



Solar wind mill C-6142

Check all parts before beginning assembly

Tools required to mount the solar wind mill

1. Punch
2. Lime
3. Sandpaper 120 gr.
4. Block sanding
5. Point star Screwdriver
6. Flat pliers
7. Vise
8. White Wood glue or glue gun
9. Welder and tin
10. Pliers for cutting sheet metal or shear

Materials included in the kit

Nº	Quantity	Description	Aplication
1	1	Axis 3x125mm	
2	4	Self-threading screws 2,9x6,5mm	(Fixing motor support)
3	2	Self-threading screws 2,9x9,5mm	(Fixing motor)
4	1	Rubber strap	(Drive blades)
5	1	Ø30x10mm wooden wheel - 2.8 mm hole	(Wind wheel)
6	1	Ribbed bar 65x10x10mm	(Driving shaft)
7	1	Ribbon 250x5x5mm	(Wind wheel)
8	6	Wooden slat 122,5x5x5mm	(Wind wheel)
9	4	Double-sided adhesive pads	
10	1	Perforated plate 75x20mm - 14x3 hole	(Motor support)
11	1	Perforated plate 60x53mm - 11x6 hole	(Motor support angle)
12	1	Special Motor	
13	1	Plywood 100x120x8mm	(Wood base)
14	2	Plywood 80x50x4mm	(Cover)
15	2	Plywood 150x65x4mm	(Front wall windmill)

Nº	Quantity	Description	Application
16	2	Plywood 150x57x4mm	(Wall side mill)
17	1	Plywood 65x65x4mm	(Flat roof)
18	1	Plywood 60x40x8mm	(Motor ledge)
19	2	Bushings 15mm - 2.9mm hole	
20	1	Photovoltaic solar cell 1V-200mA	
21	2	Mini wheel Ø8,5mm tab - 1.9mm hole	
22	2	Mini wheel Ø8,5mm tab - 2.9mm hole	

Mounting

- 1 - When you start to assemble the mill, it is advisable to do so on a board or cardboard.
- 2 - For gluing the pieces they can do, with white wood glue or a glue gun.
- 3 - The twine and fabric to the blade mounting for the mill, **ARE NOT INCLUDED.**

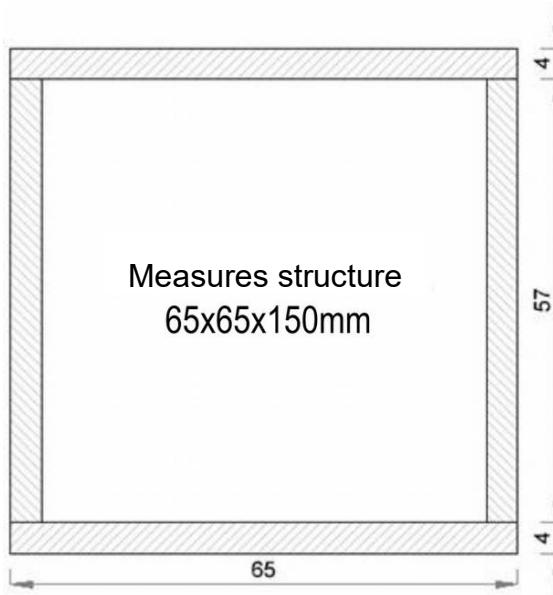
Assembly of the structure

A) we began assembling the mill structure.

The front walls that are 150 x 65 x 4 mm, and side walls that are 150 x 57 x 4 mm.

The narrower walls inside Iran and so a square of 65 x 65 mm was formed.

They need to cast the walls with white wood glue or silicone, and when mounted square with the walls, we recommend to place around the structure, a rubber band, tape, string, etc. so that it is compact structure.

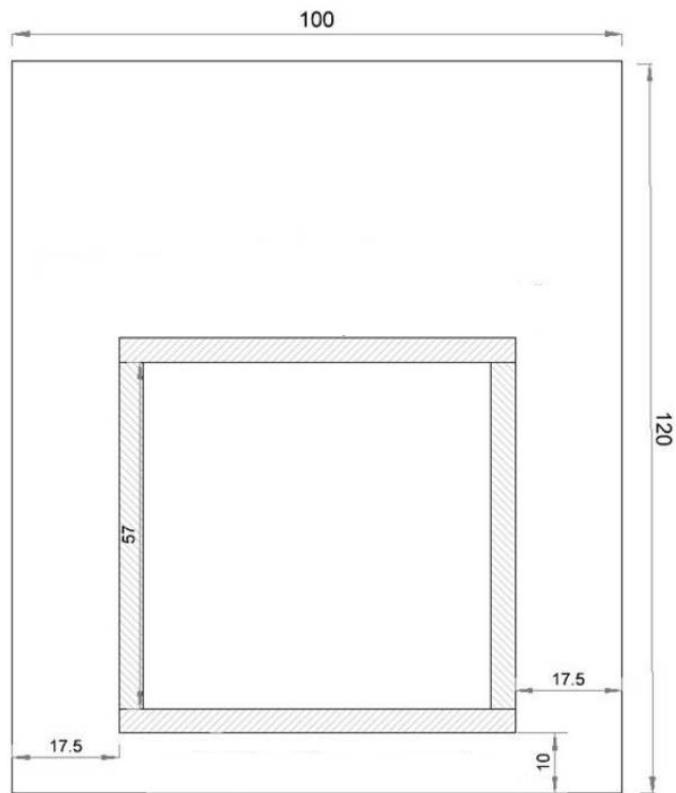


B) Glue the ceiling 65x65x4mm.

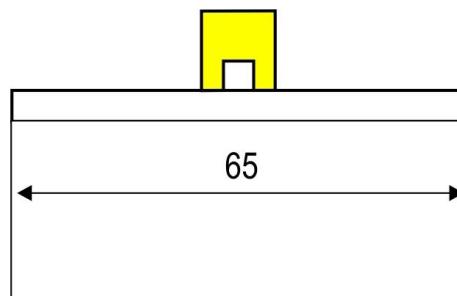


C) where they have established that the structure of the dry mill, have to polish it well.

D) The structure of the mill will glue on the wooden base 100 x 120 x 8 mm. You can see the steps in the following scheme.

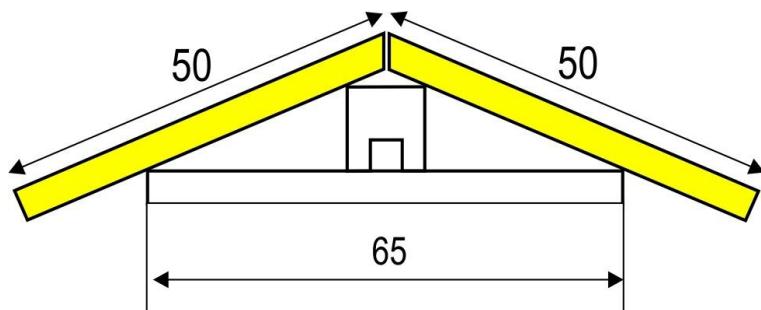


E) Will place the grooved strip centered on the deck and it will stick.



F) We prepare the two pieces of 80 x 50 x 50 mm, for mounting the roof.

First we polish the good, with a slant on one side, so they can fit one another, forming the roof. See diagram.

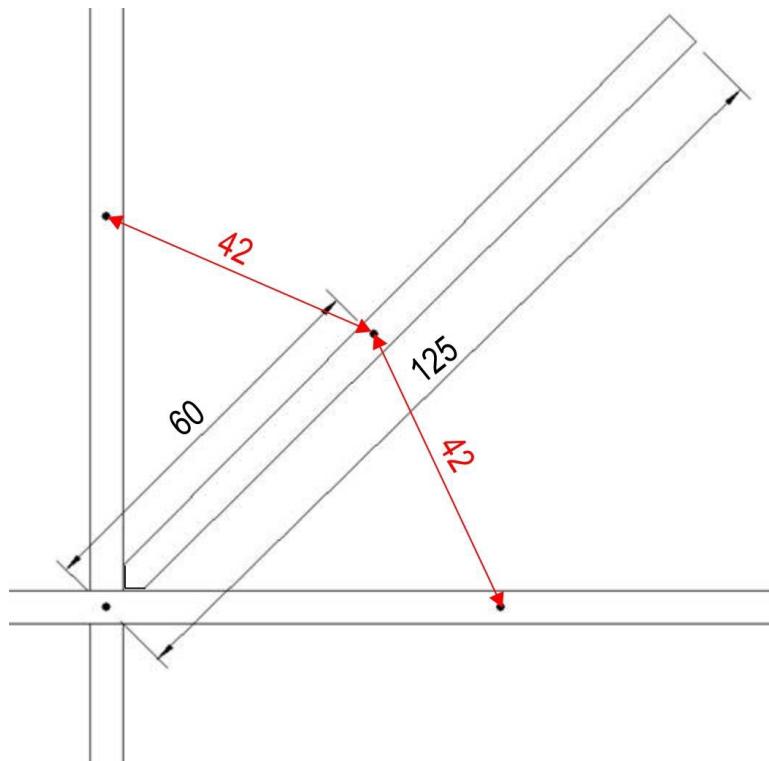


G) when there is proven that they are well fitted, we will glue to the corrugated strip, which is already stuck.

Construction of the windmill blades

NOTE: Remember that the string and fabric blades, NOT INCLUDED

A) Take the wood strip 250 mm mark the center bar, and can glue the two small strips to form a cross. see diagram



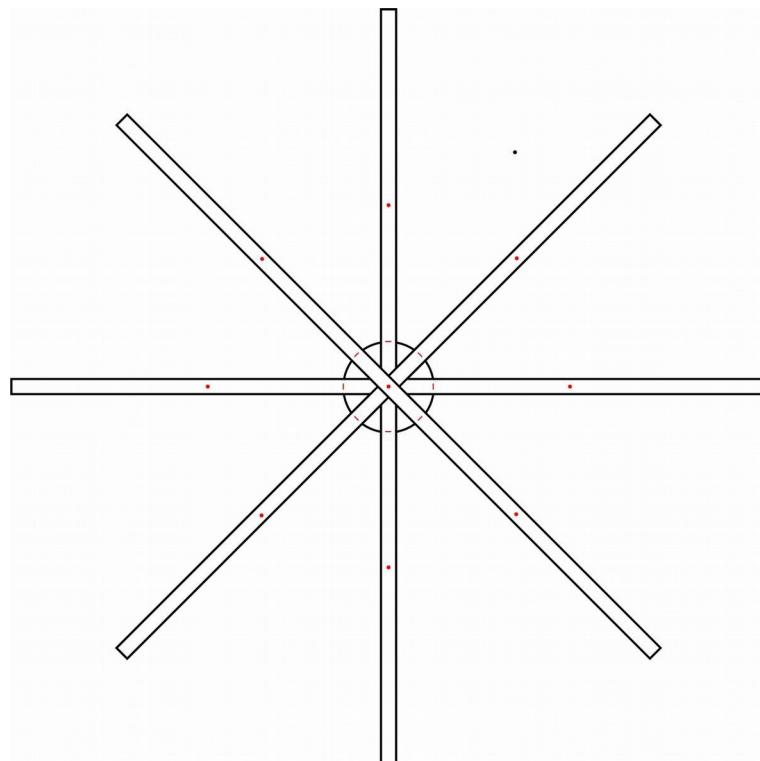
B) The remaining 4 strips must file one end of the V-shaped bar, to fit the cross, already assembled.

NOTE: It is advisable to mark the distances on the slats, from the inside outward. Putting a signal to 60mm from the center, the distances between each of these signals will be 42 mm. This will make it easy to see which are equidistant from each other.

C) We recommend that you have to let it dry well, the slats in the form of wind wheel.

D) They have to make a mark in each slat, 15mm from the center, ie, a circumference of 30mm diameter.

E) wooden wheel must be glued 30mm behind the slats shaped wind wheel,. The focus with the brands we have done, so we can prevent it from being offset. See diagram.



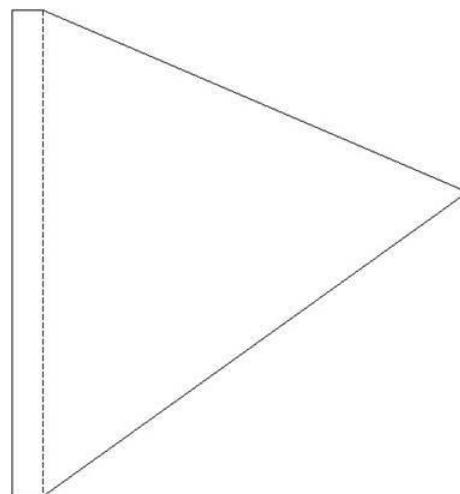
F) Once the wheel-shaped strips are dry, place pressure on the shaft (on the side of the big tab), the mini wheel Ø8,5 tab with 2.9mm hole. The 19mm insert.

G) will place the same axis, the wooden disc on the same side we have introduced the mini wheel flange.

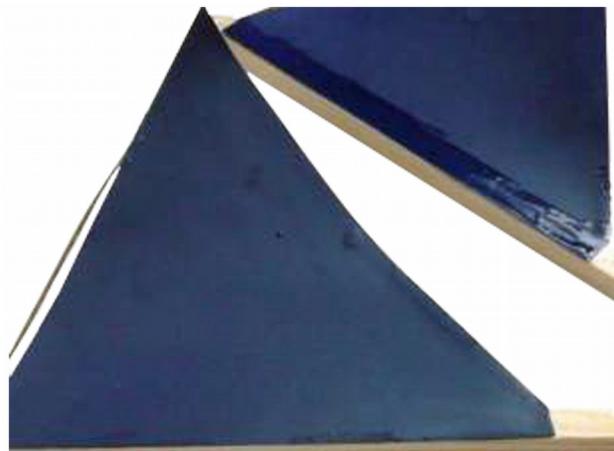
H) Place the shaft in the groove ceiling of the structure. Verify that you can turn freely without rubbing against the ceiling.

Once all right, takes the wind millstone. Mount the fabric.

I) This is the template typical Greek fabric mills. It is drawn to the same scale mill you are building. The you can trace on a canvas, or you can print directly on a color cardboard 160 gr, or you can paste a thin cloth over a card.



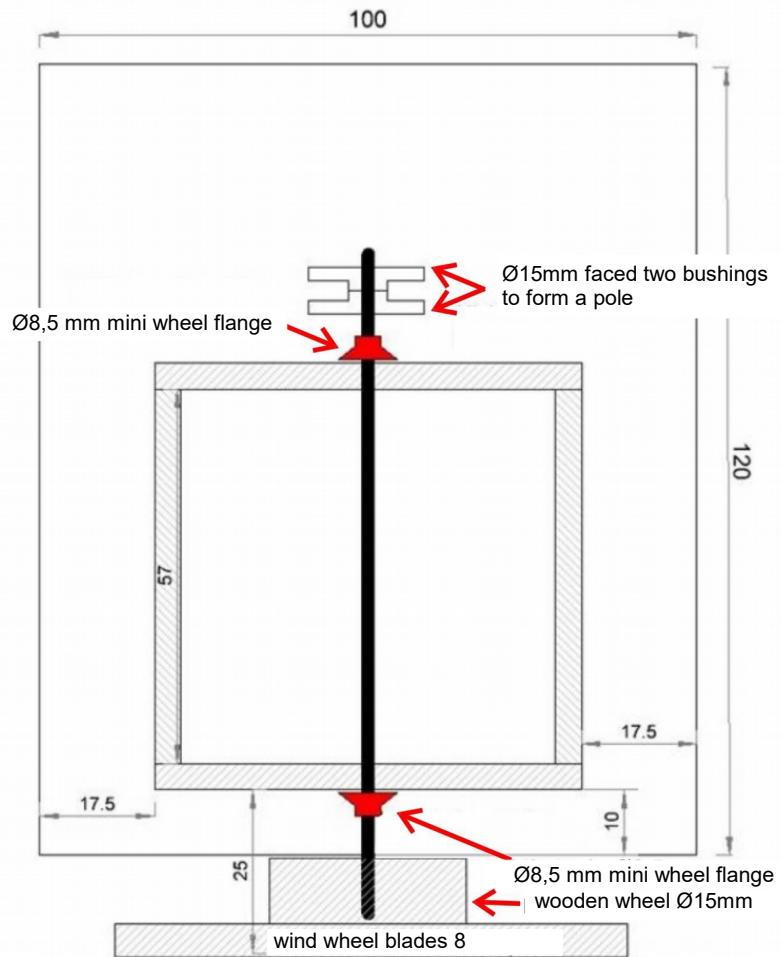
Y) When you cut 8 fabrics, you must bend a little dotted line and glue on the back of each of the slats. Bend back slightly and let dry. You have to mount them one by one, and let them dry well



K) You can use a very thin string or thick wire to join the ends of the rope. A dab of glue on the end of each slat keep the cord in place. Let dry.

L) Once the wind wheel is complete and dry, we place it on the mill structure.

M) Insert the axle and the rear of the mill structure, another mini wheel Ø8,5 tab with 2.9mm hole, with the widest part touching the wall. Leave about one millimeter margin to have a slight clearance. see diagram



N) Place two bushings Ø15mm, so that they are faced by the narrowest part. Its mission is to act as engine pulley to the axis of the blades.



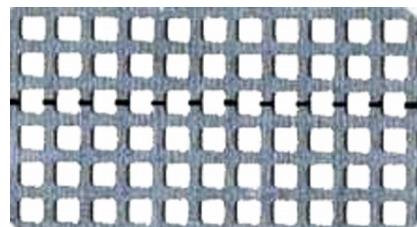
Solar drive: Motor and photovoltaic solar cell

A) The perforated plates are cut with scissors for cutting sheet metal or shear.

NOTE: Remember that before starting the engine mount and once cut all the pieces, While all have to polish the edges, so that they can not be cut .

They have to cut all four sides until the iron as you can see in the picture. also will cut the four corners diagonally. The puliremos and if necessary we will put it straight.

B) We start at the plate 11x6 holes. We mark the center of the third row of holes (see picture).



C) We will set the plate in the vise, by the marked line. The fine will double to 90 squared. As you can see in the picture.



D) This metal angle must be screwed to the wood 60 x 40 x 8mm (motor bracket) with two screws 2.9 x 6.5mm. Do not set the angle directly on the edge, move about 1 mm inward, so you can move if necessary, when mounted on the mill.



E) Now we prepare the perforated plate 14x3 holes. The leave cut and polished.

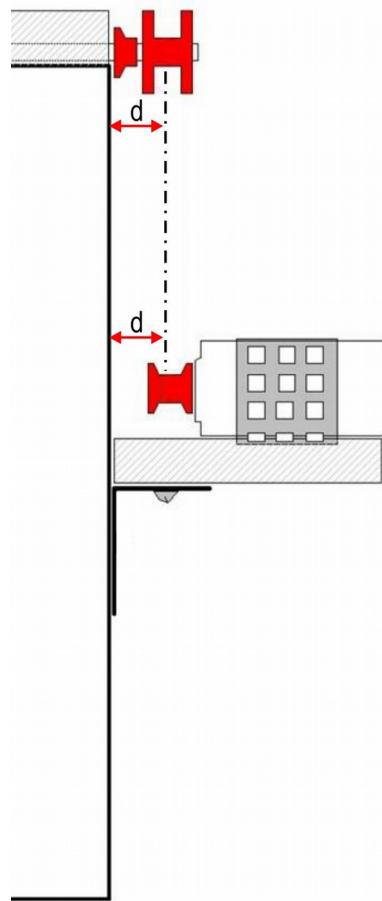
F) will place focus on the engine will fold and squeezing the U-shaped
Then the 90 will double by the middle of the second row of holes and repeat the same for the other side.
We have made the motor bracket. View image:



G) Move to the motor shaft 2 mini flanged wheels 8.5mm and 1.9mm hole, to form a pulley.
View image.



H) propose the engine on the shelf, and position it so that the distance from the motor pulley to the wall is the same as the pulley of the blades to the wall. Mark the position of the motor on the wooden support 60 x 40 x 8 mm.



- I) With the folded perforated plate will set the engine wooden shelf. Use self-threading screws 2.9 x 9.5 mm.

Assembly of the individual components

NOTE: Do not set yet motor socket structure mill

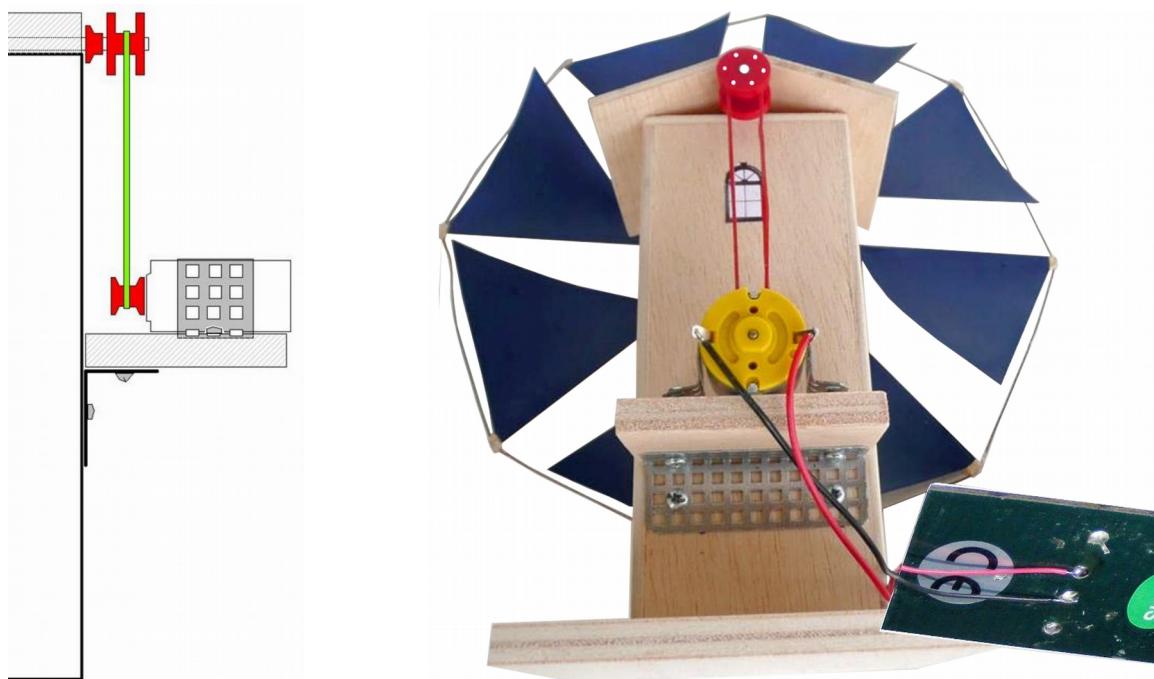
A) will connect the solar cell to the motor. red wire to the positive pole of the motor and black cable to the negative. Then the rubber strap that goes from the motor pulley to pulley shaft mill stands.

B) As we endure with one hand engine rack position that seems correct (the belt tension must be loose), put the cell under direct sunlight or under strong light bulb. If the sun shines sufficiently, the motor will start to turn. We will be trying to give more or less tension to the belt, to find the right for the blades rotate easily, that is, the voltage is low but enough point.

Mark with a pencil cross line that will indicate the optimal position of the motor bracket.

C) We will take the cell from direct sunlight and will post to the wall of the mill in the squad that holds the engine, with two screws 2.9 x 6.5mm.

D) If you find it necessary to make adjustments (tighten or slacken the belt), we can iron out a little hole through which the screw (up or down). See images .



E) It only remains to fix the photovoltaic solar cell with 4 double-sided adhesive pads. Depending on where we are going to place the windmill, we will put the cell on the floor or hanging from the ceiling. Remember you have to try it before you paste the cell permanently.

You will need shaping, and polishing the wood pieces to form the casing, blades and other accessories of the mill. mechanical transmission by pulleys and belt is made. The illumination of the photovoltaic cell generates a flow of electrical current that powers the motor.

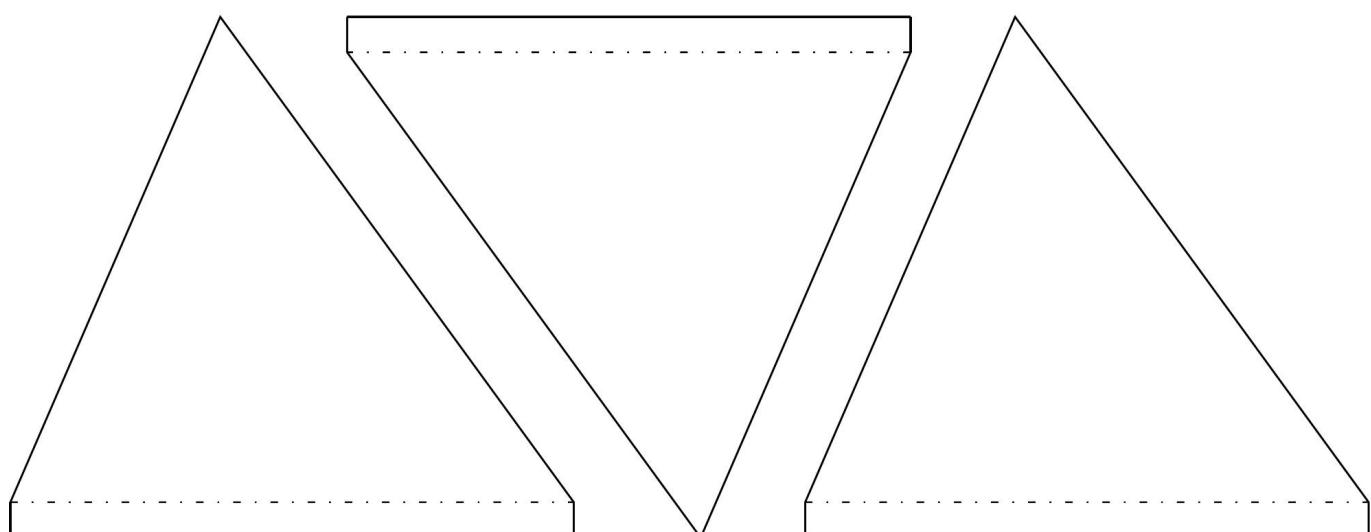
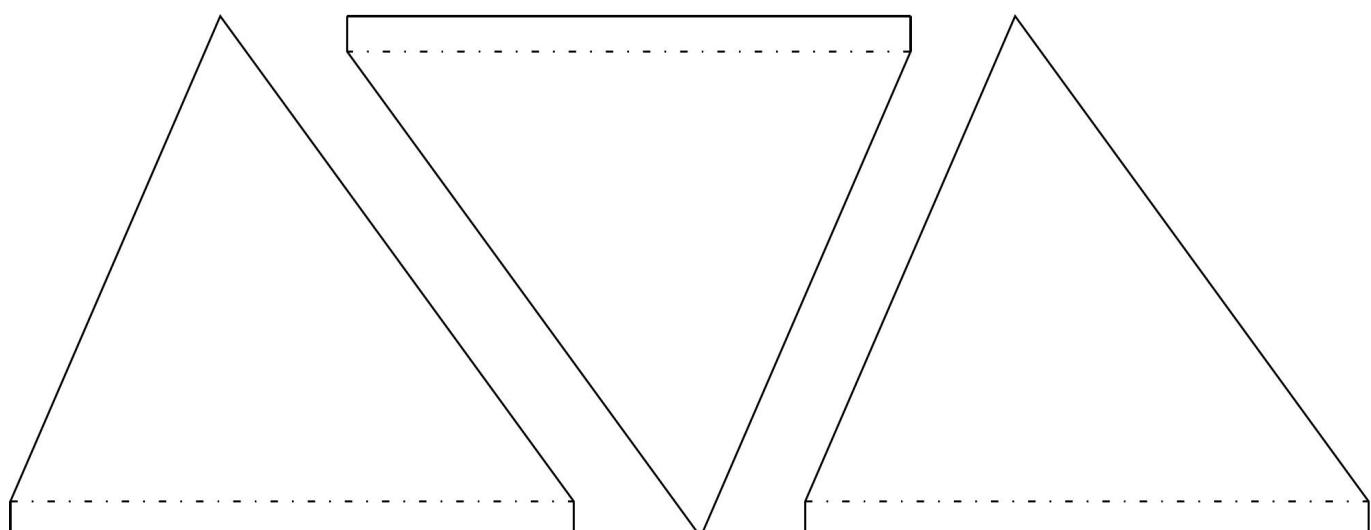
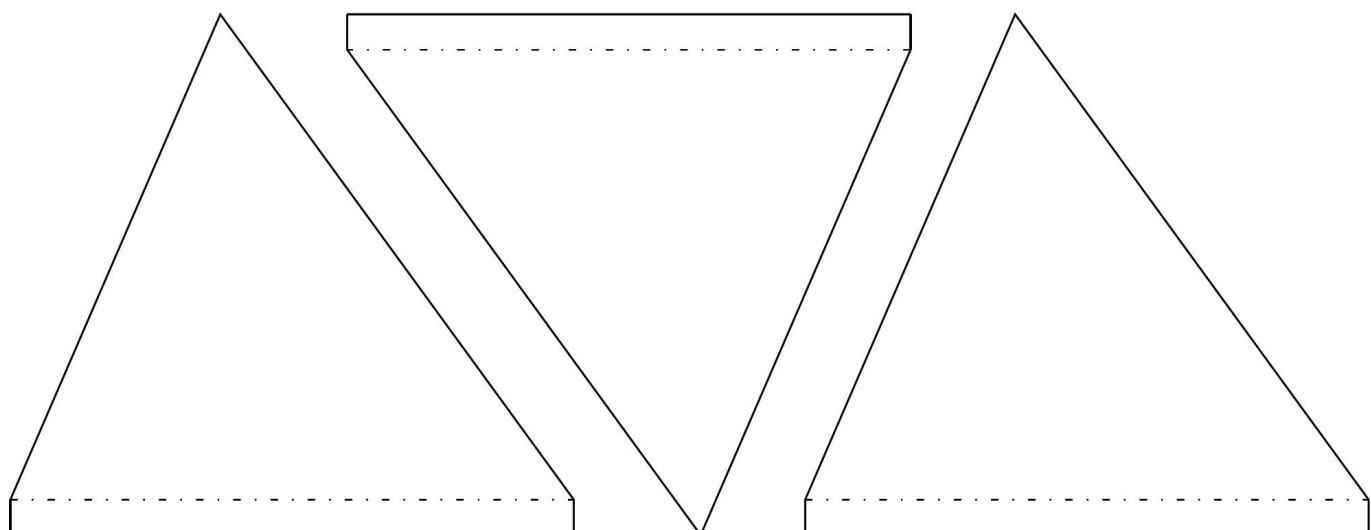
Thanks to the system of pulleys, Greek windmill blades will rotate driven by the sun.



NOTE: This kit is recommended for children over 12 years, always accompanied by an adult.



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8 fabrics for the mill scale

Notas: