DO NOT OPEN RELOAD KIT UNTIL READY TO USE.

PARTS:

RMS™-75 HARDWARE
- 75mm aft closure 1
- 75/5120 case 1
- 75mm plugged forward closure 1
- 75mm forward seal disk 1

RELOAD PARTS KIT
- Nozzle (large black plastic part) 1
- Liner (2-3/4" O.D. black plastic tube) 1
- Propellant grains (7/8" core) 4
- Fwd & aft o-rings (1/8" thick X 2-3/4" O.D.) 2
- Forward seal disk o-ring (3/32" thick X 2-9/16" O.D.) 1
- Grain spacer o-rings (1/16" thick X 2-1/2" O.D.) 3
- Smoke charge insulator (1-1/2" O.D. tube) 1
- Nozzle Cap (2-1/4" dia. red cap) 1

ITEMS NEEDED FOR USE:
- Synco™ Super Lube™ or other grease
- Hobby knife
- Electric match w/thermaitte, Firestar™ or other igniter
- Masking tape
- Wet wipes or damp paper towels

SAVE THE RELOAD KIT PLASTIC BAG FOR THE USED RELOAD PARTS. DISPOSE OF BAG AND PARTS PROPERLY.

Chapter 1. Forward Closure Assembly

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

1-2. Fig.-1: Hold the forward (black) closure in a vertical position, smoke charge cavity facing up. Insert the smoke charge insulator into the smoke charge cavity until it is seated against the forward end of the cavity.

1-3. Fig.-2: Apply a liberal amount of grease to one end of the smoke charge element. Insert the greased end of the smoke charge element into the smoke charge cavity until it is seated against the end of the cavity. Set the completed forward closure assembly aside.

Chapter 2. Case Assembly

2-1. Fig.-3: Using a hobby knife or similar tool, carefully deburr (chamfer) both inside edges of the liner tube (2-3/4" O.D. black plastic tube).

2-2. Fig.-4: Insert the larger diameter portion of the nozzle into one end of the liner, with the nozzle liner flange seated against the liner. NOTE: RMS-75/5120 motors use a single large throat nozzle rather than the multiple-throat "Medusa" nozzle shown in the illustrations.

2-3. Fig.-5: Perform the remaining assembly steps with the liner held in a horizontal position. Install the propellant grains into the liner, placing the three (3) grain spacer o-rings (1/16" thick x 2-1/2" O.D.) between each propellant grain. The aft grain should be seated against the nozzle grain flange. NOTE: Three propellant grains are shown in all illustrations for simplicity. RMS-75/5120 motors use four (4) grains.

2-4. Fig.-6: Place the greased forward seal disk (3/32" thick X 2-3/16" O.D.) o-ring into the groove in the forward seal disk.

2-5. Fig.-7: Insert the smaller (o-ring) end of the seal disk into the open end of the liner tube until the seal disk flange is seated against the end of the liner.

2-6. Fig.-8: Push the liner assembly into the motor case until the nozzle protrudes approximately 1-3/4" from the end of the case. NOTE: A coating of grease on the outside surface of the liner will facilitate installation and casing cleanup after motor firing.

2-7. Fig.-10: Thread the previously-completed forward closure assembly into the forward end of the motor case by hand until it is seated against the case. NOTE: There will be considerable resistance to threading in the closure during the last 1/8" to 3/16" of travel.

2-8. Fig.-11: Place the greased aft (1/8" thick X 2-3/4" O.D.) o-ring into the groove in the nozzle.

2-9. Fig.-12: 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 considerable resistance to threading in the closure during the last 1/8" to 3/16" of travel. It is normal if a slight (1/32" to 1/16") gap remains between the closure and the case, and the grains rattle slightly in the liner after tightening.
Chapter 3. Preparation For Flight

Install Igniter Against Smoke Charge

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 bags and boxes and dispose of properly.

Chapter 5. First Aid

WARNING: 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

NOTE: 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.