

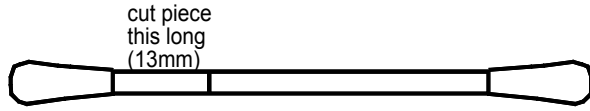
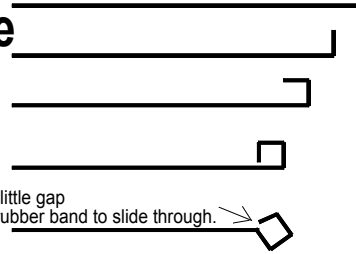
# PATTERNS FOR DRAGONFLY HELICOPTER

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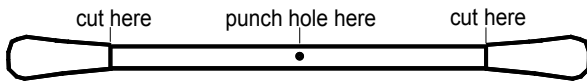
No scaling when printing  
Do not "fit to page"

Detailed instructions at [sciencetoymaker.org](http://sciencetoymaker.org)

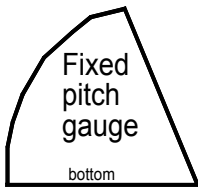
## Bend the Hook



## Shaft Bearing for fixed pitch version



## Propeller Strut Pattern for fixed pitch version



tape to bottom jaw of needle nose pliers

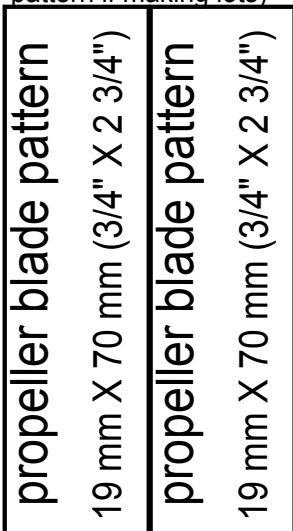
## fixed pitch angle

Convex (outside of bottle) is up!  
Concave (inside of bottle) is down!

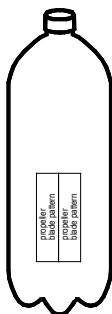
Fuselage (body) Length  
140 mm (5 1/2 inches)

## Propeller Pattern

(use the other prop pattern if making lots)



propeller patterns go on 2 liter bottle the long way



## MEASURE: Did it print to scale?

