ESTES

estesrockets.com

PRO SERIES II

9727

OPTIMA PRO™

AGES 18+

Skill Level

INTERMEDIATE

MODEL ROCKET INSTRUCTIONS

KEEP FOR FUTURE REFERENCE

IMPORTANT: Please record date found on decal and keep for future reference. _____

READ ALL INSTRUCTIONS. *Make sure you have all parts and supplies. Test fit all parts before applying glue. Refer to your glue manufacturer's dry times during build.*

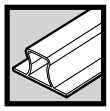
SUPPLIES


SCISSORS


PENCIL


RULER


FINE SANDPAPER


SANDING BLOCK


YELLOW GLUE


EPOXY

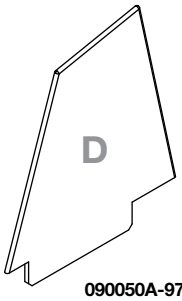

HOBBY KNIFE


MASKING TAPE

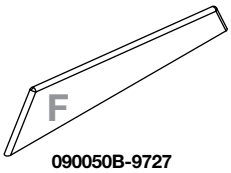

WHITE PRIMER


WHITE & BLACK PAINT

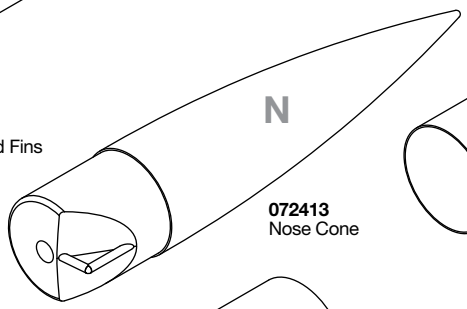

CLEAR COAT (OPTIONAL)


D

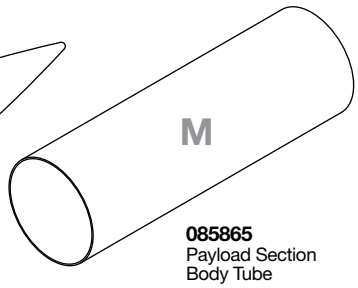
090050A-9727
Laser Cut Plywood Fins
x3


F

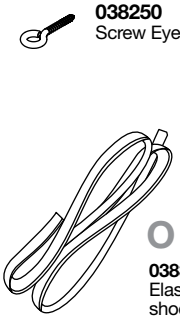
090050B-9727
Laser Cut Plywood Fins
x3


N

072413
Nose Cone


M

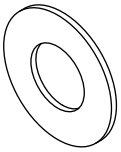
085865
Payload Section
Body Tube


O

038378
Elastic
shock cord


C

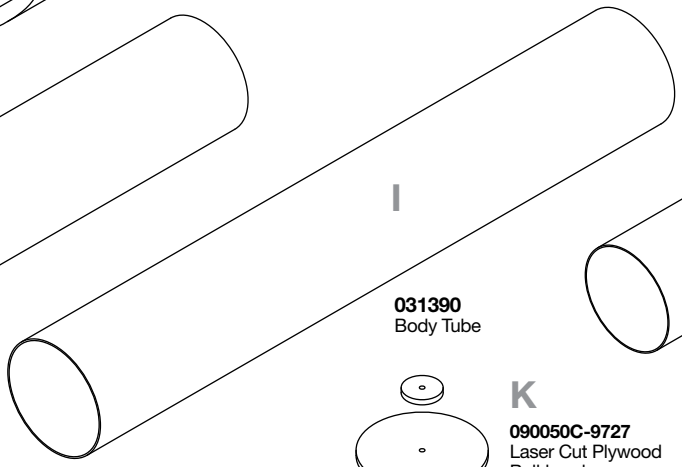
31362
Green Spacer


B

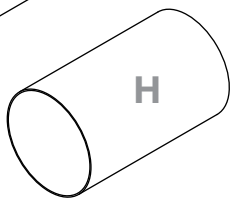
066475
Laser Cut Plywood
Centering Rings
x3

E

085865
15.5 in. Slotted-Body Tube


I

031390
Body Tube


H

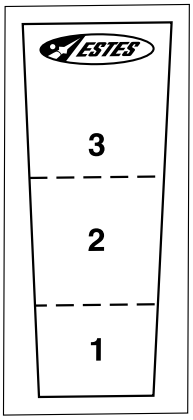
030189
Tube Coupler
x2

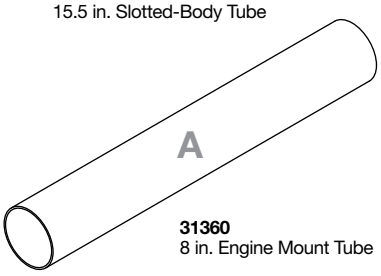
K

090050C-9727
Laser Cut Plywood
Bulkhead

P

084446
Paper Shock
Cord Mount

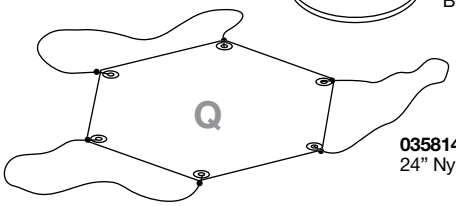



A

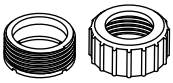
31360
8 in. Engine Mount Tube


G

038181
Launch lug
x2


Q

035814
24" Nylon Parachute


J

072412
Engine Retainer Set

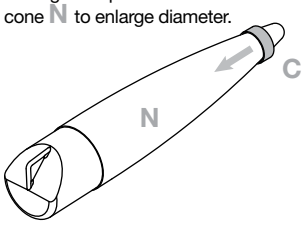
38411
½ x 9 in. Holographic Tape (Silver) x5

38410
2 x 9 in. Holographic Tape (Purple) x5

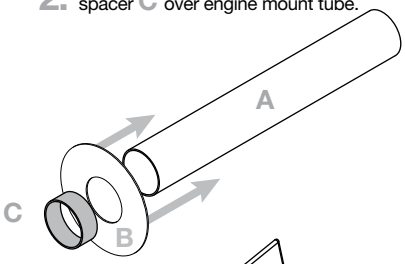
090001-9727
Waterslide Decal Sheet

ASSEMBLE ENGINE MOUNT

1. Push green spacer C over nose cone N to enlarge diameter.



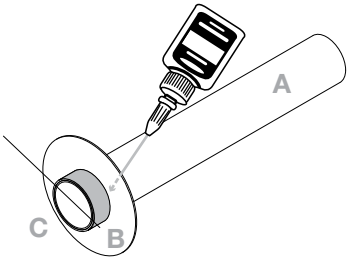
2. Slide centering ring B and green spacer C over engine mount tube.



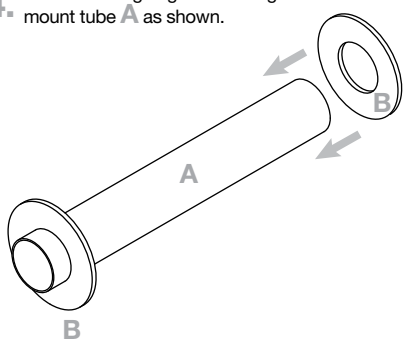
3. Apply glue to centering ring on opposite side of spacer.

ENDS EVEN

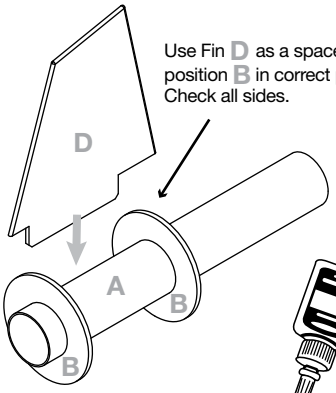
REMOVE GREEN SPACER IMMEDIATELY



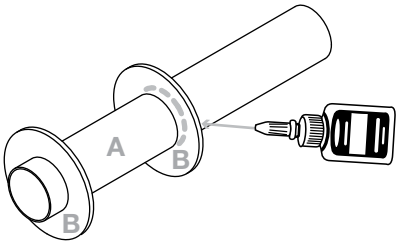
4. Slide centering ring B over engine mount tube A as shown.



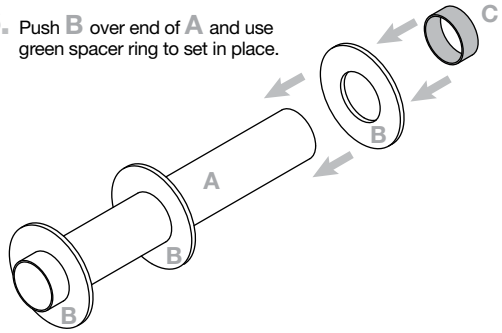
Use Fin D as a spacer to position B in correct place. Check all sides.



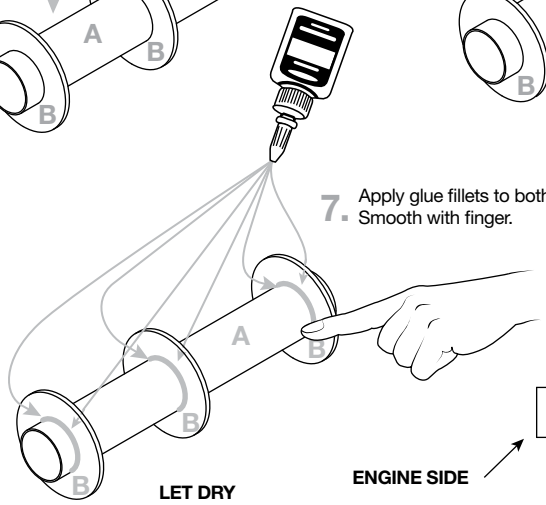
5. Remove fin and glue B into place. Use fin to confirm position after gluing.



6. Push B over end of A and use green spacer ring to set in place.

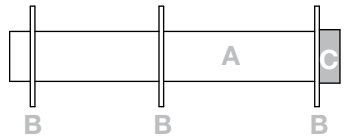


7. Apply glue fillets to both sides of the B centering rings. Smooth with finger.



LET DRY

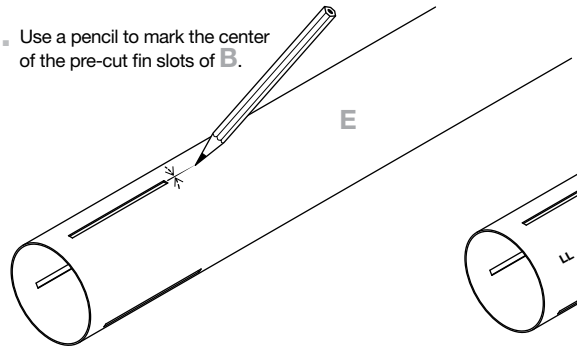
ENGINE SIDE



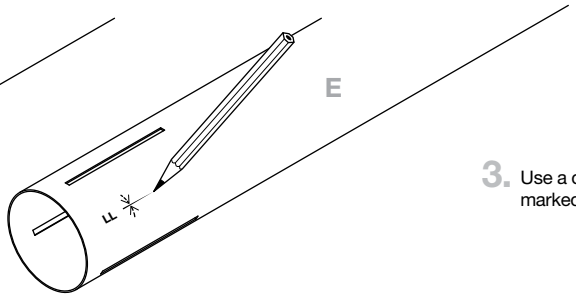
SIDE VIEW

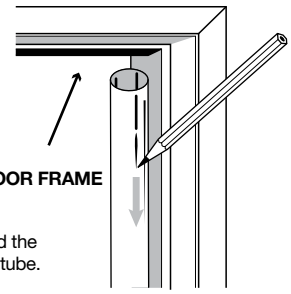
MARK BODY TUBE

1. Use a pencil to mark the center of the pre-cut fin slots of B.



2. Use a pencil to mark the center between the pre-cut slots and mark LL.

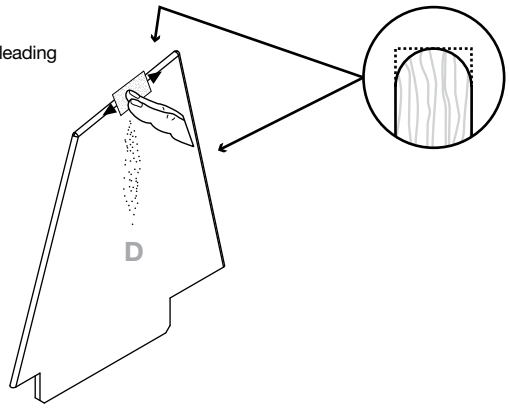




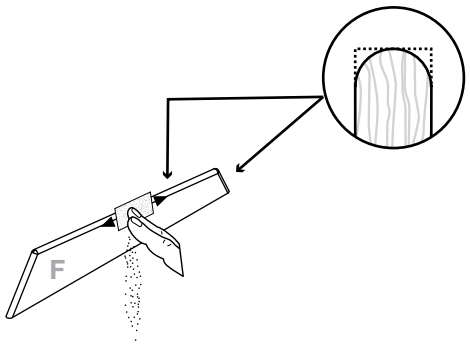
3. Use a door frame to extend the marked lines to the end of tube.

PREPARE FINS

1. Using sandpaper, round the leading and side edges of D.

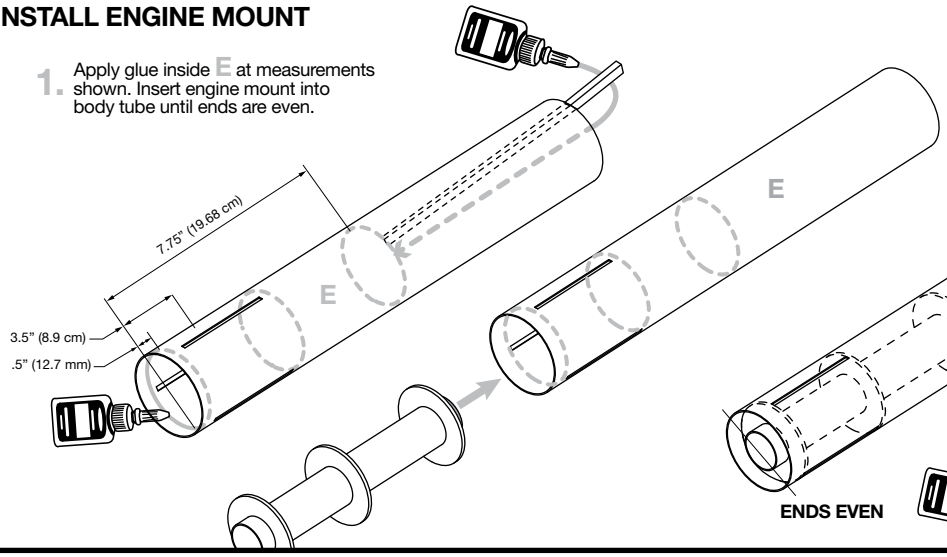


2. Round the leading edge of F as shown.

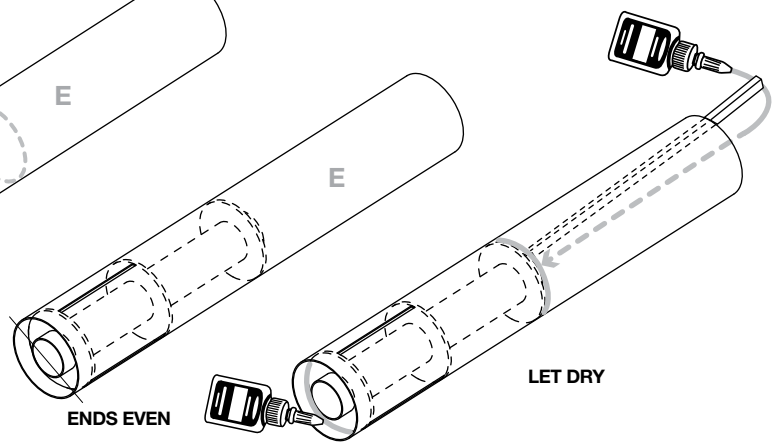


INSTALL ENGINE MOUNT

1. Apply glue inside E at measurements shown. Insert engine mount into body tube until ends are even.

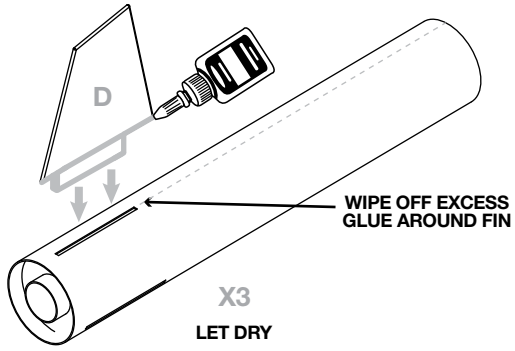


2. Use dowel rod or similar tool to apply glue to edges of engine mount as shown.

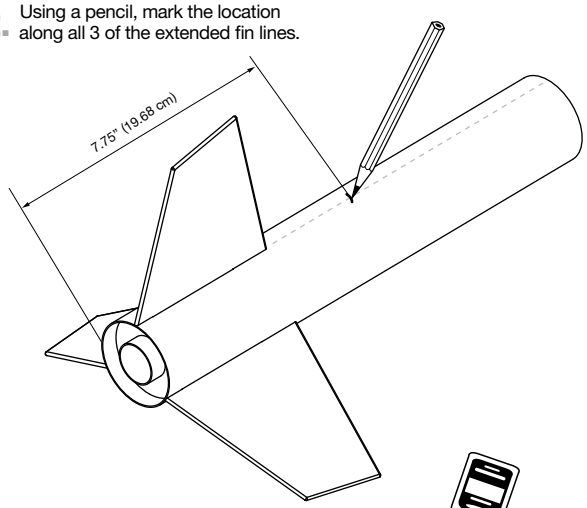


ATTACH FINS

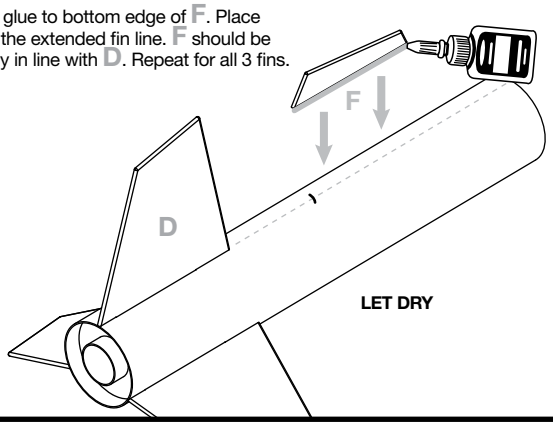
1. Apply glue to fin D as shown and insert into slot. Repeat with all 3 fins and let dry.



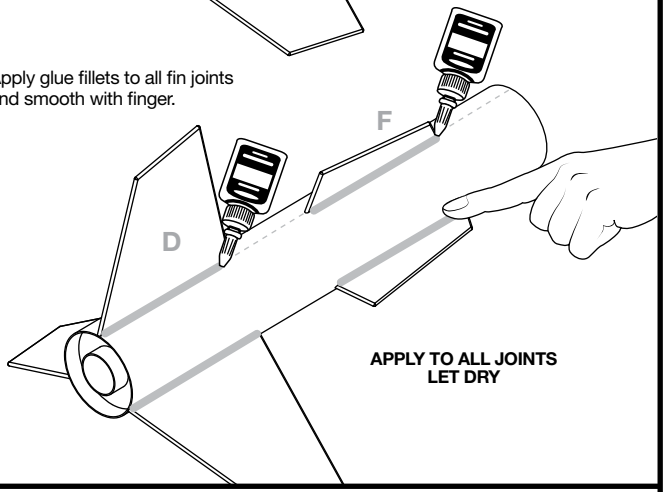
2. Using a pencil, mark the location along all 3 of the extended fin lines.



3. Apply glue to bottom edge of F. Place along the extended fin line. F should be directly in line with D. Repeat for all 3 fins.

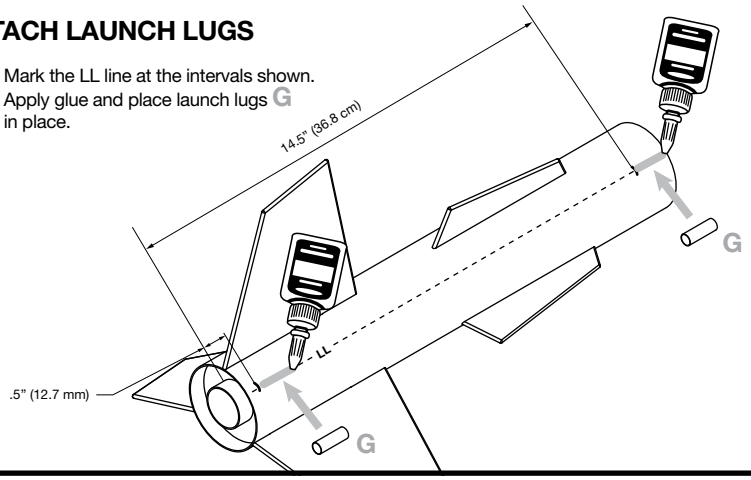


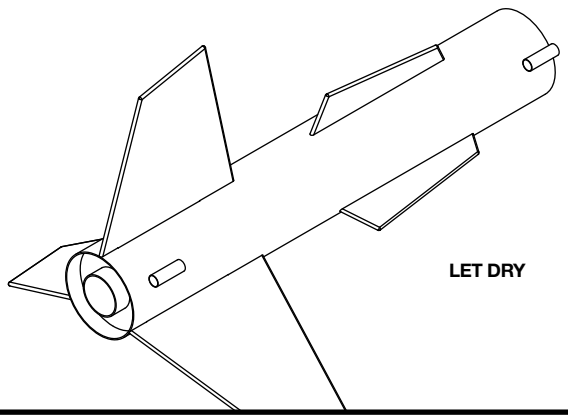
4. Apply glue fillets to all fin joints and smooth with finger.



ATTACH LAUNCH LUGS

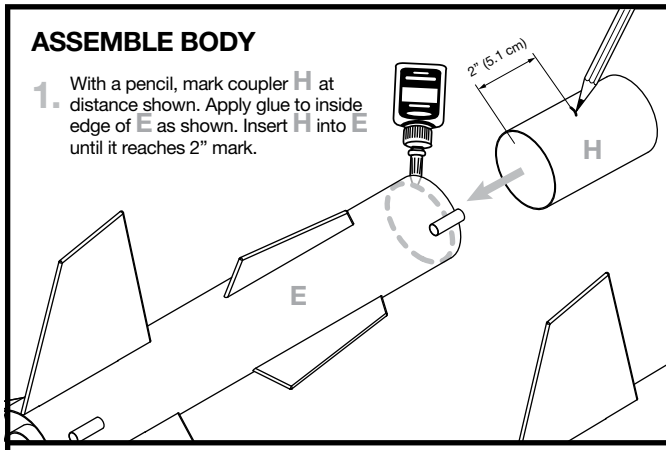
1. Mark the LL line at the intervals shown. Apply glue and place launch lugs G in place.



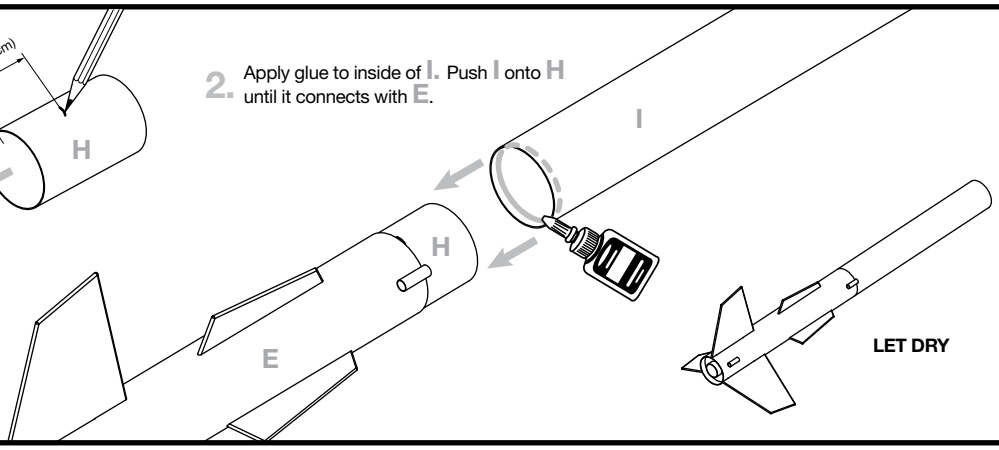


ASSEMBLE BODY

1. With a pencil, mark coupler H at distance shown. Apply glue to inside edge of E as shown. Insert H into E until it reaches 2" mark.

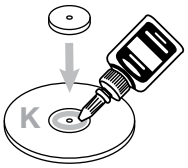


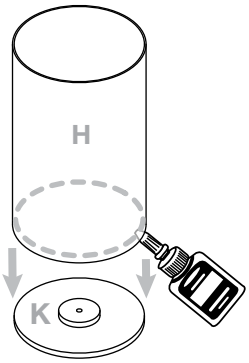
2. Apply glue to inside of I. Push I onto H until it connects with E.

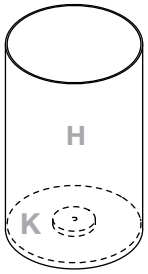


ASSEMBLE PAYLOAD SECTION

1. Apply glue to center of K as shown and join pieces. Apply glue to inside edge of H. Place on a flat surface and push H on to K assembly.



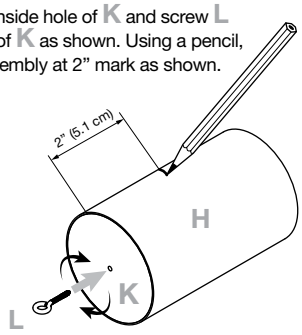




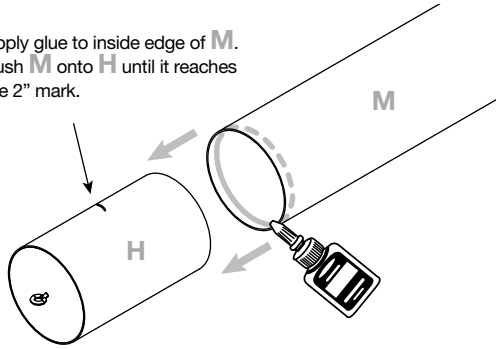
LET DRY

NOTE:
Assemble over wax paper on flat surface.

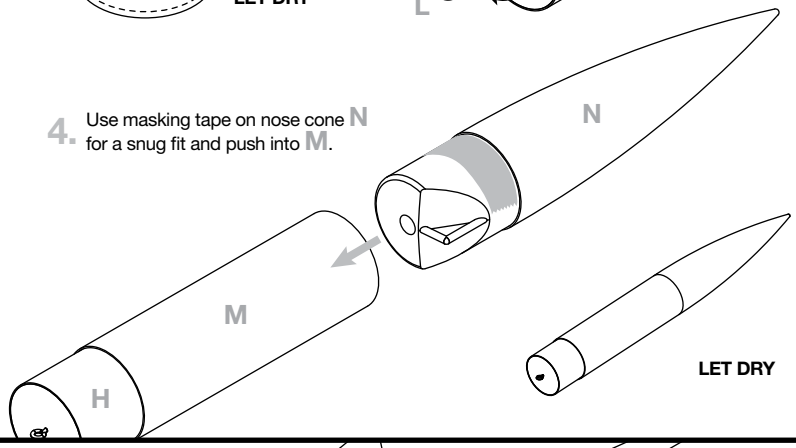
2. Apply glue inside hole of K and screw L into middle of K as shown. Using a pencil, mark H assembly at 2" mark as shown.



3. Apply glue to inside edge of M. Push M onto H until it reaches the 2" mark.

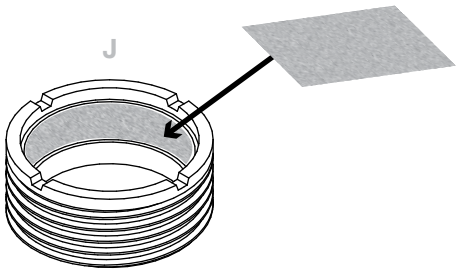


4. Use masking tape on nose cone N for a snug fit and push into M.

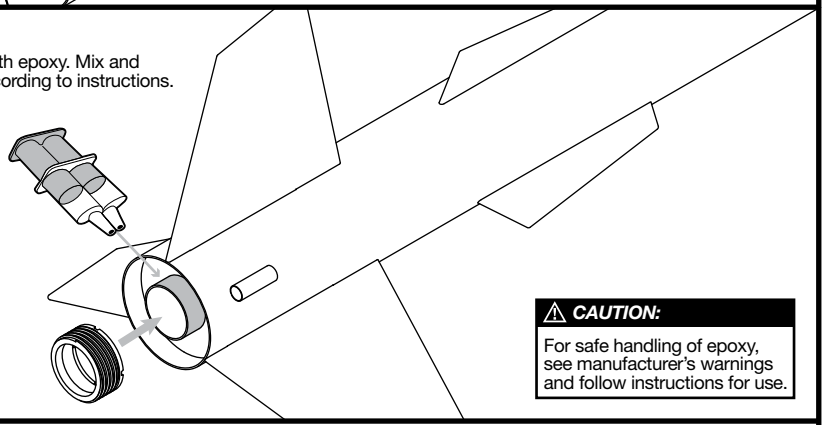


ATTATCH ENGINE RETAINER

1. Rough up inside surface of J with sandpaper.



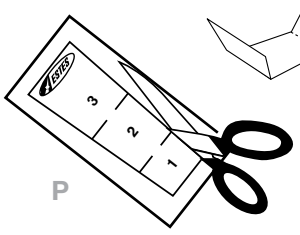
2. Attach with epoxy. Mix and apply according to instructions.



⚠ CAUTION:
For safe handling of epoxy, see manufacturer's warnings and follow instructions for use.

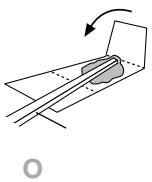
ATTACH SHOCK CORD

1.

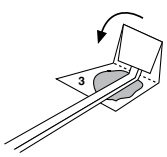


2.

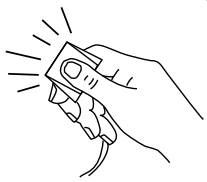
3.



4.

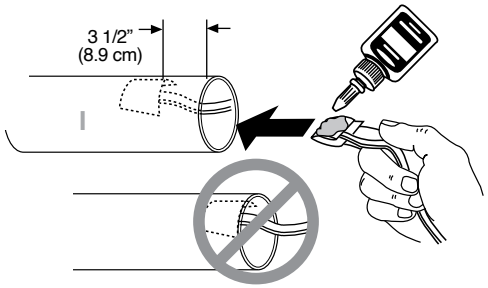


5.



Hold until set.

6.



ROCKET FINISHING

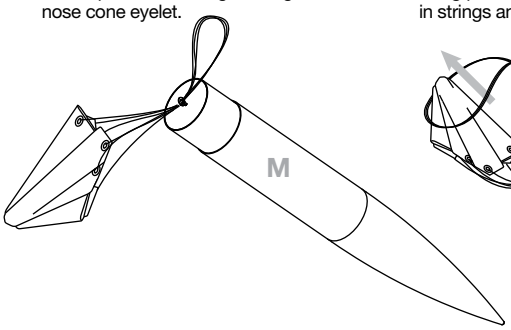
Spray rocket with white primer, let dry & sand. Repeat until rocket is smooth, then paint. Apply decals after paint is dry. OTIONAL: Clear coat entire rocket when paint dries.

NOTE:
Refer to packaging for paint scheme and alternative paint option.

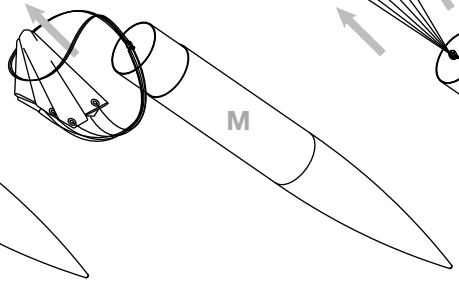
⚠ *CAUTION:*
See manufacturer's warnings and instructions before using spray finishing products.

ATTACH RECOVERY SYSTEM

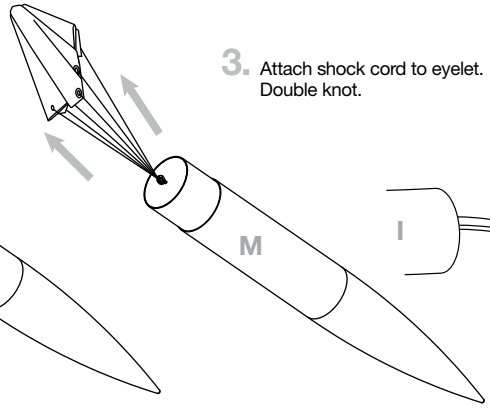
1. Thread parachute strings through nose cone eyelet.

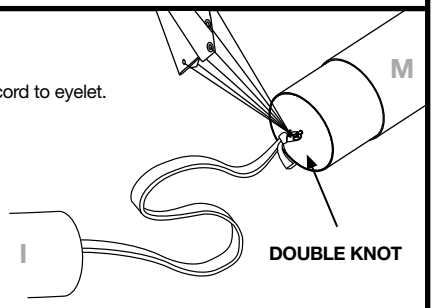


2. Bring parachute through loop in strings and pull tight.



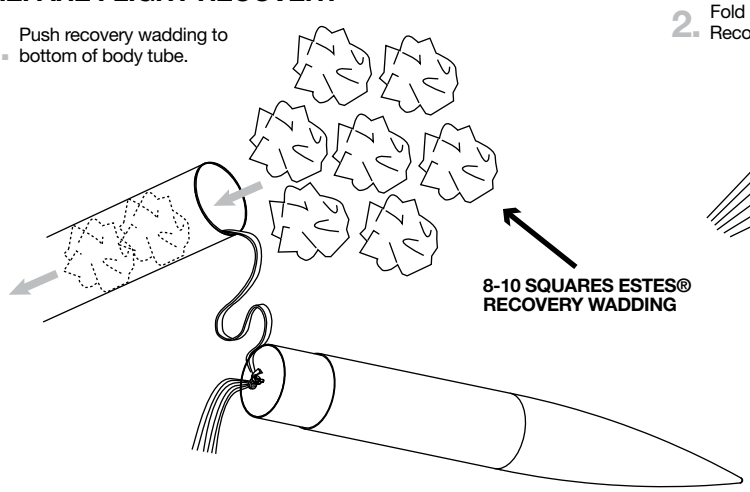
3. Attach shock cord to eyelet. Double knot.



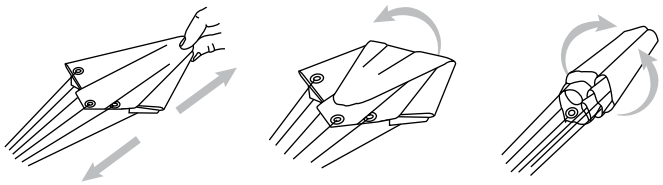


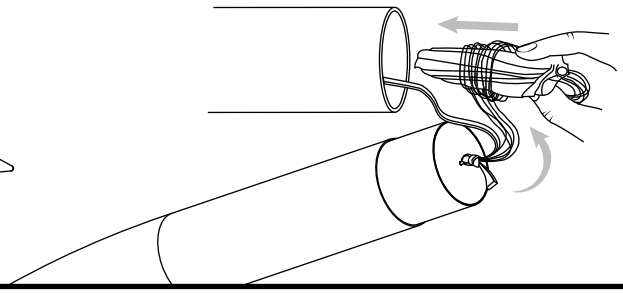
PREPARE FLIGHT RECOVERY

1. Push recovery wadding to bottom of body tube.



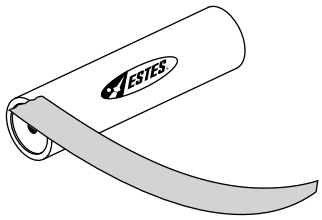
2. Fold parachute as shown. Wrap parachute lines loosely and insert into body tube. Recovery wadding and parachute must slide easily into body tube; redo if too tight.



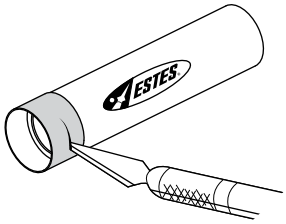


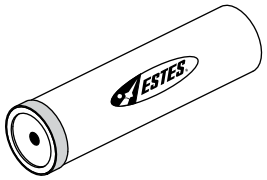
PREPARE ENGINE RETENTION

1. Wrap 6 to 8 layers of masking tape over nozzle end of motor. Overlap end of engine by 1/4 inch (6 mm).

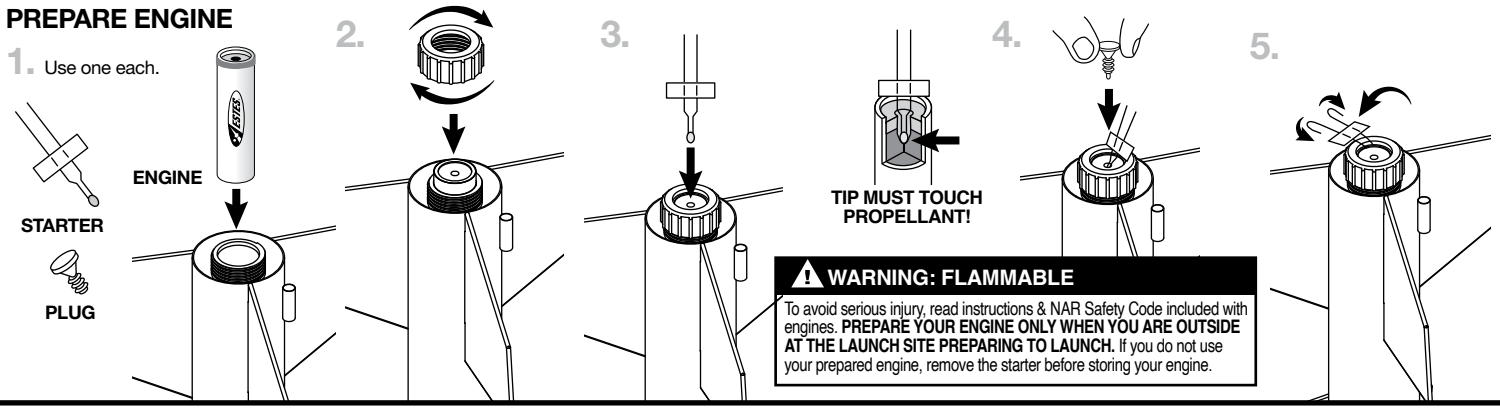


2. Trim off excess tape.





PREPARE ENGINE

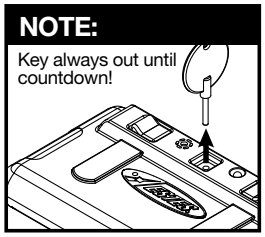


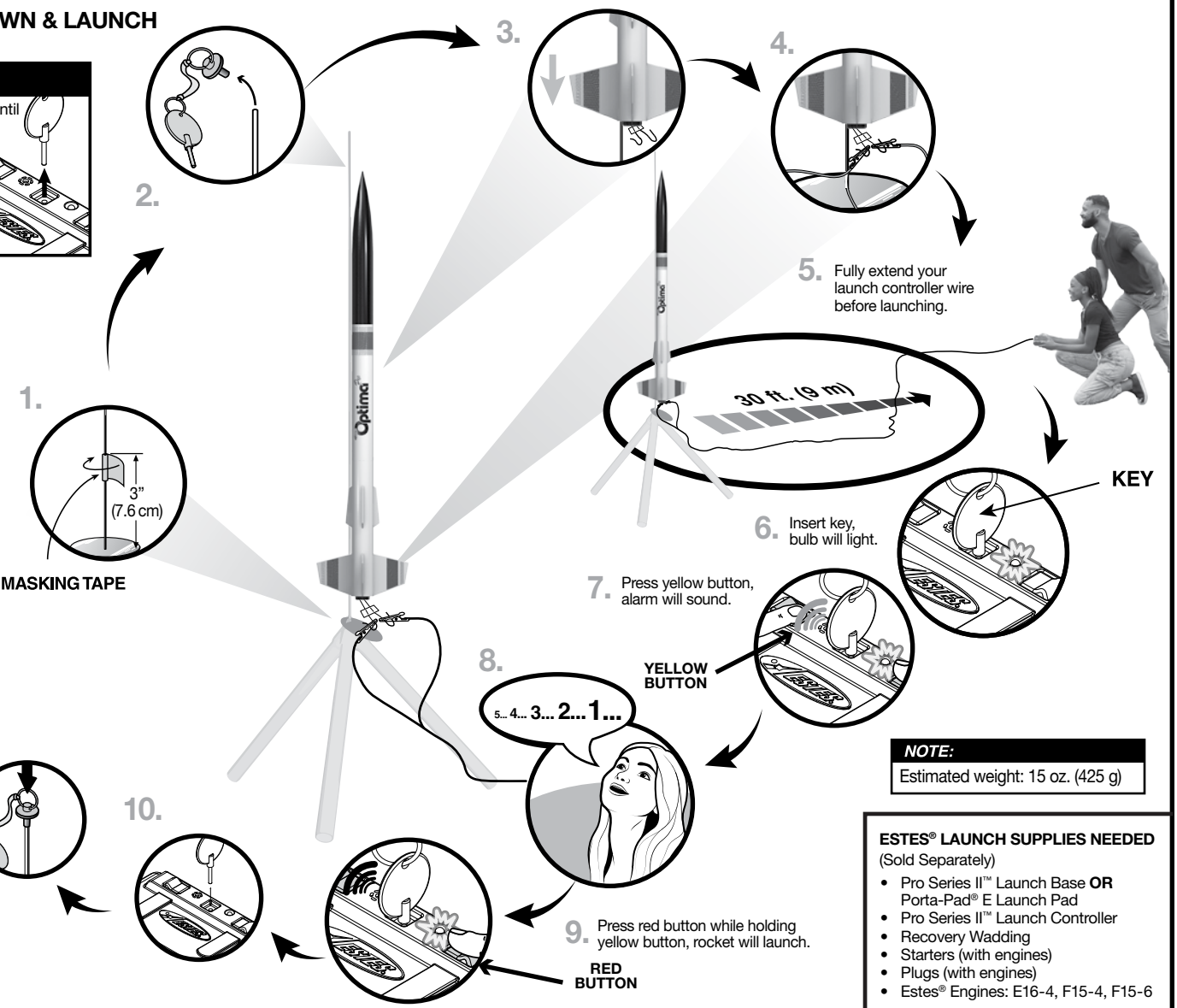
⚠ WARNING: FLAMMABLE

To avoid serious injury, read instructions & NAR Safety Code included with engines. **PREPARE YOUR ENGINE ONLY WHEN YOU ARE OUTSIDE AT THE LAUNCH SITE PREPARING TO LAUNCH.** If you do not use your prepared engine, remove the starter before storing your engine.

COUNT DOWN & LAUNCH

NOTE:
Key always out until countdown!





NOTE:
Estimated weight: 15 oz. (425 g)

ESTES® LAUNCH SUPPLIES NEEDED
(Sold Separately)

- Pro Series II™ Launch Base **OR** Porta-Pad® E Launch Pad
- Pro Series II™ Launch Controller
- Recovery Wadding
- Starters (with engines)
- Plugs (with engines)
- Estes® Engines: E16-4, F15-4, F15-6

PRECAUTIONS

PRE-LAUNCH CHECK For safety, never launch a damaged rocket. Check the rocket's body, nose cone and fins. Also, check the engine mount, recovery system and launch lug(s). Repair any damage before launching the rocket.

FLYING YOUR ROCKET Choose a large field (1000 ft. [305 m] square) free of dry weeds and brown grass. The larger the launch area, the better your chance of recovering your rocket. Launch only with little or no wind and good visibility. Always follow the National Association of Rocketry (NAR) SAFETY CODE (enclosed).

MISFIRES TAKE THE KEY OUT OF THE CONTROLLER. WAIT ONE MINUTE BEFORE GOING NEAR THE ROCKET. Disconnect the micro-clips and remove the engine. Take the plug and starter out of the engine. A burned starter means the starter tip was not touching engine propellant. Install a new starter; be sure the tip is touching propellant inside the engine. Push the plug in place. Repeat steps under Countdown and Launch.

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