

## Before You Begin

- Do not modify the motor in any way, except as described herein (addition of JB Weld epoxy to forward closure ejection well).
- 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 18mm aft closure  
RMS 18/20 case  
RMS 18/20 forward closure  
JB Weld epoxy (to fill forward closure ejection well)  
Synco™ Super Lube™ or other grease  
Wet wipes or damp paper towels

## Preparation for Flight

1. Insert the initiator leads backwards through the nozzle throat. Install the nozzle in the motor with the tip of the initiator inside the slot in the end of the propellant grain. Install aft o-ring into groove in nozzle, then thread the aft closure into the case and tighten securely.
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 coming loose during flight.
4. Launch the rocket in accordance with the National Association of Rocketry (NAR) Safety Code and National Fire Protection Association (NFPA) Code 1122.

## 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 used reload kit components from the case and discard. Using wet wipes or damp paper towels, remove all propellant residue from the case and closures.

## Post-Recovery Cleanup (cont'd)

3. 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.



# RMS-R/C™

## Reloadable Motor System™

FOR R/C ROCKET GLIDERS & R/C CARS

## D2.3-PT Rocket Motor Reload Kit 3-Pack For RMS-18/20 Motor Hardware Blue Thunder™ Composite Propellant

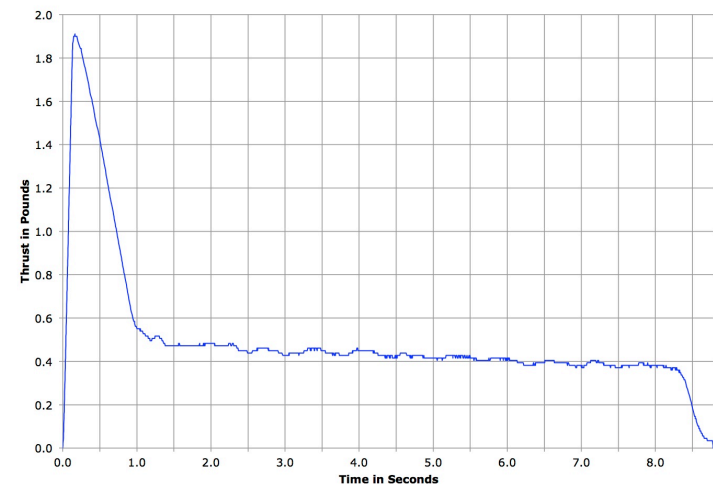
**NOTE:** This RMS-R/C motor is only to be used in radio controlled rocket gliders and cars. Reload kits for this motor do not contain delay or ejection charges and are not appropriate for standard vertical launch rockets. AeroTech/RCS produces a separate line of RMS motors for standard vertical launch hobby rockets.

**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. 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 National Association of Rocketry • 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

## D2.3-PT Typical Time-Thrust Curve



## Motor Specifications

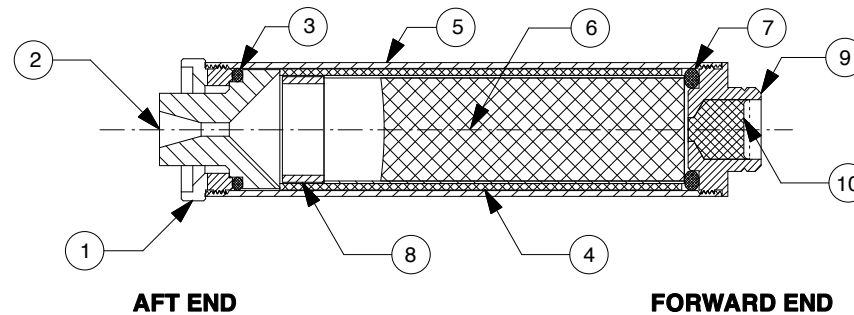
Total Impulse: 19.8 N-sec  
Propellant Wt.: 10.7 grams  
Loaded Wt.: 29 grams  
Motor Diameter: 18mm

Burn Time: 8.6 seconds  
Peak Thrust: 2 pounds  
Delay Time: N/A  
Motor Length: 2.75"

# D2.3-PT Assembly Drawing and Instructions

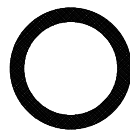
**NOTE:** THE DRAWING SHOWN BELOW MAY BE A GENERIC REPRESENTATION OF THE ACTUAL MOTOR. NOZZLE SIZE, NUMBER AND SIZE OF PROPELLANT GRAINS MAY BE DIFFERENT. FOR A DETAILED ASSEMBLY DRAWING OF THIS MOTOR PLEASE VISIT THE AEROTECH WEBSITE AT [WWW.AEROTECH-ROCKETRY.COM](http://WWW.AEROTECH-ROCKETRY.COM)

ITEM	DESCRIPTION	QTY
1	AFT CLOSURE	1
2	NOZZLE	1
3	AFT O-RING	1
4	LINER	1
5	CASE	1
6	PROPELLANT GRAIN	1
7	FORWARD O-RING	1
8	GRAIN SPACER	1
9	FORWARD CLOSURE	1
10	JB WELD	AR



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

1. To prevent hot gas from escaping from forward end of motor, fill the ejection well of the forward closure (9) with JB Weld epoxy (10) and allow to cure before proceeding with step 2.
2. Lightly grease o-rings (3 & 7), case threads (5) and the forward (solid) end of the propellant grain (6).
3. Insert grain spacer (8) into liner (4) against slotted end of propellant, then push liner assembly into case (5) until recessed equally from both ends of case.
4. Install forward o-ring (7) into the end of the case (5) with the solid end (not slotted) of the propellant (6) exposed.
5. Thread forward closure (9) into the end of the case (5) with the forward o-ring (7) until seated.
6. (Also see "Preparation for Flight" instructions) Place larger end of nozzle (2) into the open end of case (5), seated against the liner (4).
7. Place aft o-ring (3) into groove in nozzle (2).
8. Thread aft closure (1) into nozzle end of case (5) until seated.



Aft O-ring (3)  
5/8" x 1/16" 014



Forward O-ring (7)  
5/8" x 3/32" 111