
Dishwasher Panel Integration Fit Check

1.0 Objective & Quality Standard

The objective of this procedure is to ensure that the integrated dishwasher panel is correctly aligned, gapped, and flush with adjacent cabinetry to meet the aesthetic and functional quality standard. The acceptable tolerance for the gap between the panel and adjacent cabinet doors is 2.5 mm to 3.5 mm. The panel must be vertically plumb within 1 mm over the full height and horizontally level within 0.5 mm. The panel must sit flush with the surrounding cabinet faces, with no more than 1 mm of proud or recessed deviation.

2.0 Required Tools & Gauges

- Digital Caliper (0-150mm range, 0.01mm resolution)
- Set of metric feeler gauges (0.5mm to 5mm)
- 4-foot spirit level (0.5mm/m accuracy)
- Straightedge (1m length, precision ground)
- Torque screwdriver (calibrated, range 1-5 Nm)
- Non-marring pry bar or panel alignment tool
- Clean lint-free cloth
- Inspection flashlight

3.0 Safety & Material Handling

- Wear clean, rubber-grip gloves to prevent oil transfer and fingerprints on finished panel surfaces.
- Use a non-marring assembly mat to protect the panel and adjacent cabinetry during handling.
- Ensure the dishwasher is securely anchored and the work area is clear of debris.
- Use proper lifting technique (bend knees, keep back straight) when positioning the panel to avoid strain.
- Do not force the panel into position; if resistance is felt, stop and inspect for obstructions.

4.0 Step-by-Step Procedure

1. Visually inspect the dishwasher opening and adjacent cabinetry for any debris, protruding fasteners, or damage. Clean the area with a lint-free cloth if necessary.
2. Place the integrated panel on a non-marring surface and inspect the back for any pre-installed mounting brackets or hardware. Verify that all screws are present and not cross-threaded.
3. Align the panel with the dishwasher mounting points. Use the non-marring pry bar or alignment tool to gently guide the panel into position without scratching the finish.
4. Insert and hand-tighten the top two mounting screws to secure the panel temporarily. Do not fully torque at this stage.

5. Using the 4-foot spirit level, check the panel for vertical plumb. Place the level vertically along the left and right edges of the panel. Adjust the panel position by loosening the top screws and shifting until the bubble is centered. The deviation must not exceed 1 mm over the full height.
6. Check the panel for horizontal level. Place the level across the top edge of the panel. Adjust as needed to achieve level within 0.5 mm.
7. Using the straightedge, verify that the panel is flush with the adjacent cabinet faces. Place the straightedge across the panel and the neighboring door or drawer front. The gap between the straightedge and either surface must not exceed 1 mm.
8. Measure the gap between the panel and the adjacent cabinet doors using the feeler gauge set. Insert the appropriate gauge at the top, middle, and bottom of both sides. The gap must be between 2.5 mm and 3.5 mm. Record the measurements.
9. Once alignment and gaps are within tolerance, torque all mounting screws to the manufacturer's specification (typically 2.5 Nm to 3.5 Nm) using the calibrated torque screwdriver. Tighten in a crisscross pattern to avoid distorting the panel.
10. Re-check the gap and flushness after torquing to ensure no shift occurred. If out of tolerance, loosen screws, re-align, and re-torque.
11. Perform a final visual inspection using the inspection flashlight to check for any light leaks around the panel edges. No light should be visible from the front when the dishwasher is closed.
12. Clean the panel surface with a lint-free cloth to remove any fingerprints or smudges. Sign off the QA checklist in ShopDocs.

5.0 Verification & Defect Reporting

1. If any gap measurement falls outside the 2.5 mm to 3.5 mm range, or if the panel is not plumb/level within the stated tolerances, flag the unit for rework. Attach a red tag with the defect description and date.
2. For flushness deviations greater than 1 mm, inspect the mounting brackets and dishwasher alignment. Adjust or shim as necessary. If the panel is damaged, replace it.
3. Log all out-of-tolerance defects in the ShopDocs QA module, including the measured values, the operator name, and the corrective action taken. This data will be used for root cause analysis and continuous improvement.
4. If the same defect occurs on more than 5% of units in a production run, escalate to the QA Manager for process review and potential fixture or jig adjustment.

Regulatory Disclaimer: This document is a generic quality assurance template. The end-user assumes all liability for validating all dimensional tolerances, testing procedures, and engineering specifications against actual production requirements before deployment.