Before You Begin

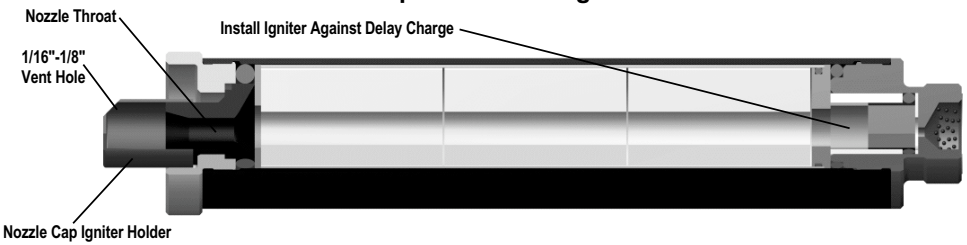
- Do not modify the motor in any way.
- If any parts are missing or damaged, call AeroTech at 435-865-7100.
- Use only AeroTech RMS reload kits to refurbish an RMS motor.
- Do not interchange parts from different reload kits.
- Do not reuse any parts of the RMS reload kit.
- Save the reload kit plastic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

Hardware & Supplies Required

RMS 38mm enlarged aft closure
RMS 38/720 case
38mm forward seal disk
38mm std. or plugged forward closure
-or-
38mm 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. Using a hobby knife, cut a corner off the red nozzle cap (5/8" or 13/16" O.D. red plastic cap) to create a small (1/16"-1/8") vent hole. Set the nozzle cap igniter holder aside.
2. Insert the coated end of the FirstFire™ or other igniter through the nozzle throat until it stops against the delay element or forward seal ring.
3. Push the vented nozzle cap igniter holder over the igniter lead(s) and nozzle until it stops.
4. 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 at the time of ejection charge firing.
5. 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 delay 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, remove the forward and aft closures.
2. Remove the delay insulator, delay o-ring and forward delay spacer from the forward closure and discard. Remove and discard the nozzle and the forward and aft o-rings. Using wet wipes or damp paper towels, remove all delay and propellant residue from the closures. **WARNING: FAILURE TO COMPLETELY REMOVE DELAY RESIDUE FROM THE INSIDE OF THE FORWARD CLOSURE CAN LEAD TO GAS LEAKAGE ON A SUBSEQUENT FLIGHT AND DAMAGE TO YOUR RMS MOTOR FORWARD CLOSURE AND ROCKET VEHICLE.**
3. Remove the liner from the casing by pushing on either end. Remove the forward seal ring from the liner. Discard the liner and forward seal ring o-ring **ONLY**. Using wet wipes or damp paper towels, wipe the inside of the casing and the forward seal ring to remove all propellant residue. **DO NOT discard the forward seal ring!**
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. The AeroTech/RCS 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/RCS RMS™ reload kit pyrotechnic components may become involved: Direct the water at the AeroTech/RCS 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.

AeroTech Division
RCS Rocket Motor Components, Inc.
Cedar City, UT 84721
www.aerotech-rocketry.com

P/N 20066-3 Rev. 3/27/10
Made in U.S.A.

HIGH-POWER RMS™

Reloadable Motor System™

J340M-14A Rocket Motor Reload Kit For RMS-38/720 Motor Hardware Metalstorm™ Composite Propellant

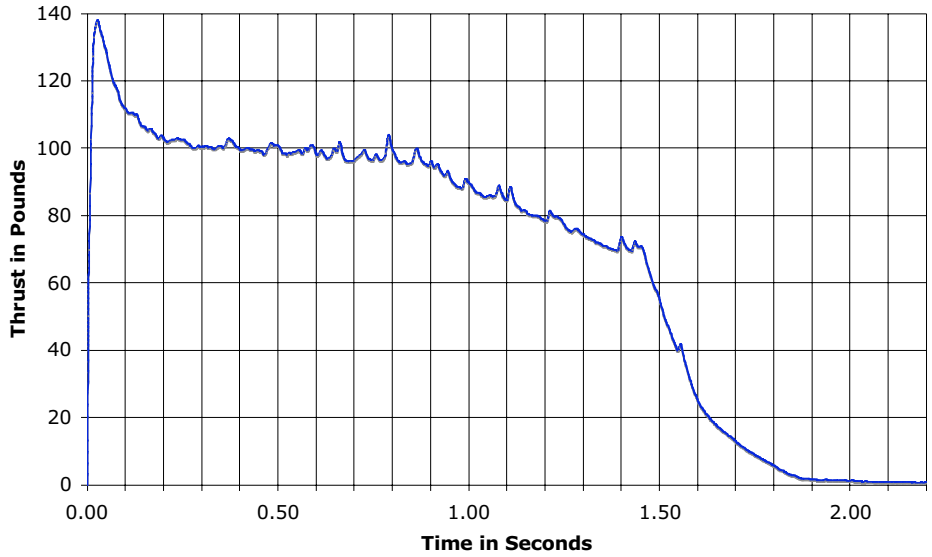
To adjust time delay, use AeroTech Reload Delay Kits (RDKs) or drill delay 0.025" per second of adjustment using twist drill or optional AeroTech Delay Drilling Adapter (DDA). Drilled end faces propellant.

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. Produces showers of hot sparks. Clear launch area of all combustible material for at least 75 foot radius. 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

J340M-14A Typical Time-Thrust Curve



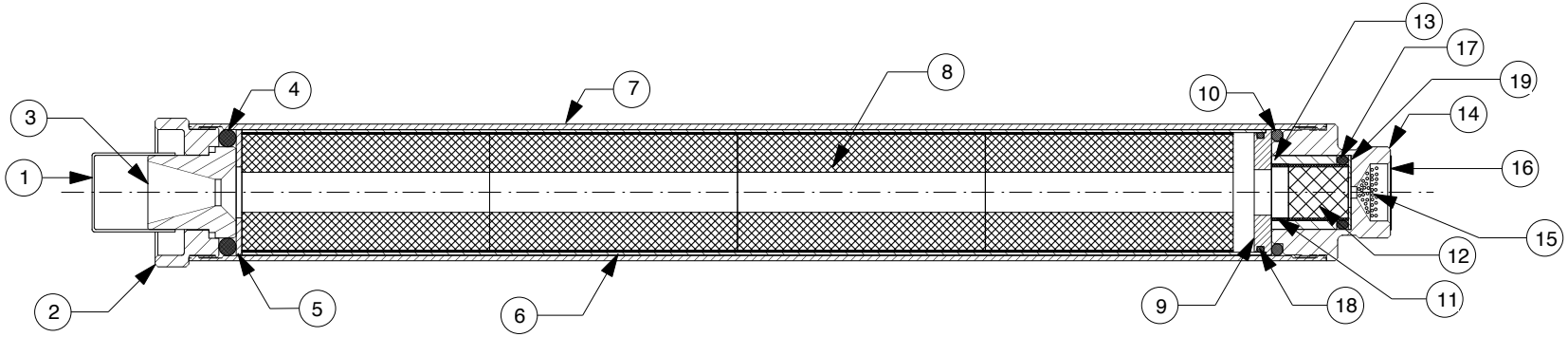
Motor Specifications

Total Impulse:	651.7 N-sec	Burn Time:	1.8 seconds
Propellant Wt.:	365 grams	Peak Thrust:	136 pounds
Loaded Wt.:	577 grams	Delay Time:	14 seconds (adjustable)
Motor Diameter:	38mm	Motor Length:	13.57"

J340M-14A Assembly Drawing and Instructions

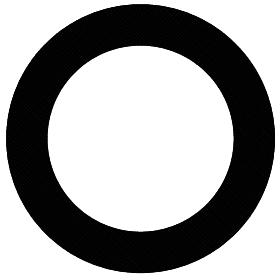
QTY	PART NUMBER	DESCRIPTION	ITEM
1	00216	FORWARD O-RING (1 3/8" O.D. X 1/8") 216	10
1	38601	FWD SEAL DISC (1.375"O.D.X.5"I.D.X.188")	9
4	03M38-1	GRAINS (1.308" O.D. X 2.723" X .438" CORE)	8
1	3872C	CASE	7
1	02065-6	PHENOLIC LINER (1.368" O.D. X 11.250")	6
1	05404	AFT INSULATOR(1.375"O.D.X.562"I.D.X1/16")	5
1	00318	AFT O-RING (1.375" O.D. X 3/16") 318	4
1	01550	NOZZLE (NEW L2) UNDRILLED	3
1	38AC2	AFT CLOSURE L2	2
1	041316	NOZZLE CAP (13/16" I.D.)	1

QTY	PART NUMBER	DESCRIPTION	ITEM
1	03350	FWD DELAY SPACER (13/16" O.D. X .031")	19
1	00025	SEAL DISC O-RING (1.313" X 1/16") 025	18
1	00001	DELAY O-RING (15MM I.D. X 3MM THICK)	17
1	05602	EJECTION CHARGE CAP	16
1	03700	EJECTION CHARGE	15
1	38FCC	FORWARD CLOSURE	14
1	03302	DELAY INSULATOR (.807" O.D. X .719")	13
1	03375	DELAY GRAIN (.61" O.D. X .656")	12
1	03314	AFT DELAY SPACER (.615" O.D. X .188")	11

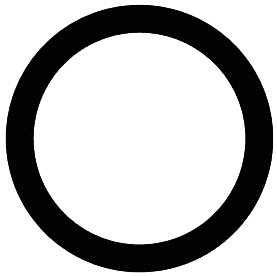


Assembly Instructions (numbers refer to item numbers on drawing)**:**

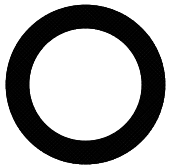
1. Lightly grease o-rings (4, 10, 17 & 18), case threads (7) and delay cavity of forward closure (14) (but not the forward end of cavity)
2. Assemble delay grain (12), delay spacer (11), delay insulator (13) and delay o-ring (17) as shown.
3. Install forward delay spacer (18) into forward closure (14), then push step 2 delay assembly into forward closure (14), o-ring end first.
4. Install forward seal disk o-ring (18) on groove in forward seal disk (9) and insert this assembly into one end of liner (6) until seated.
5. Insert propellant grains (8) into liner (6), then push liner assembly into case (7) until recessed equally from ends of case.
6. Install forward o-ring (10) into (forward) end of case (7) with the forward seal disk (9)
7. Thread forward closure (14) into the (forward) end of the case (7) with the forward o-ring (10) until seated.
8. Assemble aft insulator (5), aft o-ring (4), nozzle (3) and aft closure (2) into open (aft) end of case (7) until seated.
9. Dispense ejection charge (15) into forward closure (14) and seal end with ejection charge cap (16)



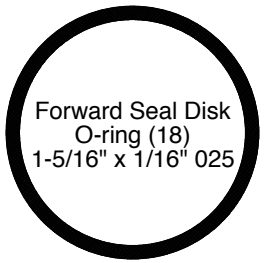
Aft O-ring (4)
1-3/8" x 3/16" 318

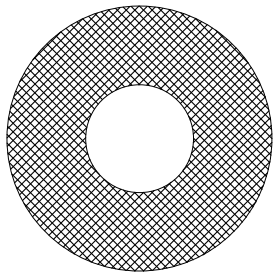


Forward O-ring (10)
1-3/8" x 1/8" 216

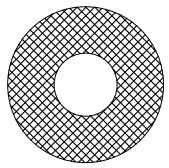


Delay O-ring (17)
21mm x 3mm
AeroTech P/N 00001





Aft Insulator (5)



Forward Delay
Spacer (19)