Before You Begin

- Do not modify the motor in any way.
- If any parts are missing or damaged, call AeroTech at 435-865-7100.
- Use only AeroTech RMS reload kits to refurbish an RMS motor.
- Do not interchange parts from different reload kits.
- Do not reuse any parts of the RMS reload kit.
- Save the reload kit plastic bag for the used reload kit parts. Dispose of bag and parts properly.

Hardware and Supplies Required

RMS 54mm aft closure
RMS 54/1280 case
54mm forward seal disk
54mm standard or plugged std. length forward closure
- 54mm reload adapter system (also refer to RAS instructions)
- Synco™ Super Lube™ or other grease
- Hobby knife
- Wet wipes or damp paper towels

Preparation for Flight

1. Insert the coated end of a FirstFire™ initiator through the nozzle throat until it stops against the smoke charge grain. DO NOT use Copper thermite to ignite a Warp-9 propellant motor.
2. Secure the initiator to the nozzle with a piece of masking tape.
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 during recovery system deployment.
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.

Post-Recovery Cleanup (cont’d)

3. Remove and discard the forward and aft o-rings from the motor case. Remove the liner, forward seal disk and nozzle from the casing by pushing on the nozzle end. Remove the forward seal disk from the liner, and remove and discard the forward seal disk o-ring. DO NOT DISCARD THE FORWARD SEAL DISK! Discard the nozzle and liner. Using wet wipes or damp paper towels, wipe the inside of the casing and the forward seal disk to remove all propellant residue.
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.

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. Metalstorm composite propellant consists primarily of Ammonium Perchlorate and a rubber-like plastic elastomer.

Disposal

Damaged or defective reload kits should be returned to RCS.

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 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' 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.

HIGH-POWER RMS™
Reloading Motor System™

J1799N-PS Rocket Motor Reload Kit
For RMS-54/1280 Motor Hardware
Warp-9™ Composite Propellant

NOTE: Warp-9 propellant reload kits do not include an ejection charge. Warp-9 motors must be used in conjunction with a timer, altimeter or radio-actuated recovery system.

Do not open reload kit until ready to use.

WARNING-FLAMMABLE: Read Instructions Before Use. Use RMS reload kits only in accordance with instructions. Sale to persons under 18 years of age prohibited by federal law. For use only by certified users 18 years of age or older. Ignite by electrical means only. Do not smoke when loading RMS motors or use in the vicinity of open flames. CAUTION: Keep out of reach of children. Follow NAR & TRA safety codes at all times. Motor hot after firing.

Certified by the Tripoli Rocketry Association • Made in U.S.A. • www.aerotech-rocketry.com
AeroTech Division, RCS Rocket Motor Components, Inc., 2113 W. 850 N. St., Cedar City, UT 84721

J1799N-PS Typical Time-Thrust Curve

Motor Specifications

Total Impulse: 1087 N-sec
Propellant Wt.: 505 grams
Loaded Wt.: 1080 grams
Motor Diameter: 54mm
Burn Time: 0.61 seconds
Peak Thrust: 458 pounds
Delay Time: Plugged (smoke only)
Motor Length: 12.82"
1. Assemble smoke grain (1) to case (7). Lightly grease o-rings (4), 9, 15, 16, case threads (6) and smoke grain insulation (12). Smoke grain assembly (12) and smoke grain o-ring (15) as shown.

2. Assemble smoke grain (11), al smoke grain o-ring (14), grain o-ring (16) forward (nozzle) grain o-ring and smoke grain assembly into forward closure (13) (but not the forward end of cavity).

3. Insert forward closure (5) into grain (16), using o-ring (1). Placing a grain o-ring (17) between each grain.

4. Bond the (o-ring) into case (7) into liner (5), using o-ring (2) to position the grain at the proper depth in the liner.

5. Insert forward end closure (10) into grain (16) and propellant grain (7) into liner (5) to secure the forward end closure (10).

6. Install forward end closure o-ring (16) on groove in forward end closure (5) and insert this assembly into the forward end of liner (5) until seated.

7. Place the propellant grain assembly into the case end (10) and grain assembly (7) with grain o-ring (15) as shown.

8. Assemble propellant grain assembly and propellant grain case (5) into liner (5) until recessed equally from ends of case. Install forward o-ring into forward end closure (10) and grain assembly into the forward end of liner (5) until seated.

9. Thread forward end closure (10) into case (7) into liner (5), using o-ring (1). Placing a grain o-ring (17) between each grain.

10. Assemble smoke grain (11), al smoke grain o-ring (14), grain o-ring (16) forward (nozzle) grain o-ring and smoke grain assembly into forward closure (13) (but not the forward end of cavity).

Assembly Instructions

(numbers refer to item numbers on drawing)