



# RMS-RC™ Assembly and Operation Instructions

## BEFORE YOU BEGIN:

- Study the illustrations and sequence of assembly. **THE SEQUENCE OF ASSEMBLY IS EXTREMELY IMPORTANT. READ ALL INSTRUCTIONS BEFORE USE. USE RMS-RC™ MOTORS AND RELOAD KITS ONLY IN ACCORDANCE WITH ALL INSTRUCTIONS.** Review the parts list and become familiar with all parts before assembly. **IF ANY PARTS ARE MISSING OR DAMAGED, CONTACT AEROTECH™ at 1-702-641-2301.**
- **DO NOT USE ANY PARTS OF THE RMS-RC™ SYSTEM THAT ARE DAMAGED IN ANY WAY!** If in doubt, contact AeroTech™ at the number above for assistance.
- **DO NOT MODIFY THE MOTOR OR THE RELOAD KITS IN ANY WAY!** Modification of motor or reload kit parts could result in motor failure, lead to the destruction of both your R/C vehicle and motor and may cause personal injury, death and/or property damage. Modification of the motor or reload kit in any way will invalidate your motor warranty.
- **USE ONLY AEROTECH™ RMS-RC™ RELOAD KITS AND MOTOR PARTS TO REFURBISH YOUR RMS-RC™ MOTOR.** The AEROTECH™ reload kits have been designed specifically for use in your particular AEROTECH™ RMS-RC™ motor. Use of imitation components may destroy your motor, R/C vehicle and radio and will invalidate your motor warranty. Only use AEROTECH™ RMS-RC™ reload kits intended for your specific AeroTech™ RMS-RC™ motor. **DO NOT INTERCHANGE PARTS!** Do not use AEROTECH™ reload kits or motor components for any other purpose than to refurbish an AEROTECH™ RMS-RC™ motor.
- **DO NOT REUSE ANY OF THE DISPOSABLE PARTS OF THE RELOAD KIT.** This includes the liner and nozzle insert. These components have been designed for one use only and must be discarded after firing. Reuse can result in motor failure during subsequent operation and will invalidate your motor warranty.
- **MOTORS ARE HOT AFTER FIRING.** Although the RMS-RC™ operates at a lower temperature than most disposable motors, the higher thermal conductivity of the aluminum motor parts may make it seem otherwise. If necessary to handle a motor before it has cooled down, use a rag or paper towel.
- Read and follow the safety code of the National Association of Rocketry (NAR) and comply with all federal, state and local laws in all activities using this product.

**DO NOT OPEN RELOAD KITS UNTIL READY TO USE!**

Close reload kit bag securely after removing a set of reload components.

## PARTS:

### RMS-RC™ 18/20 MOTOR HARDWARE

18mm Aft closure	1
18/20 R/C Case	1
O-ring grease	1 tube

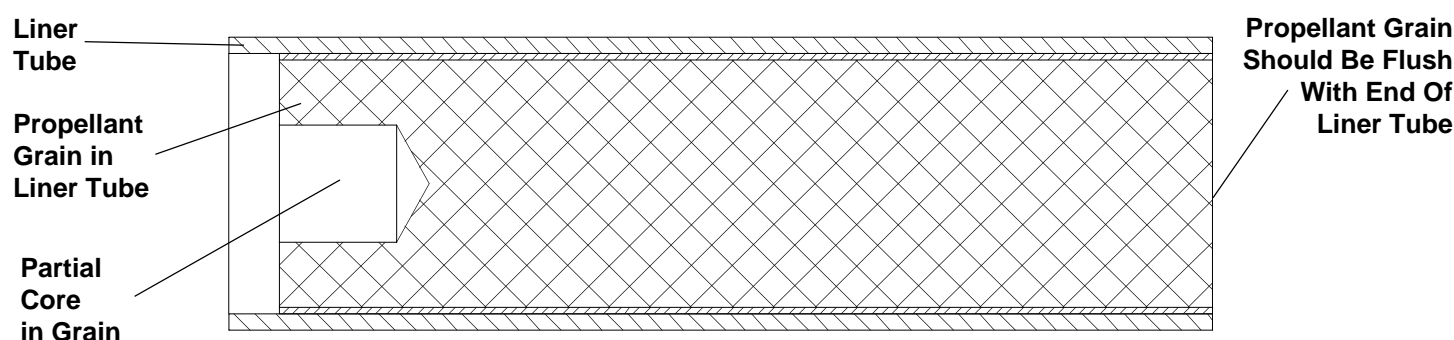
### RELOAD KIT (3-Pak)

Liner (5/8" O.D. tube)	3
Propellant grain (long solid part)	3
Aft O-ring (1/16" thick x 5/8" O.D.)	1 (reuse twice)
Nozzle (black plastic part)	3
COPPERHEAD™ igniter	3
Grain spacer tube (red)	3

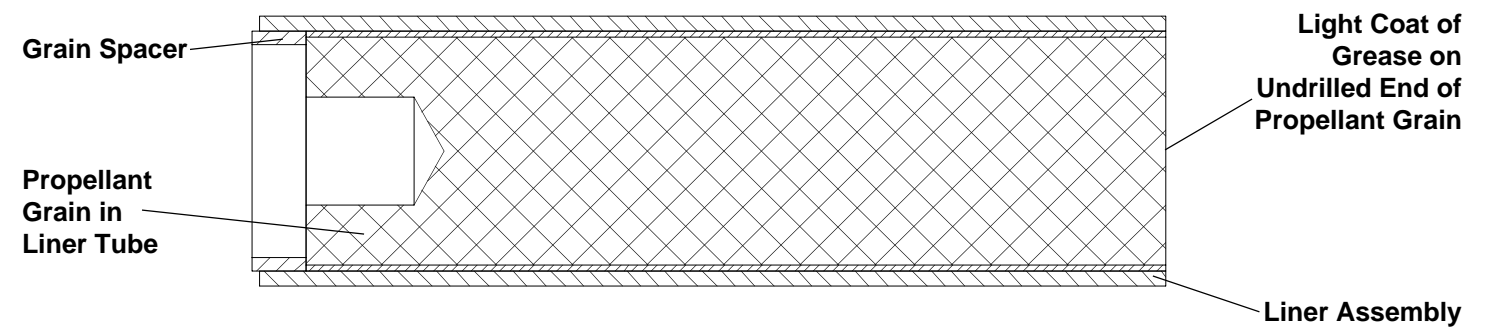
## ITEMS NEEDED FOR USE:

Masking tape  
Wet wipes or damp paper towels  
Remotely operated electrical ignition system

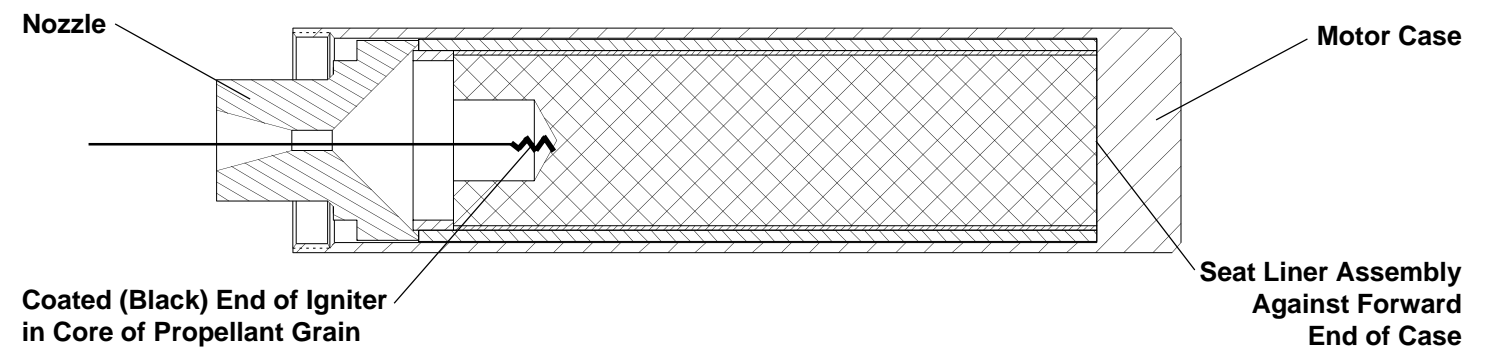
**SAVE THE RELOAD KIT PLASTIC BAG FOR THE USED RELOAD PARTS. DISPOSE OF BAG AND PARTS PROPERLY.**



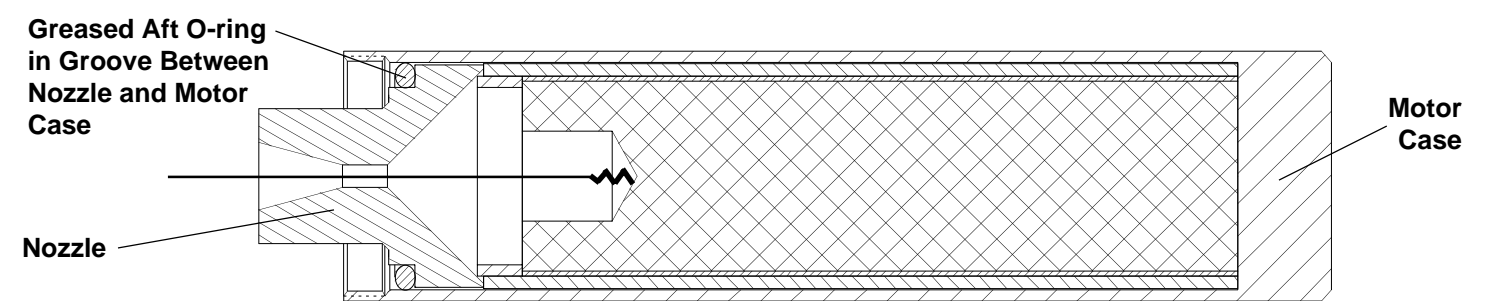
1. Apply a light coat of grease to the aft O-ring and all threaded surfaces. This will facilitate assembly and prevent the threads from seizing. **NOTE:** When all the grease that comes with the motor has been consumed, use petroleum jelly or similar grease.
2. Using your fingernail or a blunt object, remove the burr (rough raised edge) from both inside ends of a liner tube by pressing or scraping and rotating the tube at the same time.
3. Insert a propellant grain into the liner tube until the **SOLID (not cored) END** is **FLUSH** with one end of the tube. **NOTE:** It may be necessary to peel the outer glassine layer from the propellant grain to insert it into the liner tube.



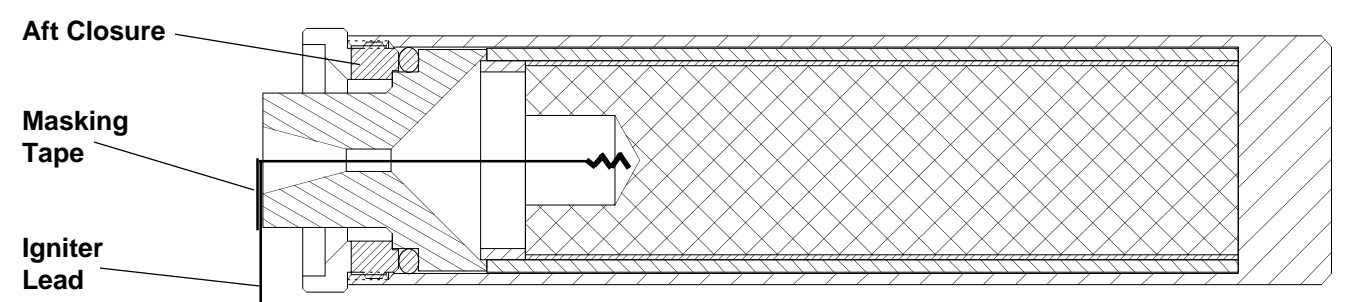
4. Insert the grain spacer into the liner tube until it is seated against the slotted end of the propellant grain.
5. Apply a light coat of grease to the exposed (solid) end of the propellant grain. This film of grease prevents a high thrust "spike" at motor burnout.



6. Insert the liner assembly into the motor case until it is seated against the forward end of the case.
7. Insert the coated (black) end of a COPPERHEAD™ igniter into the core in the propellant grain until the igniter stops.
8. Insert the large (wide) end of the nozzle into the motor case, threaded over the COPPERHEAD™ igniter lead, until it is seated against the end of the liner assembly.



9. Place the greased aft O-ring into the groove between the nozzle and the case.



10. Thread the aft closure into the motor case by hand until it stops against the case.
11. Secure the igniter lead to the nozzle using a small piece of masking tape.

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Close reload kit bag securely after removing a set of reload components.

## PARTS:

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18mm Aft closure	1
18/20 R/C Case	1
O-ring grease	1 tube

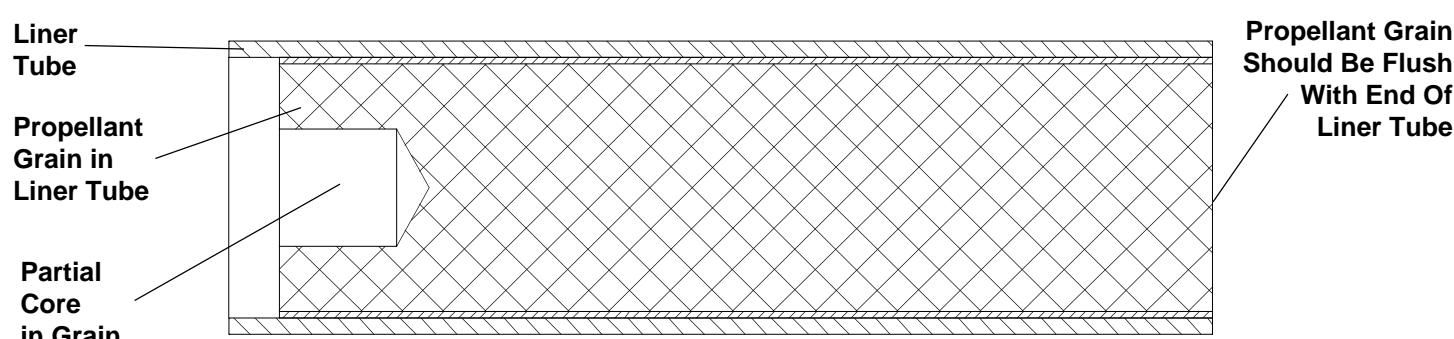
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Propellant grain (long solid part)	3
Aft O-ring (1/16" thick x 5/8" O.D.)	1 (reuse twice)
Nozzle (black plastic part)	3
COPPERHEAD™ igniter	3
Grain spacer tube (red)	3

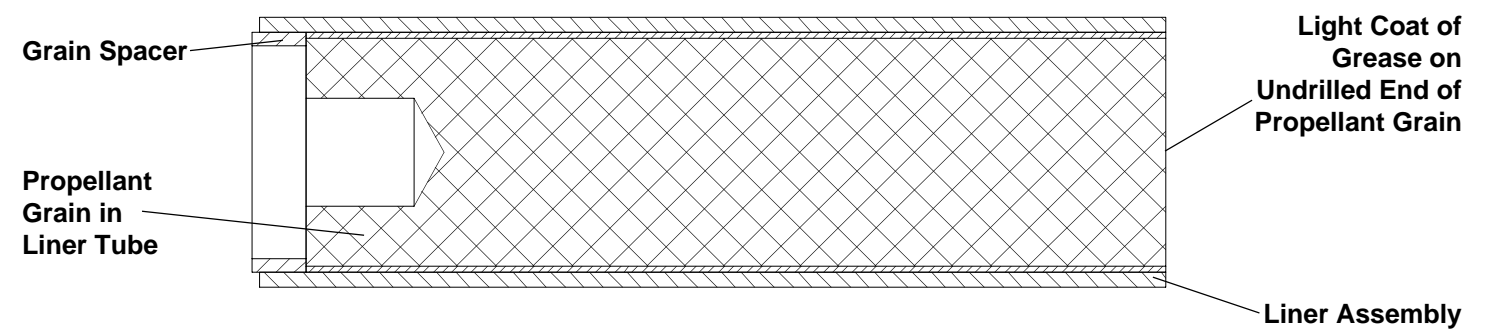
## ITEMS NEEDED FOR USE:

Masking tape  
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Remotely operated electrical ignition system

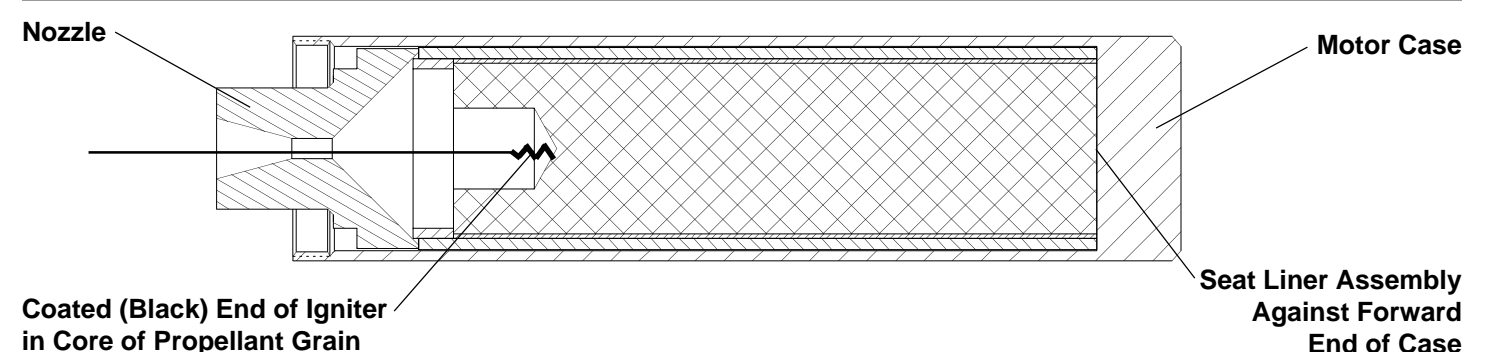
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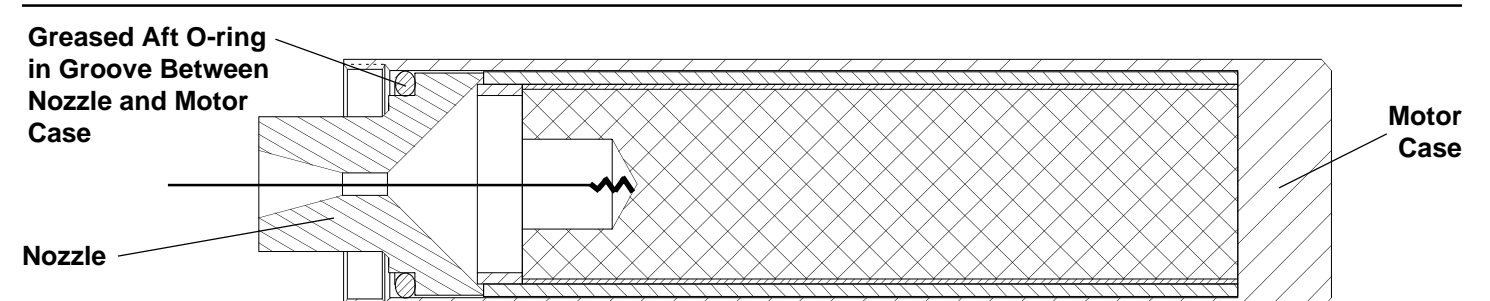
1. Apply a light coat of grease to the aft O-ring and all threaded surfaces. This will facilitate assembly and prevent the threads from seizing. **NOTE:** When all the grease that comes with the motor has been consumed, use petroleum jelly or similar grease.
2. Using your fingernail or a blunt object, remove the burr (rough raised edge) from both inside ends of a liner tube by pressing or scraping and rotating the tube at the same time.
3. Insert a propellant grain into the liner tube until the **SOLID (not cored) END** is **FLUSH** with one end of the tube. **NOTE:** It may be necessary to peel the outer glassine layer from the propellant grain to insert it into the liner tube.



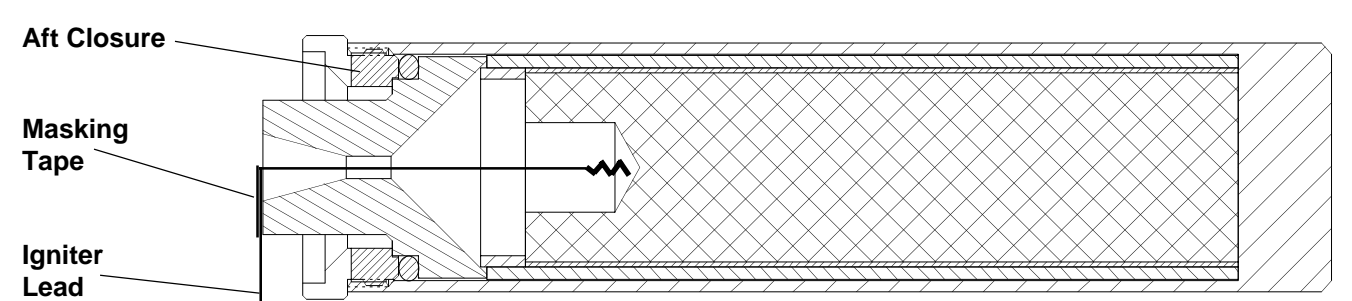
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6. Insert the liner assembly into the motor case until it is seated against the forward end of the case.
7. Insert the coated (black) end of a COPPERHEAD™ igniter into the core in the propellant grain until the igniter stops.
8. Insert the large (wide) end of the nozzle into the motor case, threaded over the COPPERHEAD™ igniter lead, until it is seated against the end of the liner assembly.



9. Place the greased aft O-ring into the groove between the nozzle and the case.



10. Thread the aft closure into the motor case by hand until it stops against the case.
11. Secure the igniter lead to the nozzle using a small piece of masking tape.

### PREPARATION FOR IGNITION

1. Install the RMS-RC™ motor into the vehicle's motor mount tube. Secure the motor into the vehicle by using a motor hook, friction fit or wrapping tape around the junction where the motor meets the end of the rocket motor tube. If using a motor hook, be sure to hold the hook away from the motor during insertion into the motor tube to prevent the hook from scraping the motor casing. Position the hook tab into the slotted recess in the aft closure.
2. Install the vehicle on the launch pad or make any other preparations required before hooking up the igniter.
3. Attach the electrical launch controller leads to the COPPERHEAD™ igniter as described below and launch the vehicle as shown in the product instructions

**How to use your COPPERHEAD™ igniters:** The AEROTECH COPPERHEAD™ igniter requires a 12 volt power supply with 1.8 amps of current at the igniter. A 12 volt lantern battery or a car battery is a good source of power. If your launch system is not configured to use COPPERHEAD™ igniters, do one of the following:

- 1) Purchase an AEROTECH INTERLOCK™ igniter clip and either attach it permanently to your launch system

or clamp the micro-clips of your launch system to the tabs on the INTERLOCK™ clip, or....

- 2) Take two pieces of insulated tape and place one piece over the inside of one jaw on each micro-clip. This will insulate one side of the jaw from the other on each clip. When attaching the micro-clips to the igniter, hook up one clip to the igniter and the attach the second clip so that its taped jaw is on the opposite side of the igniter from the taped jaw of the first clip.

**MISFIRES:** If a misfire occurs and a loaded AEROTECH RMS-RC™ motor does not ignite for any reason within five seconds of pressing the launch button, release the launch button and remove the safety key from the electrical launch controller. **WAIT ONE MINUTE** before approaching or allowing anyone else to approach the vehicle. Keep your fingers and hands out from underneath the vehicle and away from the possible path of the motor exhaust jet. Do not place any part of your body in front of the vehicle. Disconnect the igniter clip from the COPPERHEAD™ igniter. Carefully remove the vehicle from the launch pad. Keeping the motor nozzle pointed away from your face and body - and away from any other person's face or body - remove the igniter and repeat the motor preparation and launching process.

### POST-FIRING CLEANUP

**NOTE:** Perform RMS-RC™ motor cleanup as soon as possible after motor firing. Propellant and delay residues become difficult to remove 24 hours after motor firing. These residues can lead to corrosion of the metal parts. **DISPOSE OF SPENT MOTOR COMPONENTS PROPERLY.**

1. After the motor has cooled down, remove the aft closure. Using a wet wipe or a damp paper towel, remove any propellant residue from the closure.

2. Remove the nozzle and liner assembly and discard. **SAVE THE O-RING** for use with the remaining sets of reload components.

3. Using a wet wipe or a damp paper towel, wipe the inside of the casing to remove all propellant residue.

4. Apply a light coat of grease to all threads and the inside of the motor case. Reassemble the metal parts and store 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, delay or ejection charge, induce vomiting and see a physician as quickly as possible. The AEROTECH composite rocket propellant consists of ammonium perchlorate and a rubber like plastic elastomer.

### DISPOSAL

Damaged or defective reloads should be returned to AEROTECH.

**NOTICE:** AEROTECH certifies that it has exercised reasonable care in the design and manufacture of its products. As we cannot control the storage and use of our products, once sold we cannot assume any responsibility for product storage, transportation or usage. AEROTECH 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, Inc.  
Las Vegas, NV 89104

### FIRE SAFETY

Tests show that composite propellant RMS-RC™ 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 fires in which AEROTECH composite propellant RMS-RC™ reload kits may become involved: direct the water at the AEROTECH RMS-RC™ reload kits to keep them below their 550°F autoignition temperature. Foam and carbon dioxide fire extinguishers will NOT extinguish burning propellant of the type used in AEROTECH composite propellant RMS-RC™ reload kits.

AEROTECH products on these conditions. No warranty either expressed or implied is made regarding AEROTECH products, except for replacement or repair, at AEROTECH'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 AEROTECH. Proof of purchase will be required. Note: Your state may provide additional rights not covered by this warranty.

Made in U.S.A.

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# RMS-RC™ 18/20

## RELOADABLE MOTOR SYSTEM™ FOR R/C ROCKET GLIDERS & R/C CARS

This RMS-RC™ motor is only to be used in radio controlled rocket gliders and cars. Reload kits for this motor do not contain delay or ejection charges and are not appropriate for standard vertical launch rockets. AEROTECH produces a separate line of RMS™ motors for standard vertical launch hobby rockets.

**DO NOT OPEN RELOAD KIT UNTIL READY TO USE**

### THIS PACKAGE CONTAINS:

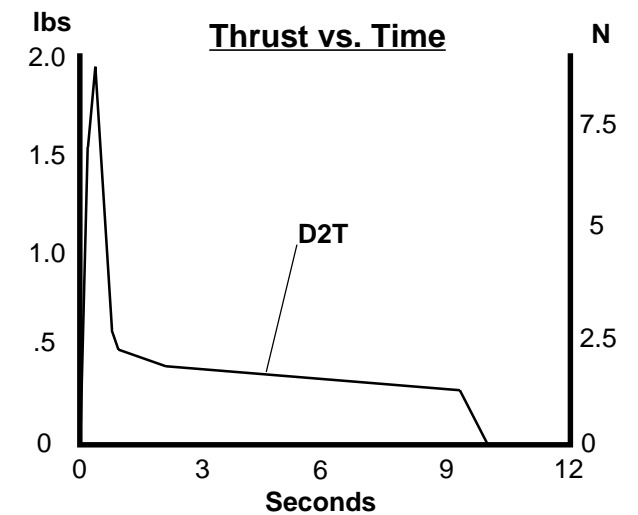
- RMS-RC™ 18/20 Motor  D2-RCT 3-Pak (18mm diameter)

The reload kit shown above is ONLY for use in AEROTECH RMS-RC™ 18/20 motors.

### REQUIRES 12 VOLT LAUNCH SYSTEM

Motor Type	Propellant Weight		Total Impulse		Average Thrust		Loaded Motor Weight	
	oz	gms	lb-sec	N-sec	lbs	N	oz	gms
D2T	0.42	12.0	4.5	20.0	0.45	2.0	1.08	30.7

T= Blue Thunder™ Propellant



**NOTE: SALE TO PERSONS UNDER 18 YEARS OF AGE PROHIBITED BY FEDERAL LAW. WARNING-FLAMMABLE: Read Instructions Before Use. KEEP OUT OF REACH OF CHILDREN. DO NOT SMOKE when loading these motors or use in the vicinity of open flames. FOR SAFE DISPOSAL Read Instructions.**



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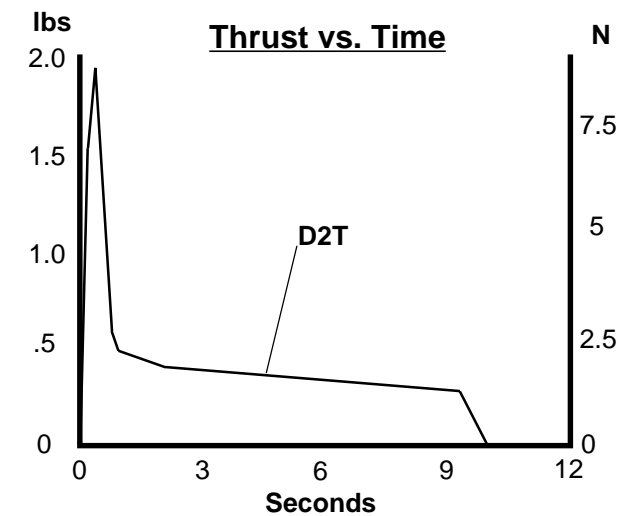
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