# How Far is Too Far?

## Handling the Difficult Install

BY DAVE KING

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Difficult installations are... well... *difficult*. Let's start with common tough install situations and work our way to installations where you'd say, *What? Are you nuts?*

The number one question I get from the average person, when it comes to vehicle graphics is this: *"Is that Paint? It's so perfect, I can't see any lines or anything."*

And from people within the industry the question goes like this: *"How can I do vehicle wraps and get it right the first time?"* This is one of those questions that has a lot of answers, so lets move past the flat applications like trucks, buses, and trailers and move right to VW Bugs, PT Cruisers, and Hummers.

### FILMS, PRINTERS AND PRE-MASK

In order to understand the challenges of the vehicle wrap you must first have a small understanding of how vehicle graphics film is made and produced. There are two types of films that are used for most vehicle wraps, five-year cast film and two-year calender film. Then there are two printing technologies used to print onto these films — electrostatic (e-stat) and solvent-based inkjet. (*Editor's note: for more information on cast vs. calendered film, see the January 2004 issue of* Digital Graphics).

E-stat printing requires a film over-laminate, so the installs are very straight forward. The film does not need to be pre-masked, but it doesn't stretch well over difficult compound curves without failing at some point after the install. The new five-year cast film for solvent inkjet printing is much softer and performs better when used with a liquid laminate, but it's much more difficult to handle.

We pre-mask all film for flat vehicles and walls, be we do not pre-mask film for vehicles that have compound curves (most passenger cars and SUV's). You would think that the difficult vehicles should have the pre-mask, but the problem with pre-mask is that the mask doesn't stretch, so when you hit the compound curve you need to get the pre-mask off the film, but you can't because to remove the pre-mask would cause the film to stretch.

My installers use the softness of the film to their advantage, easily wrapping it around the compound curves. With the Avery EZ film, curved installs are very fast and easy. When using the two-year calendered film, everything is the same as it has



Typically, passenger vehicles, such as this PT Cruiser, are difficult to wrap because of the multiple compound curves.

Really tight curves, like those on the running board of this vehicle, require a very stretchable film, such as Avery EZ film.

been for years, but with the new solvent inks you don't need to over-laminate, so the film tends to tent less and look better much longer.

## FEEL THE DANGER

The installations I find most difficult are the dangerous ones — the ones that take you high up off the ground with limited safety equipment. To do a quote for a difficult job like that takes past experience, real good judgment or real big *cajones!*

In my case it's a little of all three.

The best example I can remember is when we did wrapped the giant Coke bottles in Boston's Fenway Park a few years ago. We had to wrap three 28-foot-tall 3-D Coke bottles which required us to rent a large bucket truck and risk our necks. The hand-painted fiberglass bottles were created a long time ago and couldn't be removed for wrapping in our shop. Coke wanted to update the old-fashioned Coke bottles with the new Cherry Coke, Vanilla Coke and regular Coke labels. But the bottles were about 50 percent larger than Coke had initially told us and we needed to go up about 100 feet into the air to do the installation.

It took us 17 hours in the blazing sun (and later in the dark) to install those three bottles in one day (before a big game). At some points of the operation I was holding onto the bottle and standing on the edge of the bucket 100 feet above the ground — in a 40-mph wind — in the dark — without any safety lines.

Okay, it was stupid.

But the tether on my safety line didn't allow me to stay hooked to the bucket and reach the tippy top of the bottles. Well, we did the job — and Coke loved it! They loved it so much that although we were told in the beginning to remove the film after the season was over, three years later it's still there and looking great!

## TROUBLE IN ACADEMIA

Here's a job we did that was truly a tough install. We were contacted by Cornell University about a job that many of our competitors had turned down due to the complexity of the job and the limited budget (typically a very bad combination).

The job was presented to us a 150' x 80' window graphic inside a large hall at the University. At first I said OK, but as I got into the job it became more and more convoluted and difficult. We went to Cornell to view the job and took along the different films for windows, measuring tapes, cleaners and a very tall ladder.

When we got there it became obvious that the job was much more difficult than I had ever imagined. The windows were not glass but *fiberglass* — and they wanted this to be a temporary job that might come down in three days or six months.

At first we thought we could use cut vinyl because the image was a 135'-wide world map with the Cornell University letters along the bottom. The fiberglass windows were up 20 feet above the hall floor over a concrete walkway that was above 25 rows of seats. So up I went to the first level of window panels.

I cleaned an area of the fiberglass window (11 years worth of dirt), and stuck on a 2' x 2' piece of Avery cast cut vinyl and a 2' x 2' piece of Catalina Plastics temporary clear window vinyl. After 10 minutes the Catalina film came right off, but the cut vinyl became very difficult to get off — so difficult, in fact, that it took me more than 20 minutes to get the small test piece off!

There it was. Now we knew cut vinyl wasn't going to work. We'd have to print all 12,000 square feet of film digitally onto the Catalina film. The next step was to determine if we could bring a lift-truck onto the floor of the hall. The lift we needed was a four-wheel crawler that weighed 40,000 pounds. We were told that this would not work as the weight would crush the floor.

Plan "B" was a compact lift that was 6,000 pounds and would take us up to 80 feet with outriggers. We waited over 30 days for an answer from Cornell, but the answer never came. At the last minute (the day before the install) we had to go to plan "C" — scaffolding. This was a bummer as we had to *carry* the scaffolding from one end of the 400-foot building to the other and then up several flights of stairs. And after all that,

This job was difficult — and very dangerous. The 28-foot-tall Coke bottles had to be wrapped 100 feet in the air at Fenway Park. That's me in that crazy bucket.


Even vehicles with a lot of flat space have problem areas, such as around doors and windows.

we learned that OSHA does not allow scaffolding to be erected more than 32 feet high. Not great for 80 feet worth of widows.

We had some luck as the top row of windows had a catwalk that we could use for access. I had to stand on the railing of the catwalk to reach the top, and even then I had to use an 18" paint roller to finish the top bits. While I did the top, my installers did the bottom row from the scaffolding. Then we had to do the center — so I thought the paint-roller trick would work just great. One small problem. I could only reach the first five feet of the 15-foot panels and I couldn't apply enough pressure on the roller to make the panels lay down straight without bubbles.

## SCAFFOLDING? WHO NEEDS IT?

Now — the end of day two of the three-day install — I started to panic. We couldn't finish the installation with the equipment we had. We took drastic measures. That night we went into town and found a EMS mountain-gear store where we purchased a full set of rock-climbing gear (harness, rope, lifts, carabiners and all the other stuff).

The next morning I found myself hanging 60 feet off the floor tied into a climbing harness, trying to get control of the film. Picture this — you have a harness on that connects you to a rope that is hanging in front of you. The connection point is your belt buckle area. You are suspended 20 inches away from the windows (this was as close as we could get the rope) and you're holding onto a 52" x 15' piece of butt-printed adhesive-backed vinyl that you're expected to install onto the glass.

The problem is you have to use both hands to hold the film, but your feet have no purchase and you're trying to position this film as you sway in the rope harness. To top it off, you have to line up the film exactly while dangling *backwards* from a rope.

*Yeah* it was difficult! Every time I would try to get the film to stick, my body would start to *spin!* Nine hours later we had finished the center row and the job was complete. Thinking on your feet was the success to this job and the client *loved* the job!

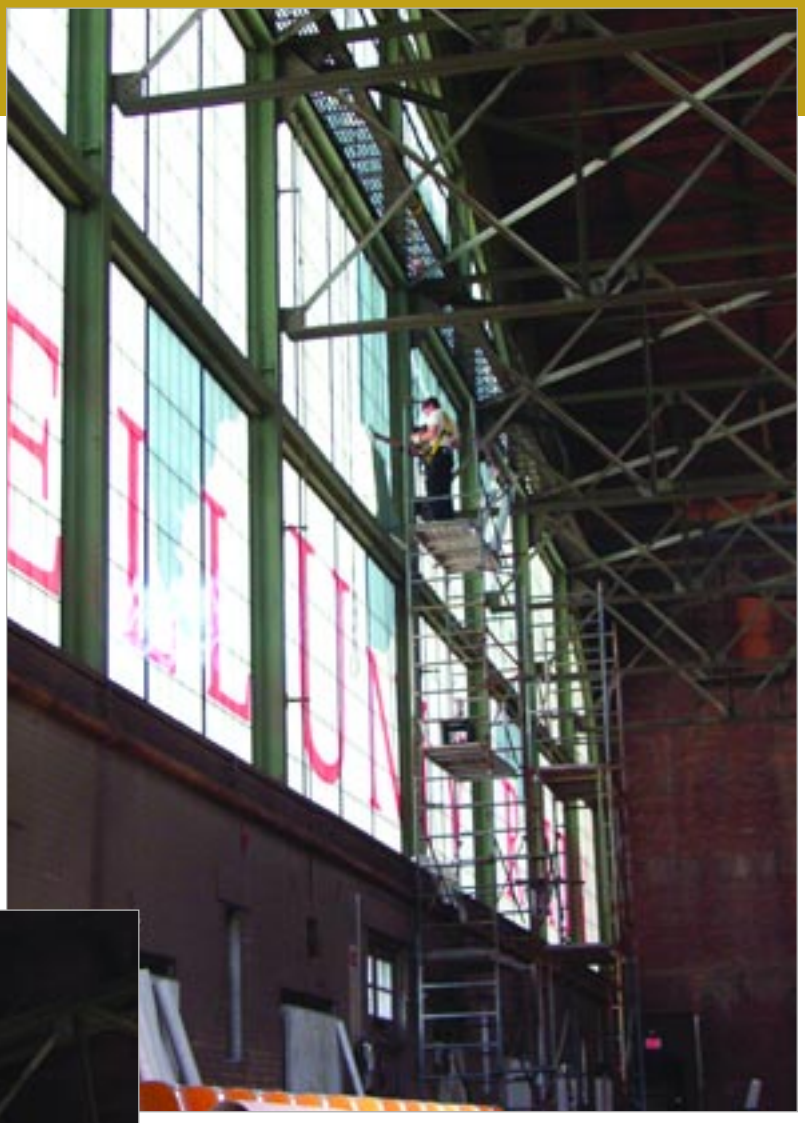
I have one regret. The girl at EMS sold me a $172 length of rope, and the lifts ($49 each) and all this other expensive stuff we needed. When it came to buying to the *harness* she felt that I had already spend a lot of money — so she sold me a cheaper harness, saying it should work fine. Well, let me tell you, I have never hurt so much in *that* part of my body in my whole *life*. Good thing I don't plan on having more children! I should have got the *good* harness and saved my *you know what!*

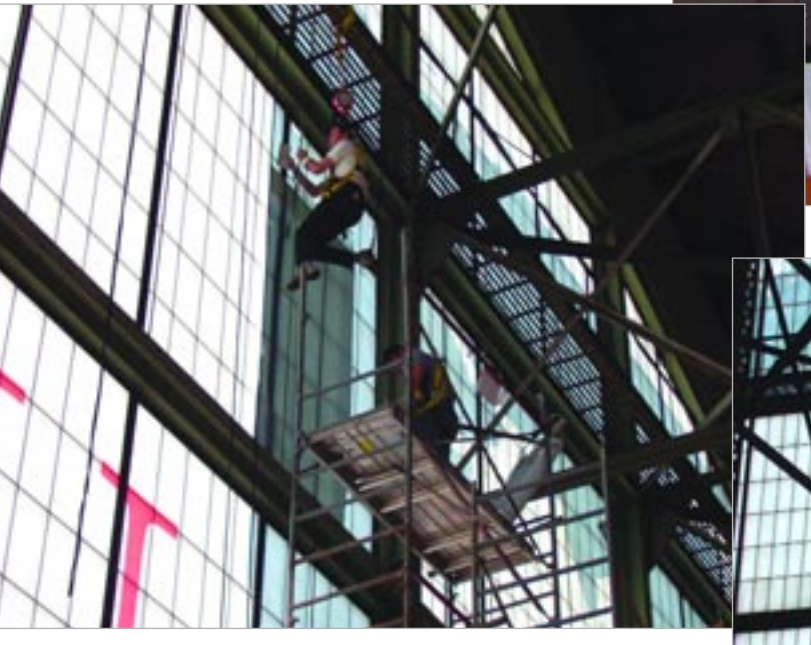
## GETTING HELP

The next job required us to wrap an 11-story building with 90,000 square feet of mesh graphics. The graphic was to act as a facade to cover scaffolding around a building that was being remodeled in downtown Boston.

For this job we called Joanne Rose from Impact Imaging, Reno, Nev., to help.

This was a wise decision on our part, because wrapping buildings is a real *big deal,* and if you miscalculate you could actually kill somebody. Joanne's team did the engineering plans for the layout. They printed the job and were on-site for the installation — which was done by Boston-based Marr Scaffolding.




This job was a strange one. When plan A and plan B failed... I had to resort to plan C. This required me to dangle from a rope in a climber's harness and attempt to apply vinyl from about 20 inches away. Not recommended!

When I got this job, I finally got smart and called in some installation pros to make sure the job was done right the first time. It was as smooth as could be.

As it turns out, the 1.9 gig file that we created was more trouble than the whole job. Joanne made us feel great and the job went off without a hitch. It was so smooth that the 1,400-pound graphic was up and done in only three hours. Sometimes it really pays off to let the pros handle the really tough installs.

## PARTING SHOTS

Clearly, just about any job can be done, but all jobs need a plan A and B. Plan A is the ideal plan that is the easiest to do and the most profitable. Plan B is the process of getting the job done on time and saving face with the customer. Most Plan B's do not have a concern with cost. If you are doing an install job for the first time and it is possible you might not do the job *right*, you might want to consider paying for a professional to be there with you on the install. This way if you get into trouble you have someone there to help you get through it; plus you have someone that will teach you the right way to do the job as you are doing it. When working on any job that requires you to be high above the ground you must use a safety harness. Do not do pull a *Dave King* — you might not live to read my next story! Good luck and be safe and successful; and take lots of pictures for your records.

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