

MODELflex

INSTRUCTION MANUAL

WARNING – ALTHOUGH MODELflex IS A NON-TOXIC WATER BASED PAINT, ADULT SUPERVISION IS ALWAYS RECOMMENDED WHEN USING SPRAY EQUIPMENT AND PAINT COATINGS OF ANY KIND.

1. ABOUT MODELflex

MODELflex is or has . . .

- | | |
|---------------------|-------------------------------|
| 1. Non-toxic | 8. Superior flexibility |
| 2. Non-irritant | 9. Accurate color replication |
| 3. Non-carcinogenic | 10. Fine (.5 to 1 mil.* |
| 4. Non-flammable | thick) coat |
| 5. Sprayable and | coverage |
| Brushable | |
| 6. Colorfast | 11. No foul odor |
| 7. High adhesion | 12. Long shelf life |

* 1 mil is one thousandth of an inch.

2. SURFACE PREPARATION

Be sure all substrates are free of dust, rust, dirt, oil, grease, mold release, chipping paint, and body oil. Any of the above foreign materials can obstruct the adhesion properties of MODELflex. To remove oils and grease use a dish detergent with warm water. Scrub with a toothbrush, or soft yet firm bristle paint brush. Allow to air dry or use a hair dryer. Never dry with cloth, paper tissue, or towel. This will cause static electricity and attract dust onto the surface.

- A. If just removing dust or lint use the air from your airbrush, or a 2 inch or larger fine hair paint brush.
- B. It is not necessary to etch or abrade any substrate surface to increase adhesion quality.
- C. Be sure to use a very fine sand paper to finish any body putty or filler. MODELflex will emulate any surface imperfections.

- D. To prevent body oil getting on the clean surface, wear a pair of light latex gloves or plastic disposable gloves.

- E. When painting over other painted surfaces be sure to feather the edges of pad printing so it won't show an outline. MODELflex will cover, but will also accent any high spots on the surface.

3. PAINT PREPARATION

- A. MODELflex is bottled in jars that fit directly on all Badger Air-Brushes. This allows you to attach the paint to the airbrush without any messy pouring.
- B. Before you attach the jar of paint to your airbrush, shake well (about 15-30 seconds). After shaking always check the bottom of the jar with a stir stick or small piece of tubing or 1/8 wooden dowel. If paint seems thick on the end of the stir stick, stir for an additional 10-15 seconds, replace the jar cap, and shake again. (This will prevent any settled pigment from plugging the paint siphon tube). The paint is now ready to spray or brush.

4. APPLYING MODELflex

- A. Spraying. MODELflex can be applied with most airbrushes and spray guns. Internal mix type airbrushes work best for most modeling applications. The internal mix type provides a fine dot pattern.

External mix type airbrushes can also be used. The external mix dot pattern will be larger and more material will be applied much faster. MODELflex is a water borne paint film, and requires more air pressure than much lighter petroleum coatings. MODELflex requires 25 to 30 psi (pounds per square inch) of air pressure.

- B. Appearance of MODELflex.** Since water-borne paints are heavier by nature, the way you see it flow out and lay down is much different than much lighter lacquers or enamels.

As MODELflex is sprayed on, it will appear heavy and thick; this is to be expected. What you are seeing is just the water. As MODELflex dries, the water evaporates and the acrylic pigment subsides down to a nice thin coat of paint. The best experiment is to practice with this paint on several different substrates to see how it conforms to those surfaces. A good rule of thumb is not to practice on any finished or final pieces, but to practice on comparable surfaces.

NOTE: When spraying for any long periods of time, paint may build up inside the spray regulator. This will change the shape of the spray pattern and may spit un-atomized paint on the model surface. Careful and attentive airbrushing will prevent such circumstances from occurring.

- C. MODELflex may be applied with other conventional means as well (paint brush, cotton swab, sponge, etc. . . .).**

5. AIRBRUSH CLEANING DURING PAINTING PROCESS

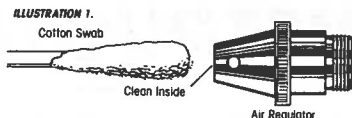
- A.** After finishing with your first color, remove the paint jar from the airbrush, unscrew jar adaptor, and replace and seal the paint jar's original cap. Place the jar adaptor on a second jar containing cleaner. We recommend using Badger MODELflex Cleaner, or warm water and any all purpose cleaner.
- Reconnect the jar to the airbrush and spray until a clear spray is observed. This will clean out the syphon tube and airbrush. Once a clear spray is obtained, slightly loosen the spray regulator at the front of the airbrush and spray again for 5 to 10 seconds. This will "back flush" the airbrush. Once you have back flushed your airbrush, re-tighten the spray regulator and again spray the airbrush with your cleaning solution. Direct the spray into

your spray booth or waste can (lined with tissue or crumpled newspaper). These steps should be adequate for in process, or color change cleaning of the airbrush.

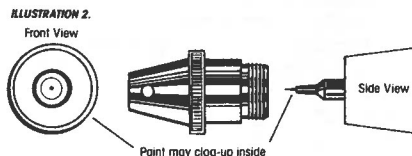
6. POST PROJECT CLEANING

(Illustration 1) Remove spray regulator from head of airbrush. Dip cotton swab in cleaner and place swab inside of air regulator and spin around until clean.

Remove the needle and use another cotton swab to clean any paint residue from the needle. Replace spray regulator and needle. It may be advisable to remove entire head assembly and clean ultrasonically, (Denture cleaner may be a sufficient alternative).



(Illustration 2) Paint may build up inside.



- A.** If you forget to clean up right away (within 15 to 20 minutes), paint may set up and clog the paint tip, and the entire head assembly. To loosen up the paint place the head assembly in very hot water. Let stand for about 15 minutes, then remove from water clean as stated above and reassemble. If this doesn't work you may have to replace the head assembly. Please take extra care to make sure cleaning is done thoroughly and promptly.
- 7. MASKING WITH MODELflex**
- A.** To tape areas of any substrate, the first layer of paint must be dry and hard. If paint is not completely dry, the adhesive may join with the coating in a bonding action and will lift the coating when the tape or mask is removed.

There are several types of masking films available. Of all the available, the 3M Fine Line automotive striping tapes work very well. A 3M high grade masking film for drafting use is also available. If you choose to use another brand or type of

masking material, be sure the adhesive is not too strong, this can lift the paint coating. To weaken the adhesion properties on a different masking medium rub your finger along the adhesive side of the tape. The body oil will reduce the tape adhesion qualities.

- B.** When removing masking film from a painted substrate, there is a specific method. (See illustrations 3, 4, and 5)

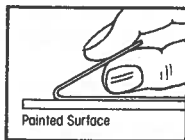


ILLUSTRATION 3.

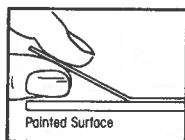


ILLUSTRATION 4.

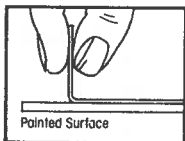


ILLUSTRATION 5.

(Illustration 3) The correct procedure. – ALWAYS pull straight back on the mask itself.

(Illustration 4 & 5) – NEVER – NEVER – This method increases the surface area being lifted, therefore increasing the probability of lifting the paint coating from the substrate.

- C.** NEVER allow tape or masking films to stay on any substrate longer than 5 to 10 minutes. When tape is applied to any uncured paint surface, the tape adhesive may bond or settle into the uncured paint; this will lead to the lifting off of attached layers of paint. To keep your tape in clean and good condition, store it in a plastic zipper type storage bag.

(Illustration 6) – Sticky edges can and will collect dust, lint, hair, etc. . . . Keep a piece of wax paper on your work area to lay your tape on. Never lay it down on paper, cloth, bench top, sanding area, etc. This is where it will get the "fuzzies."

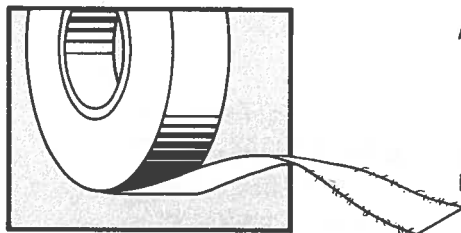


ILLUSTRATION 6.

If your tape has "fuzz" and you place it down and paint over it, the "fuzz" will be buried in the paint and will tear and lift the edge of your paint line.

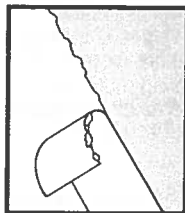


ILLUSTRATION 7.

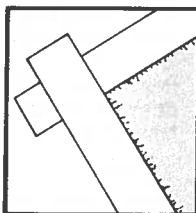


ILLUSTRATION 8.

(Illustration 7 & 8) – Saw edge: Bad edge when tape is removed. Fuzzy edge before painting.

- D.** Take the time to look over the edge of your tape with an ordinary magnifying glass. This will show any "fuzz" and prevent the saw edge. When cutting tape use very sharp or new blades in your hobby knife. This will prevent tape from snagging and saw cutting the edge of your tape. Remember – never allow children to use sharp knives without adult supervision. Be sure to store knives and spare blades out of reach of children.

8. DECAL APPLICATION

- A.** Decal application can be performed as soon as the paint coating is dry, (1 to 2 hours by air drying or 5-10 minutes by using a hair dryer).

You may use decal setting solution after applying decals. NOTE: Some decal solutions may attack the MODELflex paint film. We recommend Solveaset and Micro-set decal setting solution. After decals are set you may cover with ANY clear coat.

NOTE: MODELflex can be sprayed over any other brand or type (Enamel or Lacquer) of paint coating. Also, if you paint MODELflex as a base or first coat, other paint coatings can be applied over the MODELflex without cracking, wrinkling, lifting, or distorting the substrate surface.

9. STRIPPING MODELflex FROM METAL AND PLASTIC

- A.** If you are just practicing, you may remove the paint immediately with hot water (over 120 degrees but not over 128 degrees), dish detergent, and a light scrub brush. This will work usually within 5-10 minutes after application.
- B.** If, while painting, a flaw, speck of dust, dirt, or grease is discovered after 20 minutes, place the painted piece in very hot water for about 5 minutes. Then

scrub as stated above and rinse with warm clean water. Allow to air dry or dry with hair dryer. Once dry and clear of any debris, a fresh coat of paint may be applied.

- C. An alternative for removal of MODELflex is to purchase a safe water soluble commercial paint stripper. Check your local hobby or hardware store. NOTE: Remember, when using materials designed for paint removal, be sure to have an adult present to supervise.

10. AIR SUPPLY

- A. An air supply with a minimum capacity of at least 25-30 psi air pressure is

required. With the exception of the 80-2, all BADGER compressors will meet this requirement; however, a 180-22 or larger version compressor is highly recommended. An accurate air pressure regulator and adequate moisture trap are also recommended. Use the air regulator on larger compressed air sources to maintain accurate pressure while spraying. A good moisture trap will eliminate any water in the airline produced by the heat of a compressor. Without a moisture trap, water may condense in the airline and interfere with the spray pattern.

11. SCALE COMPARISONS FOR MODEL AIRBRUSHING

For small (Z, H, H.O.) scale models, use of a medium head assembly and needle is recommended. For large scale ($\frac{3}{8}$ - $\frac{1}{2}$ or larger) models a heavy head assembly and needle or a touch up gun may be considered.

SCALE	RECOMMENDED BADGER AIRBRUSH MODEL	HEAD & NEEDLE
Z	100, 150, 200 Gravity Feed	Medium
N	100, 150, 155, 175, 200, 360	Medium
H,O	100, 150, 155, 175, 200, 350-M, 360	Medium
O	100, 150, 155, 175, 200, 360	Medium, Heavy
G	175, 200, 400 Touch Up Gun	Heavy

12. MODELflex COLOR AND COLOR SELECTION

- A. When the colors of MODELflex were selected, we chose the most popular and most requested colors. Our colors are matched only from original drift cards or actual color chips and fluid paint. We give you our assurance that we will not produce any color we cannot substantiate with accurate data.

MODELflex colors are very opaque and in most instances will cover in one coat. The bright colors; red, yellow, orange, should be undercoated with 16-12 primer gray.

If painting over black plastic, test the color over a black sample first. If the color turns too dark, then undercoat with a light colored paint.

We are confident that your recent purchase of MODELflex will provide you with plenty of fantastic results and enjoyment in your hobby painting. If you have any further questions regarding MODELflex or any of our other fine Badger products, please call toll free 1-800-AIRBRUS(H), and ask for the product information or MODELflex paint departments.

