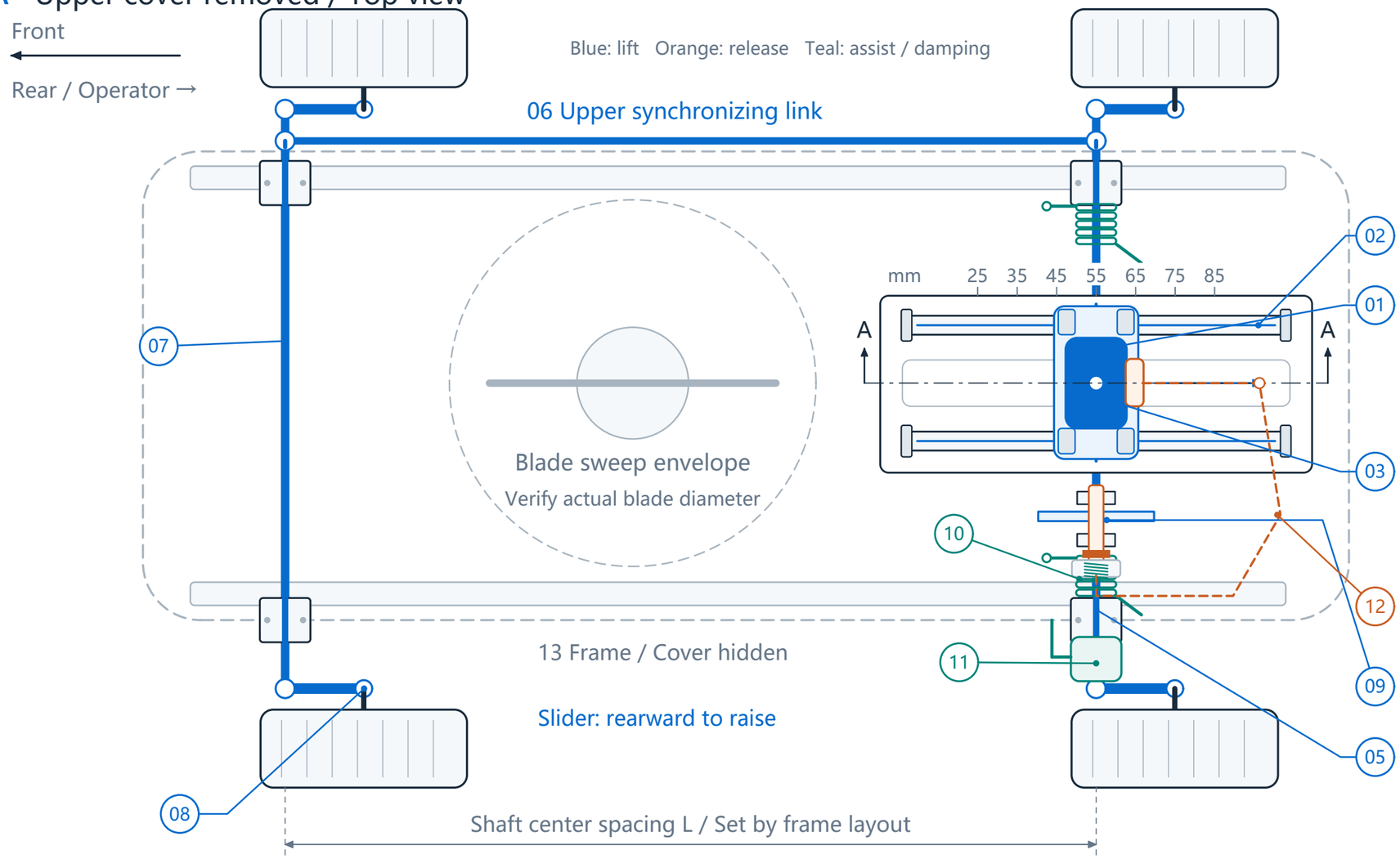
FLOW LIFT Internal Plan Layout

Internal drawings / V2 concept / Reference cutting height 55 mm

A Upper cover removed / Top view



Rails sit above the shafts and drive crank. Dashed lines show hidden parts or schematic routing.

B Component Key

01 Grip slider + squeeze trigger
02 Dual rails + four wear shoes
03 Slotted yoke through rail opening
04 Roller pin + drive crank
05 Rear height shaft / Two bearings
06 Equal cranks + rigid sync link
07 Front height shaft / Two bearings
08 Four wheel arms + wheel spindles
09 Index disc + double-shear lock pin
10 Twin torsion assist springs
11 Coaxial rotary damper
12 Release cable / Allow flex loop
13 Load-bearing frame + supports

04 is hidden below the slider.
See section A-A on sheet 2.
Wheels rotate on their spindles.
Height shafts reposition the arms.

Upper rails / Lower drive mechanism

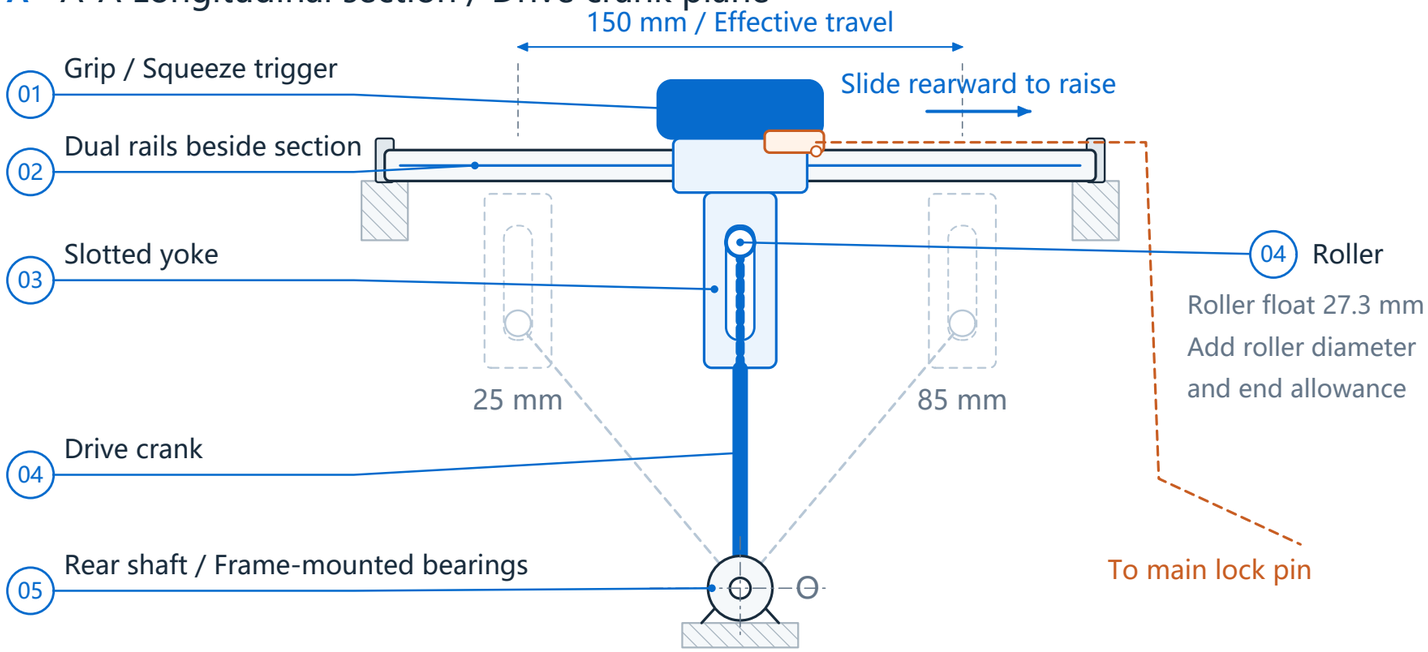
C Geometry and Packaging Constraints

Kinematic inputs: slider travel 150 mm, cutting height 25-85 mm, drive crank radius 116.68 mm, wheel-arm radius 46.67 mm.
Reserve 230-250 mm for the rails and 250-270 mm for the module length. Set width, shaft spacing L and bearing span from the actual package.
Keep the sync link outside the blade sweep. Use equal cranks in phase. Equal wheel radii are assumed. Compensate mounting heights if radii differ.
To define: shaft, pin and hole diameters, ear thickness, spring preload, rail clearance and pin stroke. The cover carries no primary lift load.

FLOW LIFT Slider and Lock Sections

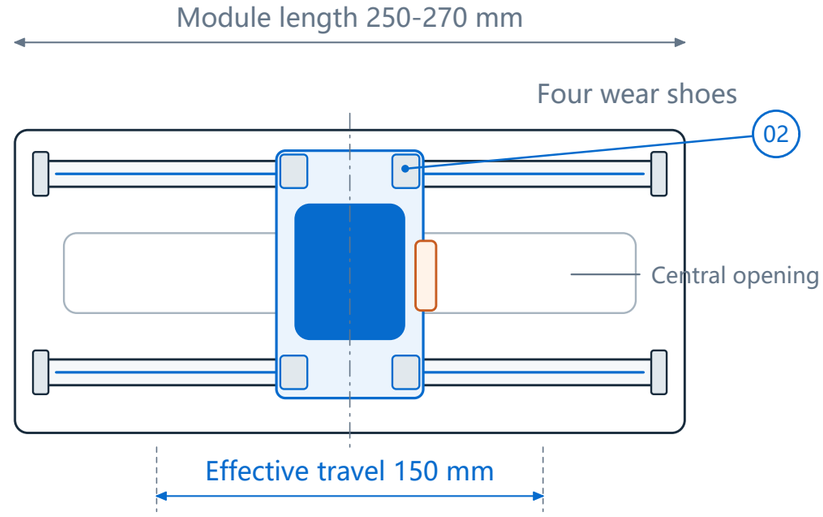
Internal drawings / V2 concept / Reference cutting height 55 mm

A A-A Longitudinal section / Drive crank plane



r_s = 116.68 mm s = r_s sin(theta) h = 55 + 0.4s

B Rail Module / Top View

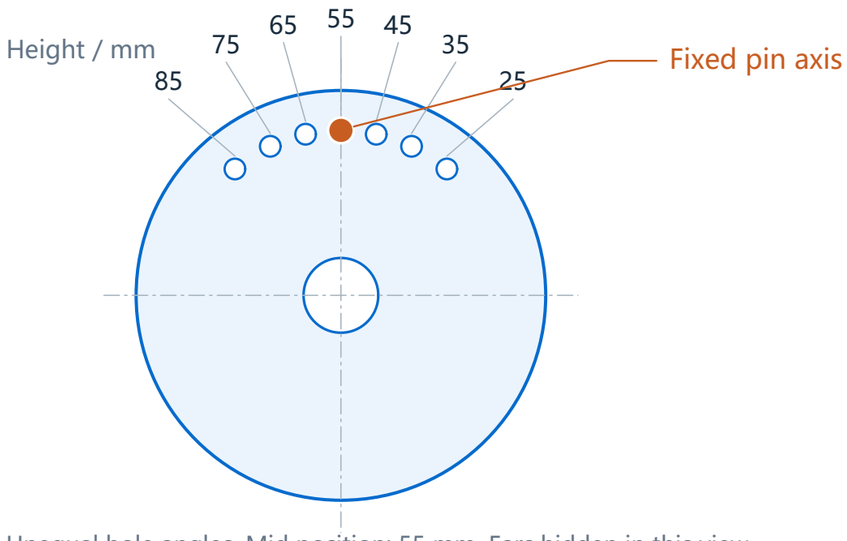


Keep a through-slot between the rails for the yoke.

Rail spacing B, shoe capture and clearances remain open.

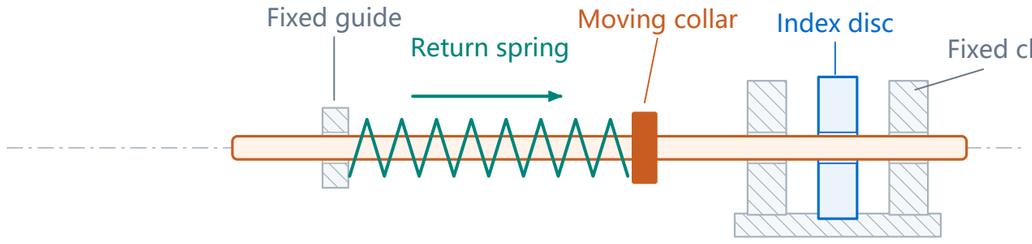
Plan layout only. Housing interfaces remain open.

C Index Disc / Pin Axis Normal to Page

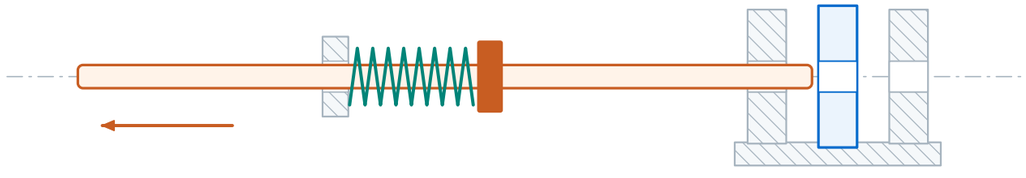


Unequal hole angles. Mid position: 55 mm. Ears hidden in this view.

D Axial Pin Section / Ear Gaps Enlarged



Locked: the metal pin passes through both ears and the disc to carry load in double shear.



Release: cable retracts pin and compresses spring. Define pin and hole sizes, engagement and withdrawal stroke.