Cornell Lab of Ornithology

DIY COLLISION DETERRENTS

How To Make A Basic Bird-Safe Stencil

Credits

Concept and Design: Sheldon McGregor Instructions and Visuals: Mhairi McFarlane

Before You Start

- Choose a day when the temperature is above 40 degrees F (5 Celsius).
- Make a list of your exterior glass windows, doors, and patio railings. Don't forget ancillary buildings like sheds, garages etc.
- Make sure you can access them – you may need a step stool or ladder even for ground floor glass. Work with a buddy and be safe!
- We recommend choosing a small, easy-to-access ground floor window first.

Instructions:

1. Clean the outside of the glass and let it dry.
2. Hold this template in the top left corner of the glass - push it right in so it is square with the frame. If necessary, fold or cut this template to fit your glass shape.
3. Secure in place with painter's tape.
4. Follow the instructions on the paint pen to activate it.
5. Paint a dot on the glass through every hole in the template. Don't miss any dots!
6. If the glass is larger than the template, move the template so you can add dots to the entire area, ensuring dots are a minimum of 2 inches apart.

Visual Aid:

1. Make markings in a 2-inch grid

2. Lay flat onto scrap wood and use a spade bit to drill holes

3. Attach template to glass with painter's tape

4. Draw dots onto glass through holes

How to Make a Foam Dot Roller

By Sarah Duff

This method is great if you need to reach high windows, because you can attach a pole extender to the roller!

INSTRUCTIONS:
We're going to be modifying a 6" foam paint roller. They are usually labeled "for cabinets and doors" and can be found at most hardware stores. They should be smooth foam. Once you make the roller, you will be able to use it over and over again!

Other helpful supplies:

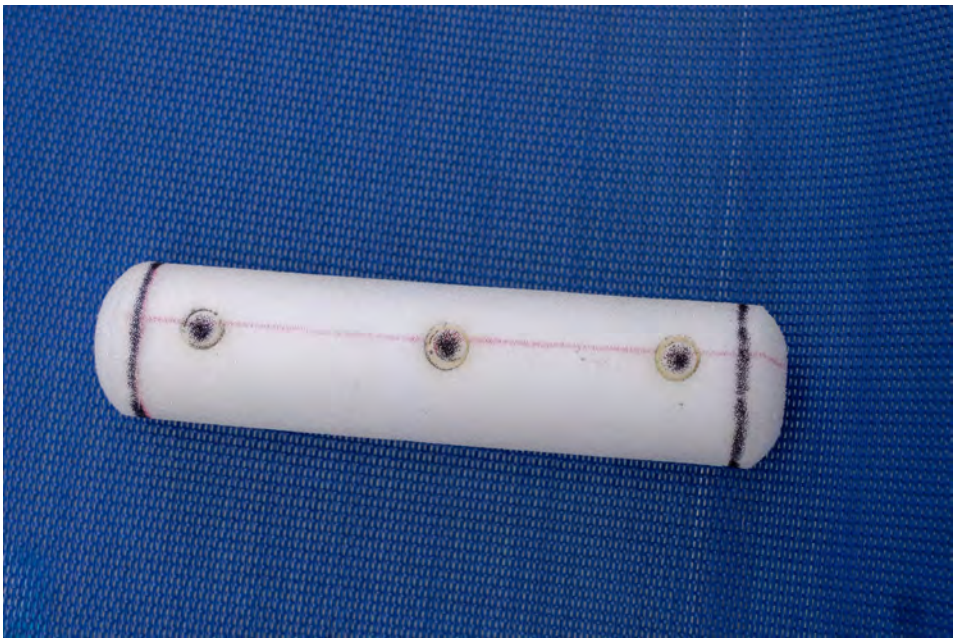
- A marker.
- A measuring tape.
- A stainless-steel drinking straw with an inner diameter of .25" (don't drink out of it after this).
- A candle.
- Heavy gloves.
- Small scissors.
- A small foam brush.
- White tempura/acrylic paint.

1. Using the measuring tape and marker, make three dots along the side of your roller. The middle dot should be at the 3" mark. Then add dots 2" away to the left and right.

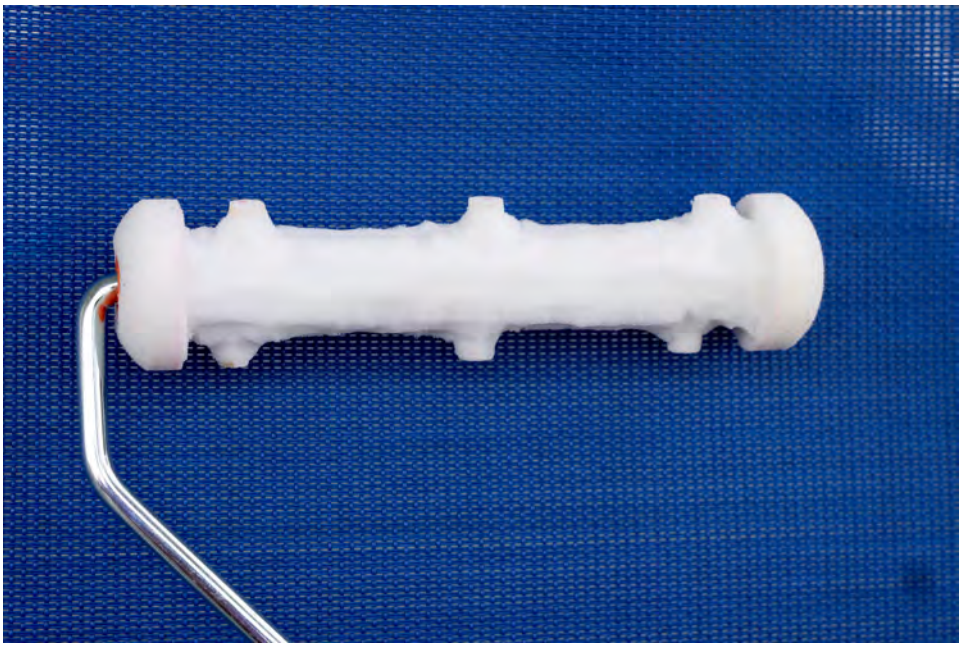
2. Repeat this step on the exact opposite side of the roller. This will leave you with two rows of 3 dots. The more accurate this is, the better your dots will line up when you roll them out. You can also alternate the center dots to make a diamond shape pattern instead of lines.

3. Draw two thin "bumpers" around both ends. This will keep the roller the correct distance from the glass.

4. Do this step in a well-ventilated area with an adult wearing heavy gloves. Very carefully hold one end of your metal straw above the lit candle for 15-20 seconds. Once heated enough, place the hot end of the straw on the foam, over the dots you marked in steps one and two. The straw should easily melt through the foam, leaving you with perfect circles. You may want to practice this on a spot on the roller away from any marks to test it first.



5. Use the scissors to carefully cut away everything that isn't the dots or bumpers.



6. Now you're ready to paint! First make sure the glass your covering is clean and dry. We will be painting the outside of your window. Use the small foam brush to apply the paint to the dots on your roller. Do not apply paint to the bumpers.

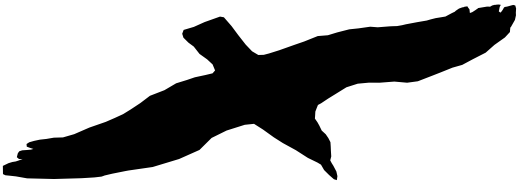
7. Start at the top left or right of your window and carefully roll it straight down. You want the dots to start no more than two inches from the edges of your window and from each other. Move to the left or right and repeat! Reapply paint to the dots as needed. You should be able to roll down the length of a glass sliding door before you need to reapply paint.

8. Once you're finished, gently wash your roller and foam brush with water, let air dry, and store them for next time. If the window is in a public place you may also want to write a note that says something like "These dots save birds! Visit StopBirdCollisions.org to find out more" So that others may be inspired to do the same!

Thank you for helping to protect birds! You rock!

How to Make Your Own DIY

AcopianBirdSavers



Prevent birds from flying into windows!

- Very elegant solution.
- Very simple design.
- It works!

"Give me a lever long enough and a fulcrum on which to place it, and I shall move the world."

- Archimedes

"Give me pieces of paracord long enough, and I can save ALL birds from dying at our windows."

(This particularly applies to the huge number of birds that die from flying into our largest glass buildings.)

- Jeff Acopian

How to Make Your Own DIY Acopian BirdSavers

These DIY instructions are also available online at www.BirdSavers.com/make-your-own

METHOD 1: How to make Acopian BirdSavers using paracord for the top horizontal piece, as well as for the vertical pieces. This is the most inexpensive way to make Acopian BirdSavers. "METHOD 1" BirdSavers are made only of paracord.....Pages 3 - 8

METHOD 2: How to make Acopian BirdSavers using paracord for the vertical pieces, and using a solid top horizontal support piece, such as Vinyl J Channel, wood moulding, aluminum extrusion, small diameter PVC pipe, or anything else, for the top horizontal piece.....Pages 9 - 14

METHOD 3: How to make Acopian BirdSavers using your own design. As long as the paracords are no more than 4 inches apart vertically, any design you come up with will work! For more ideas, see the video "Arenal Volcano and DIY Acopian BIrdSavers - Costa Rica" at www.BirdSavers.com/videos-DIY.....see the Volcano video!

'Quick Easy Guide' to make your own Acopian BirdSavers

- Use 1/8″ diameter (approximate), dark colored, paracord (nylon parachute cord). Use polyester cord if the cords will be attached at both the top and the bottom for cords that will be longer than about 8 feet.
- Attach the paracord on the outside of the window, above the glass.
- Space the vertical hanging paracords 4 inches apart.

These are the 3 essentials for making your own Acopian BirdSavers.
This pamphlet further explains, step by step, the details and fine points.

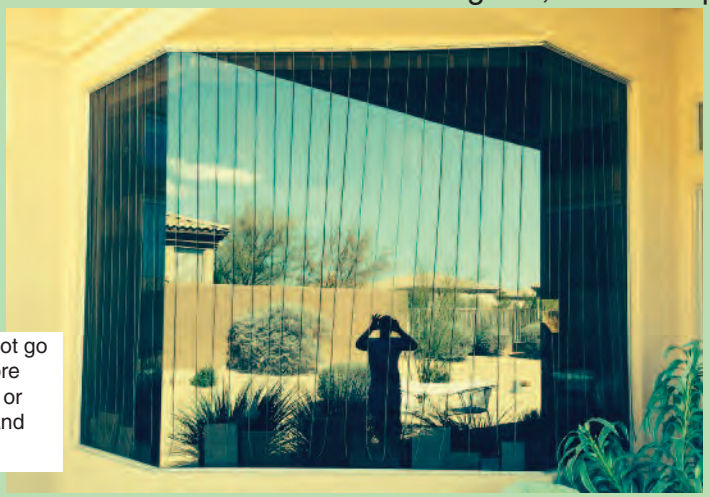
There is a plethora of information about birds colliding with windows in the FAQ section of the Acopian BirdSavers website.

METHOD 1: How to make "All Paracord" Acopian BirdSavers; Using paracord for the top horizontal piece, and for the vertical pieces.

Step 1: Measure the width of the glass.
Then use the tables in Appendix 1 to determine how many cords will be needed. For DIY Acopian BirdSavers, we recommend spacing the cords 4 inches apart, but you can read more about cord spacing in Appendix 2. If there is more than one pane of glass in your window, take a look at the "Acopian BirdSavers Cord Spacing Examples" in Appendix 5 before taking any measurements.

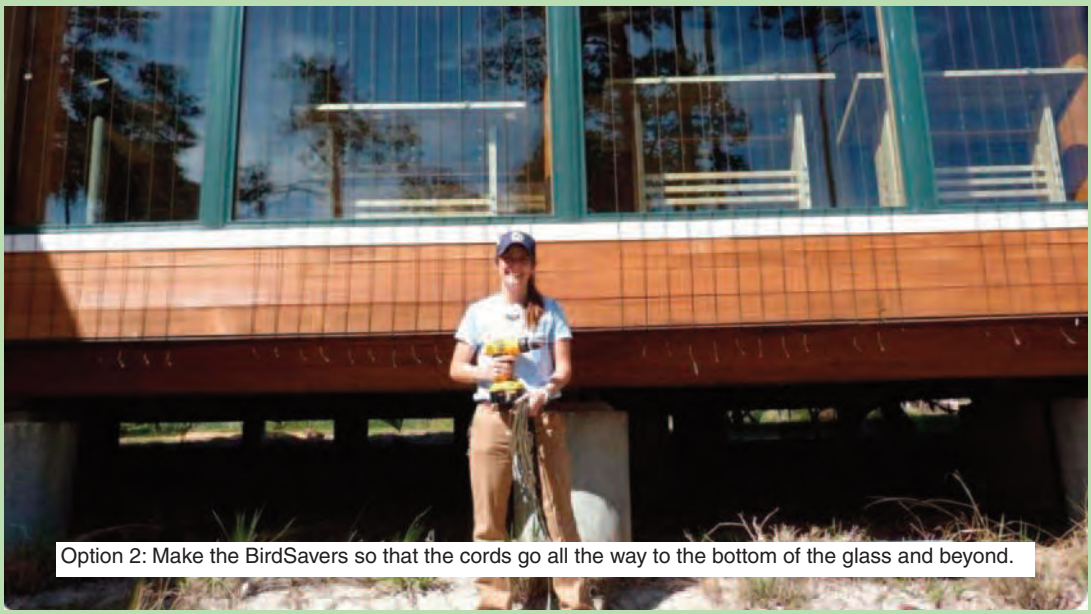
Step 2: Determine the length of the paracord pieces you will need.
You have two choices:

Option #1:
The option we prefer (because it looks so cool!), is to make the BirdSavers so that the cords do not go all the way to the bottom of the glass. It looks more aesthetically pleasing when you can see an inch or two of space between the bottoms of the cords and the bottom of the glass, like in the photo below:



Option 1: Make the BirdSavers so the cords do not go all the way to the bottom of the glass. It looks more aesthetically pleasing when you can see an inch or two of space between the bottoms of the cords and the bottom of the glass.

Option # 2:
Have the cords go all the way to the bottom of the glass and beyond, like in the photos below:



Option 2: Make the BirdSavers so that the cords go all the way to the bottom of the glass and beyond.

Photo above: Volunteers at the Chincoteague National Wildlife Refuge installed Acopian Birdsavers on windows to prevent bird mortality. Photo credit: USFWS

Option 2: Make the BirdSavers so that the cords go all the way to the bottom of the glass and beyond.

To the birds it makes no difference which option you choose; you will achieve a 90 to 100 percent reduction in bird-window collisions with option #1 or option #2.

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If you are making Option #1 BirdSavers:

Determine the length of the vertical paracord pieces you will need, so that when they are hanging they stop about an inch or inch and a half above the bottom of the glass. A knot will be tied at one end of each vertical paracord piece (see the "BirdSavers Tying Technique for All Paracord BirdSavers" video of this procedure at www.BirdSavers.com/videos-DIY). That knot, which will be at the top of the BirdSavers, will use up about one inch of paracord, so add that one inch to the length of each of the vertical paracord pieces you will need.

If you are making Option #2 BirdSavers:

Determine the length of the paracord pieces you will need so that they stop wherever you determine you would like them to stop. A knot will be tied at one end of each vertical paracord piece (see the "BirdSavers Tying Technique for All Paracord BirdSavers" video of this procedure at www.BirdSavers.com/videos-DIY). That knot, which will be at the top of the BirdSavers, will use up about one inch of paracord, so add that one inch to the length of each of the vertical paracord pieces you will need.

If you decide to attach the cords at the bottom, a few methods are shown on the BirdSavers website at www.BirdSavers.com/birdsavers-diy-tie-down-methods.

Some people worry about wind tangling the cords, and therefore decide to attach the cords at the bottoms. But this problem does not happen as often as you might think. You can read more about this in Appendix 6.

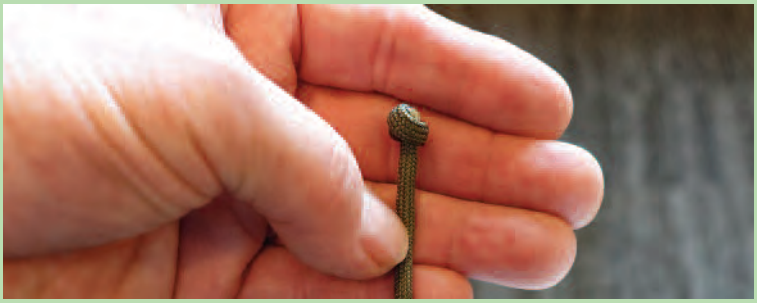
About the Paracord: Most paracord will shrink after getting wet. This shrinkage can vary from around 2% to over 12%! If you choose to make your own BirdSavers using Option #1 above, this shrinkage could eventually leave an area at the bottom of the window with 'exposed' glass (although small) that a bird could fly into. Because of this, you might want to consider soaking the paracord in a bucket of hot water for a few hours and then let it dry (to 'pre-shrink' it) before making your BirdSavers. This procedure also serves to eliminate any "kinks" that may be in the cord as a result of the tight packaging when it was purchased. You can see the "Straighten Kinks & Pre-shrink Paracord" video of this procedure at www.BirdSavers.com/videos-DIY

We have been using dark olive green colored parachute cord (550 paracord) to make Acopian BirdSavers for many years. Also commonly called Olive Drab color, the 550 paracord has a diameter of approximately 1/8". Using this cord for Acopian BirdSavers has proven very effective, as well as aesthetically pleasing. We are fairly certain though, that any dark color, or for that matter probably any color or any type of cord, will be just as effective as the dark olive green color paracord.

Step 3: Cut the vertical paracord pieces to the length you need and melt the ends with a match.
Before you cut any paracord, be sure you have read the "About the Paracord" section immediately above this Step. The "About the Paracord" section has a video you should watch that shows how to pre-shrink the paracord/remove any kinks in the paracord. You can see the "Straighten Kinks & Pre-shrink Paracord" video of this procedure at www.BirdSavers.com/videos-DIY

Sometimes the white inner strands of the cord show where the cord is cut and even burning the end of the cord does not seal it properly. This can happen when the center strands of some supposed "nylon" paracord is actually made of a material other than nylon. If the center strands are made of nylon, then simply briefly burning the end with a match will seal it very nicely. If the center strands are still exposed after burning the end with a match, then the center strands are definitely made of a material that is not nylon. So a different approach is needed: Cut the paracord to the length you want. Then slide the outer nylon sheath back about an inch, so that all the center strands are exposed. Then cut about a half an inch or so off of the white center strands. Then slide the outer nylon sheath back to its "original" position and take a match to it briefly so it melts. Now you should have a very nice, clean looking end! Watch the "I made my own BirdSavers but even after melting, the white inner strands of the cord show" video of this procedure at www.BirdSavers.com/videos-DIY

Step 4: Tie a single knot at one end of each paracord
Tie a single knot at the very end of each piece of paracord. Contrary to common belief, there doesn't need to be a "tail" to make the knot secure. The knot can very secure without the ugly looking tail; watch the "How to Tie a Paracord End Knot Without a Tail" video at www.BirdSavers.com/videos-DIY



These paracord pieces will be threaded through the horizontal paracord piece.

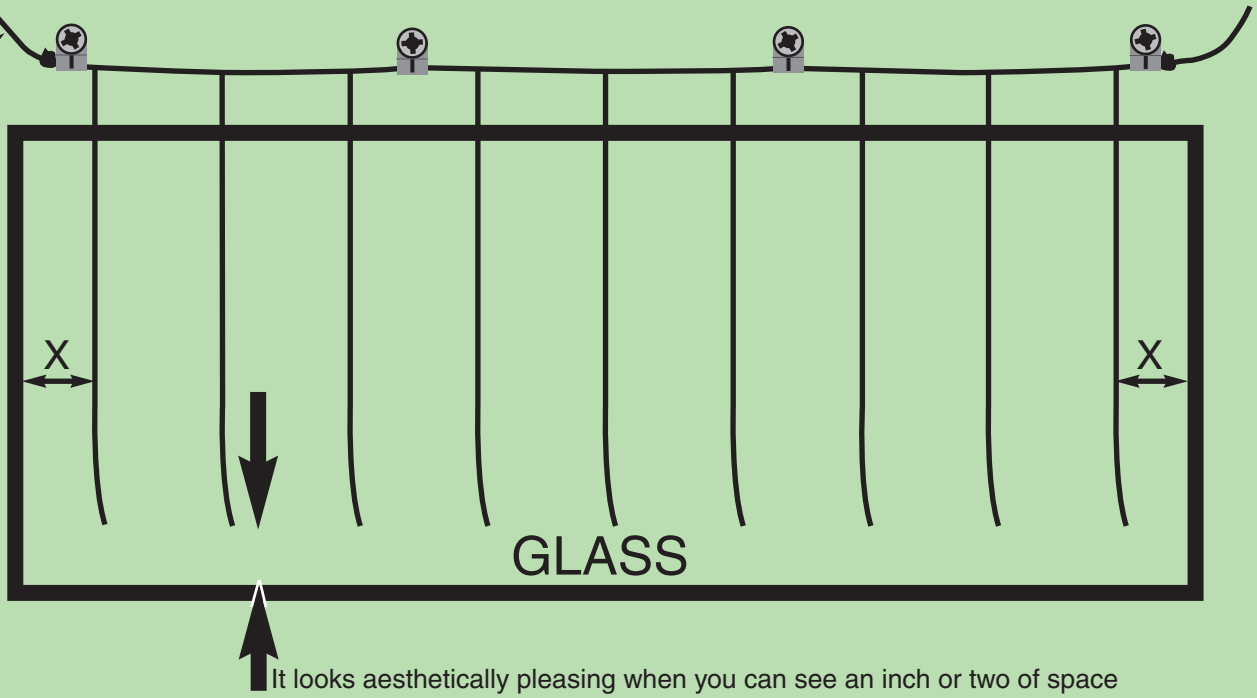
Step 5: Thread (attach) the vertical paracord pieces to the top horizontal paracord piece.
See the "BirdSavers Tying Technique for All Paracord BirdSavers" video of this procedure at www.BirdSavers.com/videos-DIY. Or you can simply tie the vertical paracord pieces to the top horizontal paracord piece, at the distance you determined in Step 1 (probably 4 inches). But the vertical paracord pieces may shift their position if they are simply tied onto the top horizontal paracord piece.) The "BirdSavers Tying Technique for All Paracord BirdSavers" shown in the video prevents the vertical paracord pieces from sliding along the horizontal paracord.
Leave enough excess paracord on each end of the horizontal paracord piece so that it can be hung using the method you prefer; about 5" excess cord beyond each end vertical paracord piece is probably enough depending on the method you use and where/how you will attach the BirdSavers to the building.

There are many methods that can be used to attach your All Paracord BirdSavers to the building. Command™ Outdoor Light Clips, as shown in the 3 photos below, work very well.

Cable Clamps (1/4") and #6 x 3/8" stainless steel sheet metal screws like the ones shown in the photos below also work very well.

1/4" Cable Clamps supporting custom-made BirdSavers

Step 6: If you've finished making your BirdSavers, then it is ready to be installed on the window!



You will, obviously, need to attach each end of the horizontal paracord to the building. Besides those two end attachments, if the horizontal cord is sagging too much you can also add attachments in the middle of the horizontal cord (Screws and Clamps or the Command Clips work well for this, but there are numerous other methods that can be used). We have found that support attachments placed about every 3 or 4 vertical cords to keep the horizontal cord from sagging works well. For example, if your BirdSavers has 12 vertical cords, there should be two end attachments and also two or three support attachments spaced out relatively evenly between the 12 vertical cords. But you can use less or more support attachments as you desire.

Step 7: Position the BirdSavers against window

Hold the BirdSavers against the window in the position that it should be in when it is in its final position – Position the BirdSavers so that the two "hanging cords" on each end are the same distance from each side of the window as in the drawing above. Attach the BirdSavers to the building.

Step 8: Finishing Touches

After the BirdSavers is installed, any kinks or curves in the "hanging cords" can be smoothed out by holding the offending cord near the top with your fingers and then pulling (straightening) the bottom of the cord with your other hand.

This All Paracord method of making BirdSavers works for any size BirdSavers, such as the tiny 3 vertical cord BirdSavers in the "BirdSavers Tying Technique for All Paracord BirdSavers" video, but it also works for BirdSavers as large as even 50 vertical cords and 20 feet or more in height!

Step 9: Send Us Some Photos!

When you are finished, please send us some photos of your BirdSavers! We would love to see them! Thanks, dizzybird@birdsavers.com

Final Installation of Completed BirdSavers:

METHOD 2: How to Make Acopian BirdSavers using a solid top horizontal support, such as Vinyl J Channel, wood moulding, aluminum extrusion, small diameter PVC pipe, or anything else.

In this example, for the top horizontal support, we will use the readily available, inexpensive, and good looking, Vinyl J Channel (also called Drywall J Bead). This is available at Home Depot and costs about $1.70 for a 10 foot long piece.

Any other material could also be used for the top horizontal support; such as wood moulding, aluminum extrusion, small diameter PVC pipe, or anything else.

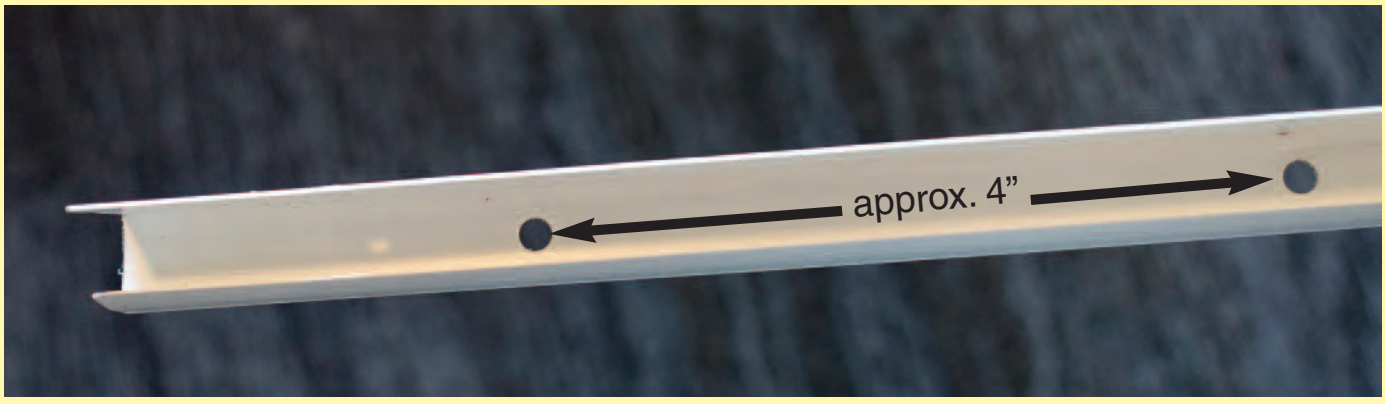
******* Because nylon cord can become quite elongated at times depending on weather conditions, polyester cord should be used when the BirdSavers cords will be attached at both top and bottom for cords that will be longer than about 8 feet. *******

Step 1: Measure the width of the glass.

Then use the tables in Appendix 1 to determine how many cords will be needed. For DIY Acopian BirdSavers, we recommend spacing the cords 4 inches apart, but you can read more about cord spacing in Appendix 2. If there is more than one pane of glass in your window, you may want to have a look at the "Acopian BirdSavers Cord Spacing Examples" in Appendix 5 before taking any measurements.

Step 2: Drill that number of holes in the J channel.

For the number of cords you will need (which you determined in Step 1), drill that number of holes in the J Channel at the distance apart you also decided upon in Step 1. The holes should be just a little bit larger diameter than the diameter of the paracord, so that the paracord will easily fit into the hole, but the cord with one knot tied in it won't go through the hole. Leave an inch or so of extra J Channel material beyond the holes on both of the ends



Step 3: Decide how you are going to mount the BirdSavers.
You can use small screws (#6 x 3/8" stainless steel sheet metal screws work very nicely), or you can use velcro.
If you are going to mount with screws, drill mounting holes in the J Channel. If you are going to mount with velcro, cut the velcro pieces and attach to the J Channel.

Step 4: Determine the length of the paracord pieces you will need.
You have two choices:

Option #1:
The option we prefer (because it looks so cool!), is to make the BirdSavers so that the cords do not go all the way to the bottom of the glass. It looks more aesthetically pleasing when you can see an inch or two of space between the bottoms of the cords and the bottom of the glass, like in the photo below:

Option 1: Make the BirdSavers so the cords do not go all the way to the bottom of the glass. It looks more aesthetically pleasing when you can see an inch or two of space between the bottoms of the cords and the bottom of the glass

Option # 2:
Have the cords go all the way to the bottom of the glass and beyond, like in the photos below:


Option 2: Make the BirdSavers so that the cords go all the way to the bottom of the glass and beyond.

Photo above: Volunteers at the Chincoteague National Wildlife Refuge installed Acopian Birdsavers on windows to prevent bird mortality. Photo credit: USFWS


© Dr. Ellen K. Rudolph


Option 2: Make the BirdSavers so that the cords go all the way to the bottom of the glass and beyond.

To the birds it makes no difference which option you choose; you will achieve a 90 to 100 percent reduction in bird-window collisions with option #1 or option #2.

==========

If you are making Option #1 BirdSavers:
Determine the length of the paracord pieces you will need so that when they are hanging they stop about an inch or inch and a half above the bottom of the glass. A knot will be tied at the very end of each paracord to hold the paracord from slipping through the hole you drilled in the J Channel. That knot, which will be at the top of the BirdSavers, will use up about one inch of paracord, so add that one inch to the length of each of the vertical paracord pieces you will need.

If you are making Option #2 BirdSavers:
Determine the length of the paracord pieces you will need so that they stop wherever you determine you would like them to stop. A knot will be tied at the very end of each paracord to hold the paracord from slipping through the hole you drilled in the J Channel. That knot, which will be at the top of the BirdSavers, will use up about one inch of paracord, so add that one inch to the length of each of the vertical paracord pieces you will need.
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******* Because nylon cord can become quite elongated at times depending on weather conditions, polyester cord should be used when the BirdSavers cords will be attached at both top and bottom for cords that will be longer than about 8 feet. *******

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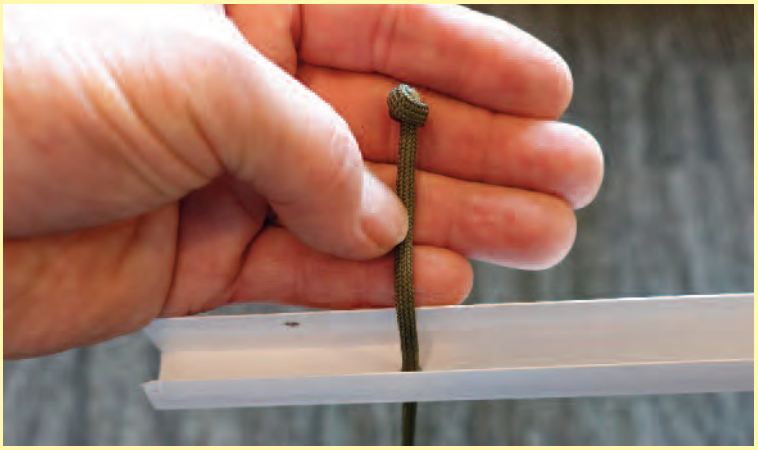
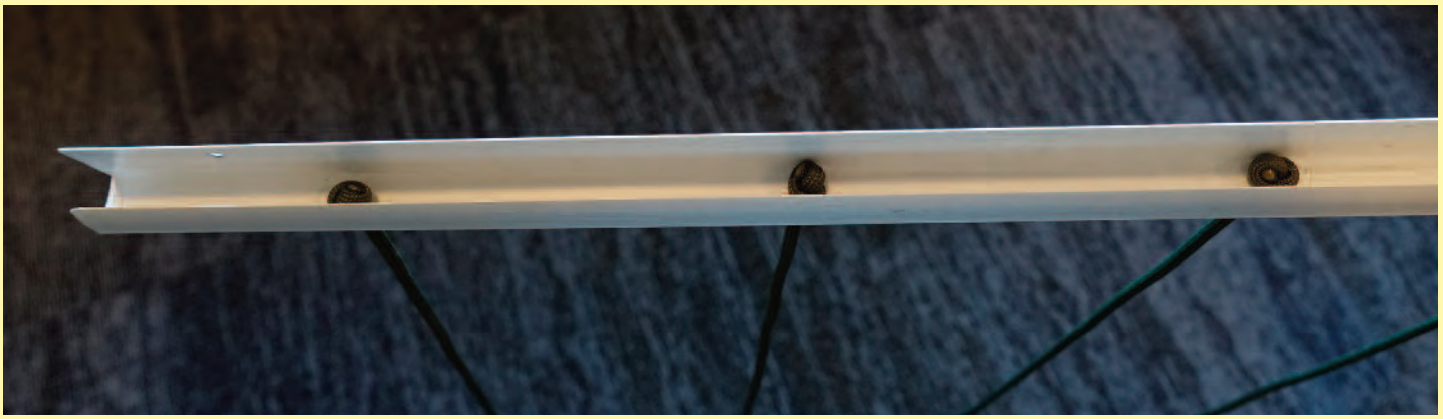
After all of the knots have been tied for each cord, then thread each paracord piece through each hole in the J Channel. Your BirdSavers is now ready to be installed on the window!





Step 7: Positioning the BirdSavers

Hold the BirdSavers against the window in the position that it should be in when it is in its final position – Position the BirdSavers so that the two 'hanging cords' on each end are the same distance from each side of the window. When you are comfortable with where the BirdSavers will hang, you can attach the BirdSavers to the building, using either the screws or the velcro.

Step 8: Finishing Touches

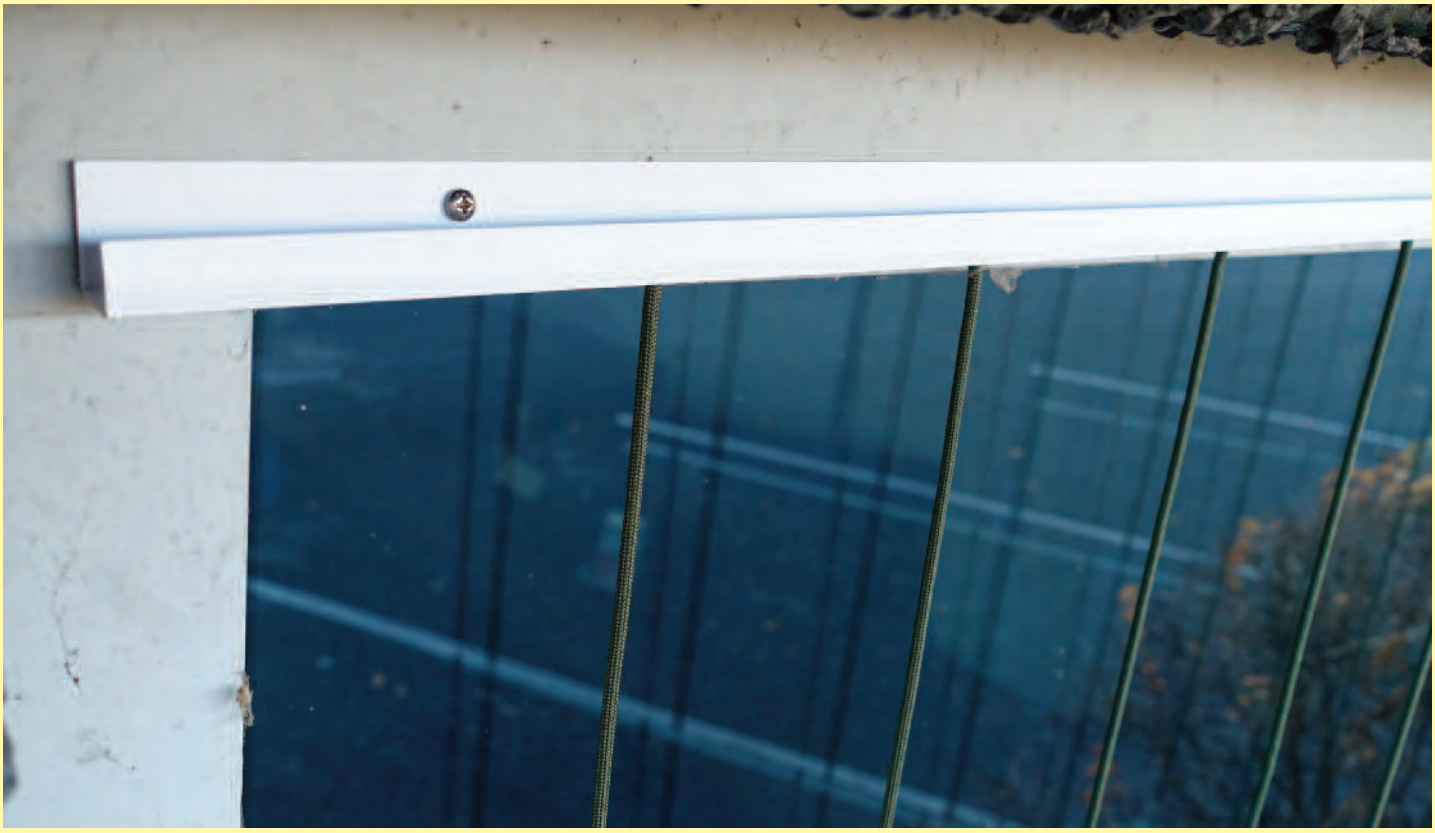
After the BirdSavers is installed, any kinks or curves in the 'hanging cords' can be smoothed out by holding the offending cord near the top with your fingers and then pulling (straightening) the bottom of the cord with your other hand.

Step 9: Send Us Some Photos!

When you are finished, please send us some photos of your BirdSavers! We would love to see them! Thanks. dizzybird@birdsavers.com

Final installation of Completed BirdSavers on Window:

Acopian BirdSavers with solid top support



Acopian BirdSavers with solid top support

Appendix 1; Acopian BirdSavers Cord Spacing Guide

4.25" between cords:

Glass WIDTH from 4.25" to 8.5" (1 Cord)
Glass WIDTH from 8.5" to 12.75" (2 Cords)
Glass WIDTH from 12.75" to 17" (3 Cords)
Glass WIDTH from 17" to 21.25" (4 Cords)
Glass WIDTH from 21.25" to 25.5" (5 Cords)
Glass WIDTH from 25.5" to 29.75" (6 Cords)
Glass WIDTH from 29.75" to 34" (7 Cords)
Glass WIDTH from 34" to 38.25" (8 Cords)
Glass WIDTH from 38.25" to 42.5" (9 Cords)
Glass WIDTH from 42.5" to 46.75" (10 Cords)
Glass WIDTH from 46.75" to 51" (11 Cords)
Glass WIDTH from 51" to 55.25" (12 Cords)
Glass WIDTH from 55.25" to 59.5" (13 Cords)
Glass WIDTH from 59.5" to 63.75" (14 Cords)
Glass WIDTH from 63.75" to 68" (15 Cords)
Glass WIDTH from 68" to 72.25" (16 Cords)
Glass WIDTH from 72.25" to 76.5" (17 Cords)
Glass WIDTH from 80.75" to 85" (19 Cords)
Glass WIDTH from 85" to 89.25" (20 Cords)
Glass WIDTH from 89.25" to 93.5" (21 Cords)
Glass WIDTH from 93.5" to 97.75" (22 Cords)
Glass WIDTH from 97.75" to 102" (23 Cords)
Glass WIDTH from 102" to 106.25" (24 Cords)
Glass WIDTH from 106.25" to 110.5" (25 Cords)
Glass WIDTH from 110.5" to 114.75" (26 Cords)
Glass WIDTH from 114.75" to 119" (27 Cords)
Glass WIDTH from 119" to 123.25" (28 Cords)
Glass WIDTH from 123.25" to 127.5" (29 Cords)
Glass WIDTH from 127.5" to 131.75" (30 Cords)
Glass WIDTH from 131.75" to 136" (31 Cords)
Glass WIDTH from 136" to 140.25" (32 Cords)
Glass WIDTH from 140.25" to 144.5" (33 Cords)
Glass WIDTH from 144.5" to 148.75" (34 Cords)
Glass WIDTH from 148.75" to 153" (35 Cords)
Glass WIDTH from 153" to 157.25" (36 Cords)
Glass WIDTH from 157.25" to 161.5" (37 Cords)
Glass WIDTH from 161.5" to 165.75" (38 Cords)
Glass WIDTH from 165.75" to 170" (39 Cords)
Glass WIDTH from 170" to 174.25" (40 Cords)
Glass WIDTH from 174.25" to 178.5" (41 Cords)
Glass WIDTH from 178.5" to 182.75" (42 Cords)
Glass WIDTH from 182.75" to 187" (43 Cords)
Glass WIDTH from 187" to 191.25" (44 Cords)

4" between cords:

Glass WIDTH from 4" to 8" (1 Cord)
Glass WIDTH from 8" to 12" (2 Cords)
Glass WIDTH from 12" to 16" (3 Cords)
Glass WIDTH from 16" to 20" (4 Cords)
Glass WIDTH from 20" to 24" (5 Cords)
Glass WIDTH from 24" to 28" (6 Cords)
Glass WIDTH from 28" to 32" (7 Cords)
Glass WIDTH from 32" to 36" (8 Cords)
Glass WIDTH from 36" to 40" (9 Cords)
Glass WIDTH from 40" to 44" (10 Cords)
Glass WIDTH from 44" to 48" (11 Cords)
Glass WIDTH from 48" to 52" (12 Cords)
Glass WIDTH from 52" to 56" (13 Cords)
Glass WIDTH from 56" to 60" (14 Cords)
Glass WIDTH from 60" to 64" (15 Cords)
Glass WIDTH from 64" to 68" (16 Cords)
Glass WIDTH from 68" to 72" (17 Cords)
Glass WIDTH from 72" to 76" (19 Cords)
Glass WIDTH from 76" to 80" (20 Cords)
Glass WIDTH from 80" to 84" (21 Cords)
Glass WIDTH from 84" to 88" (22 Cords)
Glass WIDTH from 88" to 92" (23 Cords)
Glass WIDTH from 92" to 96" (24 Cords)
Glass WIDTH from 96" to 100" (25 Cords)
Glass WIDTH from 104" to 108" (26 Cords)
Glass WIDTH from 108" to 112" (27 Cords)
Glass WIDTH from 112" to 114" (28 Cords)
Glass WIDTH from 114" to 118" (29 Cords)
Glass WIDTH from 118" to 122" (30 Cords)
Glass WIDTH from 122" to 126" (31 Cords)
Glass WIDTH from 126" to 130" (32 Cords)
Glass WIDTH from 130" to 134" (33 Cords)
Glass WIDTH from 134" to 138" (34 Cords)
Glass WIDTH from 138" to 142" (35 Cords)
Glass WIDTH from 142" to 146" (36 Cords)
Glass WIDTH from 146" to 150" (37 Cords)
Glass WIDTH from 150" to 154" (38 Cords)
Glass WIDTH from 154" to 158" (39 Cords)
Glass WIDTH from 158" to 162" (40 Cords)
Glass WIDTH from 162" to 168" (41 Cords)
Glass WIDTH from 168" to 172" (42 Cords)
Glass WIDTH from 172" to 176" (43 Cords)
Glass WIDTH from 176" to 180" (44 Cords)
Glass WIDTH from 180" to 184" (45 Cords)
Glass WIDTH from 184" to 188" (46 Cords)
Glass WIDTH from 188" to 192" (47 Cords)

3.5" between cords:

Glass WIDTH from 3.5" to 7" (1 Cord)
Glass WIDTH from 7" to 10.5" (2 Cords)
Glass WIDTH from 10.5" to 14" (3 Cords)
Glass WIDTH from 14" to 17.5" (4 Cords)
Glass WIDTH from 17.5" to 21" (5 Cords)
Glass WIDTH from 21" to 24.5" (6 Cords)
Glass WIDTH from 24.5" to 28" (7 Cords)
Glass WIDTH from 28" to 31.5" (8 Cords)
Glass WIDTH from 31.5" to 35" (9 Cords)
Glass WIDTH from 35" to 38.5" (10 Cords)
Glass WIDTH from 38.5" to 42" (11 Cords)
Glass WIDTH from 42" to 45.5" (12 Cords)
Glass WIDTH from 45.5" to 49" (13 Cords)
Glass WIDTH from 49" to 52.5" (14 Cords)
Glass WIDTH from 52.5" to 56" (15 Cords)
Glass WIDTH from 56" to 59.5" (16 Cords)
Glass WIDTH from 59.5" to 63" (17 Cords)
Glass WIDTH from 63" to 66.5" (18 Cords)
Glass WIDTH from 66.5" to 70" (19 Cords)
Glass WIDTH from 70" to 73.5" (20 Cords)
Glass WIDTH from 73.5" to 77" (21 Cords)
Glass WIDTH from 77" to 80.5" (22 Cords)
Glass WIDTH from 80.5" to 84" (23 Cords)
Glass WIDTH from 84" to 87.5" (24 Cords)
Glass WIDTH from 87.5" to 91" (25 Cords)
Glass WIDTH from 91" to 94.5" (26 Cords)
Glass WIDTH from 94.5" to 98" (27 Cords)
Glass WIDTH from 98" to 101.5" (28 Cords)
Glass WIDTH from 101.5" to 105" (29 Cords)
Glass WIDTH from 105" to 108.5" (30 Cords)
Glass WIDTH from 108.5" to 112" (31 Cords)
Glass WIDTH from 112" to 115.5" (32 Cords)
Glass WIDTH from 115.5" to 119" (33 Cords)
Glass WIDTH from 119" to 122.5" (34 Cords)
Glass WIDTH from 122.5" to 126" (35 Cords)
Glass WIDTH from 126" to 129.5" (36 Cords)
Glass WIDTH from 129.5" to 133" (37 Cords)
Glass WIDTH from 133" to 136.5" (38 Cords)
Glass WIDTH from 136.5" to 140" (39 Cords)
Glass WIDTH from 140" to 143.5" (40 Cords)
Glass WIDTH from 143.5" to 147" (41 Cords)
Glass WIDTH from 147" to 150.5" (42 Cords)
Glass WIDTH from 150.5" to 154" (43 Cords)
Glass WIDTH from 154" to 157.5" (44 Cords)
Glass WIDTH from 157.5" to 161" (45 Cords)
Glass WIDTH from 161" to 164.5" (46 Cords)
Glass WIDTH from 164.5" to 168" (47 Cords)
Glass WIDTH from 168" to 171.5" (48 Cords)
Glass WIDTH from 171.5" to 175" (49 Cords)
Glass WIDTH from 175" to 178.5" (50 Cords)
Glass WIDTH from 178.5" to 182" (51 Cords)
Glass WIDTH from 182" to 185.5" (52 Cords)
Glass WIDTH from 185.5" to 189" (53 Cords)
Glass WIDTH from 189" to 192.5" (54 Cords)

Appendix 2; How far apart should I space the BirdSavers paracords?

We recommend DIYers space the cords at 4". We space the Acopian BirdSavers paracords four and one quarter inches (4-1/4˝) apart. 4-1/4˝ spacing seems to be a very good balance between the visual aesthetics of the paracords on the window and the protection of the birds. Many people think Acopian BirdSavers look so cool that we've actually given them the alias name of "Zen Wind Curtains". One young person told us that she can't wait to own a house so she can put "Zen Wind Curtains" on the windows because they have such a calming effect on her!

Because some people worry about the possibility of smaller birds trying to fly between the cords, although this very rarely happens, the paracords can be spaced closer together than 4-1/4" if you prefer. Please keep in mind that birds sometimes even fly into solid objects with no windows. Read more about this in Appendix 3 below; "Why do BirdSavers prevent birds from flying into windows?"

Appendix 3; Why do BirdSavers prevent birds from flying into windows?

The reason birds don't fly into glass that has paracord in front of it is because the birds see the paracords and try to avoid them. Think about birds flying through the woods - there are many branches that they avoid flying into while they are flying through the trees. I think that birds 'see' the BirdSavers cords as branches and therefore don't fly into them.

Birds sometimes do fly into solid objects. Think about people - we have all bumped our heads on an object or walked into an object by mistake. When this happened, you probably weren't walking very fast or maybe you were standing still or simply turning around. Just imagine, when that happened, if your whole body was moving at the speed that a bird moves when it is flying. Now think about that fast moving bird and what it sees as it's flying. If the bird is looking down, it won't see what is in front of it with 100% of its attention. It's possible for the bird to fly into objects by mistake. And this does happen to birds. On rare occasions, they even fly into sides of windowless buildings! If a predator is chasing a bird, it is in grave danger and therefore giving all its attention to escaping the predator and not full attention to the direction it's headed. So glass is especially dangerous to flying birds, because even if the bird has 100% of its attention on where it is flying and is looking directly at the window glass, the reflection of the surroundings on the glass could "tell" the bird that it's OK to fly "into" the glass. This reflection appears like more trees or open sky, and they hit the window going full speed, head first, resulting in injury or death. BirdSavers cords in front of the glass have proven to reduce these types of collisions to almost zero.

Appendix 4; Acopian BirdSavers protect Hummingbirds

Many people use BirdSavers specifically to protect hummers.You can read more about this and some of their stories here: www.birdsavers.com/hummingbirds

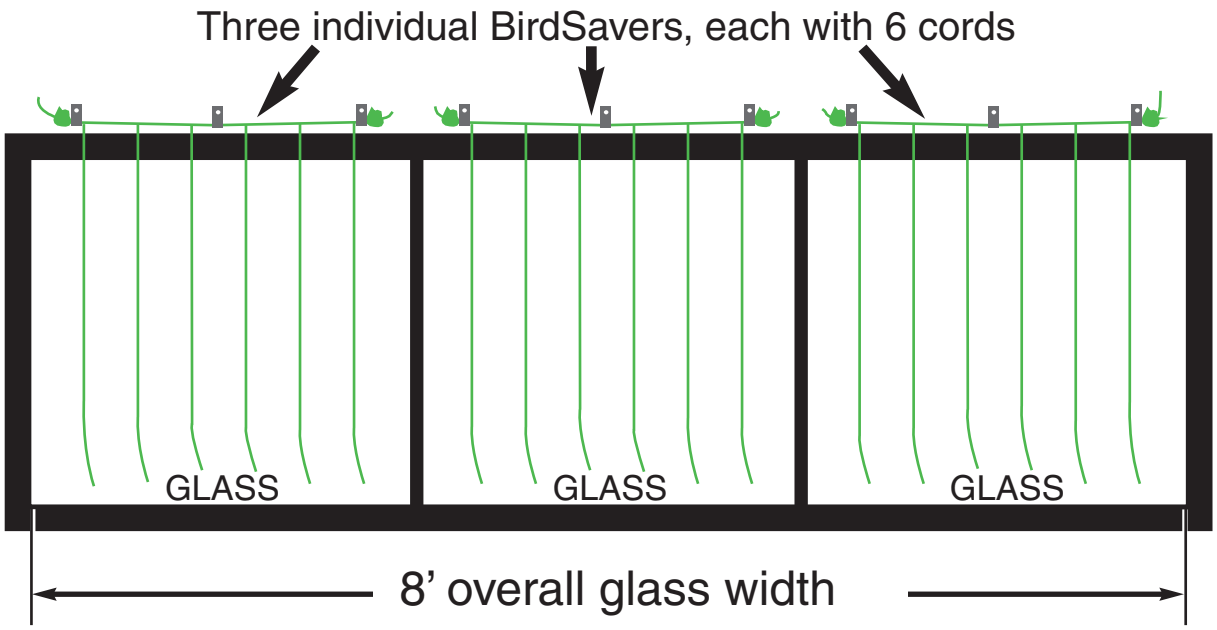
In July 2017, someone called and wanted to do something quickly because she had recently planted some bushes in front of her windows, and already 4 hummingbirds had died there. I sent BirdSavers for her three windows that same day. A few weeks later when I asked how the BirdSavers were working for her, she replied:

"Awesome. We have not had a bird strike since they were put up and the hummingbirds are avoiding those windows visibly. You can see them start in that direction and then just fly up and away from the windows. I cannot thank you enough for making them and sending them so quickly. It took about 24 hours for me to get used to the way they look and now I do not notice them in the window at all. Please use me as a testimonial if you care to. The way you made them that day for me and then shipped them overnight at your expense really touched me. Thank you"

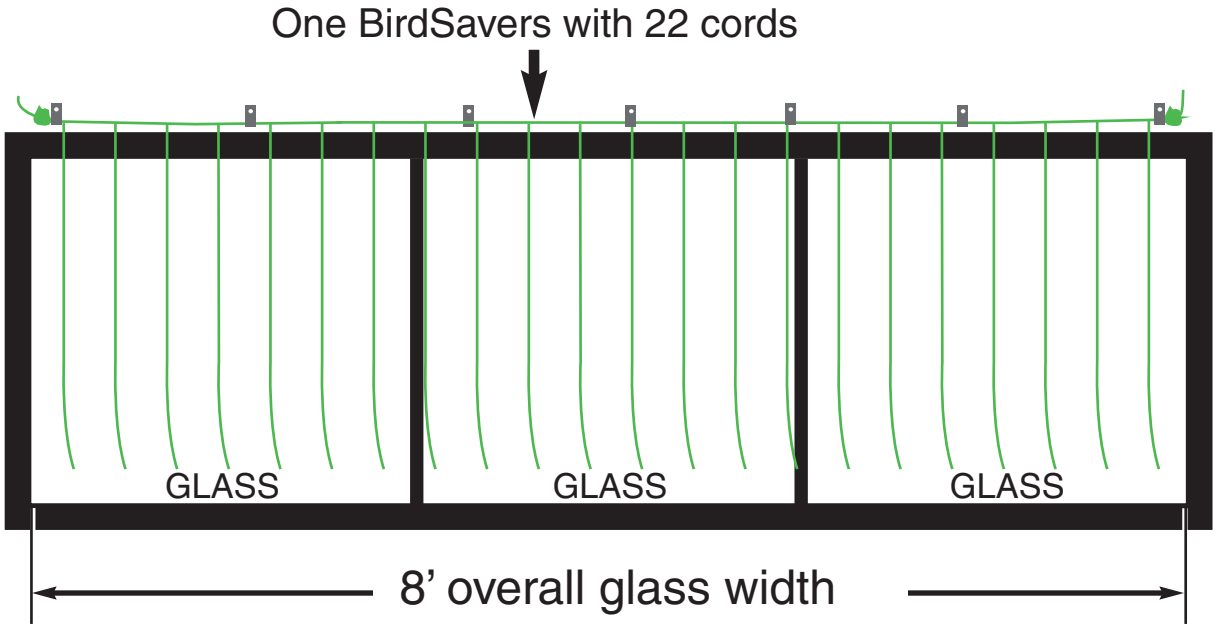
- Karen Berg, Louisville, Kentucky

Appendix 5; Acopian BirdSavers Cord Spacing Examples, for the best aesthetic look

This example has the Proper Cord Spacing for the most aesthetically pleasing effect.



The example below has the Wrong Cord Spacing. There are to many cords, therefore the installation looks too cramped.



Appendix 6; Don't the paracord lines get tangled when it's windy?

Many people like the motion of the cords as they move in the wind, hence the alias name "Zen Wind Curtains". BirdSavers cords DO NOT get tangled as much as one might think. A cord may get crossed over another cord sometimes. If that does happen, you can easily untangle the cords with your hand, or if it's too far to be reached by hand a long stick or pole can be used to untangle them. At one of our Pennsylvania sites, where there is a lot of wind, the cords almost never get tangled. And when they do, it's very easy to untangle them. It's difficult to tell if a windy site will have a 'tangling' problem to the point of annoyance. 'Tangling to the point of annoyance' does not happen often, but it does happen at certain sites. On about 5% of windows with BirdSavers installed, the tangling problem was an issue. On certain windows in certain situations the wind tangles the cords (or a cord or cords may get blown to the side of the glass and then get caught on something that sticks out from the side of the building next to the window). The "Monofilament Snaring Technique" works very well to eliminate that annoyance!

"Monofilament Snaring Technique": To keep the cords from 'blowing in the wind' take some light weight fishing line and about three inches or so from the bottom of the BirdSavers cords, attach one end of the fishing line to the window frame. Then simply wrap the fishing line around the first cord, then move to the next BirdSavers cord and wrap it around that cord, then wrap it around the next BirdSavers cord until all the BirdSavers cords are 'ensnared'. Then attach the other end of the fishing line to the window frame on the other side. It sounds complicated, but it's rather simple. And it does work. To see more methods, go to this page on the BirdSavers website: www.BirdSavers.com/birdsavers-DIY-tie-down-methods