



EstesRockets.com

# BLACK STAR VOYAGER™

9725

AGES  
10+



Skill Level

**EXPERT**

## 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



FINE SANDPAPER



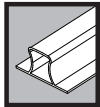
PLASTIC CEMENT



YELLOW GLUE



HOBBY KNIFE



SANDING BLOCK



MASKING TAPE



SCISSORS



PENCIL



RULER



PRIMER (WHITE)



PAINT (BLACK)

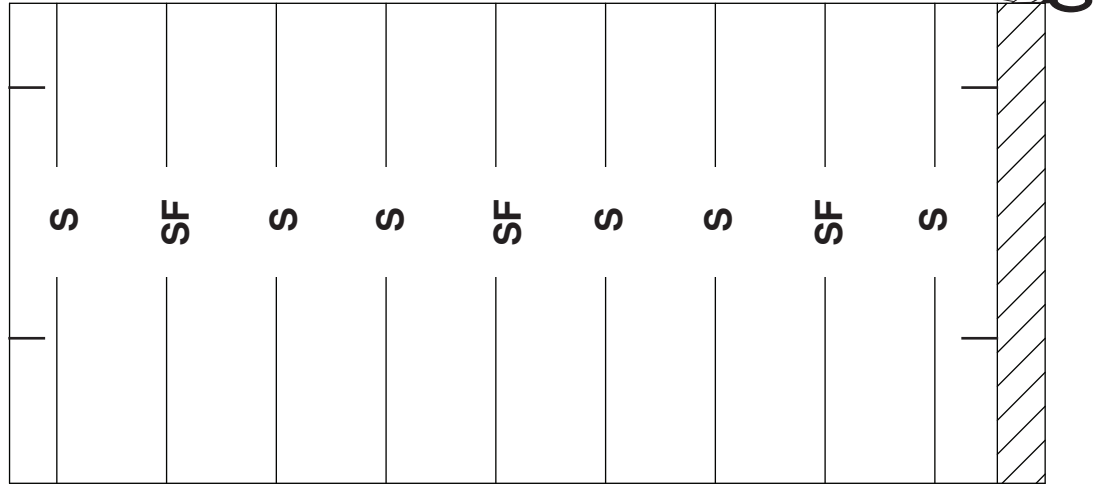
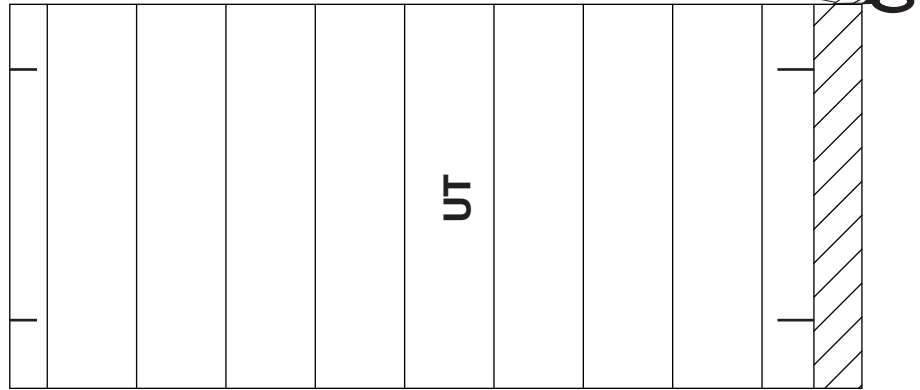
The main parts list diagram includes the following components:

- Z**: A rectangular piece with horizontal lines.
- EE**: A small cylindrical cap.
- P**: A long, tapered nose cone.
- O**: A small cylindrical cap.
- L**: A long, thin cylindrical body section.
- CC**: Two small rectangular pieces.
- H**: Multiple triangular fins.
- E**: A circular fin base.
- F**: Multiple circular fin bases.
- G**: A small rectangular piece.
- K**: A long, thin cylindrical body section.
- J3**: A small cylindrical section.
- M**: A small cylindrical section.
- J2**: A small cylindrical section.
- B**: A long, thin cylindrical section with a hook.
- BB**: A vertical rectangular piece with three sections labeled 1, 2, and 3.
- N**: A cylindrical section with a band.
- J1**: A small cylindrical section.
- C**: A small cylindrical section.
- A**: A cylindrical section with a band.
- DD**: A large, irregularly shaped fin base.
- D**: A small cylindrical section.
- AA**: A long, thin cylindrical section with a band.
- q**: Multiple triangular fin bases.
- v**: Multiple triangular fin bases.
- x**: Multiple triangular fin bases.
- y**: Multiple triangular fin bases.
- w**: A long, thin cylindrical section with a hook.
- t**: A long, thin cylindrical section with a hook.
- r**: Multiple triangular fin bases.
- s**: Multiple triangular fin bases.

# TUBE MARKING GUIDE & SHOCK CORD MOUNT

**NOTE:**

Make a copy if you want to keep instructions.

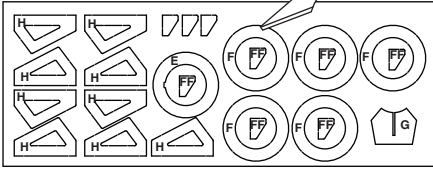


Part	Qty	Description	Part Number
A	1	Engine mount tube	031320
B	1	Engine hook	035022
C	1	Engine block	030165-2
D	1	Engine hook retainer ring	030160
E - H	1	Laser cut cardstock sheet	030139
I	1	Laser cut cardstock sheet	030140
J 1-3	3	5.75" (14.6 cm / 14,3 cm) Body tube	031776
K	1	10.75" (27.3 cm / 27,3 cm) Body tube	030374
L	1	17.75" (45.1 cm / 45,1 cm) Body tube	030365
M	1	Launch lug	038166
N	1	Plastic tube adapter	066633
O	1	Nose cone insert	072774
P	1	Nose cone	072773
Q	1	Laser cut sheet	066781
R - U	3	Laser cut sheet	066783
V - Y	2	Laser cut sheet	066782
Z	1	Laser cut sheet	067102
AA	1	Shock cord	038363
BB	1	Shock cord mount	084445
CC	2	Clay	085705
DD	1	Parachute	035802
EE	1	Orange D to E engine spacer	035005
FF		Included with E-H	
	1	Waterslide decal (not shown)	066784

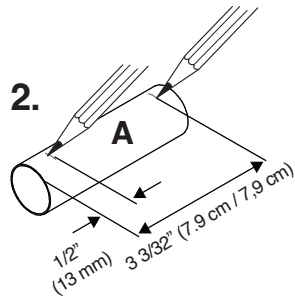
# ASSEMBLE ENGINE MOUNT

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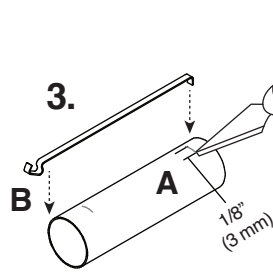
▽ = FF



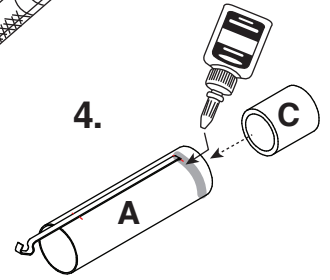
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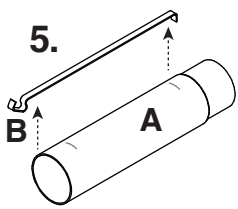
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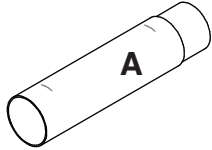
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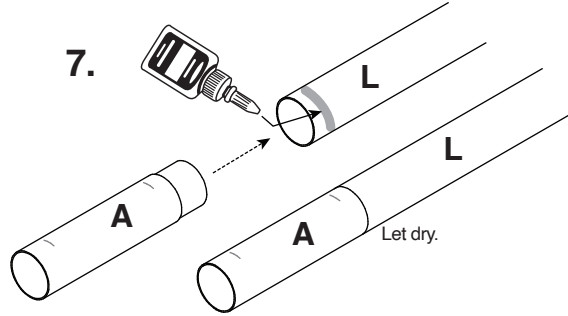
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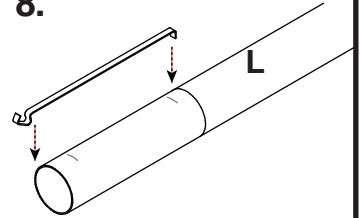
6. Let dry.



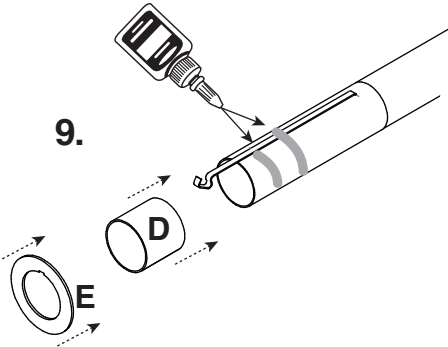
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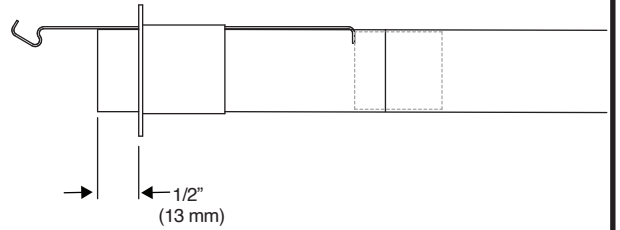
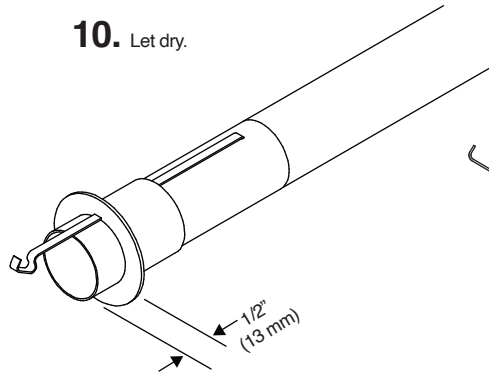
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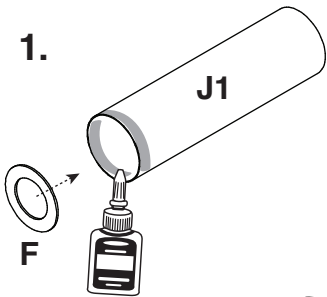


10. Let dry.

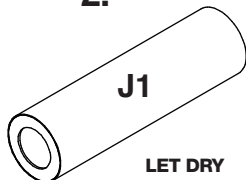


# MAIN BODY TUBE CONNECTION

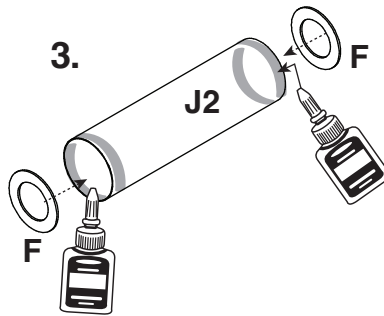
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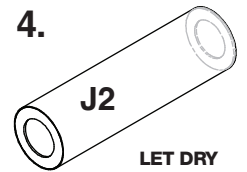
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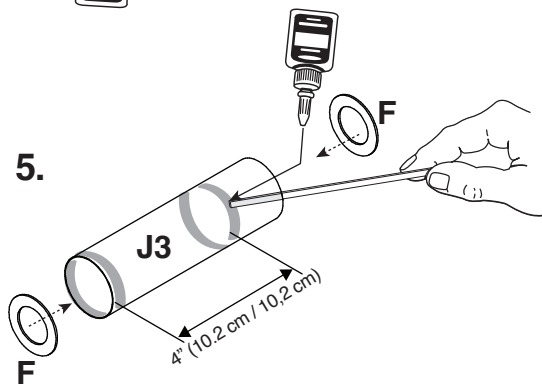
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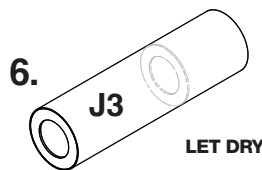
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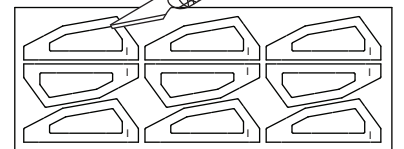
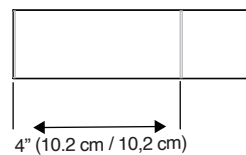
5.



6.

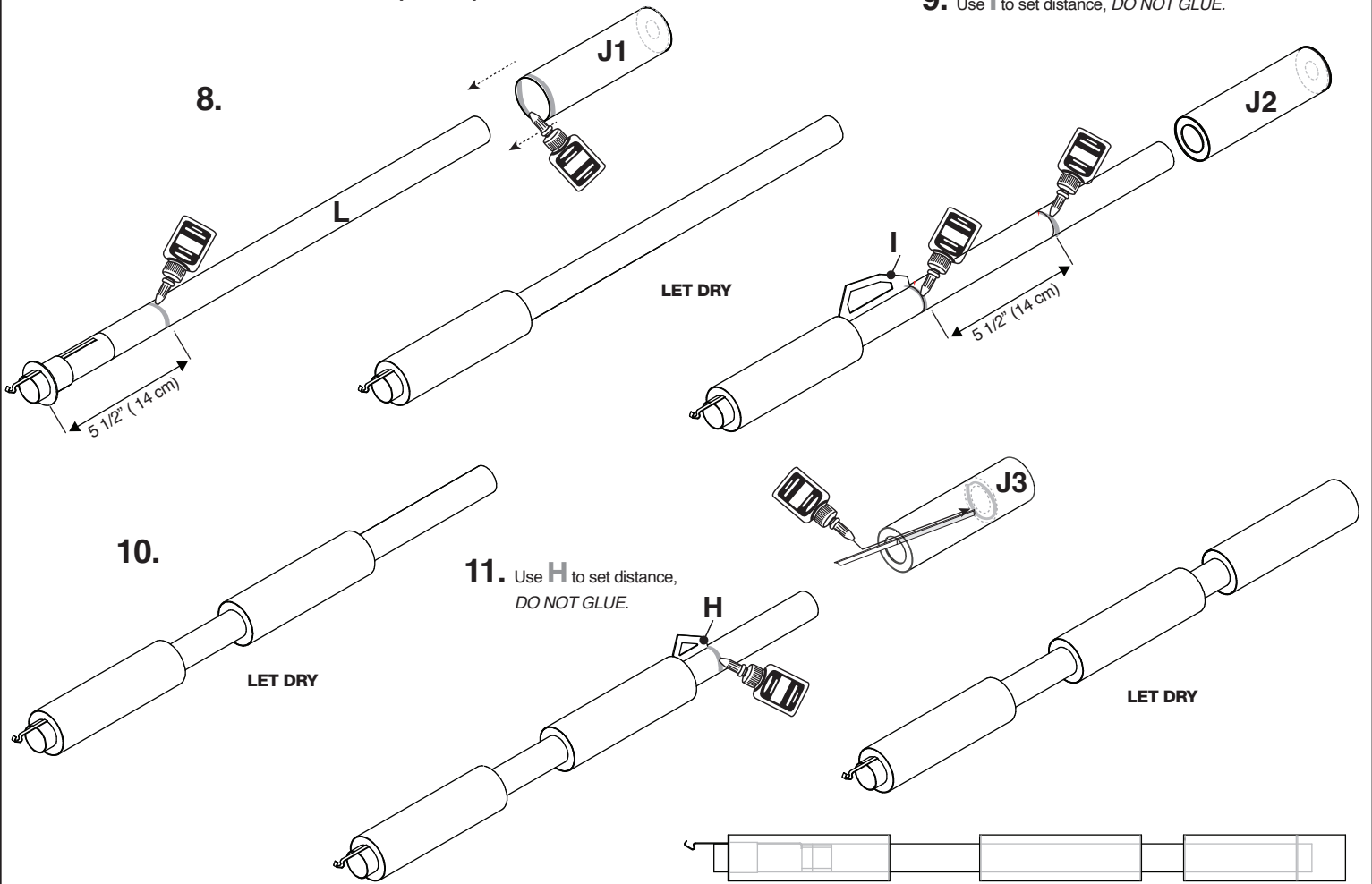


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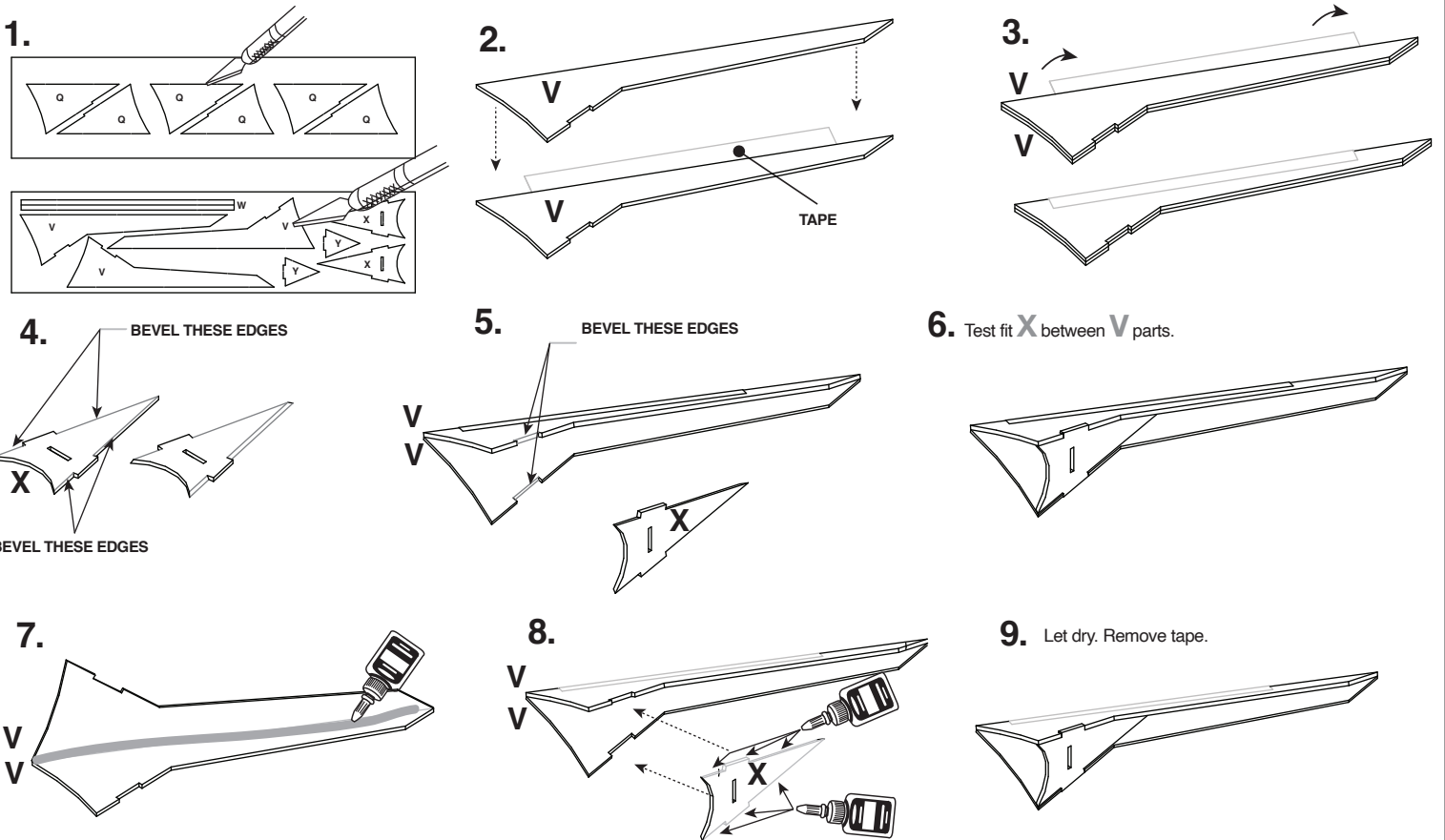


**MAIN BODY TUBE CONNECTION (CONT.)**

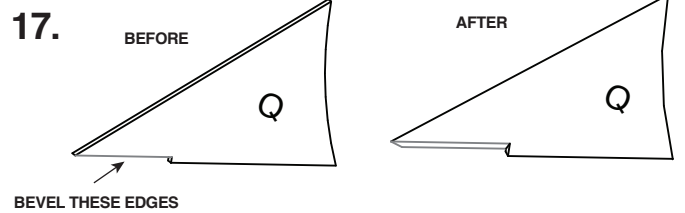
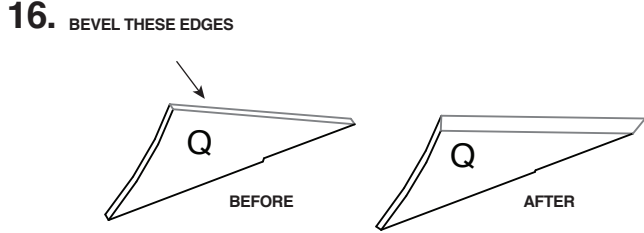
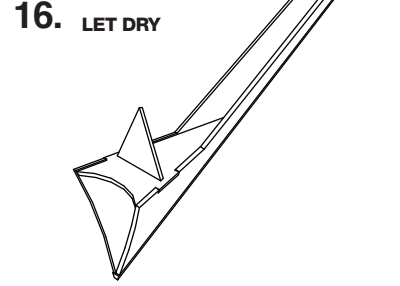
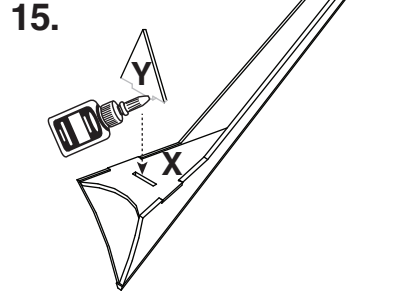
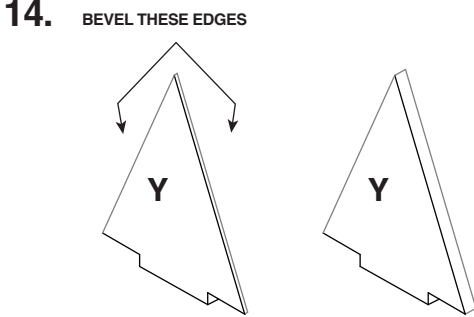
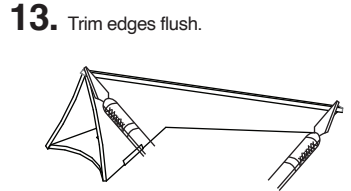
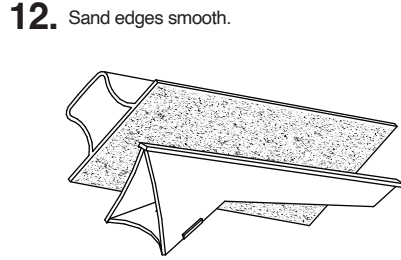
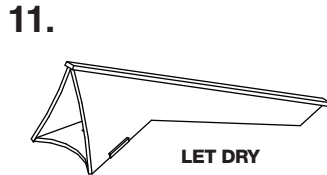
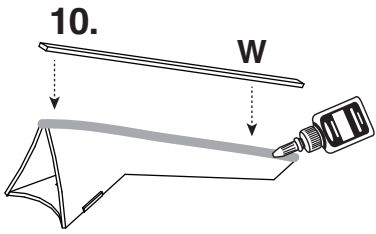
9. Use **I** to set distance, *DO NOT GLUE.*



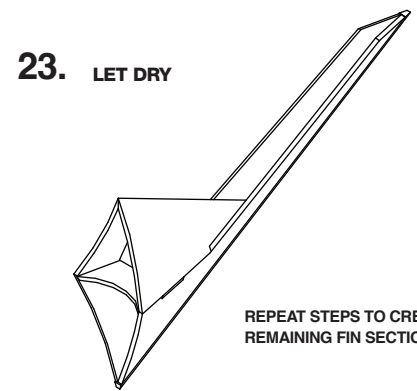
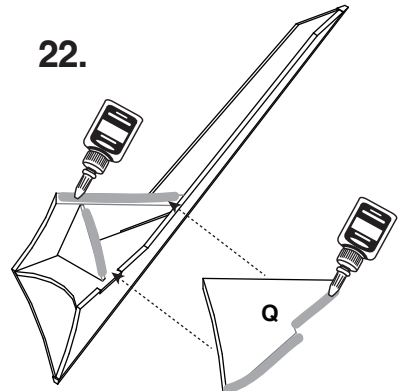
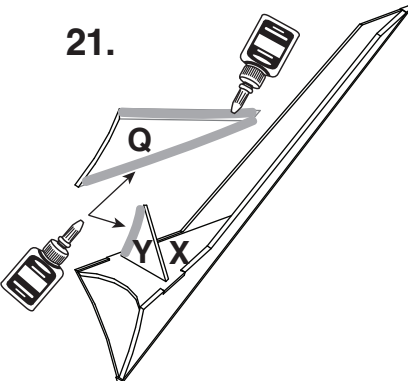
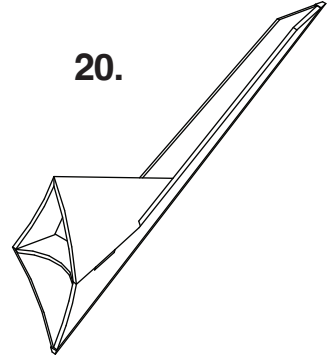
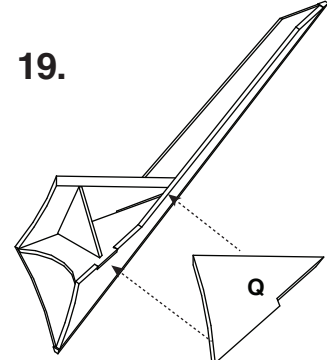
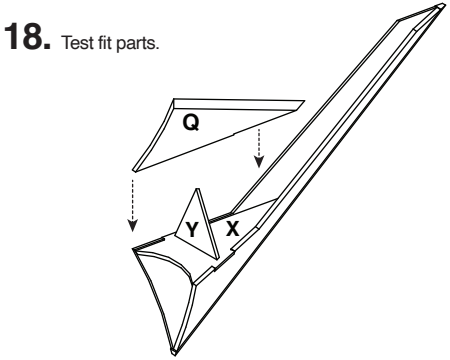
**ASSEMBLE LOWER FINS**



**ASSEMBLE LOWER FINS (CONT.)**



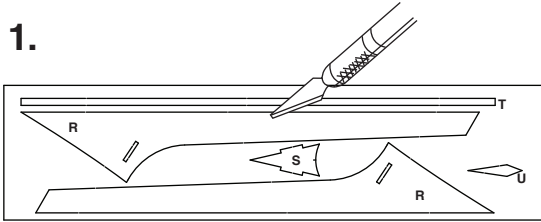
BEVEL THESE EDGES  
REPEAT PROCEDURE TO CREATE MATCHING OPPOSITE PART



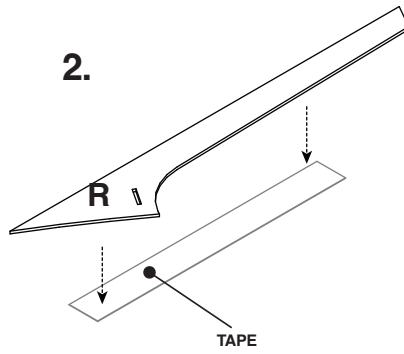
REPEAT STEPS TO CREATE REMAINING FIN SECTIONS

# ASSEMBLE UPPER FINS

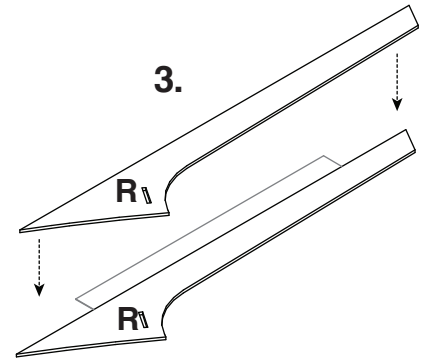
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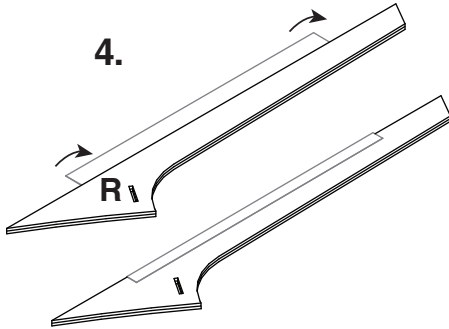
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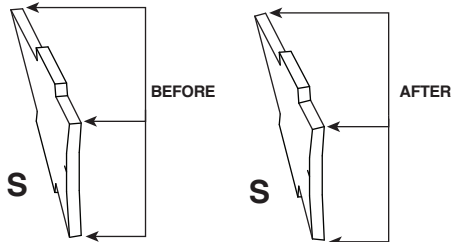
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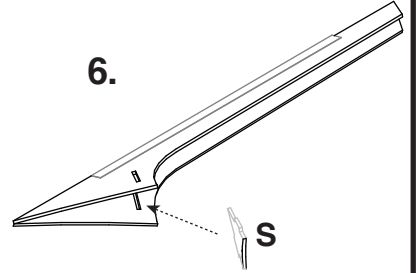
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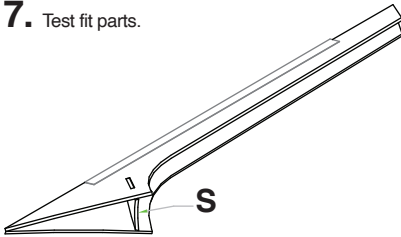
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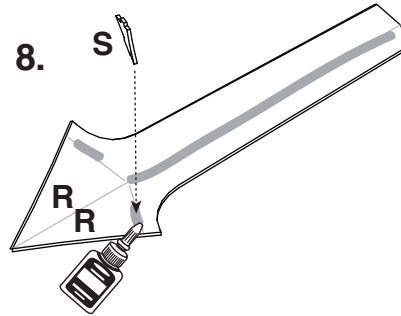
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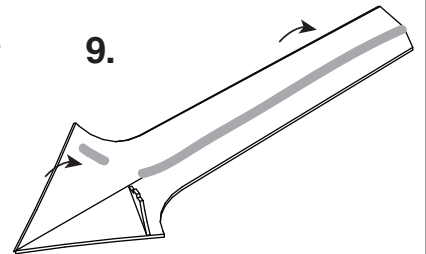
7. Test fit parts.



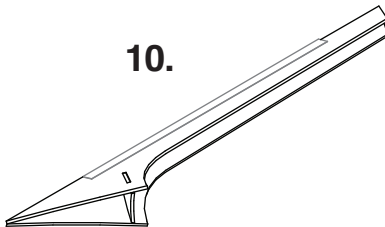
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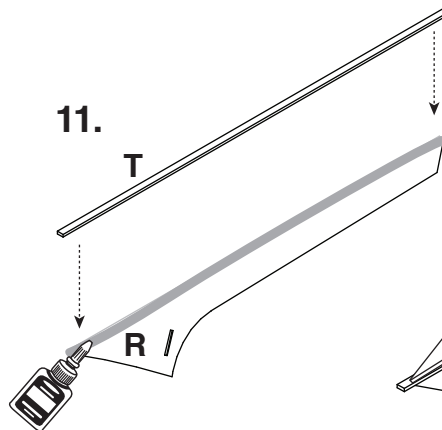
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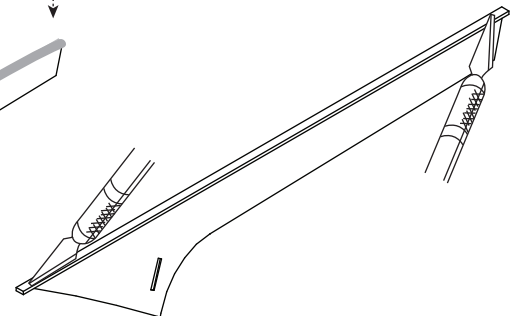
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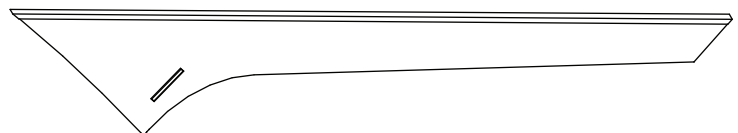
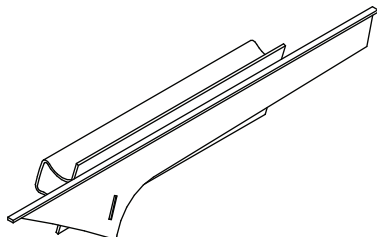
11.



12. LET DRY



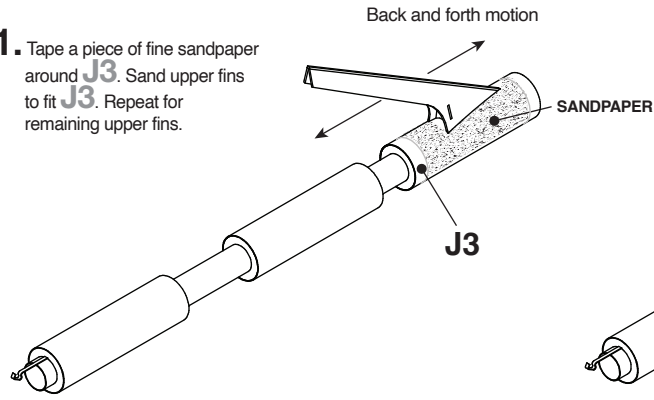
13. Sand edges smooth.



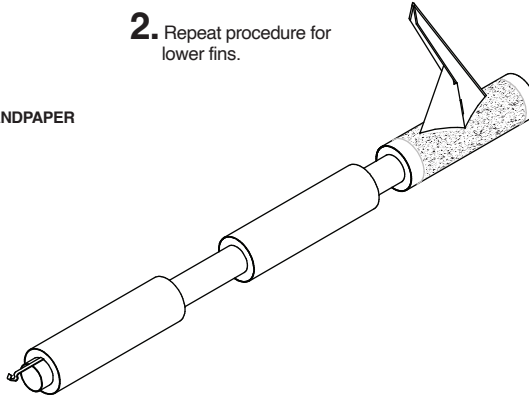
## MOUNTING FINS TO TUBE

1. Tape a piece of fine sandpaper around **J3**. Sand upper fins to fit **J3**. Repeat for remaining upper fins.

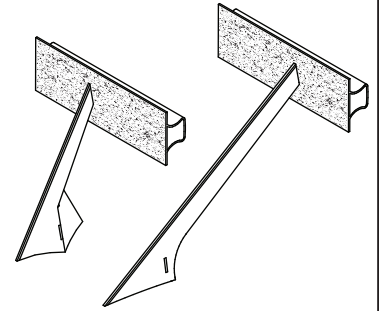
Back and forth motion



2. Repeat procedure for lower fins.

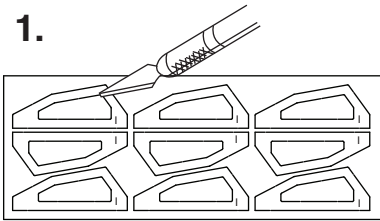


3. Sand ends even.

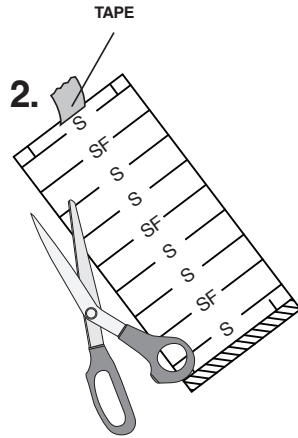


## MAIN BODY DETAILS

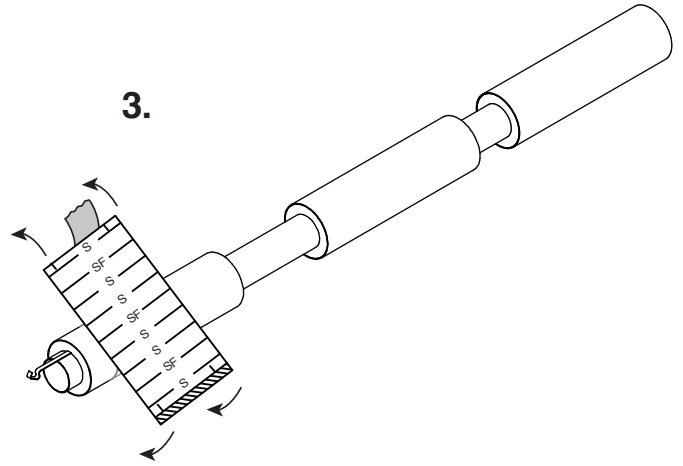
- 1.



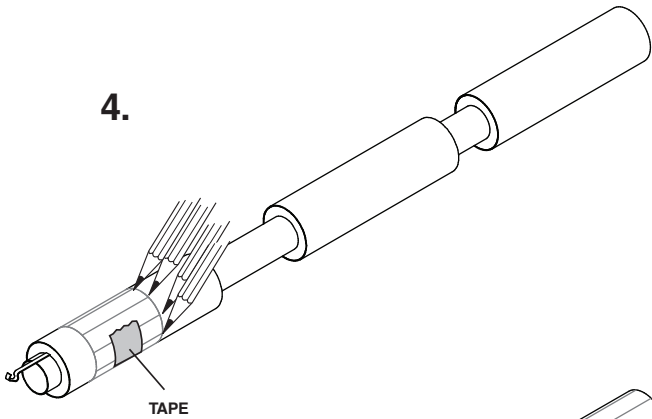
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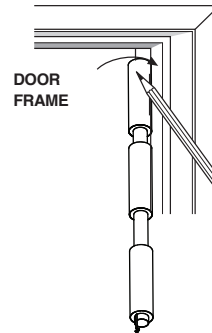
- 3.



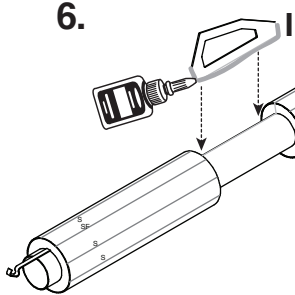
- 4.



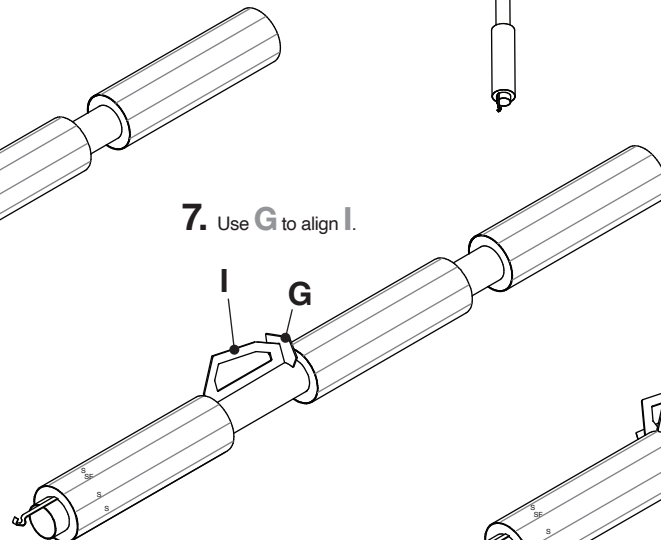
5. Remove guide. Use a door frame to extend all lines.



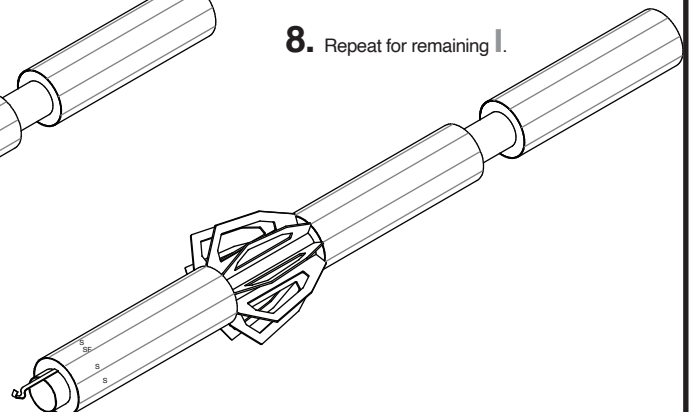
- 6.



7. Use **G** to align **I**.

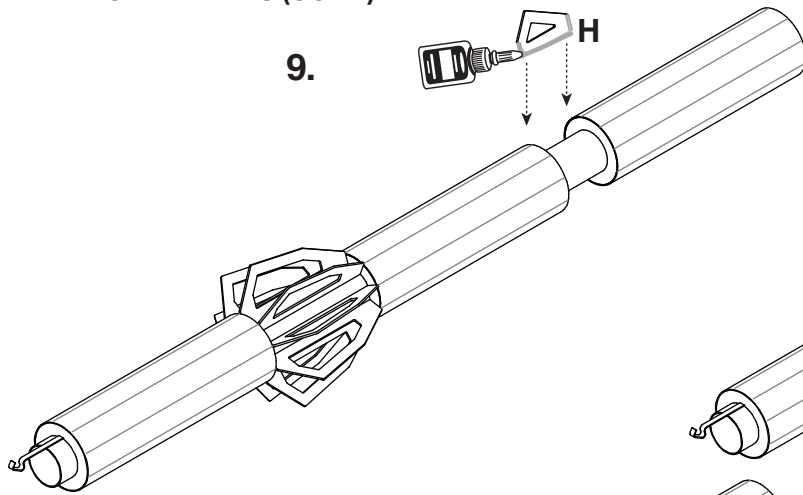
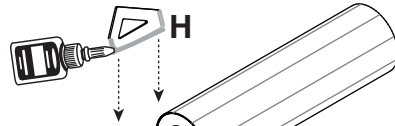


8. Repeat for remaining **I**.

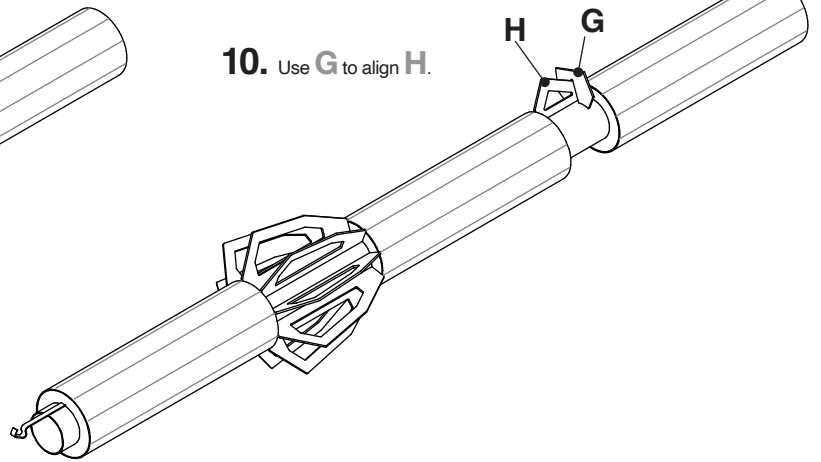


## MAIN BODY DETAILS (CONT.)

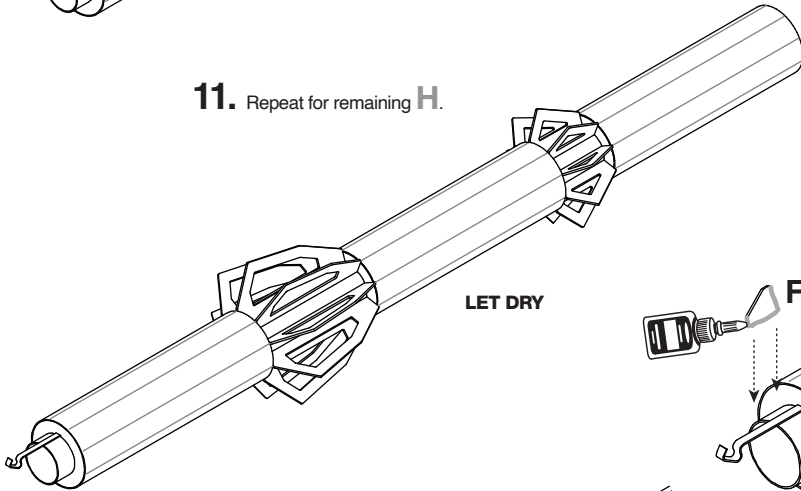
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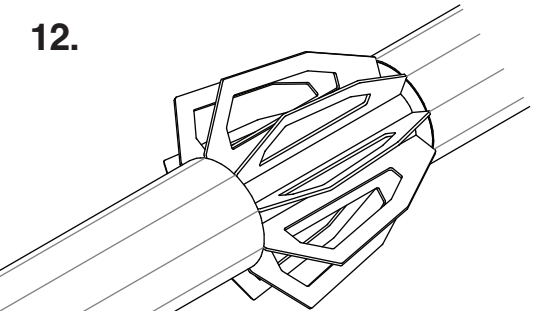
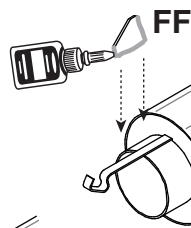
10. Use **G** to align **H**.



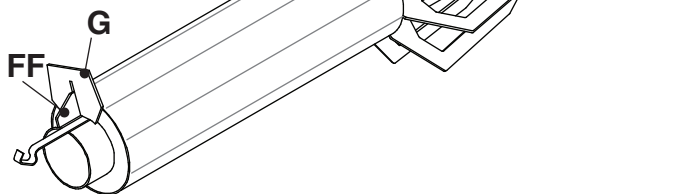
11. Repeat for remaining **H**.



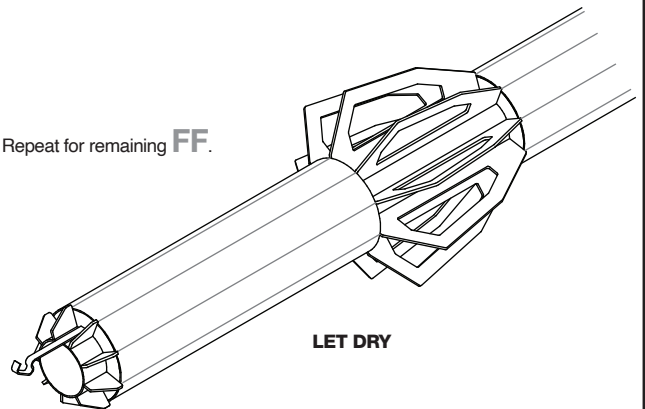
12.



13. Use **G** to align **FF**.

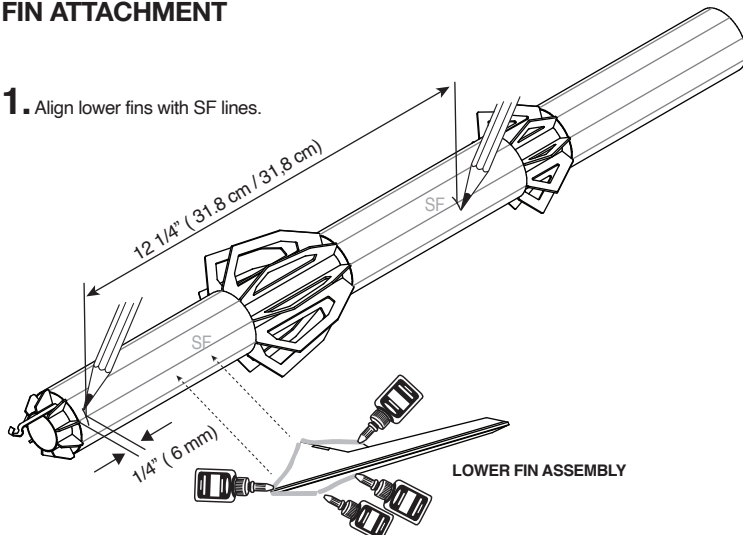


14. Repeat for remaining **FF**.

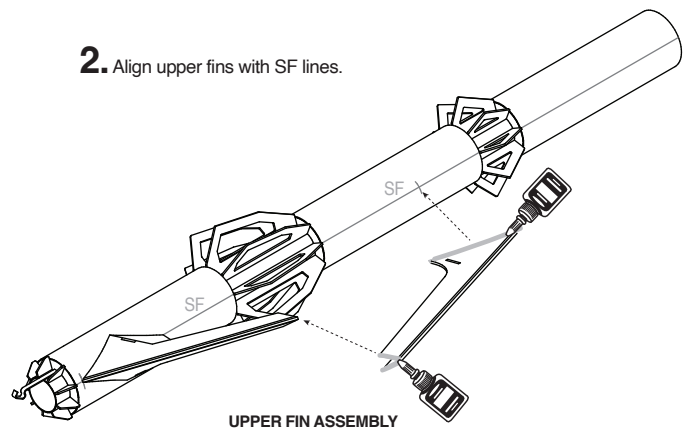


## FIN ATTACHMENT

1. Align lower fins with SF lines.



2. Align upper fins with SF lines.





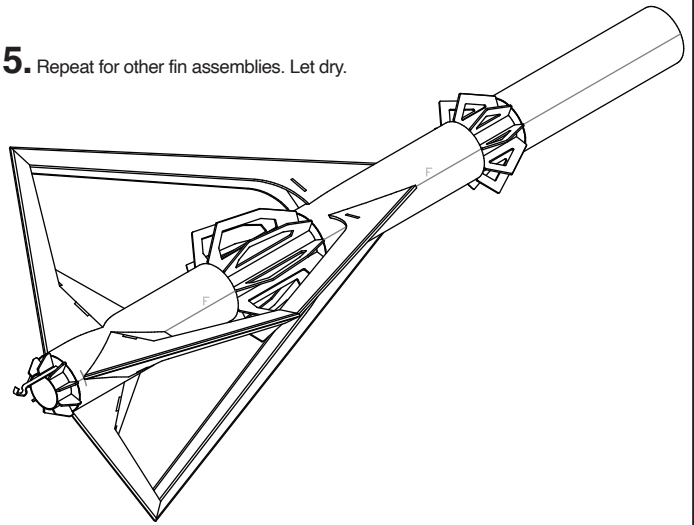
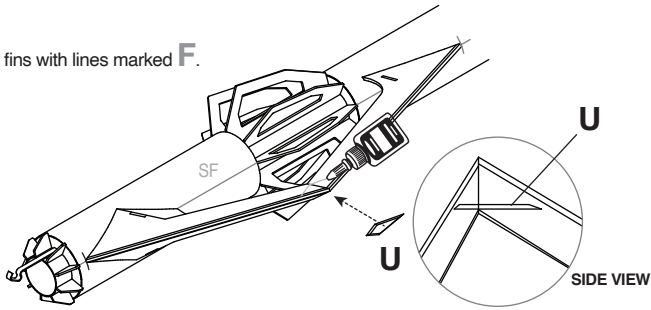
### FIN ATTACHMENT (CONT.)

3. BEVEL THESE EDGES



5. Repeat for other fin assemblies. Let dry.

4. Align fins with lines marked F.

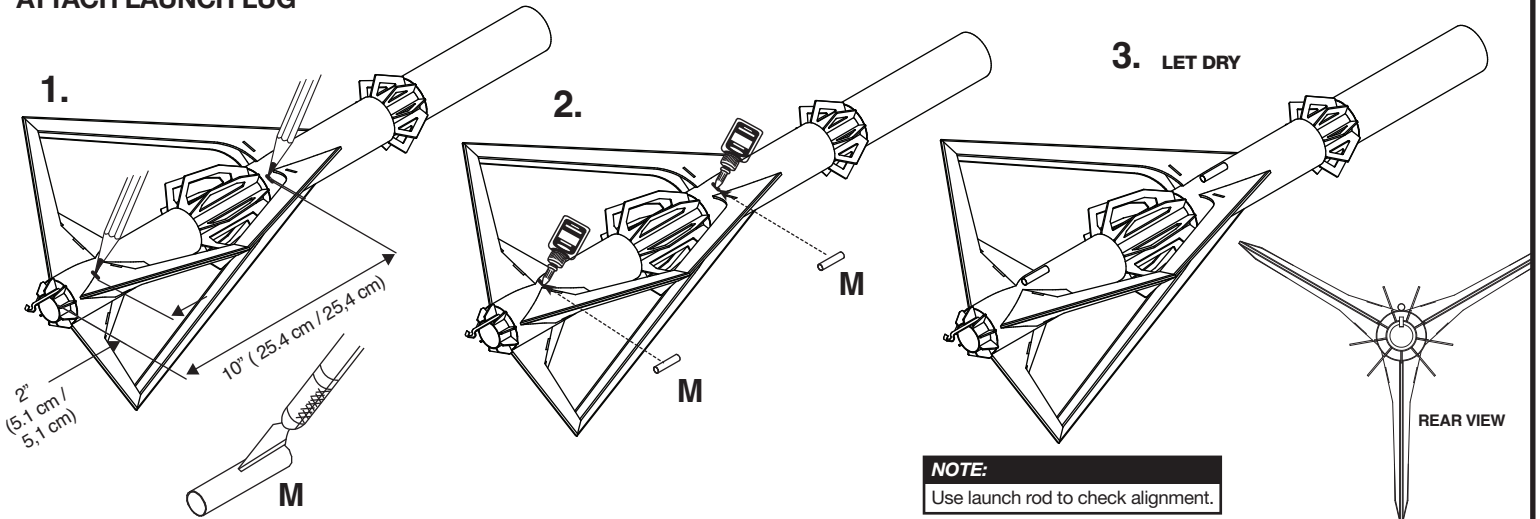


### ATTACH LAUNCH LUG

1.

2.

3. LET DRY



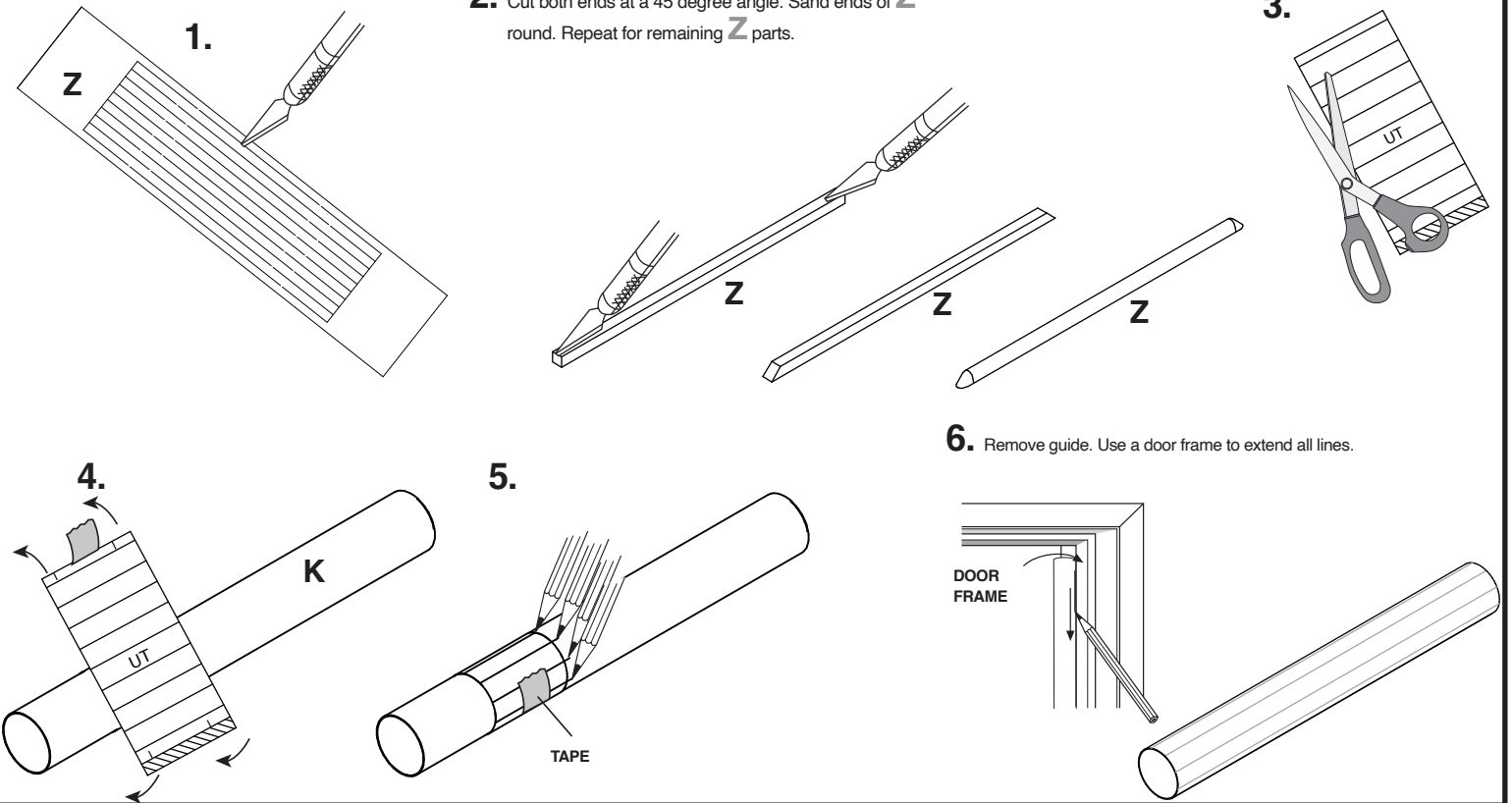
**NOTE:**  
Use launch rod to check alignment.

### ATTACH UPPER BODY DETAIL

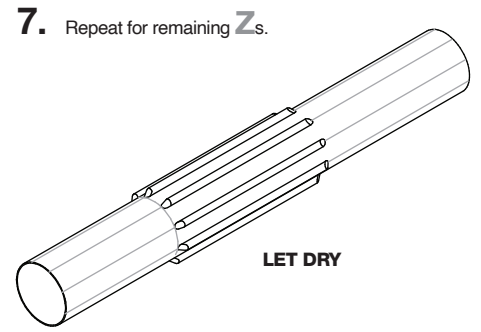
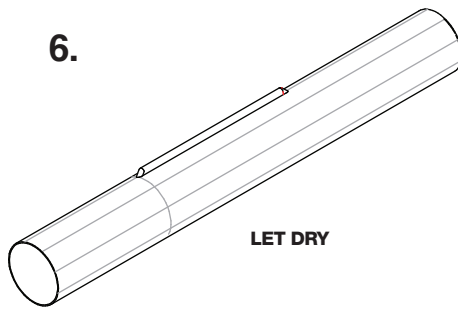
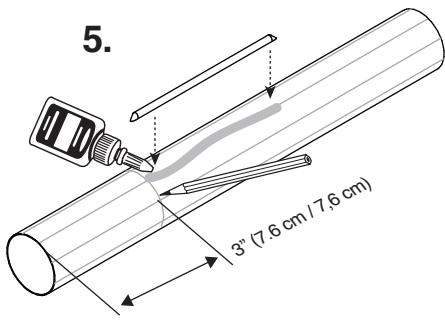
1.

2. Cut both ends at a 45 degree angle. Sand ends of Z round. Repeat for remaining Z parts.

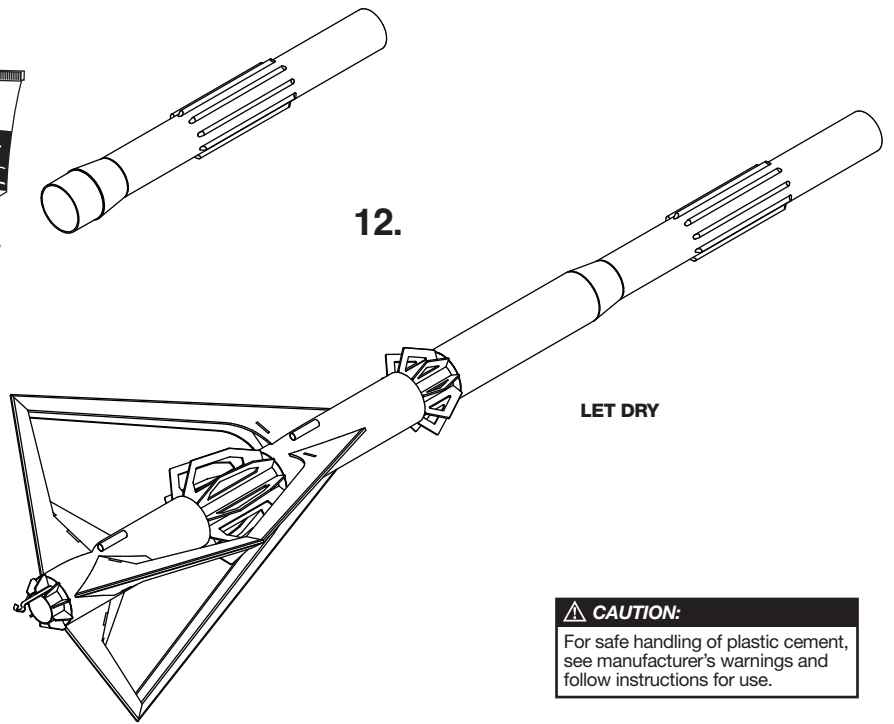
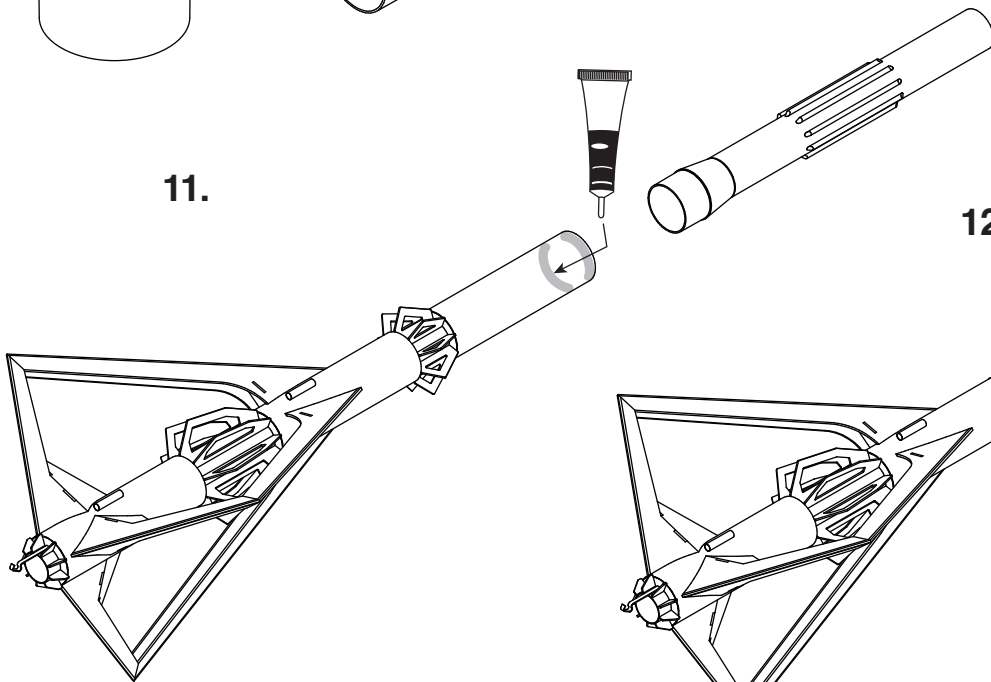
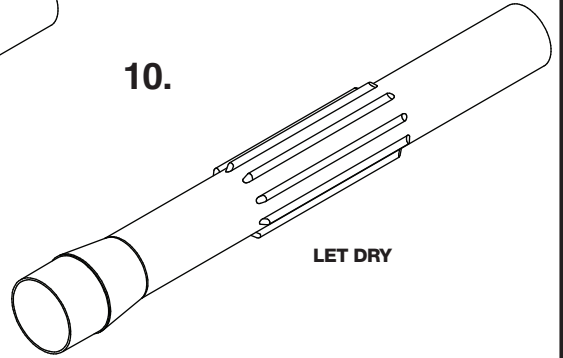
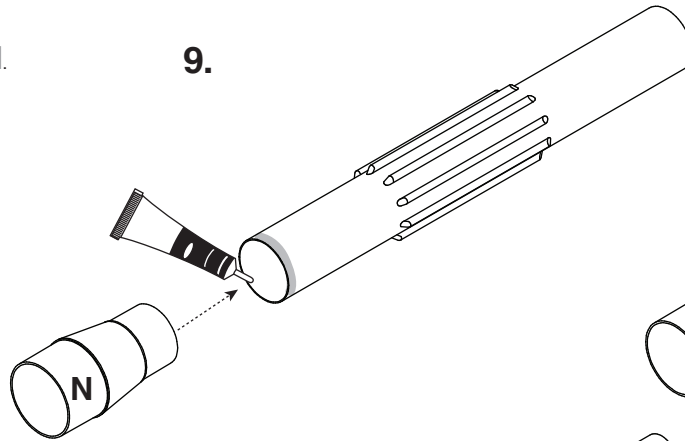
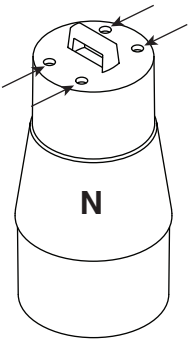
3.



**ATTACH UPPER BODY DETAIL (CONT.)**

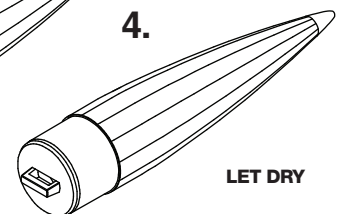
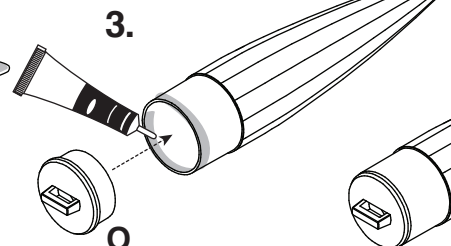
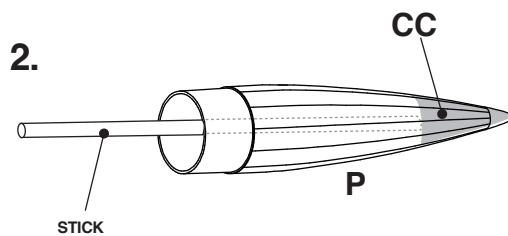
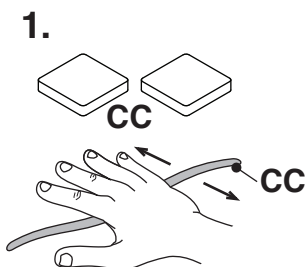


8. Make four 1/8" (3 mm) holes in N.



**CAUTION:**  
For safe handling of plastic cement, see manufacturer's warnings and follow instructions for use.

**PREPARE NOSE CONE**



## ROCKET FINISHING

Spray rocket with white primer, let dry & sand. Repeat until rocket is smooth, then paint. Apply decals after paint is dry.

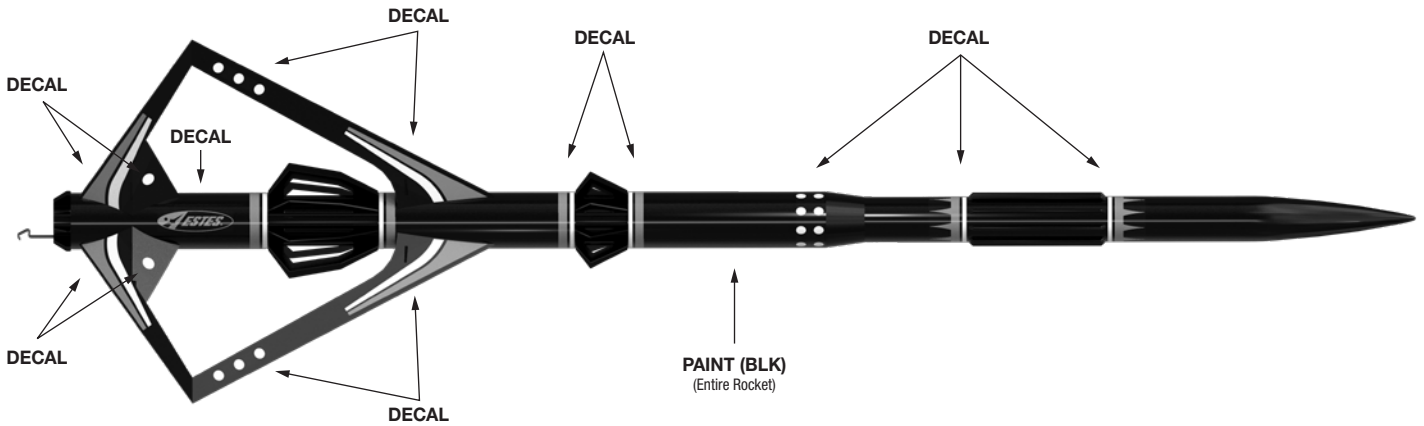
### NOTE:

Please refer to packaging for suggested paint scheme and/or decal placement.

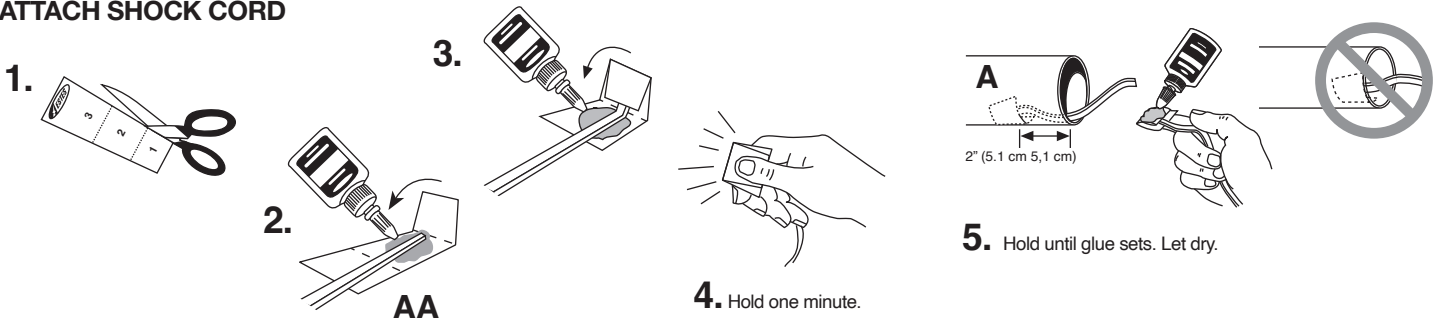
1. Cut decals from sheet, trimming close to edge.
2. One at a time, place in warm water until decal curls and begins to relax.
3. Remove and position on rocket, sliding decal away from backing material.
4. Blot with clean paper towel. Let set overnight.
5. Optional; apply protective clear coat.

### CAUTION:

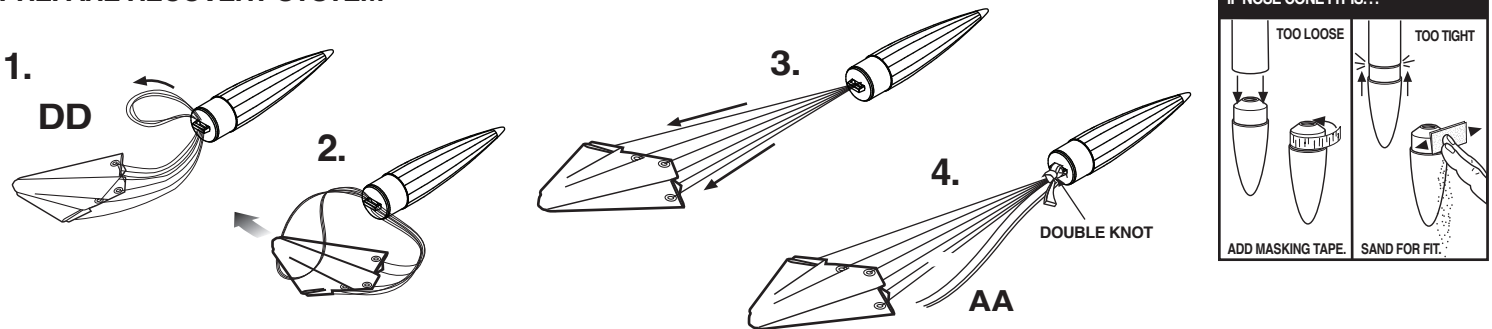
See manufacturer's warnings and instructions before using spray finishing products.



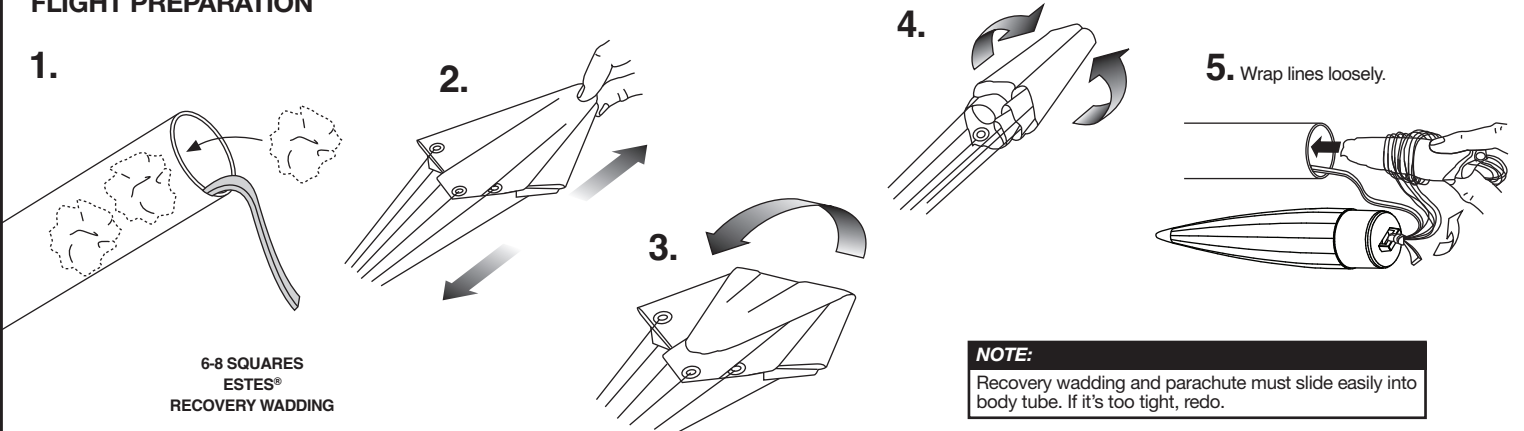
## ATTACH SHOCK CORD



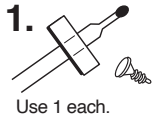
## PREPARE RECOVERY SYSTEM



## FLIGHT PREPARATION



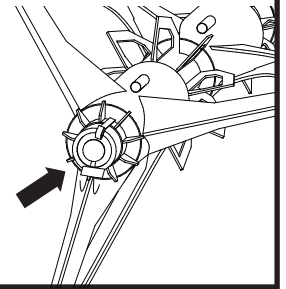
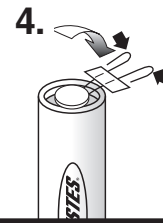
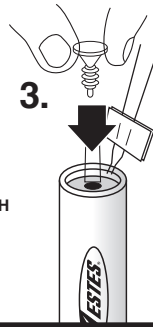
## PREPARE ENGINE



2. ENGINE



TIP MUST TOUCH PROPELLANT!



**NOTE:**

If you are using a D engine, insert the orange spacer, then engine.

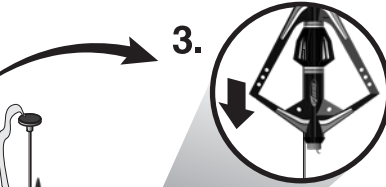
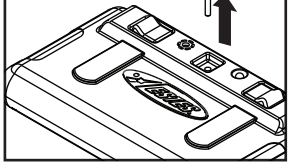
**WARNING: FLAMMABLE**

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.

## COUNTDOWN & LAUNCH

**NOTE:**

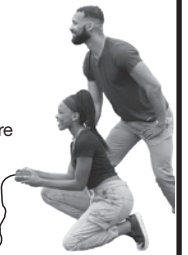
Key always out until final countdown.



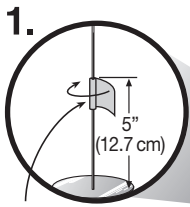
**NOTE:**

E engines require E Launch Controller or Pro Series II Launch Controller.

5. Fully extend your launch controller wire before launching.

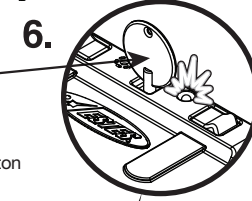


30 ft. (9.1 m)



MASKING TAPE

KEY



Insert key, push down hard. Bulb will light.

7. Press yellow button alarm will sound.



4... 3... 2... 1...

Begin countdown.

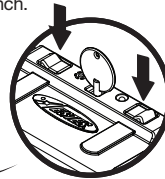
**NOTE:**

Estimated weight: 7 oz. (198 g)

11.



9. Press red button while holding yellow button, rocket will launch.



**ESTES® LAUNCH SUPPLIES NEEDED (Sold Separately)**

- Porta-Pad® E Launch Pad
- E Launch Controller or Pro Series II Launch Controller
- Recovery Wadding
- Starters (with engines)
- Plugs (with engines)
- Estes® Engines: D12-3 (first flight), E12-4

## PRECAUTIONS



NAR SAFETY CODE



NO DRY GRASS OR WEEDS

**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.

