**Chapter 1. Liner Assembly**

1-1. Apply a light coat of Synco™ Super Lube™ or other grease to all threads and all o-rings except the grain o-ring. This will facilitate assembly and prevents the threads from seizing.

1-2. **Fig.-1:** If the sustain (solid) propellant grain is not already bonded to the liner at the factory, bond the grain into the liner using a quick cure (5, 15 or 30 minute) epoxy, flush with one end. This prevents the grain from moving during flight.

1-3. **Fig.-2:** Inhibit the forward (flush) end of the grain with a thin layer of epoxy or grease. Allow epoxy to cure before proceeding with the next step.

1-4. **Fig.-2:** Install the grain o-ring (1/16" thick X 1-5/16" O.D.) into the liner, seated against the sustain (solid) propellant grain.

1-5. **Fig.-2:** Install the boost (cored) propellant grain in the liner, seated against the grain o-ring.

**Chapter 2. Case Assembly**

2-1. **Fig.-3:** Push the liner assembly into the motor case until it is equally recessed from both ends of the case. **NOTE:** A light coat of grease on the outside surface of the liner will facilitate installation and casing cleanup after motor firing.

2-2. **Fig.-4:** Place the forward insulator (1-3/8" O.D. fiber washer) against the greased or epoxied (forward, flush) end of the sustain (solid) propellant grain and liner.

2-3. **Fig.-5:** Place the greased forward (1/8" thick X 1-3/8" O.D.) o-ring into the forward insulator end of the case until it is seated against the forward insulator.

2-4. **Fig.-6:** With the motor case held in a horizontal position, thread the endburn-style plugged forward closure into the forward end of the motor case by hand until it is seated against the case.

2-5. **Fig.-7:** Place the grain o-ring (1/16" thick X 1-5/16" O.D.) into the aft end of the liner, seated against the boost (cored) propellant grain.

2-6. **Fig.-8:** Place the aft insulator (1-3/8" O.D. fiber washer) into the aft (nozzle) end of the motor case, seated against the liner assembly.

2-7. **Fig.-8:** Place the greased aft (3/16" thick X 1-3/8" O.D.) o-ring into the aft end of the motor case, seated against the aft insulator.

2-8. **Fig.-9:** Push the nozzle into the aft o-ring and against the aft insulator. The nozzle will be a snug fit in the o-ring.

2-9. **Fig.-10:** Thread the aft closure into the aft end of the motor case by hand until it is seated against the case. **NOTE:** There will be some resistance to threading in the closure during the last 1/32" to 1/16" of travel.
Chapter 3. Preparation For Flight

Chapter 4. Post-Recovery Cleanup

NOTE: Perform motor clean-up as soon as possible after motor firing. Propellant residue becomes difficult to remove after 24 hours and can lead to corrosion of the metal parts. Place the spent motor components in the reload kit plastic bag and dispose of properly.

4-1. After the motor has cooled down, remove the forward and aft closures.

4-2. Remove and discard the nozzle and the forward and aft o-rings. Using wet wipes or damp paper towels, remove all propellant residue from the closures.

4-3. Remove the liner from the casing by pushing on the forward end with a dowel or other object. Discard the liner and the forward and aft insulators. Using wet wipes or damp paper towels, wipe the inside of the casing to remove all propellant residue.

4-4. Apply a light coat of grease to all threads and the inside of the motor case. Reassemble metal parts and store motor in a dry place.

Chapter 5. First Aid

For a minor burn, apply a burn ointment. For a severe burn, immerse the burned area in ice water at once and see a physician as quickly as possible. In the unlikely event of oral ingestion of the propellant, induce vomiting and see a physician as quickly as possible. The AeroTech/RCS composite propellant consists primarily of ammonium perchlorate and a rubber-like plastic elastomer.

Chapter 6. Disposal

Damaged or defective reload kits should be returned to RCS.

Chapter 7. Fire Safety

Tests show that the pyrotechnic components of RMS reload kits will not explode in fires and normally will not ignite unless subjected to direct flame and then will burn slowly. Use water to fight any fires in which AeroTech/RCS RMS reload kit pyrotechnic components may become involved. Direct the water at the AeroTech/RCS RMS reload kit pyrotechnic components to keep them below their 550 deg. F autoignition temperature. Foam and carbon dioxide fire extinguishers will NOT extinguish burning propellants of the type used in RMS reload kit pyrotechnic components. Keep reload kit pyrotechnic components away from flames, sources of heat and flammable materials.

Disclaimer and Warranty

NOTICE: As we cannot control the storage and use of our products, once sold we cannot assume any responsibility for product storage, transportation or usage. RCS shall not be held responsible for any personal injury or property damage resulting from the handling, storage or use of our product. The buyer assumes all risks and liabilities therefrom and accepts and uses AeroTech/RCS products on these conditions. No warranty either expressed or implied is made regarding AeroTech/RCS products, except for replacement or repair, at RCS's option, of those products which are proven to be defective in manufacture within one year from the date of original purchase. For repair or replacement under this warranty, please contact RCS. Proof of purchase will be required. Note: Your state may provide additional rights not covered by this warranty.