





Estes-Cox Corp.  
1295 H Street, PO Box 227  
Penrose, CO 81240-0227  
Printed in Guangdong, China

# ALIEN INVADER™

#3003

## FLYING MODEL ROCKET KIT INSTRUCTIONS

KEEP FOR FUTURE REFERENCE

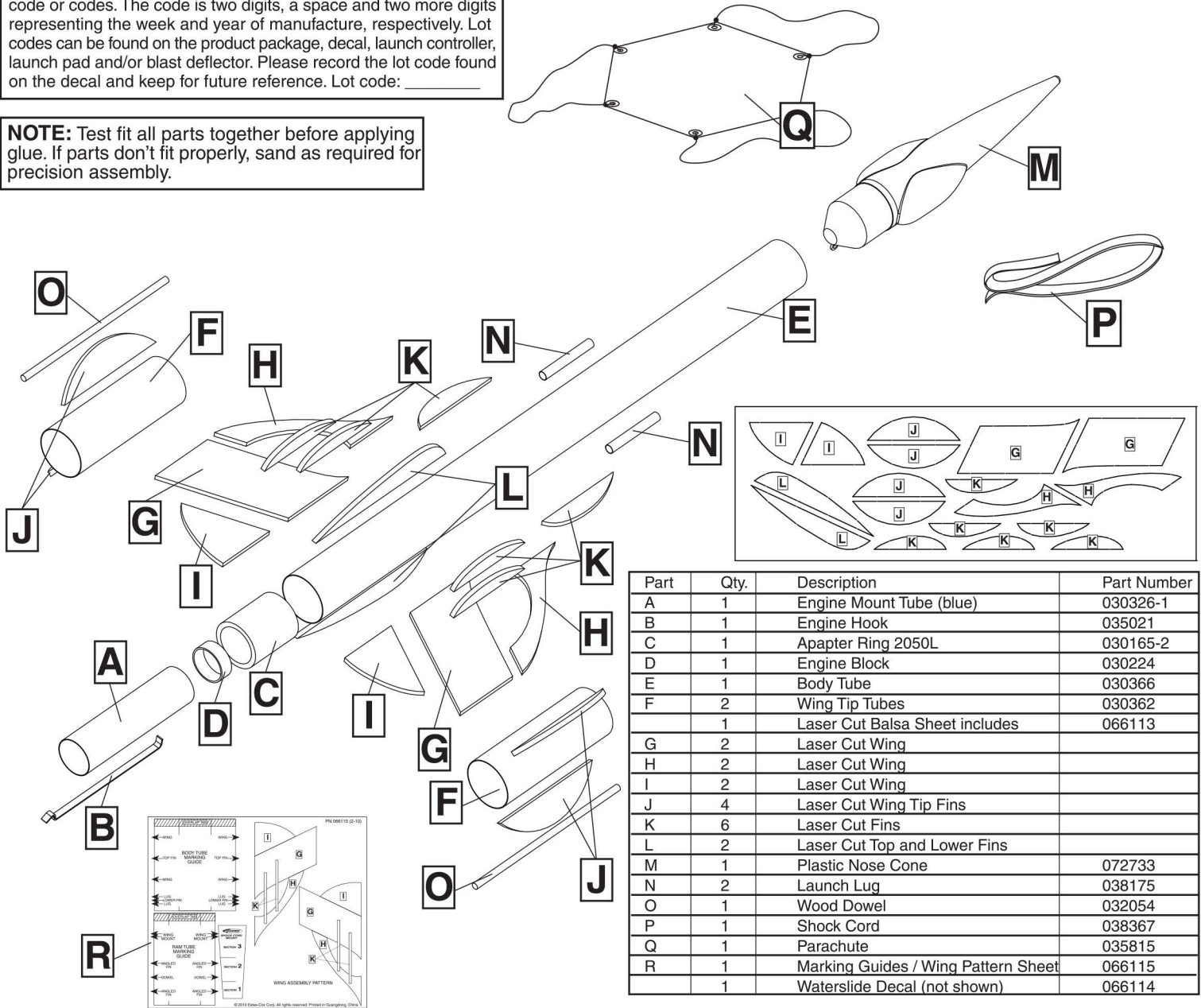


### ASSEMBLY TIP:

Read all instructions before beginning work on your model. Make sure you have all parts and supplies.

**IMPORTANT:** Your Estes product is marked with a four digit lot code or codes. The code is two digits, a space and two more digits representing the week and year of manufacture, respectively. Lot codes can be found on the product package, decal, launch controller, launch pad and/or blast deflector. Please record the lot code found on the decal and keep for future reference. Lot code: \_\_\_\_\_

**NOTE:** Test fit all parts together before applying glue. If parts don't fit properly, sand as required for precision assembly.



Part	Qty.	Description	Part Number
A	1	Engine Mount Tube (blue)	030326-1
B	1	Engine Hook	035021
C	1	Adapter Ring 2050L	030165-2
D	1	Engine Block	030224
E	1	Body Tube	030366
F	2	Wing Tip Tubes	030362
	1	Laser Cut Balsa Sheet includes	066113
G	2	Laser Cut Wing	
H	2	Laser Cut Wing	
I	2	Laser Cut Wing	
J	4	Laser Cut Wing Tip Fins	
K	6	Laser Cut Fins	
L	2	Laser Cut Top and Lower Fins	
M	1	Plastic Nose Cone	072733
N	2	Launch Lug	038175
O	1	Wood Dowel	032054
P	1	Shock Cord	038367
Q	1	Parachute	035815
R	1	Marking Guides / Wing Pattern Sheet	066115
	1	Waterslide Decal (not shown)	066114

### SUPPLIES

In addition to the parts included in the kit you will also need:



SCISSORS



PENCIL



RULER



FINE SANDPAPER (#320-#400 GRIT)



CARPENTER'S GLUE



MODELING KNIFE



MASKING TAPE



WAX PAPER



SPRAY PAINT GLOSS YELLOW



SPRAY PAINT PRIMER WHITE

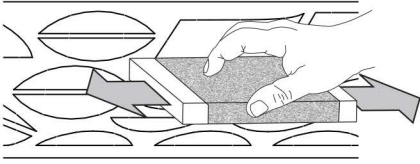


SPRAY PAINT GLOSS BLACK

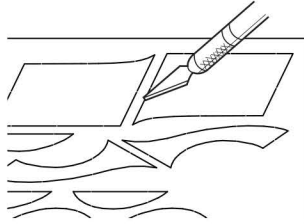


SPRAY PAINT CLEAR COAT (OPTIONAL)

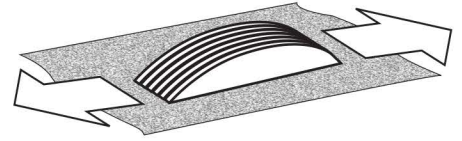
## FIN PREPARATION



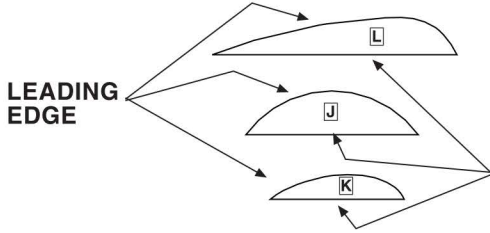
1. Sand both sides of balsa sheet with fine sandpaper (#320 or #400 grit).



2. Cut fins from sheet.



3. Stack like fins together. Sand edges smooth.



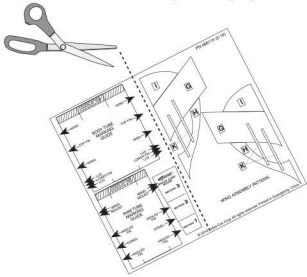
4. Round leading edge of **J**, **K** and **L**. **DO NOT** sand root edges round. Do not sand the leading edge of **G** and **H** round at this time.

LEADING  
EDGE

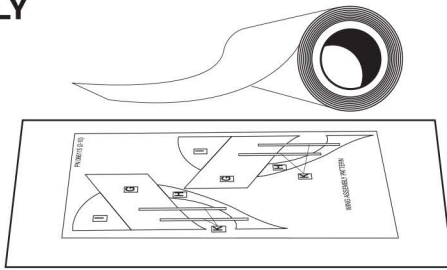


TRAILING  
EDGE

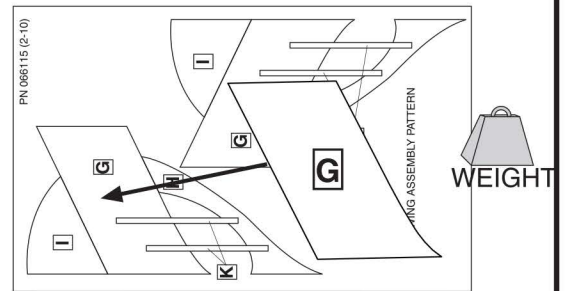
## MAIN WING ASSEMBLY



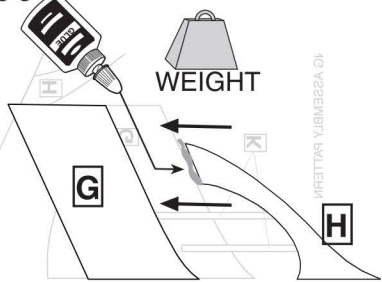
1. Cut wing assembly pattern from tube marking guide on **R**.



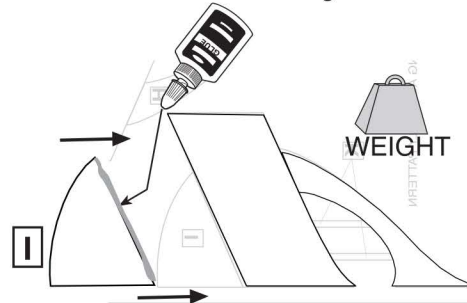
2. Lay wing assembly pattern on a flat surface. Cover with wax paper.



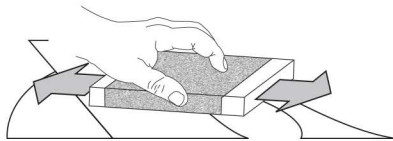
3. Position **G** as shown. Hold in place with small weight.



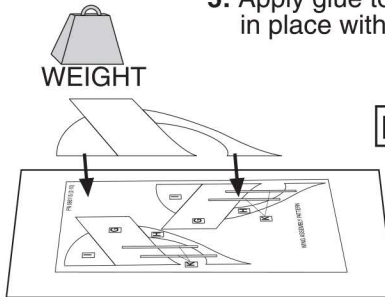
4. Apply glue to edge of **H** and position next to **G**. Hold in place with small weight. Let dry.



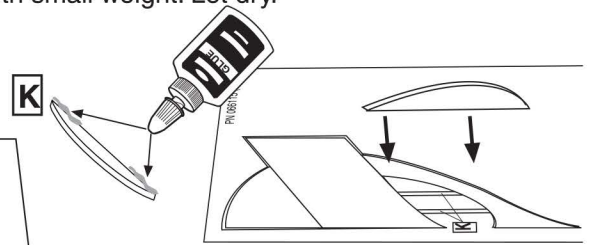
5. Apply glue to edge of **I** and position as shown. Hold in place with small weight. Let dry.



6. After wing assembly is dry, sand both sides smooth.



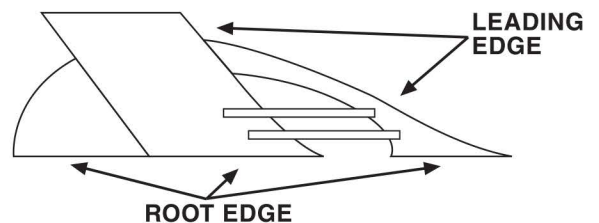
7. Place wing assembly back on pattern. Hold in place with small weight.



8. Apply glue to edge of **K** and position on wing assembly. Glue other **K** in place. Let dry.

9. Remove wing assembly from pattern. Repeat for other wing assembly using unused pattern. When both wing assemblies are completely dry, sand leading edge of each wing assembly round and sand root edge **FLAT**.

**NOTE: Do not round root edge of wing assembly.**



# ENGINE MOUNT ASSEMBLY

1. Measure and mark **A**.
2. Cut small slit at mark.
3. Insert **B** in slit.
4. Slide **C** to mark. Apply ring of glue to both sides of **C**.
5. Apply ring of glue to inside of **A**. Insert **D** until it stops. Let dry.

# BODY TUBE MARKING

1. Cut body tube marking guide from **R**.
2. Tape body tube marking guide around **E**. Mark wing lines **W**, top fin **TF**, lower fin **LF** and both launch lug lines **LL**.
3. Remove guide. Connect and extend all lines full length of **E**. Use door frame as a straight edge.
4. Measure and mark **LL** for **N**.

# WING ATTACHMENT

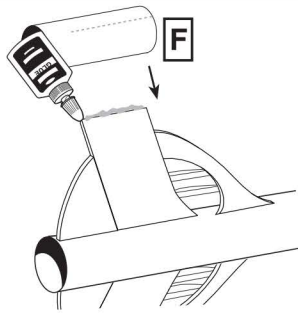
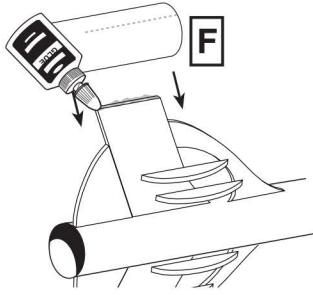
**WING ALIGNMENT GUIDE**

1. Apply glue to root edge of wing assembly. Let dry 1 minute. Apply 2nd layer of glue. Attach to **E** even with end of tube.
2. Check wing alignment with guide. Let dry.
3. Repeat for other assembly. Check wing alignment with alignment guide. Let dry.

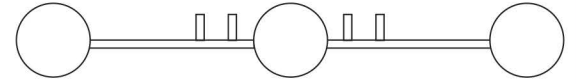
# RAM TUBE MARKING

1. Cut ram tube marking guide from **R**.
2. Tape ram tube marking guide around **F**. Mark wing mounts **WM**, angled fins **AF**, dowel lines **D**.
3. Remove guide. Connect and extend all lines full length of **F**. Repeat for other **F**. Use door frame as a straight edge.
4. Measure and mark **WM** as shown.
5. Repeat for other **F**.

## RAM TUBE ATTACHMENT



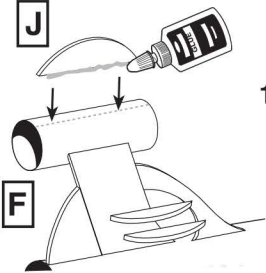
END VIEW



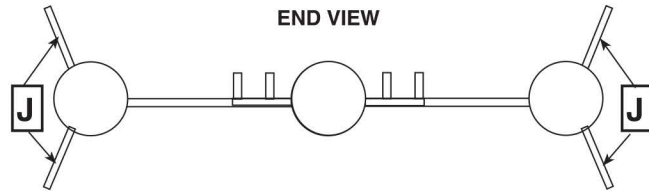
1. Apply glue to edge of wing. Let dry 1 minute. Apply 2nd layer of glue. Position **F** centered between **WM** lines and forward of 1" (25 mm) mark. Let dry.

2. Repeat for other **F**. Let dry.

## ANGLED FIN ATTACHMENT



1. Apply glue to edge of **J**. Let dry 1 minute. Apply 2nd layer of glue. Position **J** on **AF** line centered on **E**.



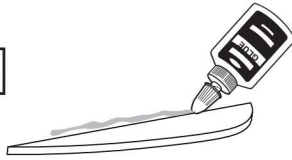
END VIEW

2. Repeat for second **J** on **F**. Let dry.

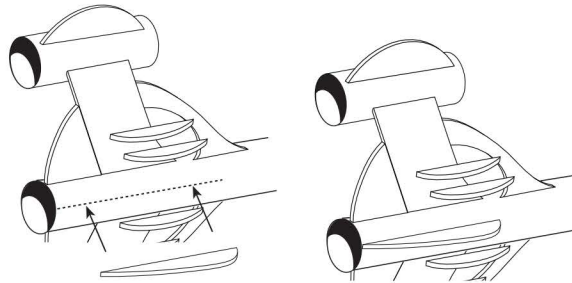
3. Repeat steps for opposite wing assembly.

## TOP FIN ATTACHMENT

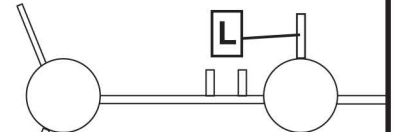
**L**



1. Apply glue to root edge of **L**. Let dry 1 minute. Apply 2nd layer of glue. Position **L** centered on **TF** at end of **E**. Let dry.



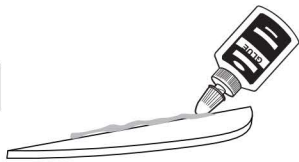
END VIEW



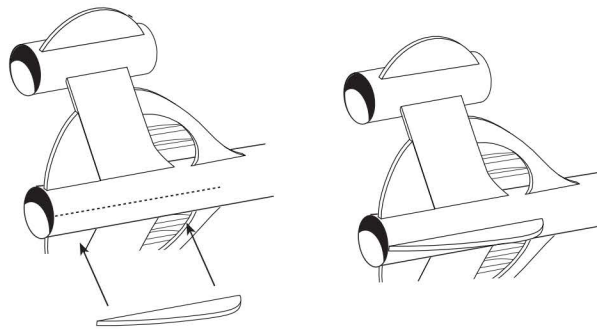
2. Make sure **L** is 90 degrees to wing. Let dry.

## LOWER FIN ATTACHMENT

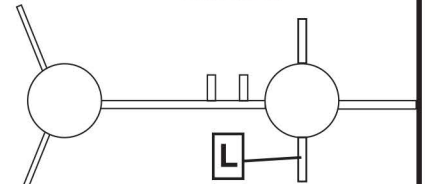
**L**



1. Apply glue to root edge remaining **L**. Let dry 1 minute. Apply 2nd layer of glue. Position **L** centered on **LF** at end of **E**. Let dry.



END VIEW

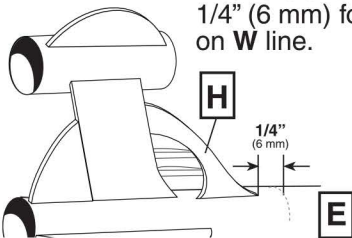


2. Make sure **L** is 90 degrees to wing. Let dry.

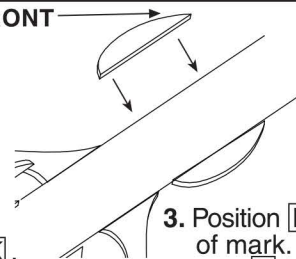
## FORWARD FIN ATTACHMENT

TAPER TO FRONT

1. Measure and mark on **E** 1/4" (6 mm) forward of **H** on **W** line.



2. Apply glue to root edge of **K**. Let dry 1 minute. Apply 2nd layer of glue.

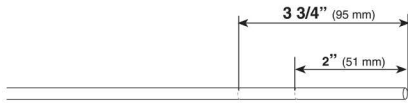


3. Position **K** in front of mark. Make sure **K** is aligned with wing. Let dry.

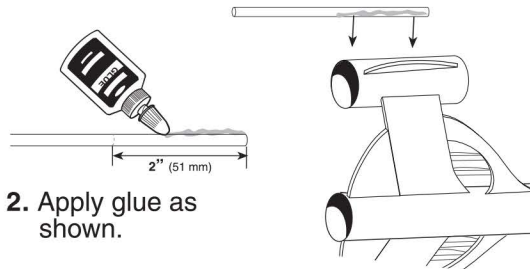
4. Repeat for other **K**.



## DOWEL ATTACHMENT

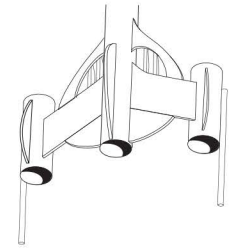


1. Measure and mark **Q** at 2" (51 mm) and 3 3/4" (95 mm). Cut at the 3 3/4" (95 mm) mark. Repeat to make 2 equal pieces.



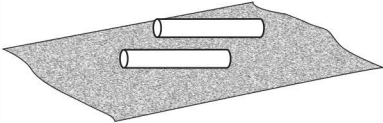
2. Apply glue as shown.

3. Attached glued area of **Q** centered on **D** line on **E**. Let dry.



4. Repeat for other **Q**. Let dry.

## LAUNCH LUG ATTACHMENT

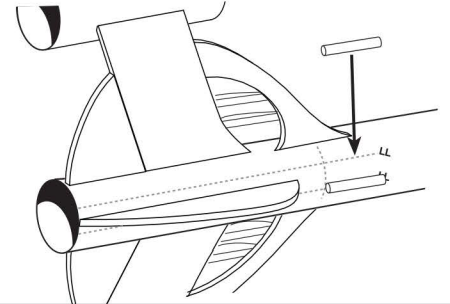


1. Sand **N** with fine sandpaper.

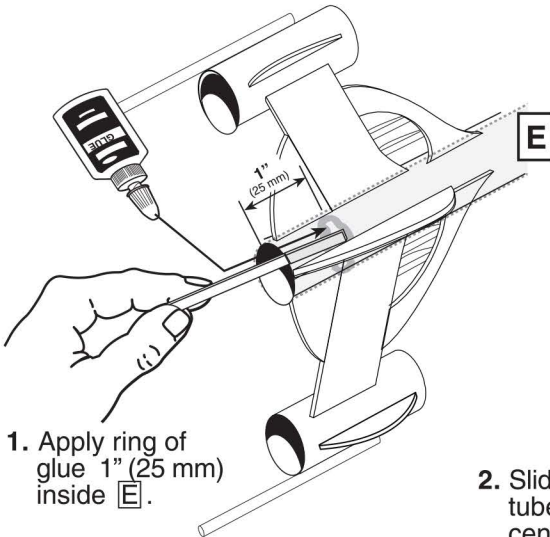


2. Apply glue as shown on **N**.

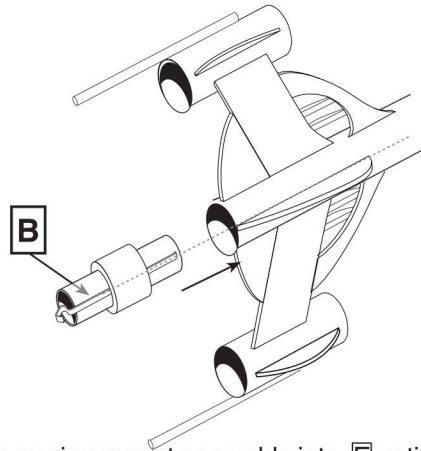
3. Glue one **N** forward of mark on **LL**. Let dry. Repeat for other **N**.



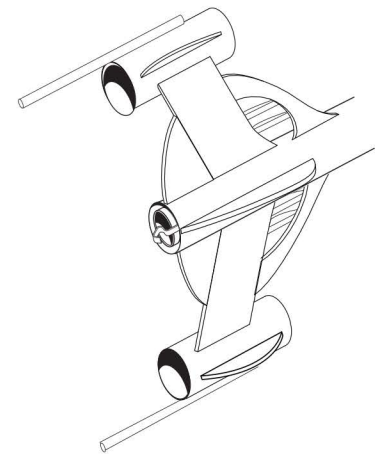
## ENGINE MOUNT INSTALLATION



1. Apply ring of glue 1" (25 mm) inside **E**.

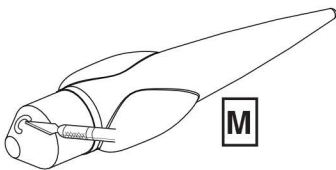


2. Slide engine mount assembly into **E** until tube ends are even. Make sure **B** is centered on **LF**. Let dry.

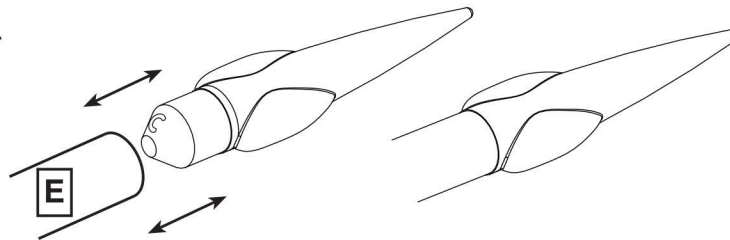


## NOSE CONE ASSEMBLY

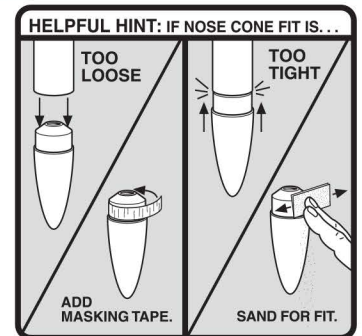
**CAUTION:** Do not cut off eyelet.



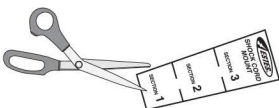
1. Remove excess flash and clean eyelet of **M**.



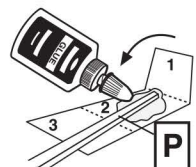
2. Test fit **M** in **E**. Sand as required for smooth fit.



## SHOCK CORD INSTALLATION



1. Cut shock cord mount from **R**.



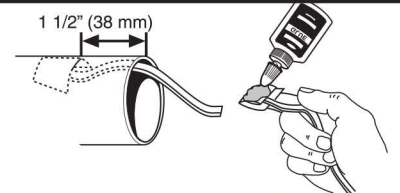
2. Apply glue to section 2. Place **P** in glue. Fold forward.



3. Apply glue, fold forward.



4. Apply glue to shock cord mount. Insert in body tube. Hold until glue sets. Let dry.

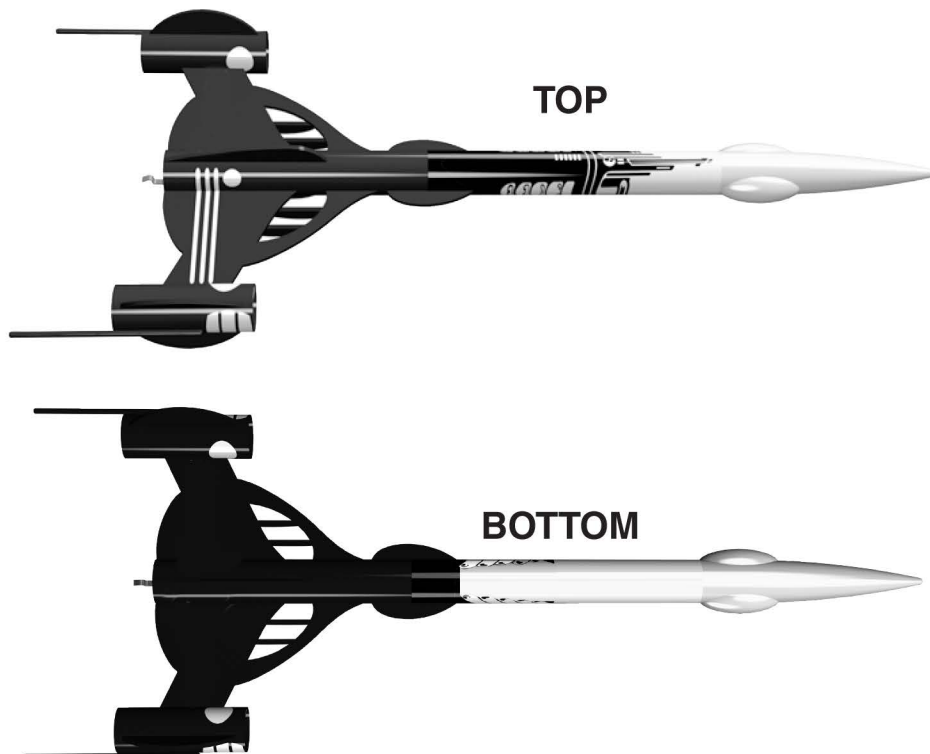


## ROCKET FINISHING

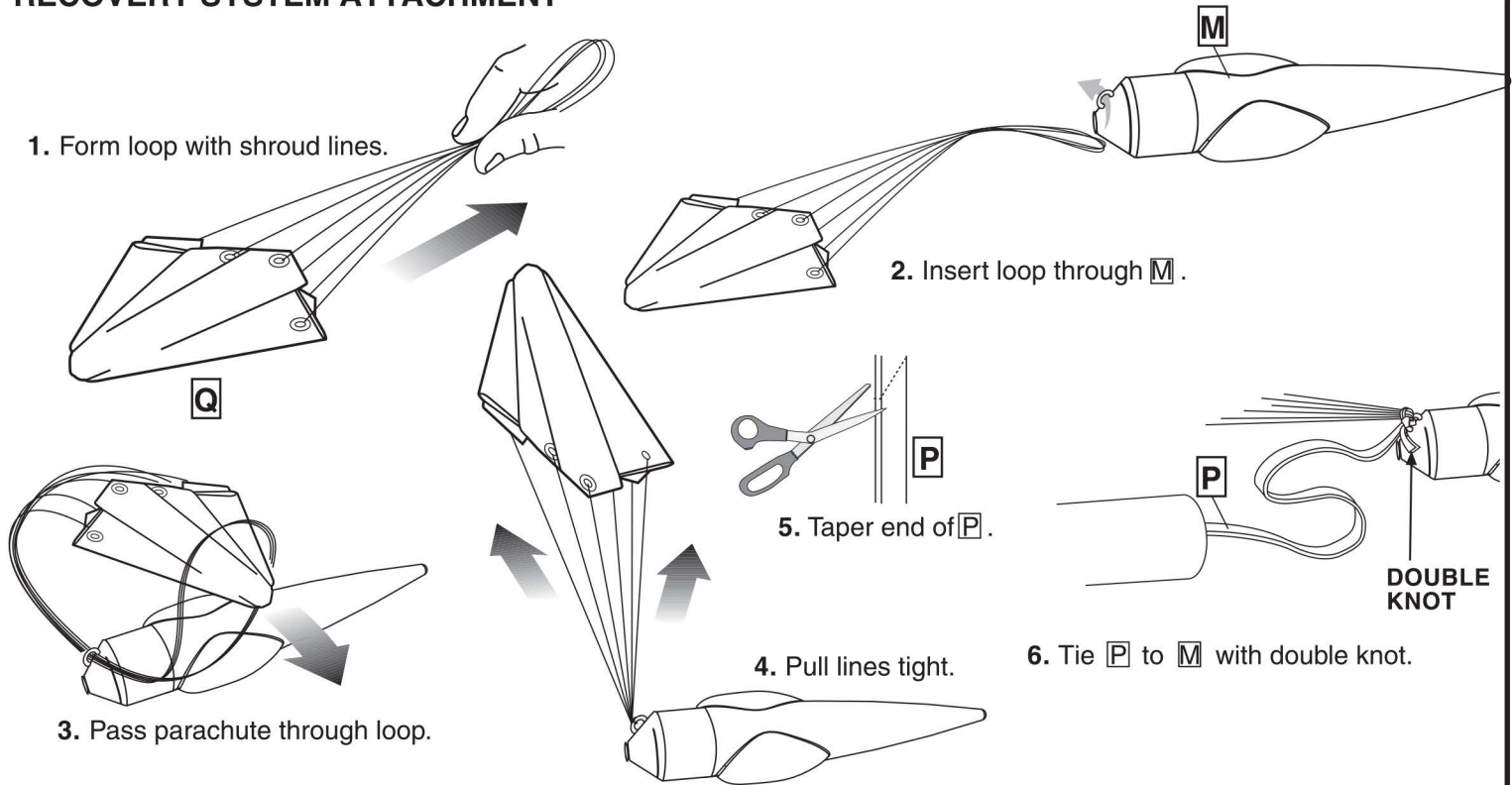
NOTE: We have found Testors spray primers (Testors #2948 White Primer), Testors One Coat Lacquer spray paints (color of your choice), Testors Model Master spray paints (color of your choice) and Testors Gloss Lacquer (#1961) to be excellent for providing a long lasting and durable finish on your rocket. Always be sure to spray your models outside or in a well ventilated area.

### STEPS TO A QUALITY FINISH

1. Insert shock cord into body tube and hold in place with paper.
2. Lightly sand body tube, fins and nose cone with fine sandpaper (#320 or #400 grit).
3. Apply glue fillets to fins and launch lug.
  - a. Allow glue to dry overnight.
4. Use a stick inserted into engine mount of the rocket for painting.
5. Insert a stick into nose cone to hold for painting. Cover shoulder with masking tape.
6. Apply 1-2 light coats of white primer to rocket body and nose cone, lightly sanding with fine sandpaper (#320 or #400 grit) between coats.
7. Apply gloss yellow paint to the top portion of the rocket body to forward fins.
  - a. Let paint dry overnight (24 hours is best)
8. Apply masking tape and protective cover over yellow.
9. Spray lower portion of rocket gloss black.
  - a. Let dry overnight (24 hours is best).
10. Remove masking tape and protective cover.
11. Apply waterslide decals where shown.
  - a. Cut decals to be applied from decal sheet, trimming close to the decal edge.
  - b. Place decal in bowl of warm water until decal begins to curl.
  - c. Remove decal, position in place and slide decal off of backing material and onto the model as close to final position as possible.
  - d. Gently blot out excess water with a clean paper towel.
  - e. Allow decals to set overnight before applying protective clear coat.
12. When decals are dry, spray entire rocket (body and nose cone separately) with a light coat of Testors Gloss Lacquer (#1961). This will provide added protection and shine to your Alien Invader rocket!

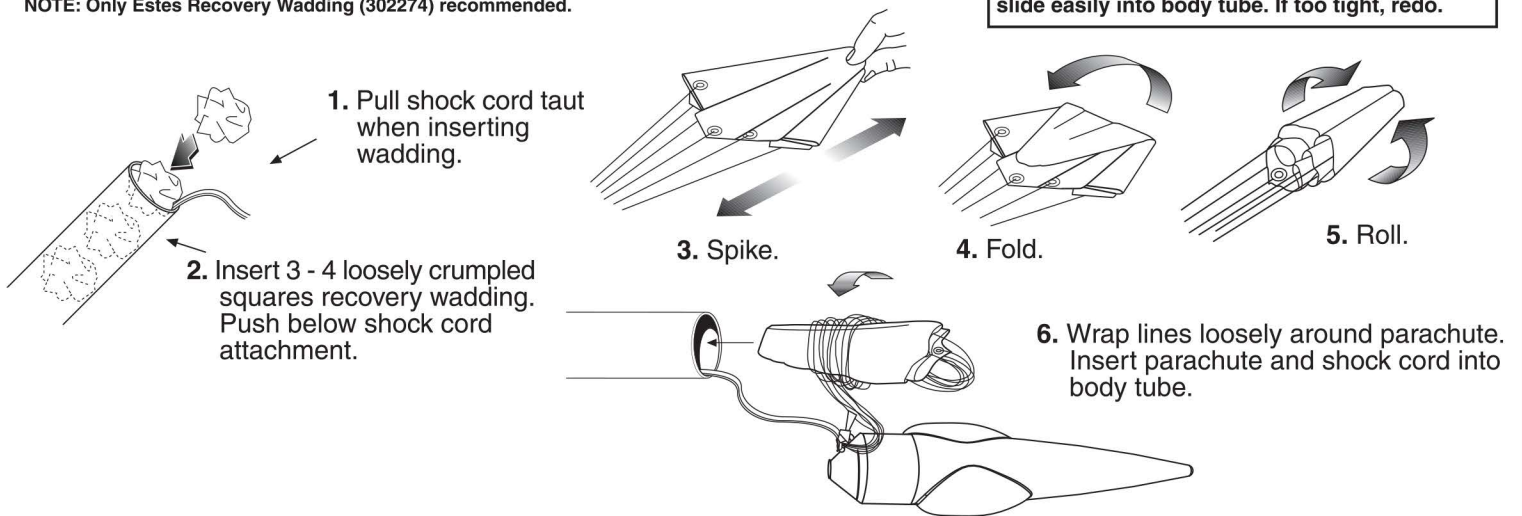


## RECOVERY SYSTEM ATTACHMENT



## FLIGHT RECOVERY PREPARATION

NOTE: Only Estes Recovery Wadding (302274) recommended.



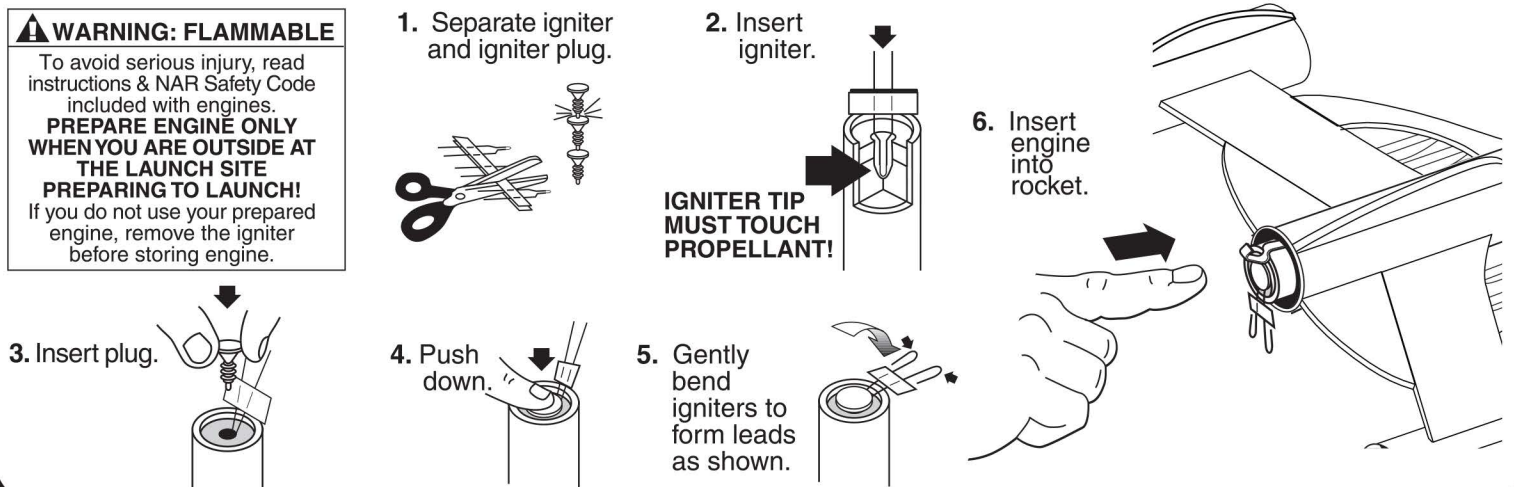
## ENGINE PREPARATION

### ⚠ WARNING: FLAMMABLE

To avoid serious injury, read instructions & NAR Safety Code included with engines.

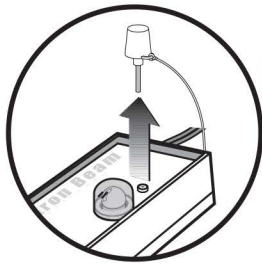
**PREPARE ENGINE ONLY WHEN YOU ARE OUTSIDE AT THE LAUNCH SITE PREPARING TO LAUNCH!**

If you do not use your prepared engine, remove the igniter before storing engine.



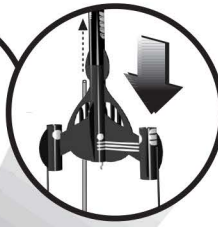


# COUNTDOWN AND LAUNCH

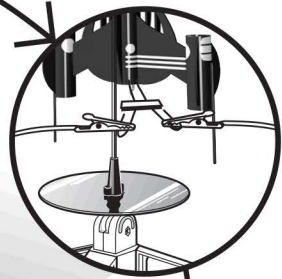


**KEY ALWAYS OUT UNTIL FINAL COUNTDOWN!**

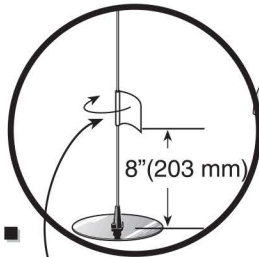
**2...**



**3...**



**1...**



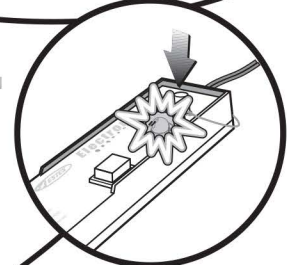
Masking Tape

**LAUNCH SUPPLIES** (Sold Separately)

- Porta Pad® II Launch Pad
- Electron Beam® Launch Controller
- Recovery Wadding
- Igniters (with Engines)
- Igniter Plugs (with Engines)
- Recommended Estes® Engine: A8-3, B4-4 (first flight), B6-4, C6-5



**4...**



**INSERT KEY. PUSH DOWN HARD. BULB WILL LIGHT.**

**5...**



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

**WHILE HOLDING KEY DOWN FIRMLY, PRESS LAUNCH BUTTON UNTIL LIFTOFF!**

**LAUNCH BUTTON**

## PRECAUTIONS



NAR Safety Code

This Paper



Can Be Recycled

### 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. Repair any damage before launching the rocket.

### FLYING YOUR ROCKET

Choose a large field (500 ft. [152 m] square) free of dry weeds and brown grass. The larger the launch area, the better your chance of recovering your rocket. Football fields and playgrounds are great. Launch only with little or no wind and good visibility.

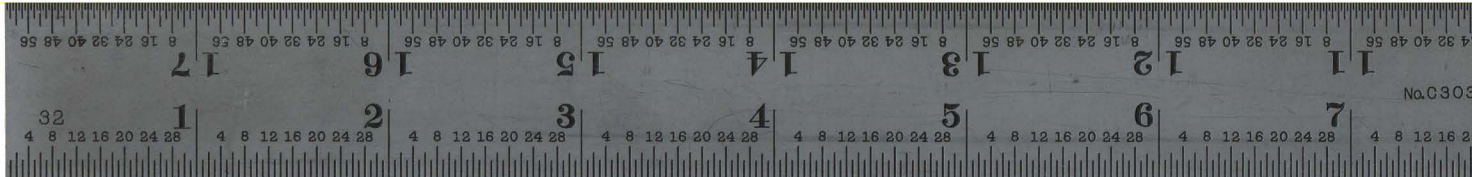
Always follow the enclosed National Association of Rocketry (NAR) SAFETY CODE.

### MISFIRES

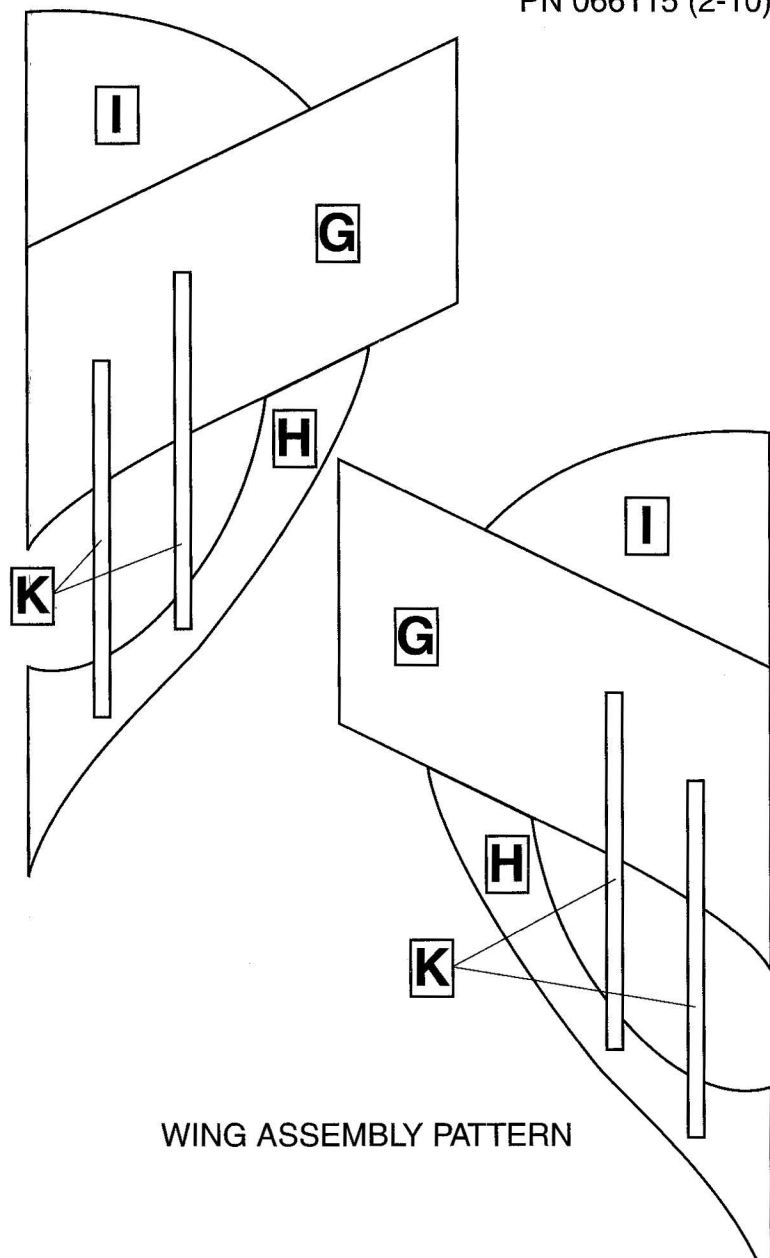
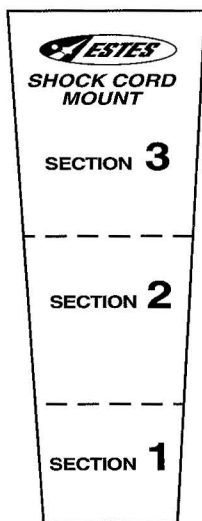
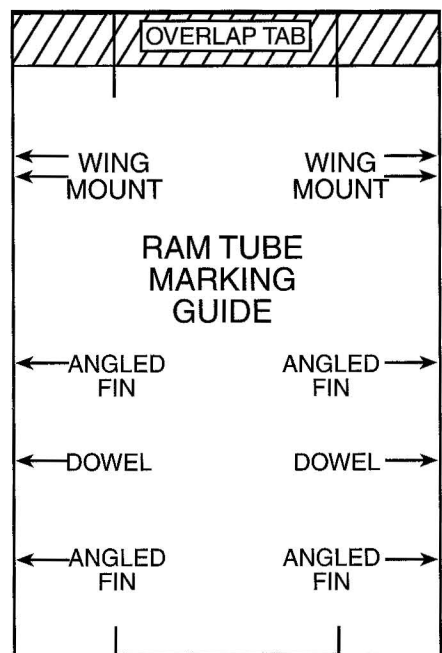
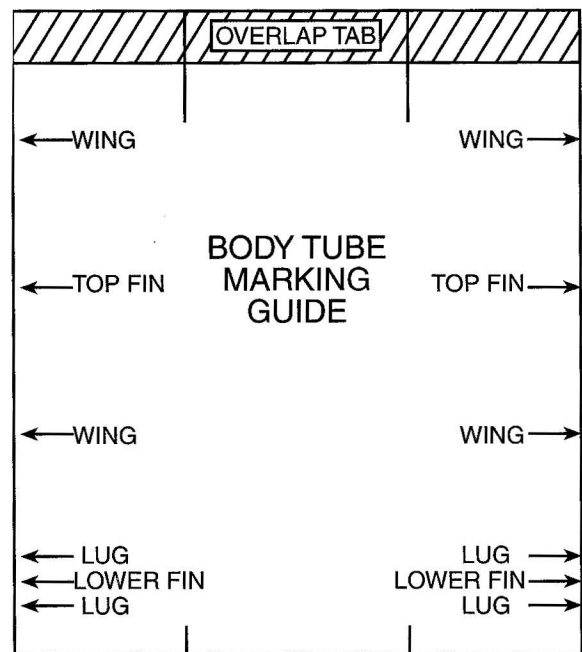
TAKE THE KEY OUT OF THE CONTROLLER. WAIT ONE MINUTE BEFORE GOING NEAR THE ROCKET! Disconnect the igniter clips and remove the engine. Take the plug and igniter out of the engine. If the igniter has burned, it worked but did not ignite the engine because it was not touching the propellant inside the engine. Put a new igniter all the way inside the engine without bending it. Push the plug in place. Repeat the steps under Countdown and Launch.



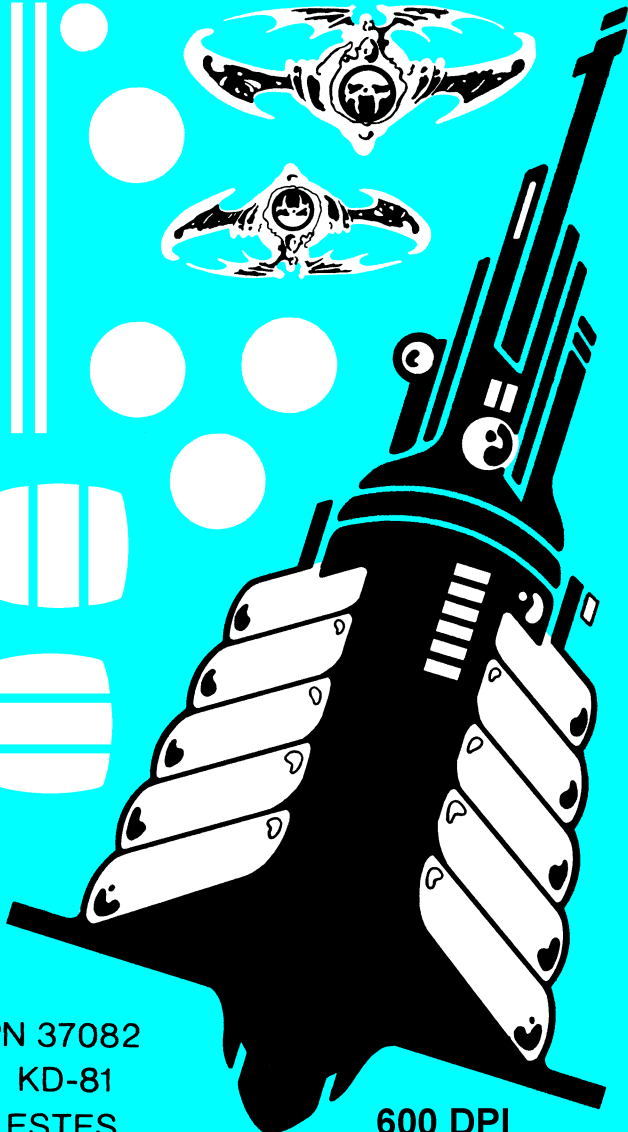
**NO DRY GRASS OR WEEDS**



PN 066115 (2-10)

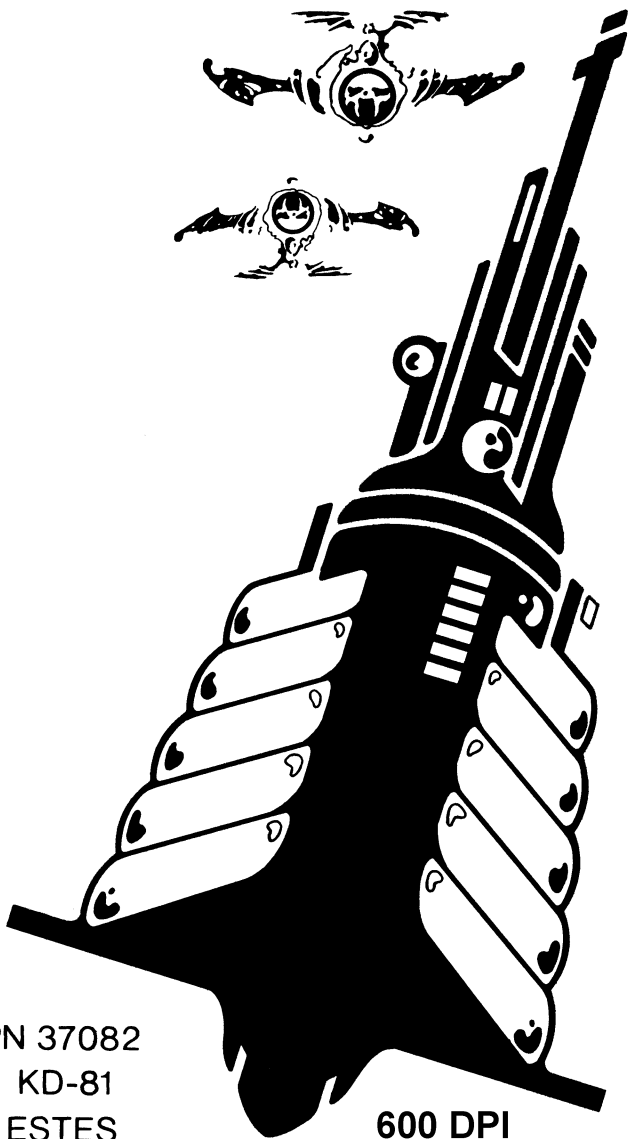






PN 37082  
KD-81  
ESTES

600 DPI



PN 37082  
KD-81  
ESTES

600 DPI

## PARTS LIST KIT NO. 3003 - Alien Invader

Quantity	Description	Type	Number	Details1	Details2	Details3	Details4	Comment
1	PAPER BODY TUBE	BT-20J	30326	2.75" long	0.710" ID	0.736" OD	0.013" wall	
1	ENGINE HOLDER	?	35021	2.8" long	.100" wide	.025" thick		Thumb Saver
1	CENTERING RING	AR-2050L	30165-2	1" long	.737" ID	.949" OD	0.106" wall	Green
1	ENGINE BLOCK	EB-20A	3132/30224	.708" OD	.65" ID	.25" thick	fits BT-20	
1	PAPER BODY TUBE	BT-50L	30366	12.7" long	0.950" ID	0.976" OD	0.013" wall	
2	PAPER BODY TUBE	BT-50J	30362	2.75" long	0.950" ID	0.976" OD	0.013" wall	
1	BALSA FIN STOCK	BFS-30L	3170	3/32" thick	3" wide	12" long	0.09375	Scan 66113
1	PLASTIC NOSE CONE	PNC-50CA	71005/72733	4 13/16"	.974" dia.	.750" shoulder	BT-50	Side Bumps
2	LAUNCH LUG	LL-2A	2321/38175	5/32" ID	1/8" rod	1-1/4" long		
1	DOWEL	WD-1S	85904/32054	1/8" dia.	7.5" long			Wood
1	Shock Cord	SC-1	85730/38367	18 " long	1/8" wide			Rubber
1	Parachute	PK-12A	2263/85564/35815	12" dia.				
1	Marking Guides / Wing Pattern Sheet		66115					Scan
1	Waterslide Decal		66114					Scan



# Alien Invader

FLYING MODEL ROCKET KIT

*Classic Series*

- Futuristic Alien Warship!
- Laser Cut Balsa Fin!

FLY UP TO **900** FEET!

OVER **20** MODELS TO BUILD!  
**FAST!**



NEW!  
LASER CUT  
BALSAM

3003



ROCKET KIT 1 MOBILE RÉDUIT

MODEL KIT 1 MOBILE RÉDUIT



ESTES FLYING MODEL ROCKET  
ESTES MOBILE DE FUSÉE VOLANT



ESTES  
FLYING  
ROCKET  
KIT



ESTES  
FLYING MODEL ROCKET KIT  
ESTES MOBILE DE FUSÉE VOLANT

© 2003 Estes Inc.





# ESTES Alien Invader

CLASSIC MODEL ROCKET KIT

*Classic Series*

Based on an original Estes design

- Futuristic Alien Warship!
- Laser Cut Balsa Finial

FLIES TO  
**900**  
FEET

OVER  
**20**  
INCHES  
TALL



ESTES  
MODEL KIT

3003  




MODEL KIT, 1 MOBILE RÉDOUT