

Double-Hung Window Sash Balance Replacement JHA

Worked instructional example

Work and worksite

A glazing service crew will replace identified sash-balancer components in an Andersen 400 Series Tilt-Wash double-hung window from a protected interior ground-level position. The retained frame and intact glazed sashes are accepted for this repair. Guide 0005176 governs the balance route, supported by 0005177 for sash handling. This fictional learning example describes planned controls and records no actual inspection or authorization.

- The actual window family, sash identification, balance selection and shoe version are verified. Guide 0005176 covers shoes with or without retainer clips; the procedure must match the actual hardware, not a remembered video.
- Occupants and adjacent work are excluded. Glazed sashes have adequate handling support and a protected storage position; the opening remains controlled whenever a sash is removed. Damaged glass or a deficient frame requires separate disposition.
- Repair work 238150-28 is a partial connection. This cycle excludes spring disassembly, other window balance designs, glass replacement, full-frame removal, exterior access, power-operated windows and structural opening repair.

Questions before work

- How will the crew confirm the window, sash, balance and shoe version before releasing any hardware?
- Who supports each glazed sash, protects the opening and controls the stored-energy intervention?
- Which capture and operating checks must be complete before the window is returned to occupants?

Task Hazard Control

1 Confirm the exact repair route and replacement parts

Hazard: Applying a generic spring procedure or installing an incorrect balance can cause unexpected movement, loss of sash support or an ineffective repair.

Control: Lead identifies the actual Tilt-Wash unit, sash and balances under the applicable guide. Verify retainer-clip presence and replacement parts. Assess retained frame, liners and glass for repair-affecting defects. Hold mismatches for the manufacturer or technical lead; do not select a spring procedure by window appearance.

Verification: Lead verifies unit identity, hardware branch and matched replacement components.

Reasoning: The stored-energy procedure depends on the actual balance system.

2 Protect occupants the opening and sash-storage area

Hazard: A heavy glazed sash, unguarded opening or interruption can expose occupants and workers to falling glass, cuts or a fall through the opening.

Control: Separate the interior work and establish protected sash storage and adequate handling. Arrange continuous opening protection during removal and reinstallation. Assign sash-control and intervention roles and exclude bystanders. Select handling and eye protection for assessed hazards without obstructing the prescribed tool grip.

Verification: Lead confirms exclusion, continuous opening protection and adequate sash support.

Reasoning: Safe repair includes the condition left while the sash is absent.

3 Remove and securely stage the glazed sashes

Hazard: Releasing a pivot before supporting the sash can drop it, twist the remaining pivot or pull the worker toward the opening.

Control: Follow the matched guide branch, supporting each sash before tilting and releasing its pivots. Maintain control during second-pivot release and transfer to protected storage. Apply retainer-clip instructions where present. Maintain opening protection; stop if the sash cannot be controlled without strain or exposed positioning.

Verification: Handler verifies supported release and stable storage of each identified sash.

Reasoning: Both pivot release and storage must preserve control of glazed weight.

Complete the work and hand over

4 Restrain stored energy and replace identified components

Hazard: A suddenly released balancer shoe can move under high tension, injure the worker or damage the window while an incorrect part remains unnoticed.

Control: Follow 0005176's restrained cam-tension release with the specified long-handled flat-blade screwdriver and controlled two-handed grip. Release required tension before prescribed liner and balance removal. Preserve locations and orientation and exchange approved parts under the guide. Do not open the spring unit or improvise tension restraint.

Verification: Assigned worker verifies controlled tension release and correct component assembly.

Reasoning: Stored energy must be controlled before removing the balance assembly.

5 Restore the liner shoe state and sash capture

Hazard: An incorrectly seated liner, unrestrained reset or missed pivot capture can let the sash fall or separate when it is tilted or operated.

Control: Restore the balance and liner under the guide, then restrain and reset shoe cams to the installation state. Reinstall supported sashes in prescribed sequence. Verify both pivot pins fully seated and applicable clips engaged before rotating upright. Maintain opening and occupant protection until capture is confirmed.

Verification: Assigned checker verifies liner seating, shoe state and both pivot connections.

Reasoning: A repaired balance is useful only when the sash is recaptured.

6 Check operation and return the window deliberately

Hazard: Premature occupant use or an undocumented defect can lead to a sash dropping, uncontrolled tilt or a repeat intervention on incomplete hardware.

Control: Maintain crew control during manufacturer-prescribed movement, tilt-capture and locking checks. Stop for binding, unexpected movement or uncertain retention and keep the unit out of service. Record parts, results and unresolved concerns. Restore occupant access only after the lead accepts actual repair state and transfers restrictions.

Verification: Lead verifies actual operating results, service status and occupant handoff.

Reasoning: Final checks establish the repaired unit's condition before normal use.

Pause and reassess

- Window family, sash identity, shoe version, replacement component or written procedure does not match the actual unit.
- Glass damage, defective retained framing or inadequate sash support changes the accepted repair conditions.
- Controlled tension restraint, pivot capture, opening protection or a required operating check cannot be maintained.

Improve the controls

Needs improvement: All double-hung balances release the same way.

More useful: Lead identifies this Tilt-Wash system and the actual shoe branch, and the assigned worker follows the matching written restrained-energy route.

Needs improvement: The sash is back in the frame; let occupants use it.

More useful: Crew verifies both pivot captures, required clips, controlled movement and locks before the lead returns the identified window to service.

Decisions that change the analysis

What if the shoe has no retainer clip although the demonstration showed one?

Use the applicable written guide's branch for the actual hardware and verify component identity before proceeding. Andersen notes that older demonstrations can show clips that current replacement shoes omit. Absence of a clip alone does not justify inventing a release method; stop when the installed system cannot be positively matched or the prescribed control cannot be maintained.

What must the crew record for actual use?

Record unit and sash identification, guide revisions, installed shoe version, selected replacement parts and retained-frame condition. Identify handlers, opening protection, the restrained-energy method, restored liner and shoe state, pivot and clip checks, actual operating results and service disposition. Record unresolved issues and occupant restrictions; do not copy favorable outcomes from this example.

Training needs

- Task instruction on Andersen guides 0005176 and 0005177 for the actual Tilt-Wash version, including supported sash removal and restrained balancer-shoe tension release and reset.
- Instruction on glazed-sash handling, opening protection, component matching and final pivot capture and operation checks, with a stop route for damage or a procedure mismatch.

Confirm applicable qualifications and actual training evidence for the people assigned. Related toolbox talks support discussion; they do not establish competence.

References and adaptation

Andersen 400 Series Tilt-Wash Sash Balancer and/or Balancer Shoe Replacement, 0005176

<https://awwebcdnprcd.azureedge.net/-/media/aw/files/technical-docs/service-guide/serviceguide-0005176.pdf>

Andersen 400 Series Tilt-Wash Sash Removal and Reinstallation, 0005177

<https://aw930cdnprcd.azureedge.net/-/media/aw/files/technical-docs/service-guide/serviceguide-0005177.pdf>

OSHA 1926.21 Safety training and education

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.21>

References reviewed October 12, 2026. Use actual equipment and product instructions, project design and site requirements. This original draft supplies no fabricated inspection, signature or approval.