

Assembly work instruction

Manual

11 steps

3 roles

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v1

How an operator performs one repeatable assembly task to specification, with the in-process checks that catch a bad build early.

TRIGGER

Before starting a production run of this part or assembly.

11 STEPS

1 Operator confirms the work order, part number, and revision match the drawing at the station.

Revision match is the check that prevents building last month's version. A superseded drawing at the station is the most common cause of a whole batch being wrong.

2 Operator confirms every component and consumable listed on the bill of materials is present and within its shelf life.

Shelf life applies to adhesives, sealants, and anything with a cure time. Expired consumables fail later, in service, where the cost is far higher.

3 Operator confirms tools and gauges are the specified ones and are within calibration date.

An out-of-calibration gauge invalidates every measurement taken with it, which can mean re-inspecting everything built since its last valid check.

All in calibration: Go to step 4: Operator performs the assembly steps in the sequence shown on the drawing, without substituting the order.

Out of calibration: Go to step 10: Line Supervisor removes the uncalibrated tool from service, arranges calibration, and identifies anything already built with it.

4 Operator performs the assembly steps in the sequence shown on the drawing, without substituting the order.

Sequence is part of the specification. Steps that look interchangeable often are not, because access or cure order depends on them.

5 Operator applies the specified torque, pressure, or setting and records the actual value where the drawing calls for a record.

Record the actual value, not a tick. A number lets someone diagnose a drift; a tick tells nobody anything.

6 Operator performs the in-process check at the point the drawing specifies, before the feature becomes inaccessible.

In-process rather than final, deliberately. Checking a feature you can no longer reach means the only options are scrap or rework.

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Operator confirms the measured result is within the stated tolerance.

Within tolerance: Go to step 8: Quality Inspector performs the final inspection against the inspection criteria and records the result against the work order.

Out of tolerance: Go to step 9: Operator stops, labels and quarantines the affected item, and raises it with the Line Supervisor rather than adjusting to make it fit.

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Quality Inspector performs the final inspection against the inspection criteria and records the result against the work order.

Accepted: Ends the procedure

Rejected: Go to step 9: Operator stops, labels and quarantines the affected item, and raises it with the Line Supervisor rather than adjusting to make it fit.

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Operator stops, labels and quarantines the affected item, and raises it with the Line Supervisor rather than adjusting to make it fit.

Stop rather than correct. An out-of-tolerance part adjusted at the bench is an undocumented deviation, and it hides the reason the process drifted.

Raised and quarantined: Go to step 11: Line Supervisor decides the disposition: rework to specification, use as is under a documented concession, or scrap.

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Line Supervisor removes the uncalibrated tool from service, arranges calibration, and identifies anything already built with it.

Identifying prior output is the part that gets skipped and the part that matters. Everything measured since the last valid calibration is of unknown conformity.

Replacement tool in service: Go to step 4: Operator performs the assembly steps in the sequence shown on the drawing, without substituting the order.

11

Line Supervisor decides the disposition: rework to specification, use as is under a documented concession, or scrap.

All three need a written record and a named decision-maker. Use-as-is without a recorded concession is the finding auditors look hardest for.

Rework: Go to step 4: Operator performs the assembly steps in the sequence shown on the drawing, without substituting the order.

Concession or scrap recorded: Ends the procedure

ROLES INVOLVED

Operator

Line Supervisor

Quality Inspector

REVIEW CADENCE

On any drawing revision, tooling change, or material change, and after any nonconformance traced to this task.
Not on a calendar: on change.

Name the person accountable for this procedure before you put it into use.

CHANGE THESE BEFORE YOU USE IT

- Attach the actual drawing, bill of materials, and inspection criteria. Without them this is a framework, not a work instruction, and it cannot be followed at a station.
- State your real tolerances and torque values. This template deliberately states none, because inventing them would be worse than leaving them blank.
- Add photographs of the correct assembly at each step. For station-level work, an image outperforms a paragraph, and this is the main reason paper work instructions fail.
- If you are certified, reference this instruction from the parent procedure so the document hierarchy an auditor expects actually exists.
- This is a starting point, not engineering or safety guidance. Have it reviewed by whoever owns the process.

This is a free starting point from sendabrief.com, not compliance advice. It is written to be adapted.

Source: <https://sendabrief.com/templates/assembly-work-instruction>