

# Ultimate Spice Rack Build Guide

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*3D Printing & Assembly (Plates A-C)*

This guide includes complete steps for printing, assembling, and testing your Ultimate Spice Rack build. Each section provides checkboxes for tracking progress and placeholders for photos of each stage.

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## 1) Bill of Materials

[ ] Part: #224 Buna-N O-Ring (70A durometer)

- Spec: 1-3/4" ID, 2" OD, 1/8" width

- Qty: 2 (spares optional)

[ ] Lubricant: Lucas Oil White Lithium Grease (Tube Only)

WARNING: Do not use aerosol/spray grease; propellants can crack 3D printed plastic.

[ Photo Placeholder: Hardware Layout ]

## 2) Printing Guide (3 Plates)

Plate A - The Base (Enclosure)

[ ] PART\_TO\_PRINT = 1

[ ] TRACTION\_MODE = 1

[ ] Material: PLA or PETG

[ ] 3 Walls, 15-20% Infill, 5mm Brim, No Supports

[ ] Let bed cool fully before removing

[ Photo Placeholder: Base Print ]

Plate B - The Gears (Tires)

[ ] PART\_TO\_PRINT = 2

[ ] TRACTION\_MODE = 1 (Critical for #224 O-rings)

[ ] Material: PLA or PETG

[ ] 3 Walls, 20% Infill, Skirt Adhesion, No Supports

[ Photo Placeholder: Gears Print ]

Plate C - The Handle (Lozenge)

[ ] PART\_TO\_PRINT = 3

[ ] Orientation: Flat top down

[ ] Brim adhesion, No Supports

[ Photo Placeholder: Handle Print ]

## 3) Assembly Instructions

Step 1 - Prep the Gears

[ ] Inspect grooves on large gears

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- ☐ Clean out strings/blobs
- ☐ Install O-rings and perform roll test

[ Photo Placeholder: Gear Assembly ]

## Step 2 - Prep the Base

- ☐ Clean and sand pins
- ☐ Apply thin layer of grease
- ☐ Check wobble; add rubber feet if needed

[ Photo Placeholder: Base Prep ]

## Step 3 - Final Assembly

- ☐ Drop in gears (idler + large gears)
- ☐ Spin test for smooth motion
- ☐ Attach handle (tight fit)

[ Photo Placeholder: Full Assembly ]

## 4) The Spice Test

- ☐ Place spice bottle on gear (rubber O-ring contact)
- ☐ Turn handle - check smooth rotation
- ☒ Rubber should grip bottle, not slip

[ Photo Placeholder: Spice Test in Action ]