



# ROTATING GARDEN

JAMIE & JIMMY'S FRIDAY NIGHT FEAST SERIES 6

## Overview

A novel solution to saving space in small back gardens, this is a classic upright wooden planter which maximises growing space for all your veggies, small fruits, herbs and flowers using a pyramid structure. With a rotating mechanism as the base, that means you can turn this planter so all four sides will get sunlight, even if your garden only gets a bit of sunlight a day. With an electric motor and solar panel attached too - the rotating garden looks after itself during the day - just make sure you water your plants!

## What you will need

- 150x22 Treated timber
- 14x90cm Pine tongue and groove floorboards (x8)
- Motor with 900:1 gearbox
- Castor wheel
- 3x Castors
- Lazy susan
- Crimps

- Wire
- Wood Screws
- 5 Blocks of wood
- Plastic container for battery

- Small 12v Pb Battery
- Solar panel
- Solar controller

## Tools & Safety equipment

- Ruler
- Felt tip pen/pencil
- Jigsaw
- Impact driver
- Circular saw (MITRE SAW)
- Tape Measure
- Impact driver
- Hand drill
- File
- Scissors
- Appropriate clothing/ footwear
- Safety glasses
- Mask
- Hearing protection

## How to build a solar powered rotating garden

### I. Build two wooden bases

- Measure out the base of the pyramid (ours was a 90cm square). Cut 8 pieces of pine floorboard to the same length, and then screw together using wood screws - to form two squares.
- Add pine tongue and groove flooring panels to both squares, this will make two bases. Screw down the panels onto each base.
- One base will be the fixed foundation, the other will be the base of the pyramid and will hold soil.
- Between the two bases - wheels and a motor will be attached (see later).



## II. Measure pyramid + cut wood

- Measure how high you would like your pyramid (ours was 130cm).
- Cut 4 long pieces of plank to this length.
- Measure from corner to corner of your square base - this will help calculate how to cut the top of the pyramid and how the 4 pieces of plank slot together at the top of the structure.
- Using this width measurement and the measurement to the top of the pyramid (you can work this out by holding two planks of wood so they sit inside the base and seeing where they cross) - cut the 4 pieces of wood so they all rest on each other at the top.
- Cut a small square piece of wood for the top and screw this to the top of the pyramid.



## III. Cut sides + attach to pyramid

- Each side of the pyramid will need angled shelves.
- Measure the lengths from inside one quarter of pyramid with the number of shelves you want (we had 6 for each side).



- Look at the angles and note accordingly.

- Cut 24 pieces (or however many shelves you want) using a mitre saw so angles can be cut accurately.
- Screw each shelf in place onto the pyramid.
- Remove the pyramid from the square base.



#### IV. Attach wheels and motor to base (+ drainage holes)

- Turn over the square base of the garden and attach 3 wheels at 90 degree angles to each other.
- With the 4th wheel, remove it from its castor and attach it to the motor using a bolt. The motor should then be attached to a block of wood unsure the wheel sits at the same height as the other wheels.
- Drill drainage holes into the square base - so water can drain from the soil.
- Place a lazy susan in the middle of the base and cut three small blocks of wood the same height as your wheels. Attach the blocks to the lazy susan
- Push the motor wires through one of the drainage holes this will be hooked up to the solar panel controller later.





## V. Waterproof base

- Turn the base back over - and add plastic sheeting into the base using a staple gun.
- Use scissors or a knife to cut the excess plastic so the base is neat.
- Use a knife to cut across the drainage holes so water can escape from the base.
- Place the pyramid back into the base.



## VI. Connect up electrics + solar panel

- Place solar panel to the top of the pyramid and attach with screws.
- Attach the electric cables from the solar panel to the controller.
- Attach electric cables to the battery - and place at one bottom side of the pyramid. Place the battery into a plastic container to protect it as this will be sat amongst the soil once filled.
- The electric cables can be discreetly attached to the side of the pyramid with cable clips.
- Attach the motor wires to the solar power controller.
- Test that the rotating garden turns on and rotates before you add soil (as the whole structure will be a lot heavier!).
- Get 4 people to help you lift the rotating garden into its final resting position, ensure Manual Handling Guidelines are followed when moving the garden.



## VII. Add soil and plants

- Add soil into the base of the pyramid, and then at each layer - add in soil, water a little and pat down the soil.
- Once you have placed soil into your pyramid, you can add in plants or seeds and watch your garden grow!



## Specific Safety Notes

- The wood will deteriorate and eventually rot when left outside over many years if it is not treated.
- To keep your plants alive, ensure that they are watered as per their requirements.
- The solar panel and battery should work together so that your rotating garden will always turn during daylight hours.
- Empty the rotating garden of soil before you attempt to lift it and ensure Manual Handling Guidelines are followed.

## End User Notice

The rotating garden is intended to be used outdoors. Only use power tools in accordance with manufacturers instructions. Ensure all necessary safety equipment is worn at all times. The instructions in this document are intended as a guide only, any building you do is at your own risk. You should regularly assess the safety of the Build during construction and afterwards.

## General Safety Guidelines

### Tools

When using tools, please ensure that you have read the instructions carefully and that you have the correct Personal Protective Equipment to operate them safely. If you are not experienced at using them seek help or advice from those more experienced on how to use them safely.

### Children

Make sure that children and others are kept at a safe distance throughout the making of the build and whilst you are using it. Ensure that the build is given enough time to cool fully before you leave it unattended.

## Personal Protection Equipment (PPE) Safety Guidelines

TOOL	ADVICE
<b>For any tasks that will generate dust / particles a dust mask is advised</b>	
ANGLE GRINDER	<ul style="list-style-type: none"> <li>● Hearing Protection</li> <li>● Safety goggles</li> <li>● Dust mask</li> <li>● NO GLOVES (spinning equipment)</li> <li>● Long sleeve cotton clothing</li> <li>● Safety boots</li> </ul>
JIGSAW	<ul style="list-style-type: none"> <li>● Safety goggles</li> <li>● Dust mask</li> <li>● NO GLOVES (spinning equipment)</li> <li>● Safety boots</li> </ul>
MITRE or CHOP SAW	<ul style="list-style-type: none"> <li>● Safety goggles</li> <li>● Dust mask</li> <li>● NO GLOVES (spinning equipment)</li> <li>● HEARING PROTECTION</li> <li>● Safety Boots</li> </ul>
MIG WELDER	<ul style="list-style-type: none"> <li>● Welding clothing</li> <li>● UV welding mask</li> </ul>



	<ul style="list-style-type: none"> <li>● UV eye protection for observers</li> <li>● Welding gloves</li> </ul>
IMPACT DRIVER (DRILL)	<ul style="list-style-type: none"> <li>● Safety goggles</li> <li>● NO GLOVES (spinning equipment)</li> </ul>
HAND SAW	<ul style="list-style-type: none"> <li>● Safety boots</li> <li>● Safety Gloves to be worn for all non rotating saws</li> </ul>
FILING	<ul style="list-style-type: none"> <li>● Gloves (especially for metal work)</li> </ul>
HACK SAW	<ul style="list-style-type: none"> <li>● Safety boots</li> <li>● Safety Gloves to be worn for all non rotating saws</li> </ul>
BENCH DRILL	<ul style="list-style-type: none"> <li>● Safety goggles / Bench drill guard</li> <li>● Safety boots</li> </ul>
WIRE CLIPPERS/CUTTERS	<ul style="list-style-type: none"> <li>● Safety goggles</li> </ul>
LIGHTING FIRES	<ul style="list-style-type: none"> <li>● Fire safety gloves (for putting coals onto a lit fire)</li> <li>● Bucket of water</li> <li>● Suitable Fire extinguisher</li> <li>● Fire poking tools (metal)</li> </ul>
CHISEL/HAMMER	<ul style="list-style-type: none"> <li>● Safety Goggles</li> <li>● Safety Gloves</li> </ul>
TAPER DRILL BIT	<ul style="list-style-type: none"> <li>● Safety goggles</li> <li>● SAFETY rigger GLOVE for securing metal bowl.</li> </ul>