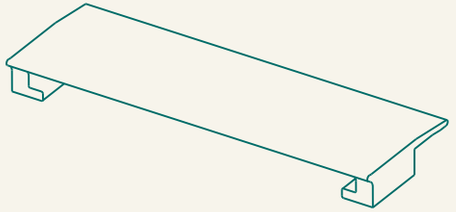
Inside the rocking razor head

Two spring balls lift the rear of the cap. The captured side clips turn that lift into pressure on the blade.

ASSEMBLED HEAD / REV G STUDIO STUDY

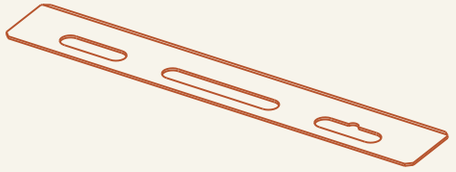


THREE MATING PARTS / REV G CAD



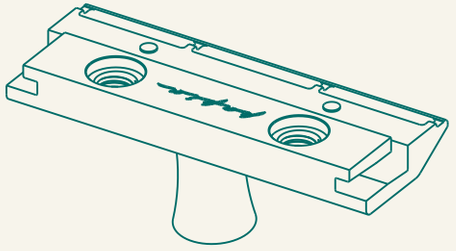
Tampa

The cap carries the two side clips and the forward clamping land.



Artist Club blade

The slots drop over the locating posts on the blade seat.



Corpo

The body carries the plungers, bearing slots, blade seat and guard.

Read the motion from rear to edge

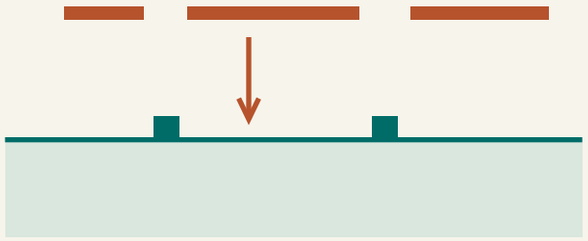
slide into the slots → rock about the bearings → load the blade

How the cap engages

The blade rests on the Corpo before the Tampa slides forward. The two outboard slots guide its clips.

FIG. 02A

Locate the blade

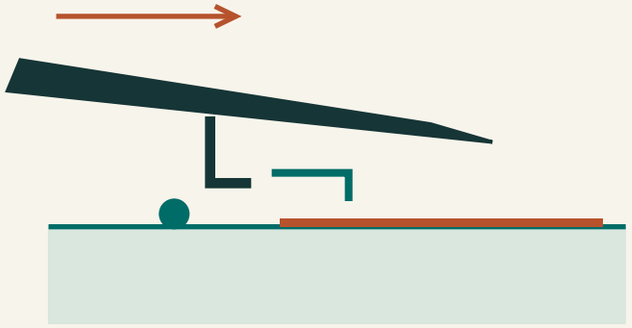


FRONT VIEW / SLOTS OVER POSTS

Lower the blade onto the seat. The two posts enter its slots and register its position.

FIG. 02B

Slide from the rear

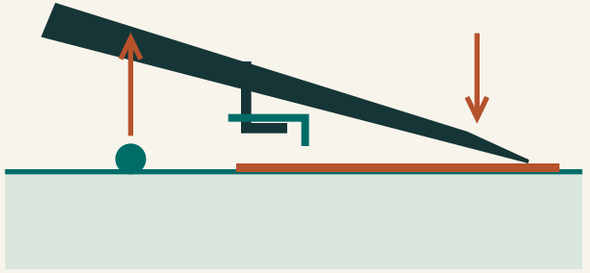


SIDE VIEW / EDGE TO RIGHT

Move the cap toward the edge. Its side clips enter the two open bearing slots and approach the cap stop.

FIG. 02C

Let the cap rock



SIDE VIEW / EDGE TO RIGHT

With the clips captured, both balls bear upward in the rear recesses. The cap rocks nose-down onto the blade.

The bearing line runs across the head.

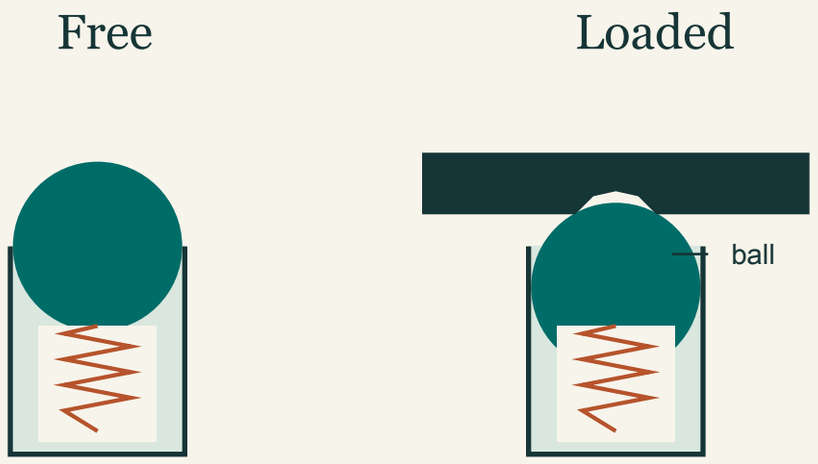
Both side clips engage the Corpo. In side view their shared axis appears as a single pivot point.

Assembly sequence from project assembly notes and Rev G drawings 02, 03 and 05. Motion sketches are schematic. Clip travel and tilt are exaggerated.

What the ball detents do

Each threaded plunger contains a spring and a captive ball. The spring is still compressed when the cap is seated.

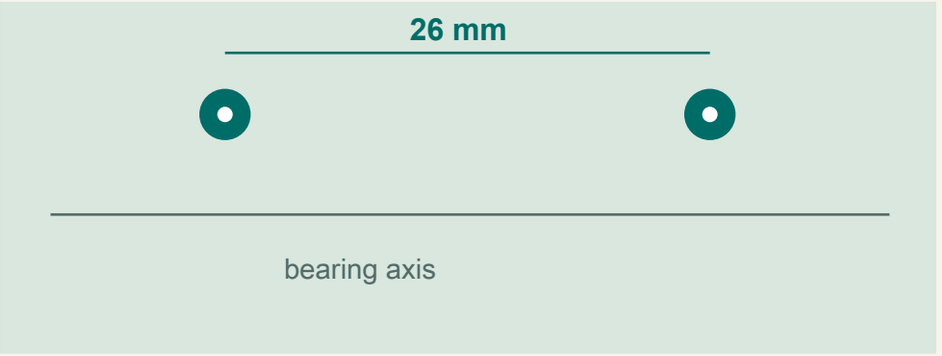
A / AXIAL SECTION THROUGH ONE PLUNGER



0.800 mm **0.428 mm**

Ball protrusion above the housing

B / TWO CONTACTS ACROSS THE HEAD



L and R are the left and right ball forces.

If one plunger pushes harder, the 13 mm half-spacing gives that imbalance a lever arm about the fore–aft centreline.

$$|M| = 13\ \text{mm} \times |R - L|$$

$$\delta = 0.800 - 0.428 = 0.372\ \text{mm}$$

Compression relative to the free position

$$F \approx F_0 + k\delta$$

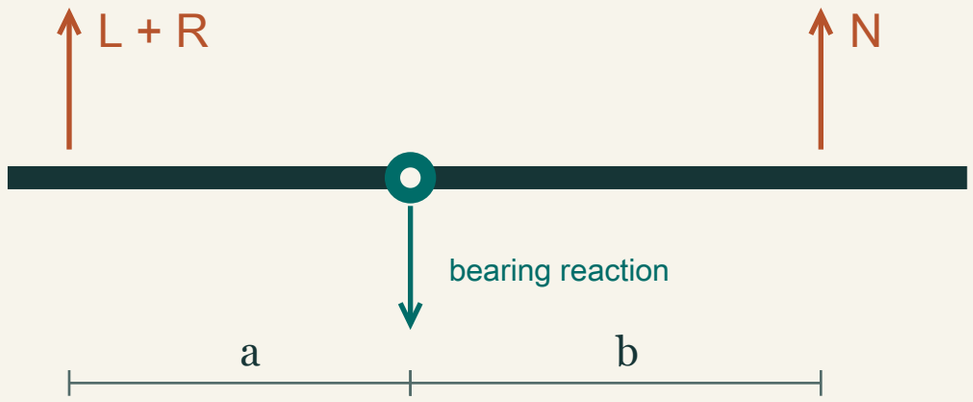
F_0 is initial force. k is spring rate in N/mm.

Rev G drawing 10 gives the Ø3 mm ball and nominal protrusions. Internal spring and recess are schematic. The linear spring model requires measured F_0 and k.

Why a rising ball clamps downward

Follow the forces on the Tampa. The slot bearings sit between the rear spring force and the forward blade reaction.

A / FREE BODY OF THE CAP



N points up because the drawing isolates the cap. The cap exerts the same force downward on the blade. The Corpo seat supports the blade from below.

B / STATIC MOMENT BALANCE

$$(L + R)a = Nb$$

$a = 9.19743 - 4.700 = 4.49743$ mm

b is the distance from the bearing axis to the centre of blade contact pressure. Its value depends on where the land bears.

Example at b = 6.0 mm

$$N \approx 0.750\,(L + R)$$

For an illustrative 1 N from each ball, the blade receives about 1.50 N. Actual force requires the plunger force curve and contact location.

A small angle gives a small closing stroke

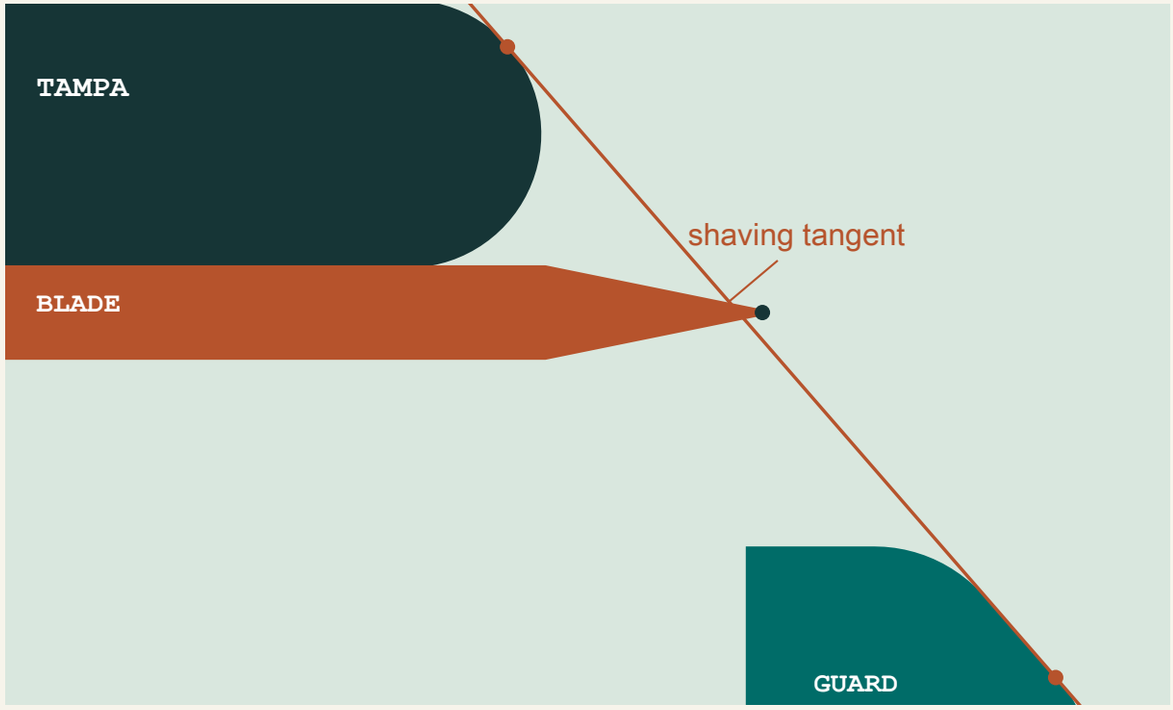
$\theta = 0.39933° = 0.00697$ rad • At b = 6 mm, vertical motion $\approx b\theta = 0.0418$ mm (first order).

Rev G drawing 03 supplies the bearing and ball-axis positions and tilt. Ideal rigid cap, vertical contact forces, negligible friction and symmetric bearing support.

Where the blade finally sits

The land seats the blade against the Corpo. At the edge, the guard and cap nose together define the shaving tangent.

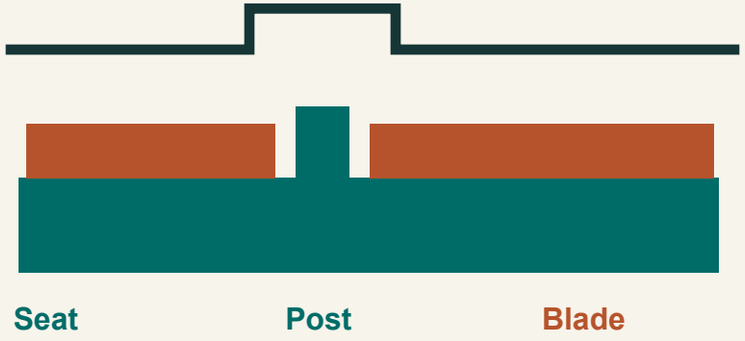
A / REV H EDGE SECTION



B / BLADE AND POST HEIGHTS

0.280 − 0.254 = 0.026 mm

Each locating post projects 0.026 mm above the blade. The relieved cap clears the post by 0.195 mm in the closed CAD assembly.



Local post detail, clearances exaggerated

Gap 0.650 mm

Edge centre height minus guard height at the same fore–aft station. 5.527 − 4.877 = 0.650 mm.

Exposure +0.050 mm

Signed perpendicular distance from the cap–guard tangent to the edge centre. Positive puts the edge beyond the tangent.

Tangent angle 49°

Angle between the blade plane and the common tangent in the loaded CAD section.

Rev H blade exposure change detail and reopened CAD measurements. Section traced from Rev H profiles. Actual clamp force and pressure distribution await bench measurement.