VLAND HEADLIGHT AIMING TEMPLATE
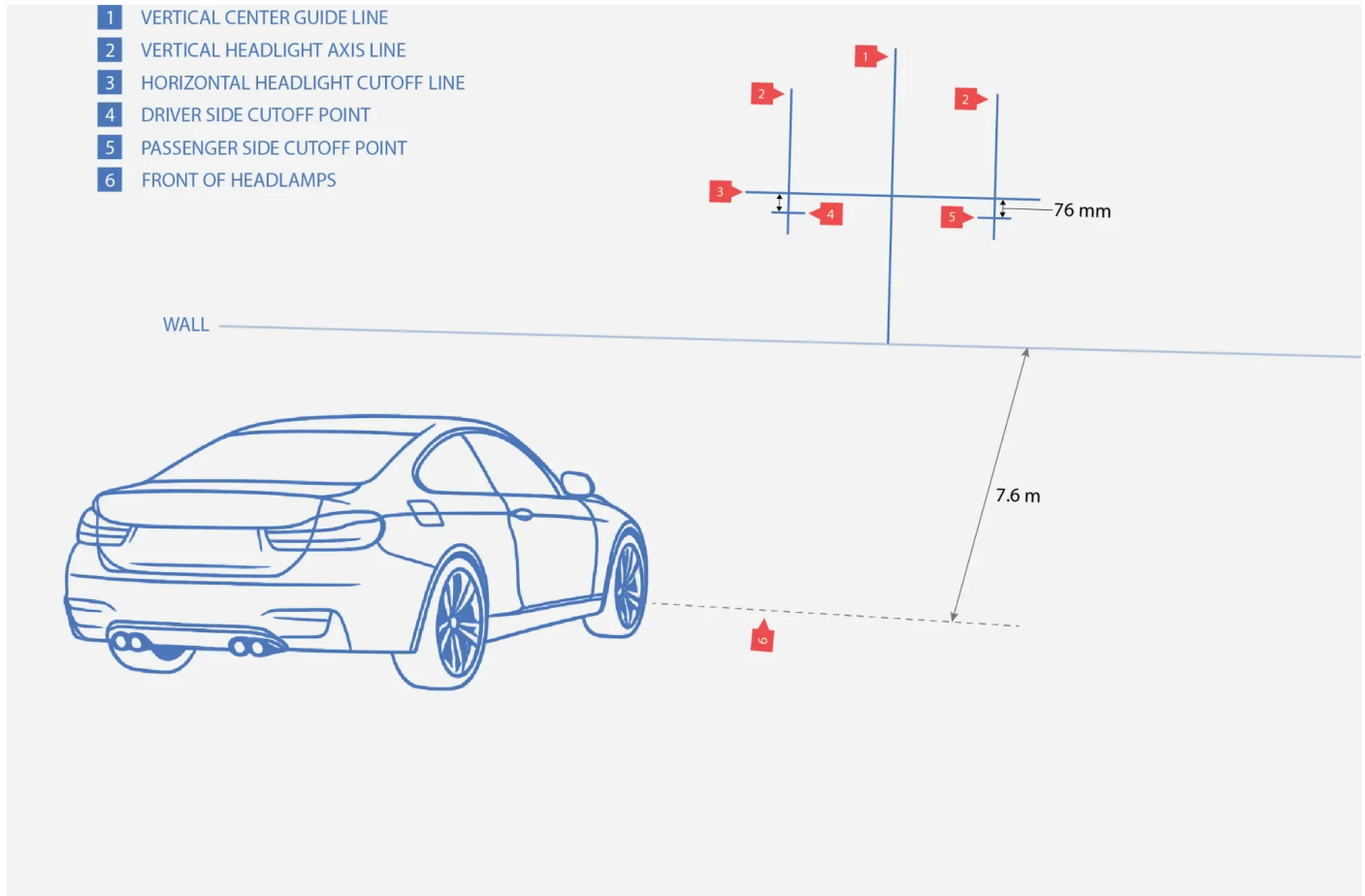
DIY low-beam pre-aim using the 1% method

Full tutorial: vlandeu.com/how-to/headlight-aiming

1	VERTICAL CENTER GUIDE LINE
2	VERTICAL HEADLIGHT AXIS LINE
3	HORIZONTAL HEADLIGHT CUTOFF LINE
4	DRIVER SIDE CUTOFF POINT
5	PASSENGER SIDE CUTOFF POINT
6	FRONT OF HEADLAMPS

76 mm

WALL

7.6 m

What you'll need

Tape measure, painter's tape, marker
Flat wall/screen + level ground
A friend helps, but it's doable solo

Print scale check — print at 100% and verify these bars

Diagram legend (matches the numbers on page 1)

[1] CENTERLINE — vehicle and wall centreline.
[2] LEFT HL AXIS — vertical line through the left low-beam centre.
[3] RIGHT HL AXIS — vertical line through the right low-beam centre.
[4] H LINE — horizontal line at headlamp centre height H.
[5] TARGET LINE (H − Δ) — horizontal line Δ below H (Δ = D × 1%).
[6] D — distance from wall to headlamp (or bumper).
[7] CUTOFF "KNEE" — bright/dark step of the low beam (aim point).

The 1% Rule (fast math)

Target drop (Δ) = distance (D) × 1%
Quick lookup:

Distance	Drop (1%)
3 m	3 cm (≈ 9.8 ft → 1.2 in)
5 m	5 cm (≈ 16.4 ft → 2.0 in)
7.6 m	7.6 cm (≈ 25 ft → 3.0 in)
10 m	10 cm (≈ 32.8 ft → 3.9 in)

Steps (low beam) — refer to the numbers in the diagram

• Prepare the car: normal load, correct tyre pressures, flat ground. Set headlamp leveller to 0 / normal ride height.
• Measure H: ground → centre of each low-beam projector/lens. Mark the [4] H LINE at that height on the wall.
• Position the car at distance [6] D from the wall (e.g., 7.6 m / 25 ft). Compute Δ = D × 1%.
• Mark verticals: the vehicle [1] CENTERLINE, plus [2] LEFT HL AXIS and [3] RIGHT HL AXIS aligned to each low-beam centre.
• Mark the [5] TARGET LINE (H − Δ): Δ below the H LINE.
• Aim the left lamp: switch on low beam, cover the right lamp. Adjust so the cutoff [7] knee sits on the [5] line and is centred on [2].
• Aim the right lamp: cover the left lamp. Adjust so the cutoff [7] knee sits on the [5] line and is centred on [3].
• Road-check: short drive; if other drivers flash you, lower slightly and re-check.
• LHD/RHD note: the cutoff "elbow" is on the passenger side for LHD, driver side for RHD; use that elbow as the aim point.

Cut-out Wall Labels (tape these next to your painter's tape)

(Cut along the dotted lines)

[CENTERLINE]   [LEFT HL AXIS]   [RIGHT HL AXIS]

[H LINE]   [H LINE]   [TARGET LINE (H − Δ)]   [TARGET LINE (H − Δ)]

[DRIVER CUTOFF POINT]   [PASSENGER CUTOFF POINT]