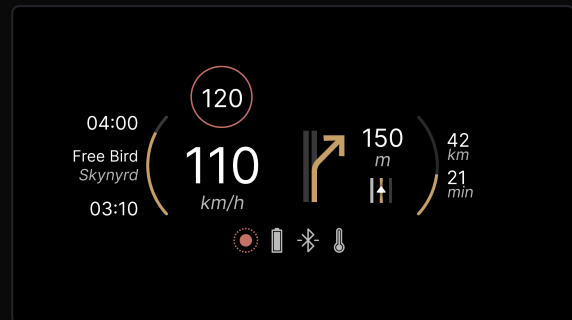


AR EXPERIENCE — TROUBLESHOOTING

When the picture won't sit **still**

Spatial anchoring locks speed, navigation and hazards to the motorcycle. If the picture shakes, jumps or drifts, one of the tracking inputs is disturbed. This guide identifies the affected input and fixes it.



— FIND YOUR SYMPTOM



THE PICTURE SHAKES A fine, constant tremble that worsens with revs, speed or rough tarmac.



→ VIBRATION — PP.03-04



THE PICTURE JUMPS There is no tremble; it snaps to a new position when you move your head.



→ JUMPS — P.04



THE PICTURE DRIFTS It slides away from where it belongs and stays offset.



→ DRIFT — P.05

— HOW THIS GUIDE WORKS

SPOT — match your symptom above.

TEST — a two-minute check isolates the cause.

FIX — adjust a setting or the mount, or recalibrate.



EVERY TEST STARTS THE SAME WAY Sit on the motorcycle in your riding position — the check on page 02 — so the helmet can see and sense the motorcycle.

The check: riding position

START EVERY TEST HERE

Tracking relies on two inputs: the helmet's tracking camera sees the motorcycle to localise against it, while the phone's motion sensors sense its movement. **Both work only when you are sitting as you ride, so every test in this guide starts from this position.**

01

Sit on the motorcycle in your riding position, with the engine off and the AR Optics attached.

02

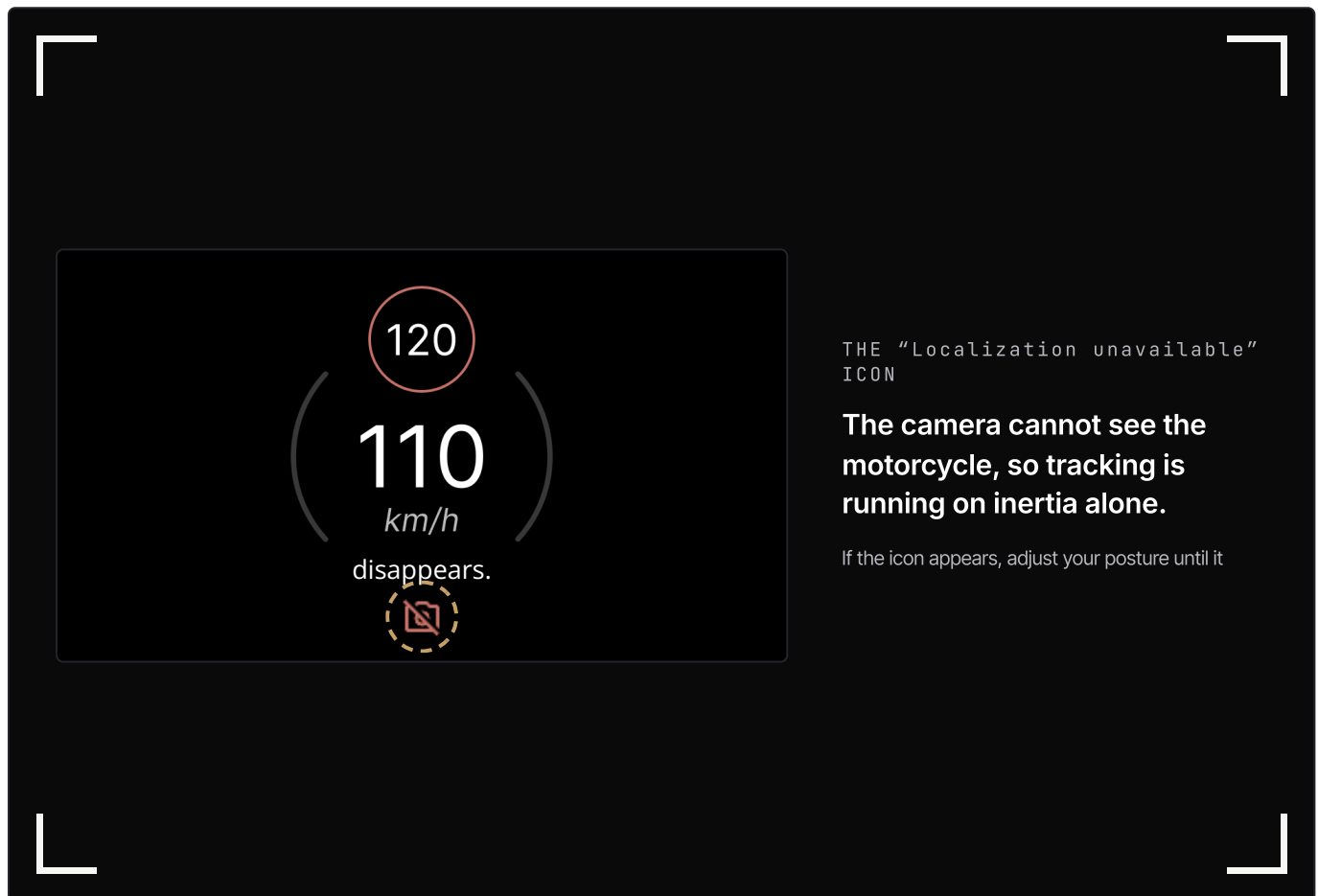
Keep your hands on the handlebars — never on or over the fuel tank. The tracking camera must be able to see the motorcycle.

03

Launch the AR experience in AR Vision Companion and look ahead.

04

Check the picture — the "Localization unavailable" icon must not appear anywhere in view.



WHAT THE CHECK TELLS YOU

No icon in the riding position — localisation is healthy. Test your symptom.

[→ YOUR SYMPTOM — PP.03-05](#)

The icon appears whenever a hand covers the fuel-tank area — your posture is blocking the view. Keep your hands on the handlebars.

[→ POSTURE — RE-RUN CHECK](#)

The icon remains visible even in the correct riding position — the camera rarely finds the motorcycle.

[→ DRIFT · CAUSE 3 — P.05](#)

Shaking — engine and road

CAUSE 1 OF 2

The phone's motion sensors feed every movement of the motorcycle into tracking. Engine vibration and rough tarmac reach the phone through its mount, making the picture tremble in unison.

TEST — ENGINE OFF VS ENGINE ON

Start from the riding-position check • P.02

1 • ENGINE OFF

Watch the picture. This is your baseline, and it should be steady.



→ 2 • ENGINE ON — IN N

Start the engine with the gearbox in neutral. Briefly and gently blip the throttle, then watch the picture again.



→ VERDICT

Shaking rises and falls with the revs → engine vibration is reaching the phone. Apply the fixes below.

FIX 1 — SET HUD STABILITY TO SMOOTH

Helmet ▶ XR Preferences ▶

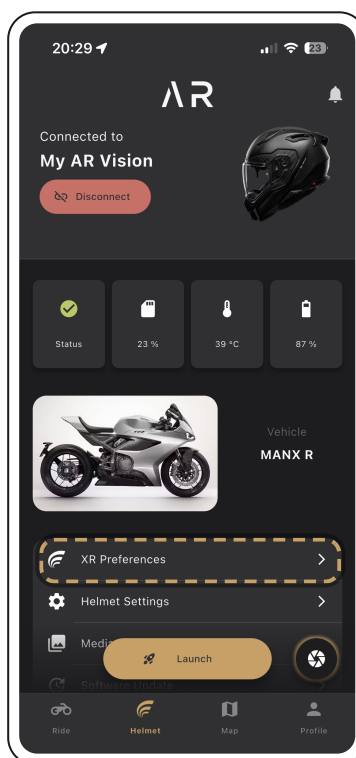
HUD Stability ▶ Smooth ▶

Responsive

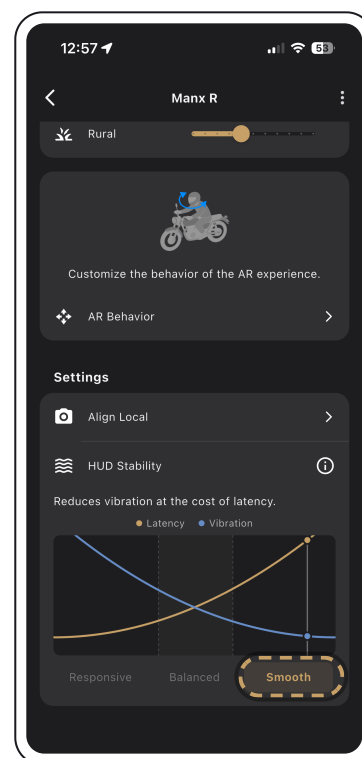
Smooth 

Select Smooth, all the way to the right. It reduces vibration at the cost of a little latency; that is the right trade-off for a shaky picture.

It takes two taps from the Helmet tab and takes effect immediately.



Helmet tab → XR Preferences



HUD Stability → select Smooth

FIX 2 — REORIENT THE MOUNT'S DAMPERS

Engine and road vibration shake the motorcycle mainly along the vertical axis. Remount the cradle so its rubber dampers flex along that axis — in line with the vibration, rather than braced against it. **Also keep the mount's lever arm to the handlebar as short as possible. A long arm amplifies vibration at the phone.**



LOOP BACK After each fix, repeat the engine-off/engine-on test above. Steady through the revs — done.

Shaking — wind buffeting

CAUSE 2 OF 2

At speed, turbulent airflow from a windscreen can buffet the helmet itself. The phone senses nothing, but your head — and therefore the optics — shakes. **TYPICAL SIGN** The picture is steady at a standstill with the engine running, but shakes only while riding, independently of the revs.

TEST — MOVE THE HELMET INTO CLEAN AIR WHILE RIDING · QUIET ROAD

1. If the

windscreen is adjustable, try a clearly different position. Does the shaking change?

2. Bring the helmet into laminar airflow: change your riding posture or — only where your safety, skills, circumstances and regulations permit — stand on the foot pegs briefly.

VERDICT The picture becomes much steadier as soon as the helmet enters clean airflow → the windscreen's turbulent wake is the cause.

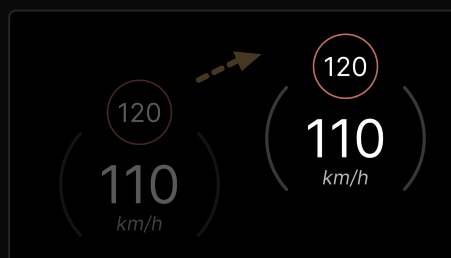
✓ **FIX** Keep the windscreen in the position that provided laminar airflow around your head, and set HUD Stability to Smooth (page 03) to absorb the remaining movement.

Jumps — not a tremble

DIFFERENT SYMPTOM

If the picture does not tremble but snaps to a new position, the camera model is not estimating your helmet's position and orientation consistently. No setting can fix this; we tune the model for you.

THE TELL — THE HUD SETTLES OFFSET AFTER A HEAD MOVEMENT



TEST — 1 MIN

Starting from the riding-position check, slowly move your head left, right, forwards and backwards. Watch whether the picture settles in a new, shifted position after each movement.

FIX — WE TUNE YOUR MODEL

Open a support ticket at support@aegisrider.com. We will adapt the tracking model to you. **See page 06 for what to include.**



The picture drifts away

4 CAUSES — CHECK IN ORDER

Drift means that the picture slides away from the motorcycle and stays offset: the helmet's inertial sensing and camera disagree about where the motorcycle is. Check these four causes in order.



NOT DRIFT: THE PICTURE LEAVES YOUR VIEW ON BENDS The content is anchored in front of the motorcycle. When you look into a bend, it naturally moves out of view and leaves the road unobstructed. **This is intentional: your field of view is sacred.** If you want content to remain visible while looking into a bend, explore XR Preferences → AR Behavior.

· THE PHONE IS NOT MOUNTED AS IT WAS ON THE CALIBRATION RIDE

MOUNT = CALIBRATED POSE

1

Sign: the drift began after you refitted the mount, fitted a new phone case or changed the cradle position.

Fix: repeat the calibration. Create a new vehicle in AR Vision Companion and complete the calibration ride — see the Onboarding Guide, steps 3–4.

· THE WRONG VEHICLE IS SELECTED IN THE GARAGE

MULTIPLE MOTORCYCLES

2

Sign: you ride more than one calibrated motorcycle, and today's motorcycle is not selected.

Fix: select the correct vehicle in the app before launching the AR experience.

· THE CAMERA RARELY SEES THE MOTORCYCLE

"Localization unavailable" — P.02

3

Sign: the "Localization unavailable" icon remains visible for long periods even in the riding position. The tracking camera sees you or the road rather than the motorcycle, so localisation rarely corrects the drift.

Fix: recalibrate the vehicle. Create a new vehicle in AR Vision Companion and complete the calibration ride again.

· THE HELMET HAS NOT YET LEARNT ITS GYROSCOPE BIASES — LAST RESORT

ONE BIAS ENTRY PER °C

4

Sign: with a new helmet, or on the first ride at an unusual temperature, the picture drifts heavily whenever the camera loses the motorcycle. While powered on and stationary, the helmet records its gyroscope bias at each temperature. With an empty table, it cannot compensate.

Fix: place the helmet on a table — not on your head. Attach the AR Optics and launch the AR experience. Then detach the optics and leave the experience running for 30 min. **The AR workload warms the helmet through its temperature range and fills the bias table. Detaching the optics prevents display burn-in.**

— THE WHOLE GUIDE ON ONE PAGE

SHAKES • REVS	Engine or road vibration reaching the phone	HUD Stability → Smooth • reorient the dampers	P. 03
SHAKES • SPEED	Wind buffeting from the windscreen	Windscreen position providing laminar airflow	P. 04
JUMPS	Camera model estimating inconsistent poses	Support ticket — we tune the model	P. 04
DRIFT • MOUNT	Phone sits differently from when it was calibrated	New vehicle + calibration ride	P. 05
DRIFT • GARAGE	Wrong vehicle selected • camera rarely sees the motorcycle	Select the correct vehicle • recalibrate	P. 05
DRIFT • NEW	Gyroscope bias table not yet populated — last resort	AR running on the table • optics off • 30 min	P. 05



Still not steady? We tune it for you

Write to support@aegisrider.com. For jumps and persistent drift, we adapt the tracking model to your setup.

INCLUDE: VEHICLE PROFILE NAME

PHOTO OF PHONE IN MOUNT

TESTS RUN + WHAT YOU SAW



GOOD HABIT The helmet continues learning its gyroscope biases whenever it is powered on and stationary. Letting it rest on a shelf occasionally — instead of always powering it off immediately — keeps drift compensation accurate across the seasons.



STAY CURRENT Tracking improves with software updates. Install them when AR Vision Companion offers one (Helmet → Software Update).