



SIMPLY THE BEST™

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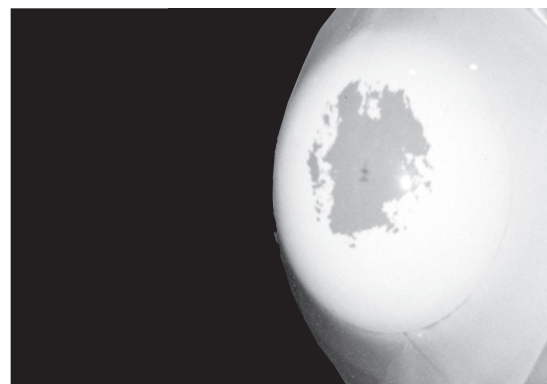
ABRASION RESISTANT PROTECTIVE MASKS FOR AIRCRAFT LEADING EDGES

SHOP MANUAL

CONGRATULATIONS!

**YOU ARE INSTALLING THE VERY BEST RADOME, NOSE CONE
AND LEADING EDGE EROSION PROTECTION AVAILABLE TODAY!**

**YOU ARE GOING TO PUT AN END
TO THIS PROBLEM** by installing a
P.M. RESEARCH erosion protective
mask over your painted radome.



YOU WILL BE DELIGHTED with the
performance of your **P.M. RESEARCH**
erosion protective mask. As delighted
as this happy King Air customer was after
five years and four months of service
in the Northeastern United States. The
rest of the aircraft needed painting, but
the radome and our protective mask still
look GREAT!



OUR PRODUCTS ARE ALSO THE EASIEST TO APPLY.

You will notice that we use a lot of “Caution” and “Note” headings throughout this manual. These are not meant to frighten or intimidate you in any way. The process is very simple and easy to do. We do, however, want to give you as much information as we can so that you will be able to install your first mask without any problems. The entire process takes from 15 to 30 minutes. It is important, however, that you preview these instructions thoroughly so that you understand the process before beginning. An instructional video is available at \$25.00 and is well worth the minimal expense. If you prefer, you may view the video and send it back within 60 days for a full refund. Seeing it being done after reading the manual gives you a quick and easy understanding of the process.

Thank you for selecting a P.M. Research, Inc. protective mask. Please read this entire manual before attempting to apply the Protective Mask to the aircraft. See also General Practices Pages 12 to 18. See also Tape General Practices Page 14.

NOTE: We recommend that our mask be applied over the paint for maximum effectiveness.

CAUTION: We recommend that our radome protective masks not be placed over Lightning Diverter Strips. On most radomes, the usual final trim place is just forward of the Lightning Diverter Strips anyway. However, if you have a situation where the Lightning Diverter Strips come forward of our thin mask, then we recommend that the diverter strips be placed over our masks as the ideal solution, or that you trim our mask around the diverter strips. In this second case, be sure our mask is terminated on a smooth substrate and is completely bonded to that substrate.

Materials Required

1. Protective Mask (Aircraft)
2. Marking Pen (Water Soluble Ink Only)
3. Spray Bottle (Included with Each Order)
4. Wetting Solution (16 Ounces):

We recommend using a fresh batch of wetting solution each time

- a. 4 oz. of 70% by volume Isopropyl Alcohol (the drug store variety). The ratio of alcohol to water may be varied to suit your conditions.

Caution: Use only the drug store variety which is 70% alcohol. **Do Not** use the aircraft deicing variety which is 98% alcohol.

- b. 12 oz. Distilled Water.

Note: Use "Distilled" Water only. Any other can have rust particles or other contaminants which could get under the mask at application and cause a rust stain or other problems later.

- c. Plus 14 drops of Standard (Clear or White only) Dishwashing Liquid (such as "Ivory®" brand) per 16 ounces of wetting solution. Note: Concentrated Liquids such as "Ultra Ivory®" and other major USA Brands of Concentrated Dishwashing Liquids only require 7 drops per 16 ounces of wetting solution. Other Concentrated Dishwashing Liquids will have to be adjusted according to their concentration. For your convenience, we

have provided a dropper cap which will fit the bottle of most USA Brands of Dishwashing Liquids.

Note: We recommend Ivory® dishwashing liquid because it is either white or clear and has no coloring agents which may color the mask.

5. Plastic Squeegee
6. Masking Tape 1/4" Wide
7. Industrial Razor Blade Knife (New Blade Only)
8. Scissors or Tin Snips
9. Paper Towels (High Quality, Oil Free, Single Ply Only, No Print)
Note: Multiple ply paper towels have adhesive which may turn into a release agent when alcohol is applied. Use only high quality plain white or natural color paper towels. We have found that some supposed high quality paper towels have oil in them. Test and choose your paper towels carefully.
10. For Installation Over Stripes -- Sandpaper (600-1500 Grit), Sanding Block and Rubbing Compound.
11. Carpenter's Square
12. Tape Measure
13. Thin Needle
14. Rubber hospital-type gloves
15. Non-silicone based automotive type paste wax

Caution: Silicone based wax, RTV and other silicone agents can spread over a wide area and act as a release agent for paint as well as for adhesive. They seem to keep coming back up to the surface no matter how hard you try to clean them off. Try to keep these materials out of your shop.

Please Note: Most waxes have a small amount of silicone to improve the shine. These are OK! It is the silicone based waxes that must be avoided. These will not harm the mask; however, they may cause problems in the future when painting the aircraft.

CAUTION: Do not apply Protective Mask in direct sunlight as blistering and other application problems may occur.

CAUTION: Application of these Protective Masks should be completed at room temperature in as short a time period as possible without interruption, to avoid application problems.

PLEASE NOTE THE FOLLOWING:

For PM-110 for Learjet models 23, 24, 25, 31, 35 & 36 with deice hole in radome; see special instructions attached to mask.

1. *Preparation*

1.A. Refurbish nose cone (etc.) to provide a smooth substrate, then paint. Allow to dwell until paint is fully cured before applying Protective Mask.

1.B. TO EASE INSTALLATION OVER STRIPES: If stripes are applied to an area the protective mask will cover, we recommend that you use 600 to 1500 grit sandpaper to “break” the sharp edge of the stripes to a 45° angle. Then use rubbing compound to bring back the luster of the stripe’s broken edge.

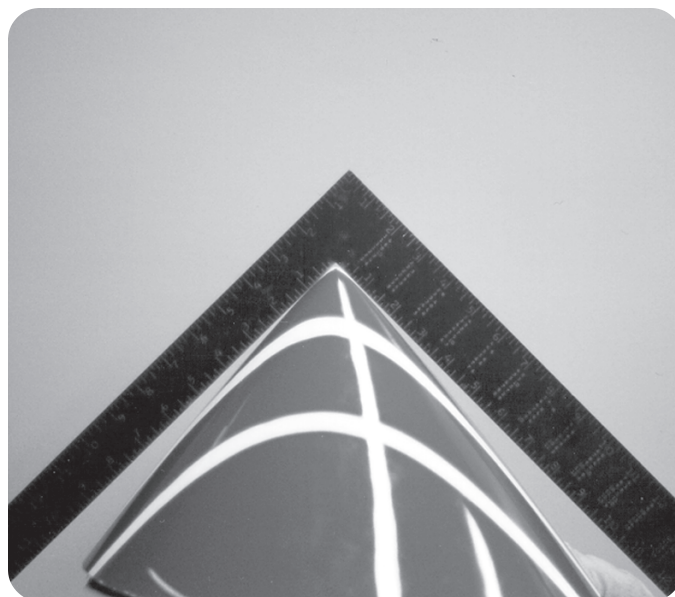
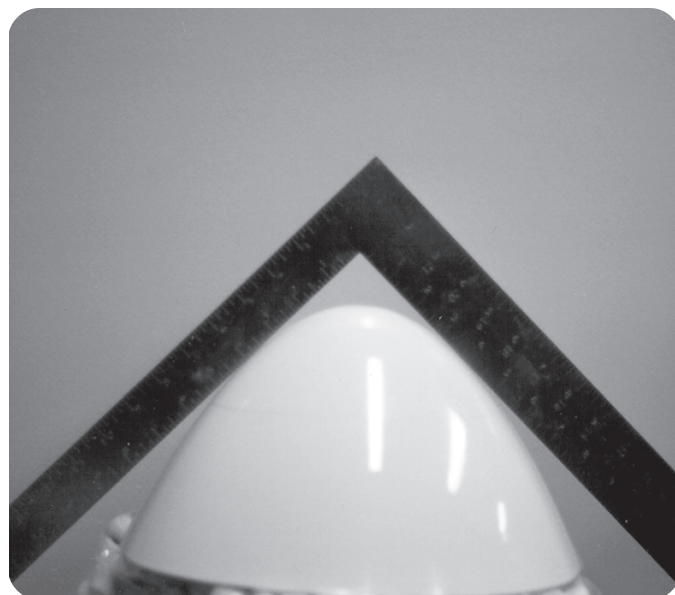
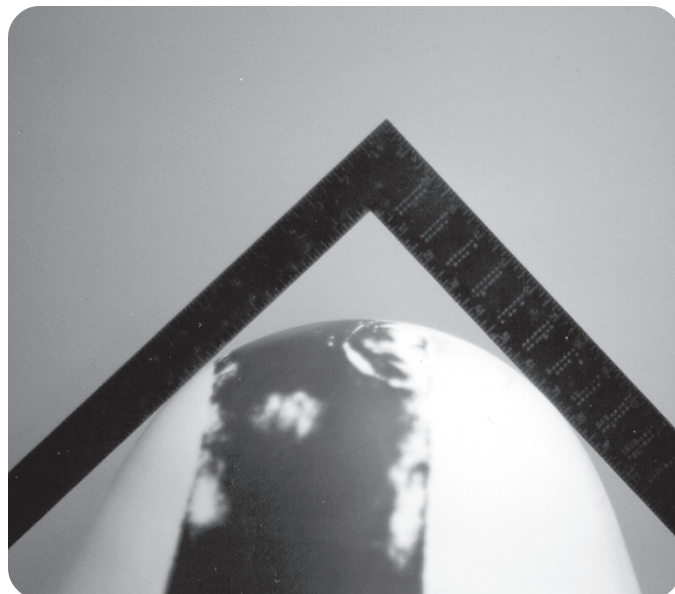
1.C. Make sure hands are clean. We recommend the use of rubber hospital-type gloves.

1.D. Thoroughly wash refurbished smooth painted nose cone (etc.) with wetting solution or appropriate solvent and wipe dry. Be sure no wax, oil or other release agent is present.

1.E. Make sure the mask you have is the proper one for your aircraft before you remove it from the rigid support. Bear in mind that some of the material at the back of the mask is there only because it is required for our manufacturing process. Therefore, the very back portion of our mask and support may show some clearance between radome and mask or support. This does not necessarily mean that you have the wrong mask. Remember that you are only using the front portion of the mask. We can only accept returned masks in saleable condition. That is as you receive them, clean and completely intact. If a return is necessary, call for a Return Authorization Number and approval. No returns will be accepted without a Return Authorization Number.

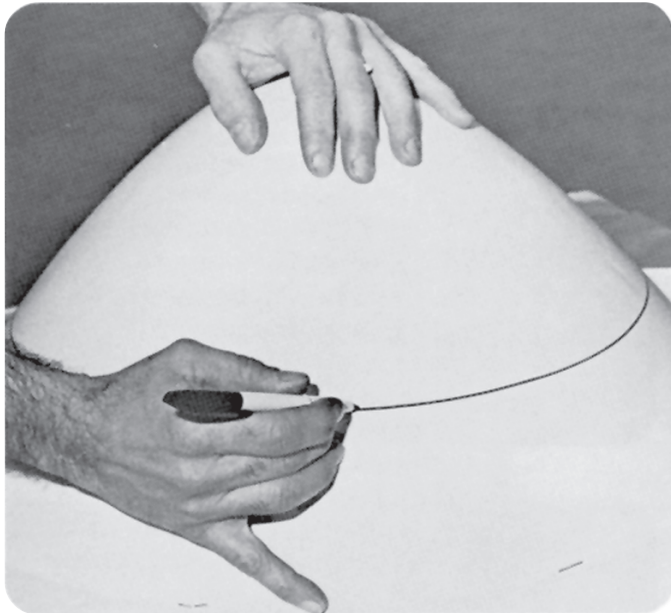
1.F. Keep in mind that some of our masks are manufactured much deeper than is required to do the job. On some of the more pointed ones you may need only 1-1/2 inches of depth (front to back) to get the job done. The pointed masks are the most difficult to apply if you try to put them on with a greater depth than required. We use the following “rule of thumb”:

The mask should cover the radome toward the back of the aircraft at least to a point where a yardstick rests on the radome when held against the radome and tipped at a 45 degree angle, or by placing the 90° angle of a carpenter’s square across both sides of the radome with the center of the 90° angle on the center line of the radome. Our protective mask need only cover to the point where both legs of the square touch the radome, as depicted in the following photographs:





2. Remove the flexible protective mask from the rigid support by cutting with a razor blade knife.



3. *Make Template*

- 3.A. With marking pen, draw a nice straight line around the support at the desired location. (Note how the little finger can be used as a guide along the bottom of the support.)
- 3.B. Score the support at the line with a knife. Snap the material at the score line and sand smooth. Tin snips or scissors can also be used to cut on the line. (You may wish to mark the template with the PM#, model of aircraft and save for future use.)



4. Establish fit with template. Place template on nose cone and physically see if it is the length and shape you desire.



5. Place mask on nose cone and rotate to establish fit and to align the contours of the mating parts.

CAUTION: DO NOT REMOVE THE PLASTIC RELEASE LINER AT THIS TIME.

Please note that this manual depicts the application of a Nose Cone Protective Mask. Other protective masks will be applied using the same basic procedure contained herein. However, the procedure may have to be modified, at your discretion, to suit the situation.



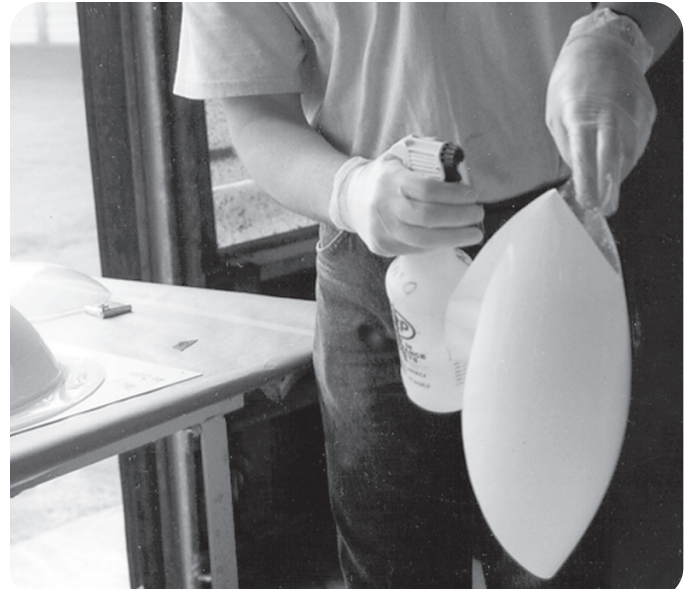
6. After alignment is complete, mark the top center or 12 o'clock position toward the back of the aircraft by cutting a small slit in the mask at that position.

Remove the mask from the aircraft after the slit is made.

CAUTION: Do not use a marking pen either on the nose cone or on the mask for orientation.



7. Spray the nose cone generously with wetting solution.



8. Separate the plastic release liner from the mask in several small steps.

NOTE: To facilitate starting the separation: Make a small cut on the edge of the back side of the mask cutting through the white release liner ONLY. Then flex the mask at the cut to begin separation.

CAUTION: Separating the plastic release liner must be done in steps by peeling away only a small amount of the release liner each time and spraying the adhesive of the mask with wetting solution. Then peel away a little more and spray again in steps until completely separated. Then spray the entire mask again generously. **If this is not done in small steps, the mask can stretch and/or stick to itself, and be ruined.**



9. Place wetted mask on wetted nose cone and orient for best fit with locator slit at top or 12 o'clock position.



10. Smooth with hands.



11. Taking care to avoid blisters under the mask, squeegee from center toward back of aircraft to smooth out the mask.

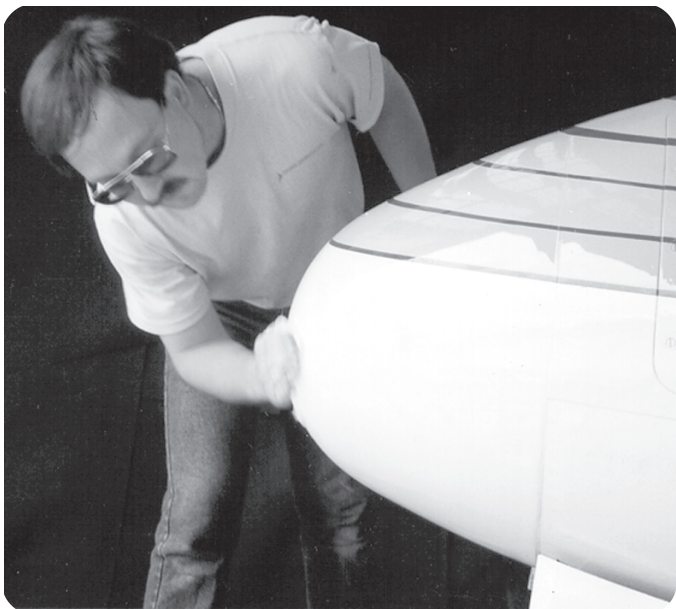
CAUTION: Always work from the center of the mask toward the back of the aircraft being careful not to get any area stuck down while moisture remains in front of it. Do not seal down all the way to the back. You will be trimming this and peeling it off later on. Seal down just beyond template. Always squeegee from the center of the mask toward back of the aircraft.

CAUTION: Use only moderate pressure on the squeegee. Too much pressure can cause a condition where hundreds of small bubbles appear under the mask resembling beer foam.

If any blisters appear under the mask, it is usually because you have sealed the back down before all the moisture is out from under the front, leaving a small blister filled with moisture. If you cannot pull the mask back up to relieve the blister, prick the blister with a thin needle and squeegee the water out the hole. The mask will then seal down.

If blisters appear some period of time after the mask has been successfully installed without blisters, your paint may not have been completely cured and is outgassing under the mask. Again prick the blisters and squeegee back down.

See Page 15 for Water Blister Removal Instructions.



12. Wipe off excess fluid with paper towels.

*An instructional video is
available for sale and is
most helpful
to first-time users.
Dial (585) 593-3169*

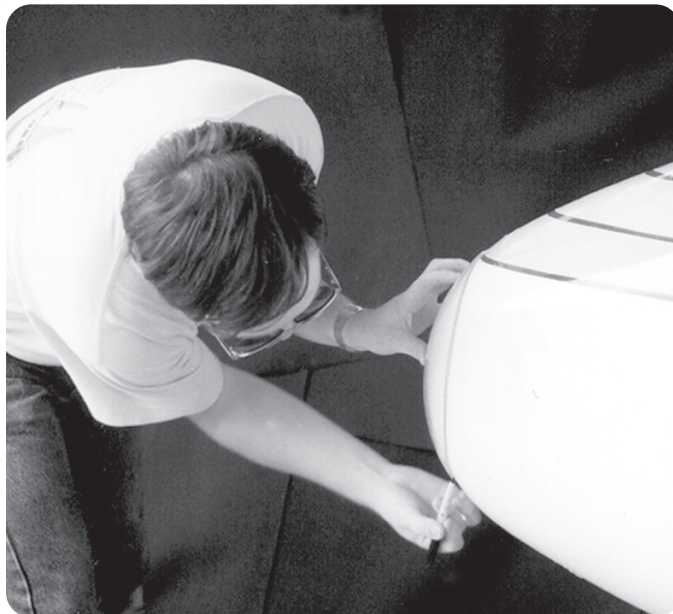


13.B. Adjust for fit by measuring to bulkhead.

*If you have questions,
don't be afraid to ask..
Dial (585) 593-3169*



13.A. Place template over mask.



13.C. With water soluble marking pen, draw a line around the edge of the template. Remove template.



14. Tape fore or aft of the line (whichever you prefer) with 1/4" wide masking tape.

NOTE: If you hold the roll of tape 12" or more away from the radome, the tape will lay down to the line without buckling or wrinkling.



15. Using the edge of the tape as a guide, finish trimming the mask with an industrial knife or razor blade.

NOTE: Use new blade only.

CAUTION: Do not cut too deep. You can feel the knife drag if you hit the nose cone. Avoid cutting the nose cone itself. Cut only the mask.



- 16.A. Remove tape and cut a slit across the excess material (behind line). Separate the material at the slit, peel off the excess and discard.



- 16.B. Spray with wetting solution and wipe off ink. Wipe front to back only so as not to force any ink under the mask.



17. Spray mask with wetting solution to lubricate for final squeegee.

HAVE SUGGESTIONS?
We would like to hear them.
(585) 593-3169



- 19.A. For stripes around the nose cone, use your finger to work wetting solution near the stripes from the center front around the radius to the back of the mask and soak it up with a paper towel. Repeat until all moisture is expelled.

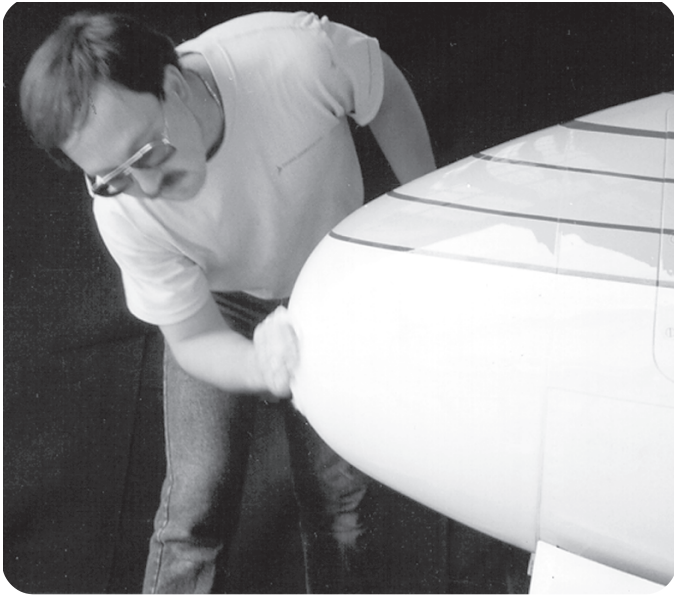


18. Final squeegee to assure that all wetting solution is purged from between mask and nose cone and that no blisters exist. This also assures that the mask's adhesive has good contact with the nose cone.



- 19.B. Then, with the stiff back of the squeegee, parallel to the stripes, run the squeegee along the edge of the stripes from the center front to back to get mask to lay down next to the stripe.

20. Wipe excess fluid off with paper towels.



21. **Wax with a good (non-silicone) automotive type paste wax to prevent permanent bug staining.**

Please Note: Most waxes have a small amount of silicone to improve the shine. These are OK! It is the silicone based waxes that must be avoided. These will not harm the mask; however, they may cause problems in the future when painting the aircraft.

If you wish to paint over the mask:

Allow to dwell at room temperature 24 hours after installation before painting, and skip step 21. **DO NOT WAX.**

CAUTION: Do not apply heat to speed the drying process. This may cause blistering.

Wash mask with Isopropyl Alcohol.

Wipe dry and paint with suitable polyurethane paint system.

NOTE: Although our masks can be painted over, we recommend that they be installed over clean, smooth paint for maximum erosion protection. Allow fresh paint to dwell until substrate is cured before applying the mask.

Finished Protective Mask:



MAINTENANCE

1. **Clean and wax periodically as required.**
We recommend that you use our wetting solution or full strength Spray Nine®Y or full strength Mr. Clean® to clean the mask. Use a non-silicone based paste wax after each cleaning.
2. The user should determine an appropriate schedule to check for damage (i.e., cuts, blisters, perforations, edge lifting, etc.).
3. **THE MASK SHOULD BE REPLACED AT THE FIRST SIGN OF DAMAGE.**
4. **Mask Removal:** Carefully score the top surface of the mask with a razor blade knife dissecting the mask into triangular pie-shaped sections approximately 4" to 6" at the base. Pull sections off at an angle of 180°.
5. If adhesive residue remains after removal of film, clean residue off with a natural or white rag saturated with 98% Isopropyl Alcohol (de-ice variety). Scrape residue off with a squeegee/phenolic scraper.

SOLUTIONS TO PROBLEMS ENCOUNTERED BY CUSTOMERS

Problem 1:

Customer applied protective mask and it looked fine when he left for the night. The next day he noticed small blisters or bubbles under the mask.

CAUSE: Paint is still outgassing.

SOLUTION: Be sure paint is totally cured before applying the mask. The small bubbles can be eliminated by pricking them with a thin needle, and squeegeeing them down again.

See Page 12 for Water Blister Removal Instructions.

Problem 2:

After application of mask, customer noticed “beer foam” appearance under mask.

CAUSE: Mask was overworked and squeegeed too hard.

SOLUTION: We suggested they apply a new mask, and use moderate pressure on squeegee.

Problem 3:

Customer stated that protective mask would not stick. Mask was returned to P.M. and was found to be okay.

Possible causes are as follows:

- a) Wax or oil on aircraft which prevented adhesion.
- b) Silicone based wax on aircraft which prevented adhesion.

CAUTION: Silicone based wax, RTV and other silicone agents can spread over a wide area and act as a release agent for paint as well as for adhesive. They seem to keep coming back up to the surface no matter how hard you try to clean them off. Try to keep these materials out of your shop.

- c) Teflon finish on aircraft which prevented adhesion.
- d) Spray bottle contaminated with oil, wax, etc.
- e) Solution contaminated with oil, wax, etc.
- f) Multiple ply paper towels with adhesive holding the two plys together. The adhesive in the towel becomes a release agent (oil, etc.) when alcohol is applied.
- g. Other contamination of paper towels.

Problem 4:

The adhesive is gumming up or balling up under the mask.

CAUSE: Improper mixture of wetting solution (too much alcohol) or wrong alcohol. Do not use deice alcohol. Use the drug store variety or “rubbing alcohol” that is 70% by volume.

See Page 2, Materials Required, #4a.

SOLUTION: Mix wetting solution according to shop manual.

Problem 5:

Blisters appear while mask is being applied.

CAUSE: Wetting solution trapped underneath is caused by sealing down the back before the wetting solution is completely squeegeed from the front of the mask.

SOLUTION: Always squeegee from front to back only. Start at the center and work all moisture toward the back of the mask. (Back of the mask is toward the back of the aircraft.) If you are beyond this point and blisters already exist, prick each blister in the center of the blister with a thin needle and squeegee toward prick hole to expel the moisture. The mask will lay down and stick.

See Page 12 for Water Blister Removal Instructions.

Problem 6:

Mask puckers up in back.

CAUSE: Extra material is supplied on most masks.

SOLUTION: Trim the mask off closer to the front.

RULE OF THUMB: The mask should cover the radome toward the back of the aircraft at least to a point where a yardstick rests on the radome when held against the radome and tipped at a 45 degree angle.

Problem 7:

Mask has bug stains on it.

PREVENTIVE ACTION: After application, the mask should be waxed with a good, non-silicone based paste wax. Periodic cleaning and waxing will keep your mask looking good. (See Step 21)

Problem 8:

Mask has rust stains underneath it.

PREVENTIVE ACTION: Use only distilled water in mixing wetting solution. Tap water can contain many contaminants, including rust particles.

Problem 9:

Engine exhaust has stained mask, giving it a gray tint.

PREVENTIVE ACTION: Clean the mask regularly with our wetting solution, full strength Spray Nine®* or full strength Mr. Clean®. Apply a non-silicone based paste wax after each cleaning.

* www.spraynine.com, 518-762-4591
or toll-free 800-477-7299

FREQUENTLY ASKED QUESTIONS

Q. What is the material?

A. The material is thin, clear, self-adhesive Polyurethane that is approximately .012 inches (.305mm) thick. Since it is clear it will not change the cosmetic appearance of the aircraft.

Q. Will it turn yellow?

A. No, it will not turn yellow. The material is not affected by ultraviolet light.

Q. Do you sell direct or must I buy from a distributor?

A. You can buy direct or through one of our dealers or stocking distributors.

Q. What is the lead time for delivery?

A. We stock every catalog product, every day. If we have an order by 3PM Eastern Time, we can ship that day.

Q. Can I get a discount for larger orders?

A. Yes, 20% off retail, 5-14 pieces mix and match or 22.5% off retail if you buy 15 or more.

Q. What is the shelf life?

A. Although we have no control over our customers' atmosphere or storage conditions, we recommend the following:

1. Keep product sealed in its original box.
2. Do not store anything else with or on the product.
3. Store the product in an atmosphere that is clean and dry.
4. Store the product at room temperature.
5. Continually rotate product stock.

If the above conditions are met, shelf life is not an issue since it will be greater than five years.

Q. What FAA form or approval is required to install erosion protective masks (boots)?

Ans: Since the installation of PM Research, Inc. masks is similar to applying a thick coat of paint, the PM Research, Inc. line of Erosion Protective Mask (boots) can be installed and the aircraft returned to service in the same manner as if it was just painted. Our products are not structural in nature and are not required to be FAA approved. We are not required to have a STC and we are not required to be PMA approved. Form 8130 is not required.

Q. Is the product traceable?

A. The erosion mask products are produced by PM Research Inc. in Wellsville, NY and are fully traceable. We do offer Certificates of Conformance at no charge.

Q. How is it installed?

A. The material is self-adhesive. The backing is peeled off and the product is installed wet; with a solution of distilled water, alcohol and dishwashing liquid. This prevents the material from sticking until the location of perfect fit is located. The moisture is then pressed out with hands and also with a plastic squeegee. A trim line is established and the mask is trimmed with a sharp blade.

Q. How soon can I fly after Erosion Protection is installed?

A. 60 percent adhesion is obtained after 1 hour and near 100 percent after 24 hours. You can fly 1 hour after installing a Radome boot because the slip stream will hold it on and not try to peel it off. For other products with edges that are exposed to the force of the relative wind, a longer dwell time is required.

Q. Is maintenance required over the life of a boot?

A. Clean and wax periodically as required. We recommend that you use full strength Knight's Spray Nine® or full strength Ultra Mr. Clean® to clean the mask (boot). Use a non-silicon based paste wax after each cleaning. Waxing will make cleaning easier and prevent bugs from staining.

Please note: Most waxes have a small amount of

silicone to improve shine. These are OK! It is the silicone-based waxes that should be avoided to prevent problems with painting the aircraft in the future.

Although PM Research does not recommend any particular brand, we know that Collinite Corp. (315) 732-2282, produces a couple of fine waxes which come highly recommended. The one we suggest is: Collinite No# SS 126 Liquid Sapphire Auto Wax. Another brand is Meguiar's. You can order these directly from them or through distributors.

The user should determine an appropriate schedule to check for damage (i.e., cuts, blisters, perforations, edge lifting, etc.). At the first sign of damage, the mask (boot) should be replaced with the best protection available...A genuine PM Research protective mask (boot).

Q. How do I remove a boot that needs to be replaced?

A. Carefully score the top surface of the mask with a razor blade knife dissecting the mask (boot) into triangular pie-shaped sections approximately 4" to 6" at the base. Pull sections off at approximately a 180 degree angle.

If adhesive residue remains after removal of a mask (boot) from a PAINTED SURFACE, clean residue off with a rag saturated with 98% Isopropyl Alcohol (De-Ice Variety). Scrape residue off with a plastic squeegee. NOTE: Follow the solvent manufacturer's safe handling procedures to prevent possible damage to the painted surface. Be sure to check with the paint manufacturer to make sure that this procedure will not affect the paint you are using in any way.

To remove residue from a PLASTIC LENS, DO NOT USE MEK (methyl ethyl ketone) OR TOLUENE as they may damage the plastic. Use denatured solvent alcohol and some elbow grease.

Q. What type of edge sealer do you recommend?

A. We recommend Loctite 409 Super Bonder Instant Adhesive Gel. Apply just enough to create a "fill it" between the material and aircraft surface. ***NOTE: Applying too much may cause problems with removal in the future.***

Q. Do airlines or the military use these products?

A. Yes they do. PM Research products have been installed on the aircraft of more than 200 airlines throughout the world. We have product installed on jet fighters, cargo planes, helicopters and UAV's. The same tough material that is used on civil aircraft stays on military planes at Mach + speeds.

Q. Can I protect prop blades?

A. Since PM Research cannot control the installation of our products; we can not recommend they be used to protect prop blades. Improper installation might result in an "Out of Balance" situation. Considering the serious consequences which could result, PM Research will not assume any risk or liability whatsoever in connection therewith.

Q. What is included with the mask (boot)?

A. 1. Shop Manual

2. Spray Nozzle

3. Clean Squirt Bottle

4. Plastic Squeegee

5. Water Soluble Pen

6. Spout Cap for measuring dishwashing liquid

Q. Are additional materials required for installation?

A. Yes, you will need the following items:

1. 1/4 inch masking tape

2. Wetting Solution consisting of:

- 4 oz. Isopropyl alcohol, 70 percent by volume (common rubbing alcohol)
- 12 oz. Distilled Water
- 14 drops clear or white ONLY dishwashing liquid, regular strength, or 7 drops concentrated.

We will provide a dropper cap which will fit most US brands of dishwashing liquid.

3. Razor Blade Knife (new blade only)

4. Paper Towels (High quality, oil free, single ply only)
5. Rubber hospital-type gloves
6. Non-silicon based automotive paste wax
7. For installation over stripes or on a new or freshly polished lens:
 - 600-1500 grit sandpaper
 - Sanding block
 - Rubbing compound
8. Scissors or Tin Snips

A marking pen (water soluble ink), spray bottle and plastic squeegee are provided.

Q. Do our boots create static?

A. No, our boots do not create static. Our boots have a high dielectric strength and act as an insulator.

Q. Can our boots be used to protect heated leading edges?

A. Since PM Research cannot control the installation of our products, we CANNOT recommend they be used on heated leading edges. Before using, the user shall determine the suitability of the product for its intended use, and user assumes all risk and liability whatsoever in connection therewith.

Q. Can our products be used to prevent marine fouling, such as barnacles?

A. No, the material is porous and barnacles can attach to our product.

Q. What types of radomes do our products cover?

A. We cover all types of radomes and antennas.

*****Before using, user shall determine the suitability of the product for its intended purpose*****

Other Questions? Please Call 585-593-3169

Instructions:

To remove water blisters that are trapped underneath an erosion boot:

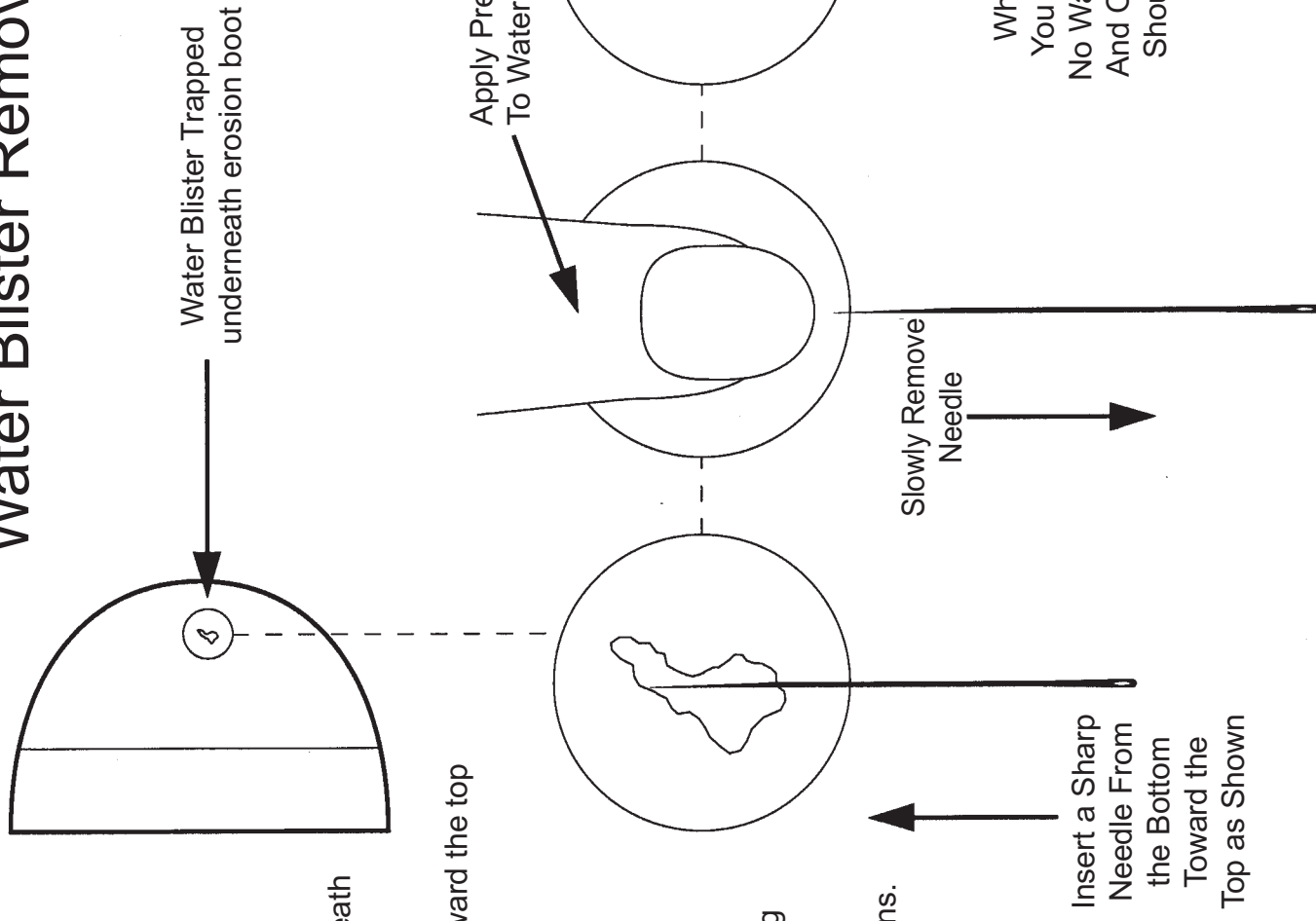
Insert a sharp needle from the bottom of blister toward the top of the blister as shown.

Apply pressure to water blister above the needle.

Slowly remove the needle and continue to apply pressure until needle is removed.

When finished you should have no water remaining and only a pin hole should be visible.

If water remains, repeat steps until no water remains.



General Practice OUTSIDE & INSIDE CONTOUR BOOT INSTALLATION

Instructions:

To install a pre-formed boot on a shape that has an outside and inside contour.

Install pre-formed boot as shown.

Squeegee the water out from under the erosion boot on the outside contour, working from the leading edge back.

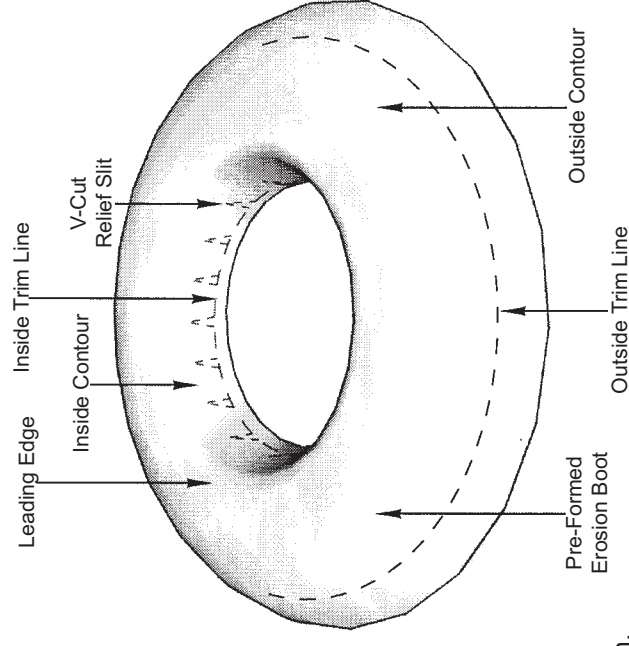
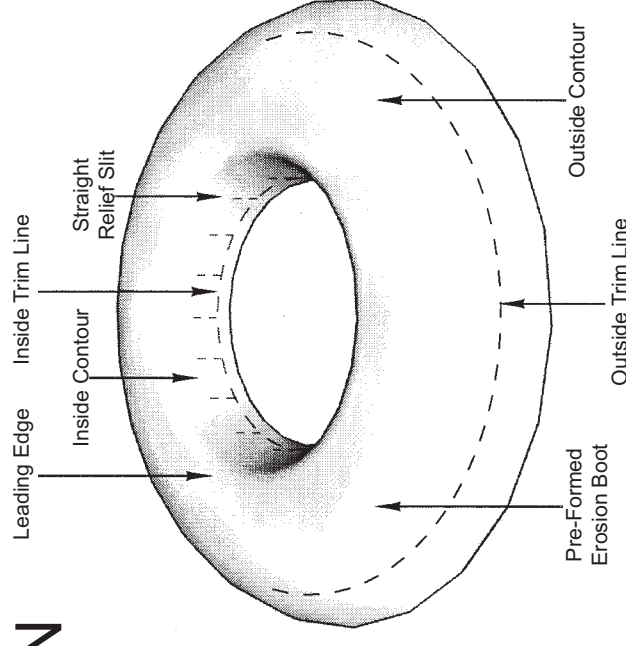
Once the outside is down and the water has been removed, attempt to squeegee the water out from under the erosion boot on the inside contour, working from the leading edge back.

If the material puckers when you try to lay it down, it may become necessary to make relief slits in the material on the inside contour as shown in the top diagram.

If the material has large puckers when you try to lay it down, it will be necessary to use the v-cut slits as shown on the bottom diagram.

NOTE: It may take extended time to install this type of boot, a hair dryer used on low heat will speed up the install process. Only use the hair dryer on the inside contour, and only if you are having trouble getting the boot to seal down.

CAUTION: LOW HEAT ONLY. Do not overheat material as it will ruin the boot.



See website for updated General Practices information.
www.papa-mike.com

General Practice

TAPE PRACTICES

Installation on Painted or Unpainted Surfaces

CAUTION: Failure to peel the tape in small steps may cause the tape to stick to itself and ruin that portion of the tape.

1. Cut tape to desired length allowing for final trim & roll up for ease of handling.
2. Generously spray the surface that is to be protected with wetting solution.
3. Separate the tape from the release liner for about 3'. Do this in small steps & spray the adhesive with wetting solution at each small step to keep the tape from sticking to itself.
4. Place one end of the wetted tape on the center line of leading edge or other surface and rub with finger or thumb to tack down. Roll out the 3' or so of tape and stretch slightly. Then tack down at 3' location. Then, using fingers or thumb, tack entire 3' length down on centerline. Then continue likewise until entire centerline of leading edge, etc. is tacked down.
5. Spray outside of tape with wetting solution to lubricate squeegee.
6. Smooth tape along surface using hands. Start at the centerline of the leading edge and rub fore to aft.
7. Smooth out the tape by squeegeeing from the centerline of the leading edge fore to aft, using small strokes of the squeegee.

NOTE: Use only light to moderate pressure on the squeegee.

8. Dry outside surface with a paper towel.
9. Inspect for moisture underneath the tape. If any is found, wet the outside surface again and squeegee it out.
10. Allow to air dry a minimum of one hour, then apply a coat of non-silicone based automotive type wax per manufacturer's instructions prior to flight.

TAPE PRACTICES

Installation on Lenses, Panels, Etc.

CAUTION: Polyurethane must be firmly attached to a solid substrate. If it spans a crack or covers a hole where it is not glued down, the material will vibrate during flight, work harden and become brittle. This can cause some of the material to crack or peel away. To avoid this problem and also address the need for the lens or panel to be removable, you may elect to trim along the edges of the lens or panel. (See page 21.) You may want to remove tape under the heads of the mounting screws to ensure the screw heads do not protrude above the surface of the lens. (See page 19.)

CAUTION: Failure to peel the tape in small steps may cause the tape to stick to itself and ruin the portion of the tape.

1. Separate the tape from the release liner in several small steps, spraying the adhesive of the tape with wetting solution.
2. Spray the lens or panel generously with wetting solution.
3. Place the wetted tape on the lens or panel ensuring that the tape is oriented to suit.
4. Spray outside of tape with wetting solution to lubricate squeegee. Smooth tape along surface of lens or panel using hands. Start at the centerline of the leading edge and rub along the leading edge, inboard to outboard, to tack down the tape leading edge.
5. Smooth out the tape by squeegeeing from the centerline of the leading edge, using small strokes of the squeegee fore to aft.

NOTE: Use only light to moderate pressure on the squeegee.

6. Dry outside surface with a paper towel.
7. Inspect for moisture underneath the tape. If any is found, wet the outside surface again and squeegee it out.
8. Allow lens or panel to air dry a minimum of one hour, then apply a coat of non-silicone based wax per manufacturer's instructions prior to flight.

Maintenance

1. Clean and wax periodically as required. We recommend that you use full strength Nights Spray Nine® or full strength Mr. Clean® to clean the mask. Apply a coat of non-silicone based wax after each cleaning.
2. The user should determine an appropriate schedule to check for damage (i.e. cuts, blisters, perforations, edge lifting, hazing, discoloration, separation, etc.).

Tape Removal

TAPE SHOULD BE REPLACED AT FIRST SIGN OF DAMAGE

1. Peel the tape by lifting an edge on one end and carefully pulling off at an angle of 180°.
2. If adhesive residue remains after the mask has been removed, clean using a rag saturated in 98% Isopropyl Alcohol (de-ice variety). Softened residue may be removed faster with a plastic squeegee.

Instructions:

To lap & cut simply install tape or preformed boot represented by Tape A in the diagram.

Next install tape or preformed boot represented by Tape B overlapping Tape A as shown.

NOTE: Preformed boots should always be installed first.

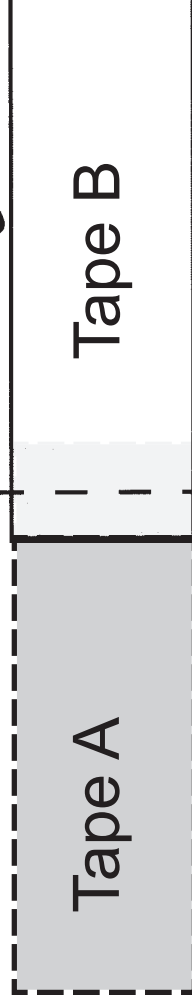
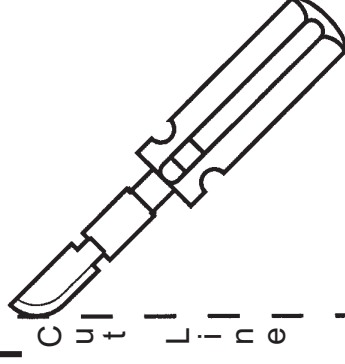
Once Tape A and Tape B are installed and overlapping, using a sharp blade, cut through both layers of tape along the cut line in one pass to prevent jagged edge.

Now remove the cutoff pieces from both Tape A and Tape B as shown.

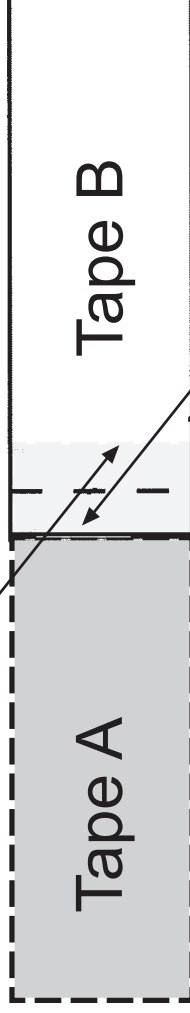
Lay tape together to create a joint.

Squeegee Tape A in the direction as shown.

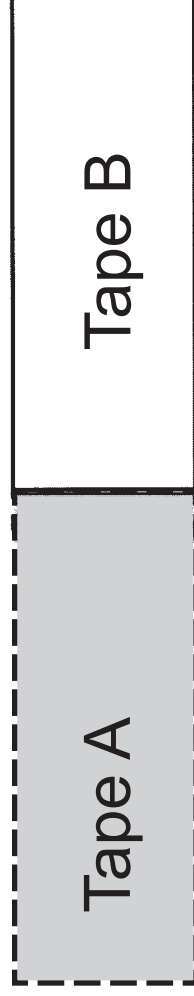
Squeegee Tape B in the direction as shown.



Remove Cut Piece From Tape A



Remove Cut Piece From Tape B



Squeegee in this direction

Cut Line

Squeegee in this direction

General Practice

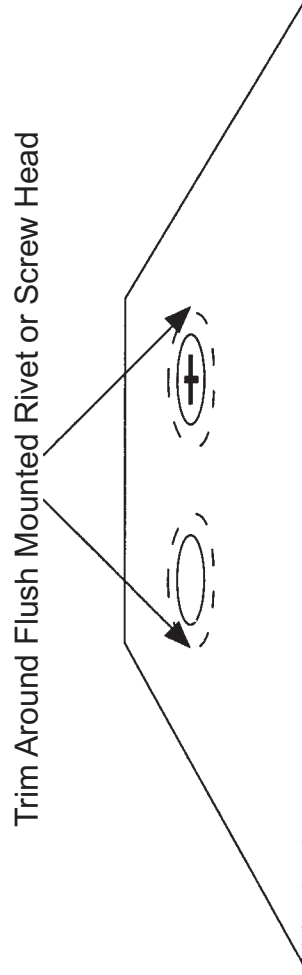
Trimming Around Hardware

Instructions:

Flush mounted rivets and screw heads have voids where air can become trapped underneath the erosion protective material. This allows the material to flex and work harden, causing it to break and tear off.

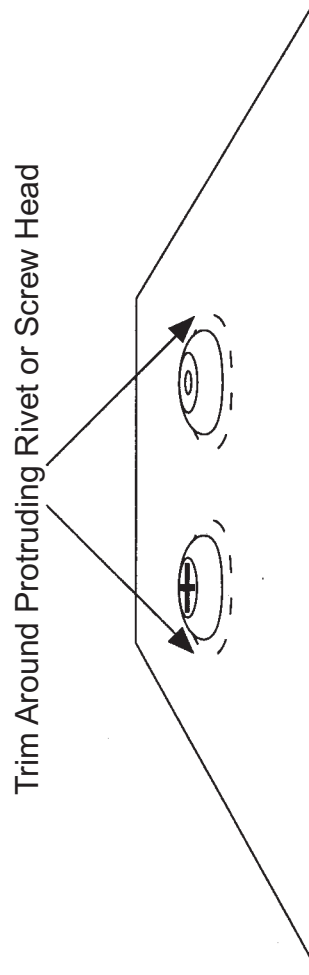
To eliminate this problem, trim material around the screw head as shown. The material must end on a smooth substrate to allow proper adhesion.

Please Note: It is not always necessary to trim around flush mounted rivets. If air is trapped around the rivet head we recommend trimming.



Protruding rivets and screw heads prevent erosion protective material from laying down completely. This creates voids where air is trapped underneath the erosion protective material. This allows the material to flex and work harden, causing it to break and tear off.

To eliminate this problem, trim material around the rivet or screw head as shown. The material must end on a smooth substrate to allow proper adhesion.



See website for updated General Practices information.
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General Practice

Instructions:

Install tape per PM Research Inc. Shop Manual.

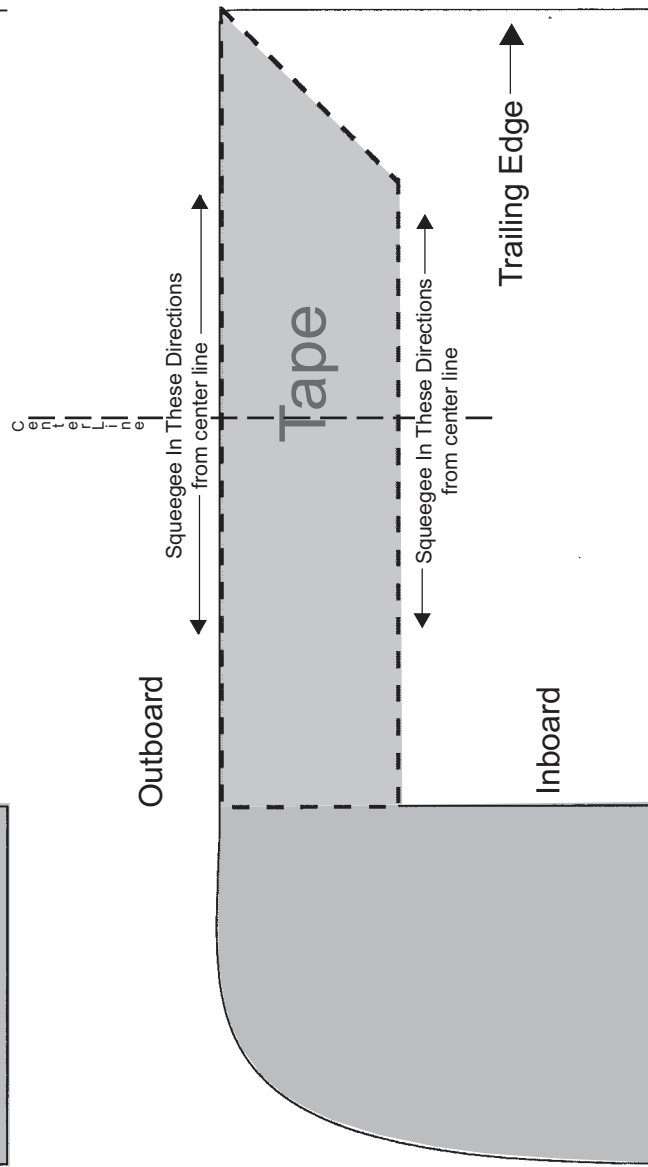
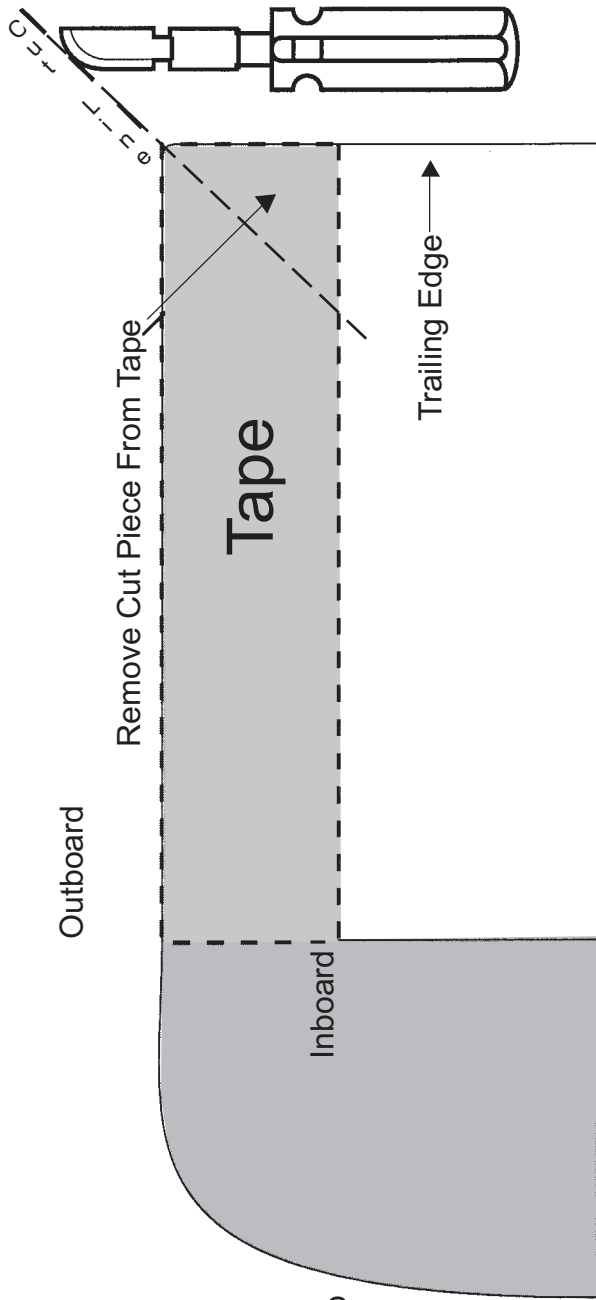
We recommend installing tape and letting set overnight prior to trimming.

To trim a trailing edge:

Trim from the outboard toward the inboard at a 45° angle cut line.

Remove the cut piece of tape.

Squeegee Tape in the directions as shown.



General Practice

TRIMMING AROUND PANELS & DOORS

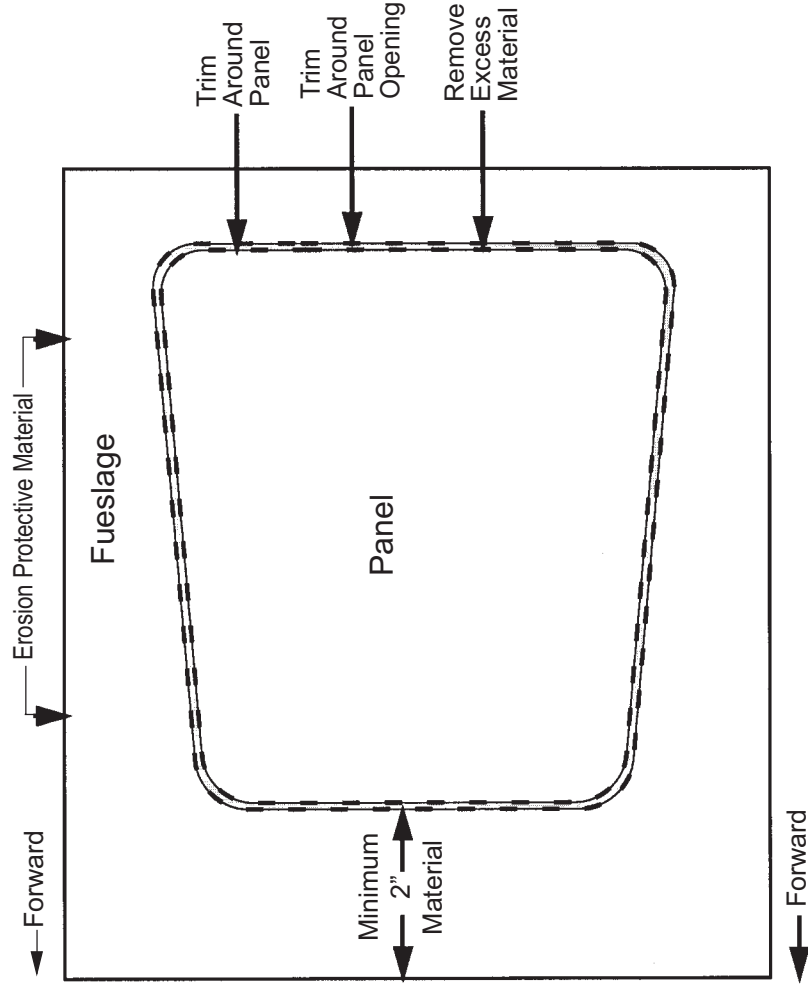
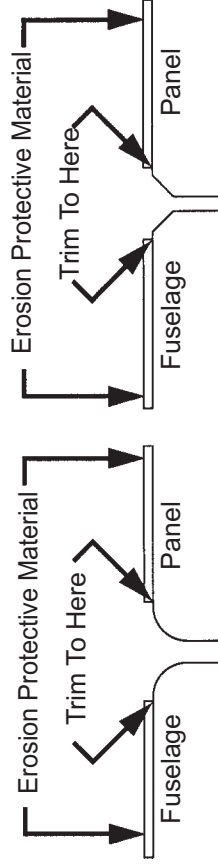
Instructions:

When installing erosion protective material over seams, such as panels or doors, the seam will have voids where air can be trapped underneath the erosion protective material. This allows the material to flex and work harden causing it to break and tear off.

Be sure to install the erosion protective material a minimum of two inches forward of the forward panel seam. This will provide ample surface area to promote proper adhesion.

Trim the material around the panel and panel opening as shown. Then remove the excess material.

The material must end on a smooth substrate. If the panel or panel opening has a radius or bevel on the edge, be sure to trim the material back away to allow proper adhesion.



General Practice

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[illegible]

— NOTES

[illegible]

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Give This Manual to Aircraft Owner for His Record and for Maintenance Instructions***

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Salesman _____

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Installer _____

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