



## 75 & 98mm RMS™ Reload Kit Grain Bonding Advisory

10/20/16

Dear AeroTech/RCS Dealers and Customers,

Over the past 26 years we have accumulated and examined a great deal of in-house test data and customer field experience with the RMS Reloadable Motor System™. In addition, the development of new products such as the recently-released Super Thunder™ 98mm reloads have required us to test the limits of the system, pushing it to generate performance numbers previously unheard of from AeroTech products.

During this testing, development and use we have discovered certain motor configurations that have benefitted from bonding the propellant grains into the liner prior to firing to achieve enhanced reliability. Not only does it prevent movement of the grains toward the nozzle during acceleration and the differential chamber pressure experienced during startup (which can cause a CATO if the aft propellant grain collapses under pressure and plugs the nozzle), it appears to greatly reduce instances of “tunneling” where hot gases penetrate the spiral gaps in the propellant casting tubes, causing the propellant to burn on the outside of the grain that is normally inhibited by the tube.

Therefore, we are advising all our customers to bond the grains of the following reload kits into their liners with Elmer’s Glue-All Max™. This is a polyurethane glue with minimal foaming and expansion to prevent the liner from cracking during cure, and has a long working time. The bonding process itself takes only a few minutes after which the glue should be allowed to cure overnight before use.

The reload kits affected by this advisory are:

### **75mm**

K1000T, L1520T, L2200G, M1500G, M1780NT

### **98mm**

L1500T, M2400T, L2500ST, M4500ST, M1845NT, M2100G, M2500T, M2000R, M6000ST, N2000W, N3300R, N2200DM

If you have any of these reload kits in your possession, we strongly advise you to bond the grains into the liner prior to flight for maximum reliability. All new production lots of these reload kits will now include a copy of the grain bonding instructions along with the standard assembly instructions.

A copy of the grain bonding instructions are included with this advisory and will be posted on the AeroTech website in PDF format.

Your understanding is appreciated, and we thank you for your continued support!