

GLOVE HAND ATTACHMENT REFERENCE

Plate order, authored angles, overlap direction, and bilateral placement

34 RENDER VIEWS

LEFT + RIGHT NATIVE PARTS

ANNOTATED



Read this before any permanent bond

START HERE

The visual relationship is authoritative; the scan is context, not glove thickness.

Do not glue the complete set in one pass

- Dry-fit one full hand with the glove worn and the fingers fully extended. Mark every plate outline before adhesive is opened.
- Keep left and right sets separate. The native handplates and several finger parts are not interchangeable mirrors.
- Each chain reads **3 at the knuckle, 2 in the middle, 1 at the fingertip**. Lay the chain out from the fingertip first.
- Preserve the shallow shingle relationship shown in profile. Do not flatten plates or glue the overlap lips to neighbouring plates.
- Test one digit through extension and a loose fist before repeating the process. Stop if edges butt, click, lift, or pull the glove.

Current fit status

This is a **placement reference**, not a fit release. V5 was imported into the Fusion fit-check design, but its cloud save into project **jake wearing armour** remained pending and the registered bare-hand scan showed unresolved overlap. A padded-glove physical fit remains open.

If the physical parts predate V5, the finger orientation remains useful, but the handplate outline may differ.

Colour and code key

-  **T1 Thumb distal / fingertip**
T2 middle | T3 proximal / knuckle
-  **I1 Index distal / fingertip**
I2 middle | I3 proximal / knuckle
-  **M1 Middle distal / fingertip**
M2 middle | M3 proximal / knuckle
-  **R1 Ring distal / fingertip**
R2 middle | R3 proximal / knuckle
-  **P1 Little distal / fingertip**
P2 middle | P3 proximal / knuckle

H1 is the back-of-hand plate. **G1** is the separate oval gem seated on H1.

Outer / dorsal face: decorated face visible in costume.

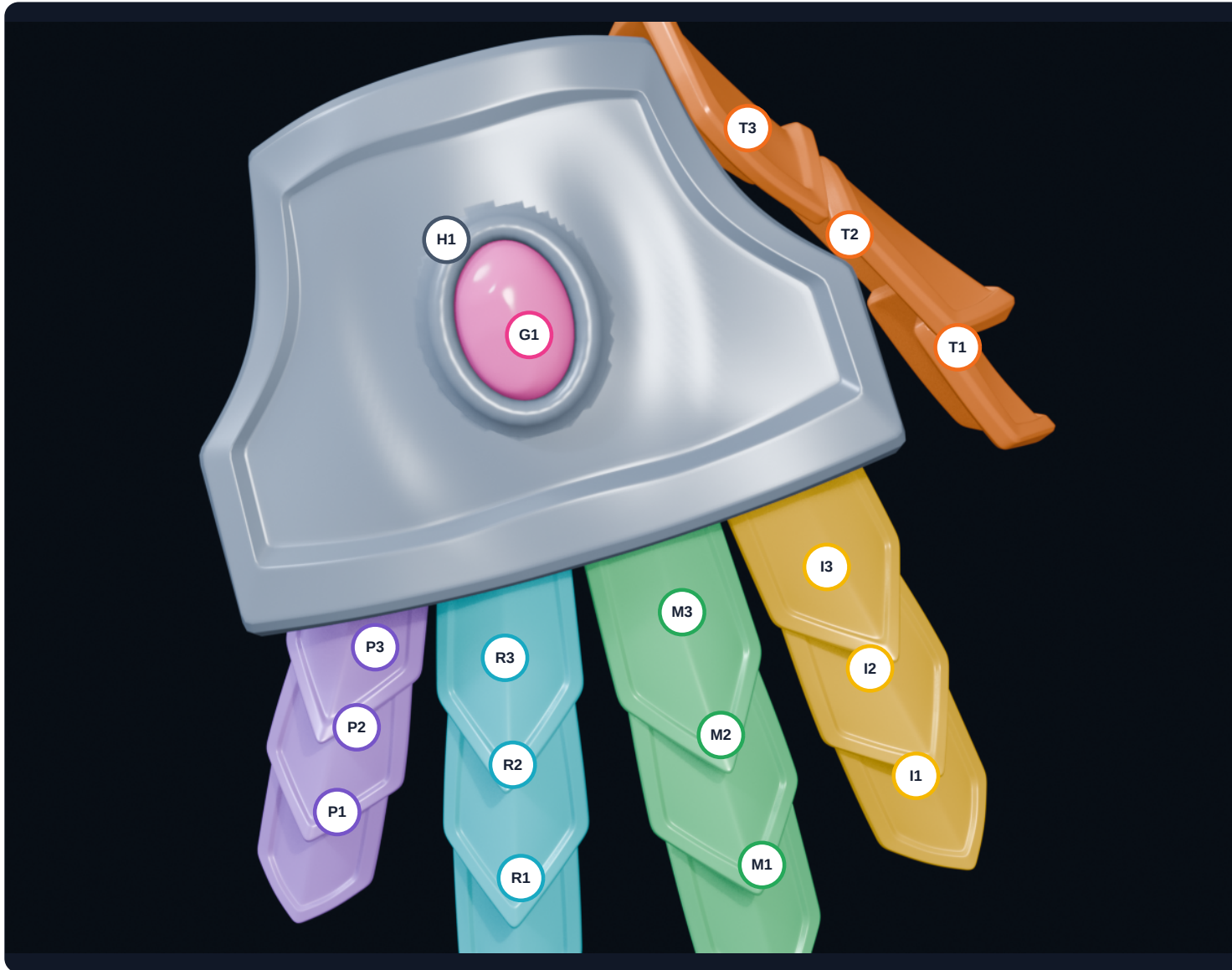
Hidden / glove-facing face: underside that receives the attachment system.

Colour is documentary only. It separates chains; it is not a paint instruction.

Left hand - dorsal assembly and plate codes

As worn. Fingertips point down on the page; the decorated faces point toward the viewer.

LEFT DORSAL / OUTER FACE



Assembly reading order

- T Thumb**
T3 -> T2 -> T1
- I Index**
I3 -> I2 -> I1
- M Middle**
M3 -> M2 -> M1
- R Ring**
R3 -> R2 -> R1
- P Little**
P3 -> P2 -> P1

H1: centre over the back of the hand; keep its wrist edge clear of wrist flexion.

G1: separate gem seated on the visible H1 face; it is not a glove attachment point.

The three plates in each digit retain their source-model rotation. Copy the profiles before committing adhesive.

Right hand - dorsal assembly and plate codes

As worn. Fingertips point down on the page; the decorated faces point toward the viewer.

RIGHT DORSAL / OUTER FACE



Assembly reading order

- T Thumb**
T3 -> T2 -> T1
- I Index**
I3 -> I2 -> I1
- M Middle**
M3 -> M2 -> M1
- R Ring**
R3 -> R2 -> R1
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Left hand - opposing obliques and X-ray overlay

Use the opposing views to copy crown, lateral cant, and how each shingle floats over the next.

Thumb-side oblique



Shows the thumb chain rising around the side of the hand.

Little-finger-side oblique



Shows the fan and cross-hand crown from the opposite side.

X-ray-style dorsal overlay



Transparent plates reveal the registered bare-hand scan crossing beneath them.

What to copy from these views

- Digit fan: index angles toward the thumb; ring and little fan away from the centreline.
- Crown: distal plates roll farther over the fingertip than proximal plates.
- Thumb: its chain is almost edge-on to the H1 plane. Do not flatten it into the back-of-hand plane.
- Shingles remain independent; attachment material must not bridge adjacent rigid parts.

Right hand - opposing obliques and X-ray overlay

3D RELATIONSHIP

Use the opposing views to copy crown, lateral cant, and how each shingle floats over the next.

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Left hand - four orthographic edge and end views

ANGLE CHECK

These are the most useful pages while holding a plate against the glove.

Thumb-side profile



Checks plate crown and thumb wrap.

Little-side profile



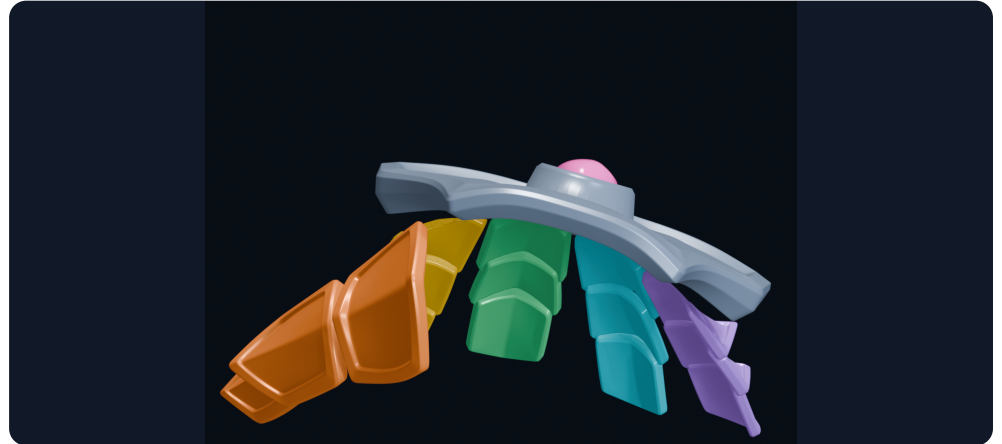
Checks the opposite-edge rise.

From the fingertips



Checks cross-finger fan and crown.

From the wrist



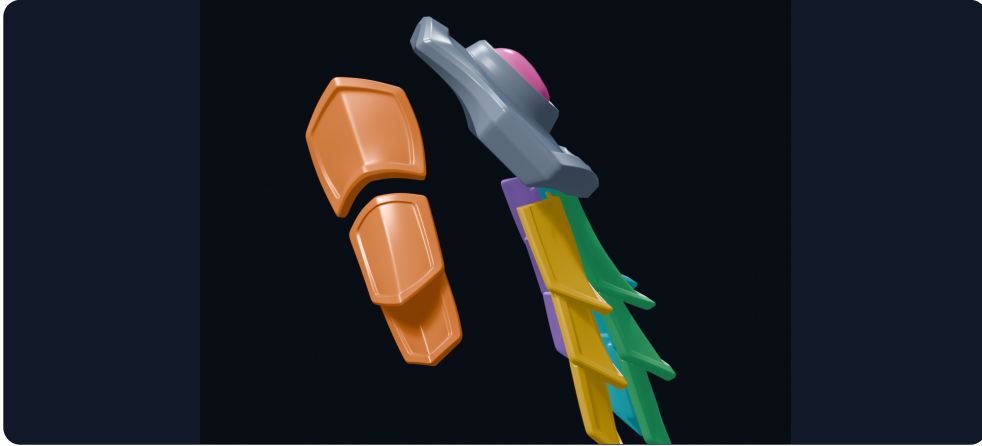
Checks proximal plates against H1.

Right hand - four orthographic edge and end views

ANGLE CHECK

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Little-side profile



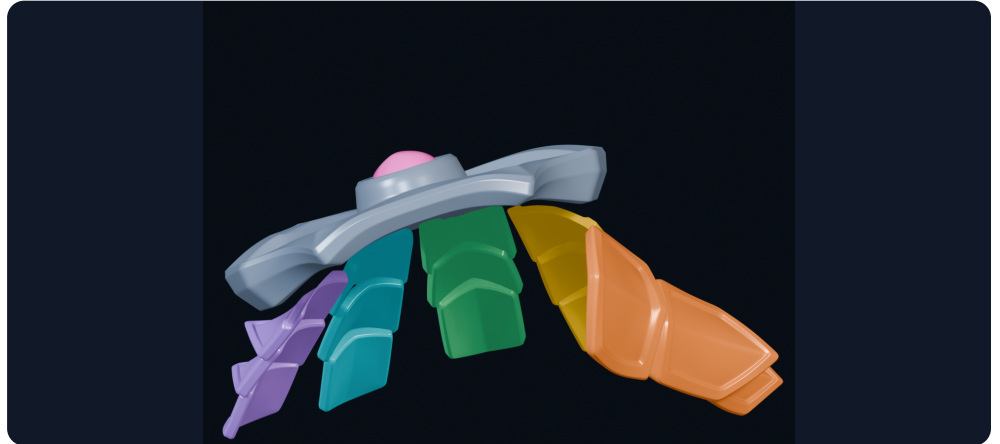
Checks the opposite-edge rise.

From the fingertips



Checks cross-finger fan and crown.

From the wrist



Checks proximal plates against H1.

Left hand - visible faces versus glove-facing faces

Confirm every physical plate is right-side-up before adding Velcro or adhesive.

OUTER / DORSAL / DECORATED



This face remains visible when worn.

INNER / GLOVE-FACING / ATTACHMENT



This hidden face receives the attachment system.

Plate orientation test: With the decorated face outward, the proximal end sits nearer the handplate and the pointed / tapered overlap progresses toward the fingertip. If a chain looks smooth only when a decorated plate faces the glove, the plate is reversed.

- Keep hook-and-loop and glue inside the central hidden landing area; do not wrap attachment material over visible edges.
- Keep every overlap lip and the gap beneath it free so the chain can articulate.
- Do not use the G1 gem or its seat as a load-bearing attachment point.

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Plate separation without changing any authored rotation

EXPLODED REFERENCE

Exploded height is illustrative only; every part keeps the same source-model orientation.

LEFT - exploded along dorsal normal



RIGHT - exploded along dorsal normal



Read each chain from H1 toward the fingertip as **proximal 3 -> middle 2 -> distal 1**. For bench layout, place the distal plate first, then nest the middle and proximal plates over it in the same shingle direction shown here.

Shape-only checks: clay and silhouette

Colour can hide shape errors; use these neutral modes to compare outline, crown, and spacing.

LEFT - clay / form



RIGHT - clay / form



LEFT - silhouette



RIGHT - silhouette



Thumb chain - left and right isolated against the full assembly

Only the selected chain is opaque; all other parts are ghosted.

LEFT HAND



RIGHT HAND



T3-2-1

Proximal / knuckle plate (3) sits nearest H1, middle plate (2) continues the crown, and distal / tip plate (1) finishes the chain. Preserve the source fan and do not centre each plate independently by eye.

Left orientation aids (deg)

Plate	Pitch	Cant	Yaw	Tilt
T1	+73.8	-82.0	+22.4	82.8
T2	+83.3	-85.6	+31.4	86.3
T3	+81.3	-84.7	+41.1	85.4

Right orientation aids (deg)

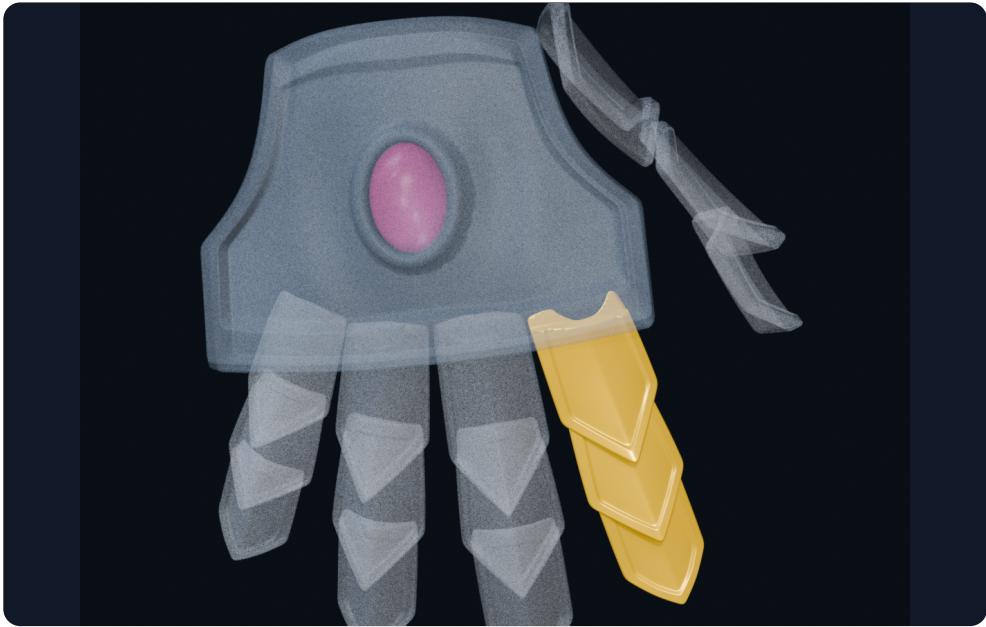
Plate	Pitch	Cant	Yaw	Tilt
T1	+76.4	-82.9	+24.5	83.7
T2	+86.2	-87.0	+37.1	87.6
T3	+72.3	-81.3	+13.9	82.2

Signs: +pitch leans fingertip-ward; +cant leans thumb-ward; +yaw fans thumb-ward. PCA-derived, not a jig setting.

Index chain - left and right isolated against the full assembly

Only the selected chain is opaque; all other parts are ghosted.

LEFT HAND



RIGHT HAND



I3-2-1

Proximal / knuckle plate (3) sits nearest H1, middle plate (2) continues the crown, and distal / tip plate (1) finishes the chain. Preserve the source fan and do not centre each plate independently by eye.

Left orientation aids (deg)

Plate	Pitch	Cant	Yaw	Tilt
I1	+28.2	+23.7	+7.8	34.7
I2	+19.4	+21.9	+9.1	28.1
I3	+13.6	+26.0	+19.2	28.5

Right orientation aids (deg)

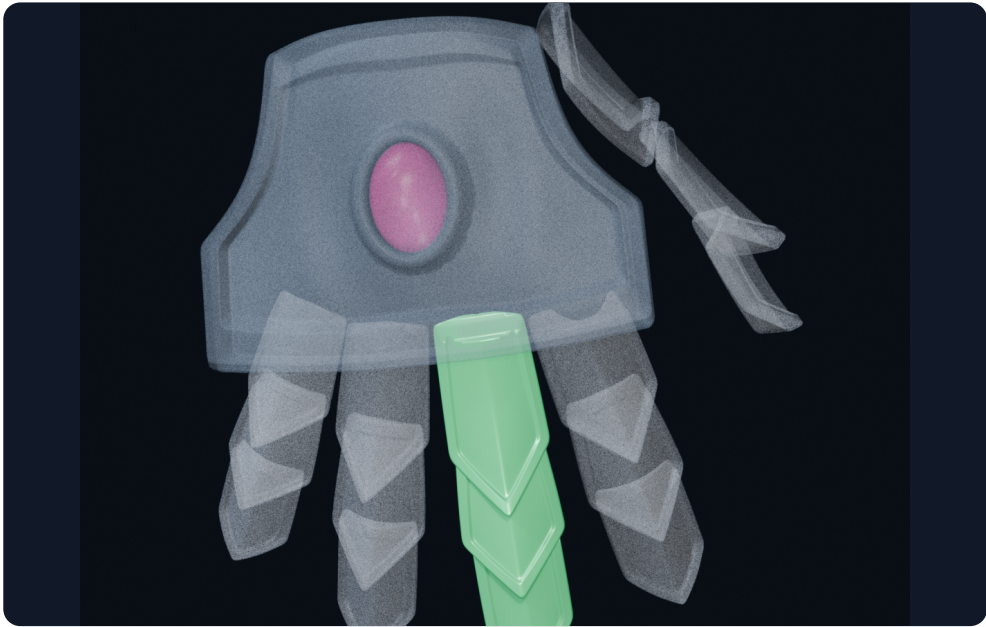
Plate	Pitch	Cant	Yaw	Tilt
I1	+27.4	+23.1	+5.2	33.9
I2	+18.5	+21.6	+8.4	27.4
I3	+11.8	+26.9	+12.3	28.7

Signs: +pitch leans fingertip-ward; +cant leans thumb-ward; +yaw fans thumb-ward. PCA-derived, not a jig setting.

Middle chain - left and right isolated against the full assembly

Only the selected chain is opaque; all other parts are ghosted.

LEFT HAND



RIGHT HAND



M3-2-1

Proximal / knuckle plate (3) sits nearest H1, middle plate (2) continues the crown, and distal / tip plate (1) finishes the chain. Preserve the source fan and do not centre each plate independently by eye.

Left orientation aids (deg)

Plate	Pitch	Cant	Yaw	Tilt
M1	+26.2	+9.2	-2.5	27.4
M2	+14.9	+9.8	-1.8	17.6
M3	+12.6	+9.2	-0.3	15.5

Right orientation aids (deg)

Plate	Pitch	Cant	Yaw	Tilt
M1	+25.3	+9.0	-3.9	26.5
M2	+14.2	+9.4	-2.8	16.8
M3	+11.6	+7.8	+0.0	13.9

Signs: +pitch leans fingertip-ward; +cant leans thumb-ward; +yaw fans thumb-ward. PCA-derived, not a jig setting.

Ring chain - left and right isolated against the full assembly

Only the selected chain is opaque; all other parts are ghosted.

LEFT HAND



RIGHT HAND



R3-2-1

Proximal / knuckle plate (3) sits nearest H1, middle plate (2) continues the crown, and distal / tip plate (1) finishes the chain. Preserve the source fan and do not centre each plate independently by eye.

Left orientation aids (deg)

Plate	Pitch	Cant	Yaw	Tilt
R1	+25.0	-13.6	-15.7	27.7
R2	+16.1	-9.4	-16.2	18.5
R3	+11.5	-8.5	-18.2	14.2

Right orientation aids (deg)

Plate	Pitch	Cant	Yaw	Tilt
R1	+23.8	-13.9	-16.0	26.8
R2	+14.8	-9.6	-16.9	17.4
R3	+9.0	-9.2	-17.4	12.8

Signs: +pitch leans fingertip-ward; +cant leans thumb-ward; +yaw fans thumb-ward. PCA-derived, not a jig setting.

Little chain - left and right isolated against the full assembly

Only the selected chain is opaque; all other parts are ghosted.

LEFT HAND



RIGHT HAND



P3-2-1

Proximal / knuckle plate (3) sits nearest H1, middle plate (2) continues the crown, and distal / tip plate (1) finishes the chain. Preserve the source fan and do not centre each plate independently by eye.

Left orientation aids (deg)

Plate	Pitch	Cant	Yaw	Tilt
P1	+16.5	-22.2	-28.5	26.8
P2	+8.3	-16.2	-31.6	18.0
P3	+2.5	-19.9	-35.8	20.0

Right orientation aids (deg)

Plate	Pitch	Cant	Yaw	Tilt
P1	+15.1	-22.2	-30.4	26.0
P2	+6.5	-15.4	-33.8	16.6
P3	-0.6	-18.7	-36.9	18.7

Signs: +pitch leans fingertip-ward; +cant leans thumb-ward; +yaw fans thumb-ward. PCA-derived, not a jig setting.

Left hand - complete plate orientation aids

Angles summarize the rendered pose; the multi-view renders remain the primary placement reference.

Plate	Pitch	Cant	Yaw	Tilt
T1	+73.8	-82.0	+22.4	82.8
T2	+83.3	-85.6	+31.4	86.3
T3	+81.3	-84.7	+41.1	85.4
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I2	+19.4	+21.9	+9.1	28.1
I3	+13.6	+26.0	+19.2	28.5
M1	+26.2	+9.2	-2.5	27.4
M2	+14.9	+9.8	-1.8	17.6
M3	+12.6	+9.2	-0.3	15.5
R1	+25.0	-13.6	-15.7	27.7
R2	+16.1	-9.4	-16.2	18.5
R3	+11.5	-8.5	-18.2	14.2
P1	+16.5	-22.2	-28.5	26.8
P2	+8.3	-16.2	-31.6	18.0
P3	+2.5	-19.9	-35.8	20.0

How to read the numbers

Pitch: surface-normal lean toward the fingertip (+) or wrist (-).

Cant: surface-normal lean toward the thumb (+) or little finger (-).

Yaw: long-axis fan toward the thumb (+) or little finger (-).

Tilt: unsigned total departure from the H1 dorsal normal.

Important: Each part is curved. These values come from a best-fit principal-axis analysis, so they are repeatable orientation aids, not a single flat bonding angle. Match the profile renders and glove contact first.

The thumb correctly reads near edge-on to the back-of-hand plane. Large thumb tilt values are expected.

Right hand - complete plate orientation aids

Angles summarize the rendered pose; the multi-view renders remain the primary placement reference.

Plate	Pitch	Cant	Yaw	Tilt
T1	+76.4	-82.9	+24.5	83.7
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T3	+72.3	-81.3	+13.9	82.2
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The thumb correctly reads near edge-on to the back-of-hand plane. Large thumb tilt values are expected.

Recommended dry-fit and bonding order

This sequence limits compounding error and keeps the shingle lips free.

1 Separate and identify

Split left and right sets. Sort H1, G1, then T/I/M/R/P chains. For each chain, order 1 distal, 2 middle, 3 proximal.

2 Mark a neutral pose

Wear the glove with fingers fully extended and relaxed. Copy plate outlines with removable chalk or tape.

3 Dry-lay fingertip first

Place 1 at the fingertip station, nest 2, then 3. Compare dorsal, edge, fingertip, and wrist views.

4 Tack one digit only

Use small temporary hook-and-loop or minimal reversible attachment. Keep overlap lips completely free.

5 Articulation test

Check full extension, a loose fist, and wrist flex. Reject any butt, click, lift, glove puckering, or sharp pressure point.

6 Repeat and cure safely

Only after the test passes, bond remaining parts one chain at a time. Follow adhesive ventilation and cure instructions; never cure while worn.

Stop conditions

Do not continue if the glove must be stretched to meet the model pose, if a plate edge lands on a joint crease, if the thumb chain forces the thumb inward, or if the printed H1 does not match the V5 outline shown in this guide.

What this guide proves - and what it does not

Keep this page with the PDF when the guide is shared or printed.

Established by this document

- Native left and right assemblies are shown separately; no hand was mirrored to stand in for the other.
- All 30 finger plates use their preserved assembly coordinates and game-authored relative rotations.
- H1 uses the current V5 flatter-palm geometry; G1 is shown in its separate seat relationship.
- The suite includes 34 renders across orthographic, oblique, edge, end, X-ray, exploded, clay, silhouette, and isolated-digit modes.
- Orientation tables were calculated from the exact meshes rendered into this PDF.

Still requires physical confirmation

- The scan is a bare-hand crop and does not represent the padded glove's added thickness or fabric movement.
- The V5 Fusion review recorded unresolved scan / armour overlap and did not complete cloud persistence into project jake wearing armour.
- This PDF does not approve adhesive chemistry, Velcro grade, load capacity, comfort, sweat resistance, or safe removal.
- A one-digit wearer test must control final placement before permanent bonding of the full set.
- No new or revised STL was created by this documentation task; therefore no new Fusion print-fit gate was triggered.

Source and reproducibility

Rendered geometry	armour_cleanup/output/wearable_mm/glove_large_bilateral_v5_flatter_palm/stl_left + stl_right
Hand context	../fusion_fitcheck_v5_flatter_palm/scan_reference/JAKE_L/R_HAND_REGISTERED_SCAN_CROP_V5_FLATTER_PALM.stl
Blender scene	armour_cleanup/output/glove_attachment_reference_v1/GLOVE_ATTACHMENT_REFERENCE_V1.blend
Render metadata	armour_cleanup/output/glove_attachment_reference_v1/glove_attachment_reference_v1_metadata.json
Render script	armour_cleanup/tools/render_glove_attachment_reference_v1.py
PDF builder	armour_cleanup/tools/build_glove_attachment_reference_pdf_v1.py