STANDARD OPERATING PROCEDURE

Machine Changeover SOP

Document no.	SOP-MFG-004
Revision	1.0
Owner	Production Manager
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Review cycle	Every 12 months

1. Purpose

To make sure changeovers between jobs are performed safely and quickly, with the correct tooling and settings applied, and the first parts verified before the new job runs at full production.

2. Scope

Applies to changing a machine's tooling, dies, molds or settings to run a different product or job. Starting a line at the beginning of a shift with no product change is covered by a separate SOP.

Definitions

Setup sheet	The document specifying the tooling, materials and machine parameters required to run a specific part number.
External setup	Preparation work, such as staging tooling, that can be done while the machine is still running the previous job.
Internal setup	Setup work that can only be done while the machine is stopped.
First article	The first part produced after a changeover, checked against specification before the run continues.

3. Responsibilities

Setup Technician	Performs the tooling change and machine parameter setup, and produces trial pieces.
Production Operator	Clears previous job material and labels, and runs the machine once the changeover is approved.
Quality Inspector	Inspects the first article against specification and approves the run to continue.
Production Supervisor	Tracks changeover downtime and releases the line back to the production schedule.

RACI matrix

Activity	Setup Technician	Production Operator	Quality Inspector	Production Supervisor
Stage tooling and materials before line stop	R/A	C	-	I
Perform the tooling and parameter changeover	R/A	C	-	I

Activity	Setup Technician	Production Operator	Quality Inspector	Production Supervisor
Inspect and approve first article	C	I	R/A	I
Track downtime and release the line	I	I	I	R/A

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

4. Materials and PPE

Materials, tools and systems

- Setup sheet for the incoming job
- Tooling, dies or molds for the new job
- Lockout/tagout devices
- First article inspection form and gauges
- Changeover downtime tracking log

Personal protective equipment

- Safety glasses
- Cut-resistant gloves for tooling handling
- Steel-toe boots
- Back support for heavy tooling moves

5. Procedure

Step	Task	Owner	Done
5.1	**Review the next job's setup sheet** Setup technician reviews the setup sheet for the incoming job, confirming the required tooling, materials and machine parameters ahead of the changeover.	Setup Technician	☐
5.2	**Stage tooling and materials before the line stops** Setup technician stages the tooling, dies or molds and materials for the next job near the machine while the current job is still running, to minimize downtime.	Setup Technician	☐
5.3	**Shut down and lock out the machine** Operator stops the machine using the normal stop, and the setup technician applies lockout/tagout per the site's lockout tagout procedure before removing any tooling. **Warning:** Do not remove or install tooling before lockout/tagout is fully applied and verified.	Setup Technician	☐
5.4	**Remove the previous job's tooling** Setup technician removes the previous job's dies, molds or fixtures and returns them to their designated storage location.	Setup Technician	☐
5.5	**Install the new tooling** Setup technician installs the tooling for the incoming job per the setup sheet, torquing or securing it to the specified values.	Setup Technician	☐
5.6	**Set machine parameters to specification** Setup technician removes lockout, restores power, and adjusts machine parameters such as speed, temperature or pressure to the values on the setup sheet.	Setup Technician	☐

Step	Task	Owner	Done
5.7	**Run trial pieces** Setup technician runs a small number of trial pieces to stabilize the process before calling for first article inspection.	Setup Technician	☐
5.8	**Inspect the first article** Quality inspector measures a trial piece against the part specification and control plan to confirm the changeover produced a conforming part. **Checkpoint:** First article passes every specification characteristic before the job is approved to run.	Quality Inspector	☐
5.9	**Adjust settings until parts pass** If the first article fails, the setup technician adjusts parameters and produces another trial piece, repeating until the inspector approves a conforming part.	Setup Technician	☐
5.10	**Clear previous job's WIP and labels** Operator removes any remaining work-in-process, containers and labels from the previous job out of the work area before starting the new job.	Production Operator	☐
5.11	**Record changeover time and downtime reason** Setup technician records the changeover start and end time and the reason for any downtime beyond the target changeover time.	Setup Technician	☐
5.12	**Release the line to production** Production supervisor confirms the first article is approved and the area is clear, then releases the line to run the new job at full production.	Production Supervisor	☐

6. Quality checks

- First article is measured and approved before the job runs past the trial pieces.
- Changeover time is tracked against the target for the part number and reviewed for outliers.
- No previous job's labels or work-in-process remain in the area after changeover.
- Tooling is verified against the setup sheet before installation, not assumed correct.

7. Records

- Setup sheets by part number
- First article inspection forms
- Changeover downtime log
- Tooling storage and maintenance log

8. KPIs

- Average changeover time by part number
- First article pass rate on the first trial piece
- Changeover-related downtime as a percentage of scheduled time
- Number of changeovers requiring more than two trial adjustments

9. Common mistakes

- Starting internal setup work before staging tooling externally, adding unnecessary downtime.
- Skipping lockout/tagout for what seems like a quick tooling swap.
- Eyeballing the first article instead of measuring it against the specification.
- Leaving old job labels or containers in the area, risking mixed product.
- Not recording the actual changeover time, so slow changeovers 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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