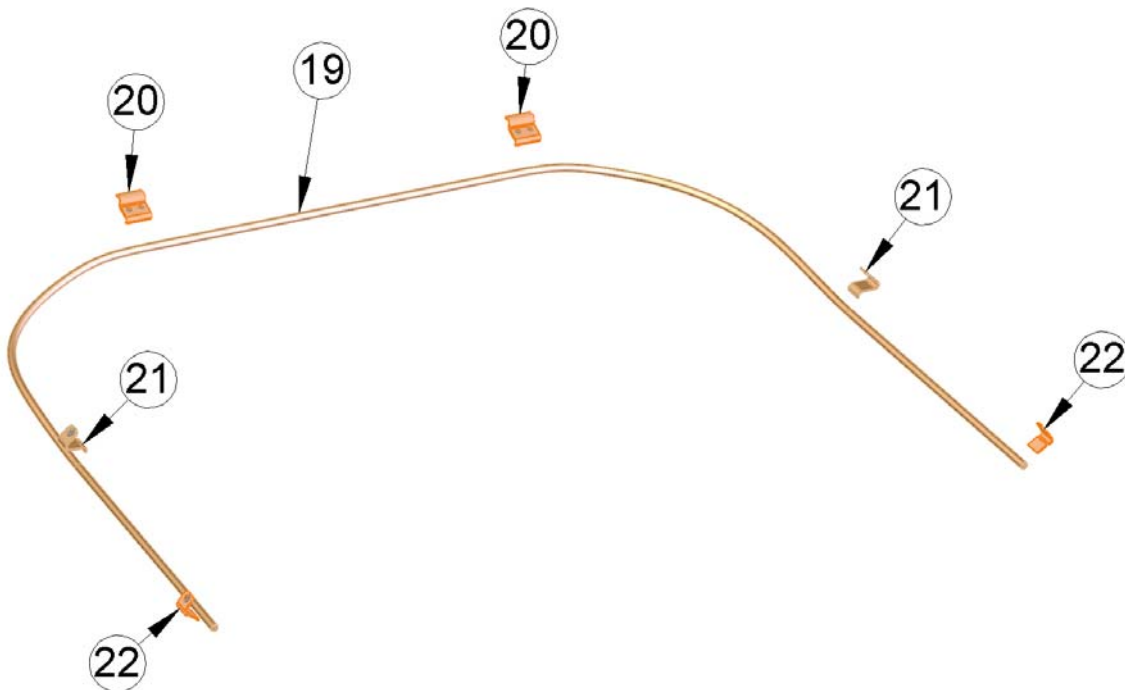


Fig 6

Rosen Sunvisor Systems CMM/ICA/IPC for Sunvisor Assembly (p/n R1290000, R1291000)

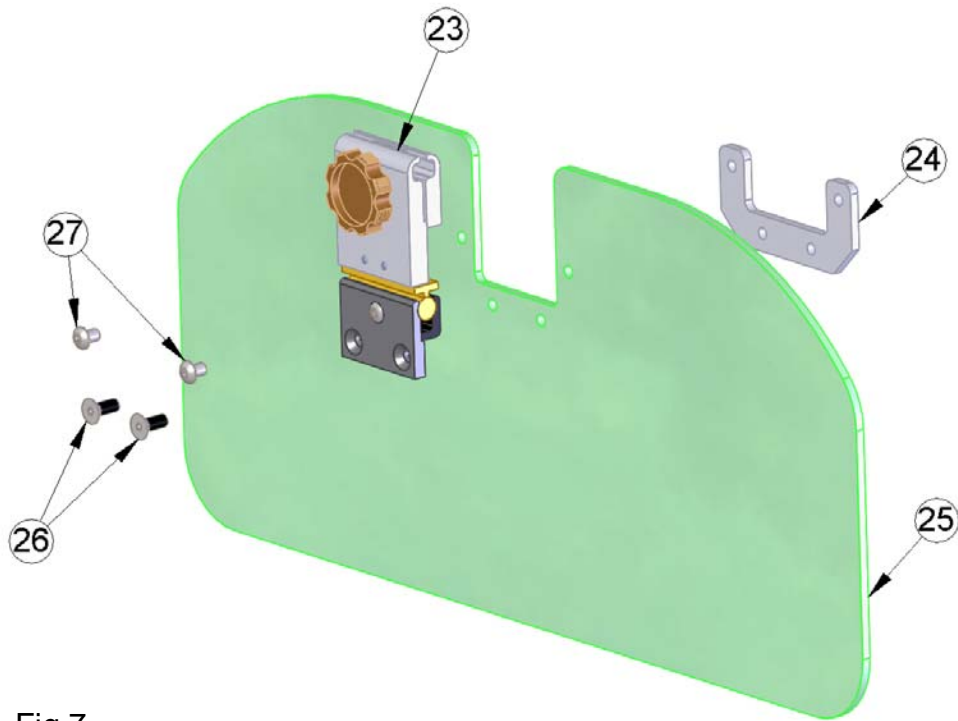


Fig 7

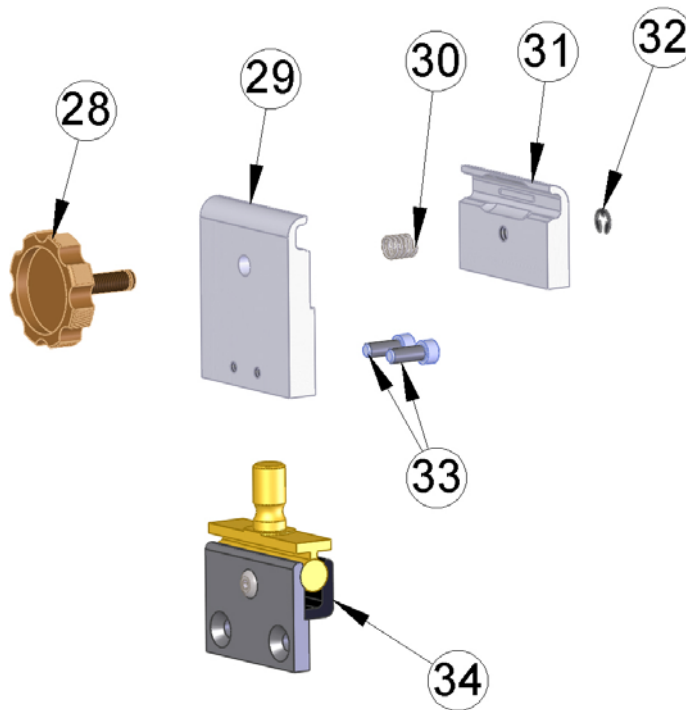


Fig 8

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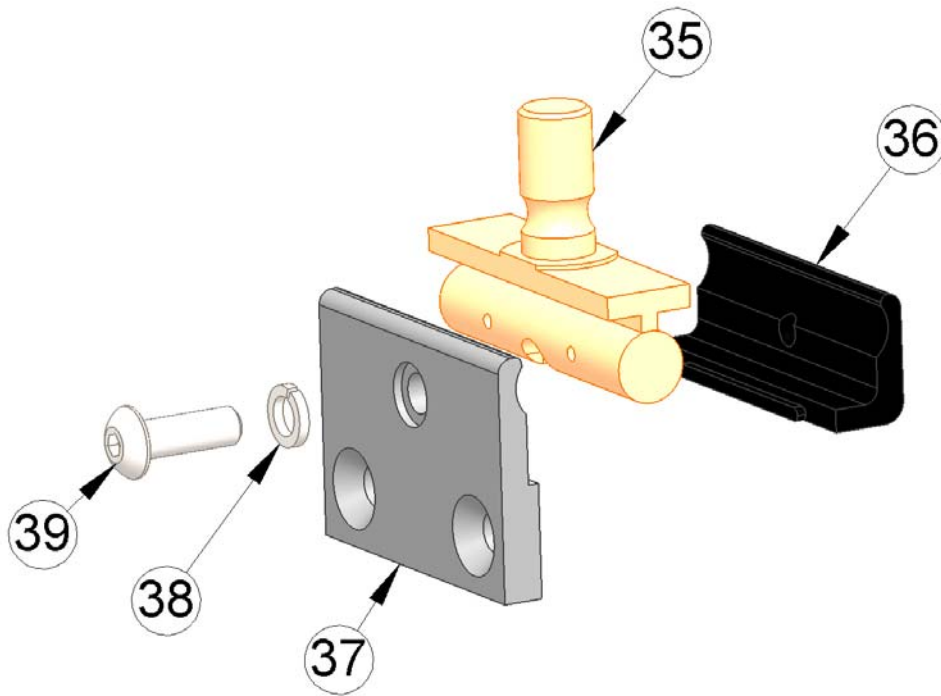


Fig 9

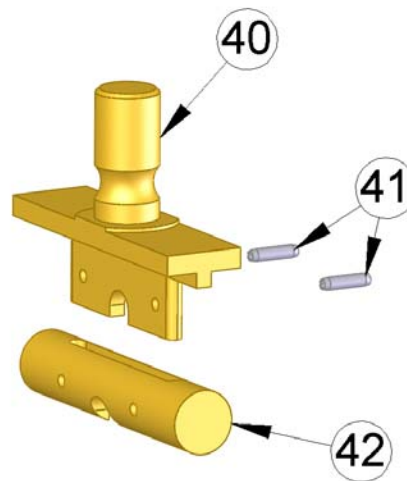


Fig 10

**Rosen Sunvisor Systems CMM/ICA/IPC for Sunvisor Assembly (p/n
R1290000, R1291000)**

Part List

Fig. No	Fig. Item	Part Number	Description	Reference	Eff	QTY
1	1	R1290000	Monorail System w/ 2 Visors; Complete System			System
2	2	1290100	Rail Assembly			1
2	3	1290102	Front Bracket Bottom			2
2	4	90295A110	Nylon Washer .06 X .405 OD - .175 ID			4
2	5	ALCNUT 0.1380-32-N (632NLINS)	#6-32 Acorn Nut			4
2	6	PS8C5CPG02NA	#8-32 X .3125 Nylon Washed PH SS Screw			4
2	7	MS51861-35C	#8-32 X .50 Phillips PH Self Tapping Screw			4
3	8	1290101	Rail			1
3	9	1290103	Front Bracket Top			2
3	10	1290105	Standoff			2
3	11	1290104	Rear Bracket			2
4	12	R1291000	Monorail System w/ 2 Visors; Complete System			System
5	13	1291100	Rail Assembly			1
5	14	1290108	Bracket Front Bottom			2
5	15	90295A110	Nylon Washer .06 X .405 OD - .175 ID			4
5	16	ALCNUT 0.1380-32-N (632NLINS)	#6-32 Acorn Nut			4
5	17	PS8C5CPG02NA	#8-32 X .312 Nylon Washed PH SS Screw			4
2&5	18	1290500	Visor Assembly			2
6	19	1290106	Rail			1
6	20	1290107	Bracket Front Top			2
6	21	1290105	Standoff			2
6	22	1290109	Rear Bracket			2
7	23	1120000-003	Clamping Block Assembly, 3 RD Axis			2
7	24	R1110202	Swivel Nut Plate			2
7	25	1290501	Lens			2
7	26	832X716FSHCSSBP	SCR #8-32 X .437 FLH HX SH 82 SST BLK P			4
7	27	832X14BSHCSSBP	SCR #8-32 X .25 HEX BHSCS SST BLK P			4

**Rosen Sunvisor Systems CMM/ICA/IPC for Sunvisor Assembly (p/n
R1290000, R1291000)**

8	28	1120104-002	Original Thumb Knob		2
8	29	1120102-001	Clamping Block Body		2
8	30	RCBS-300-18	Clamping Block Spring		2
8	31	1120101-001	Nut Plate Standard		2
8	32	PCS-1000-14-STZO	Clamping Block E-Clip		2
8	33	MS16995-17B	SCR #6-32 X .375 SHCS SST BLK		4
8	34	1120200	Lower Pivot Assembly		2
9	35	1120220	Swivel Assembly		2
9	36	1120208	Sleeve Leg		2
9	37	1120207	Sleeve, Body		2
9	38	8HCLW	Washer #8, Lock High Collar		2
9	39	832X12BHSCSB	Screw, #8-32X1/2 BSHC SS BLK		2
10	40	1120205	Swivel, Body		2
10	41	MS16562-190	Roll Pin (1/16 X ¼ SS)		4
10	42	1120206	Swivel, Barrel		2