READ THIS BEFORE YOU BEGIN:

- Study the illustrations and sequence of assembly. THE SEQUENCE OF ASSEMBLY IS EXTREMELY IMPORTANT. READ ALL INSTRUCTIONS BEFORE USE. USE RMS™ MOTORS AND RELOAD KITS ONLY IN ACCORDANCE WITH ALL INSTRUCTIONS. Review the parts list and familiarize yourself with all parts before assembly. IF ANY PARTS ARE MISSING OR DAMAGED, CONTACT RCS AT 1-435-865-7100 OR EMAIL AT warranty@aerotech-rocketry.com.

- DO NOT OPEN RELOAD KIT UNTIL READY TO USE.

PARTS:

RMS™ HARDWARE

- 54mm aft closure 1
- 54/1706 case 1
- 54mm forward closure (1/16" x 2 2" O.D.) 1
- 54mm forward seal disk (1/8" thick flange) 1

RELOAD KIT

- Nozzle (black plastic part) 1
- Liner (2" O.D. black plastic tube) 1
- Propellant grains 4
- Forward & aft o-rings (1/8" thick X 2" O.D.) 2
- Seal disk o-ring (1/16" thick X 1-7/8" O.D.) 1
- RMS-Plus™ smoke charge element (short solid part) 1
- Smoke charge insulator (1/16" O.D. paper tube) 1
- Smoke charge o-ring (1/16" thick X 1-7/8" O.D.) 1
- Aft smoke charge spacer (short colored paper tube) 1
- Forward smoke charge spacer (1/16" O.D. neoprene washer) 1

ITEMS NEEDED FOR USE:

- Synco™ Super Lube™ or other grease
- Hobby knife
- FirstFire or other igniter
- Wet wipes or damp paper towels
- Disposable rubber gloves

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 4 o-rings. This will facilitate assembly and prevent 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, aft smoke charge spacer, and smoke charge o-ring as shown. NOTE: It is not necessary to tape the smoke charge element or insulator, the hot gas seal is provided by the smoke charge o-ring alone.

1-3. Fig-2: Insert the forward smoke charge spacer (1-1/8" 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. NOTES: 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, and install the smoke charge components in this order: Forward smoke charge spacer, smoke charge o-ring, smoke charge element, smoke charge insulator, and aft smoke charge spacer.

Chapter 2. Case Assembly

2-1. Fig-4: Using a hobby knife or similar tool, remove the burr (rough, raised edge) from both inside ends of the liner tube. Insert the nozzle into one end of the liner tube until the nozzle flange is seated against the liner.

2-2. Fig-5: Push the liner assembly, open end first, into the motor case until the nozzle protrudes from the case about 1-1/4". NOTE: A light coat of grease on the outside surface of the liner will facilitate installation and casing cleanup after motor firing.

2-3. Fig-6: Place the greased aft (1/8" thick X 2" O.D.) o-ring into the groove in the nozzle insert.

2-4. Fig-7: Thread the aft closure into the motor case by hand until about 1/16" gap remains between the case and the closure. NOTE: Final tightening will be done after the other motor components are loaded into the case.

2-5. Fig-8: Install the propellant grains into the liner. NOTE: The use of disposable rubber gloves when handling Mojave Green propellant grains is strongly recommended. Only two grains are shown in some illustrations for simplicity. RMS-54/1706 motors use four (4) grains.

2-6. Fig-9: Place the greased forward seal disk (1/16" thick X 1-7/8" O.D.) o-ring into the groove in the forward seal disk.

2-7. Fig-10: Place the greased forward (1/8" thick X 2” O.D.) o-ring into the case, seated against the forward seal disk.

2-8. Fig-11: With the motor case held in a horizontal position, thread the completed forward closure assembly into the open end of the motor case by hand until it is seated against the case.

2-9. Finish tightening the aft closure 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. It is normal if a slight gap remains between the closure and the case after tightening and the grains rattle slightly inside the liner.
Chapter 5. First Aid

DANGER: DO NOT INGEST PROPELLANT OR BREATHE EXHAUST FUMES! WASH HANDS AFTER HANDLING MOJAVE GREEN PROPELLANT AND BEFORE EATING. 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. Mojave Green composite propellant consists primarily of Ammonium Perchlorate, Barium Nitrate 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 RMS™ reload kit pyrotechnic components may become involved: Direct the water at the AeroTech RMS™ reload kit pyrotechnic components to keep them from burning. F Autolignition 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 therefor 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.