

GRAIN BONDING INSTRUCTIONS

These Instructions Must Be Followed for This Reload Kit

Use a foaming polyurethane glue to bond the grains into the liner. We recommend a low-foaming polyurethane-based adhesive like “**Elmer’s Glue-All MAX**” for this process. Wear disposable gloves during the bonding process.



- 1) **WIPE THE DUST** from the inside of the liner. This can be done with a dowel and a paper towel.
- 2) Open all the grain boxes and packages. **DRY FIT THE GRAINS** to verify they fit the liner. If the fit is too tight, peel the outer glassine layer in order to fit the grains into the liner.
- 3) **APPLY A THIN COAT OF GLUE** to the outside of the propellant grain. Avoid getting any glue on the face of the grain or inside of the core.
- 4) **PUSH THE GRAIN INTO THE LINER** from the nozzle end, **TWISTING THE GRAIN** as you push it into the liner. Push the grain in approximately 1” past the end of the liner.
- 5) **INSTALL A GRAIN SPACER O-RING.**
- 6) **REPEAT STEPS 4 AND 5** for the remaining propellant grains.
- 7) **REMOVE ANY EXCESS GLUE** from the phenolic liner before inserting the nozzle into the liner. **INSERT NOZZLE** once liner is free of glue.
- 8) **SET THE LINER AND GRAIN COMBINATION DOWN RESTING ON THE NOZZLE.** Be sure to support the assembly so that the liner and grain assembly do not fall over while curing.
- 9) **PUSH THE TOP GRAIN (FORWARD END) DOWN.** Wipe off any remaining glue from both the inside and outside end of the liner.
- 10) **LIGHTLY GREASE** the inside of the liner and install the seal disc assembly.
- 11) **LET THE GRAIN ASSEMBLY CURE** for about 12 hours.
- 12) After the grains are bonded into the liner, assemble the remainder of the motor per the motor assembly instructions.



Fig 1 Wipe any dust from inside of the liner



Fig 2 Apply glue to the grain



Fig 3 Insert the grain while twisting



Fig 4 Insert grain spacer O-ring

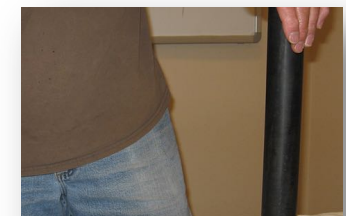


Fig 5 Stand assembly on nozzle end and let cure for 12 hours