

HELMETSURE

The Helmet FitCheck Protocol

A practical helmet fit diagnostic for movement, pressure, discomfort, and instability

Central problem entity: Poor helmet fit

Primary objective: Determine which fit factor is causing movement, pressure, discomfort, or instability—and select the next appropriate action.

How to Use This Template

- Use the exact helmet, wearer, adjustment system, and approved components that will be used in practice.
- Record measurements before changing the fit. Then make only manufacturer-permitted adjustments and re-test.
- Do not use a single total score to override pain, instability, damaged components, or manufacturer guidance.
- Complete the 30-minute comfort test only in a safe, stationary setting. Do not ride while testing an uncertain fit.

Possible Results

Result	Meaning
Correct fit	Position, stability, pressure distribution, retention, and comfort are acceptable for this wearer.
Adjustment required	The helmet may fit after an approved pad, fit-system, or retention adjustment.
Wrong internal shape	The nominal size may be suitable, but the shell/liner shape creates pressure in one area and space or movement elsewhere.
Wrong helmet size	The helmet is generally too loose or too tight, or cannot be brought into range through approved adjustment.
Professional fitting recommended	Results are mixed, symptoms are significant, or the correct size/shape cannot be determined confidently.

Important limitation

This is a structured fit-assessment template, not a certification test or guarantee of protection. Helmet categories and manufacturers use different fit instructions. Their model-specific guidance overrides this template.

Wearer name: _____

Helmet brand and model: _____

Assessment date: _____

Phase 1 — Fit Research Protocol

Define the single fit problem before changing anything. The protocol investigates poor helmet fit, while the fields below identify how the problem appears for this wearer.

1. Wearer and Helmet Record

Field	Entry
Head circumference	_____ cm / in
Measurement method / location	_____
Helmet size shown	_____
Manufacturer size range	_____
Helmet category / activity	_____
Fit pads or adjustment system installed	_____
Hair, headwear, eyewear, or accessories affecting fit	_____
Helmet new, used, borrowed, or issued	_____

2. Primary Fit Complaint

Observed problem	Select	Where / when it occurs
Front-to-back movement	☐	_____
Side-to-side movement	☐	_____
Helmet rotates or changes position	☐	_____
Localized pressure point	☐	_____
General tightness	☐	_____
Pain, numbness, tingling, or skin irritation	☐	_____
Retention system feels loose or unstable	☐	_____
Discomfort increases with wear time	☐	_____

Primary problem statement: _____

The fit problem is most noticeable when: _____

My initial suspected cause is: _____

Do not pre-judge the result

A loose feeling may come from size, internal shape, position, retention adjustment, missing fit components, or a combination. Record the baseline before deciding.

Phase 2 — Variable Identification and Rating Scales

Use the same scales for the baseline and re-test. These are FitCheck tracking scales, not laboratory or universal certification thresholds.

Movement Score: 0–3

Score	Description
0	Stable: no meaningful movement beyond normal skin/hair interaction.
1	Slight: small movement, but helmet remains centered and coverage is maintained.
2	Moderate: visible sliding, rotation, or position change that affects stability.
3	Large: helmet shifts easily, loses intended position, or feels likely to move during use.

Pressure-Point Score: 0–3

Score	Description
0	No pressure concern.
1	Even, firm contact without localized discomfort.
2	Noticeable localized pressure or discomfort that persists.
3	Pain, numbness, tingling, marked redness, or a need to remove the helmet.

Discomfort Score: 0–10

Range	Interpretation
0–2	Comfortable or mildly noticeable.
3–4	Persistent discomfort; review the location and trend.
5–6	Significant discomfort; stop the timed test and reassess.
7–10	Severe discomfort, pain, numbness, breathing restriction, dizziness, or other concerning response—remove the helmet and seek appropriate guidance.

Measurements to Keep Constant

Control variable	Baseline and re-test condition
Same wearer	☐ Yes
Same helmet and size	☐ Yes
Same approved pads/components	☐ Yes
Same hair/headwear configuration	☐ Yes
Same strap and fit-system procedure	☐ Yes
Same stationary test sequence	☐ Yes

Phase 3 — Baseline Fit Data Log

A. Position and Retention Measurements

Input	Measured value	Manufacturer target / instruction	Within guidance?
Head circumference	_____	_____	Yes / No / Unknown
Helmet size	_____	_____	Yes / No / Unknown
Position above eyebrows	_____ mm / in	_____	Yes / No / Unknown
Chin-strap gap	_____ mm / in	_____	Yes / No / Unknown
Adjustment-system position	_____	_____	Yes / No / Unknown

B. Movement and Pressure Tests

Test	Score / result	Location or observation
Front-to-back movement	0 / 1 / 2 / 3	_____
Side-to-side movement	0 / 1 / 2 / 3	_____
Movement during gentle shake test	0 / 1 / 2 / 3	_____
Helmet remains centered	Yes / No	_____
Coverage remains in intended position	Yes / No	_____
Pressure-point score	0 / 1 / 2 / 3	_____
Most noticeable pressure location	—	Front / back / left / right / top / other
Visible gap or low-contact area	Yes / No	_____

Shake-test boundary

Use only gentle, controlled head movement in a safe stationary position. Do not simulate an impact, pull the helmet aggressively, or ride during an uncertain fit test.

C. Baseline Pattern Summary

Indicator	Result
Movement Index (front-to-back + side-to-side + shake; 0–9)	_____
Highest single movement score	_____
Pressure-point score	_____
Position and strap within manufacturer guidance	Yes / No / Unknown
Baseline test safe to continue to timed comfort check	Yes / No

Phase 3 — Timed Comfort and Stability Log

Wear the helmet while stationary for up to 30 minutes. Stop early for pain, numbness, tingling, breathing restriction, dizziness, or rapidly increasing discomfort.

Time	Discomfort 0–10	Pressure point 0–3	Movement / position change	Notes
5 minutes	_____	_____	None / Slight / Moderate / Large	_____
15 minutes	_____	_____	None / Slight / Moderate / Large	_____
30 minutes	_____	_____	None / Slight / Moderate / Large	_____

Comfort Trend

Question	Answer
Did discomfort increase from 5 to 15 minutes?	Yes / No
Did discomfort increase from 15 to 30 minutes?	Yes / No / Test stopped
Did a localized pressure point become more obvious?	Yes / No
Did the helmet loosen, settle, or change position?	Yes / No
Was the test stopped early?	Yes / No
Reason for stopping	_____

Fit Pattern Clues

Pattern observed	May suggest
Movement in multiple directions with little even contact	Helmet may be too large or adjustment may be insufficient.
Overall excessive tightness with broad pressure	Helmet may be too small.
Strong pressure front-to-back plus side gaps or movement	Internal shape may be too round for the wearer.
Strong pressure at the sides plus front/rear gaps or movement	Internal shape may be too narrow or long for the wearer.
Good shell contact but instability improves after retention adjustment	Adjustment may be the primary issue.
Mixed findings, persistent symptoms, or unclear manufacturer guidance	Professional fitting is recommended.

Interpretation caution

These patterns are diagnostic clues, not universal rules. Helmet designs differ, and approved fit pads or adjustment systems may change the result. Confirm against the exact model instructions.

Phase 4 — Quantitative Analysis and Result Classification

1. Compare the Main Variables

Variable	Baseline finding	Decision significance
Head circumference vs size range	_____	Inside / Outside / Borderline / Unknown
Movement Index (0–9)	_____	Low / Moderate / High
Highest movement score (0–3)	_____	Acceptable / Concerning
Pressure-point score (0–3)	_____	Even contact / Localized / Painful
Discomfort at 5 / 15 / 30 min	____ / ____ / ____	Stable / Increasing / Test stopped
Chin-strap gap	_____	Within guidance / Outside / Unknown
Position above eyebrows	_____	Within guidance / Outside / Unknown

2. Result Decision Matrix

Result category	Select when this pattern best fits
Correct fit	Size and position match guidance; movement is low; contact is even; retention is secure; discomfort remains low and does not worsen.
Adjustment required	A correctable position, pad, fit-system, or retention issue is identified, with no evidence of wrong size, shape mismatch, or significant symptoms.
Wrong internal shape	Circumference/nominal size may be appropriate, but localized pressure and opposite-direction gaps or movement persist after approved adjustment.
Wrong helmet size	The helmet is broadly too loose or too tight, sits outside the manufacturer size range, or cannot be stabilized without maxing out the adjustment system.
Professional fitting recommended	Results conflict, the correct model/shape cannot be identified, symptoms are significant, or the user has medical, sensory, or specialist equipment needs.

Non-compensation rule

A good chin-strap adjustment cannot compensate for the wrong helmet size or internal shape. Low movement cannot compensate for pain, numbness, or unsafe pressure. Unknown manufacturer guidance prevents a confident “Correct fit” result.

3. Insight Statement

The data indicates that the primary fit factor is: _____

The strongest evidence is: _____

My current result category is: _____

Phase 5 — Adjustment, Re-Test, and Final Decision

A. Permitted Action Plan

Issue found	Approved action	Do not do
Position or retention issue	Reposition and adjust according to the model instructions.	Do not overtighten to force stability.
Approved fit-pad issue	Install or reposition manufacturer-approved pads.	Do not add improvised foam or unrelated padding.
Wrong internal shape	Try a different model or internal shape.	Do not carve, compress, cut, or reshape the liner.
Wrong size	Try the correct manufacturer size.	Do not rely on the strap to compensate for excessive looseness.
Unclear or significant symptoms	Stop and seek qualified fitting or appropriate professional guidance.	Do not continue a painful timed test.

B. Re-Test Record

Variable	Baseline	After approved adjustment
Front-to-back movement score	_____	_____
Side-to-side movement score	_____	_____
Shake-test movement score	_____	_____
Pressure-point score	_____	_____
Discomfort at 15 minutes	_____	_____
Chin-strap gap within guidance	Yes / No / Unknown	Yes / No / Unknown
Position within guidance	Yes / No / Unknown	Yes / No / Unknown

C. Final Classification

Final result	Select
Correct fit	☐
Adjustment required — repeat the relevant tests	☐
Wrong internal shape — try a different model	☐
Wrong helmet size — try a different size	☐
Professional fitting recommended	☐

Final rationale: _____

Next action: _____

Re-test date, if needed: _____

HelmetSure FitCheck Quick Card

1. MEASURE

Record head circumference, helmet size, position above the eyebrows, and chin-strap gap. Compare them with the exact manufacturer instructions.

2. MOVE

Score front-to-back, side-to-side, and gentle shake-test movement from 0 to 3. Confirm that the helmet stays centered and maintains intended coverage.

3. FEEL

Score pressure points and discomfort. Look for even firm contact—not gaps, sliding, severe tightness, pain, numbness, or worsening localized pressure.

4. WAIT

Complete a stationary 5-, 15-, and 30-minute comfort check. Stop early if symptoms become significant.

5. DECIDE

Classify the result as Correct fit, Adjustment required, Wrong internal shape, Wrong helmet size, or Professional fitting recommended.

Final FitCheck Record

Record	Entry
Wearer	
Helmet brand / model / size	
Assessment date	
Final result	
Primary fit factor	
Required next action	
Assessor / fitter	
Reassessment triggers Repeat the FitCheck after a size or model change, approved pad/component change, major hairstyle/headwear change, significant weight or medical change affecting fit, impact event, or any new movement, pressure, or discomfort complaint.	

HelmetSure — Understand helmet fit. Measure the problem. Choose the next action.