

# ULTIMATE SPICE RACK BUILD GUIDE

*A precision guide for printing and assembly.*

## 1. Bill of Materials

**Hardware Checklist:** Ensure you have these items before printing.

- O-Rings:** #224 Buna-N O-Ring (70A Durometer).  
Spec: 1-3/4" ID, 2" OD, 1/8" Width. Quantity: 2.
- Lubricant:** Lucas Oil White Lithium Grease (Tube Only).

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

## 2. Printing Guide (3 Plates)

### Plate A: The Base

**Config:** PART\_TO\_PRINT = 1;

- Material:** PLA or PETG
- Walls:** 3 Walls (Essential)
- Infill:** 15% - 20%
- Adhesion:** 5mm Brim (Critical)

*Tip: Let cool completely before removing.*

### Plate B: The Gears

**Config:** PART\_TO\_PRINT = 2;

- Config:** TRACTION\_MODE = 1;
- Walls:** 3 Walls
- Infill:** 20%
- Adhesion:** Skirt

*Includes 2 Main Gears + 1 Idler.*

### Plate C: The Handle

**Config:** PART\_TO\_PRINT = 3;

- Orientation:** Flat face down
- Adhesion:** Brim (Highly Recommended)
- Supports:** None

*The new "Lozenge" shape.*

### 3. Assembly Instructions

1

#### Prep the Gears

- Inspect groove on large gears; scrape out strings/blobs.
- Stretch one **#224 O-ring** into each groove.
- **Roll Test:** Rubber should touch table, not plastic.

2

#### Prep the Base

- Sand the 3 vertical pins smooth.
- Apply a tiny smear of **Lucas Oil White Lithium Grease**.
- *Tip: A little goes a long way. Do not over-grease.*

3

#### Final Assembly

- Place **Small Idler Gear** (Gold) on center pin.
- Place **Two Large Gears** on main pins.
- Attach **Handle:** Align holes and press firmly onto main pins.

4

#### The Spice Test

- Place spice bottle on one gear (resting on rubber).
- Turn handle. Grip should grab bottle and rotate smoothly.