

# Blue Sky Sun Visors

## RV-10 Installation Instructions

Tools needed:

- Portable drill
- 9/64" drill bit
- 5/64" drill bit
- 100 Degree Countersink Bit
- Phillips #2 Screwdriver
- Measuring tape
- Pencil

### Step One:

Preparation

- A. See the **Parts List Photo** at the end of these instructions for the names of the visor parts referred to in the following instructions.
- B. Loosen the Clamp Knob so that the Visor Screen slides easily on the Support Rod. Remove the Rod End Cap and slide the Visor Screen off of the Support Rod and set the Visor Screen aside.
- C. Turn the support rod so that it is in line with the swivel cylinder.

### Step Two:

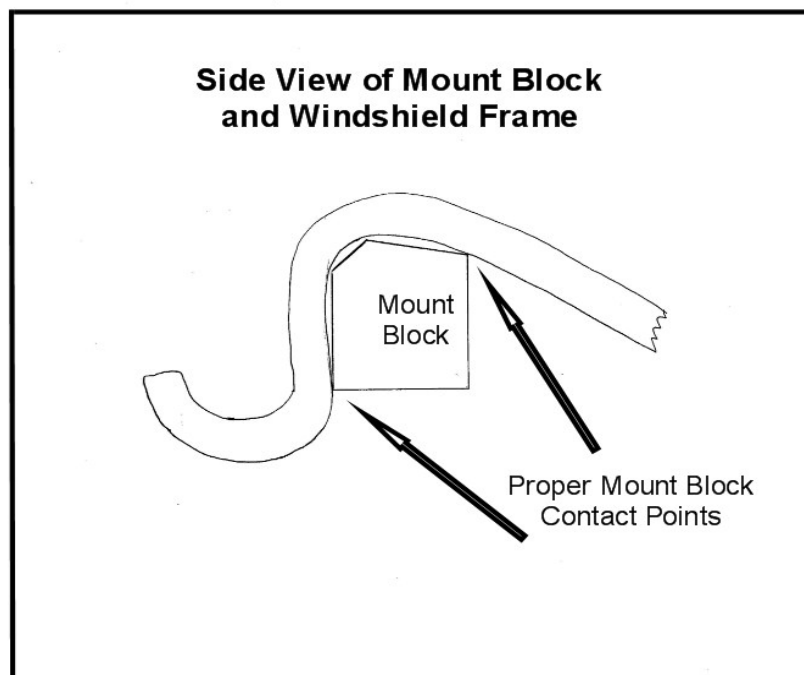
Mount Installation

- A. We recommend that you install the co-pilot side visor first. Measure a spot 14.5" from the center of the windshield center brace and make a mark on the forward side of the windshield/door frame. This spot should be about the level with the upper edge or the side window (door window)
- B. Put the 5/64" drill bit in your portable drill.
- C. With the previously removed Swivel Cylinder/Support Rod assembly in one hand and with the brass insert on the Mount Block facing toward the rear of the plane, push the entire assembly upward and rearward against the windshield/door frame to compress any fabric to the extent possible. While keeping the upward and rearward pressure on the assembly, drill a pilot hole at a slight upward angle through the center of the threaded brass insert with the portable drill as shown in the photo. Proper location of this hole is essential to assure that the entire assembly is free of movement when visors are in use.



### Drilling the Pilot Hole

**Note:** Because of variation of the fiberglass resin/glass in the area where the visor will be attached, it may be necessary to grind the airframe surface so that the mount block is free of movement when installed. When installed, only the lower rear surface and the upper forward surface of the mount block should be touching the airframe. Refer to the drawing below for the correct mount block-airframe contact points.



- D. Once the pilot hole is completed, enlarge the pilot hole with the 9/64" bit from the outside as shown. Keep the drill on a slight downward angle to maintain the hole angle the same as the pilot hole drilled earlier.



#### **Drill the Mount Block Screw Hole**

- E. Using the portable drill and countersink bit, bevel the edges of the hole enough to allow the Tinnerman washer to sit flush with the surface of the door/windshield frame.



#### **Piloted Countersink Bit**

- F. Take care to avoid snagging the fabric with the drill bit. We suggest some tape around the edges of the hole to protect the fabric from the drill bit.

- G. Insert the #6-32 X 1" flat head countersunk stainless Mount Block Screw through the Mount Block Washer and the windshield frame as shown until it is properly threaded into the brass insert. Take care to avoid cross threading the screw and brass insert.



- H. Tighten the Mount Block Screw as shown above until the Mount Block has **fully** compressed any fabric between the Mount Block and the airframe and it is free of fore and aft or side-to-side movement.

**Note:** *If there is some movement that can't be removed by simply tightening the Mount Block Screw, loosen the screw and consider inserting a small thin wood or plastic shim between the Mount Block and airframe at the correct contact points and then re-tighten the screw until movement is gone.*

### **Step Three:**

#### Visor Installation and Re-Assembly

- A. Separate the parts of the Visor Screen Assembly by removing the Clamp Knob and Clamp Knob Washer and unscrewing the Clamp Plate Screw from the Front Clamp Plate. Remove the protective paper by lifting at one of the corners and peel it off both sides.
- B. With the protective paper removed, re-assemble the co-pilot side Visor Screen Assembly by placing the Visor Screen on a table with the larger end to your left and the smaller tabbed end on the right. Place the Rear Clamp Plate under the smaller end of the Visor Screen and align the smaller holes of Visor Screen and the Rear Clamp Plate. Then place the Front Clamp Plate on top of the Visor Screen so the smaller *countersunk* hole is directly above the smaller hole in the Visor Screen. Insert the 1/2" long Clamp Plate Screw in the hole and tighten enough to have solid contact between all 3 pieces. Then align the 3 larger holes in the Front Clamp Plate, the Visor Screen, and the brass insert in the Rear Clamp Plate. Place the Clamp Knob Washer over the larger hole and insert the Clamp Knob through the washer and engage the threads in the Rear Clamp Plate.

- C. Tighten the Clamp Knob about 5 turns and slide the Visor Screen assembly onto the Support Rod. Swivel the Support Rod so that it is in a horizontal position. Then push the Support Rod through the 1/4" hole in the Rear Clamp Plate until it contacts the vinyl Support Rod Spacer at the base of the Support Rod.
- D. With the Visor Screen assembly hanging loosely on the Support Rod, grasp the larger end of the Visor Screen and push it up and down. It should move with little resistance in a vertical plane. This function allows the top of the Visor Screen to more closely align with the top of the windshield to provide better screening as the Visor Screen is moved along the Support Rod.
- E. Then tighten the Clamp Knob just enough so that the Visor Screen will not rotate or slide on the Support Rod. When tightened enough, a ½ turn of the Clamp Knob should be sufficient to slide the Visor Screen on the Support Rod. Do not over tighten the Clamp Knob to prevent deforming the Rear Clamp Plate.
- F. Replace the vinyl Rod End Cap and installation and assembly of your co-pilot side Blue Sky Sun Visors is finished.



Co-Pilot Visor Installed

**Step Four:**

Pilot side Installation

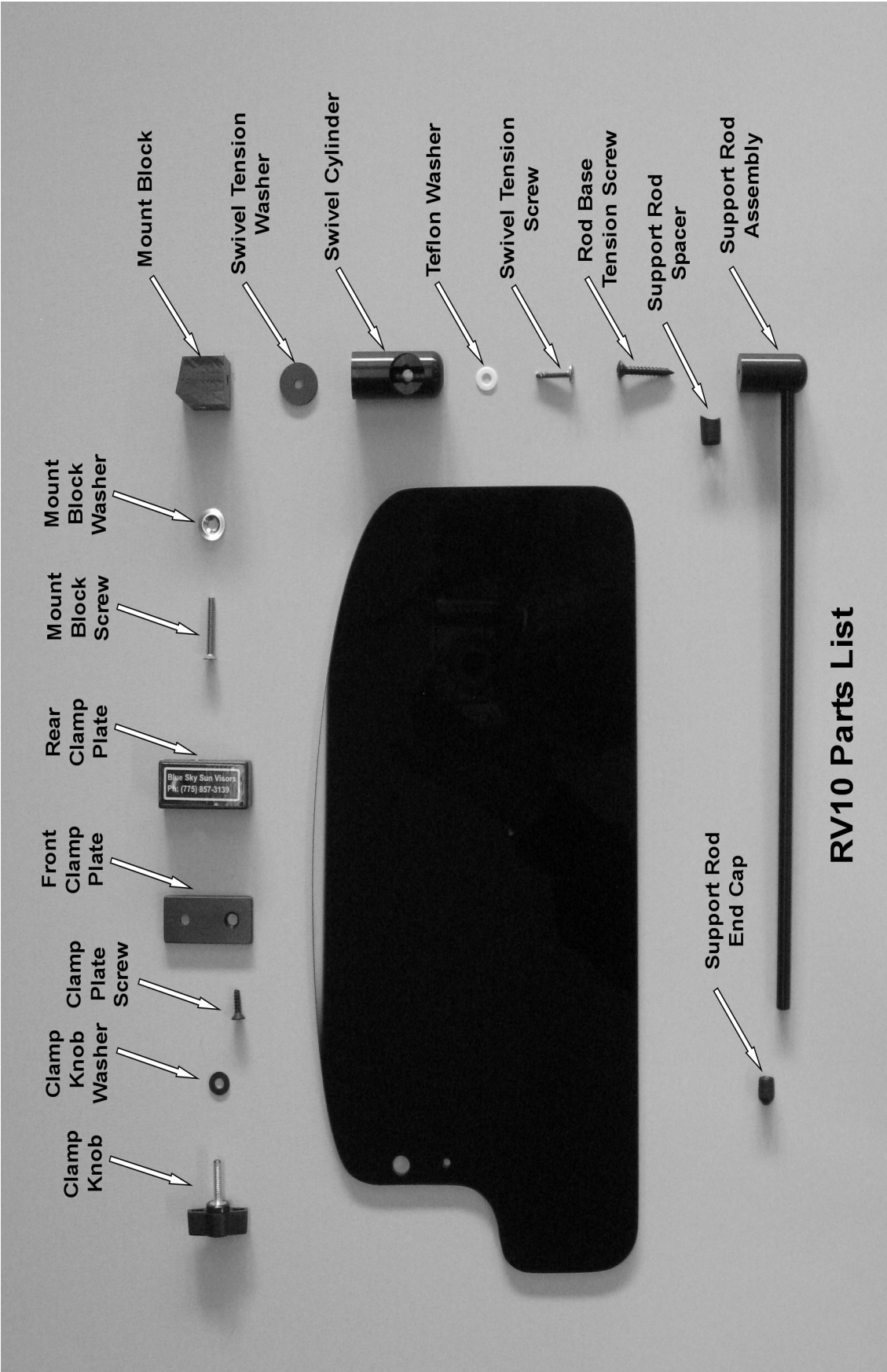
Repeat **Steps 1, 2, & 3** above for installation of the pilot side Visor except the larger end of the visor screen will be on the right when attaching the Front and Rear Clamp Plates.

## RV-10 Blue Sky Sun Visors

### Use and Care Instructions:

1. Blue Sky Sun Visors may be moved to any position in the front or side to reduce the amount of sun reaching occupants or the instrument panel.
2. While the tint of the visors provides significant screening it also reduces visibility to some extent. Consequently, additional care in scanning for other aircraft is important.
3. The amount of light blockage can be adjusted slightly by changing the angle of the visor to the sun's rays. When the visor surface is perpendicular to the light source it has the least sun blocking effect. Adjusting the angle of the Visor Screen will reduce the sun's effect but can also reduce the visibility of objects outside the aircraft.
4. In addition to the movement on the support rod, the visors are also adjustable in a vertical plane within the clamp assembly so that the rounded top of the visor can more closely follow the contour of the windshield bow. **Once the visor is in the correct position on the support rod, only turn the clamp knob enough to keep the visor from moving. Over-tightening the Clamp knob can, over time, deform the clamp assembly.**
5. Loosen the Clamp Knob to slide the visor in and out on the Support Rod and then re-tighten. When the aircraft is not in use, we recommend loosening the Clamp Knob so that the visor can hang loosely on the support rod.
6. In some cases the clamp knob may be inconvenient to adjust in the configuration as shipped. This can be solved by switching the pilot and co-pilot visor screen assemblies.
7. Temperature variation between seasons may reduce the friction between the Mount Block and Swivel Cylinder. Therefore, it may be necessary to adjust the Swivel Cylinder and Rod Base Tension Screws to keep the visors in place when flying. Without the visor screen on the support rod, it should take **5 to 7 oz. (140 to 200 grams) of pressure or tension applied at the end of the support rod** to move the visor in a horizontal or vertical direction.
8. The proper swivel tensions are set at the factory. If the Swivel Cylinder rotates too easily, remove the Rod Base Tension Screw and using a #2 phillips screwdriver, **slightly** tighten the Swivel Tension Screw located inside of the swivel cylinder. No more than an 1/8 of a turn should be required to achieve the proper tension. When properly tensioned, you should not be able to turn the swivel cylinder when gripping it with you bare hand. Re-tighten the Rod Base Tension Screw until Support Rod Assembly tension is correct.
9. The visor is made of acrylic plastic and can be cleaned by any products compatible with the aircraft windshield. Care should be used to avoid scratching the visor material. A light coat of liquid or spray wax suitable for cars or airplanes can reduce the visibility of fingerprints. All other visor parts are compatible with these cleaning materials.

If operated in accordance with the above, the Blue Sky Visor will provide years of dependable service. However, if a part is damaged, individual replacement parts are available.



Clamp Knob

Clamp Knob Washer

Clamp Plate Screw

Front Clamp Plate

Rear Clamp Plate

Mount Block Screw

Mount Block Washer

Mount Block

Swivel Tension Washer

Swivel Cylinder

Teflon Washer

Swivel Tension Screw

Rod Base Tension Screw

Support Rod Spacer

Support Rod Assembly

Support Rod End Cap

**RV10 Parts List**