Chapter 1. Forward Closure Assembly

1-1. Apply a light coat of Synco™ Super Lube™ or other grease to all threads and all 3 o-rings. This will facilitate assembly and prevents the threads from seizing.

1-2. Fig.-1: Chamfer both inner edges of the smoke charge insulator with your fingernail. Assemble the RMS-Plus smoke charge element, smoke charge insulator, and smoke charge spacer (if supplied) and smoke charge o-ring as shown. **NOTE:** It is not necessary to tape the smoke charge element or smoke charge insulator, the hot gas seal is provided by the smoke charge o-ring alone.

1-3. Fig.-2: Insert the forward smoke charge spacer (13/16” O.D. neoprene washer) into the smoke charge cavity until it is seated against the forward end of the cavity. Apply a light film of grease to the inner circumference of the smoke charge cavity (but not the forward end of the cavity).

1-4. Fig.-3: Insert the smoke charge assembly shown in Fig.-1 into the smoke charge cavity, o-ring end first, until it is seated against the forward smoke charge spacer. **NOTE:** When using a plugged forward closure ONLY, fill the opening in the forward smoke charge spacer with grease prior to installing the smoke charge assembly.
Chapter 3. Preparation For Flight

Fig.-12: Using a hobby knife, cut a corner off the red nozzle cap (13/16” O.D. red plastic cap) to create a small (1/16”-1/8”) vent hole. Set the nozzle cap igniter holder aside.

Fig.-12: Insert the coated end of the FirstFire™ or other igniter through the nozzle throat until it stops against the smoke charge element or forward insulator.

3-2. Push the vented nozzle cap igniter holder over the igniter lead(s) and nozzle until it stops.

3-3. Install the motor into the rocket’s motor mount tube. Ensure that the motor is securely retained in the rocket by using positive mechanical means to prevent it from being ejected at the time of recovery system deployment.

3-4. Prepare the rocket’s recovery system and then launch the rocket in accordance with the Tripoli Rocketry Association (TRA) Safety Code and National Fire Protection Association (NFPA) Code 1127.

Chapter 4. Post-Recovery Cleanup

NOTE: Perform motor clean-up as soon as possible after motor firing. Propellant and smoke charge residues become 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.

5-1. After the motor has cooled down, remove the forward and aft closures.

5-2. Remove the smoke charge igniter, smoke charge o-ring and forward smoke charge spacer (neoprene washer) from the forward closure and discard. Remove and discard the nozzle and the forward and aft o-rings. Using wet wipes or damp paper towels, remove any delay and propellant residue from the closures. WARN-ING: FAILURE TO COMPLETELY REMOVE SMOKE CHARGE RESIDUE FROM THE INSIDE OF THE FORWARD CLOSURE CAN LEAD TO GAS LEAKAGE ON A SUBSEQUENT FLIGHT AND DAMAGE TO YOUR RMS MOTOR FORWARD CLOSURE AND ROCKET VEHICLE.

5-3. Remove the liner from the casing by pushing on either end. 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.

5-4. 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.

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 pyrotechnic components. Keep reload kit pyrotechnic components away from flames, sources of heat and flammable materials.

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.