STANDARD OPERATING PROCEDURE

# Production Line Startup SOP

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| **Document no.** | SOP-MFG-003 |
| **Revision** | 1.0 |
| **Owner** | Production Manager |
| **Effective date** | September 15, 2026 |
| **Review cycle** | Every 12 months |

## 1. Purpose

To make sure production lines are started safely and consistently at each shift, with safety devices verified, utilities confirmed, and the first piece checked before the line runs unattended at full speed.

## 2. Scope

Applies to starting up a production line at the beginning of a shift or after a planned stop. Changeover between different products on a running line is covered by the machine changeover SOP.

### Definitions

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| **Startup checklist** | The document used to confirm each startup task is completed before the line runs at production speed. |
| **Warm-up run** | A period of running the line at reduced speed to reach normal operating temperature and stability before full-speed production. |
| **First piece** | The first part or product produced after startup, checked against specification before the line is left running unattended. |
| **Interlock** | A safety device that prevents equipment from operating unless a guard or condition, such as a closed door, is satisfied. |

## 3. Responsibilities

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|---|---|
| **Production Operator** | Performs the startup checklist, runs the warm-up cycle, and monitors the line once running. |
| **Line Lead** | Reviews the shift handover notes, confirms materials are staged, and approves the first piece before full production. |
| **Maintenance Technician** | Resolves startup faults and confirms safety devices are functioning before the line is released. |
| **Production Supervisor** | Confirms the line is running and logs the start time for the shift. |

### RACI matrix

| Activity | Production Operator | Line Lead | Maintenance Technician | Production Supervisor |
|---|---|---|---|---|
| Review handover notes and perform the safety walk | R/A | C | - | I |
| Verify utilities and power up | R/A | I | C | I |

| Activity | Production Operator | Line Lead | Maintenance Technician | Production Supervisor |
|---|---|---|---|---|
| equipment | | | | |
| Run warm-up and approve first piece | R | A | I | I |
| Resolve startup faults | C | C | R/A | I |
| Confirm line running and log start time | R | R | - | A |

R = Responsible, A = Accountable, C = Consulted, I = Informed

## 4. Materials and PPE

### Materials, tools and systems

- Startup checklist for the line
- Shift handover log
- Specification and first piece inspection form
- Utility gauges and control panel readouts
- Production schedule for the shift

### Personal protective equipment

- Safety glasses
- Hearing protection
- Steel-toe boots
- Task-appropriate gloves

## 5. Procedure

| Step | Task | Owner | Done |
|---|---|---|---|
| **5.1** | **Review the previous shift's handover notes**<br>Operator reads the shift handover log for open issues, quality holds or equipment faults reported by the outgoing shift before approaching the line. | Production Operator | ☐ |
| **5.2** | **Perform the pre-start safety walk**<br>Operator walks the length of the line checking that guards are in place, e-stops are not activated, and the area is clear of tools, debris or obstructions.<br>**Checkpoint:** All guards are in place and no e-stop is activated before power is applied to the line. | Production Operator | ☐ |
| **5.3** | **Verify utilities are on and correctly set**<br>Operator confirms compressed air, electrical power and any process utilities such as water or steam are on and reading within the normal operating range on the gauges. | Production Operator | ☐ |
| **5.4** | **Power up equipment in sequence**<br>Operator powers up each piece of equipment on the line in the sequence specified on the startup checklist, rather than starting everything at once. | Production Operator | ☐ |
| **5.5** | **Run the warm-up cycle**<br>Operator runs the line at reduced speed for the warm-up period specified on the checklist, watching for unusual noise, vibration or temperature readings before increasing to production speed. | Production Operator | ☐ |

| Step | Task | Owner | Done |
|---|---|---|---|
| 5.6 | **Verify first piece meets specification**<br>Line lead checks the first piece produced against the specification and approves it before the operator continues the run at full speed.<br>**Checkpoint:** First piece is measured and approved against specification before the line runs unattended at full speed. | Line Lead | ☐ |
| 5.7 | **Test safety devices**<br>Operator or maintenance technician tests e-stops, light curtains and interlocks to confirm they stop the equipment correctly before leaving the line to run unattended.<br>**Warning:** Do not leave the line running unattended if any e-stop, light curtain or interlock fails its function test. | Maintenance Technician | ☐ |
| 5.8 | **Confirm materials and consumables are staged**<br>Operator confirms raw materials, components and consumables for the shift's production schedule are staged at the line before ramping to full production. | Production Operator | ☐ |
| 5.9 | **Set the production count and line speed**<br>Line lead confirms the target line speed and production count for the shift's schedule are set correctly on the line controls. | Line Lead | ☐ |
| 5.10 | **Resolve startup faults before leaving the line**<br>If a fault occurs during startup, the maintenance technician diagnoses and resolves it, and the operator does not leave the line running unattended until it is cleared. | Maintenance Technician | ☐ |
| 5.11 | **Notify the supervisor and log the start time**<br>Operator notifies the production supervisor the line is running normally, and the supervisor logs the confirmed start time for the shift. | Production Supervisor | ☐ |
| 5.12 | **Complete the startup checklist**<br>Operator completes and signs the startup checklist, confirming every task was performed before moving on to running production. | Production Operator | ☐ |

## 6. Quality checks

- Every item on the startup checklist is signed off before the line runs unattended.
- First piece is measured and approved against specification before continuing the run.
- Safety devices are function-tested at every startup, not assumed to still work.
- Startup faults are resolved and documented before the line is left unattended.

## 7. Records

- Completed startup checklist
- First piece inspection form
- Shift handover log
- Startup fault and resolution log

## 8. KPIs

- Average time from power-up to full production speed
- First piece pass rate
- Startup-related downtime per shift
- Percentage of startups completed without a safety device failure

## 9. Common mistakes

- Skipping the safety walk because the line looked fine at the end of the last shift.
- Jumping straight to full speed without a warm-up run.
- Approving the first piece visually without measuring it against specification.
- Leaving the line running unattended before safety devices are function-tested.
- Not logging startup faults, so recurring issues go unnoticed.

## 10. Revision history

| Revision | Date | Description | Reviewed by |
|---|---|---|---|
| 1.0 | September 15, 2026 | Initial release | Ilia Pirozhenko |

## Approval

| Prepared by | Approved by | Date |
|---|---|---|
| | | |

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