

AERO ARMOR

by SKANDIA, Inc.

Aircraft Radome & Leading Edge Erosion Protection

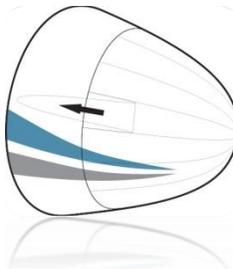
Installation, Care & Maintenance Manual

Removal of Existing Boot

1. Score the boot with a razor knife to resemble thin pie shaped pieces, taking extreme care not to cut into the underlying paint.



2. Carefully lift the edge of the boot and peel it back slowly against itself at approximately a 180° angle.



3. Adhesive residue can be removed with straight Isopropyl Alcohol.

Suggested Surface Preparation Procedures

The following procedures are valid for any of the Aero Armor™ preformed boots.

1. The application areas substrate surface must be clean, smooth, and without paint chips and/or defect.
2. If defects in the substrate exist, the surface should be repaired prior to installation of the Aero Armor™ preformed boot.
3. Newly painted substrates should dry or cure for a minimum of 48 hours at 72°F (22°C). Please refer to paint manufacturers technical data for proper cure times. Improperly cured paint can have adverse effects on the appearance and durability of the Aero Armor™ preformed boot.
4. If the paint scheme includes multiple colored stripes, the edges should be checked to ensure they will not prevent proper adhesion of the Aero Armor™ preformed boot. If high or raised edges exist, the



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edges should be sanded with 600-1500 Grit sandpaper to “break” the edges prior to installing the Aero Armor™ preformed boot.

5. Please Note: prior to sanding paint lines, the position of the Aero Armor™ preformed boot should be determined. Sanding will degloss the paint, take care not to sand outside of the area in which the Aero Armor™ preformed boot will cover. Once installation is complete the loss of gloss will not be noticeable.

Materials Required for Installation

1. Aero Armor™ preformed boot
2. Installation Kit “provided with each boot” the kit includes the following items
 - a. Spray Bottle
 - b. Water Soluble Pen
 - c. Plastic Squeegee
 - d. Dropper Cap
3. Additional tools and materials required
 - a. Industrial Razor Blade Knife (new blade required)
 - b. Scissors or Tin Snips
 - c. Carpenters Square
 - d. Tape Measure
 - e. Thin Needle
 - f. Rubber Gloves “Hospital Type” or Similar
 - g. ¼” Wide Masking or Vinyl Tape



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- h. 70% by volume Isopropyl Alcohol. (store brand variety recommended) **NOTE:** Use of 91% by volume or the 98% deice variety of Isopropyl alcohol is not recommended.
 - i. Distilled Water **NOTE:** Use of water other than “Distilled” can have impurities, such as rust and other contaminants that could cause discoloration and other problems with the Aero Armor™ preformed boot.
 - j. White or Clear Dishwashing Liquid (“Ivory® brand” recommended) **NOTE: DO NOT USE** colored dishwashing liquid as this could cause discoloration of the Aero Armor™ preformed boot.
 - k. Clean white lint free rags, cheese cloth, silicone-free cloth or white single ply paper towels.
4. Wetting Solution
- a. **NOTE:** We recommend using a fresh new batch of wetting solution each time
 - b. 4oz. of “store brand variety” 70% by volume Isopropyl Alcohol. The alcohol to water ratio may be varied to suite your conditions. **NOTE:** Use of 91% by volume or the 98% deice variety of Isopropyl alcohol is not recommended.
 - c. 12 oz. Distilled Water. **NOTE:** Use of water other than “Distilled” can have impurities, such as rust and other contaminants that could cause discoloration and other problems.
 - d. 14 Drops of Standard White or Clear Dishwashing Liquid or 7 Drops of Concentrated White or Clear Dishwashing Liquid per 16oz. of wetting solution. (Standard “Ivory®” brand or concentrated “Ultra Ivory®” brand recommended) **NOTE: DO NOT USE** colored dishwashing liquid as this could cause discoloration of the Aero Armor™ preformed boot. For you convenience, a dropper cap that will fit the (Standard “Ivory®” brand or concentrated “Ultra Ivory®” brand bottle) has been included in the installation kit supplied with the Aero Armor™ preformed boot.
5. Non-Silicone based automotive wax “Collinite Sapphire No. ss126” or similar recommended.
- a. Silicone based wax should be avoided. Silicone based wax, RTV and other silicone agents can spread across a wide area. This can act as a release agent for paint and adhesives. No matter how hard you try to remove them, they seem to keep coming back to the surface. Try to keep these materials out of your shop.
 - b. Most waxes contain a small amount of silicone to improve the shine. These are ok!



Special Notes

1. Aero Armor™ preformed boots should not be installed in direct sunlight, as blistering and other application problems could occur.
2. Application of the Aero Armor™ preformed boot should be performed at room temperature.
3. To avoid application problems the Aero Armor™ preformed boot should be installed in the shortest period of time as possible, without interruption.
4. If diverter strips are installed on the Radome, the Aero Armor™ preformed boot **MUST NOT** be installed over the diverter strips. Many boots will be trimmed in front of the diverter strips. If the boot must be installed beyond the front edge of the diverter strips, it is recommended to install the diverters over top of the Aero Armor™ preformed boot. If this is not practical the boot may be trimmed around the diverter strips. Take care not to cut through the material into the paint. It is also recommended that the material is trimmed back far enough to ensure there is a smooth substrate to allow proper adhesion.
5. Some of the Aero Armor™ preformed boots are manufactured deeper than is required to provide adequate protection. On a more pointed radome, you may need only 1-1/2 inches of depth (front to back) to provide adequate protection. Pointed Aero Armor™ preformed boots are the most difficult to apply if you try to use a greater depth than is required.
6. The Aero Armor™ preformed boot should cover the radome from the front toward the back of the aircraft at least to a point where a carpenter square rests on the radome, 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. The Aero Armor™ preformed boot should cover to the point where both legs of the square touch the radome.
7. Some Aero Armor™ preformed boots require special instructions for installation. If special instructions are required, this will be indicated by a green sticker on the Aero Armor™ preformed boot support form.

Installation Procedures

1. Prior to starting the installation, be sure your hands are clean and oil free. Rubber gloves are recommended.
2. Clean surface thoroughly with wetting solution or appropriate solvent and dry.
3. Using a razor blade knife remove the flexible boot from the rigid support form.



4. An “Optional” trim template can be used to assist you in achieving a quality final trim, once the boot has been installed. The following steps will assist you in making a trim template.
 - a. Using the supplied water soluble marker pen, draw a straight line completely around the support form at the desired location.
 - b. Using a razorblade knife, score the line and snap the material. You can also use scissors or tin snips to cut the support form on this line.
 - c. Once the excess material has been cut away place the template on the radome to determine if it is the proper length and shape you desire.
 - d. Once you are satisfied with the length and shape mark the top of the template at the 12 o’clock position to facilitate alignment later.
 - e. Remove the template, and sand the cut edge smooth to eliminate burs and jagged edges.
 - f. This template can be marked with the proper product ID and saved for future use. This will prevent the need to complete this process in the future, when installing the same boot on this or other aircraft.
5. With the release liner still installed on the flexible boot, place the boot on the radome to establish an alignment of the contours of the flexible boot and the radome.
6. After the boot is aligned properly place a small piece of tape parallel with the rear edge of the boot at three points approximately 120° apart. Then place a small slit in the top rear edge of the boot to indicate the 12 o’clock position. Once this has been accomplished, remove the boot from the radome.
7. Spray the radome with a liberal amount of wetting solution.
8. Separate the white plastic release liner from the clear flexible boot in several small steps.
 - a. To start the separation of the release liner from the boot, flip the boot upside down and carefully make a small slit on the edge of the release liner. Making sure you only cut through the white plastic release liner, and not the boot.
 - b. Flex the mask at the cut to facilitate separation.
 - c. During separation it is imperative to separate the release liner in small steps. Using small, quick tugging actions between the flexible boot and release liner. After each step of separation the



adhesive on the flexible boot should be sprayed with a liberal amount of wetting solution. Repeat this process until the flexible boot is separated from the release liner. If this process is not completed in small steps, the flexible boot can stretch and/or stick to itself, and be rendered unusable.

9. Once the release liner is completely removed from the flexible boot, spray the entire boot with a liberal amount of wetting solution.
10. Respray the radome with a liberal amount of wetting solution.
11. Place the flexible boot on the radome with the slit at the 12 o'clock position. Adjust the alignment of the boot to the tape on the radome.
12. Start smoothing out the boot with your hands.
13. Finish smoothing out the boot using the supplied squeegee.
 - a. Starting at the front tip of the radome, squeegee the water from front to back, to avoid trapping water under the boot which causes blisters.
 - b. Use only moderate pressure on the squeegee as too much pressure can cause a condition resembling beer foam where hundreds of small bubbles get trapped under the boot.
 - c. If blisters appear under the boot some period of time after installation, the paint may not have been fully cured prior to installation. Paint continues to outgas while it cures. This gas can create bubbles under the boot.
14. Wipe off excess water with a clean white lint free rag, cheese cloth, silicone-free cloth or white single ply paper towel.
15. Inspect the installed boot for bubbles or trapped water.
 - a. If no water bubbles are present continue to step 16.
 - b. If water bubbles exist, the boot can be carefully pulled back and rewet with wetting solution and squeegeed again to remove the bubbles.
 - c. If only a few small bubbles exist the bubbles can be removed with a small needle.
16. Place template on radome over boot aligning the mark at the 12 o'clock position.



17. Adjust fit by measuring from the bulkhead or rear of the radome to the edge of the template.
18. With the supplied water soluble marker, draw a line around the edge of the template.
19. Remove the Template.
20. Apply ¼" tape to either the front or back of the line.
21. Using the tape as a guide, trim the excess boot material with a razor blade.
 - a. USE a new blade only.
 - b. Take care not to cut through the material into the paint.
22. Remove the excess material and discard.
23. Spray with wetting solution to remove ink. Wipe front to back only to prevent forcing ink under the edge of the boot.
24. Spray boot with a liberal amount of wetting solution to facilitate a final squeegee.
25. Using the supplied squeegee.
 - a. Starting at the front tip of the radome, squeegee the entire boot front to back, to ensure all wetting solution has been removed and no blisters exist. This also ensures the boots adhesive has good contact with the radome.
26. If paint stripes exist under the newly installed boot, use your finger to work the wetting solution out from the front and out the back of the boot. Use a clean white lint free rag, cheese cloth, silicone-free cloth or white single ply paper towel to soak up the wetting solution. Repeat until moisture is completely removed.
27. Using the stiff back of the squeegee. Run the squeegee along the edges of the stripes from front to back to ensure the boot makes good contact with the radome next to the stripes.
28. We do not recommend painting over the boot. However if you wish to do so, allow the boot to dwell for a minimum of 24 hours after installation prior to painting. If you are not going to paint over the boot skip to step 29.



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- a. Wash boot with Isopropyl Alcohol.
 - b. Wipe the boot dry.
 - c. Paint with a suitable polyurethane paint system.
29. Wax the boot with a good Non-Silicone based automotive wax “Collinite Sapphire No. ss126” or similar recommended. This will assist in the prevention of bugs and other contaminants from sticking to or discoloring the boot.
- a. Silicone based wax should be avoided. Silicone based wax, RTV and other silicone agents can spread across a wide area. This can act as a release agent for paint and adhesives. No matter how hard you try to remove them, they seem to keep coming back to the surface. Try to keep these materials out of your shop.
 - b. Most waxes contain a small amount of silicone to improve the shine. These are ok!
30. Perform functional test & return aircraft to service in the same manner as if it were just painted.

Maintenance

1. Clean the boot regularly with full strength Spray Nine® or full strength Mr. Clean®
2. Wax the boot regularly with a good Non-Silicone based automotive wax “Collinite Sapphire No. ss126” or similar recommended. This will assist in the prevention of bugs and other contaminants from sticking to or discoloring the boot.
 - a. Silicone based wax should be avoided. Silicone based wax, RTV and other silicone agents can spread across a wide area. This can act as a release agent for paint and adhesives. No matter how hard you try to remove them, they seem to keep coming back to the surface. Try to keep these materials out of your shop.
 - b. Most waxes contain a small amount of silicone to improve the shine. These are ok!
3. The user should determine an appropriate inspection schedule to check for damage (i.e. edge lifting, blisters, perforations, cuts, etc.)
4. The boot should be removed and replaced at the first sign of damage.

Technical Support is available Monday-Friday 8:00 a.m. – 4:30 p.m. Phone: 815-393-4600