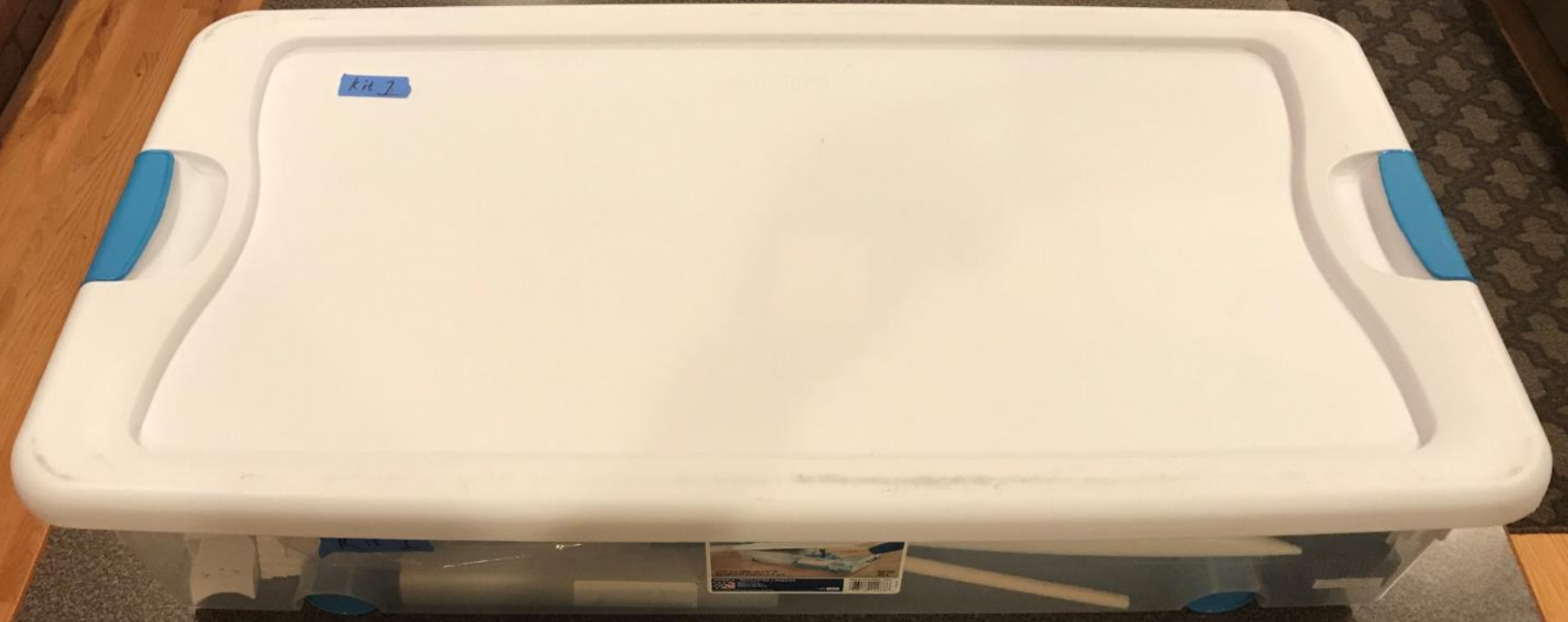
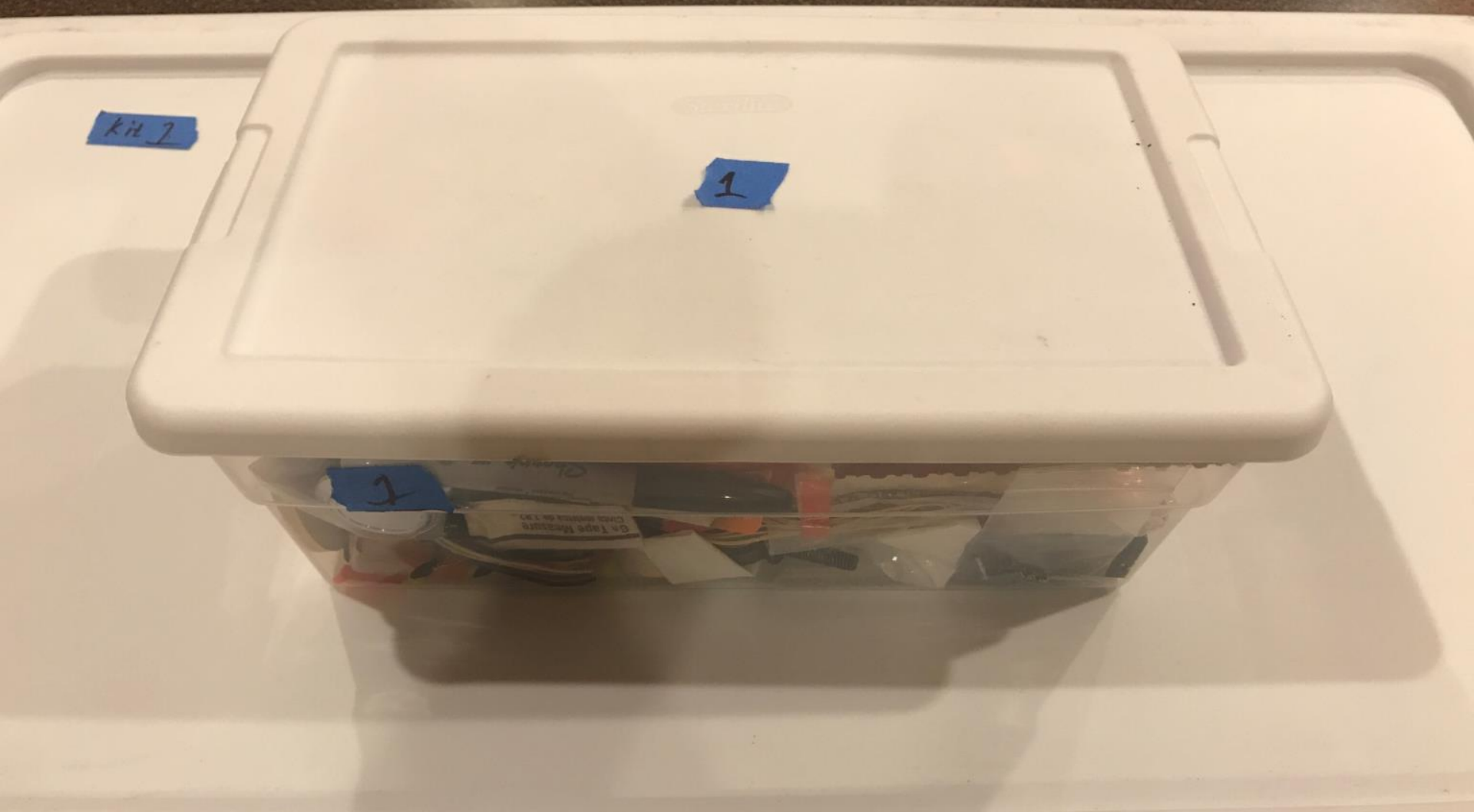


MN Space Grant Consortium (MnSGC)  
Videocon High-Power Rocketry Lessons  
Tote Content Photos  
Fall 2018

James Flaten     flate001@umn.edu  
Associate Director of NASA's MnSGC  
U of MN – Twin Cities



1. Large tote



2. Small tote

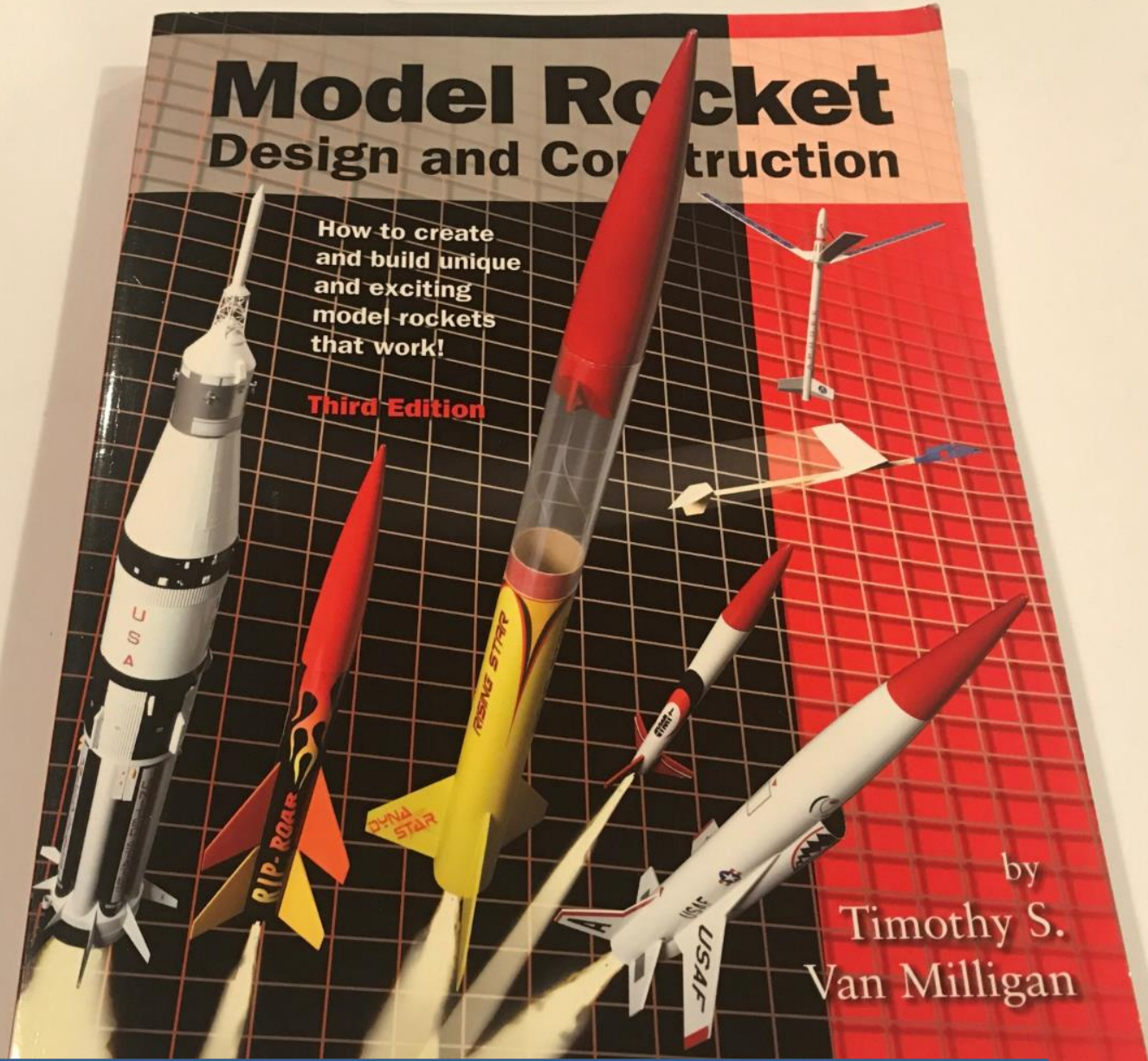


Sterilite

# Model Rocket Design and Construction

How to create  
and build unique  
and exciting  
model rockets  
that work!

Third Edition



by  
Timothy S.  
Van Milligan

3. Model-rocketry book



Completely Revised

# MODERN HIGH-POWER ROCKETRY

01026

2

A COMPREHENSIVE  
ILLUSTRATED GUIDE  
TO BUILDING,  
LAUNCHING, AND  
RECOVERING  
HIGH-POWER  
ROCKETS

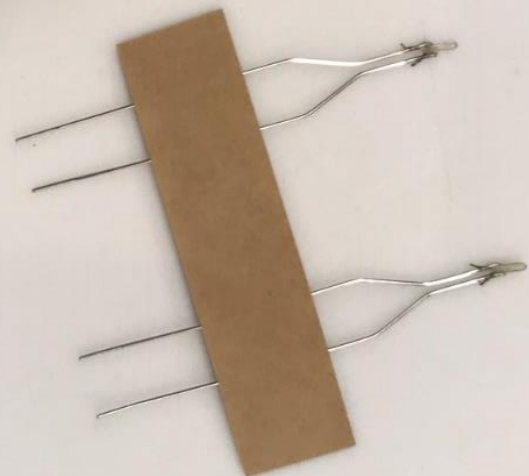
MARK  
CANEPA

4. High-power rocketry book

kit 1



5. Model rocket kits (to be built)

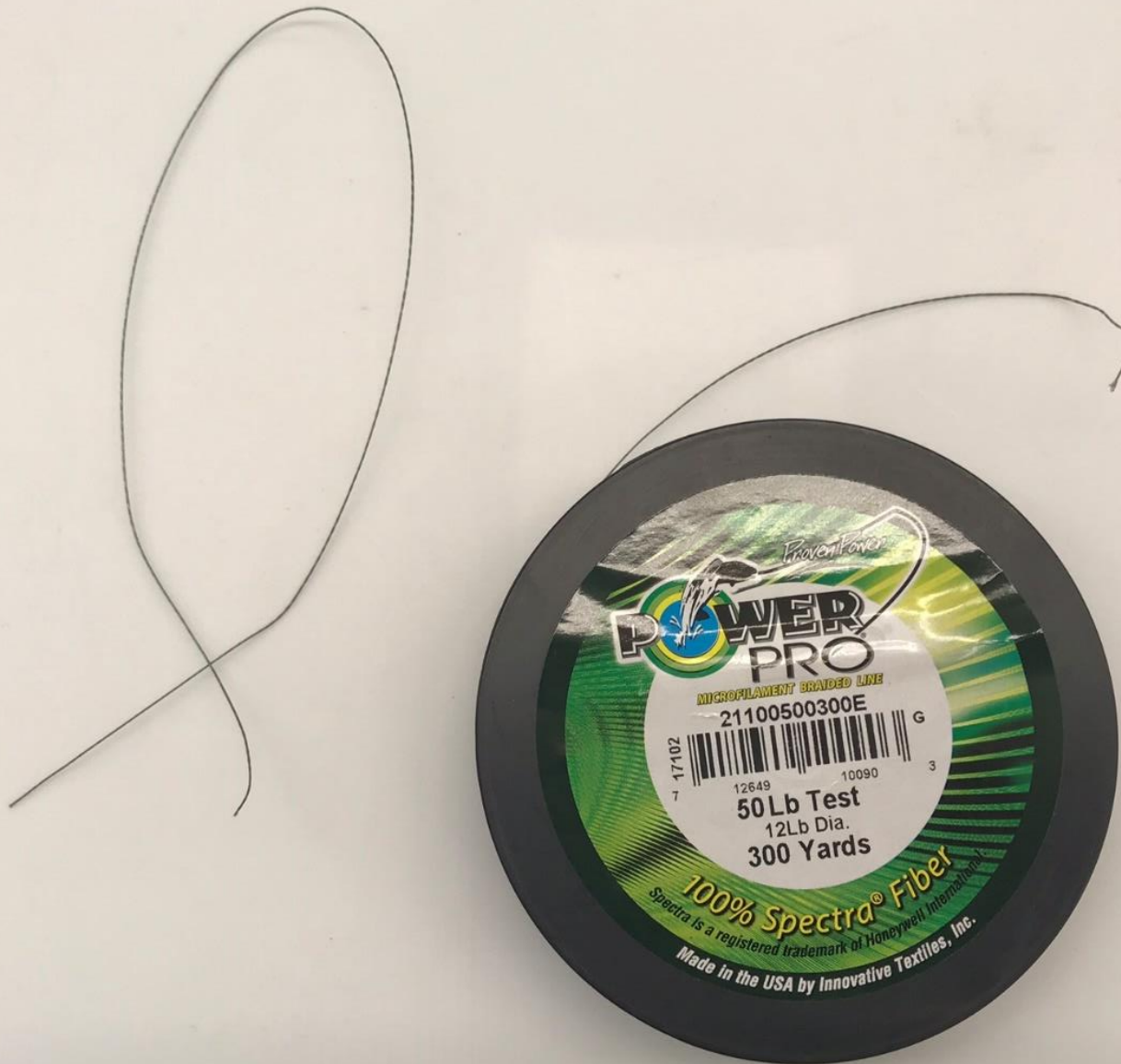


6. Model rocket motors and igniters

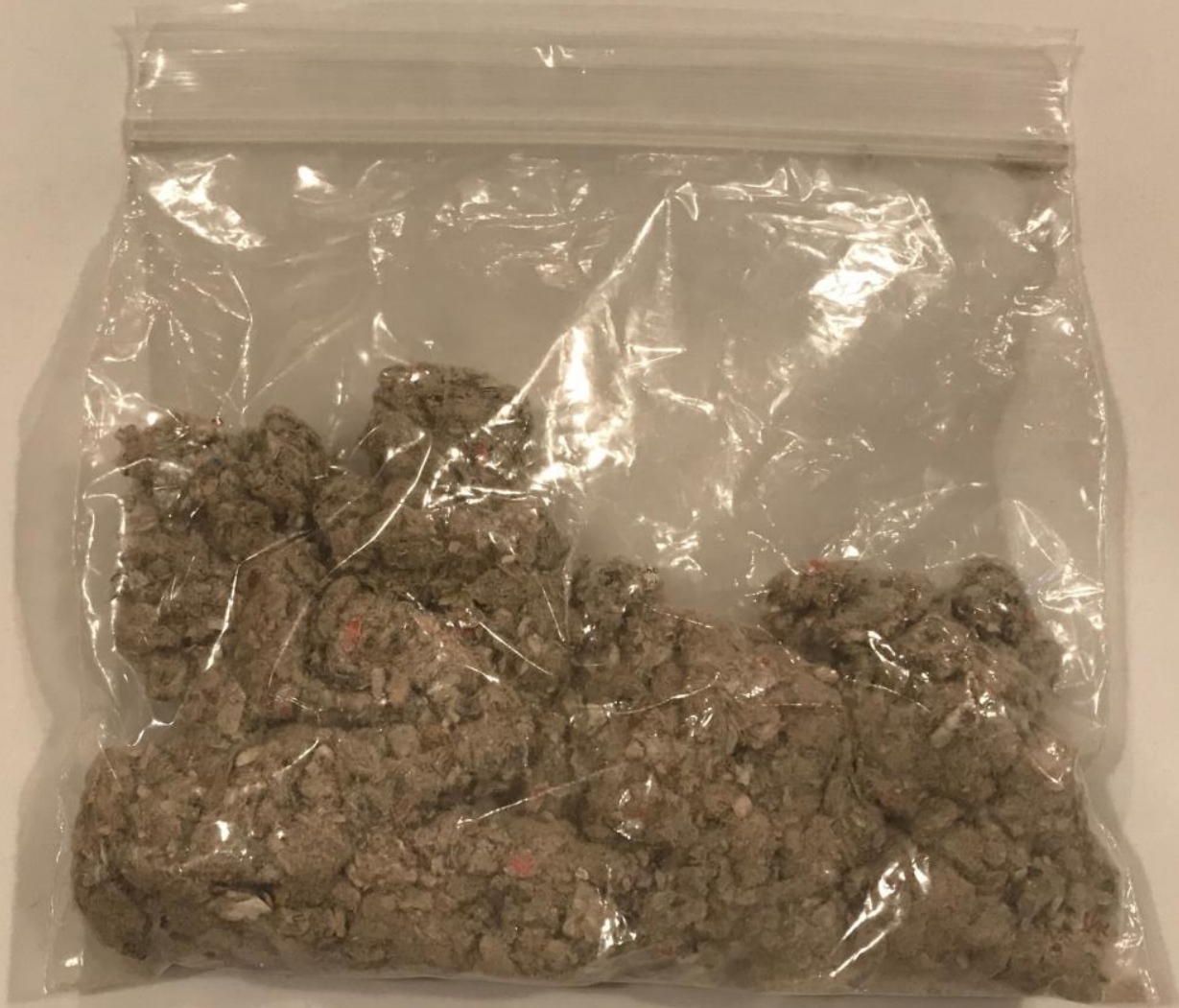




6A. Fishing clips (for model modification)



6B. String (for model modification)



7. "Rocket barf" (instead of wadding)





8. Super glue (gel type)



9. JB Weld (high-temp epoxy)



**ROCKETPOXY**  
G5000 A/B HIGH STRENGTH EPOXY  
**PART A RESIN**  
MIX 100 RESIN TO 100 HARDENER BY WT OR VOL  
4 OZ NET WT 0.45 LB  
BATCH NUMBER D1309A Expires 09/29/2019  
Glenmarc Industries Inc.  
www.glenmarc.com

**ROCKETPOXY**  
G5000 A/B HIGH STRENGTH EPOXY  
**PART B HARDENER**  
MIX 100 RESIN TO 100 HARDENER BY WT OR VOL  
4 OZ NET WT 0.45 LB  
BATCH NUMBER P1405B EXPIRES 07/02/2019  
Glenmarc Industries Inc.  
www.glenmarc.com

10. RocketPoxy (2-component epoxy)





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11. Applicator gun for epoxy tubes

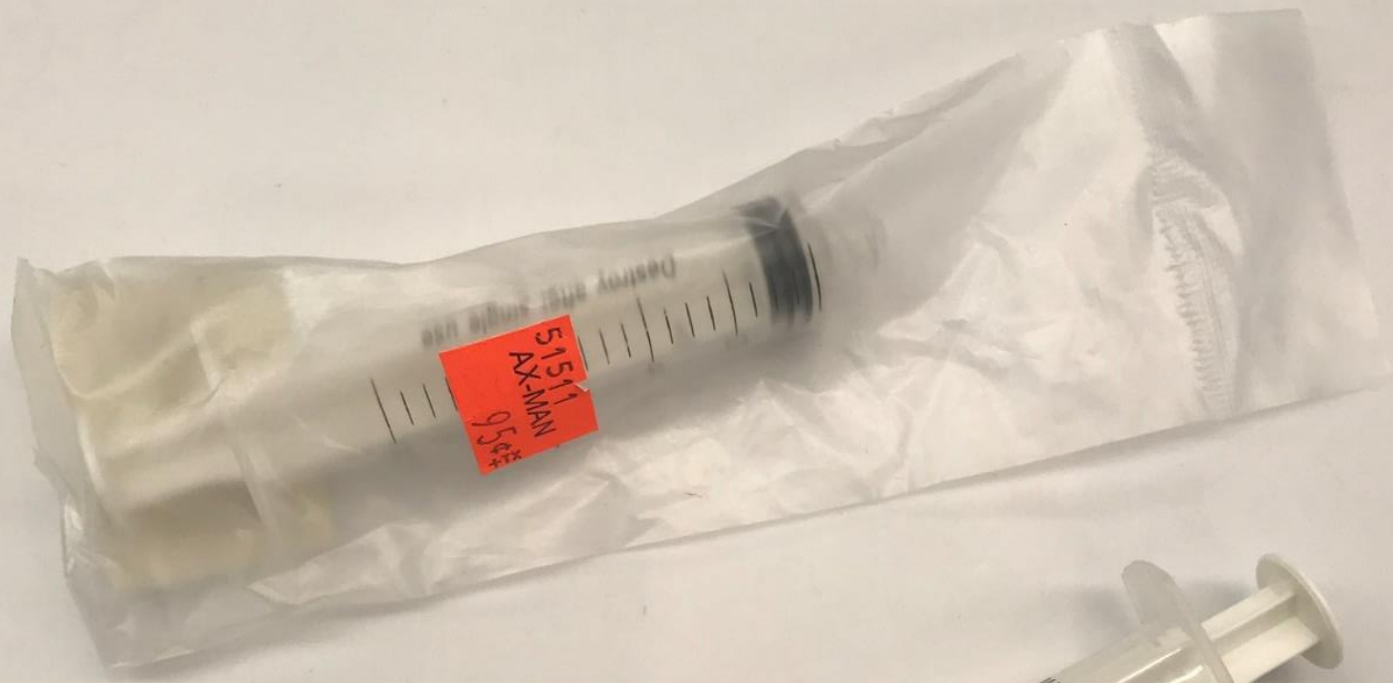


11A. Filled epoxy tube



11B. Empty tubes (to be filled with epoxy)

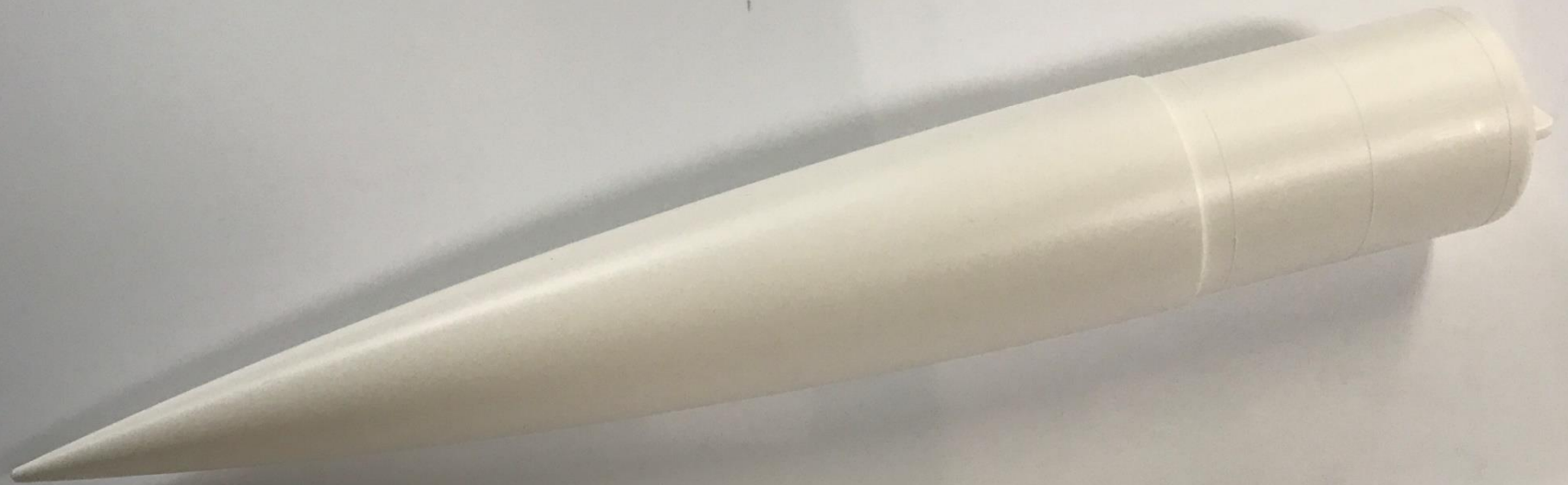




11C. Syringes (use for filling epoxy tubes)

kit 7

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12. Nose cone (plastic)

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13. Upper airframe tube (Blue Tube)



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**ARR**  
ALWAYS READY ROCKETRY

**BLUE TUBE 2.0™  
ELECTRONICS BAY  
ASSEMBLY INSTRUCTIONS**

Make sure you have all your parts! Any missing parts please contact ARR for replacements.  
hardware type, quantity and usage vary slightly with each diameter. The 38mm does not use  
nuts. Pictures shown are for the 4 inch.

14. Av-bay (many parts)



14A. Av-bay “sled” (too small)

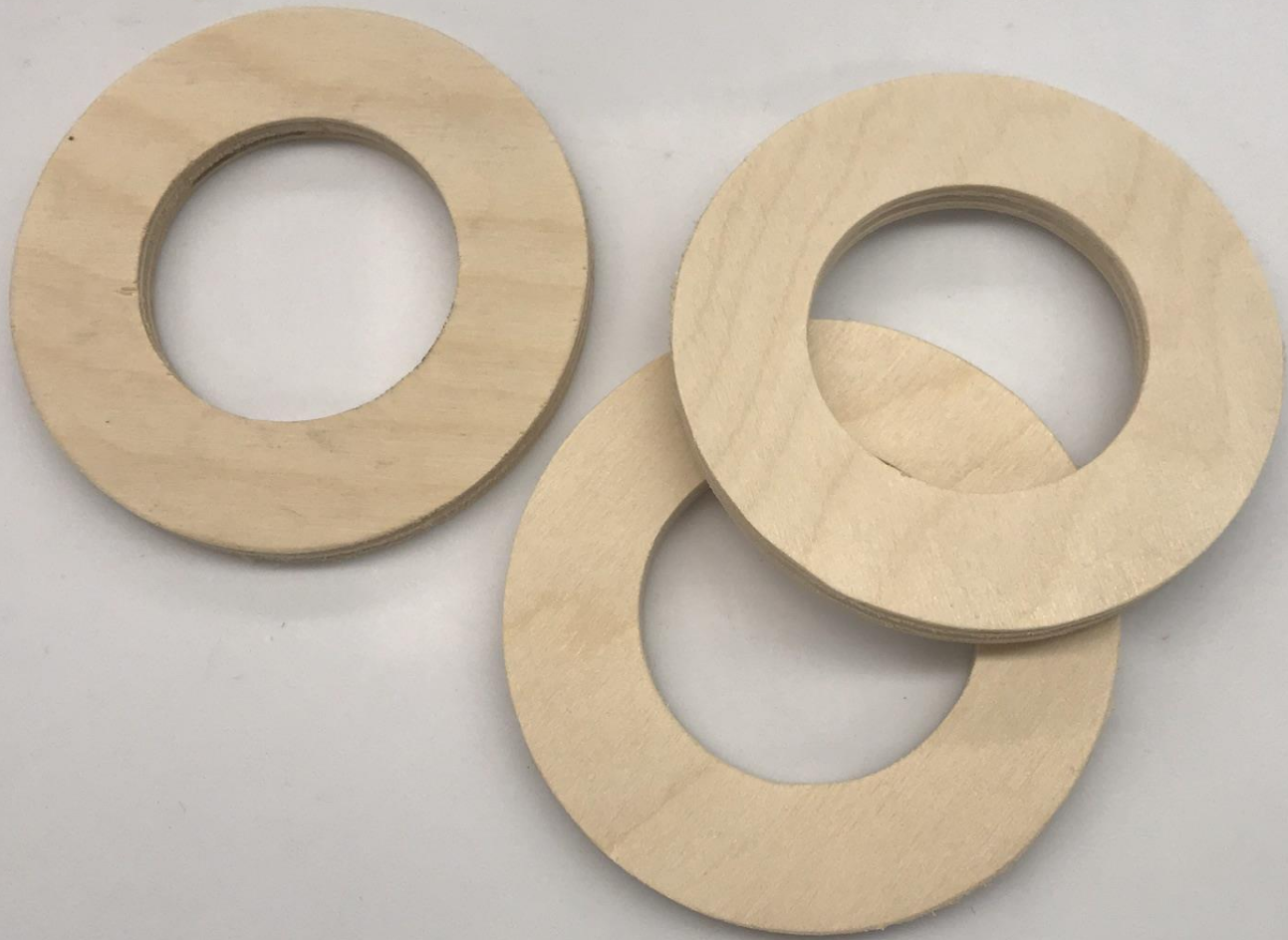


15. Lower airframe (with fin slots)





16. Fin set

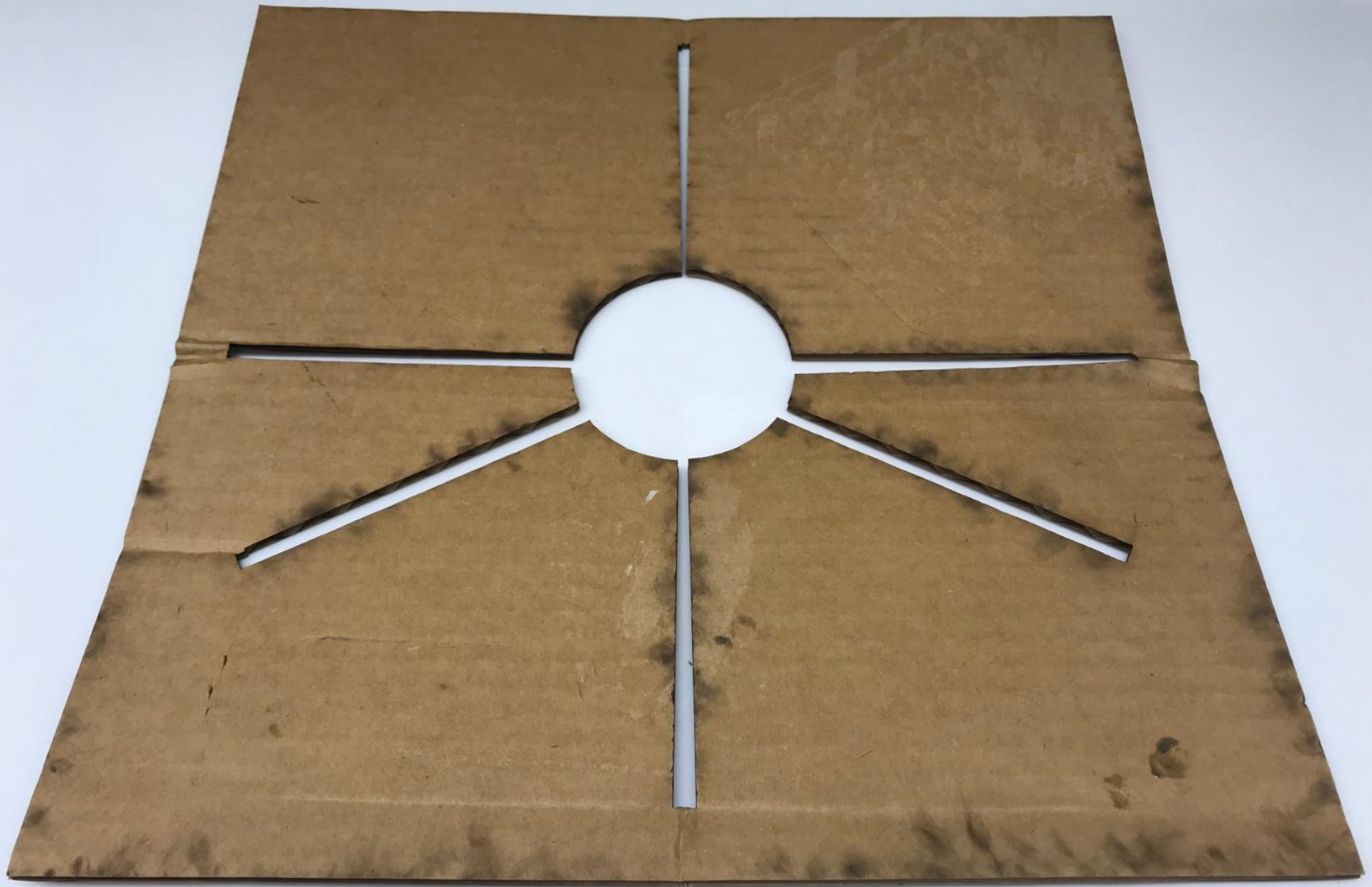


16A. Centering ring set (original)



16B. Centering ring new set (notches incorrect)





16C. Fin holder (if not using notched rings)



17. Motor-mount tube (38 mm dia)



**AERO PAPER**

24L = 0.976"  
29L = 1.215"  
38L = 1.630"  
54P = 2.278"

**INSTALLATION & USE I**  
cannot control the use of  
assumes no liability.

Tube by supplier and type:  
paper  
Precision paper  
Rocketry fiberglass  
Madcow paper  
Madcow fiberglass  
GLR phenolic, Hawk Mt  
Rocketry fiberglass  
Precision paper  
and GLR phenolic,  
and Rocketry fiberglass  
and Madcow paper

Fit for other  
24L = 0.976"  
29L = 1.215"  
38L = 1.630"  
54P = 2.278"

18. Motor retainer (two parts)





19. Motor casing (3-grain, 38 mm dia)



20. Drogue recovery harness (12' long)



21. Main recovery harness (~10' long)

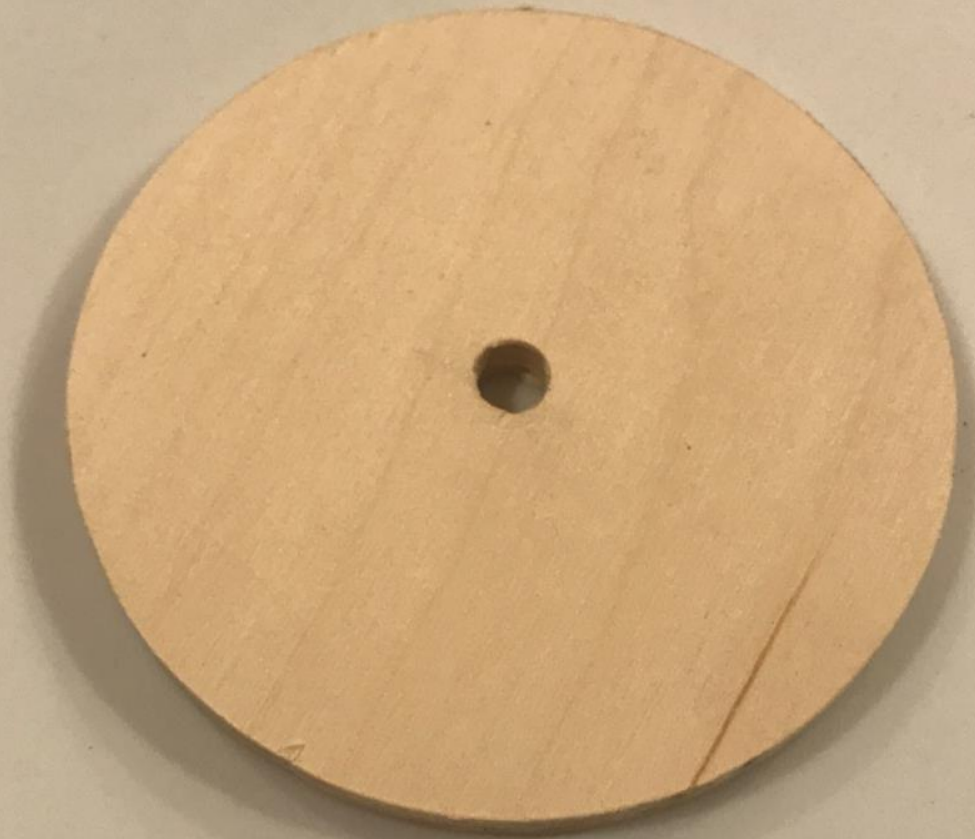




22. Piston strap (~6' long)



23. Piston body (coupler tubing)



24. Piston bulkplate



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25. Main parachute (36" dia)

**SUNYARD**

Parachute  
Red - ROUND Size: **15"**  
6 Shroud Lines

Meets  
2013 & 2011

Rules

Requirements

29108

Team America  
Rocketsry Challenge

State of the Art recovery for model rockets and other projects. Reusable.  
Machine Washable.  
All edges sewn with professional grade Surge Sewing equipment.

Materials:

- Rip-Stop Nylon for added strength and durability.
- Nylon cords.
- Polyester threads.



26. Drogue parachute (modified) (15" dia)

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27. Large flame protector (12" x 12")





28. Small flame protector (9" x 9")



29. Quick-links



~~30. Audio siren (not distributed in 2018)~~





31. Forged eyebolts, washers, nylon-insert lock-nuts

jolly logic  
**ALTIMETERTHREE**

The altitude recorder  
controlled by  
your smartphone or tablet

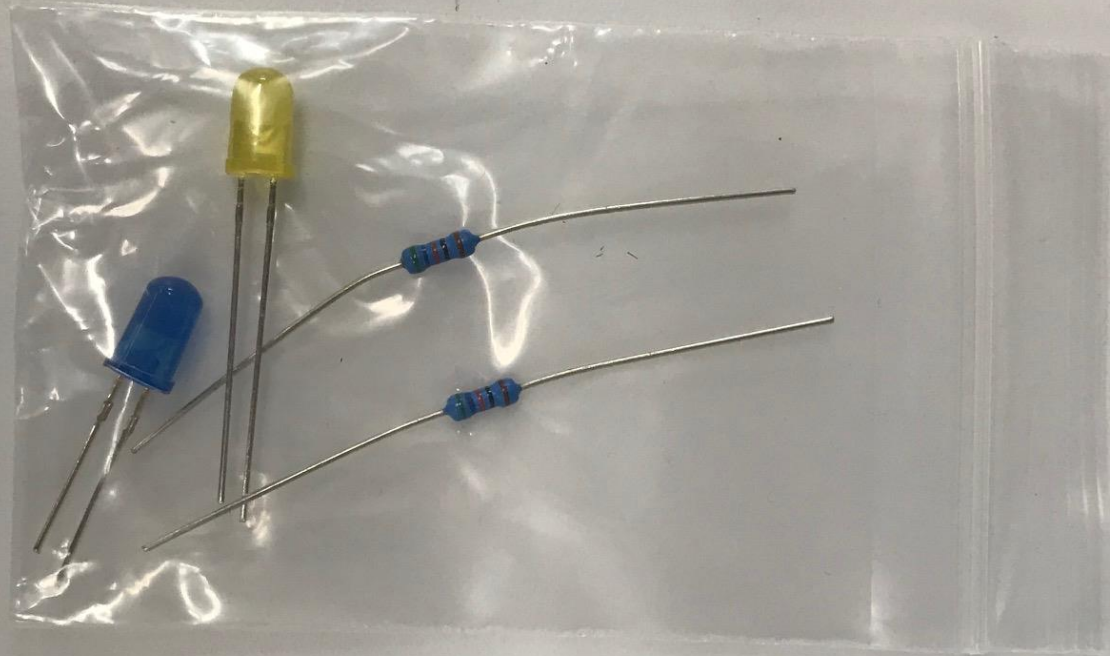


32. Altimeter Three (data logger)



33. Raven3 altimeter (for av-bay)





33A. LEDs and resistors for Raven3 test



34. Screw switch



35. Battery mount





36. Cups (for ejection charges)



37. Rail buttons (10-10 size) (new style in 2018)

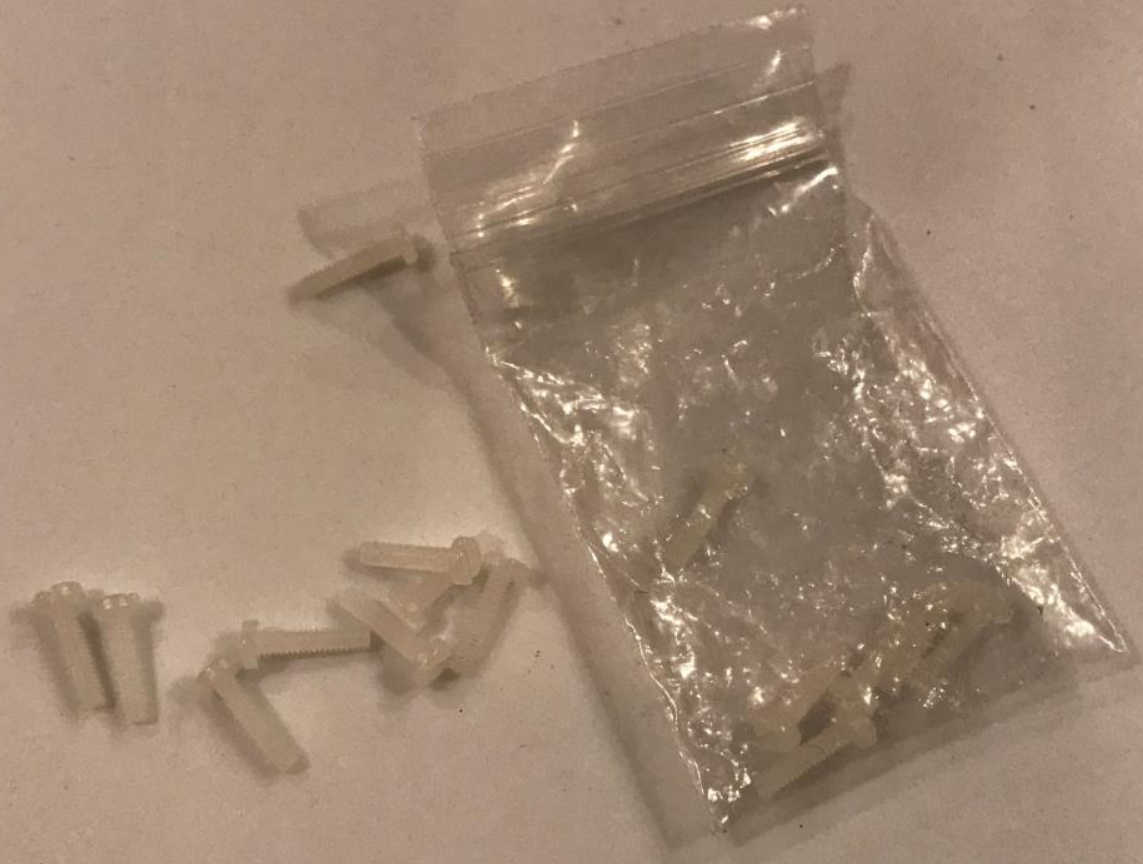


~~38. Wood blocks (for rail buttons) (not used in 2018)~~

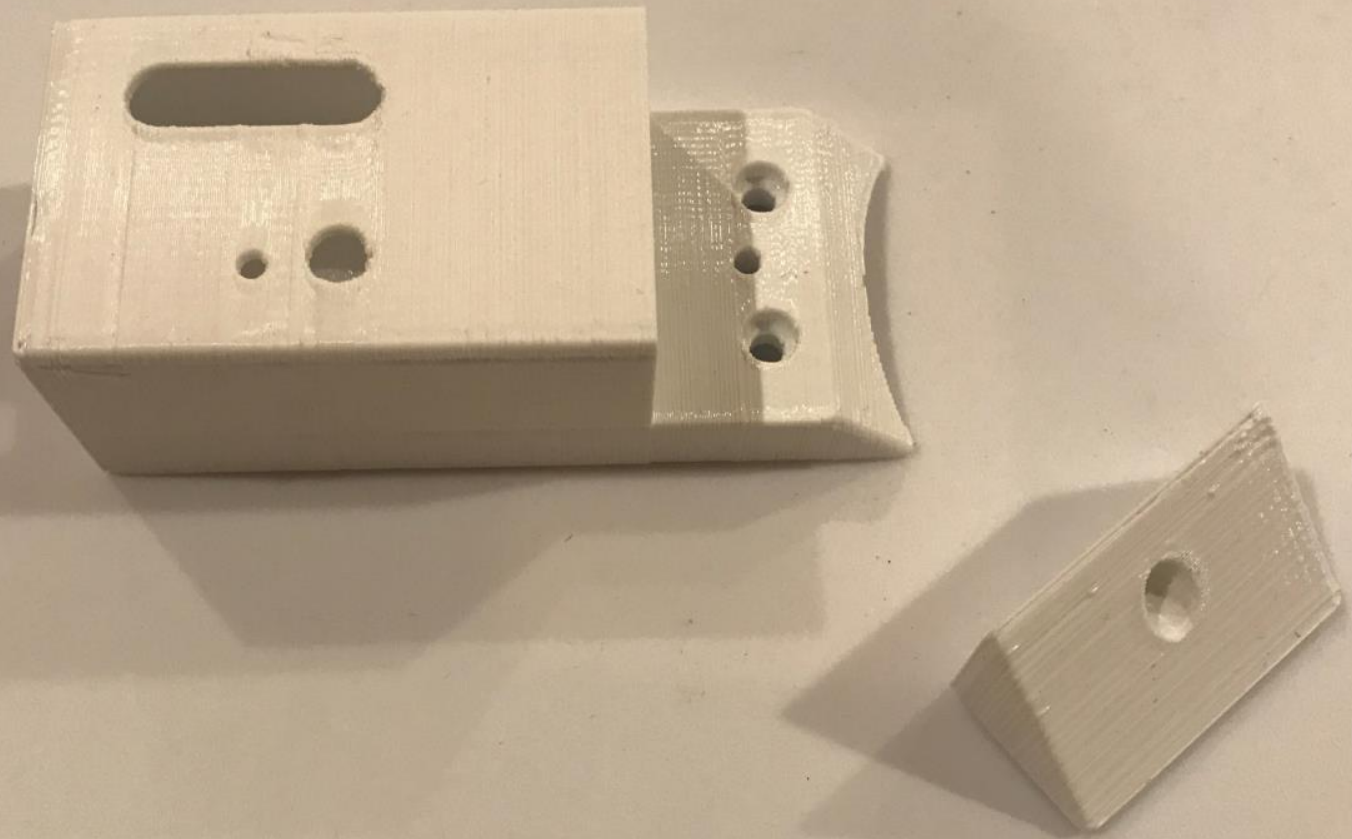




39. Rivets

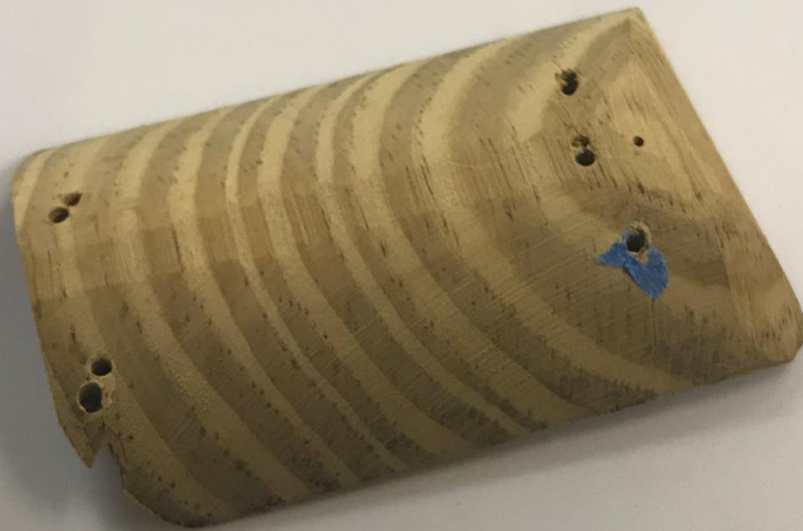


40. Shear pins (2-56 nylon screws)



41. 3D printed camera mount with cap (color may vary)

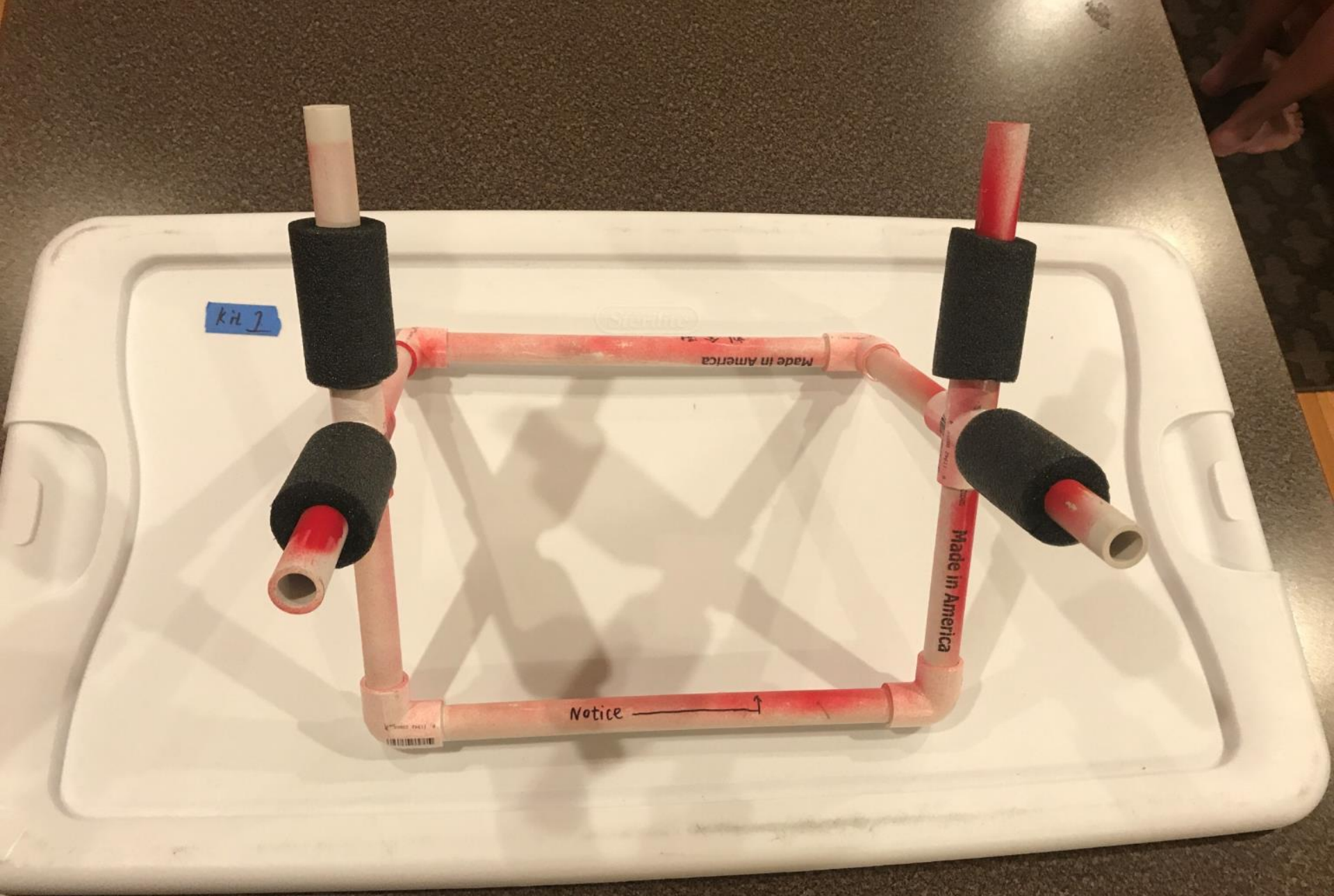




~~42. Wood block (for camera mount) (optional in 2018)~~



43. Wood screws (for battery mount)



44. Rocket cradle (1/2" pvc with pads)





45. Epoxy mixing cups (Dixie cups) (note logo)



46. Epoxy stirring sticks



46A. Spoons for making epoxy fillets



kit 1

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47. Dowel (for epoxy application)



48. Blue painters tape



49. Strapping tape, electrical tape



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50. Zip ties (assorted)

**3M** PRO GRADE  
PRECISION™

# FASTER SANDING

SANDING SHEETS

LIJADO MÁS RÁPIDO

HOJA PARA LIJAR

**ASSORTED**

SURTIDO

**80**

COARSE  
GRUESO  
REMOVES  
ELIMINA

**150**

MEDIUM  
MEDIO  
SMOOTHES  
SUAVIZA

**220**

FINE  
FINO  
FINISHES  
TERMINACIONES

WITH TECHNOLOGY FOUND IN:  
CON LA TECNOLOGÍA QUE SE ENCUENTRA EN:

**NO-SLIP  
GRIP™**

**DURABLE  
BACKING**  
SOPORTE  
DURABLE

**CUBITRON II**

INDUSTRIAL ABRASIVES  
ABRASIVOS INDUSTRIALES

**LESS EFFORT**  
MENOS ESFUERZO

**6**

CONT. 6 SHEETS/HOJAS TOTAL  
9 IN/PULG X 11 IN/PULG (22,8 cm X 27,9 cm) EACH/CADA UNA

51. Sand paper (various grits)





52. Tack cloth (for dust removal)





~~53. Tape measure (not provided in 2018)~~



54. Jewel screwdriver set (tips go inside handle)



55. Utility knife (with break-away blades)

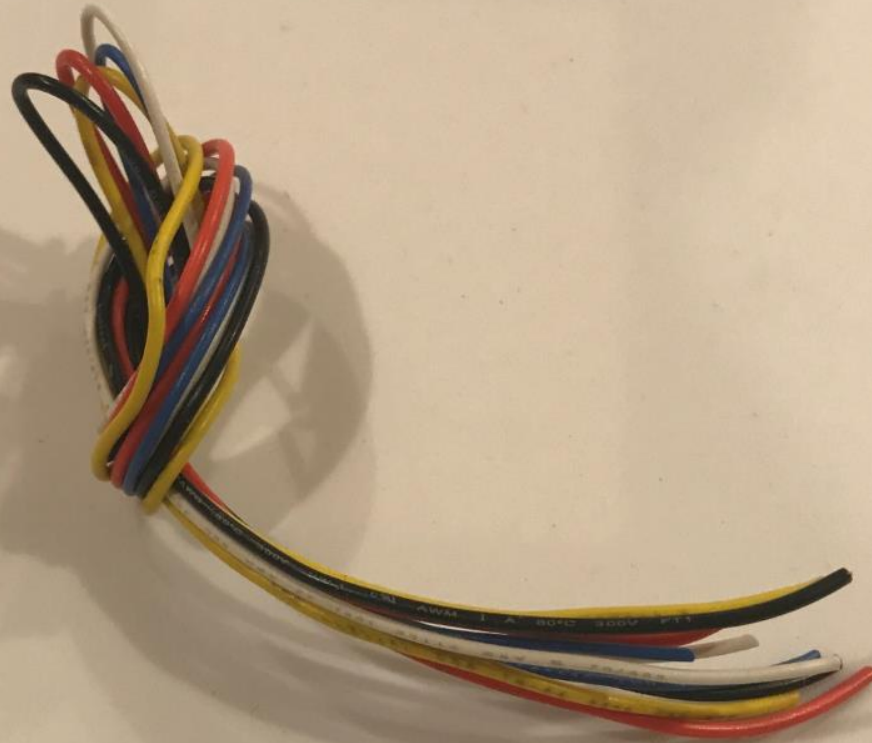




56. Nitrile gloves (disposable)

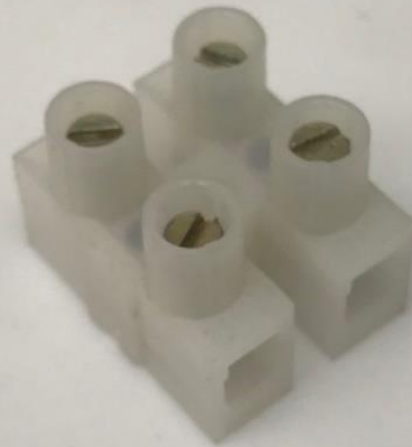


57. Duracell 9-volt batteries



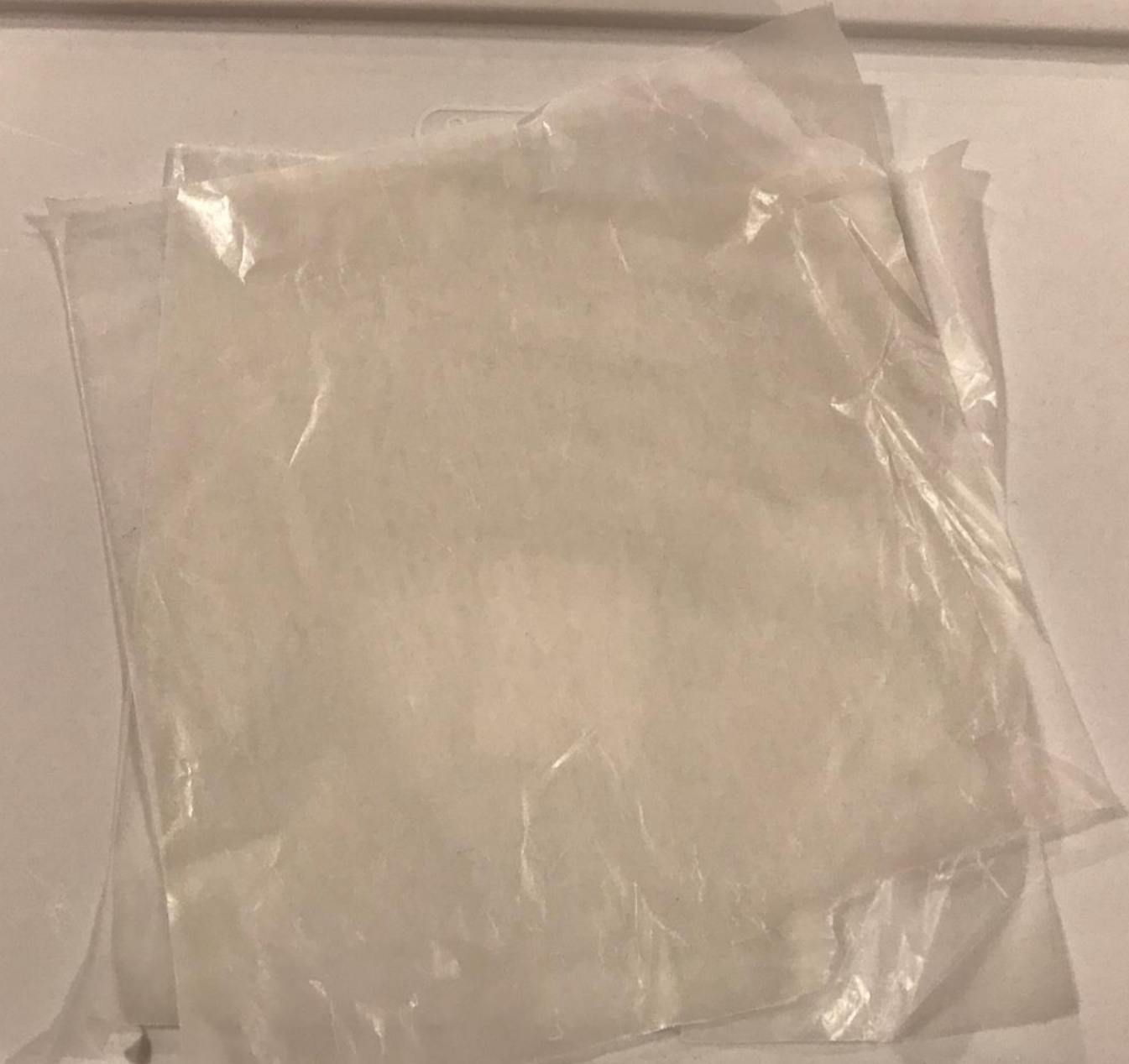
58. Wire for av-bay (22 gauge stranded)





58A. Terminal block (will use 2 or 3)

7



59. Wax paper squares

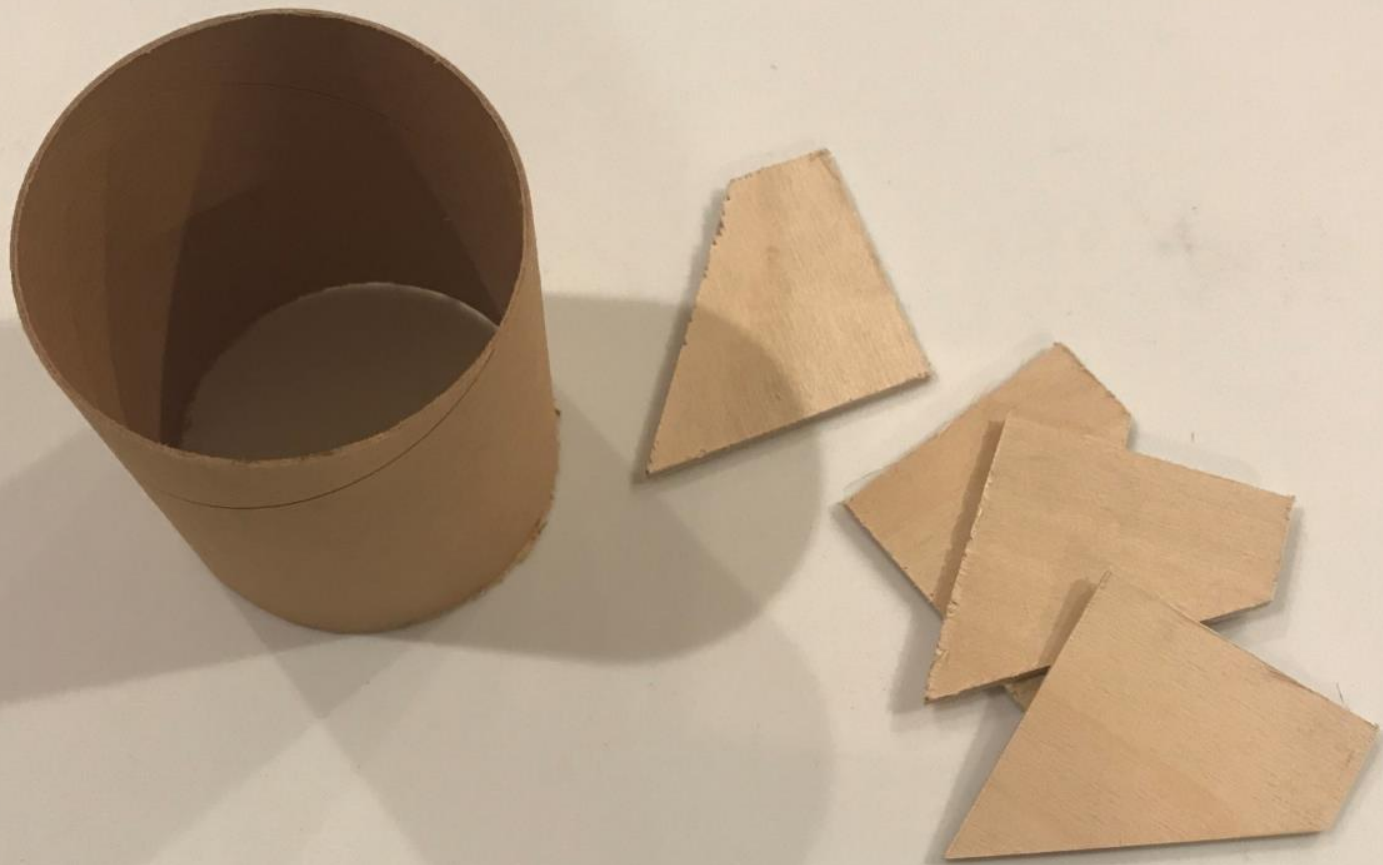


60. Scissors





61. Sharpie marker



62. Parts for fin-can (epoxy) exercise



Will lend out: 63. Mobius video camera





Will lend out: 64. Radio beeper



Will provide: 65. Pyrodex (for ejection charges)



Will provide: 66. I-170 high-power rocket motor