DECALS

Decals provide a means for adding detail to a model that we frequently would never be able to paint ourselves. They additionally add color to a model and make it more interesting and realistic than it would look without them.

Decals are also an excellent way to turn an otherwise well-done model into a sloppy looking mess. Poorly done decals ruin the appearance of a model. Decals that are folded or creased, decals that do not properly follow the contours of the surface or lay down properly over areas of detail do more harm than good and can ruin the work that you put into a model.

This document will describe the method that I use for decals. As with all aspects of modeling the method that you use may vary. The important thing for you to do is to find a method that works for you and stick with it. I'll mention a few things here that others do that I don't and I'll mention a few things that I do that others may disagree with. That's fine, and it doesn't matter because this is the method that works for me.

Surface preparation before starting your decals is critical. You cannot place decals over a flat surface, the surface absolutely positively must be smooth. It does not have to be perfectly glossy (although that is certainly acceptable and preferred) but if you try and place decals over a flat surface you will get what is called "Silvering". Silvering is caused by air being trapped underneath the decal. If the decal is placed on a flat surface the texture of the surface causes many tiny bubbles of air to be trapped under the decal and silvering is virtually guaranteed.

If your surface is flat spray a couple of coats of clear gloss over it before adding your decals. You can always add a coat of clear flat afterwards to restore the flat finish. Once that is done run your hands over the surface and feel for areas that are still grainy. If you find any touch them up with some more clear gloss before proceeding.

Always allow your surface plenty of time to cure before starting to add your decals. I normally allow at least 24 hours and if the weather is humid I'll increase that to 48 hours.

Next, gather the tools that you will need. Here is what I use:

- Curved-tip scissors
- Small dish of water
- Dishwashing detergent
- MicroSol by Micro Scale Industries
- Q-Tips
- Small paint brush (I like "Microbrushes)
- Locking tweezers
- Paper towel

Plan how you will do the decals. Make sure you have places to put your hands to hold the model without grabbing a decal that hasn't set or it will be ruined. Also make sure you have a way to lay the model down without messing up other decals. I am right handed so I usually start at the left and work to the right. If there are several decals close together I'll skip one so there is room for me to work in between

them.

Work slow. Take your time and get your decals right. You do not have to finish them all right now, and the time and effort you take in getting the decals right will be time well spent.

Put a couple of ounces of water in a small dish and add a drop of dishwashing detergent. The soap decreases the surface tension of the water and allows the decals to slide easier. The water should be room temperature, not too cold and not too hot.

Trim the decal from the backing paper. In most cases you do not have to trim very close because the printers will have left a very thin border around the decal and the rest is just backing paper. If you look at the decal sheet under a strong light you can see the borders around the decals. I prefer to use curved-tip scissors for trimming decals because they are usually printed very close together and curved scissors allow you to cut curves mush tighter than straight scissors.

Grab the decal by the backing paper (NOT the decal itself!) with your locking tweezers, and soak it in water for about 20 seconds. Hold it on a paper towel for a few seconds to allow the excess water to be pulled off. Then carefully make sure the decal will slide on the backing paper. If it doesn't just wait a few seconds and it should loosen up. DO NOT force it. If it doesn't want to slide you are better off waiting or soaking it in water for a few more seconds.

This is one of the areas where I disagree with most modelers. Most modelers swear by MicroSet by Micro Scale Industries or some similar solution. I do not like it at all. MicroSet is supposed to cause the decal to soften and conform to the surface better. This it does. It is also supposed to allow the decal to move easier. I have found this to be the exact opposite. On areas where I have used MicroSet the decal will barely move at all, and I do not like that. I have also had some instances where MicroSet has caused a gloss coat of Future to turn white. I personally do not use MicroSet, I just use water.

With the decal still on the backing paper, place it right beside where it needs to be on the model, not right on top of where it needs to be but right beside where it needs to be. This is one area where leaving space between decals is important. Start sliding the decal off the backing paper and onto the model, and when the edge of the decal is on the model stop. Hold the edge of the decal on the model with a Q-Tip, finger tip, or something else soft and then slide the backing paper out from under the decal.

If the decal is not straight at this point do not worry about it! Just get it close to where it needs to be.

If the decal is floating on a layer of water you need to get it out now. Put a Q-Tip against the edge and it will pull the water out from under the decal.

Use a small paint brush to coax the decal into the proper position. Be gentle and try to push against the edges of the decal (yes, the edges do stick up enough that you can push them around). If it doesn't want to slide, dip your paint brush in some water and then put it against the edge of the decal. Capillary action will pull some water underneath the decal and then it should slide. The dishwashing detergent that was added to the water earlier allows the decal to slide easier.

Once the decal is in its proper position, use a Q-Tip to squeeze the water out from underneath it. I prefer to roll the Q-Tip across the decal as opposed to pushing it across the decal. This helps prevent the decal from moving. If it does move, and they frequently will, just gently push it back into position. If it won't slide just use your paint brush to get a little water underneath and it will.

Once the decal is in position and the water squeezed out from under it, use a paintbrush to coat the decal with MicroSol or something similar. I am a big fan of MicroSol (which is not the same as MicroSet) and it will cause the decal to soften and conform to the surface. It will pull a decal down over even highly-detailed surfaces such as raised rivets. Sometimes multiple applications of MicroSol are necessary to get the decal to pull down properly, and if that is the case allow the solvent to dry thoroughly (about an hour) between applications.

IMPORTANT NOTE!!! After applying MicroSol the decal will frequently wrinkle badly. **DO NOT PANIC!** The wrinkles will go away as the solvent dries. Also important is that while the decal is soft you should never touch it. It is almost like paint at this point and touching the decal will almost certainly ruin it. This is another reason I like to leave plenty of working room between decals.

Work on one section at a time; the side of a fuselage or car. Once that area is complete, check the decals thoroughly for problems. Make sure that all the decals conform to the surface properly and that there are no bubbles or creases that need to be fixed. Once you are certain that there are no problems, look over it again and fix the ones you missed. Finally spray a thin coat of clear gloss over the area. This will help protect the decals against clumsy hands and whatever you have the model laying on as you move on to the next area. You must make CERTAIN that there are no decal problems before applying a clear coat because they cannot be fixed once the clear coat has been sprayed.

COMMON PROBLEMS AND SOLUTIONS

- Sooner or later you will cause a decal to fold over itself. It is something that happens to everyone at some point. When it happens (not "If" but "When") don't panic. All is not lost. Use a small paint brush dipped in water and you can usually unfold it. In severe cases, such as when a long narrow decal gets completely wadded up, you may have to take it off and start again. If this happens use a small paint brush to get under one end of the decal and lift it completely off the model. Dump it in your dish of water and it should straighten out by itself. If not use a toothpick or paintbrush to unfold it while it is in the water. If you can get the backing paper back underneath it, do so. If not try and pick the decal up using a paintbrush or toothpick (do NOT use tweezers!) and place it on the model again.

- Decals that have air bubbles trapped underneath are pretty easy to fix. Just pop the bubble with a pin, and then paint it with MicroSol. If the hole shows up just put a dot of paint of the appropriate color over it.

- Creased decals are frequently fixable but it isn't always easy. Sometimes just cutting the crease with a razor blade will allow it to lay down flat, but other times cutting a piece out of the decal is necessary. In either case the crease will probably be visible. Several applications of MicroSol may help minimize the visibility of the damage though.

- Extremely convoluted surfaces may look impossible to get a decal to lay flat on but MicroSol and solvents like it will surprise you. They will pull decals down over very uneven surfaces and make them look smooth and painted. It may take multiple applications to get the decal to conform properly and you may still have some air bubbles to deal with, but if you have never used these solvents you will be surprised at what they can do.

- You may find an area of a decal that is not properly stuck to the model and cannot be pulled down with a setting solution. If this happens mix a small amount of Elmers White Glue with some water so that it is about the consistency of very thin paint. Use a small paint brush to get some of the watered-down glue on the back of the decal and it should then stick properly. Future Floor Polish can also be used for this purpose.

Date of last revision: May 21, 2005