



Inspect operable window hardware: install and opening checks

Inspect operable window hardware installation and opening function with an interactive checklist; commentable and ready to export as PDF/Excel for handover.

Project:

Date:

Filled by:

Pre-Inspection Setup

1	Confirm window type, size, handing, and swing match approved submittals and elevations; compare product labels and drawings; acceptance: exact match; evidence: label photo and marked elevation on plan.
2	Verify frame fixings and packers do not obstruct hardware paths; use flashlight/borescope; acceptance: no protrusions or fastener tips in sash clearance; evidence: close-up photos.
3	Clean hardware seating areas on sash/frame; lint-free cloth and solvent per manufacturer; acceptance: oil/dust-free surfaces; evidence: before/after photos.
4	Prepare tools: torque screwdriver (1–5 N·m), angle finder, force gauge (0–100 N), feeler gauges, spirit level; acceptance: tools present and calibrated within 6 months; evidence: calibration certificates uploaded.

Hardware Positioning & Fastening

5	Set hinge/friction stay positions using manufacturer template; measure hole offsets with steel rule; tolerance: ± 1 mm from template lines; evidence: annotated photo with measurements.
6	Install hinges/friction stays with specified screws; tighten using torque screwdriver; acceptance: within manufacturer torque $\pm 10\%$; evidence: torque log (N·m) and fastener batch photo.
7	Fit handle/gearbox; confirm spindle engagement depth with caliper; acceptance: manufacturer minimum (e.g., ≥ 10 mm) achieved without bottoming; evidence: caliper reading photo.
8	Position keeps/strikes so lock bolts align centrally; verify with rule and dry-fit; tolerance: ± 1 mm vertical/ ± 1 mm lateral; evidence: marked keep photo.
9	Install isolation gasket/tape or bedding sealant beneath hardware bases where specified; acceptance: continuous support, no gaps or excess squeeze-out; evidence: close-up photos before cover caps.

Alignment & Weatherseal

10	Close sash; measure reveal gaps at head, jambs, sill with feeler gauges; tolerance: uniform within ± 2 mm across perimeter; evidence: readings and photos at each location.
11	Check sash plumb/level using 600 mm spirit level; tolerance: ≤ 2 mm deviation per 1 m; evidence: level bubble photos with scale.
12	Inspect weatherstripping continuity; paper-strip test for compression marks; acceptance: unbroken seal and continuous compression imprint; evidence: macro photos of corners and latch side.

Functional Operation Tests	
13	Open sash to approximately 10° and release; adjust friction as needed; acceptance: sash holds its position without drift; evidence: photo/video of held position.
14	Measure maximum opening angle with digital angle finder; acceptance: within $-3^{\circ}/+0^{\circ}$ of specified submittal angle; evidence: angle display photo.
15	Measure operating force at handle using force gauge during unlatch/start of opening; acceptance: within manufacturer-stated range; record N; evidence: gauge reading photo.
16	Cycle sash open/close 10 times; observe for rubbing, noise, or fastener loosening; acceptance: no binding, scraping, or backing-out screws; evidence: cycle log and notes.
17	Confirm multipoint lock bolts engage keeps evenly; apply tape/chalk to bolts to verify contact; acceptance: consistent transfer marks across all points; evidence: marked keep photos.

Safety & Compliance Features	
18	Test restrictor/limiter engagement at design limit; verify egress override if specified; acceptance: holds securely, override functions per approved project specifications and authority requirements; evidence: video and witness sign-off.
19	Confirm fall-protection restrictor key/tool availability where required; tag storage location; acceptance: dedicated tool present, labeled, and accessible; evidence: photo with tag.
20	Hold sash fully open for 5 min (static check); measure sag at outer edge; acceptance: ≤ 2 mm movement; evidence: before/after measurement photos.

Documentation & Handover	
21	Affix permanent ID label to frame; record grid, elevation, and room; acceptance: ID legible and mapped; evidence: labeled window photo and plan mark-up.
22	Upload manufacturer instructions, torque chart, and installed hardware model numbers; acceptance: documents current and match installed items; evidence: files attached and photos of markings.
23	Capture as-built photos with covers off/on showing hinges, keeps, and seal continuity; acceptance: clear, well-lit images; evidence: photo set uploaded.
24	Obtain installer and inspector digital signatures with date/time and any punch-list actions; acceptance: all fields complete; evidence: signed record and QR-authenticated export.

Comments:

Filled by:

Signature:

Introduction	How to use this checklist
Inspect operable window hardware installation and opening function is the focused task of confirming that casement window hardware is correctly installed and that the operable sash performs as designed. This practical checklist supports window hardware inspection, operable sash function testing, and opening performance verification on new builds and refurbishments. It concentrates on outward-opening casement windows using friction stays, multipoint locks, and restrictors, keeping the scope tight and actionable. By validating templates, fastener torque, reveals, weatherseal contact, and smooth operation, teams avoid misaligned keeps, loose hinges, binding sashes, water ingress paths, and unsafe opening limits. The result is documented evidence of compliance with manufacturer instructions and per approved project specifications and authority requirements. Use this interactive tool to assign actions, attach photos, capture measurements in SI units, and secure sign-offs. Start in interactive mode, tick each step, add comments where issues arise, and export your final record to PDF/Excel with an embedded QR code for authentication.	1. Preparation: gather calibrated tools (torque screwdriver 1–5 N·m, angle finder, force gauge 0–100 N, feeler gauges, spirit level), manufacturer instructions, and approved submittals. Ensure safe access, adequate lighting, and clean frames and hardware seating surfaces. 2. Open the checklist in interactive mode. Select project, building, elevation, grid, and window ID to tag all entries. Confirm SI units are enabled for measurements. 3. Work through each section sequentially. Tick completed items, enter measurements, and attach photos or short videos. Use comments to flag issues and assign corrective actions with due dates. 4. If measurements are out of tolerance, pause, adjust hardware per manufacturer guidance, and retest. Add before/after evidence and note final settings in comments. 5. When all items pass, generate an export. Choose PDF or Excel and include photos, torque logs, and location data. Enable the QR code option for authentication. 6. Sign-Off: capture installer and inspector digital signatures. Share the QR-authenticated export with the GC, envelope consultant, and client representatives. 7. Archive the checklist, calibration certificates, and submittals in the project repository for warranty and maintenance reference.