

About Semroc Astronautics Corporation

Semroc Astronautics Corporation was started by Carl McLawhorn in his college dorm at North Carolina State University in November, 1967. Convinced a small group of investors in his home town of Ayden, North Carolina to invest in a small corporation, the company was re-incorporated as Semroc Astronautics Corporation on December 31, 1969.

Semroc produced a full line of model rocket kits and motors. At its peak, Semroc had twenty-five full time employees working at two facilities. One was for research and development, printing, shipping, and administration. The other was outside of town and handled all production and model rocket motor manufacturing. For several years, Semroc successfully sold model rocket kits, supplies, and motors by mail-order and in hobby shops. In early 1971, Semroc became insolvent and had to close its doors.

After 31 years of dreams and preparations, Semroc Astronautics Corporation was re-incorporated on April 2, 2002 with a strong commitment to helping put the fun back into model rocketry. Many years of excellent service to the rocketry community passed by until sadly, on August 11 2013, Carl passed away and left a great void in the hearts of many rocketeers. He is forever in our hearts and minds.

In February of 2015, Semroc was sold to eRockets and moved to Dayton, Ohio where it resides today. It is our goal to continue the level of service and dedication to the hobby that Carl and his family were so well known for. We strive to serve you, our customers, to the best of our abilities as we carry the vision of Carl McLawhorn boldly into the future.

About the Semroc USS ANDROMEDA™

The USS Andromeda was first offered by Estes in 1975. Production ran from 1975 through 1982. This kit was released as both kit number K-73 and as #1273.

This release of the USS Andromeda™ from Semroc features fiber fin alignment guides and other jigs to assist in the building process. We are proud to bring this wonderful Wayne Kellner creation back to life again for modern model rocketeers and sincerely hope you enjoy building and flying this quality model rocket kit.

July 2019

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SEMROC

USS ANDROMEDA™

Sci Fi Design

1975 Retro Reproduction

Laser Cut Balsa Fins

**Colorful Waterslide
Decals**

**Precision Turned
Balsa Nose Cone**

**18" Parachute
Recovery**



*Designed by:
Wayne Kellner*

FLYING
MODEL
ROCKET KIT

Made in the U.S.A by Semroc - Dayton, Ohio

USS ANDROMEDA™ Kit No. KV-97

	Specifications		Engine	Approx. Altitude
Body Diameter	0.998"	2.53cm	B6-2	210'
Length	42.875"	108.9cm	C6-3	495'
Fin Span	7.75"	19.685cm	C12-4	520'
Net Weight		2.9 oz	D16-4	615'

Skill Level 3

BEFORE YOU START!

Make sure you have all the parts included in this kit that are listed in the Parts List in these instructions. In addition to the parts included in this kit, you will also need the tools and materials listed below. Read the entire instructions before beginning to assemble your rocket. When you are thoroughly familiar with these instructions, begin construction. Read each step and study the accompanying drawings. Check off each step as it is completed. In each step, test-fit the parts together before applying any glue. It is sometimes necessary to sand lightly or build-up some parts to obtain a precision fit. If you are uncertain of the identity of some parts, refer to the exploded view. It is important that you always ensure that you have adequate glue joints.

TOOLS

In addition to the parts supplied, you will need the following tools to assemble and finish this kit.

White or Wood Glue Spray Paint
Balsa Fillercoat or Sanding Sealer
Fine Sandpaper 320 to 600 Grit
Ruler Pencil Hobby Knife
Masking Tape

ASSEMBLY

These instructions are presented in a logical order to help you assemble your Semroc USS Andromeda™ quickly and efficiently. Check off each step as you complete it. We hope you enjoy putting this kit together.

MAIN BODY

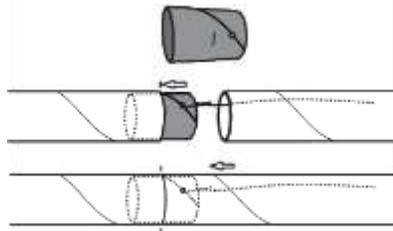
❑ 1. Test fit the tube coupler (Part A) in one of the 18" long ST-7 tubes. If it is too tight, sand the sides until you get a slip fit. Mark the coupler at the center point, ½" inch from one end.

Tie the Kevlar line (Part B) to the coupler through the small hole. This is the forward end of the coupler. Use a secure, non-slip knot.

Smear glue around the inside end of one of the ST-7 tubes (Parts C). With the tied Kevlar to the right side, slide in the coupler up to the ½" mark. Let dry.

Push the Kevlar line through the end of the second long ST-7 tube. Apply a bead of glue inside the upper ST-7 tube. Try not to get glue on the Kevlar line. Slide the upper tube over the coupler to join the tubes.

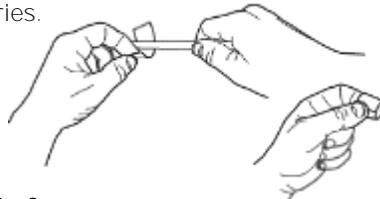
Gently roll the glued tubes over a flat surface to be sure they are straight.



❑ 2. Carefully remove the shroud (Part D) from the laser cut sheet with a sharp knife.

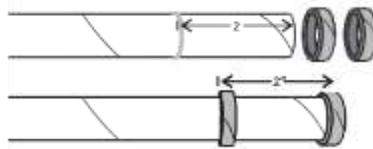
Pre-form the shroud by pulling it under a knife handle or pencil as shown. Do this several times until the cone can be easily formed.

Apply glue to the tab and press as shown. Hold in place until the glue dries.

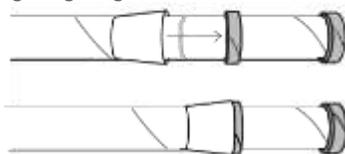


❑ 3. Mark the body tube assembly 2" from one end. This will be the front end of the model. With a pencil, mark this front end with the word "TOP".

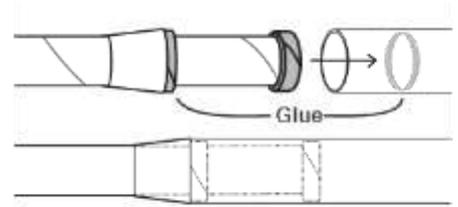
Apply a line of glue just to the right of the 2" mark. Slide a centering ring (Part E) down from the top into the glue ring and up to the 2" mark. Glue a second centering ring on the tube top so the ring and front edge are even.



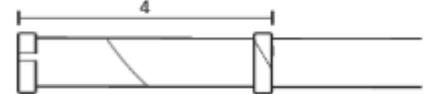
❑ 4. Slide the shroud onto the body tube and up against the lower ring as shown. With a pencil, trace around the tube where the shroud end touches it. Slide the shroud back and apply a small line of glue around the pencil line. Apply another line of glue at the rear of the lower centering ring. Slide the shroud back into position over the glue line and against the lower centering ring edge.



❑ 5. Smear a line of glue inside the parachute compartment tube (Part F) about 1 ½" in from one end. Apply a line of glue around the ring above the shroud. Slide the glued end of the tube onto the rings until the shroud seats against the parachute tube end. Wipe away any excess glue.

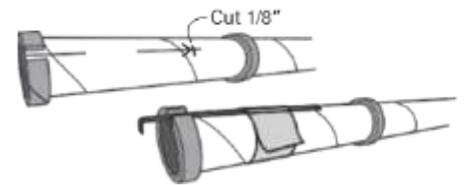


❑ 6. Mark the rear end of the body assembly 4" from the low end. Apply a line of glue around the tube to the left of the 4" mark and slide the remaining centering ring (Part E) onto the tube until the front end of the ring is even with the 4" mark. Wipe away any excess glue. Glue the split centering ring (Part G) to the tube so it is even with the rear end.

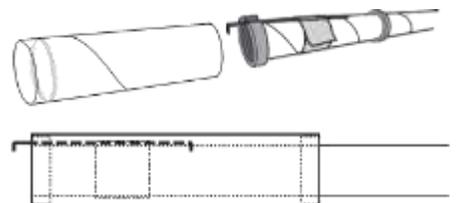


❑ 7. Cut a 1/8" slit in the body, directly in line with the gap in the split adapter rings, 2 ½" from the rear end of the body. Insert one end of the engine hook (Part H) into the slit and lay the hook along the tube so the other end passes through the gap in the split ring.

Apply a wrap of tape around the tube, centered over the engine hook. Apply a drop of glue over the forward end of the engine hook.

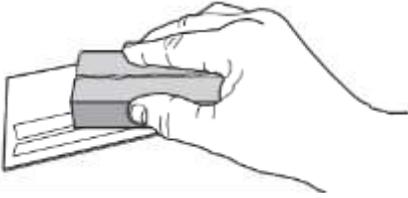


❑ 8. Apply a line of glue to the forward centering ring and the inside of the reactor body tube (Part I) as shown. Slide the reactor tube in place matching the ends with the centering rings. Wipe away any excess glue.

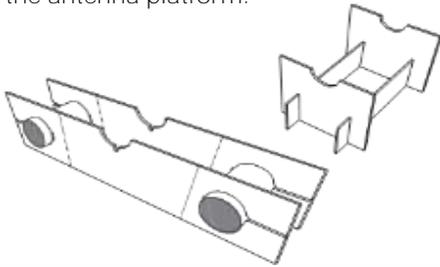


FIN PREPING

- ❑ 9. Sand both sides of the laser cut balsa sheets (Parts J) smooth, then use a sharp knife to help remove the fins.

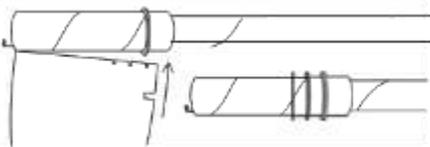


- ❑ 10. Assemble the alignment tools (Part K) as shown. Slide the short ST-9 tube segments (Parts L) into the holes at the sides of the long pieces (Do Not Glue), they will be used in a later step. You'll need a long, flat work area to glue the wing fins, engine pylons and conduit stand-offs. Set the body assembly into the half circles at the top center of the two alignment tools. Turn the body assembly so the engine hook is in line with the top sail fin. The top sail fin has the large notch for the antenna platform.



RADIATOR RINGS

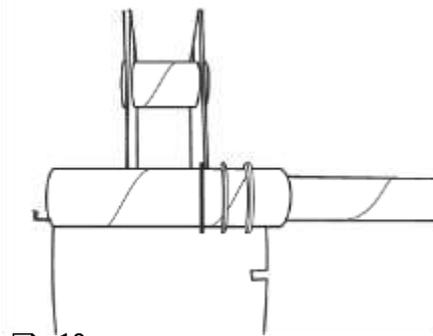
- ❑ 11. Position one of the three radiator rings (from laser cut card, Part M) on the reactor tube body using the large sail fin as a guide. The ring position should match the front notch on the fin when the rear edge is even with the rear of the reactor tube body. Glue the ring to the body in this position. A drop or two of glue is sufficient - do not over glue. Use the forward notch in the sail fin to make sure the ring is correctly positioned all around the body. Slip the other two rings onto the reactor tube body in their approximate positions, but do not apply glue yet.



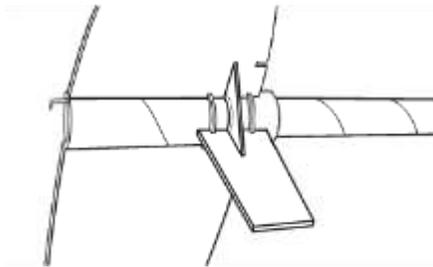
FIN GLUING

- ❑ 12. Glue the large sail fins to the reactor body by laying the fin flat on the top of the rear alignment guide. Notice the forward notches in the

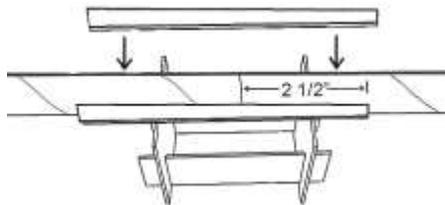
leading edges of the sail fins. Turn the body so the engine hook is in line with one of the sail fins. Apply a line of glue and position the sail on the body with the three radiator rings in the notches. Glue the opposite sail fin on the same way.



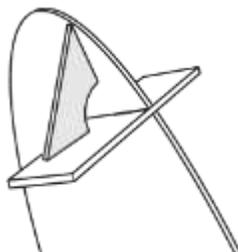
- ❑ 13. Use the small triangle alignment guide from the laser cut card (Part M) to glue on the engine pylons. When the sails and pylons are in position, apply glue filets to the joints between the balsa parts and the body. Let the assembly dry.



- ❑ 14. Mark the Forward ST-7 tube 2 1/2" forward of the tubes joint. Center the forward smaller alignment tool under the ST-7 tubes joint. Glue the conduit standoffs to the main body in a direct line with the rear sail/fins. The front of the conduit should be at the 2 1/2" mark.



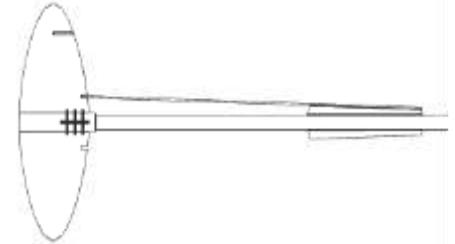
- ❑ 15. Slide the antenna platform piece into the slot on the upper sail/fin. Apply glue fillets and smooth off the excess glue.



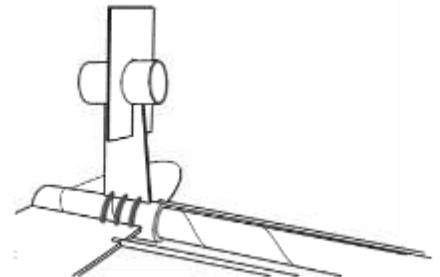
Use the triangle alignment guide to be sure the platform projects straight away from the sail.

CONDUITS

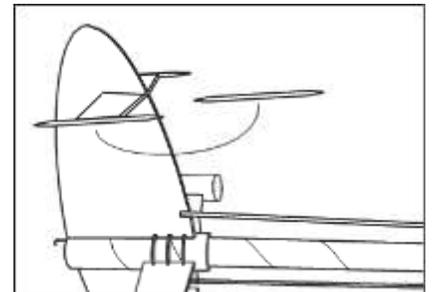
- ❑ 16. Test fit the 1/8" conduit dowels (Part N) between the sail/fin slots and the front edge of the conduit standoffs. Trim the conduits to the correct length. For the best result, cut the conduit pieces a little longer than needed and sand to the correct length. Use masking tape to hold the conduits in place while the glue dries.



- ❑ 17. Break off the end of one of the lower alignment pieces by bending the piece back and forth on the dashed cut line. Slide the center hole over the 1 7/8" long ST-9 tube segment. Apply glue along the outside edge of the pylon fin. Slide the ST-9 tube and guide slot down over the fin and center the tube evenly on the glued pylon edge. Allow to dry.

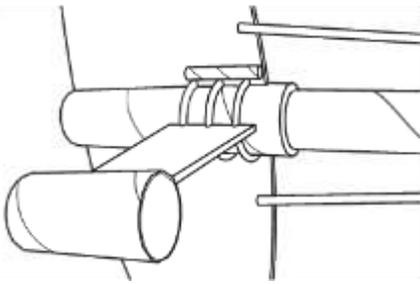


- ❑ 18. Glue the toothpick dowels (Parts O) to the outside edges of the antenna platform. Center the toothpicks evenly on the outside end.

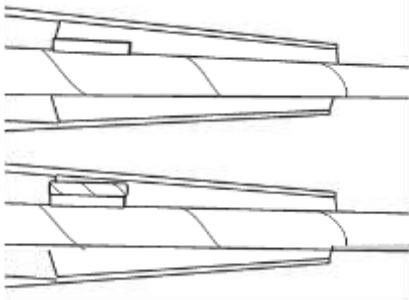


LAUNCH LUGS

- ❑ 19. Glue one launch lug (Parts P) to the sail/fin (with the antenna platform) against the radiator rings and even with the front edge of the fin.



❑ 20. Glue a launch lug standoff (Part M) on both sides of the upper conduit standoff, even with the back edge of the standoff. Glue the forward launch lug on top of the standoff on the same side as the rear launch lug. The two launch lugs should be in line with each other.

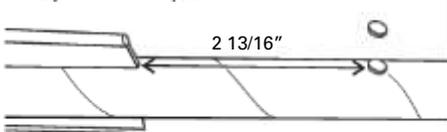
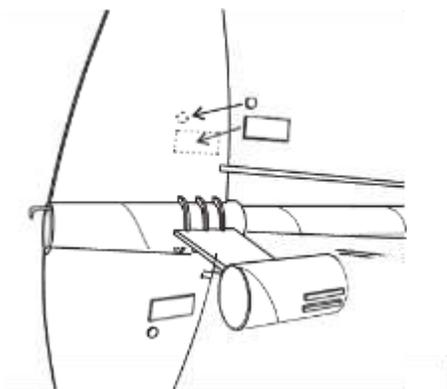


DETAILS

❑ 21. Glue four disks and four large rectangles for the laser-cut card (Part M) to the sail/ fins at the dot locations marked on the fins.

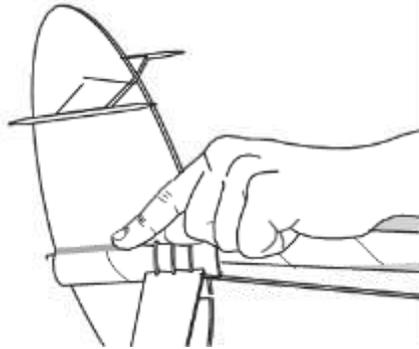
Glue the small rectangles to the ram tubes with the front edge 1/8" from the front of the tube. Use the slots in the round alignment guide for placement.

Glue the remaining two round disks to the main body, centered 2 13/16" directly in front of the conduit standoffs. (See next panel)



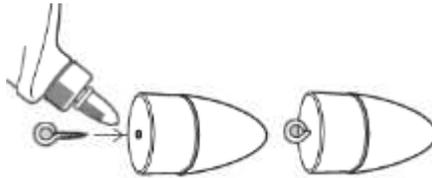
APPLY FILLETS

❑ 22. Apply a glue fillet to each joint where a sheet balsa part connects to another part. Holding the rocket horizontally, apply a line of glue to the joint and smooth it out with your finger. Support the rocket horizontally while the glue dries



FINAL ASSEMBLY

❑ 23. Insert the screw eye (Part Q) into the base of the nose cone (Part R) Remove the screw eye and squirt a small amount of glue into the hole. Re-insert the screw eye.

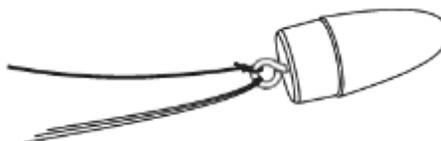


❑ 24. Cut the parachute (Part S) to the 18" diameter. Assemble the parachute using the directions that come with the parachute.

Pass the shroud line loops through the screw eye in the nose cone. Pass the parachute through the loop ends and draw the lines tight against the screw eye. Set the knot with a drop of glue.

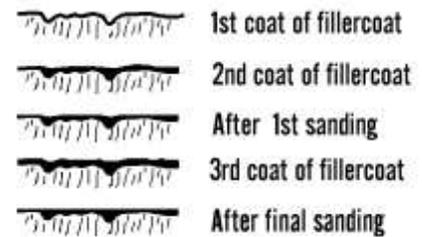


❑ 25. Tie the free end of the Kevlar shock cord to the screw eye.

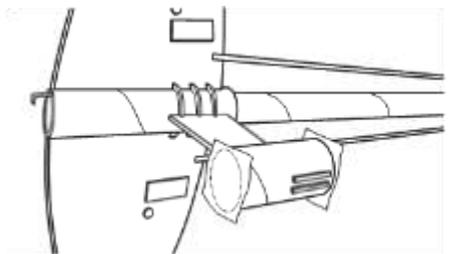


FINISHING

❑ 26. Fill all the balsa grain using your choice of thinned wood filler or sanding sealer and smooth by sanding.



❑ 27. Paint the inside of the ram tubes white, followed when dry with a coat of bright fluorescent orange paint. Cap the ends of the ram tubes with masking tape and paint all the other areas with gloss black.



❑ 28. When all the paint is dry, remove the masking tape and apply the decals. (Part T) Apply the foil panels first in the positions shown in the illustration. To apply the water-slide decals (Part U) cut out an individual section and dip in lukewarm water for 20 seconds.



❑ 29. When the decal slides easily off the backing paper, slip it from the backing sheet and onto the model. Blot excess water away with a damp cloth. Allow decals to dry overnight. You can follow up with a clear dull coat over the entire model. Mask off the foil stick-ons to keep them shiny.

This completes the assembly of your
USS ANDROMEDA

FLIGHT PREPPING

❑ 30. Mounting the engine: Insert the engine and make sure the engine hook keeps the engine in snugly. The hook may be slightly bent to make sure the engine is retained.

❑ 31. Apply a few sheets of recovery wadding in the top of the main body tube. Fold the chute and pack it and the shock cord on top of the recovery wadding. Slide the nose cone in place, making sure it does not pinch the shock cord or chute.

❑ 32. Refer to the model rocket engine manufacturer's instructions to complete the engine prepping. Different engines have different igniters and methods of hooking them up to the launch controllers.

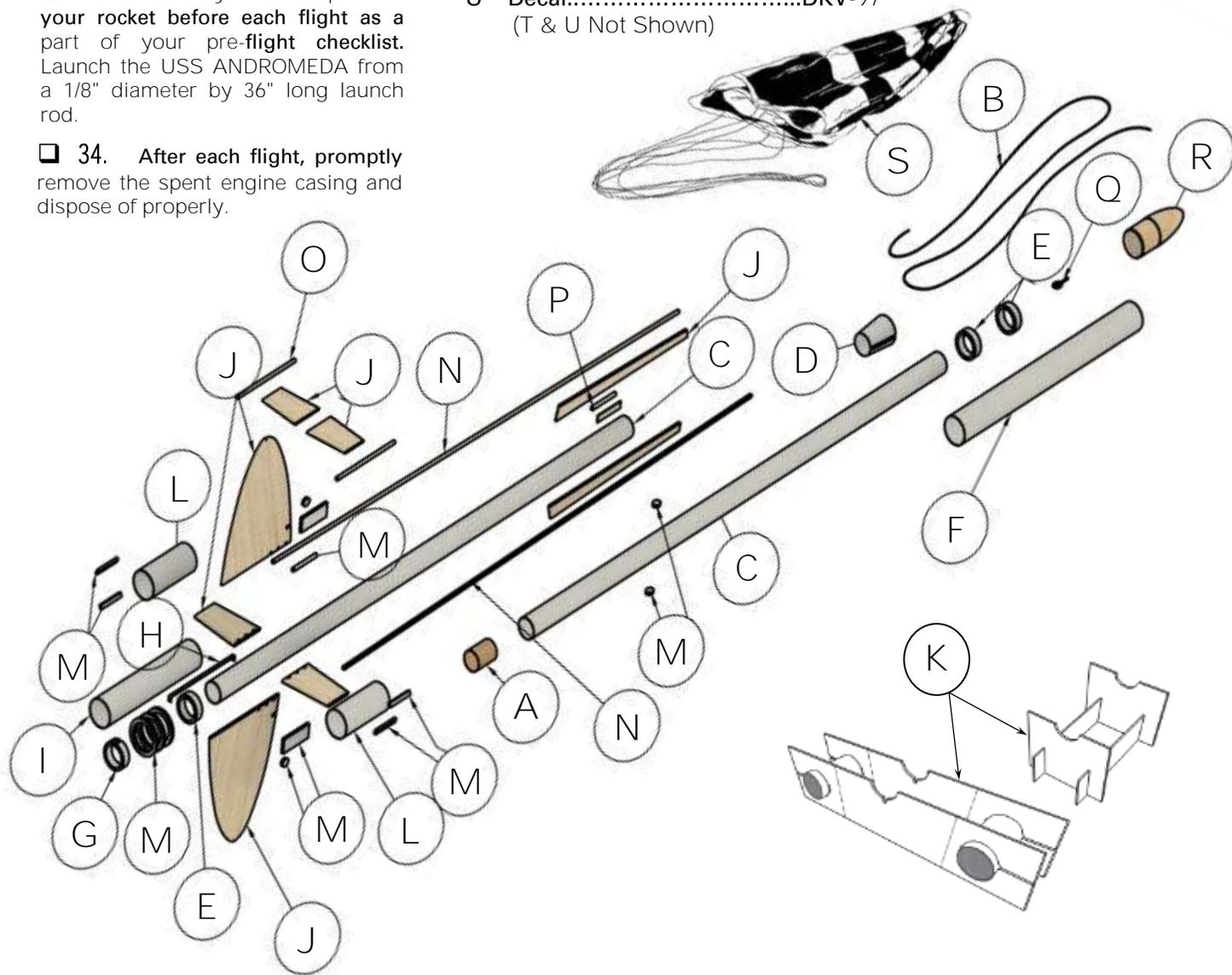
❑ 33. Carefully check all parts of your rocket before each flight as a part of your pre-flight checklist. Launch the USS ANDROMEDA from a 1/8" diameter by 36" long launch rod.

❑ 34. After each flight, promptly remove the spent engine casing and dispose of properly.

Parts List

A	Tube Coupler.....	HTC-7P
B	Body Tube (2).....	ST-7180
C	Kevlar Shock Cord.....	SCK-96
D	Laser Cut Shroud	LSKV-97
E	Centering Ring (3)	CR-7-9
F	Body Tube	ST-978
G	Centering Ring (Split).....	CR-7-9S
H	Engine Hook.....	EH-28
I	Body Tube.....	ST-9400
J	Fin Set	FV-97
K	Alignment Tool	TKV-97
L	Pod Tube (2).....	ST-91875
M	Fiber Part Set.....	CR-KV-97
N	Conduit Dowels.....	WD-218
O	Toothpick Dowel (2).....	WD-13
P	Launch Lug (2).....	LL-2A
Q	Screw Eye.....	SE-2A
R	Nose Cone.....	BC-914
S	Parachute.....	CP-12-24
T	Decal (Foil).....	DKV-97F
U	Decal.....	DKV-97

(T & U Not Shown)





Decal Placement