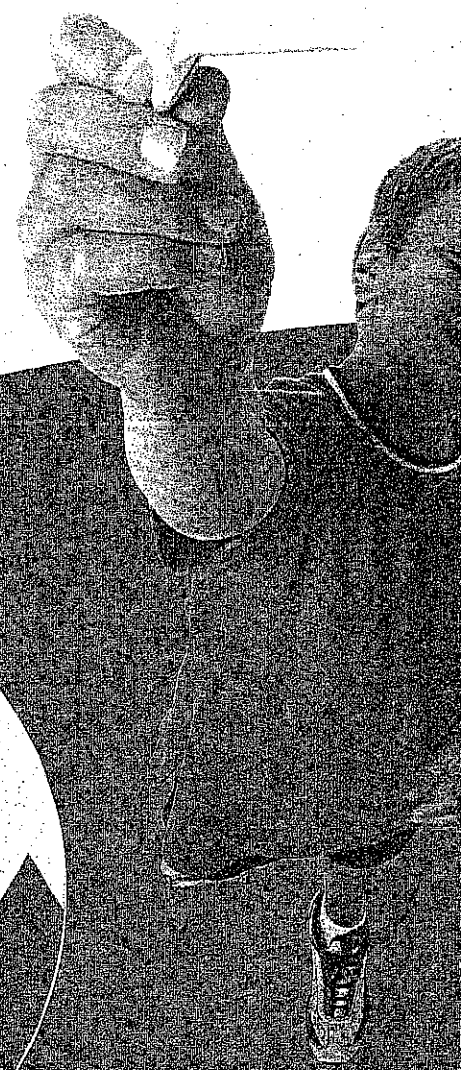


# Troubleshooting Paper flying through fiddling

Even a perfectly folded plane needs a bit of fiddling to fly its best. The good news is that careful tweaking can get almost any plane in the air, perfect or not.



I get a "rollercoaster" flight path

Lower elevators or add down elevators

SOLUTION

My plane barrel-rolls to the ground

1. Make sure you have a V-shaped dihedral
2. Check your plane for symmetry
3. Add or change ailerons

SOLUTION

My plane is dive-bombing

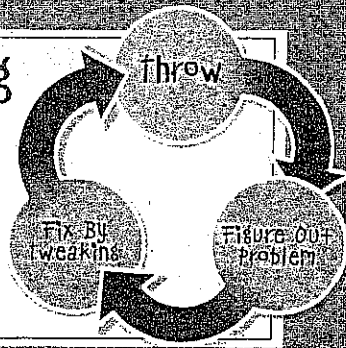
1. Ease up on your throw
2. Add up elevators

SOLUTION



# The trick to tweaking your plane correctly

is to identify, then fix, one problem at a time. For the first few throws of a newborn plane, go through a cycle of checking and fixing that looks something like this:



**PROBLEM**

My plane's flight is unstable

1. Make sure your wings have a V-shaped dihedral
2. Add vertical lines to your plane's wings (see page 17, *Spot Planes*)

**SOLUTION**

Make sure your wings have a V-shaped dihedral and vertical lines on page 17

**PROBLEM**

It always turns in the same direction

1. Make sure your plane is symmetrical and fix any differences
2. Raise the ailerons in the wing opposite the direction you want your plane to turn

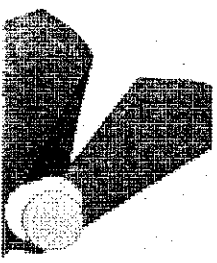
**SOLUTION**

**PROBLEM**

My plane rolls over and flies upside-down

1. Lift the wings to get a V-shaped dihedral

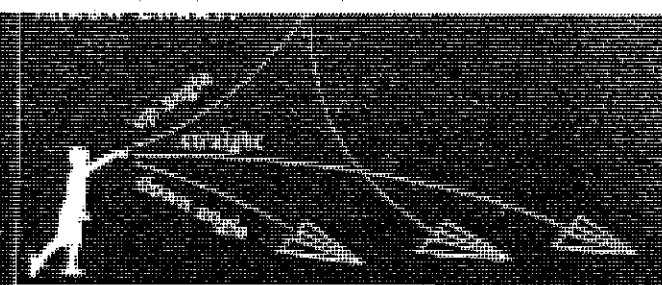
**SOLUTION**



कामुरा लॉक

FOLDING DIFFICULTY: **1**

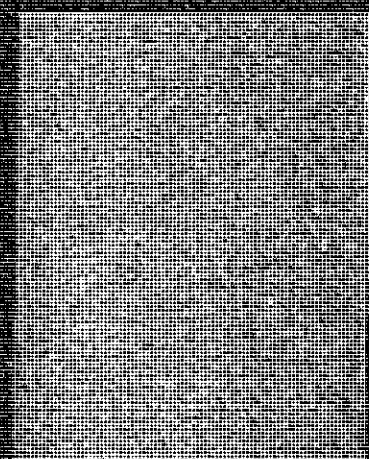
FLY ZONE: **Indoor**  **Outdoor** 



# कामुरा लॉक

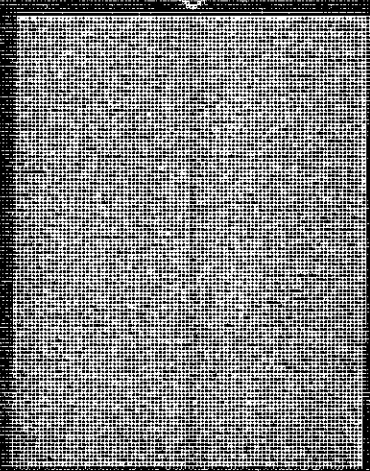
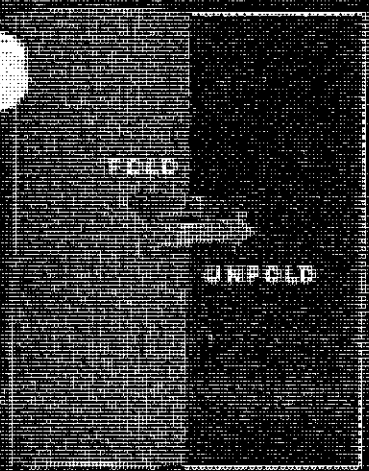
कामुरा लॉक is easy to fold and plenty of fun to fly. But the best part? Chances are, this will be the best-flying paper airplane you've ever made.

**1**



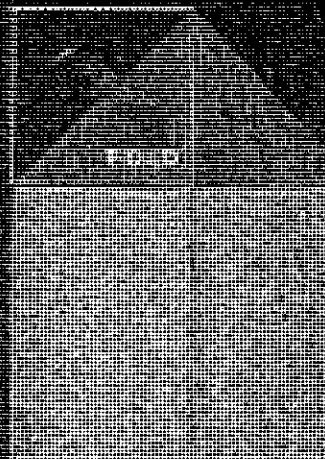
CENTER CREASE

end up  
the  
fold

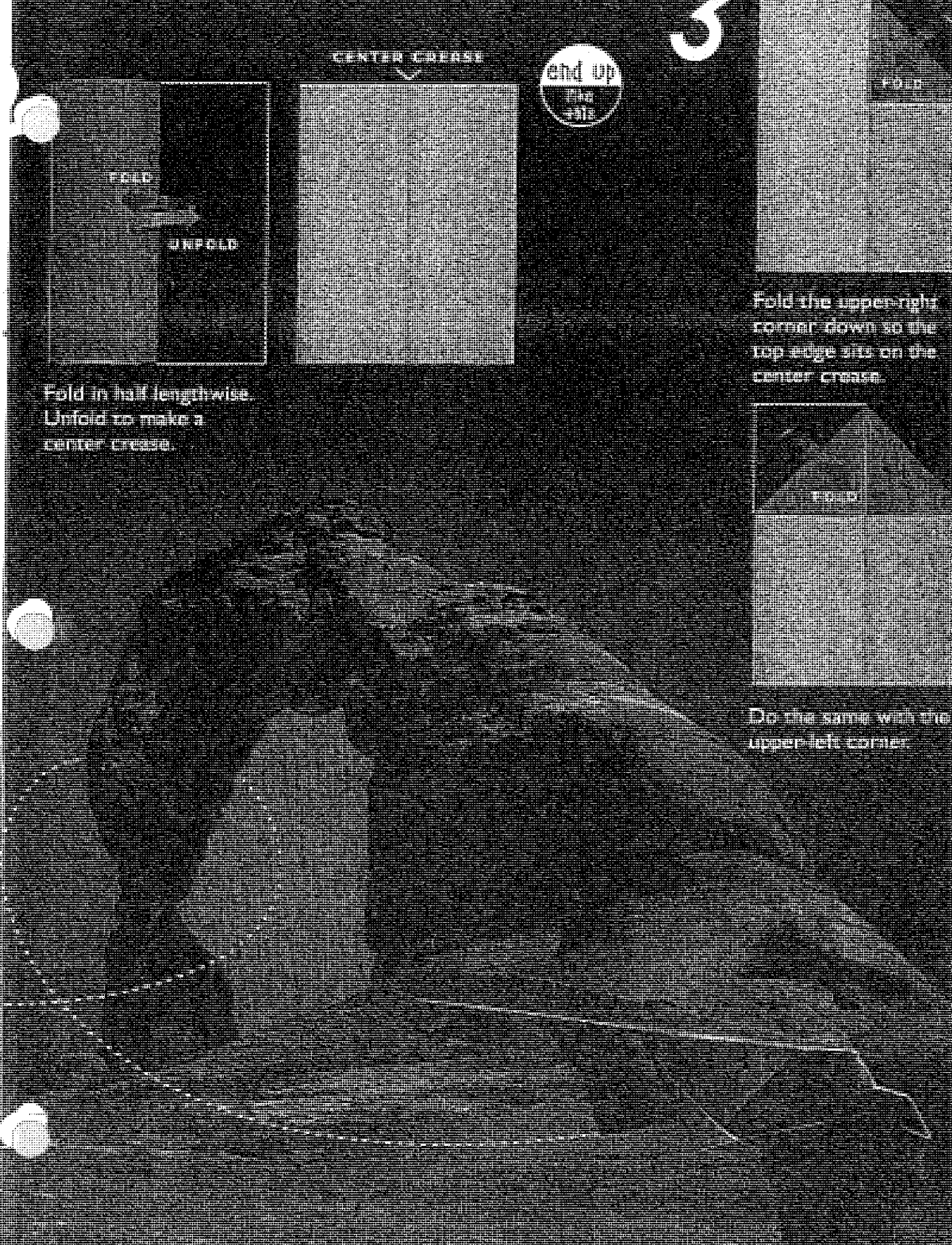


Fold in half lengthwise.  
Unfold to make a  
center crease.

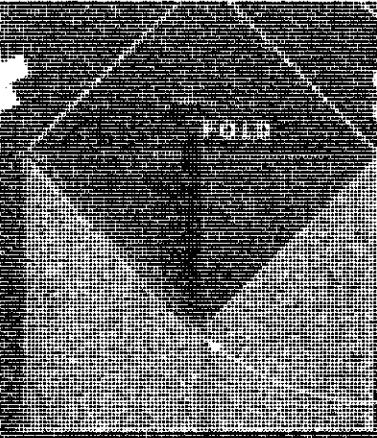
Fold the upper right  
corner down so the  
top edge sits on the  
center crease.



Do the same with the  
upper left corner.



4

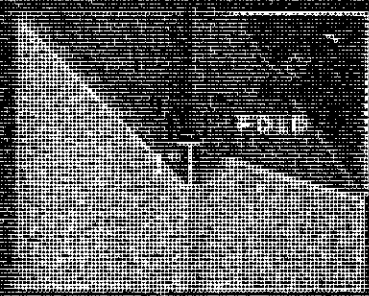


PUT THIS POINT...

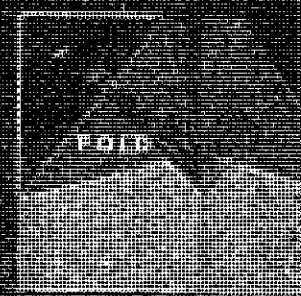
5

Fold the top point down, creating a right beneath the flap you just made.

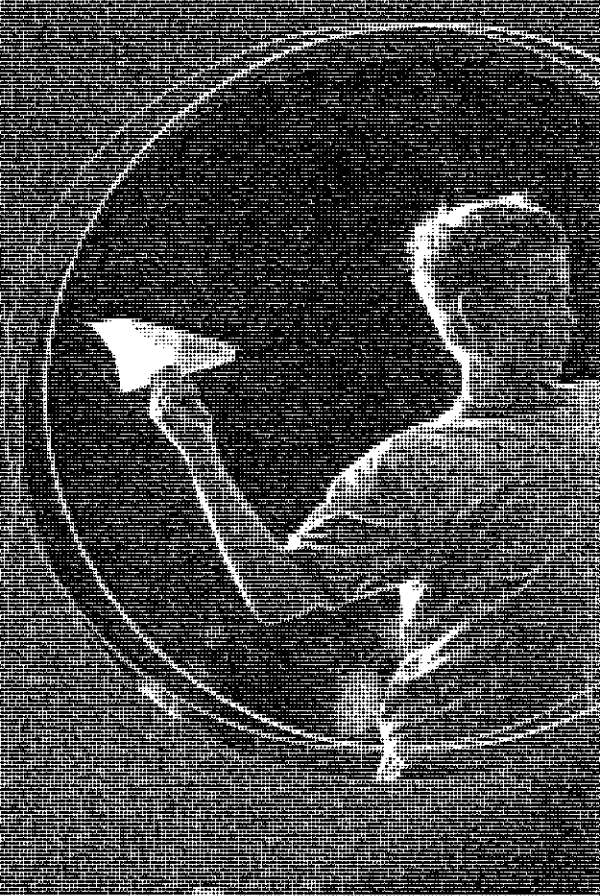
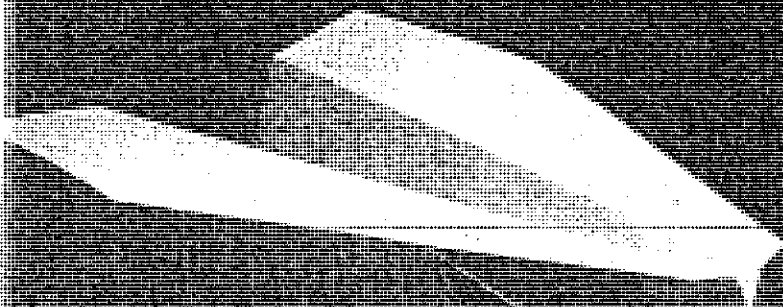
RIGHT ON THIS CREASE

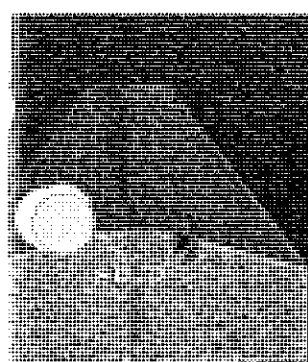


Put the upper-right corner on the center crease, about 1 inch (2.54 cm) above the point. Crease well.

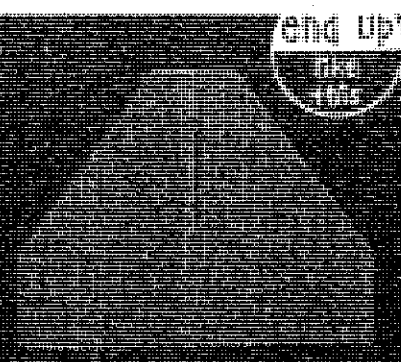


Do the same with the upper-left corner.

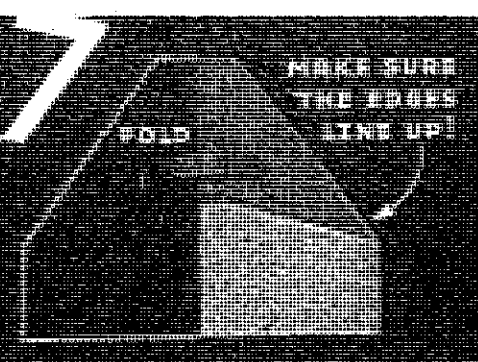




flip  
over



end up  
this  
side



MAKE SURE  
THE EDGES  
LINE UP!

Fold in half. Make sure the edges of the left side line up perfectly with the edges on the right.

the point up and so it's right on the crease.



end up  
this  
side

flip  
over



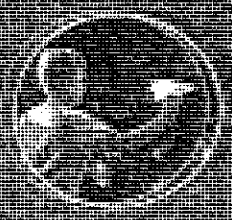
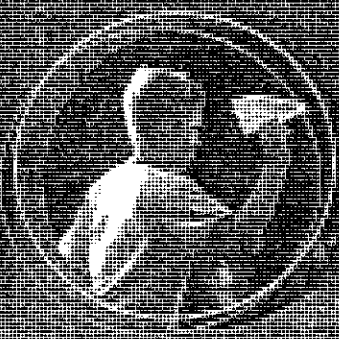
Fold the other wing so that it sits right on top of the first one.

the top flap so that the wings sit on the red line shown.

LINE UP THE EDGES WITH THE WING YOU JUST MADE

ALMOST FINISHED

Unfold the wings part way so that your plane looks like this from the back.



FLYING THE NAKAMURA LOCK

This classic paper plane flies best with a light, straight-ahead toss

The Professional

stunt

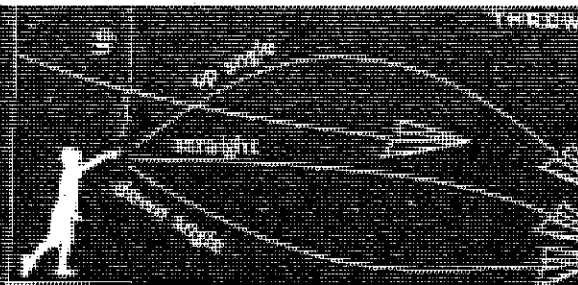
FOLDING DIFFICULTY:

2

FLY ZONE:

Indoor

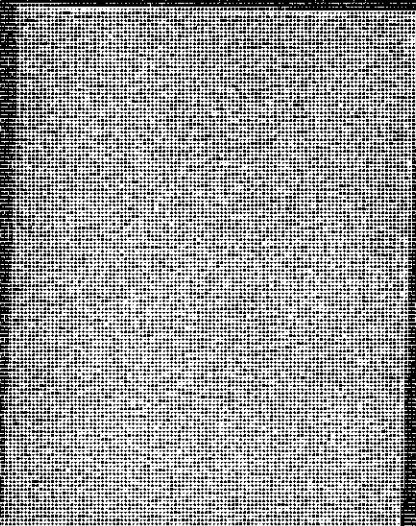
Outdoor



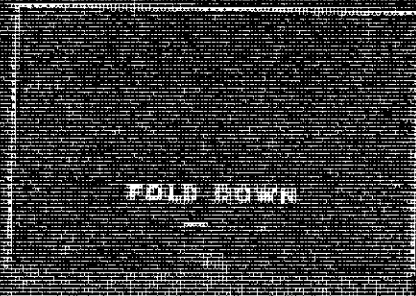
# PROFESSIONAL

THIS IS THE BEST ALL-AROUND PAPER AIRPLANE WE'VE EVER SEEN. IT'S EASY TO FOLD, DURABLE AND FLIES LIKE A PRO. WITH A LITTLE FUSSING, THE PROFESSIONAL WILL FLY LIKE A GLIDER, A DART, EVEN A STUNT PLANE. WHEN YOU NEED A PAPER PLANE ABSOLUTELY, NO-QUESTIONS-ASKED INDS COMPETITION -- YOU NEED THE PROFESSIONAL.

1

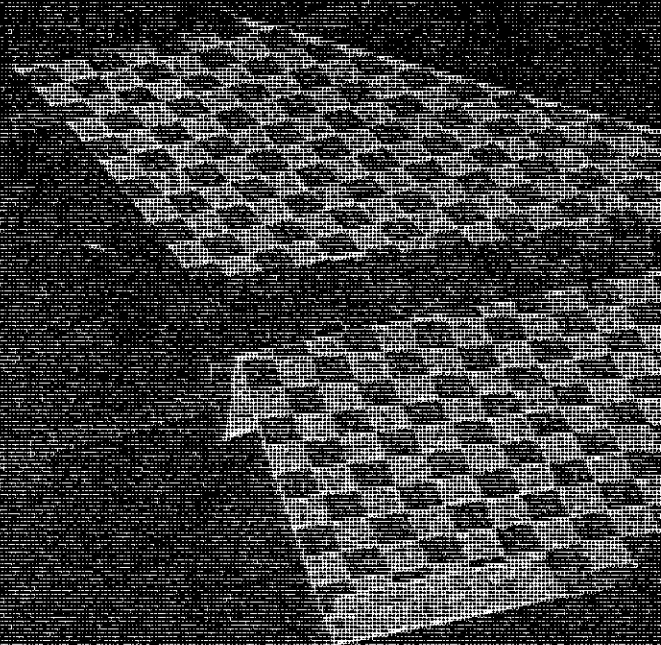


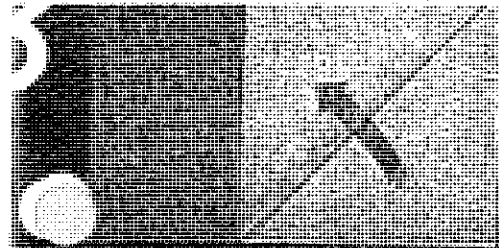
2



FOLD DOWN

Fold in half, top to bottom. Be exact.

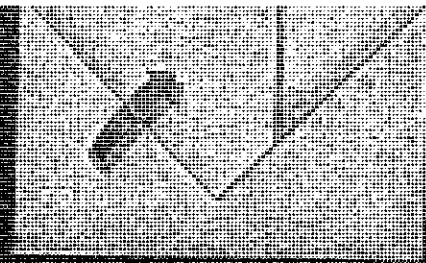




FOLD JUST THE TOP LAYER

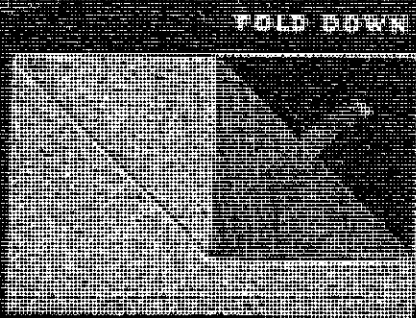
Fold the right edge of the top flap up so it sits on the crease you just made.

4



Make the same fold with the left edge. The top half of the paper should look like an upside-down triangle.

5



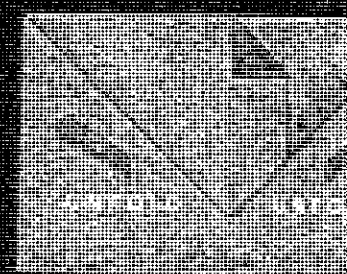
FOLD DOWN

Fold the upper-right corner down to the tip of the upside-down triangle.

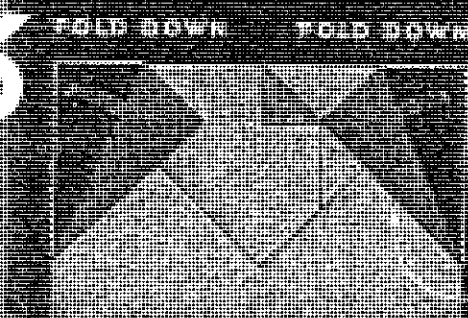


FOLD DOWN

Do the same with the upper-left corner.



Unfold the last two folds you made.



FOLD DOWN

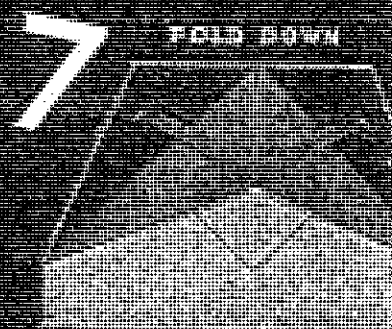
FOLD DOWN

Fold the right and left corners down to the creases you just unfolded.



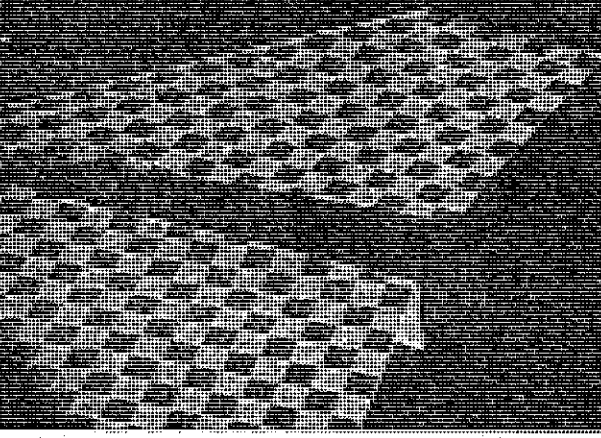
*This is tricky, follow the drawings carefully!*

BRING THE EDGES ALMOST, BUT NOT QUITE, TO THE CREASES



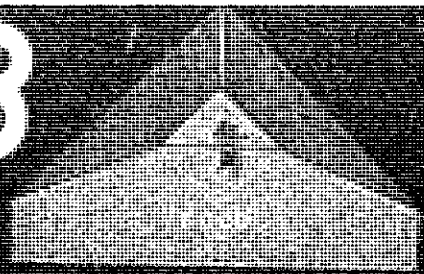
FOLD DOWN

Refold along the same creases





8



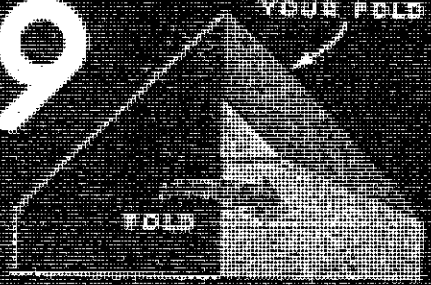
flip  
over



Fold the point in the middle up.

LINE UP ALL THE EDGES BEFORE YOU CREASE YOUR FOLD

9



Fold in half from left to right.



You'll need to put elevators in the professional's back wings. See page 9 to learn how.

10

FOLD THE WINGS ROUGHLY ALONG THIS LINE

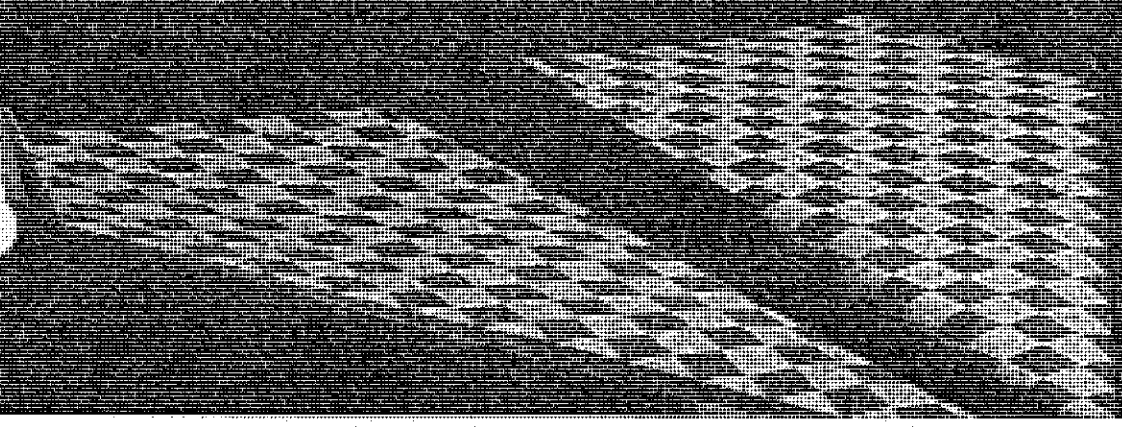
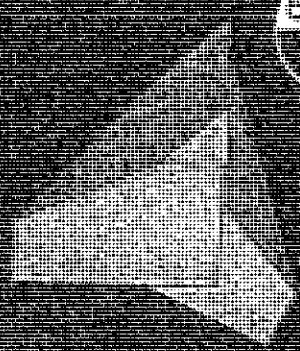


Fold the wing down shown.

11



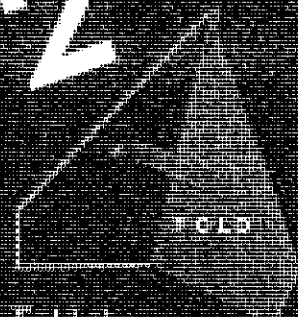
flip  
over



Good, solid straight-ahead throws are the Professional's fuel of choice. But increase the elevator on the back edge and aim for the sky and you'll get big, arcing loops and corkscrews. If you want a slower glide, flatten out the fins. For dart-like flights, flatten the elevators and make sure the fins stick straight up.

2

ALMOST FINISHED



Fold the other wing right on top of the first. Line up all the edges carefully.

Unfold the wings so your plane looks like this from the back.

Make fins by folding a pinny-width of paper up on each side.

## CHASE RACE

For this game, you'll need a good aim, a steady-flying plane and a couple ready-to-run legs. Have each racer make a plane that flies straight and far.

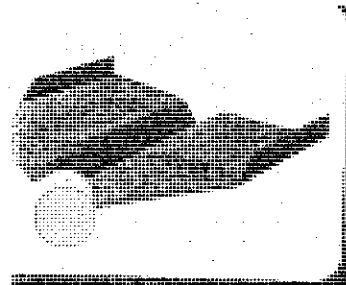
Then, pick a starting line and a finish line at least a meter (yard's length) apart. Get everyone to line up on the starting line, planes in hand. When somebody yells "go," each racer throws his plane as far as he can toward the finish line, then runs after it.

The only two rules are:

1. No running with your plane.
2. Both you and your plane have to cross the finish line to win.

So there you have, your own paper airplane. Now it's time to test it out. You'll really need a lot of paper airplanes to play with.

game 2



FLIPSTUNTS

TYPE: **stunt**

LEARNING DIFFICULTY:

**2**

KEY TECH:

Indoor

Outdoor

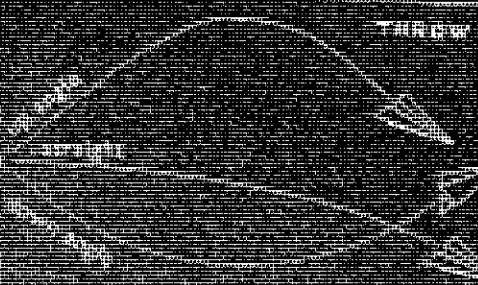
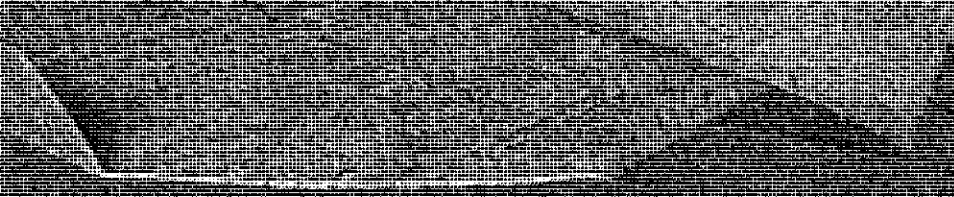


TABLE 13

# SWISS CHEESE

The ultimate stunt plane! It's hard to throw badly, harder to fold wrong, and almost impossible to get a flight out of it. If you only remember how to make one plane in this book, make this it!

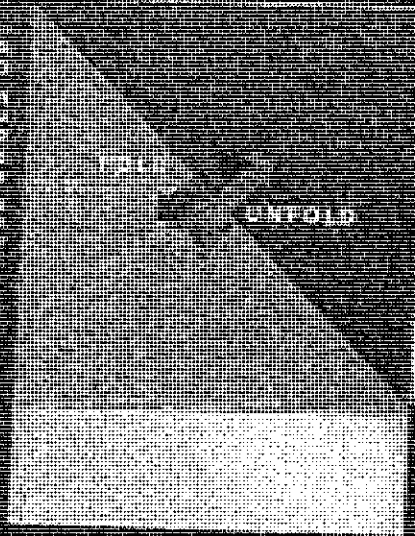


Part 1

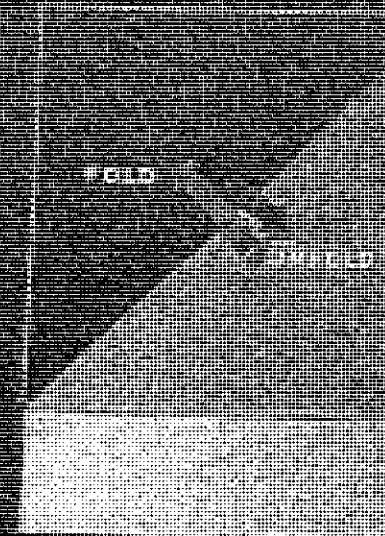
Pick up this corner and put it near the **X**.

**2**

STEP-BY-STEP

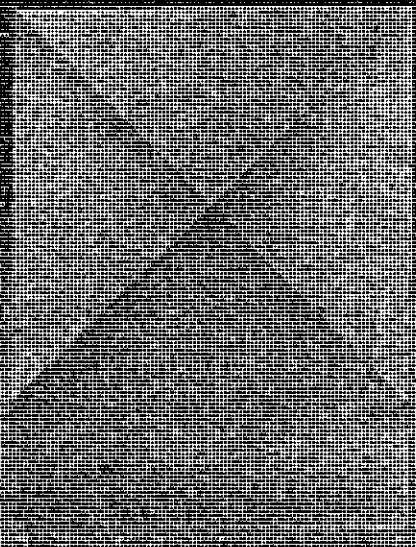


Make a perfect diagonal crease. Then unfold it.



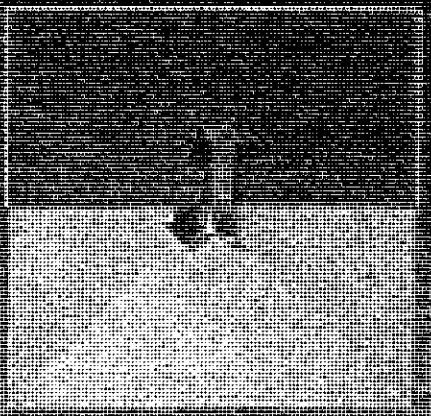
Do the same thing with the other corner. Fold

3  
flip  
over



You should now have a big  
crucial X on your paper.

4

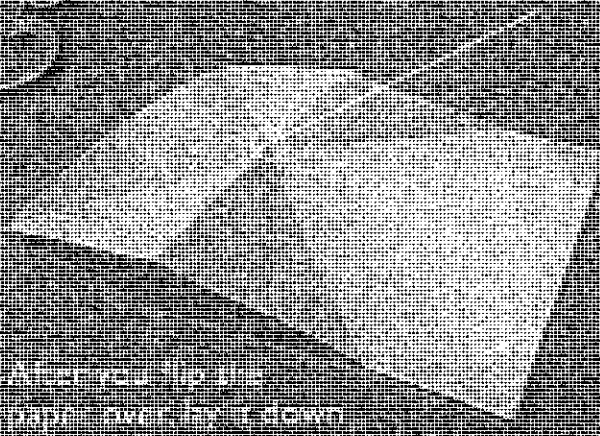


end up  
like  
this

Put the top of your paper  
down, so that the corners line  
up with the bottom  
of the crucial X. Unfold.

Now you'll see the sides will pop up

flip  
over

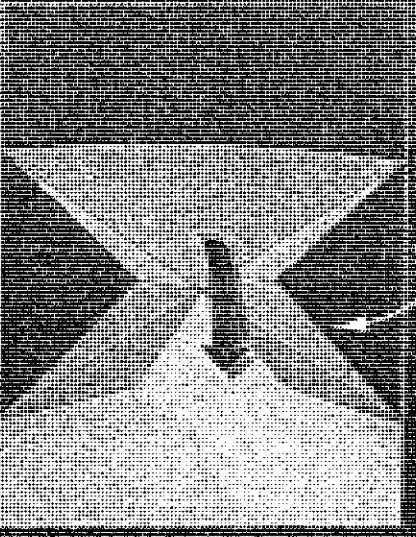


After you've  
done that, pull down  
on the top.



Then press the  
middle of the  
crucial X up  
the sides "turn" up

6



BRING THE SIDES  
FORWARD AND TOGETHER



end up  
like  
this

Pull the top edge of the paper downward. As you do, the sides of the

good  
poop  
good

Spy Plane

FOLDING DIFFICULTY: 1

indoor

FLY ZONE:

outdoor



# Spy Plane

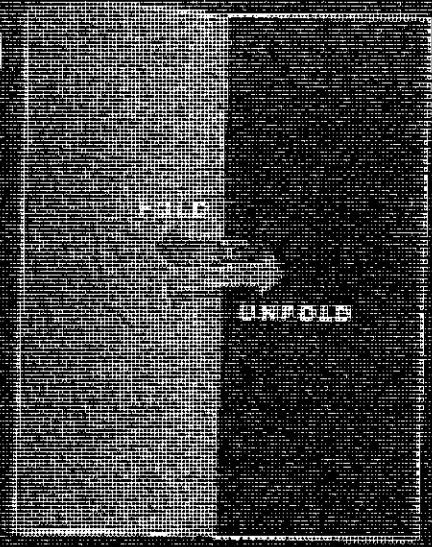
The Spy Plane  
flies higher and  
longer than most  
planes in this book.

If you've got a big,  
open space and a healthy  
throwing arm, this is  
your plane.

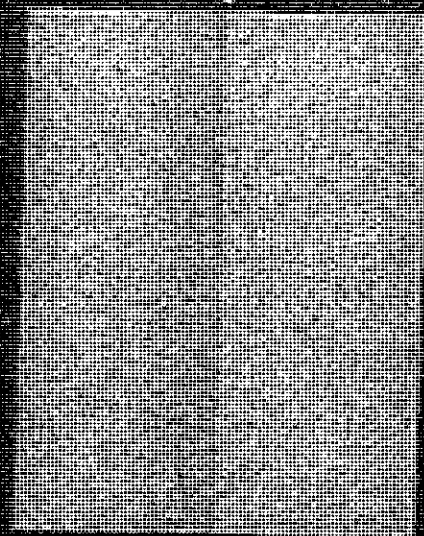
1



2



Fold it in half lengthwise. Unfold to make a center crease.



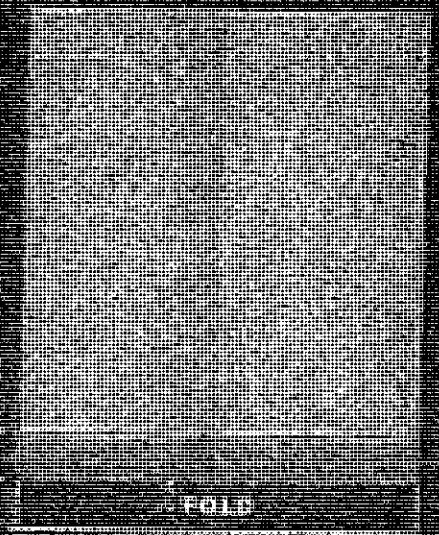
end up  
1 1/2  
inches

this is  
an inch >  
(2.54 cm)



3

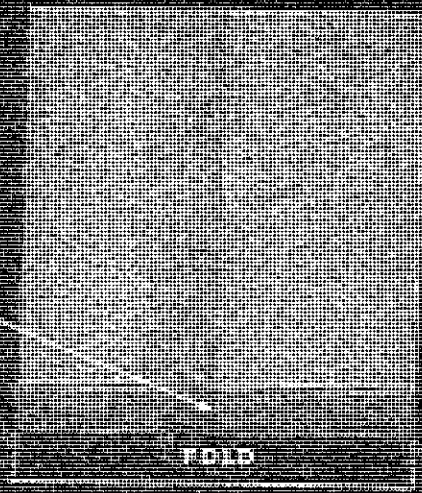
TIP  
good folding =  
good flying!



Then, fold the bottom inch of the page up, putting the center crease right on top of itself.

4

PUT THIS CREASE EXACTLY ON THE ONE UNDERNEATH IT. DO THIS FOR EACH FOLD.



7 folds  
total

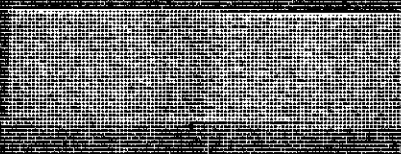


end up  
1 1/2  
inches

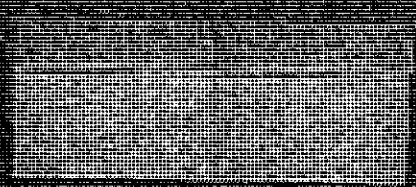
Make the same fold six more times.

...until you get this.

5



rotate



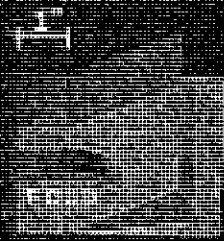
flip  
over



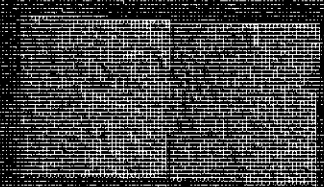
6



7



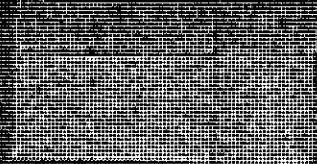
Fold the top flap  
back along the red  
line as shown.



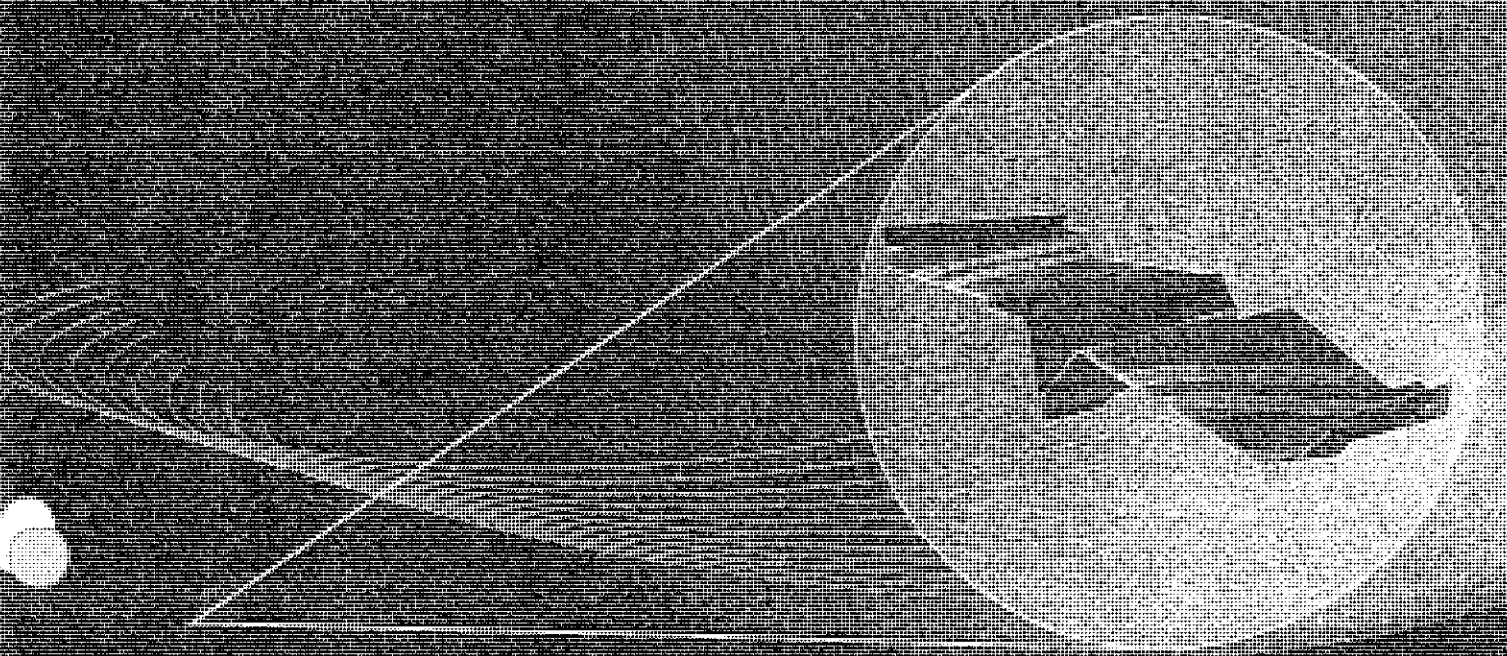
match the edges and press hard!

8

flip  
over



Fold the bottom  
flap up to  
make the  
wing and  
press it up  
with  
the wing underneath.



ALMOST  
FINISHED

Partially unfold so that  
your plane looks like this  
from the back.

Then put thumb-width fins  
in each wing. Fold them  
parallel to the body.

### FLYING THE SPY PLANE

Throw the Spy Plane straight up and as hard as you  
can. When it peaks out, its nose will flop over  
and the plane will glide to the ground. The higher  
you get the Spy Plane before it starts gliding,  
the longer it will stay in the air.

