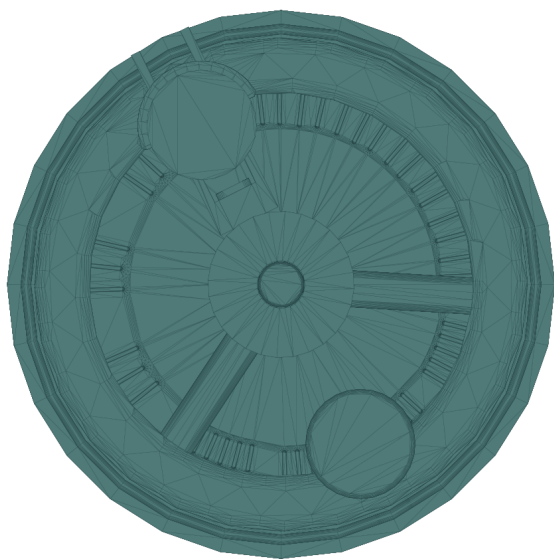


Rainspell Dial

A close-listening desk toy. Turn one broad wheel and watch a rounded follower trace three visibly different rib fields.



RAIN

sparse + irregular

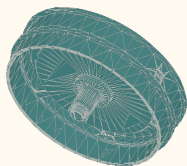
FROG-SONG

three broad groups

CRICKETS

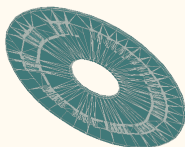
four dense packets

Six printed parts. One visible cause.



01 Base bowl + spindle

FOUNDATION • SPINDLE UP



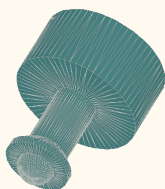
02 Rib deck

RIBS UP • TABS DOWN



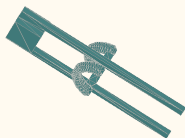
03 Broad wheel

RING + OPEN CARRIAGE



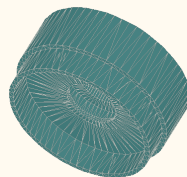
04 Gravity plectrum

ROUND TIP DOWN



05 Sliding keeper

SERVICE TAB AT HUB



06 Locking cap

FLAT TOP UP



Rain

17 uneven ribs



Frog-song

3 groups of 3



Crickets

4 groups of 5

Before setup

Confirm all six parts are present. Remove only loose wisps or debris. Do not use a cracked part, a sharp-edged part, or a part warped enough to bind.

Build from the quiet center outward.

1

Lock the rib deck to the base

Pass the deck over the center spindle. Align its three underside tabs with the three base keyways, press it down to the ledge, then turn the deck about 12° to the molded stops. Do not force past the stops.

2

Load the plectrum into the wheel

With the wheel off the base, find the open follower carriage. Feed the plectrum sideways into both open U-shaped guides: rounded contact tip points down; broad circular head stays above. The stem should move vertically without leaving either guide.

3

Close the guides with the keeper

Start at the hub side of the spoke. Slide the keeper outward along its dovetails until the hard stop. Its two faces close around the plectrum stem; the plectrum remains free to bob up and down.



**KEEPER MOVES
OUTWARD TO STOP**

Free-motion check

Lift the plectrum head gently and release it. It should travel vertically inside the closed guides. If it catches, remove debris and inspect alignment; do not oil, glue, or force it.

Seat. Lock. Check.

4

Seat the broad wheel

Lower the wheel's center bore over the spindle until the hub rests on its circular land. Keep the plectrum over the rib deck and the keeper fully at its stop.

5

Lock the cap

Align the two cap slot openings with the two spindle ears. Press the cap over the ears, turn it about 22.5° in the direction that climbs both ramps, then let go. The cap should settle about 1 mm into its end pockets.

6

Make the pre-use check

- The cap sits down in both pockets and does not pull straight off.
- The keeper stays at its outer stop and cannot slide toward the hub.
- The deck stays seated when lifted gently at its edge.
- With hands clear of the follower, the wheel makes one slow clockwise turn without scraping or forcing.

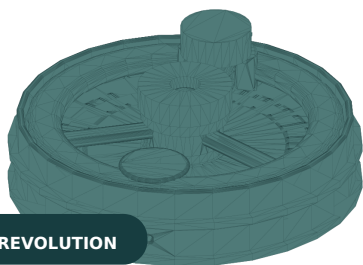
If any check fails, stop.

Do not use the dial until the stack is correctly seated and turns freely. Physical fit and retention depend on the exact print; this design has digital geometry checks but no completed physical assembly trial.

To remove the cap for service

Stop the wheel. Lift the cap about 1 mm, counter-rotate about 22.5° until both ears meet the slot openings, and lift it away. Remove the wheel before withdrawing the keeper. Recheck every lock after reassembly.

Turn slowly enough to hear the spaces.



CLOCKWISE • ONE EASY REVOLUTION

Set the base flat on a stable desk. Rest fingertips on the rounded outer ring—away from the follower carriage—and turn clockwise at an easy pace, roughly one revolution in four to six seconds.



1 • Rain

Notice uneven, fine contact spacing.



2 • Frog-song

Count three separated groups.



3 • Crickets

Find four denser packets.

The reset is the next turn

Keep turning clockwise. A short rib-free lane follows each field; after crickets, the same quiet lane leads back to rain. There is no end stop or separate reset gesture.

Try one listening experiment

Make one slow revolution, then one slightly faster revolution. Watch the plectrum bob and compare spacing and grouping—not pitch or volume. Exact sound varies with the print and desk.

Reverse is for clearing only.

If the wheel stalls, stop, keep fingers clear, and ease it backward only enough to release contact. If it repeatedly stalls, use the troubleshooting page.

Care, safety, and a clear way back.

Safe handling

- Use on a level, stable, dry indoor surface.
- Turn only by the broad ring; keep fingers, hair, and loose items away from the moving follower and seam.
- Never put the toy in the mouth or against the ear. Stop if any sound feels unpleasant.
- Loose printed parts can be choking hazards. Keep them away from young children and pets.
- Do not strike, heat, modify, or force the mechanism.
- Stop if a part cracks, loosens, sharpens, or fails the pre-use check.

Care + pack-away

Store the assembled dial flat, indoors, away from heat and direct sun. Dust with a soft dry brush. For a light wipe, use a barely damp cloth, then dry fully. Do not immerse or use a dishwasher.

Before every return

Check cap, keeper, deck, and free wheel motion using page 4. A dial that was dropped or carried loose needs the full check again.

Troubleshooting

Wheel binds

Stop. Check for debris, warped edges, or a deck, wheel, or cap that is not fully seated. Never force the wheel.

Plectrum sticks

Remove the cap and wheel, then inspect the stem, guide lands, and keeper alignment. Clean dry; do not add oil.

Contacts skip

Confirm a level desk and free vertical travel. Turn more slowly. If skipping repeats, stop; print adjustment may be required.

Rattle / loose cap

Stop immediately. Reseat the stack and repeat all four pre-use checks. Do not play while any retainer is loose.

Fields sound alike

Watch and count the visibly different spacing and groups. Sound character is print- and surface-dependent and is not physically validated.

Evidence boundary. The exact CAD passed digital geometry, motion, mesh, fit, and wall checks. No physical print, assembly, listening, loudness, retention, wear, durability, or human playtest result has been completed. This guide describes intended setup and cautious operation; it does not certify physical performance.