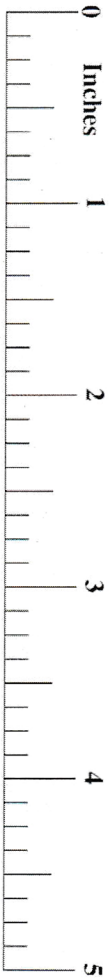




# X-15™

## FLYING MODEL ROCKET ASSEMBLY INSTRUCTIONS



Product No. 2014  
Skill Level Two



**Things You'll Need To Assemble this Kit:**  
Hobby Knife, Pencil and Paint Brush



**Sandpaper (220 or 320 Grit) & Sanding Sealer**



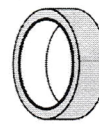
**White Glue**

Aliphatic Resin glues work best such as TITEBOND or ELMER'S CARPENTER'S WOOD GLUE - ELMER'S WHITE SCHOOL GLUE also works but dries slower.



**Tape**

Scotch Magic Tape or Paper Masking Tape, Spray Primer and Spray Paint.

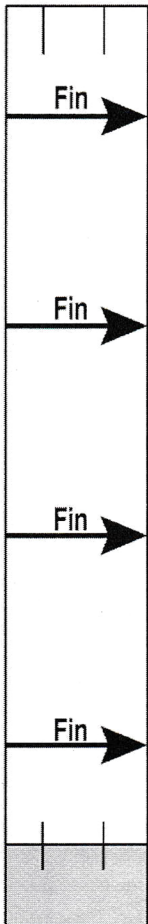
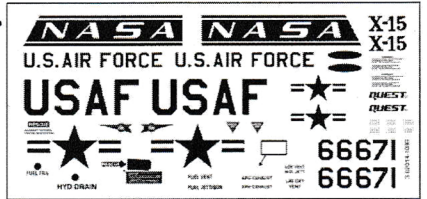
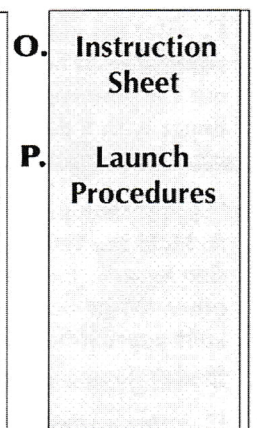
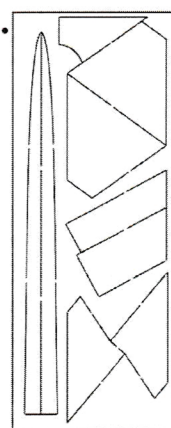
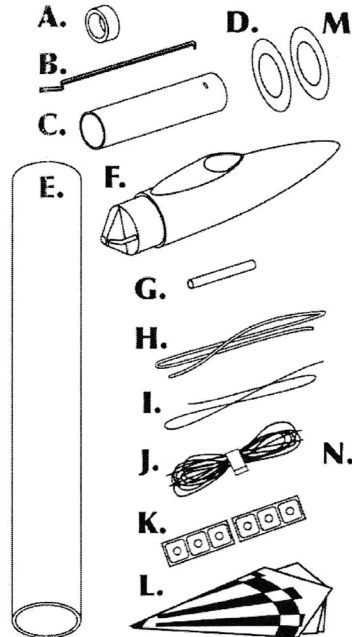


**BEFORE STARTING ASSEMBLY READ THROUGH THESE INSTRUCTIONS. IT IS BEST TO TEST FIT ALL PARTS BEFORE APPLYING ANY GLUE. READ AND FOLLOW THE NAR MODEL ROCKET SAFETY CODE.**

### PARTS LIST

- A. 14000** Blue Thrust Ring
- B. 49000** Motor Clip
- C. 10303S** Yellow Motor Mount Tube
- D. 16002** Centering Rings (2)
- E. 11420** 11 Inch White Body Tube
- F. Q-PNC-35B2** Plastic Nose Cone
- G. 10001** 2 inch Launch Lug
- H. 50014** 21 Inch White Elastic Shock Cord
- I. 50051** 18 Inch Yellow Kevlar\* Shock Cord
- J. 50100** Pack of 3-26" Shroud Lines
- K. 50101** Strip of 3 Gripper Tabs (2)
- L. 28107** 14" Parachute
- M. 33051** Laser-cut Balsa Fin Set
- N. 3-02014-1030** Decal Sheet
- O. 3-02014-1010** Instruction Sheet
- P. 90960** Launch Procedures Sheet

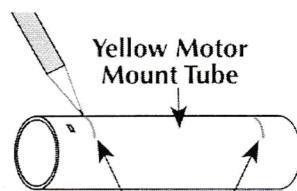
\* Kevlar is a registered trademark of Dupont



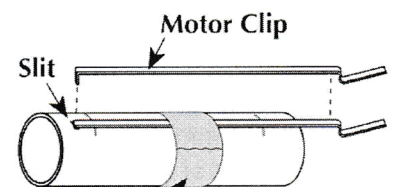
### STEP 1

**A.** Place the Yellow Motor Mount Tube up against the ruler provided above. Make 2 pencil marks on the tube 1/2 inch from each end as shown.

**B.** Insert the Motor Clip into the Slit in the Yellow Motor Mount Tube as shown. Use a piece of Tape to hold the Motor Clip in place.



2 Pencil Marks  
1/2 Inch From Each End

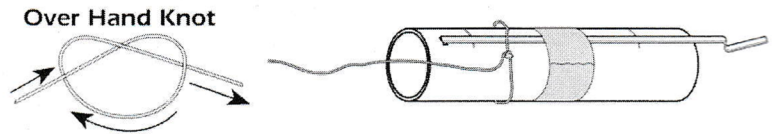


Use Tape to Hold Motor Clip



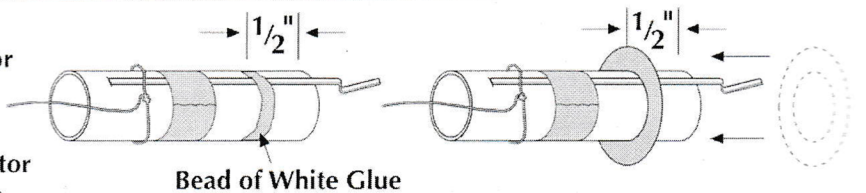
## STEP 2

A. Use two Over Hand Knots to tie the Yellow Kevlar end of the Shock Cord around the Yellow Motor Mount Tube as shown.

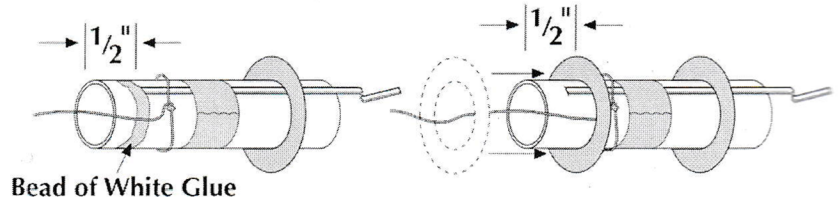


## STEP 3

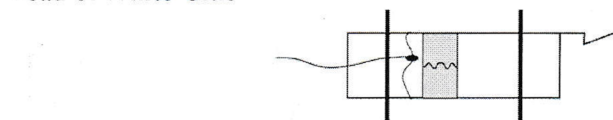
A. Apply a bead of White Glue around the Yellow Motor Mount Tube on the Pencil Mark made in Step 1A - 1/2 inch from rear end as shown.



B. Slide one of the Centering Rings onto the Yellow Motor Mount Tube and into the bead of glue. Check to be sure Centering Ring is aligned straight on the Yellow Motor Mount Tube as shown.



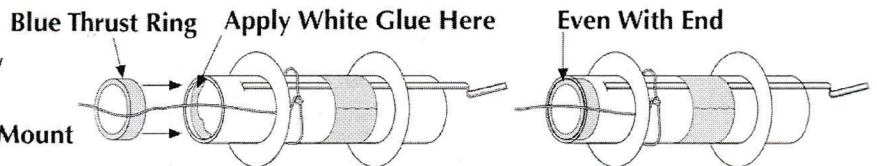
C. Apply a bead of White Glue around the Yellow Motor Mount Tube on the other Pencil Mark made in Step 1A - 1/2 inch from forward end as shown.



B. Pass the Shock Cord through the remaining Centering Ring. Slide the Ring onto the Yellow Motor Mount Tube and into the bead of glue. Check to be sure Ring is aligned straight on the Yellow Tube as shown.

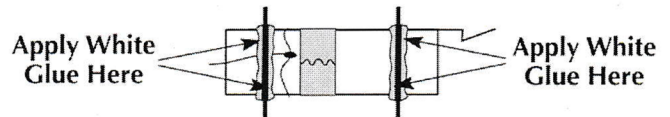
## STEP 4

A. Apply white glue around inside edge of the Yellow Motor Mount Tube as shown.



B. Insert the Blue Thrust Ring into the Yellow Motor Mount Tube so it is even with the end of the Yellow Tube.

C. After the glue has set completely, apply a small bead of white glue to both sides of each centering ring. Smooth out the glue with your finger. Remove glue from your finger with a damp paper towel.



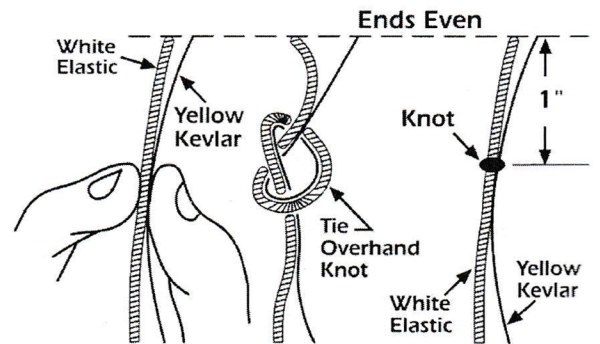
## STEP 5

A. Hold the Yellow Kevlar Shock Cord and the White Elastic Shock Cord side by side. Pull one end of each cord so that they are even with each other. While holding the two cords together, tie a single parallel overhand knot approximately one inch from the even ends as shown.

B. Gently pull on both cords to set the knot and prevent it from slipping.

C. Apply a small amount of white glue on the ends of both cords to prevent them from fraying.

NOTE: THIS IS A VERY IMPORTANT STEP. IF YOU TIE A DIFFERENT TYPE OF KNOT THE SHOCK CORDS MAY SEPARATE DURING FLIGHT.



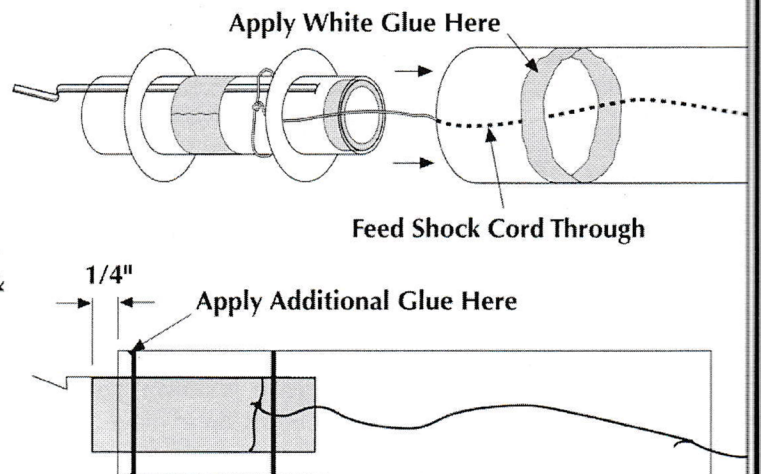
## STEP 6

A. Feed the Shock cord attached to the Motor Mount Assembly through the end of the Body Tube until it comes out the other end of the white tube.

B. Apply White Glue around the inside of the White Body Tube as Shown.

C. Immediately insert the Motor Mount Assembly into the White Body Tube and PUSH INTO THE BODY TUBE WITH ONE FAST & SMOOTH MOTION until the Yellow Motor Mount Tube extends out from out of the White Body Tube 1/4 inch as shown.

D. Apply additional White Glue to the exposed Centering Ring/Body Tube joint as shown. Smooth out the glue with your finger.



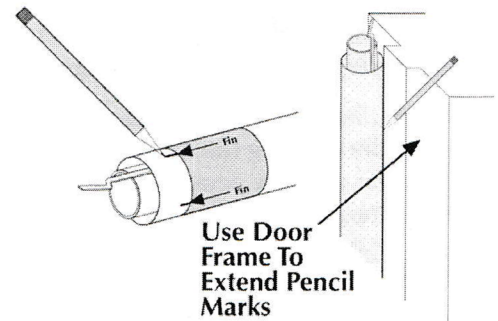


## STEP 7

A. Cut out the Tube Marking Guide from the front page of the instruction sheet.

B. Wrap the Tube Marking Guide around the body tube. Align one of the arrows with the motor clip. Mark the body tube at each of the arrows with a pencil.

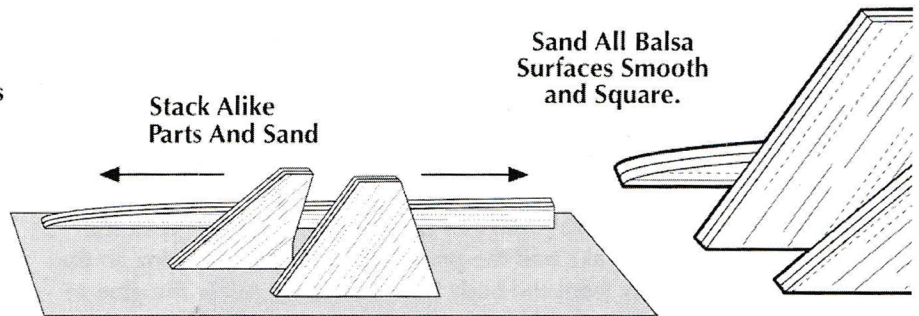
C. Use a door frame as a guide and extend each of the pencil marks the entire length of the body tube.



## STEP 8

A. Carefully remove each of the laser-cut balsa fins from the sheet with a sharp hobby knife.

B. Stack the matching fins together and sand all edges smooth.



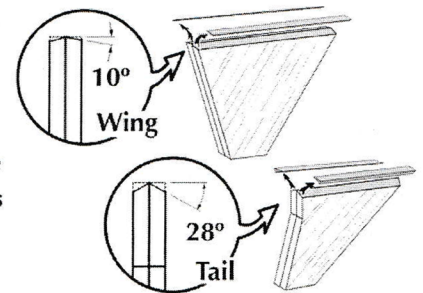
## STEP 9

A. Keep alike parts paired up. Sand the Root Edge of the wings at  $10^\circ$  as indicated at the right.

B. Sand the Root Edge of the Tails at  $28^\circ$  as indicated.

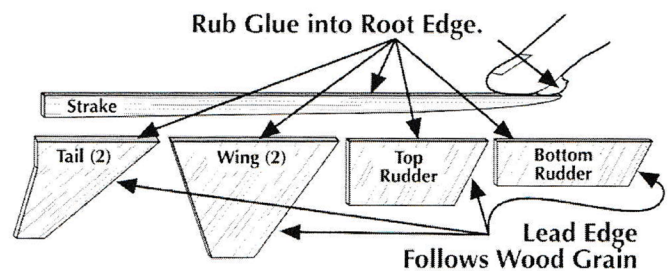
NOTE: For proper fit, Be Sure to Sand Mirror Images or Opposites of each other.

Keep Alike Parts Together and Carefully Sand Opposite sides of the Wing and Tail's Root Edges. Sand each Pair of Fins at the Angles Indicated.



## STEP 10

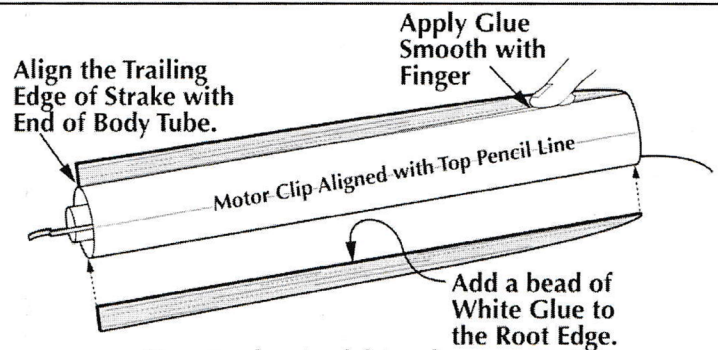
A. Rub a small line of white glue into the root edge of each part and set aside to dry.



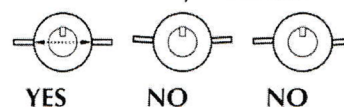
## STEP 11

A. The Pencil Line aligned with the Motor Clip is the Top of the model. Apply a small line of white glue along the root edge of one of the Strakes and position it along one of the two side Strake lines. Align the Trailing Edge of the Strake with the end of the body tube. Adjust the Strake so that it projects straight away from the body tube as shown. Allow the glue to set for a few minutes before attempting to glue on the remaining Strake. Repeat this process for the remaining Strake.

B. After the glue is completely dry apply a small bead of white glue to both sides of a Strake-body tube joint. Smooth out the glue with your finger. Wipe excess glue off your finger onto a tissue of paper towel.



Keep Strakes Straight and Positioned Away From Rocket.



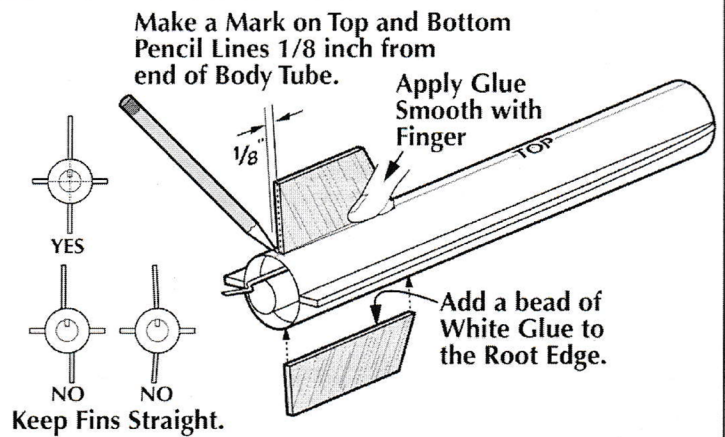


## STEP 12

**A.** Make a pencil mark one eighth inch (.125") from the end of the body tube on the Top and Bottom Rudder lines.

**B.** Apply a small line of white glue along the root edge of the Top Rudder and position it along the Top Rudder line. Align the Trailing Edge of the Rudder with the pencil mark. Adjust the Rudder so that it projects straight away from the body tube as shown. Allow the glue to set for a few minutes before attempting to glue on the Bottom Rudder.

**C.** After the glue is completely dry apply a small bead of white glue to both sides of a Rudder-body tube joint. Smooth out the glue with your finger. Wipe excess glue off your finger onto a tissue or paper towel.

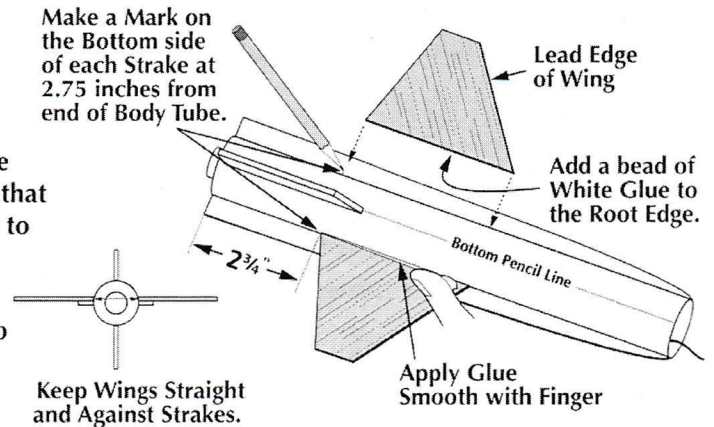


## STEP 13

**A.** Make a pencil mark on the bottom side of each Strake two and three quarters inches (2-3/4") from the end of the Strake body tube.

**B.** Apply white glue to the root edge of the wing and position it so the wing is up against the Strake and the pencil mark. Adjust the wing so that it projects straight away from the body tube as shown. Allow the glue to set for a few minutes before attempting to glue on the other wing.

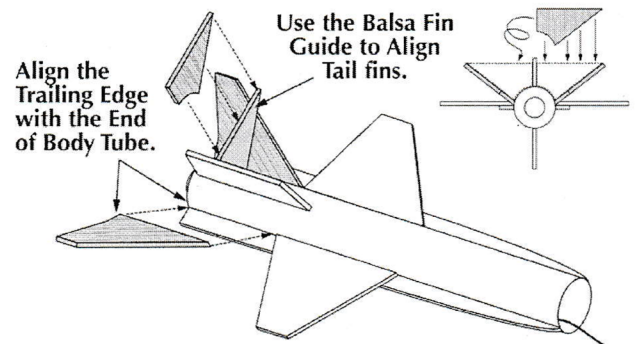
**C.** After the glue is completely dry apply a small bead of white glue to both sides of a wing-body tube joint. Smooth out the glue with your finger. Wipe excess glue off your finger onto a tissue or paper towel.



## STEP 14

**A.** Apply white glue to the root edge of the Tail Fin and position it so the Trailing Edge is even with the end of the Body tube. Use the Balsa Fin Guide to align the Tail Fin as shown. Allow the glue to set for a few minutes before attempting to glue on the other Tail Fin.

**B.** After the glue is completely dry apply a small bead of white glue to both sides of a Tail Fin-body tube joint. Smooth out the glue with your finger. Wipe excess glue off your finger onto a tissue or paper towel.

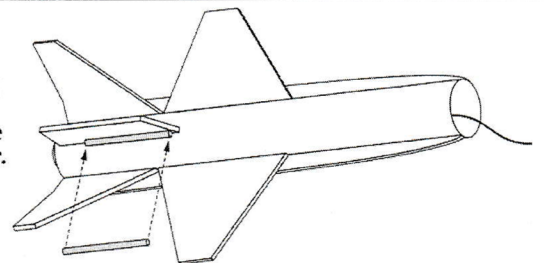


## STEP 15

**A.** Apply white glue to the Launch Lug and then position at the base of the Bottom Rudder.

**B.** Use your finger to smooth all joints at this time.

Apply Glue To Launch Lug and place it at the base of the bottom rudder. Smooth all joints with Finger.

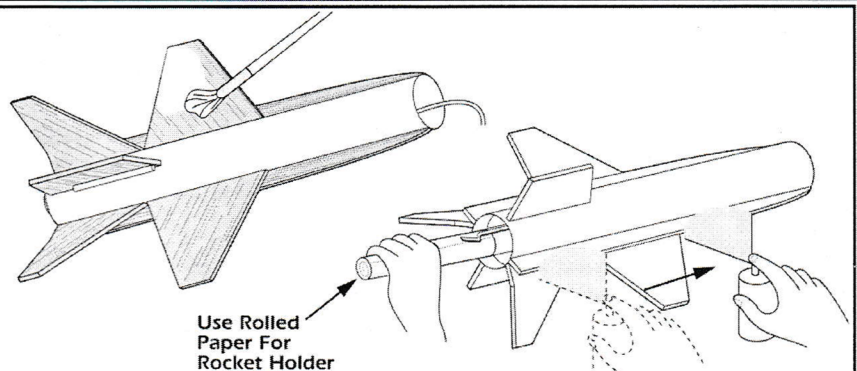


## STEP 16

**A.** After all the glue is completely dry apply a coat of sanding sealer to each fin. When sealer is dry, lightly sand each fin.

**B.** Repeat the sealing and sanding process until the surface of each fin is smooth.

**C.** Paint the entire rocket body and fins with spray primer. Follow instructions on the spray can for best results. Allow to dry and sand smooth.

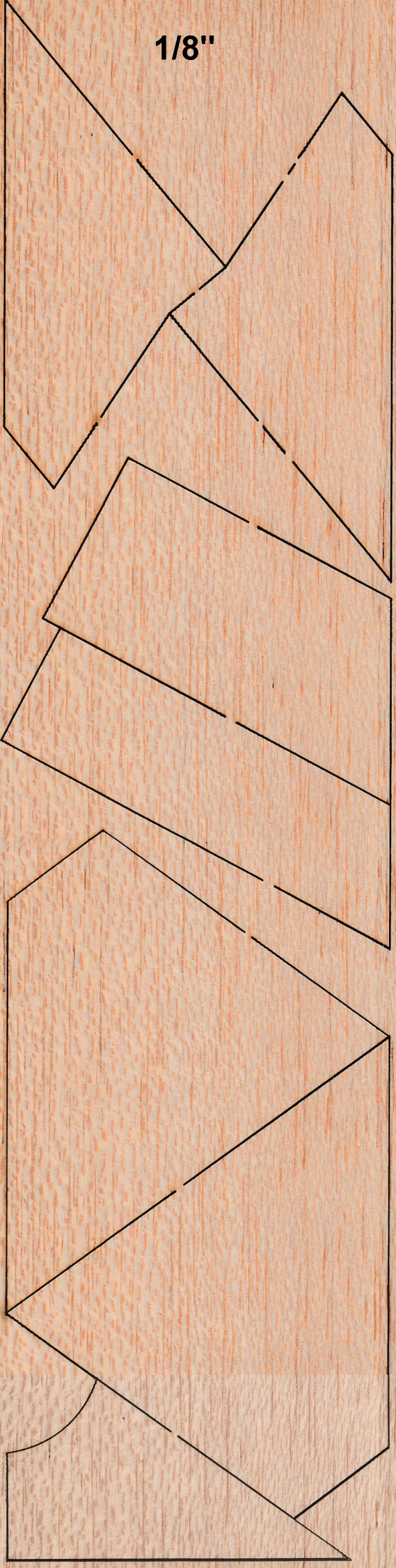




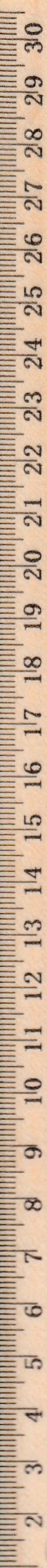


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10  
11

1/8"







FISKARS®

1 2 3 4 5 6 7 8 9 10 11



1/8"



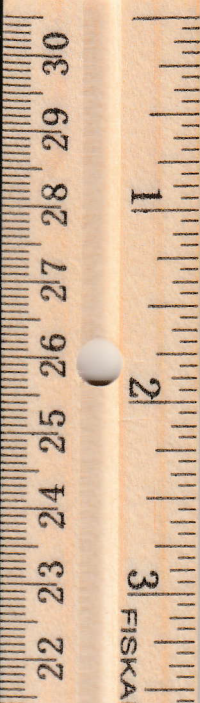
Quest  
x-15  
1/8 Balsa



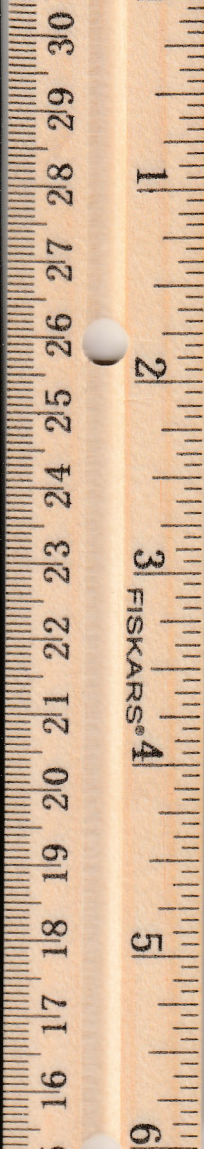


Quest  
x-15  
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3 FISKARS® 4

X-15

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NASA

NASA

U.S. AIR FORCE U.S. AIR FORCE

USAF USAF

WARNING

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66671

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LOX VENT  
H2O JET

L10 OXY  
VENT

APU EXHAUST

APU EXHAUST

FUEL VENT

FUEL JETTISON



NORTH AMERICAN AVIATION INC

RESCUE

FUEL FILL

HYD DRAIN

RESCUE





# X-15 FLYING NO ASSEMBLY



Developed by NASA  
with Quest Inc.



WARNING: TO PREVENT  
IT FROM BEING USED FOR  
UNSAFE PURPOSES

## PARTS LIST

A. 14000	Wing (1 each)
B. 40000	Wing Cap
C. 100000	Wing (1 each)
D. 10000	Wing (1 each)
E. 10000	Wing (1 each)
F. 10000	Wing (1 each)
G. 10000	Wing (1 each)
H. 10000	Wing (1 each)
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V. 10000	Wing (1 each)
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X. 10000	Wing (1 each)
Y. 10000	Wing (1 each)
Z. 10000	Wing (1 each)

## STEP 1

1. Place the yellow elastic band into the slot in the yellow plastic band. Slide 2 parts of the yellow elastic band into the slot in the yellow plastic band.
2. Insert the yellow elastic band into the slot in the yellow plastic band. Slide 2 parts of the yellow elastic band into the slot in the yellow plastic band. Slide 2 parts of the yellow elastic band into the slot in the yellow plastic band.



**QUEST**  
Shaping the future of model aviation

**Flying Model Rocket**  
Skill Level 2 Kit  
For a complete flying model rocket

**X-15 Rocket Plane**

- Flies up to 900 ft. (274 m)
- 14" dia. parachute recovery
- Laser-cut balsa fins



This kit requires assembly. White glue, sand, and a hobby knife are required. See the instructions for details on how to use the kit. The kit includes a launch pad and a parachute.

Item No. 2014

Length 18.25" (462 mm)  
Diameter 3.514" (89 mm)  
Weight 1.69 oz. (48 g)  
Motor H9-4 (first flight)  
EPA 135



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# X-15<sup>TM</sup> FLYING MODEL ASSEMBLY I



Product No. 2014  
Skill Level Two



Thin  
Hobby

Sand

White  
Alphalid  
or ELMB  
WHITE

Tape  
Scotch  
Tape, Sa

**BEFORE STARTING  
IT IS BEST TO  
READ AND F**

## PARTS LIST

- |         |   |
|---------|---|
| 14000   | Blue Thrust Ring                              |
| 49000   | Motor Clip                                    |
| 0303S   | Yellow Motor Mount Tube                       |
| 002     | Centering Rings (2)                           |
| 120     | 11 Inch White Body Tube                       |
| IC-35B2 | Plastic Nose Cone                             |
| 11      | 2 Inch Launch Lug                             |
| 4       | 21 Inch White Elastic Shock Cord              |
|         | 18 Inch Yellow Kevlar <sup>®</sup> Shock Cord |
|         | Pack of 3-26" Shroud Lines                    |
|         | Strip of 3 Gripper Tabs (2)                   |
|         | 14" Parachute                                 |
|         | Laser-cut Balsa Fin Set                       |
| 1030    | Decal Sheet                                   |
| 1010    | Instruction Sheet                             |
|         | Launch Procedures Sheet                       |

is a registered trademark of Dupont

the Yellow Motor Mount Tube up against  
provided above. Make 2 pencil marks  
1/2 inch from each end as shown.

the Motor Clip into the Slit in the  
for Mount Tube as shown. Use a piece  
hold the Motor Clip in place.