

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
-or-
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

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.

1. After the motor has cooled down, unthread and remove the forward and aft closures.
2. Remove the smoke charge assembly components from the forward closure and discard. Using wet wipes or damp paper towels, remove all smoke charge and propellant residue from the closures.

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

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.



HIGH-POWER RMS™ Reloadable Motor System™

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

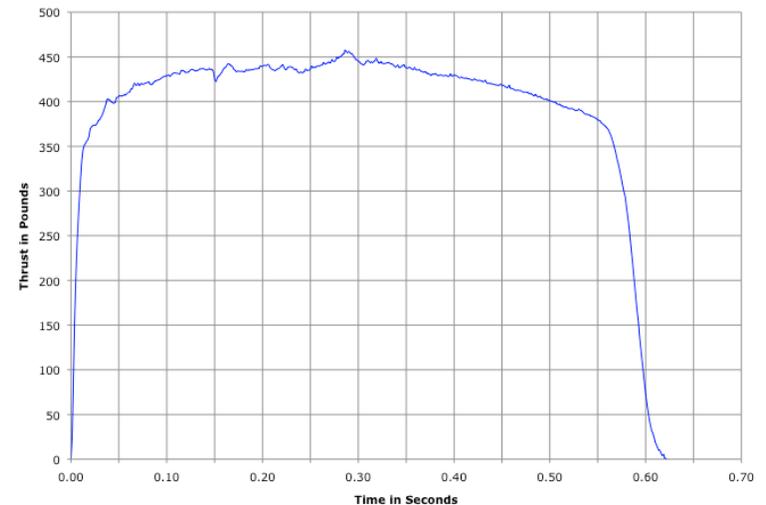
NOTE: Warp-9 propellant reload kits do not include an ejection charge. Warp-9 motors must be used in conjunction with a timer, altimeter or radio-actuated recovery system.

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



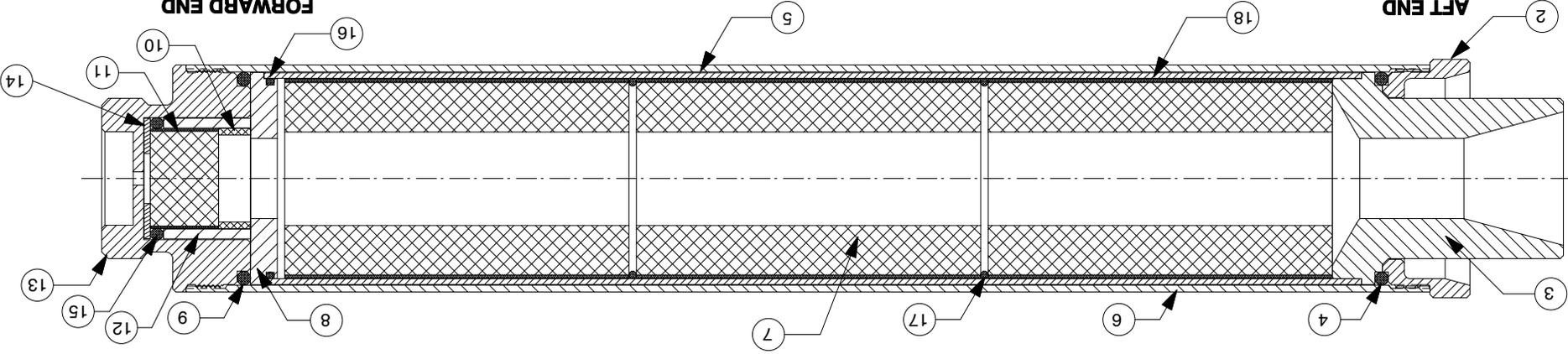
Motor Specifications

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"

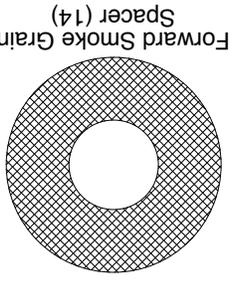
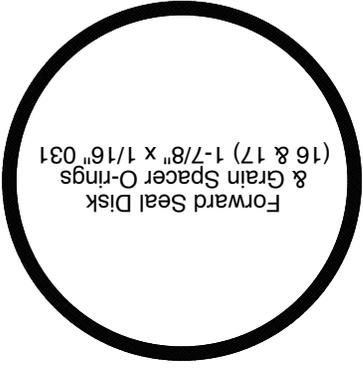
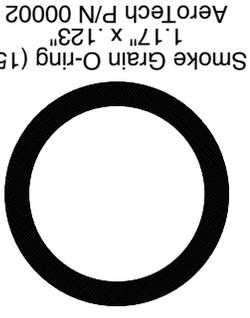
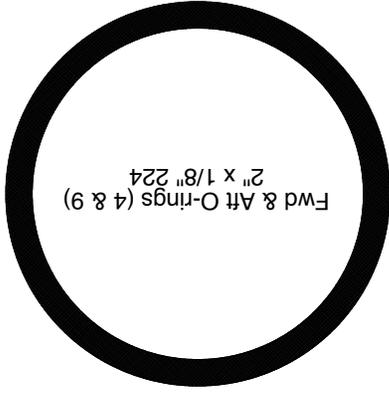
J1799N-PS Assembly Drawing and Instructions

ITEM	DESCRIPTION	QTY	PART NUMBER	ITEM	DESCRIPTION	QTY	PART NUMBER
18	COMMERCIAL GRADE 30 MINUTE EPOXY	N/A		1	FORWARD O-RING (2" O.D. X 1/8") 224	1	00224
17	GRAIN SPACER O-RINGS (1-7/8" O.D. X 1/16") 031	2	00031	2	AFT CLOSURE	1	54ACC
16	FWD SEAL DISK O-RING (1-7/8" O.D. X 1/16") 031	1	00031	3	54MM H/P NOZZLE (.750" DT DRILLED)	1	01670-7
15	DELAY O-RING (1.17" O.D. X .123")	1	00002	4	AFT O-RING (2" O.D. X 1/8") 224	1	00224
14	FWD DELAY SPACER (1-1/8" O.D. X .062")	1	03355	5	PHENOLIC LINER (1.99" O.D. X 10.280")	1	03000-3
13	FORWARD CLOSURE (REGULAR)	1	54FCC	6	CASE	1	5412C
12	DELAY INSULATOR (1.13" O.D. X .815")	1	03356	7	PROPELLANT GRAINS (1.87" O.D. X 3.223")	3	03602-9
11	DELAY GRAIN (.933" O.D. X .639")	1	03910	8	FORWARD SEAL DISK- 54MM FMS	1	54FSD
10	AFT DELAY SPACER (.94" O.D. X .299")	1	03960	9	FORWARD O-RING (2" O.D. X 1/8") 224	1	00224



Assembly Instructions (numbers refer to item numbers on drawing):

1. Lightly grease o-rings (4, 9, 15 & 16), case threads (6) and smoke charge cavity of forward closure (13) (but not the forward end of cavity).
2. Assemble smoke grain (11), aft smoke grain spacer (10), smoke grain insulator (12) and smoke grain o-ring (15) as shown.
3. Install forward smoke spacer (14) into forward closure (13), then push step 2 smoke grain assembly into forward closure (13), o-ring end first.
4. Bond aft (nozzle) end propellant grain (7) into liner (5) with 30 minute epoxy (18), using nozzle (3) to position the grain at the proper depth in the liner.
5. Insert remaining propellant grains (7) into liner (5), placing a grain spacer o-ring (17) between each grain.
6. Install forward seal disk o-ring (16) on groove in forward seal disk (8) and insert this assembly into the forward end of liner (5) until seated.
7. Push liner assembly into case (6) until recessed equally from ends of case. Install forward o-ring (9) into (forward) end of case (6) against the forward seal disk (8).
8. Thread forward closure (13) into the forward end of the case (6) with the forward o-ring (9) until seated.
9. Assemble nozzle (3), aft o-ring (4), and aft closure (2) into nozzle (2) into nozzle (aft) end of case (6) until seated.



AeroTech P/N 00002