

# Paint Polish & Seal System PROCEDURES



**Determine Which Product Is Required:** The condition of the paint will determine which product will be required to start the polish process. When inspecting the paint, determine whether the paint is new, lightly oxidized, heavily oxidized, or dead. Determine the condition of the paint by buffing a small section of aircraft with a wax. Use **Flyers Speed Wax** first because it is the fastest and easiest way to polish the aircraft. If the **Flyers Speed Wax** was not able to clear the paint to a like new appearance, use the **Supreme Glaze**. The **Supreme Glaze** has a mild abrasive added to the formula which allows it to be more aggressive. Both the **Flyers Speed Wax** and **Supreme Glaze** has a high gloss finish. If the paint is dead, you will not be able to restore the paint.

**Liquid Diamond** is a high gloss sealer that can be applied by hand or buffer. **Liquid Diamond** will protect an aircraft's paint up to one year. It can be applied directly onto new paint. Paint that is oxidized should be buffed out first before applying **Liquid Diamond**.

**NOTE:** When buffing out oxidized paint, it will not always return to its 100% new condition. Once paint has been allowed to oxidize, either by being left out in the elements or cleaned with harsh chemicals, some of the painted surfaces may be permanently damaged. This will show up as a cloud in the painted surface and probably will not be fixable. This condition is known as "dead paint". If you return 90% to 98% of painted surfaces back to their original condition, you have been successful.

To demonstrate the procedures of polishing and sealing aircraft paint, we have chosen the Beechcraft King Air 200. When polishing and sealing an aircraft, whether it's a Cessna 152 or G-4 Gulfstream, the basic procedures will be the same. Aircraft surfaces become oxidized and stained from carbon, oil, bugs, hydraulics, and harsh cleaners. The following outlined procedures will guide you through the necessary steps to safely protect new paint or restore old and stained paint to a like new appearance.

**Set Up:** Products required to polish and seal an aircraft are **Flyers Speed Wax**, **Supreme Glaze**, and **Liquid Diamond**. Polishing accessories will consist of Makita model #9227C variable speed buffer, several wool cutting pads, pad spur, wax applicator, and several micro fiber towels. For your comfort and safety, we recommend using ear plugs, safety glasses, and an apron.

**Buffing Tips:** When buffing painted aircraft surfaces, use slower buffer speeds. It is suggested to use the number two setting on the Makita variable speed control wheel. This will keep the skin of the aircraft from overheating and buckling. Once pads become full of polish residue, they will become stiff and abrasive and can remove paint from top of rivet heads. To keep this from happening, change out pads frequently. Spur pad often, this will help keep the wool buffing pad soft and pliable allowing them to last longer. Wool pads can be washed and reused about three times before they become too thin for use.



**Step 1. Preparing Aircraft:** First, cover pitot tubes and static ports with tape. This will prevent wax from plugging the intake holes and causing the instruments to read falsely. After polishing, it is critical that tape be removed from pitot and static for instruments to function correctly during flight. Check to see that doors and pilot windows are closed to prevent buffing fuzz and dust from soiling the inside of aircraft.





**Step 2-A, Polish & Seal Fuselage:** It is important to start at the nose and polish the fuselage first. This is because the top of the wing will become very slippery when polished, making it very difficult to stand on the wing. Most aircraft require that the detailer stand or sit on the wing to polish the sides and top of fuselage.



**Step 2-B, Polish & Seal Fuselage:** After finishing the nose, place a six foot ladder in front of wing and buff the top of the fuselage cap. Remove ladder and polish side of fuselage.



**Step 2-C, Polish & Seal Fuselage:** Stand on wing to buff fuselage cap and fuselage side. Stand on rows of rivets which will usually be over rib structures under aircraft skin. Do not stand on panels or control surfaces, or any surface marked "No Step".



**Step 2-D, Polish & Seal Fuselage:** Once fuselage is completed over wing, climb down and place your ladder behind wing next to fuselage. Buff fuselage cap and fuselage sides to the rear of the aircraft.



**Step 2-E, Polish & Seal Fuselage:** Using an adjustable chair, begin buffing belly of fuselage.



**Step 2-F, Polish & Seal Fuselage:** Continue buffing fuselage belly using a creeper until you reach the nose of aircraft. You have now successfully completed polishing and sealing the aircraft fuselage.



**Step 3, Polish & Seal Tail:** The tail of the aircraft consists of the vertical and horizontal control surfaces. On the King Air 200, it is necessary to use a scissor lift to reach the tail surface with a buffer. When using a scissor, lift it will be necessary to position the lift within inches of the aircraft. To perform this task safely requires a spotter on the ground. Always clear the aircraft before moving up or down in the scissor lift. Buff top and bottom of the

horizontal on right side then buff the vertical on right side of tail. Once right side of tail is completed, move to left side and repeat same procedures. You have now successfully completed polishing and sealing the aircraft's tail.



**Step 4-A, Polish & Seal Wings:** Using a four foot ladder, start at the tip of the wing and buff the top of the wing all the way to the fuselage. Use caution not to break off any static wicks from the trailing edge of the wing. Also, stay clear of any stall warning devices located on wings leading edge, which are easily damaged.



**Step 4-B Polish & Seal Wings:** Using an adjustable chair, buff the bottom of the wings from the outside bottom tip to the fuselage. The chair allows for a comfortable position when working above your head. Use caution when working in chairs, they tip over easily when the wheels come in contact with air hoses, electrical cords, floor drains, etc... Once both wings are completed, you will have successfully polished and sealed the wings of the aircraft.



**Step 5, Polish & Seal Engine Cowlings:** Cowlings sometime require extra buffing due to the carbon stain caused by the exhaust exiting the stacks. First, buff what you can reach from the ground. Next, get a four foot ladder and buff the top of the cowling. Oxidation in

paint is due to unnecessarily harsh cleaners used to clean the carbon. This area may require extra time to bring back the paint's full potential. Once both engine cowlings are polished and sealed, the aircraft will be completed and should look like new.

**NOTE:** When polishing and sealing painted surfaces, it is not always necessary to use both **Supreme Glaze** and **APS-365** unless the surface is oxidized and stained badly. In most cases the **APS-365** will clean and clear the surface while sealing the paint. This can save you considerable time when performed correctly.