



## How to: Tint Windows

Car Tinting Instructions  
installing window film

Warning!

If you are planning to tint just one car, it's really not worth the expense of buying tools and window film and then discovering just how difficult the trade is through trial and error. However, if you plan on doing several cars, or going into the field, then this is a good place to start. These techniques are by no means the only way to apply window film; some cars demand a combination of techniques. These are merely the basics, a starting point that you can use to begin to teach yourself this most challenging of trades. More help can be found on the message board.

First, the basics

Step #1: Let a professional tint your car!

Otherwise, read on and proceed at your own risk!

Start with a clean car, and a relatively dust and wind free environment. The tint is applied on the inside of the windows, you may work the window film on the outside, but car tint is finally installed on the inside of the windows with soapy water, so you may need to remove the 3rd brake light and/ or rear deck if they are against the clear part of the glass, this can be a learning experience in itself.

Preparation

First, get the right tools for the job, a heat gun, film squeegee (they come in long strips that you cut to shape), spray bottles, hard cards, Bondo cards, red devils, a cutting surface (I use linoleum glued to plywood as a cutting table for patterns, a piece of flat glass will work too) butcher paper (plastic coated on one side), a snap off razor blade knife, razor blades, Baby

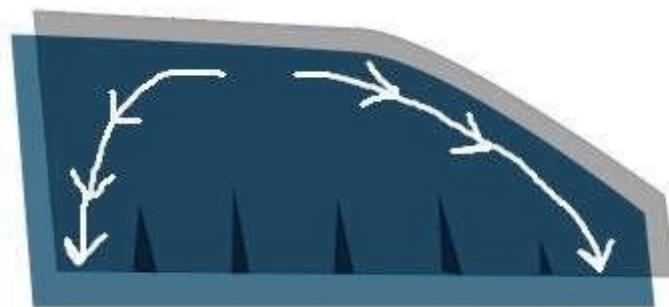
Shampoo(15 drops per pint or so.), paper towels (preferably paper shop towels), and some hand tools.

First you want to clear anything that will get in the way or that is against the glass where the car tint needs to be, like the inner flaps on the door panel where it goes down into the door, depending on the car, you can tape this back with masking tape, or if that doesn't work you can take off the door panels.

Remove the rear deck, and or 3rd brake light IF NEEDED. You will appreciate it when you're in there trying to lay a long piece of window film without touching anything but the clean glass, its not that easy and if the felt from the rear deck is against the glass, the film will be difficult. To reach and squeegee completely. Most cars only need to have the brake light removed.  
Side Glass

One way to pre-cut the film for the roll up windows is on the window itself, placing the film on the outside, with the liner side facing up, the film can be trimmed to the approximate shape of the window, this method is o.k. but there is a way to get a much more accurate shape to the film using freezer paper patterns and without using blades on the car glass.

Shrink pattern



To avoid sloppy cuts and creasing, I like to use Reynolds plastic coated freezer paper to make a pattern for rollup windows. Cut a piece of the paper about an inch larger than the window. Make several cuts along the sides of the paper, about an inch long and about 5 per side; this is so the paper will lay flat when you tuck the edges into the frame. Spray the outside of the fully rolled up window with unsoapy water. Lay the paper over the glass plastic side down and smooth it out with a hard card. Be sure to keep the paper side of the plastic coated paper dry. Trace the edges where you want the edge of your film to be onto the paper with a hard card and draw them in with a sharp pencil.

Use the factory edge of the paper against the bottom flap of the car window, (so you won't have to draw the bottom line). First draw the sides with the pencil, lift the bottom of the paper about an inch away from the glass and roll the car window down until the upper edge is exposed. Use the edge of the pencil lead to trace the top edge of the glass. You should now have a perfect, REUSABLE representation of the car window. Take the pattern and lay two pieces of film, with the liners opposing, under the pattern. Spray a little water in between all of the layers to keep them still as you cut. Cut them on a piece of flat glass or a linoleum cutting table.

View pattern illustration

I shrink most car roll ups because I dont tape the flaps anymore and I dont want any fingering under the flap. To shrink the door pieces, I place the film on the wet outside about an inch above the bottom flap and about an inch to the left or right of the side felt, squeegee the film so that its tight on top and all the excess is on the bottom, then wet shrink.

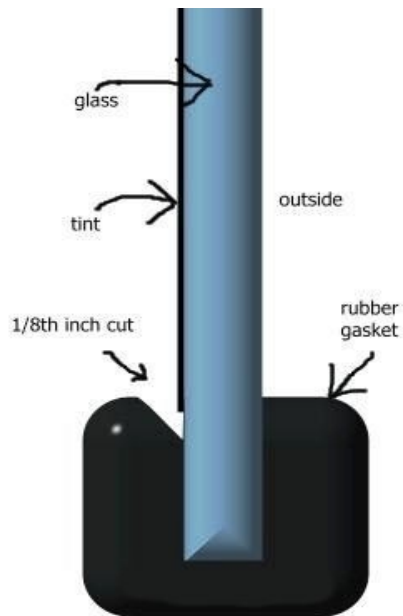
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When you're ready to tint the car window, start with the glass rolled down so that the top of the window is about a half inch from the felt, Clean and prepare the glass to receive film, lay the film near the bottom of the soapy wet glass first and slide it down into position as you lay the top into position. Then squeegee from an anchor point to keep the film from moving, working from the middle out. Roll the window up and squeegee the bottom out. Blot any water from the sides with a hard card wrapped with a paper towel

cut away view of 1/4 glass

Another good tip is to mark the outside edges of the window with a dry erase marker (with the window rolled fully up), then when the window is down a little and you are laying the film you will be able to tell where the edge of the film should be. As you know, the window shifts as it is rolled up and down, so this will let you position the film properly before it sets up to much to move.

To prevent gaps, stationary 1/4 panes should be cut slightly oversize and the inner rubber should be trimmed to accommodate the slightly larger piece of tint.



## Cleaning the glass in preparation

This is the main thing about window tinting, keeping the dirt to a minimum. This may be hard to follow, but I'll try to keep it understandable. Most cars have a felt edge inside that guides the glass as it rolls up and down. When this felt gets wet it 'bleeds' tiny black felt hairs. These really stand out when the film is dry. To avoid this I will roll the window as far down as it will go, and cover the felt with masking tape, then roll the window back up until the top of the window is about 1/2 inch from the top. Spray the window down with soapy water (10 drops of Joy dish soap per pint) and clean it with a new razor blade. The blades won't scratch if they are new and the window is wet. Spray the glass again lightly, get a blue shop paper towel and wipe the edge of the glass and frame in one stroke to pick up heavier dirt, wipe your squeegee

with a moist blue shop paper towel, and make one pass along the side of the window, wipe your squeegee again, start at the dry side you just did and squeegee side ways to the other side, repeat until you reach the bottom. Then a last stroke down the side you were squeegee toward and the window should be completely clean and dry. Next flush the window from the top down with soapy water keeping the very top edge dry. If you flush the very top edge, it will bleed dirt, as your squeegee won't quite dry the top. Flush the middle first, finish by flushing the sides. Even after all this, if you don't handle the car tint well, it will get dirty. Peel and apply the

film.

As you are squeegeeing, (on roll up windows) do the top first, work down avoiding the edges until last, stroke them downward, some times I will use a thin card, like a credit card cut into a triangle to squeegee the last stroke down the edges, it depends on how tight the frame is. Spray the film and squeegee it again, more firmly this time, to remove more water from under the film.

## Back Glass

For the back window, most shops will do them in one or two pieces (depending on the car), with the heat shrinking method. This is a very tricky technique, and is very easy to mess up if you don't know what you are doing.

An older technique is to use strips, butt seamed at the defroster line. Usually 4 pieces of film will lay flat on most rear windows; some can be done in fewer strips. Let me know what kind of car it is for more specific information. Cut the strips so that the pieces will overlap each other on a defroster line (if the car has them), then, when you are lying the film inside you can cut both pieces at once along the line, to make a 'butt seam'.

Make sure to use new high quality stainless steel razor blades to reduce unavoidable glass scratches. Try not to use carbon razor blades or olfa knives on glass, they will almost certainly scratch the glass, especially on the outside!

View overlap pic Most rear car windows have a compound curve, a curve on the horizontal plane and a curve on the vertical plane. This prevents the window from being tinted with a single piece of tint. A good analogy is trying to wrap paper around a basketball; the paper will not lay flat without creases and folds. One way to overcome this is the same way a basketball is made, with pieces and seams. Most rear windows can be done in four pieces of tint with three seams. The seams can be hidden by the horizontal defroster element. You should first cut all of your pieces to shape, and then install them. Make sure to use new high quality stainless steel razor blades to reduce unavoidable glass scratches. Try not to use carbon razor blades or olfa knives on glass, they will almost certainly scratch the glass, especially on the outside!

Preparing the rear window for film installation should be done after all the film has been cut and laid out ready to peel. Spray the inside of the glass with soapy water and scrub it with a white abrasive dish sponge, paying extra attention to the edges and the dotted areas. Squeegee the glass dry and wipe the dotted edge with a paper towel to lift up the black residue the ceramic edge gives off, (This will help the film to stick to the dots.) and spray the window again, this time squeegee very carefully to get all of the water off. Now flush the window from the top down, avoiding the very top and the dots, if the window has them, to prevent dirt from bleeding down. Just flush the area that's going to receive the strip of film.

Lay all the cut film out on the wet cutting table so you can pull the liner off without it laying over onto itself (if dry adhesive surface touches itself you will need to start over as it will stick firm). Wash the windows in preparation to receive the film one at a time. For the back window, use a white dish scrubber not a green one (it will scratch). For the side glass use razor blades and soapy water, squeegee clean, then spray with soapy water, go peel the film, and spray it with soapy water too, lay the film onto the wet inner glass, position it until its just right, squeegee most of the water out, then lay the next piece, squeegee both, then cut along the defroster line to make a butt seam making sure not to cross and cut any defroster lines as they will no longer work, also some cars have the radio antenna on the window with the same type of line, do not cut these as your antenna will not work anymore! Remove the cut away pieces as you lightly spray soapy water where you lift the film away from the glass, squeegee out the seam, then lay the next strip and so on.

After you apply the film for the doors wait a little while before you put the panels back on, or removing the masking tape from the flap. After all the film is laid and cut, here and there parts of it might pop up, push them down with a bondo card then blot any excess water with paper towels.

Go peel the film and carefully lay it into position without creasing it or

touching the adhesive side, or letting it touch anything but wet glass. If it hits a dry spot of glass it will grab, so be methodical, don't be afraid to rehearse how you are going to get in the car without using your hands holding a long strip of film. Once it is in position, carefully squeegee it out, prepare the next section of glass as above, and lay the next piece in. Once the second strip is squeegeed out, cut the butt seam at the defroster line.

Try to cut on the top edge of the defroster line on the glass and not in the metal of the line. Make sure to cut firmly through both pieces of film to get a good clean seam the first time. Make sure to use new high quality stainless steel razor blades to reduce unavoidable glass scratches. Try not to use carbon razor blades or olfa knives on glass, they will almost certainly scratch the glass, especially on the outside! After the cut is done, remove the extra pieces. To remove the piece that is under the second strip, peel back the corner of the second strip just enough to grip the extra piece, and pull the strip of extra film out slowly as you spray a little soapy water to keep any dry spots from grabbing. Once the excess pieces of film are gone, squeegee both the first and second pieces firmly, prepare the next section of glass and repeat as above until all 4 pieces are in and all three seams are cut.

## Black Ceramic Dots

Most new cars have a black ceramic trimming the edge of the rear window. Sometimes this ceramic has a straight edge and sometimes it has a dotted edge. Usually this dotted edge is only 1/4 inch wide or so, on Fords it's a bit wider. The window film usually won't stick to these dots flush, so there will be a pocket of air trimming the glass. On most cars this isn't very noticeable. The problem is that some cars have a six inch wide band of dots on the upper edge of the back window.

If that is the case, the pocket of air created is so large and uneven, that it is very unattractive. The best way to deal with this is to leave the wide band of dots untinted, then after the film has dried for 3 days, mask off the dotted area with masking tape and paper, then paint the area with flat black enamel spray paint. Let the paint dry for a while and then remove the masking.

You can also try using glue stick or liquid glue pens to 'fill' the dots. This is very tricky and messy, but if you can do it right, it looks very good.

The only way to avoid using strips on a compound curve window is to use the heat shrinking method. This is an advanced technique and best left to a professional. It involves using a heat gun to shrink the excess film along the grain (toward the factory edge) and smoothing it out with a rolled up paper towel or a bondo card.

The best way to learn it is to watch one being done. Keep in mind that the film will only shrink properly toward the factory straight edge.

Wet Shrinking:

On an oversized piece of tint laying on soapy water on the outside of the back window with the liner still in place facing up, squeegee a horizontal anchor onto the film to bring all the excess film into finger shapes on the top and bottom of the window.

Pass the heat gun over a finger quickly, just until you see the film react, smooth that area flat with a rolled up paper towel, then do the fingers that pop up on either side of the one you just smoothed flat and so on. After the film is all flat repeat the procedure with a bondo card instead of a paper towel. Cut the film to shape and repeat step 2 (bondo card smoothing) as some fingers will pop up after it's cut to shape. To lay it in, roll it up onto a drum stick, reverse the liner and roll it out onto the prepared inner surface. Squeegee it out, etc.

Unheated finger on left, heated finger ready to smooth on right

Squeegee a horizontal anchor to bring the excess film to the top and bottom

A hair dryer will not get hot enough, you must use a heat gun on high setting! You are only shrinking the finger itself, just pass the heat gun over the finger quickly until you see it distort slightly, then smooth it out. If you spend just a moment too long over the finger it will burn, or shrink unevenly. The trick is not to crease the film when you smooth it, so the first time use a rolled up paper towel to smooth the finger down to keep the film wet against the glass, otherwise larger fingers will bind and crease if you use the bondo card first, repeat the process with a grey bondo card.

VERY IMPORTANT, the film will only shrink properly if the fingers are aligned with the grain of the film. As you unroll film from side to side the proper grain direction is up and down, i.e. If you have a window 45" wide horizontally and 18" vertically, using a 20" roll, the fingers need to point up and down toward the straight factory cut edge. Fingers always need to be moved toward the factory edge. Squeegee a horizontal anchor onto the glass to anchor the middle and sides moving all the excess to vertical fingers. Heat shrinking is very challenging, I recommend you watch one being done just to be clear on what I'm saying.

Dry shrinking

Using baby powder wiped onto the glass instead of water will allow you to heat shrink large areas instead of fingers one at a time. This is known as dry shrinking and is very difficult to master, but will allow you to do most windows in one piece.

### **[b]Wet or Dry[/b]**

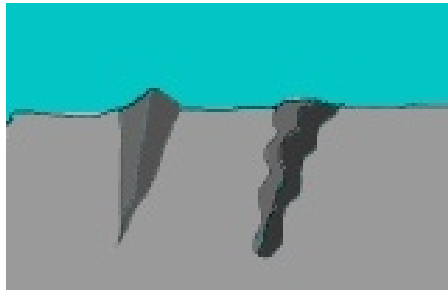
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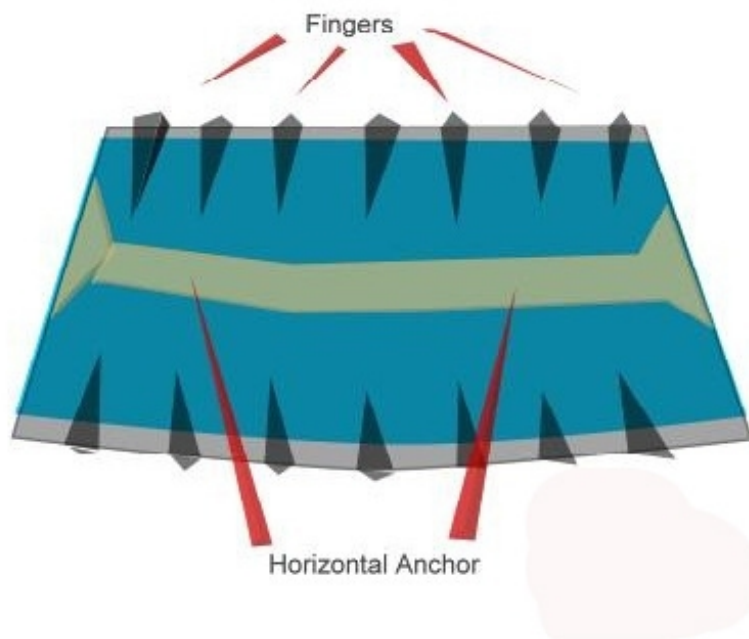
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**Not all written by me but the method i have used alot**